8-1-08 Letting, Item 030

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	1
FED. ROAD DIST. NO. 7	ILLINOIS	FEDERAL AID PROJECT		
		CONTRACT NO. 95532		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

TR 454 OVER HICKORY CREEK
SECTION 06-19125-00-BR
FAYETTE COUNTY
PROJECT NO. BROS-051(79)
C-97-013-08

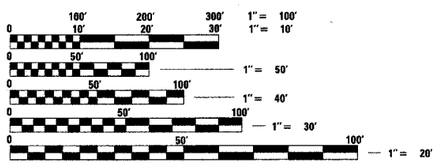
INDEX OF SHEETS

STANDARDS ARE INCLUDED IN PLANS AFTER SHEET NO. 9

000001-05	STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
515001-02	NAME PLATE FOR BRIDGES
635006-02	REFLECTOR AND TERMINAL MARKER PLACEMENT
701901	TRAFFIC CONTROL DEVICES
BLR 21-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

SOIL BORINGS (SEE SPECIFICATIONS)

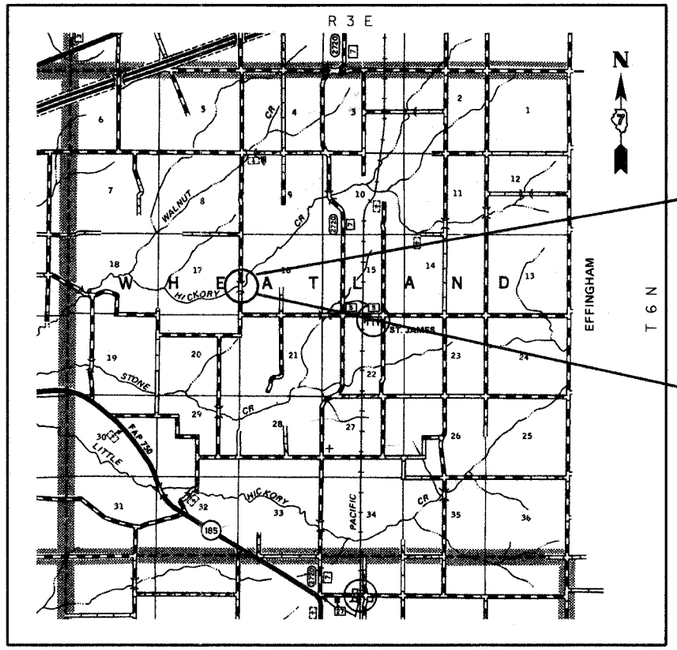
DESIGN CLASSIFICATION: RURAL LOCAL ROAD
ADT_{2007} : 150
ADT_{2027} : 200
DESIGN SPEED - 30 MPH



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. 95532



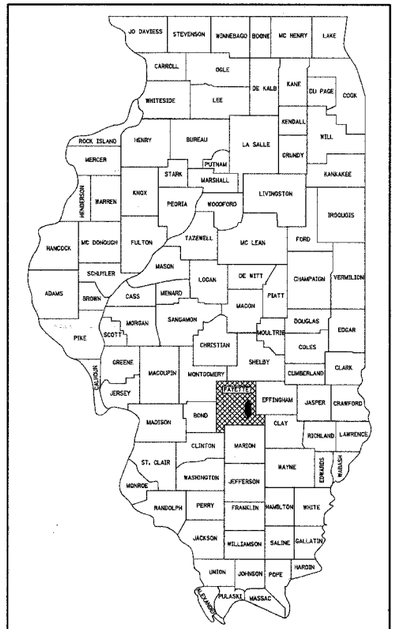
SECTION BEGINS
STA. 8+57.36

SECTION 06-19125-00-BR

INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE CARRYING TR 454 OVER HICKORY CREEK, 82'-6" BK TO BK ABUTMENTS. NO SKEW. EXISTING STRUCTURE NO. 026-3308 PROPOSED STRUCTURE NO. 026-3437

SECTION ENDS
STA. 12+71.25

LOCATION: NEAR THE NE CORNER, SE 1/4, SECTION 17, T6N, R3E, 3RD P.M.
NET LENGTH OF PROJECT: 413.89 FT = 0.078 MI



LOCATION OF SECTION INDICATED THUS: -

FAYETTE COUNTY
HIGHWAY DEPARTMENT

APPROVED 11-2, 20 07
FAYETTE COUNTY, COUNTY ENGINEER

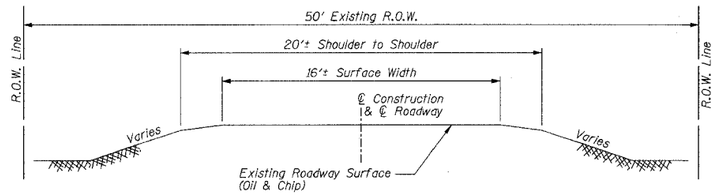
PASSED 11-7, 20 07
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW 11-7, 20 07
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER

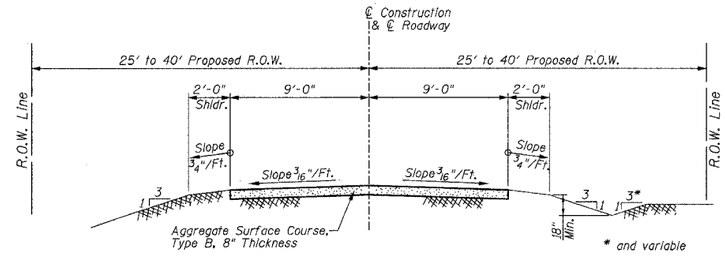
GARY L. HAHN
62-42606
LICENSED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

Gary L. Hahn 10-31-07
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 62-42606
EXPIRES NOV. 30, 2009

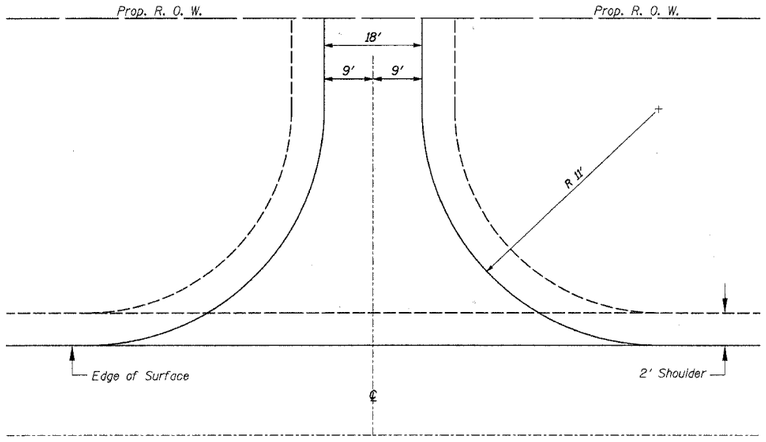
RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS
ILLINOIS DESIGN FIRM LICENSE NO. 184-000287



TYPICAL SECTION
EXISTING APPROACH ROADWAY



TYPICAL SECTION
PROPOSED APPROACH ROADWAY



Aggregate Surface Course, Type B 6" Depth
Lt., Sta. 9+00 - 24 Tons
Rt., Sta. 9+00 - 24 Tons
Lt., Sta. 11+05 - 24 Tons
(Included in Summary of Quantities)

TYPICAL FIELD ENTRANCE

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	2
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
		CONTRACT NO. 95532		

