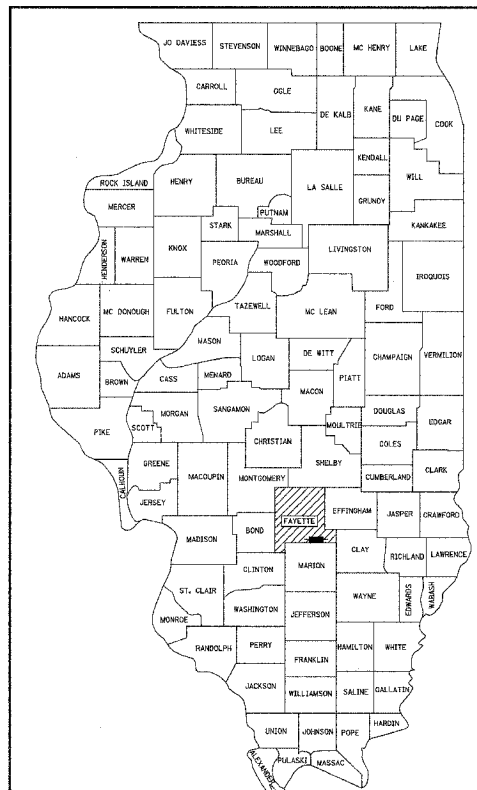


STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED
FEDERAL-AID BRIDGE REPLACEMENT
AND REHABILITATION PROGRAM

TR 571B
SECTION 00-07125-00-BR
PROJECT No. AC BROS-051(69)
OVER NORTH FORK CREEK
FAYETTE COUNTY
C-97-041-05

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 571B	00-07125-00-BR	FAYETTE	9	1
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		
CONTRACT NO. 95443				



LOCATION OF SECTION INDICATED THUS: - ■ -

INDEX OF SHEETS

1. COVER SHEET
2. SUMMARY OF QUANTITIES AND TYPICAL SECTIONS
3. PLAN AND PROFILE OF ROADWAY
- 4.-5. CROSS SECTIONS OF ROADWAY
6. GENERAL PLAN AND ELEVATION
7. PRECAST PRESTRESSED CONCRETE DECK BEAMS
8. STEEL RAILING, TYPE S1
9. ABUTMENTS

STANDARDS ARE INCLUDED IN PLANS AFTER SHEET NO. 9

- 000001-04 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
- 280001-02 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-02 NAME PLATES FOR BRIDGES
- 702001-05 TRAFFIC CONTROL DEVICES
- BLR-21-6 TYPICAL APPLICATIONS OF TRAFFIC CONTROL DEVICES

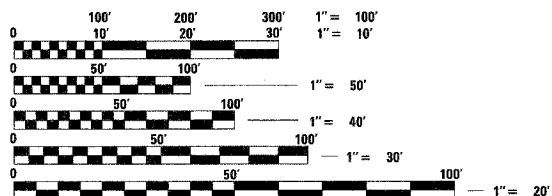
SOIL BORINGS (SEE SPECIFICATIONS)

DESIGN CLASSIFICATION: LOCAL ROAD (NON-URBAN)

ADT₂₀₀₂ : 50

ADT₂₀₂₂ : 50

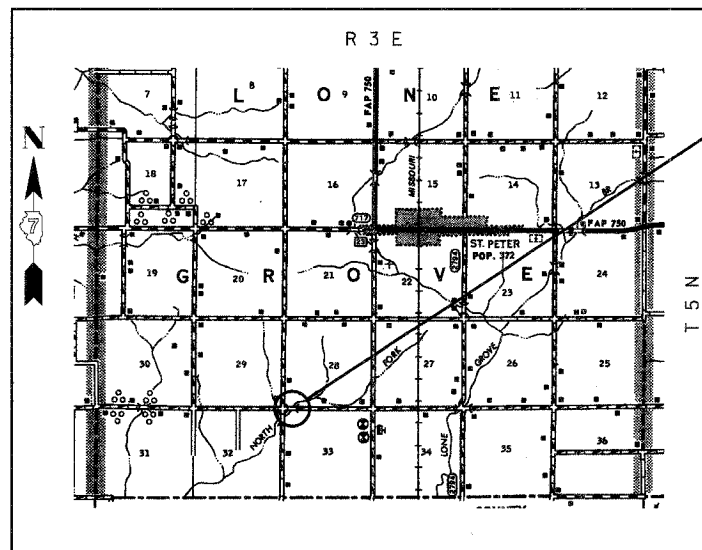
DESIGN SPEED: 30 MPH



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. 95443



LOCATION: NEAR THE NW CORNER OF SECTION 33, T 5 N, R 3 E, 3rd P.M.
NET LENGTH OF PROJECT: 300.00 FT = 0.057 MI

SECTION BEGINS AT
STA. 11+50.00

SECTION 00-07125-00-BR INCLUDES THE CONSTRUCTION OF A SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM SUPERSTRUCTURE ON SPILL-THRU ABUTMENTS CARRYING TR 571B OVER NORTH FORK CREEK, 41'-6 1/2" BK TO BK ABUTMENTS, 24' OUT TO OUT OF DECK, 30° AHEAD LEFT SKEW. EXISTING STRUCTURE NO. 026-3255 PROPOSED STRUCTURE NO. 026-3419

SECTION ENDS AT
STA. 14+50.00

APPROVED 8-19, 20 05
W. Paul A. Maff
COUNTY ENGINEER

PASSED 9-9, 20 05
Maureen Kast
DISTRICT SEVEN ENGINEER OF
LOCAL ROADS & STREETS

RELEASING FOR
BID BASED ON
LIMITED REVIEW 9-9, 20 05
Christine M. Reed
DEPUTY DIRECTOR OF HIGHWAYS,
REGION FOUR ENGINEER

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Gary L. Hahn 8-11-05
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED PROFESSIONAL
ENGINEER NO. 62-42606
EXPIRES NOV. 30, 2005