SUMMARY OF QUANTITIES

	Location				Bridge Sta. Sta. 9+58.75 to Sta. 10+41.25	Road Sta. 8+57.36 - 9+58.75 10+41.25 - 12+71.25
					Construct. Type Code	
	Code No.	Item	Unit	Quantity	X081-2A	E000
	20100500	TREE REMOVAL, ACRES	ACRE	0.1	-	0.1
	20200100	EARTH EXCAVATION	CU YD	96	-	96
	20300100	CHANNEL EXCAVATION	CU YD	557	557	-
	20400800	FURNISHED EXCAVATION	CU YD	256	-	256
*	20700110	POROUS GRANULAR EMBANKMENT	TON	78	78	-
*	25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.3	-	0.3
	28000300	TEMPORARY DITCH CHECKS	EACH	4	-	4
*	28100807	STONE DUMPED RIPRAP, CLASS A4	TON	150	150	-
*	40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	382	-	382
*	50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	-
	50300225	CONCRETE STRUCTURES	CU YD	18.2	18.2	-
	50300280	CONCRETE ENCASEMENT	CU YD	2.8	2.8	-
*	50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1948	1948	-
	50800105	REINFORCEMENT BARS	POUND	3020	3020	-
△	50900205	STEEL RAILING, TYPE S1	FOOT	165	165	-
	51201600	FURNISHING STEEL PILES HP12X53	FOOT	329	329	-
	51202305	DRIVING PILES	FOOT	329	329	-
**	51203600	TEST PILE STEEL HP12X53	EACH	1	1	-
	51500100	NAME PLATES	EACH	1	1	-
*	542D0223	PIPE CULVERTS, CLASS D, TYPE 1 18"	FOOT	44	-	44
	67100100	MOBILIZATION	L SUM	1	1	-
△	78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4	-

* See Special Provisions

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

△ Specialty Items

GENERAL NOTES

This section shall be constructed in accordance with the plans, the Special Provisions, and the "Standard Specifications for Road and Bridge Construction", adopted January 1, 2007.

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, 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.

UTILITIES

Telephone:
Frontier Communications
Rod Eller
100 N. Park Avenue
Hoyleton, IL 62803
Phone: 618-493-7391

Water:
Fayette County Water Company
Mike Casey
RR 1 Box 714
Brownstown, IL 61418
Phone: 618-347-2430

Electric:
Southwestern Electric Cooperative, Inc.
Greenville, IL
Phone: 618-664-1025

10/31/2007

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

SUMMARY OF QUANTITIES AND TYPICAL SECTIONS
PROPOSED BRIDGE OVER HICKORY CREEK
TR 454
SECTION 06-19125-00-BR
FAYETTE COUNTY, ILLINOIS

CONTRACT NO. 95532

EXISTING STRUCTURE: TWO SPAN BRIDGE WITH PRECAST CONCRETE DECK SLABS ON CLOSED TIMBER ABUTMENTS AND TIMBER PIER. 40'L. x 22.5'W. NO SKEW. NO SALVAGE. SEE SPECIAL PROVISIONS.

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	3
STA. 6+00.00	TO STA. 14+00.00			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		

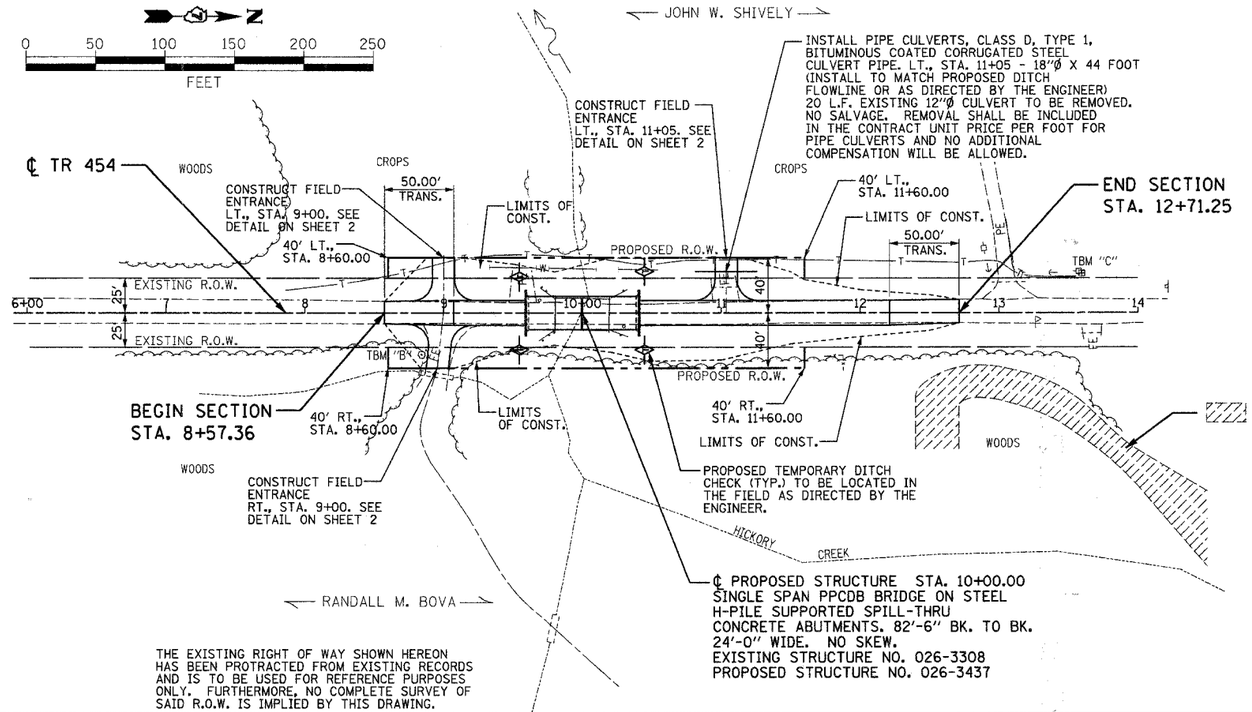
TREE REMOVAL, ACRES

LOCATION	TREE REMOVAL AC.
20' RT. TO 40' RT., STA. 8+80 TO STA. 11+50	0.1
TOTALS	0.1

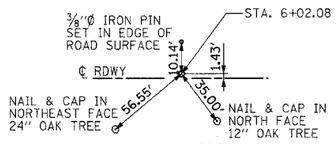
EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU. YD.	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE• CU. YD.	EMBANKMENT CU. YD.	EARTHWORK BALANCE•• WASTE (+) OR SHORTAGE (-) CU. YD.
STA. 8+57.36 TO STA. 9+58.75	32	24	44	-20
STA. 10+42.25 TO STA. 12+71.25	64	48	284	-236
TOTAL	96	72	328	-256

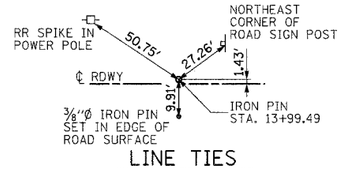
•25% SHRINKAGE ••FURNISHED EXCAVATION



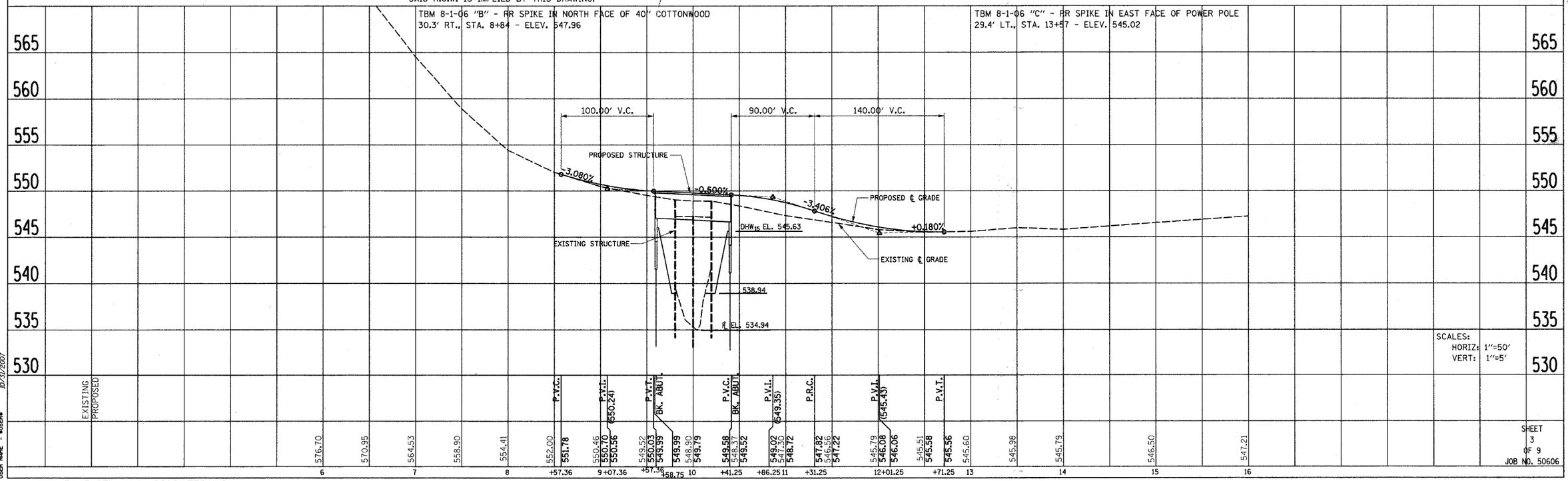
THE EXISTING RIGHT OF WAY SHOWN HEREON HAS BEEN PROTRACTED FROM EXISTING RECORDS AND IS TO BE USED FOR REFERENCE PURPOSES ONLY. FURTHERMORE, NO COMPLETE SURVEY OF SAID R.O.W. IS IMPLIED BY THIS DRAWING.



LINE TIES
1.43' LT., STA. 6+02.08



LINE TIES
1.43' LT., STA. 13+99.49



SHEET 3 OF 9
JOB NO. 50606

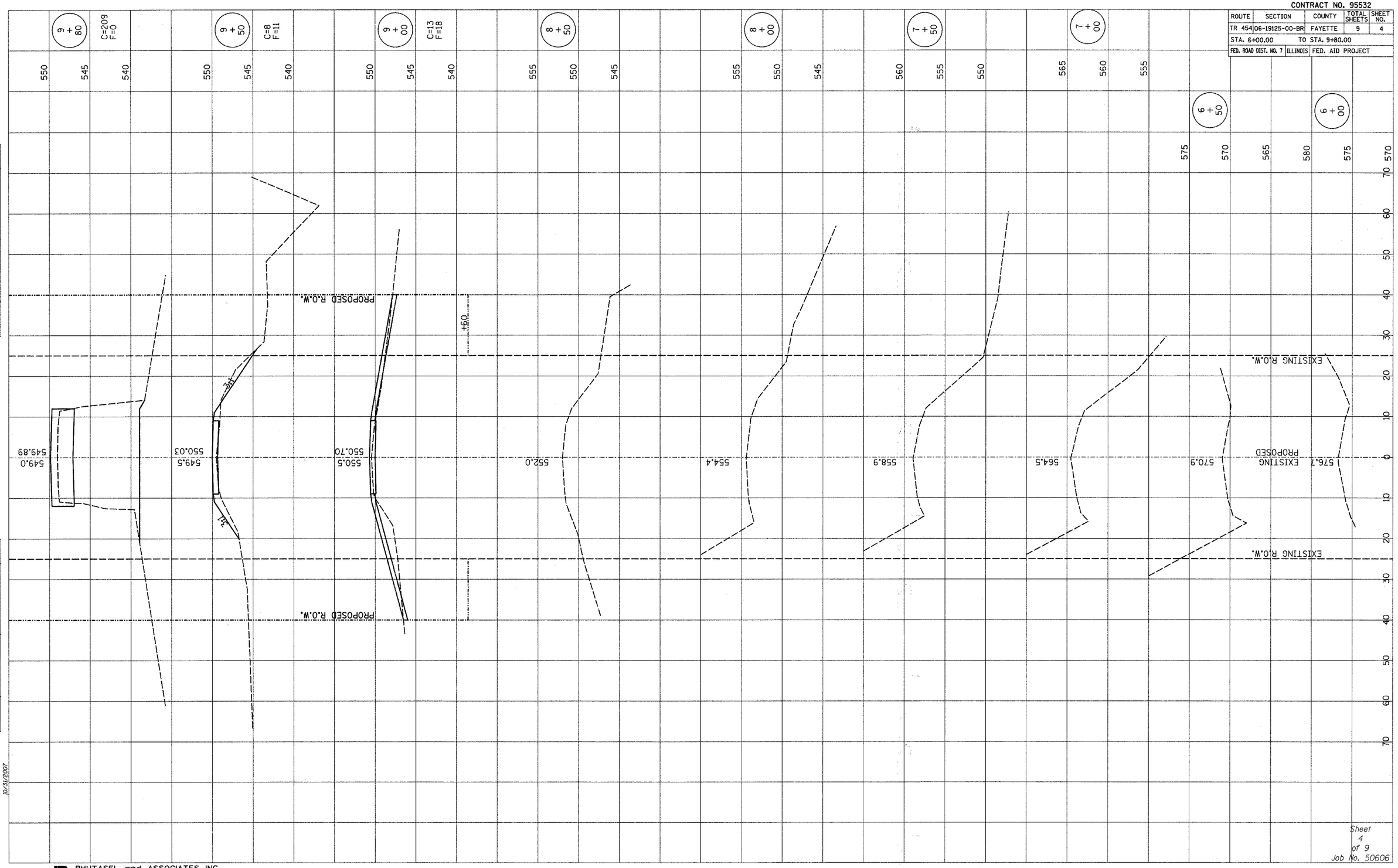
RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

PLAN AND PROFILE OF ROADWAY PROPOSED BRIDGE OVER HICKORY CREEK
TR 454 SECTION 06-19125-00-BR FAYETTE COUNTY, ILLINOIS

PLOT DATE = $DATE$
FILE NAME = $FILE$
PLOT SCALE = $SCALE$
USER NAME = $USER$
10/31/2007

CONTRACT NO. 95532

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	4
STA. 6+00.00	TO STA. 9+80.00			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