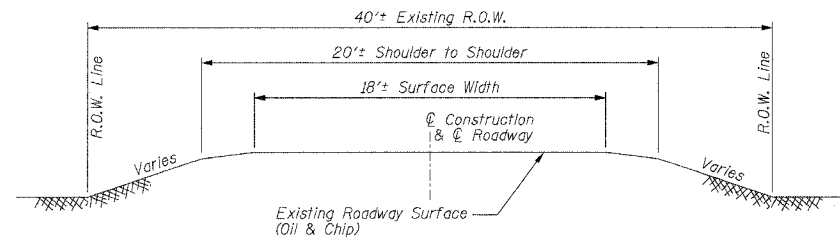
Gary L. Hahn 8-11-05
GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 81-4853
EXPIRES NOV. 30, 2006

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

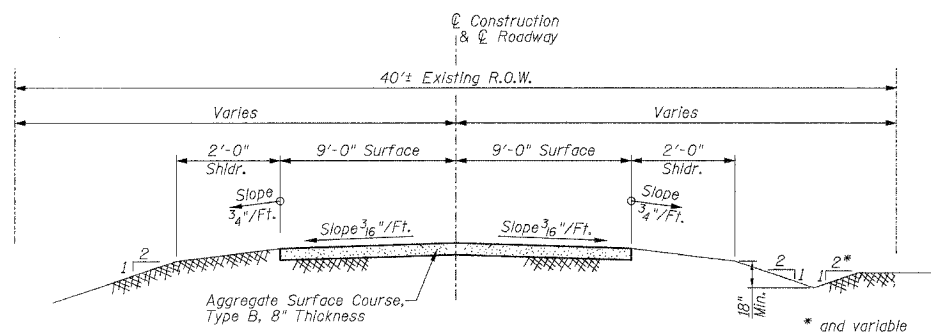
PRINTED BY THE AUTHORITY OF THE STATE OF ILLINOIS

Sheet
1
of 9
Job No. 50801

SUMMARY OF QUANTITIES



**TYPICAL SECTION
EXISTING APPROACH ROADWAY**



**TYPICAL SECTION
PROPOSED APPROACH ROADWAY**

UTILITIES

ELECTRIC
Southwestern Electric Cooperative, Inc.
S. Elm & Rt. 40
Greenville, IL
(618) 664-1025

TELEPHONE
Frontier Communications
Ph. (217) 854-3126

Code No.	Item	Unit	Quantity	Location	
				X080-2A	E000
20200100	EARTH EXCAVATION	CU YD	71	-	71
* 20700110	POROUS GRANULAR EMBANKMENT	TON	34	-	34
* 25001000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.1	-	0.1
* 28100807	STONE DUMPED RIPRAP, CLASS A4	TON	103	103	-
* 40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	242	-	242
* 50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1	-
50300225	CONCRETE STRUCTURES	CU YD	18.4	18.4	-
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	960	960	-
50800105	REINFORCEMENT BARS	POUND	2820	2820	-
50900205	STEEL RAILING, TYPE S1	FOOT	82	82	-
** 51201400	FURNISHING STEEL PILES HP 10X42	FOOT	330	330	-
** 51202700	DRIVING STEEL PILES	FOOT	330	330	-
** 51203400	TEST PILE STEEL HP 10X42	EACH	1	1	-
51500100	NAME PLATES	EACH	1	1	-
67100100	MOBILIZATION	L SUM	1	1	-

* See Special Provisions
** The Contractor shall drive one (1) Steel HP10x42 Test Pile in a permanent location at the East Abutment as directed by the Engineer before ordering the remainder of the piles.

GENERAL NOTES

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.

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.

Factors used for quantity calculations are as follows:
Porous Granular Embankment: 2.1 Tons / Cu Yd
Stone Dumped Riprap, Class A4: 130 Pounds / Cu Ft
Aggregate Surface Course, Type B: 2.1 Tons / Cu Yd

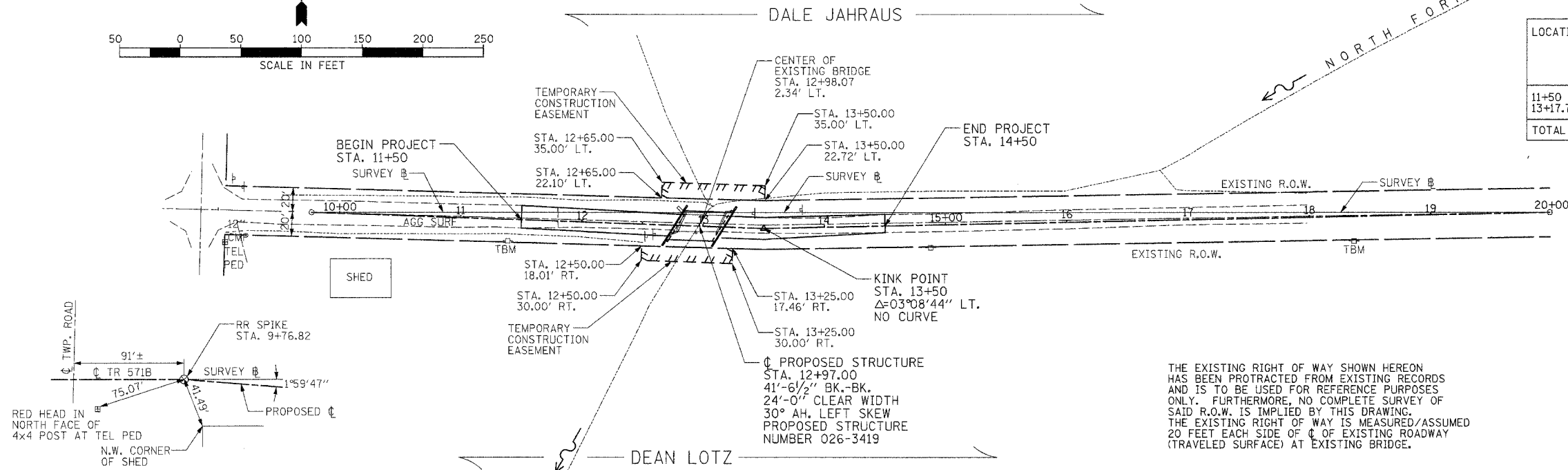
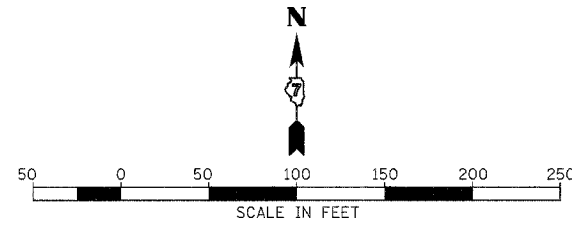
**SUMMARY OF QUANTITIES AND
TYPICAL SECTIONS
PROPOSED BRIDGE OVER
NORTH FORK CREEK
TR 571B
SECTION 00-07125-00-BR
FAYETTE COUNTY, ILLINOIS**

Sheet
2
of 9
Job No. 50801

SEC. 28, T. 5 N., R. 3 E., 3rd P.M.

EXISTING STRUCTURE: TWO (2) SPAN BRIDGE WITH CAST-IN-PLACE CONCRETE DECK ON STEEL STRINGERS SUPPORTED ON CLOSED CAST-IN-PLACE CONCRETE ABUTMENTS, WINGWALLS, AND COLUMN BENT PIER. 35' BK. TO BK. ABUTMENTS, 14' OUT TO OUT OF DECK. EXISTING STRUCTURE NUMBER 026-3255. (SEE SPECIAL PROVISIONS)

TR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
571B	00-07125-00-BR	FAYETTE	9	3
STA. 9+00		TO STA. 20+00		
FED. ROAD DIST. NO. 7		ILLINOIS		FED. AID PROJECT
CONTRACT NO. 95443				

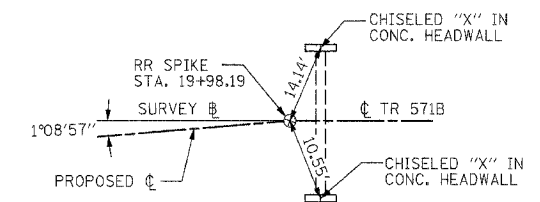


EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CU YD	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE* CU YD	EMBANKMENT CU YD	FURNISHED EXCAVATION WASTE (+) OR SHORTAGE (-) CU YD
11+50 TO 112+76.23	38	29	13	16
13+17.77 TO 14+50	33	25	43	-18
TOTAL	71	54	56**	-2**

*25% SHRINKAGE
**INFORMATION ONLY
(NOT A PAY ITEM)

NOTES: EMBANKMENT AND FURNISHED EXCAVATION SHALL BE CONSIDERED INCIDENTAL TO EARTH EXCAVATION AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.
CHANNEL EXCAVATION SHALL BE CONSIDERED INCIDENTAL TO REMOVAL OF EXISTING STRUCTURES AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.



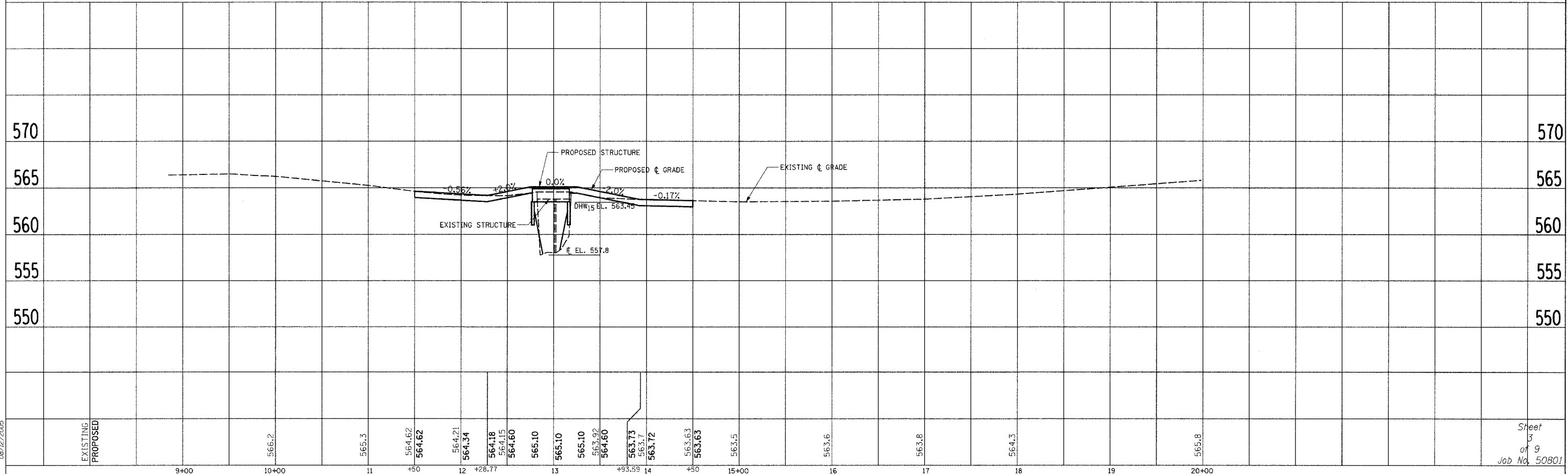
LINE TIES
P.O.T. STA. 9+76.82

T.B.M. 08/06/01 "A" - TOP OF RR SPIKE IN NORTH FACE OF POWER POLE
23.4' RT. OF STA. 11+38.6 - ELEV. 567.05

SEC. 33, T. 5 N., R. 3 E., 3rd P.M.

T.B.M. 08/06/01 "B" - TOP OF RR SPIKE IN NORTH FACE OF POWER POLE
23.6' RT. OF STA. 18+36.5 - ELEV. 565.32

LINE TIES
P.O.T. STA. 19+98.19



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

PLAN AND PROFILE OF ROADWAY PROPOSED BRIDGE OVER NORTH FORK CREEK
TR 571B SECTION 00-07125-00-BR FAYETTE COUNTY, ILLINOIS

Sheet
3
of 9
Job No. 50801

PLAN SURVEYED BY DATE
PLOTTED BY DATE
CHECKED BY DATE
NOTE BOOK NO.
FILE NO.