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

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

10/31/2007

PLOT DATE = $DATE$
FILE NAME = $FILEL$
PLOT SCALE = $SCALE$
USER NAME = $USER$

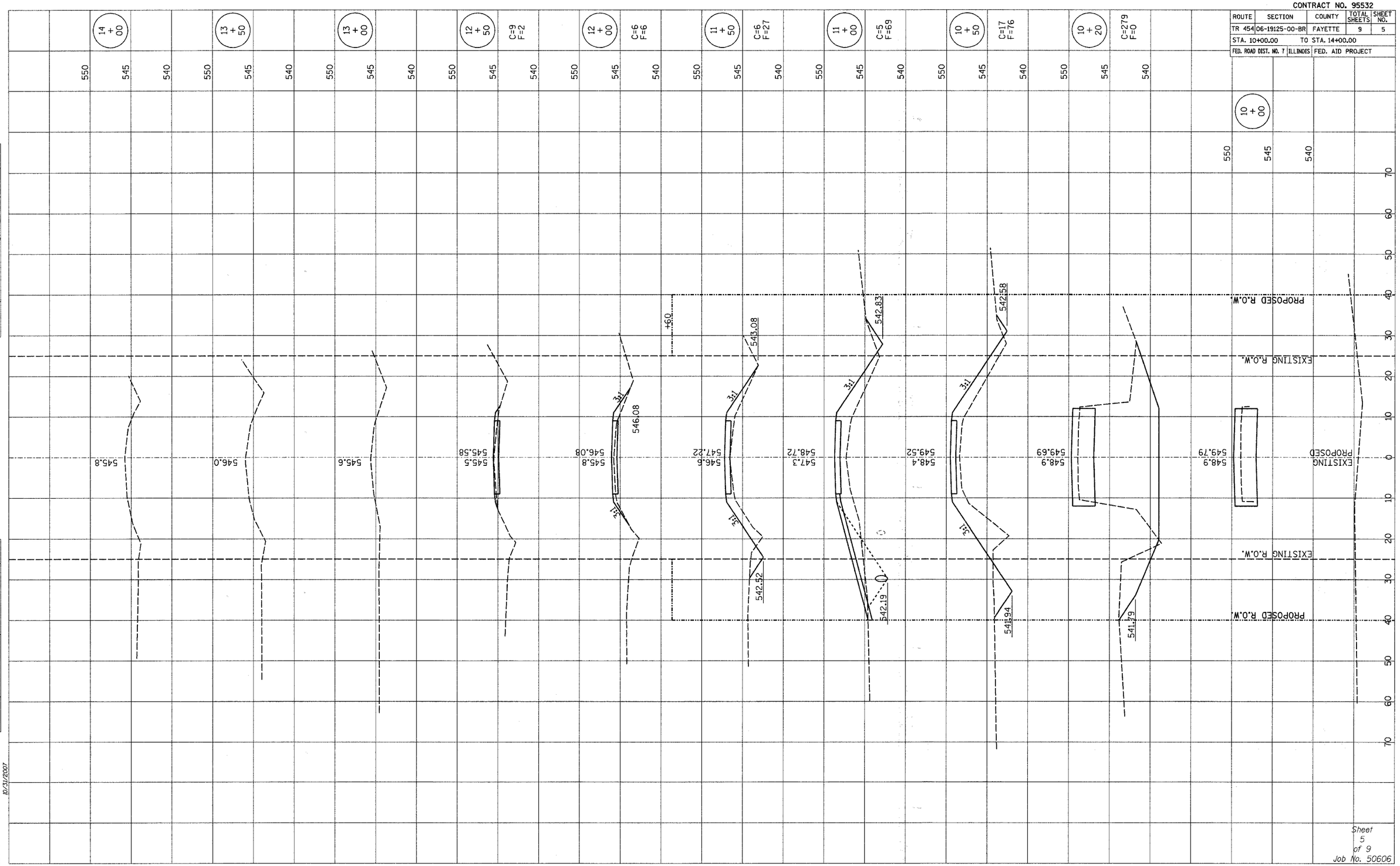
RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

Sheet 4 of 9
Job No. 50606

CROSS SECTIONS OF ROADWAY PROPOSED BRIDGE OVER HICKORY CREEK
TR 454 SECTION 06-19125-00-BR FAYETTE COUNTY, ILLINOIS

CONTRACT NO. 95532

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	5
STA. 10+00.00	TO STA. 14+00.00			
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		



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

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

PLOT DATE = #DATE#
FILE NAME = #FILE#
PLOT SCALE = #SCALE#
USER NAME = #USER#
10/31/2007

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

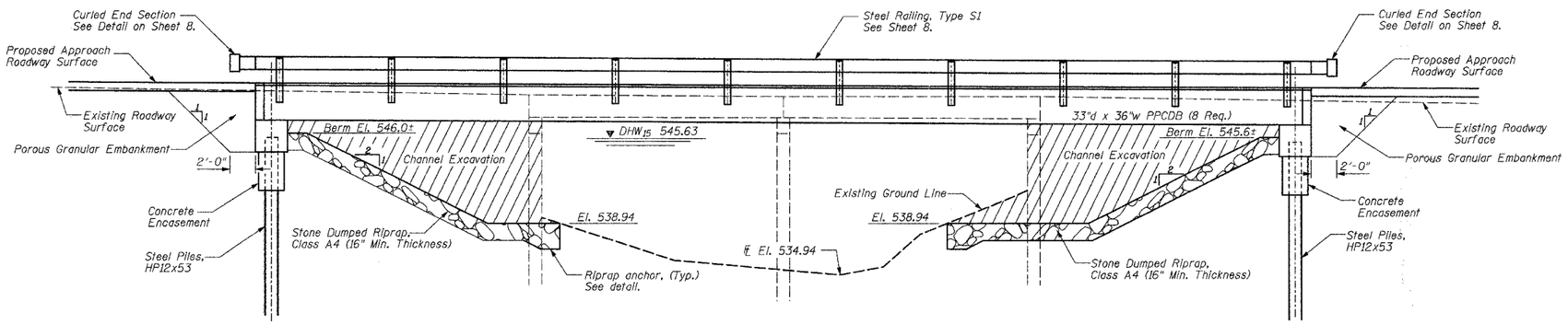
Sheet 5 of 9
Job No. 50606

CROSS SECTIONS OF ROADWAY PROPOSED BRIDGE OVER HICKORY CREEK
TR 454 SECTION 06-19125-00-BR FAYETTE COUNTY, ILLINOIS

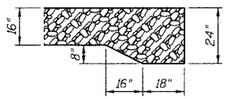
TBM 8-I-06"B" - RR spike in North face of 40" Cottonwood.
30.3' Rt. of Sta. 8+84 - Elev. 547.96
TBM 8-I-06"C" - RR spike in East face of power pole,
29.4' Lt. of Sta. 13+57 - Elev. 545.02

Existing Structure, Str. No. 026-3308: Two span with precast concrete deck slabs on closed timber abutments and timber pier. 40'-0" Long x 22'-6" wide. No Skew. No salvage. See Special Provisions.