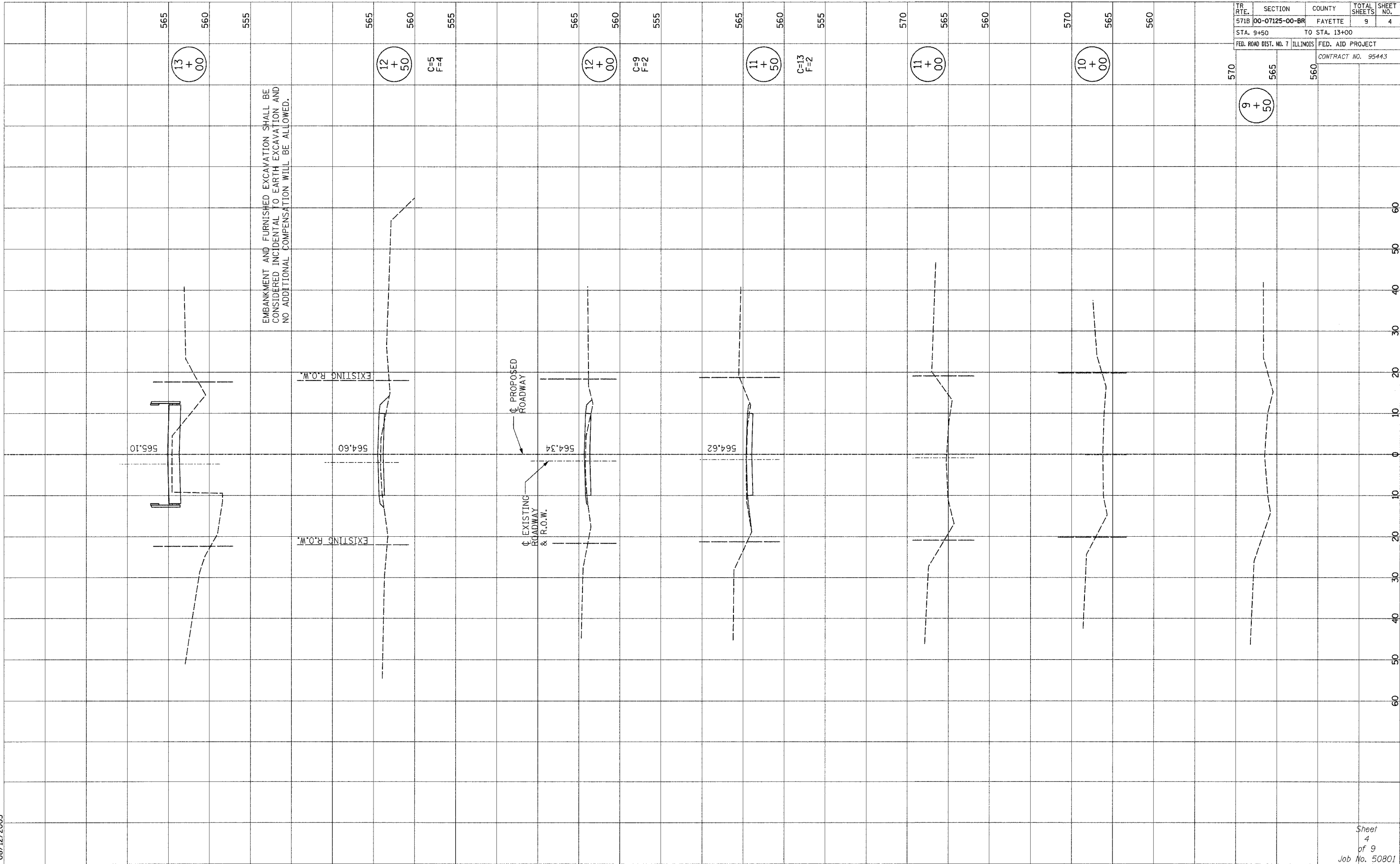
PROFILE SURVEYED BY DATE
PLOTTED BY DATE
CHECKED BY DATE
NOTE BOOK NO.
FILE NO.

08/12/2005

ORIGINAL SURVEY
 SURVEY BOOK NO. _____
 DATE _____
 BY _____

FINAL SURVEY
 SURVEY BOOK NO. _____
 DATE _____
 BY _____

08/12/2005



TR. RT. 571B	SECTION 00-07125-00-BR	COUNTY FAYETTE	TOTAL SHEETS 9	SHEET NO. 4
STA. 9+50		TO STA. 13+00		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
CONTRACT NO. 95443				

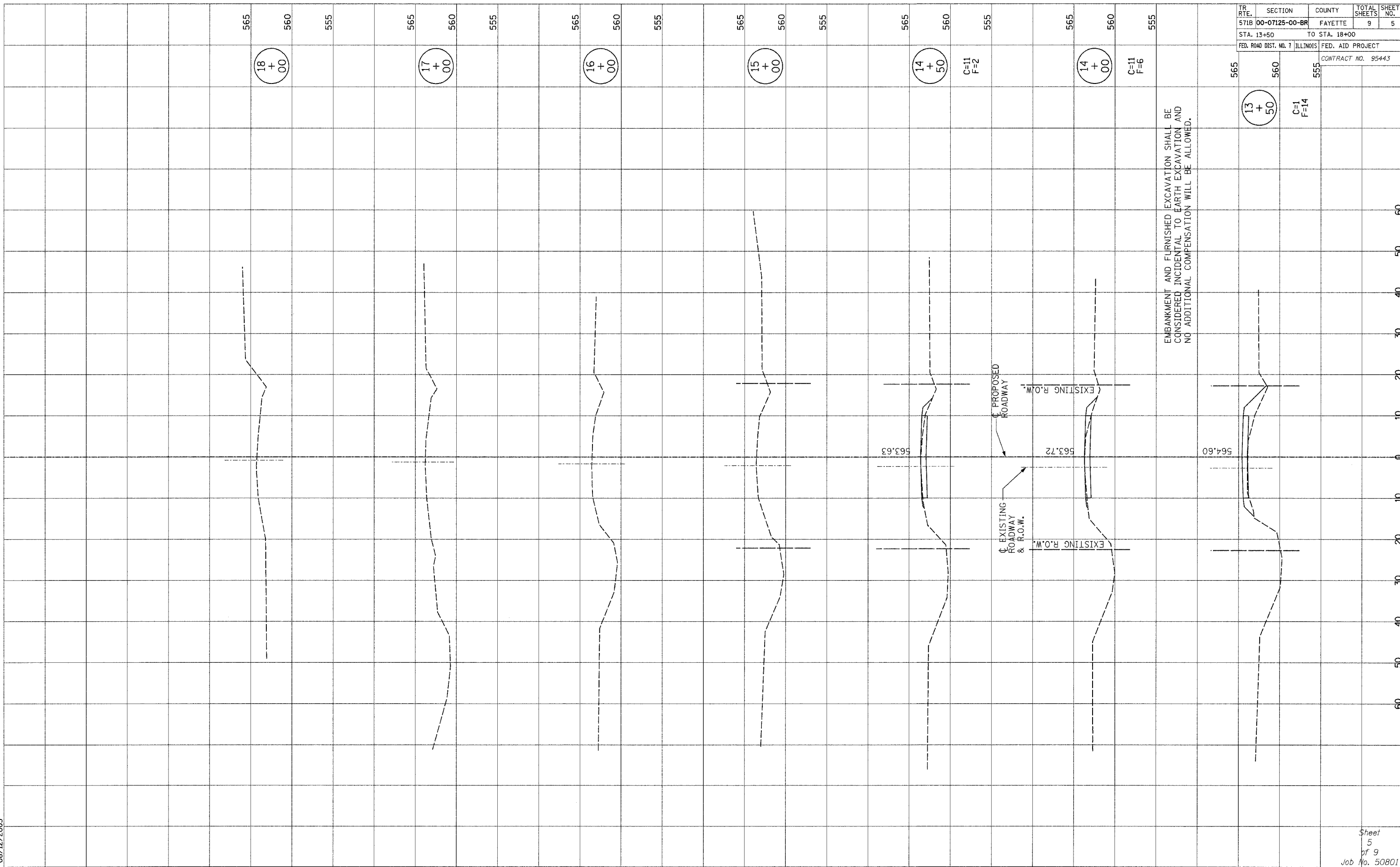
FINAL SURVEY
 SURVEYED PLOTTED
 NOTE BOOK TEMPLATE
 NO. AREAS CHECKED

ORIGINAL SURVEY
 SURVEYED PLOTTED
 NOTE BOOK TEMPLATE
 NO. AREAS CHECKED

08/12/2005

BY _____ DATE _____

BY _____ DATE _____



TR. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
571B	00-07125-00-BR	FAYETTE	9	5
STA. 13+50		TO STA. 18+00		
FED. ROAD DIST. NO. 7		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 95443		

565	560	555
13 + 50	C=1 F=14	

565	560	555
14 + 50	C=11 F=2	

565	560	555
14 + 00	C=11 F=6	

565	560	555
16 + 00		

565	560	555
17 + 00		

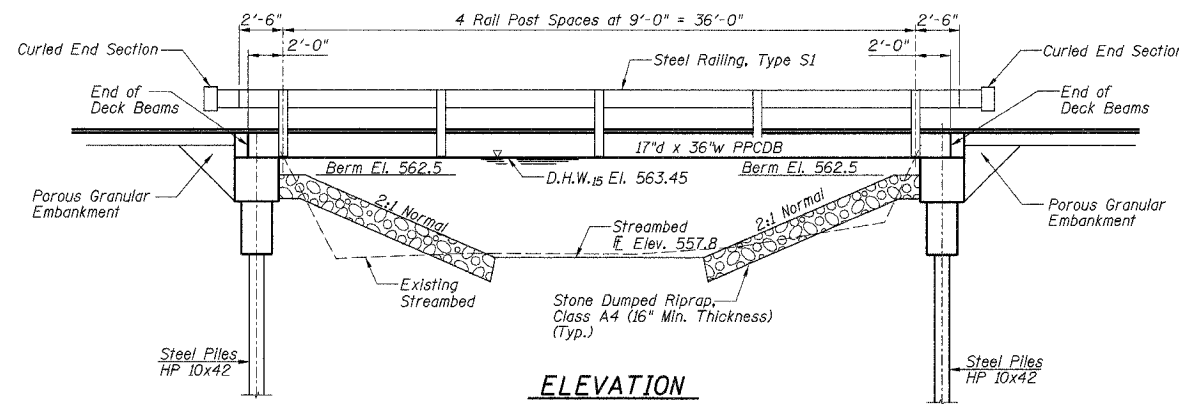
565	560	555
18 + 00		

T.B.M. 08/06/01 "A" - Top of RR spike in north face of power pole 23.4' Rt. of Sta. 11+38.6 - Elev. 567.05

T.B.M. 08/06/01 "B" - Top of RR spike in north face of power pole 23.6' Rt. of Sta. 18+36.5 - Elev. 565.32

Existing Structure: Two (2) span bridge with cast-in-place concrete deck on steel stringers supported on closed cast-in-place concrete abutments, wingwalls, and column bent pier. 35' Bk. to Bk. abutments, 14' Out to Out deck. Existing Structure No. 026-3255 (See Special Provisions)

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 571B	00-07125-00-BR	FAYETTE	9	6
FED. ROAD DIST. NO. 7		ILLINOIS		FEDERAL AID PROJECT
CONTRACT NO. 95443				



BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	SUPER	SUB	TOTAL
Stone Dumped Riprap, Class A4	Ton	-	103	103
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu Yd	-	18.4	18.4
PPCDB (17" Depth)	Sq Ft	960	-	960
Reinforcement Bars	Pound	-	2820	2820
Steel Railing, Type S1	Foot	82	-	82
Furnishing Steel Piles HP 10x42	Foot	-	330	330
Driving Steel Piles	Foot	-	330	330
Test Pile Steel HP 10x42	Each	-	1	1
Name Plates	Each	-	1	1

GENERAL NOTES

Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.