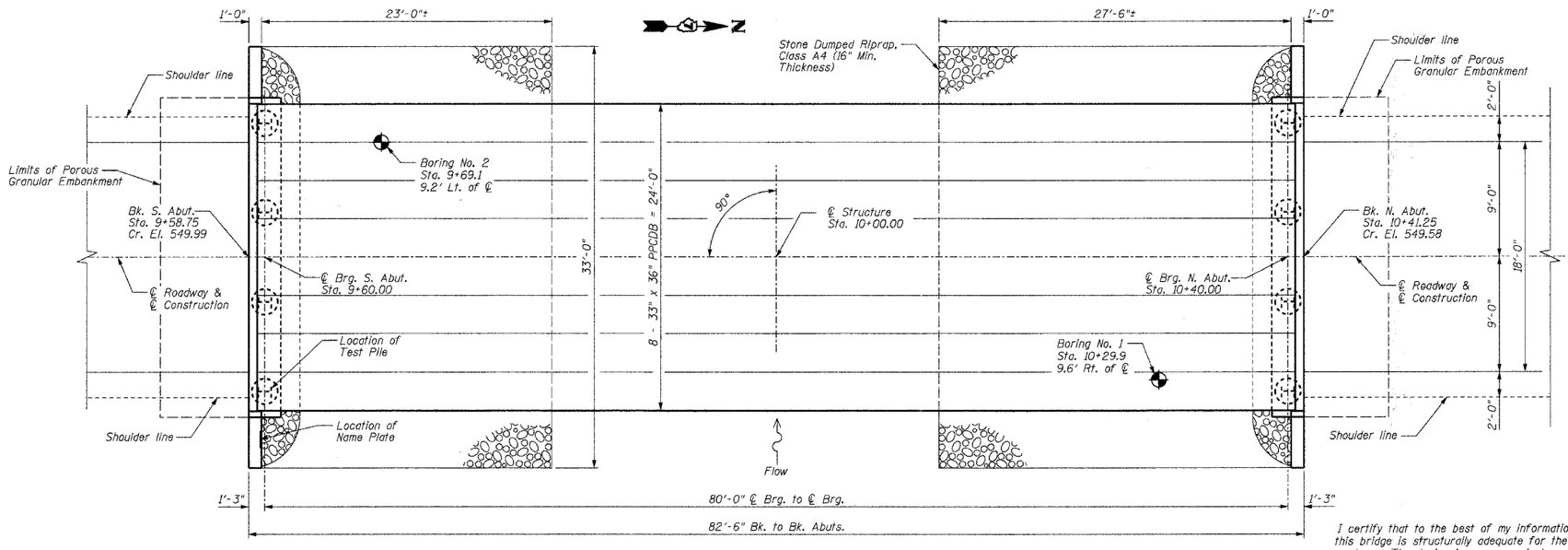
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	6
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
		CONTRACT NO. 95532		



ELEVATION
(No Scale)



RIPRAP ANCHOR DETAIL



PLAN
(No Scale)

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu Yd	-	557	557
Porous Granular Embankment	Ton	-	78	78
Stone Dumped Riprap, Class A4	Ton	-	150	150
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu Yd	-	18.2	18.2
Concrete Encasement	Cu Yd	-	2.8	2.8
PPCDB (33" Depth)	Sq Ft	1948	-	1948
Reinforcement Bars	Pound	-	3020	3020
Steel Railing, Type S1	Foot	165	-	165
Furnishing Steel Piles HP12x53	Foot	-	329	329
Driving Piles	Foot	-	329	329
Test Pile Steel HP12x53	Each	-	1	1
Name Plates	Each	-	1	1
Terminal Marker - Direct Applied	Each	4	-	4

GENERAL NOTES

See Section 502 of the Standard Specifications for Structural Excavation.

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.

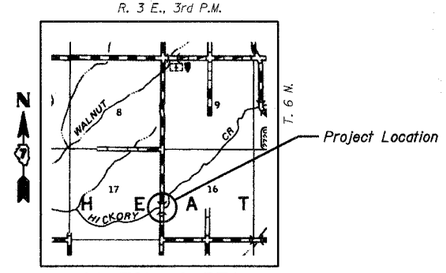
The Steel H-piles shall be according to AASHTO M270 Grade 50.

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

HICKORY CREEK
BUILT 200_ BY FAYETTE COUNTY
TR 454
SEC. 06-19125-00-BR
PROJECT NO. BROS-051(79)
STRUCTURE NO. 026-3437
LOADING HS 20

NAME PLATE
(See State Standard 515001 for details)

R. 3 E., 3rd P.M.



LOCATION SKETCH

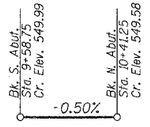
WATERWAY DATA

Drainage Area = 11.77 Sq. Mi. Low Grade Elev. 545.55 @ Sta. 12+64.22

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	1913	323	481	545.63	0.16	0.02	545.79	545.65
Base	100	3043	349	534	546.33	0.68	0.10	547.01	546.43
Max. Calc.	500	3961	367	567	546.79	1.36	0.27	548.15	547.06

DESIGN STRESSES

FIELD UNITS
f'_c = 3,500 psi
f_y = 60,000 psi
PRECAST PRESTRESSED UNITS
f'_c = 6,000 psi
f'_{ci} = 5,000 psi
f'_s = 270,000 psi ($\frac{1}{2}$" ϕ strands)(Low Relaxation)
f'_{si} = 202,500 psi ($\frac{1}{2}$" ϕ strands)(Low Relaxation)



PROFILE GRADE
Along ℄ Roadway

DESIGN SPECIFICATIONS
AASHTO - 2002, 17th Edition

LOADING HS20-44
Allow 25#/sq. ft. for future wearing surface.

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

GARY L. HAHN
81-4853
LICENSED
STRUCTURAL
ENGINEER
STATE OF ILLINOIS

Gary L. Hahn 10-31-07

Gary L. Hahn
Centralia, Illinois
Illinois Licensed Structural
Engineer No. 81-4853
Expires Nov. 30, 2008

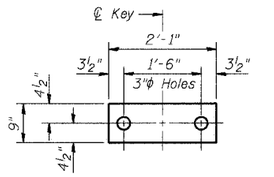
GENERAL PLAN AND ELEVATION
PROPOSED BRIDGE OVER HICKORY CREEK
TR 454
SECTION 06-19125-00-BR
FAYETTE COUNTY, ILLINOIS

Sheet 6 of 9
Job No. 50606

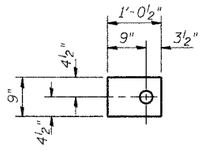
10/31/2007

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS • FREEBURG, ILLINOIS

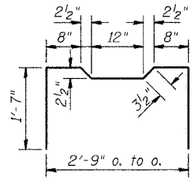
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	7
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
		CONTRACT NO. 95532		



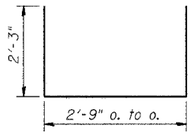
FABRIC BEARING PAD
(Interior)



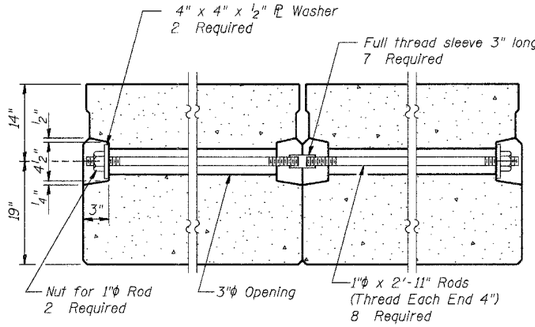
FABRIC BEARING PAD
(Exterior)