The Contractor shall drive one (1) Steel HP10x42 Test Pile in a permanent location at the East Abutment as directed by the Engineer before ordering the remainder of the piles.

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. Channel Excavation shall be considered incidental to Removal of Existing Structures and no additional compensation will be allowed.

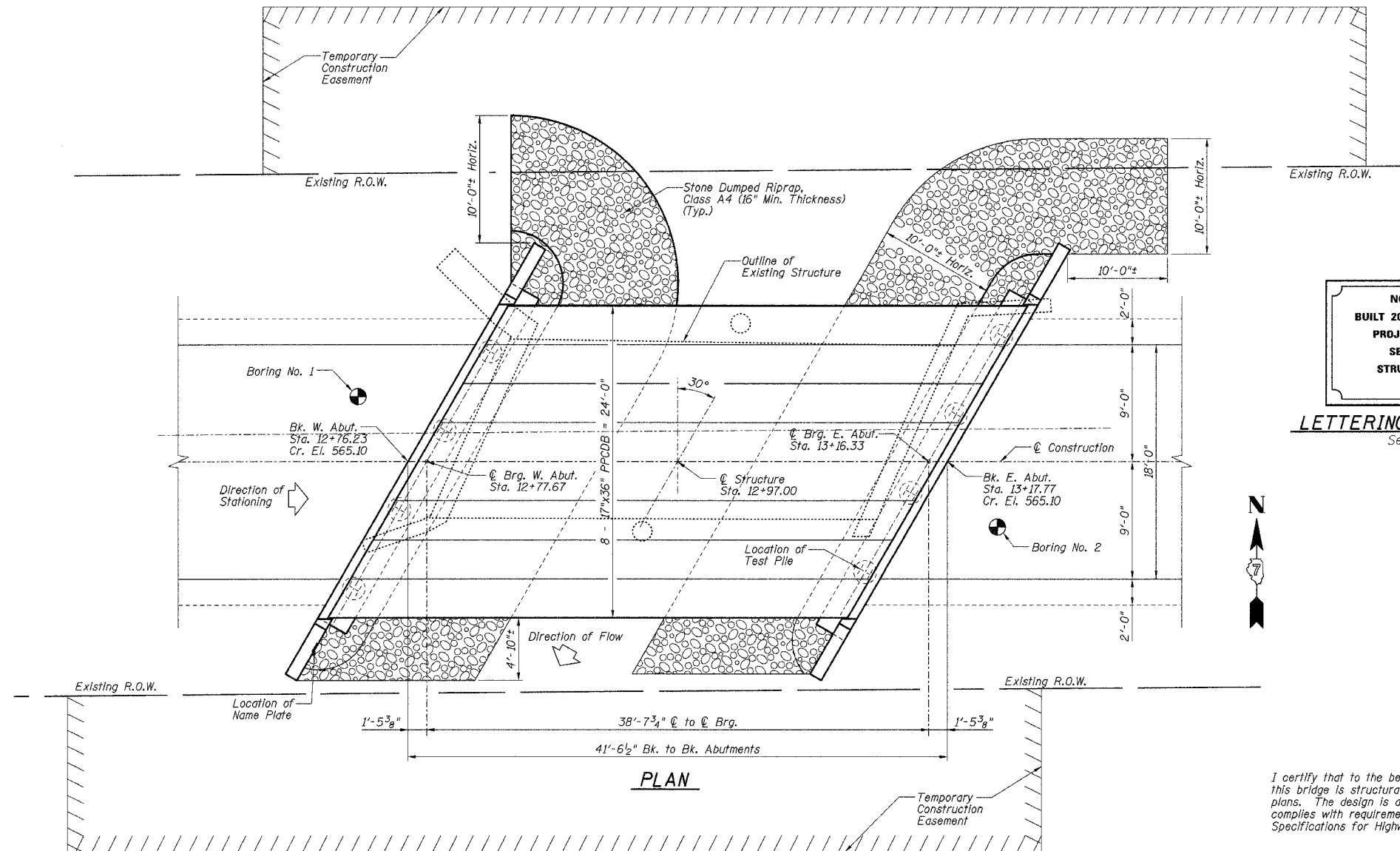
See Specifications for soil boring information.

Do not scale these drawings.

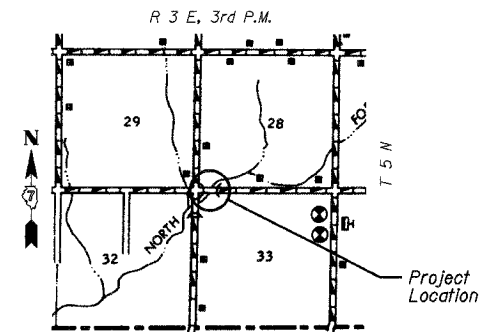
**NORTH FORK CREEK
BUILT 200_ BY FAYETTE COUNTY
PROJECT NO. BROS-051(69)
SEC. 00-07125-00-BR
STRUCTURE NO. 026-3419
LOADING HS-20**

LETTERING FOR NAME PLATE

See Std. 515001



GRADE ACROSS STRUCTURE



WATERWAY DATA

Drainage Area = 2.25 Sq. Mi. Low Grade Elev. 563.5 @ Sta. 15+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Natural H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	15	442	138	140	563.45	0.05	0.03	563.50	563.48
Base	100	693	138	140	563.89	0.21	0.27	564.10	564.16
Max. Calc.	500	893	138	140	564.57	0.20	0.25	564.77	564.82

DESIGN SPECIFICATIONS

AASHTO - 2002, 17th Edition

LOADING HS 20-44

Allow 25#/sq. ft. for future wearing surface.

DESIGN STRESSES

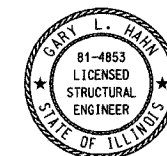
FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 5,000$ psi
 $f'_{ci} = 4,000$ psi
 $f'_s = 270,000$ psi ($\frac{1}{2}$ " strands)
 $f_{si} = 189,000$ psi ($\frac{1}{2}$ " strands)

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 8-11-05

GARY L. HAHN
CENTRALIA, ILLINOIS
ILLINOIS LICENSED STRUCTURAL
ENGINEER NO. 81-4853
EXPIRES NOV. 30, 2006

GENERAL PLAN AND ELEVATION

PROPOSED BRIDGE OVER

NORTH FORK CREEK

TR 571B

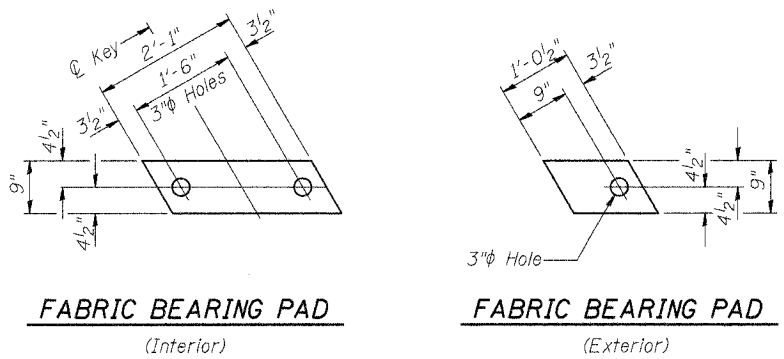
SECTION 00-07125-00-BR

FAYETTE COUNTY, ILLINOIS

Sheet
6
of 9
Job No. 50801

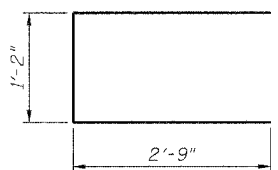
08/12/2005

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 571B	00-07125-00-BR	FAYETTE	9	7
FED. ROAD DIST. NO. 7 ILLINOIS		FED. AID PROJECT		
CONTRACT NO. 95443				

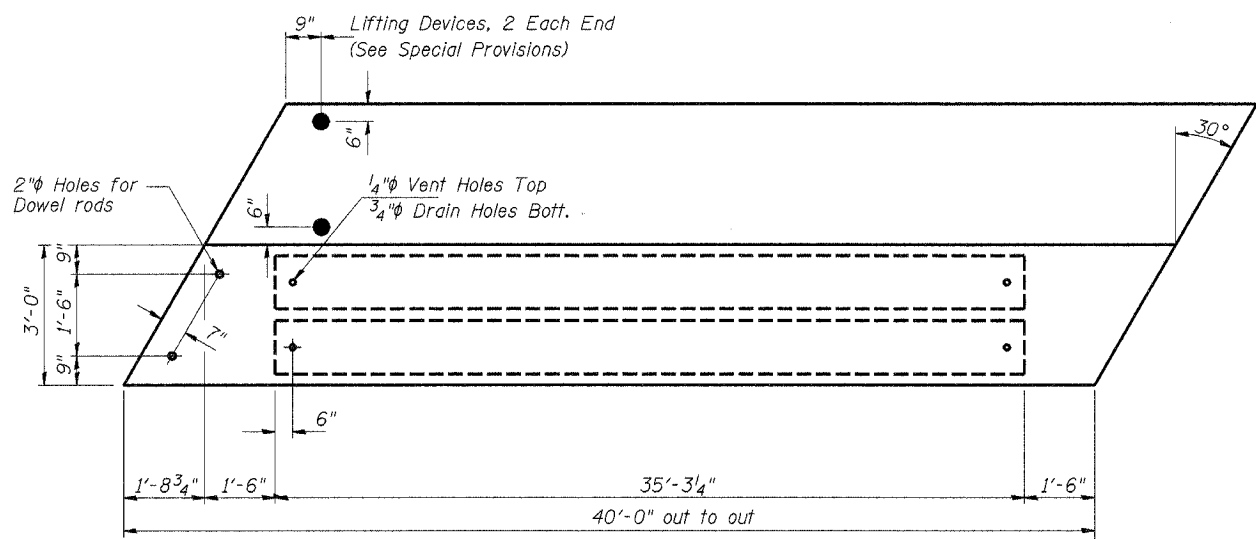


(Interior)

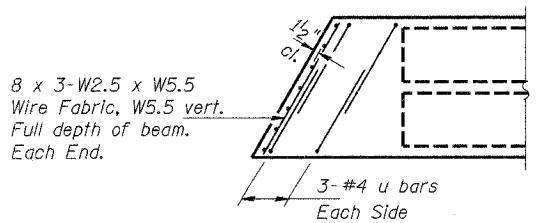
(Exterior)