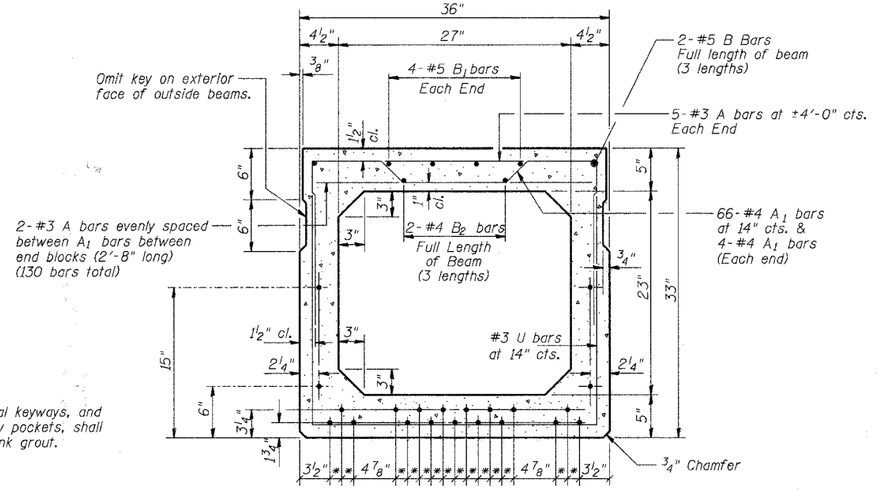
BAR A_1



BARS U & U_1



TYPICAL TRANSVERSE TIE ASSEMBLY

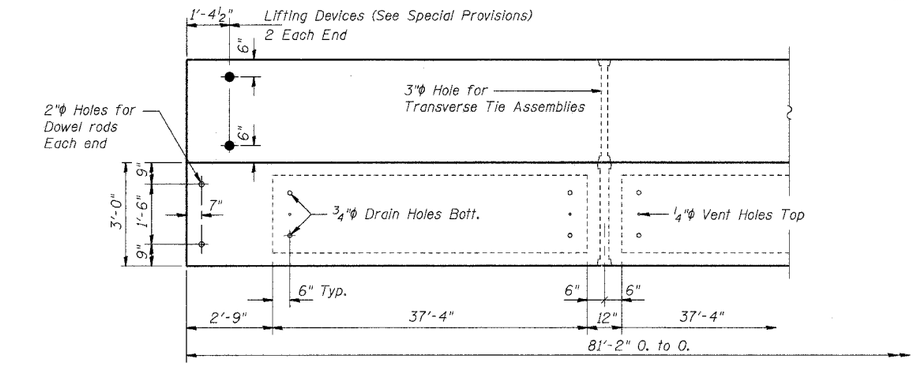


TYPICAL SECTION

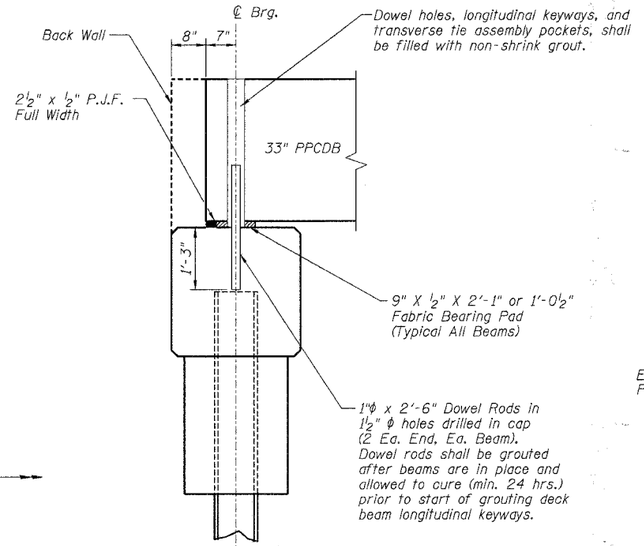
21 - ½"ϕ Strands Each Strand Stressed to 31,000 Lbs.
9-Strands 1¾" up, 8-Strands 3¼" up
2-Strands 6" up, 2-Strands 15" up

Note: Place strands symmetrically about ℄ of beam.

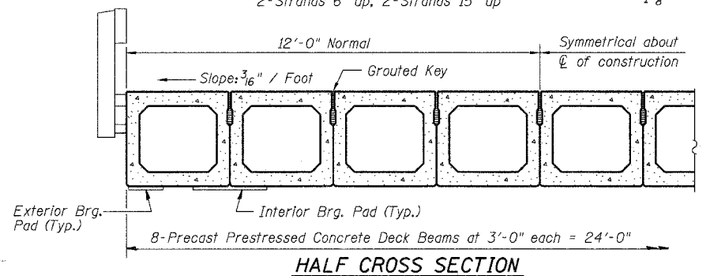
* = 1⅜"



PLAN

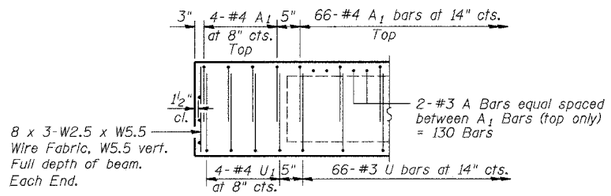


FIXED ABUTMENT



HALF CROSS SECTION

See Sheet 8 for the details showing the spacing and mounting of posts and rails to the PPCDB.



END ELEVATION

BILL OF MATERIAL
ONE BEAM

	Bar	No.	Size	Length	Shape
	A	140	#3	2'-8"	—
	A_1	74	#4	6'-1"	⊓
	B	6	#5	29'-0"	—
	B_1	8	#5	16'-3"	—
	B_2	6	#4	28'-6"	—
	U	66	#3	7'-3"	⊔
	U_1	8	#4	7'-3"	⊔
	Precast Prestressed Concrete Deck Beams		Sq. Ft.	243.50	
**	Reinforcement Bars		Pound	1100	
	Total Weight Each Beam		Pound	53560	

**Weight does not include W.W.F.

NOTES

Prestressing steel shall be uncoated high strength, Low-relaxation 7-wire strand, Grade 270.

The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.

See Special Provisions for lifting devices.

Corrosion Inhibitor, per Article 1020.05(b)(12) of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.

The 1"ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.

Non prestressing steel shall conform to ASTM A706 (IL Mod), Grade 60.

The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.

Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between top of the beam and the bottom edge of the key.

Required Release Strength, f'ci, shall be 5000 p.s.i. (minimum).

Low-relaxation strands are required.

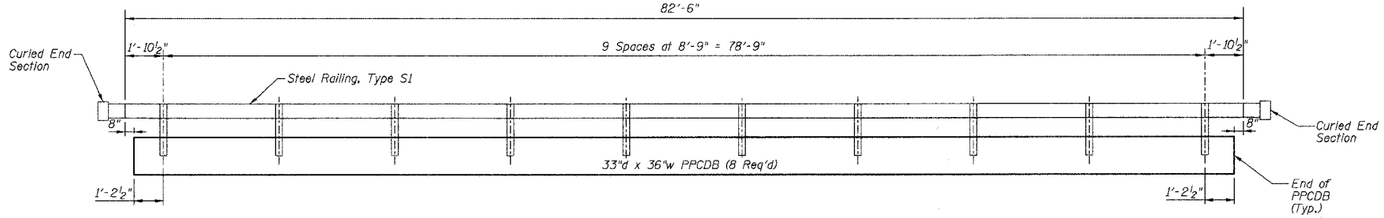
PRECAST PRESTRESSED CONCRETE DECK BEAM DETAILS
PROPOSED BRIDGE OVER HICKORY CREEK
TR 454
SECTION 06-19125-00-BR
FAYETTE COUNTY, ILLINOIS

Sheet 7 of 9
Job No. 50606

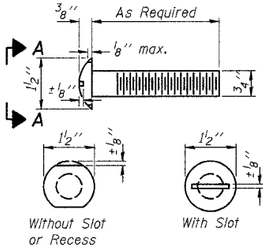
10/31/2007

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

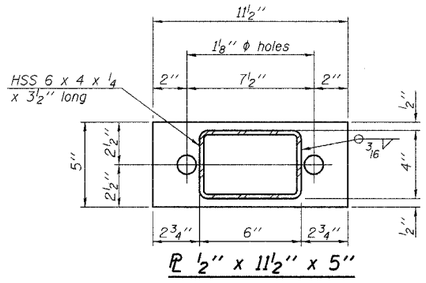
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	8
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
		CONTRACT NO. 95532		

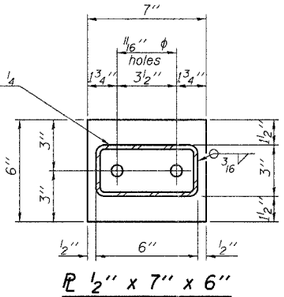


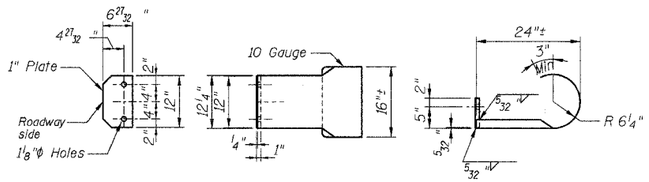
ELEVATION



VIEW A-A ROUND HEAD BOLT

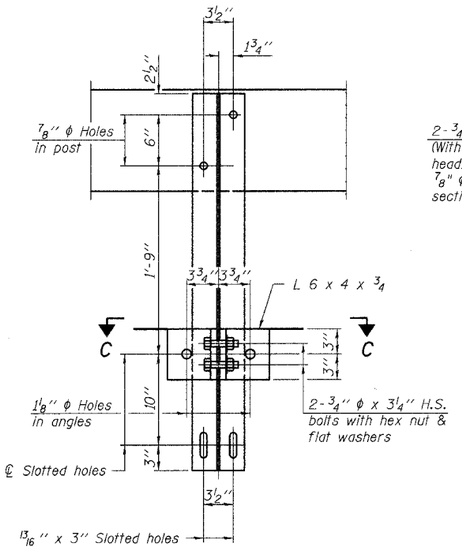




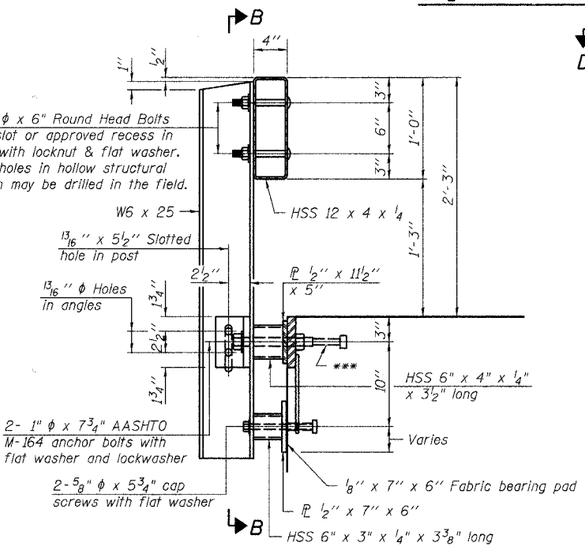


CURLED END SECTION DETAILS

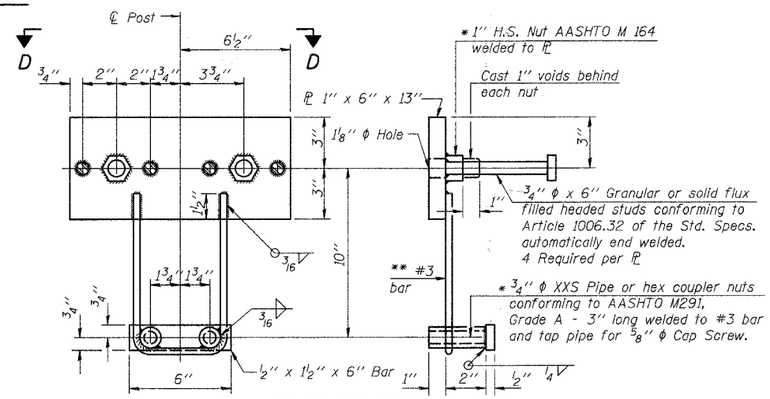
The cost of the Curled End Section is included in the cost of the "STEEL RAILING, TYPE S1", and no additional compensation will be allowed.



SECTION B-B



SECTION AT RAILING POST



ANCHOR DEVICE

* 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 ½".

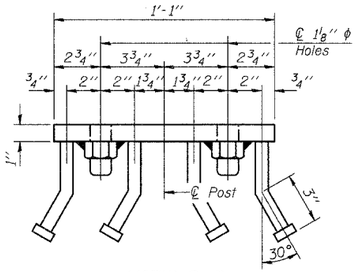
Notes:

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

For multi-span bridges, sufficient ¼" 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.

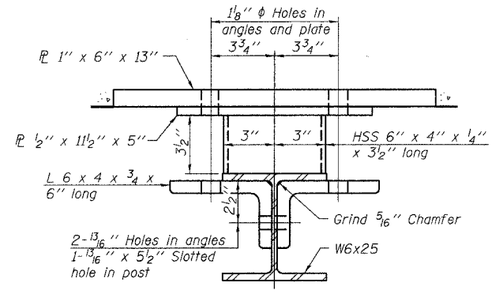
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



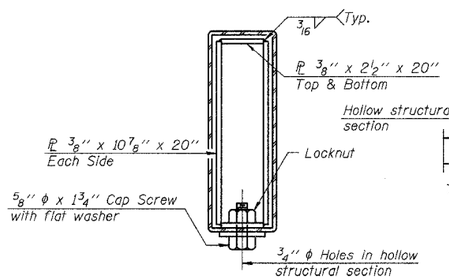
VIEW D-D

BILL OF MATERIAL

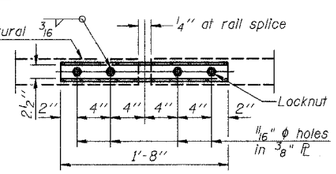
Item	Unit	Quantity
Steel Railing, Type S1	Foot	165



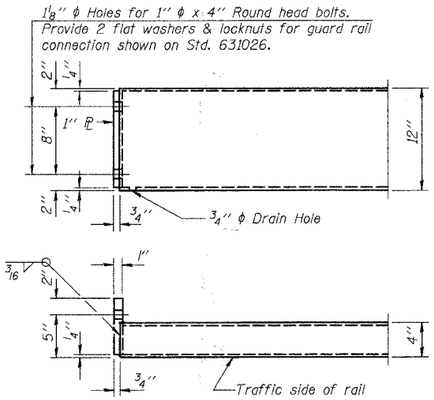
SECTION C-C



SECTIONS AT RAIL SPLICE



PLAN-BOTT. SPLICE ℄ TYPICAL



END OF RAIL DETAILS

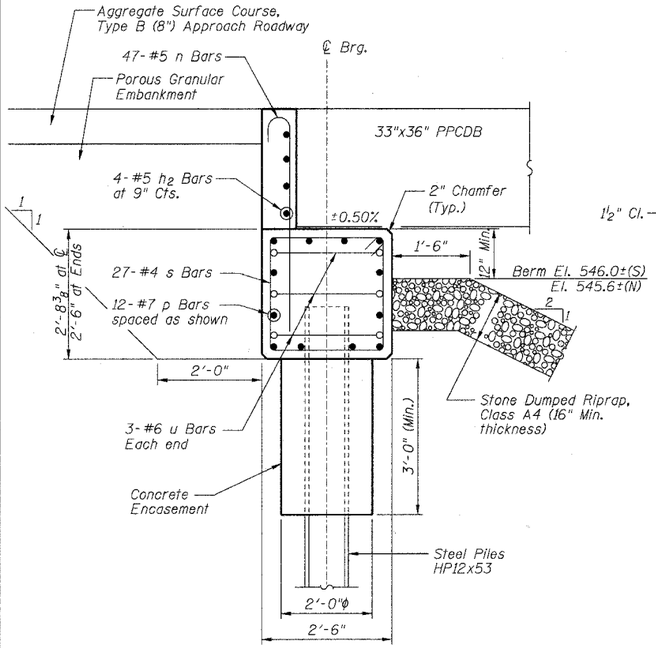
STEEL RAILING, TYPE S1 DETAILS
PROPOSED BRIDGE OVER HICKORY CREEK
TR 454
SECTION 06-19125-00-BR
FAYETTE COUNTY, ILLINOIS

Sheet 8 of 9
Job No. 50606

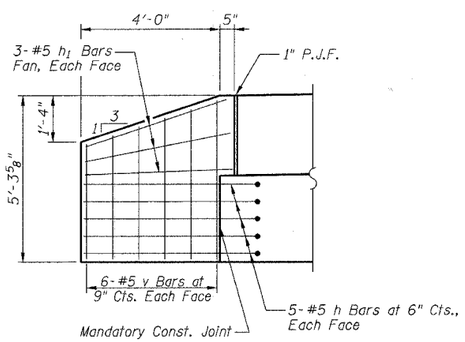
10/31/2007

RHUTASEL and ASSOCIATES, INC.
CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

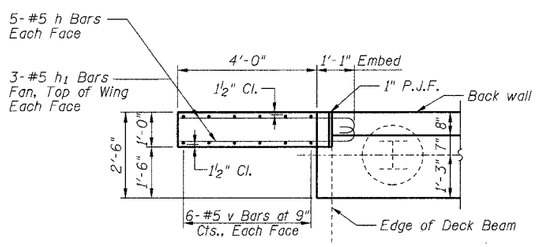
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 454	06-19125-00-BR	FAYETTE	9	9
FED. ROAD DIST. NO. 7	ILLINOIS	FED. AID PROJECT		
		CONTRACT NO. 95532		



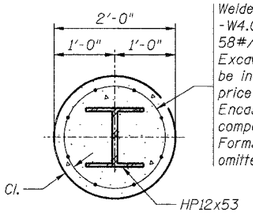
SECTION THRU ABUTMENT
Normal to Abutment



ELEVATION OF WINGWALL

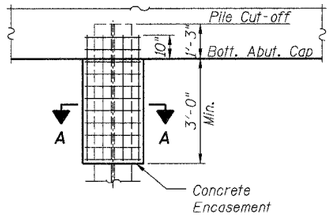


WINGWALL CONNECTION DETAIL

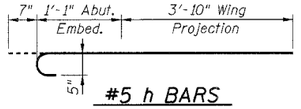


SECTION A-A

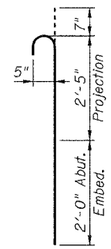
Welded wire fabric 6 x 6 -W4.0 x W4.0 weighing 58#/100 sq. ft. The cost of Excavation & Reinforcement shall be included in the Contract unit price per cubic yard for Concrete Encasement and no additional compensation will be allowed. Forms for Encasement may be omitted when soil conditions permit.



PILE ENCASEMENT DETAIL



#5 h BARS



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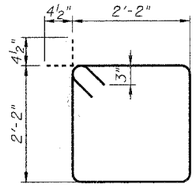
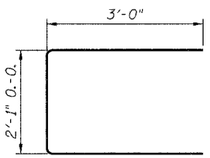
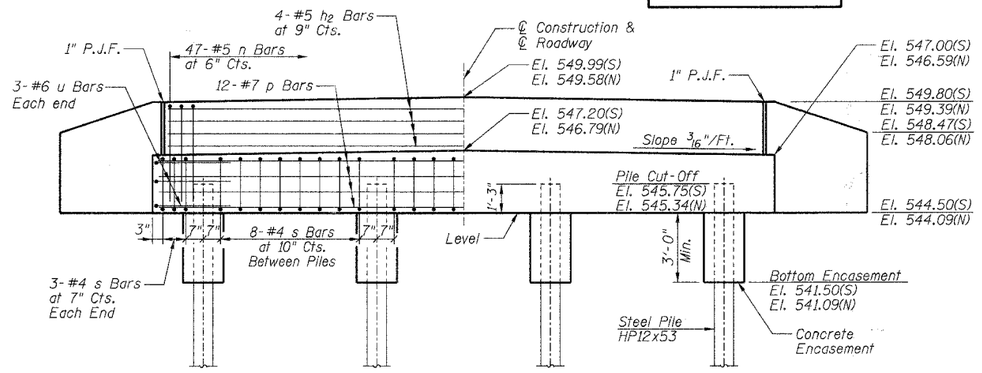


#4 s BARS

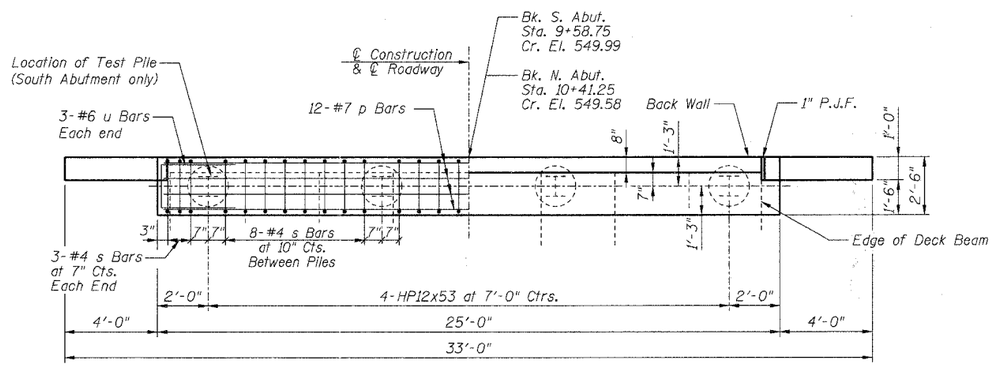


#6 u BARS

Elevations shown at Back of Abutment



ELEVATION



PLAN

PILE DATA

Type and Size: Steel HP12x53

Nominal Required Bearing: 418 kips

Allowable Resistance Available: 139 kips

Estimated Length:
- South Abutment: 51 Foot
- North Abutment: 44 Foot

Number of Production Piles:
- South Abutment: 3 Each
- North Abutment: 4 Each

Number of Test Piles:
- South Abutment: 1 Each
- North Abutment: None

BILL OF MATERIALS
ONE ABUTMENT w/ WINGWALLS

Bar	No.	Size	Length	Shape
h	20	#5	5'-6"	
h_1	12	#5	4'-6"	
h_2	4	#5	23'-8"	
n	47	#5	5'-0"	
p	12	#7	24'-8"	
s	30	#4	9'-5"	
u	6	#6	8'-1"	
v	24	#5	5'-0"	CUT IN FIELD
Concrete Structures		Cu. Yd.	9.1	
Concrete Encasement		Cu. Yd.	1.4	
Reinforcement Bars		Pound	1510	

GENERAL NOTES

All exposed edges shall have standard ¾" chamfer, unless otherwise noted.

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

Space reinforcement in abutment cap to miss PPCDB dowel bars.

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

10/31/2007

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CONSULTING ENGINEERS • LAND SURVEYORS
CENTRALIA, ILLINOIS FREEBURG, ILLINOIS

ABUTMENT DETAILS
PROPOSED BRIDGE OVER HICKORY CREEK
TR 454
SECTION 06-19125-00-BR
FAYETTE COUNTY, ILLINOIS

Job No. 50606