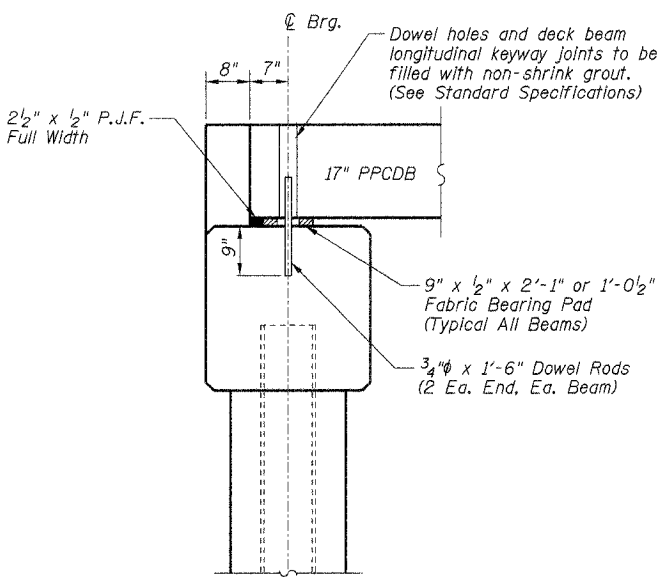
BAR u



PLAN

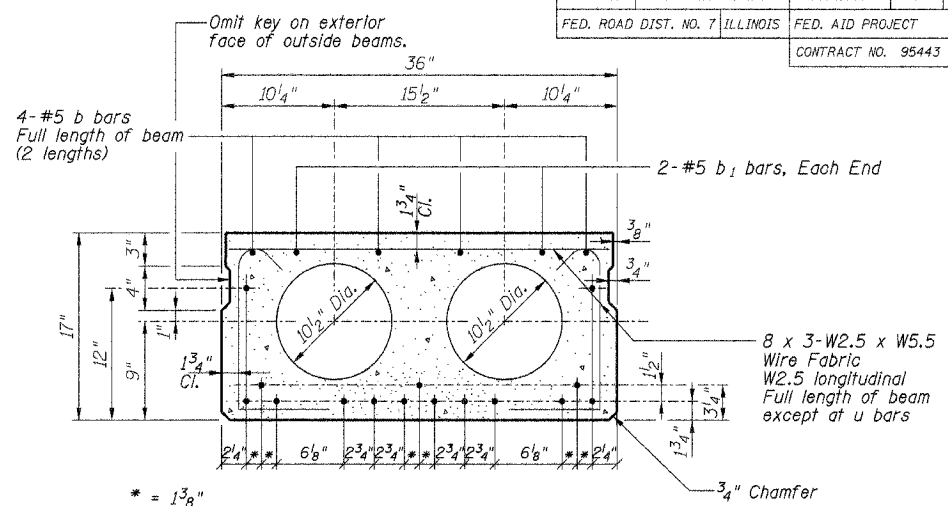


END PLAN



RESTRAINED BEARING ABUTMENT

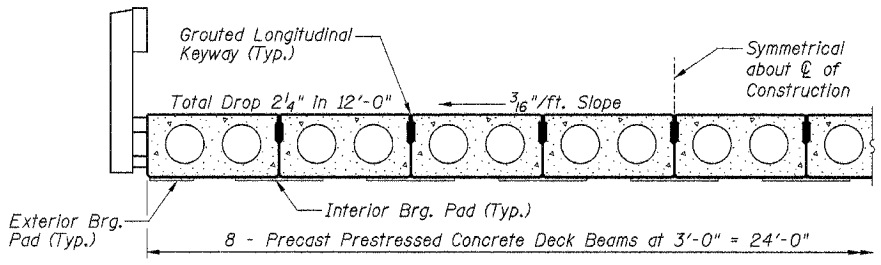
(Normal to Abutment)



TYPICAL SECTION

15 - 1/2" Strands, Each Strand Stressed to 28,900 Lbs.
10-Strands 1 3/4" up, 3-Strands 3/4" up, 2-Strands 12" up

Note: Place strands symmetrically about center of beam.



HALF CROSS SECTION

BILL OF MATERIALS FOR ONE BEAM ONLY

Bar	No.	Size	Length	Shape
b	8	#5	21'-0"	—
b ₁	4	#5	8'-0"	—
u	12	#4	6'-8"	—
WWF	1	8x3-W2.5xW5.5	2'-9" x 35'-6"	□
WWF	2	8x3-W2.5xW5.5	3'-0" x 35'-6"	□
WWF	2	8x3-W2.5xW5.5	2'-3" x 35'-6"	⌋
Precast Prestressed Concrete Deck Beams		Sq. Ft.	120	
* Reinforcement Bars		Pound	260	
Total Weight		Pound	19,140	

* Does not include WWF weight

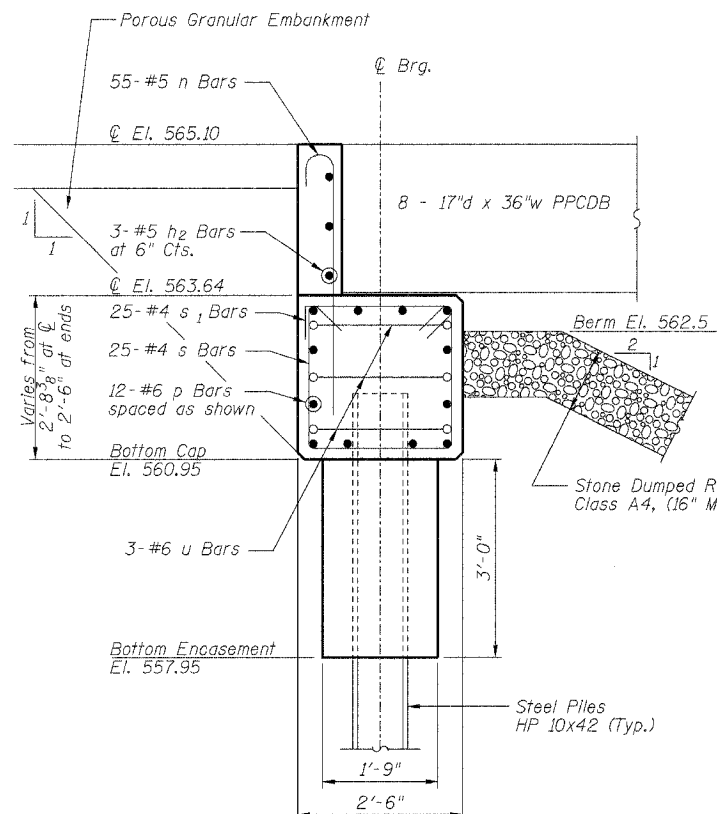
NOTES

Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in.
See Special Provisions for lifting devices.
Reinforcement bars shall conform to the requirements of AASHTO M-31, M-42, or M-53 Grade 60.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two 1/8" 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 4000 psi.
An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted. However, the initial prestressing force applied to each strand shall be the same as for the stress-relieved strands (28,900 lbs).

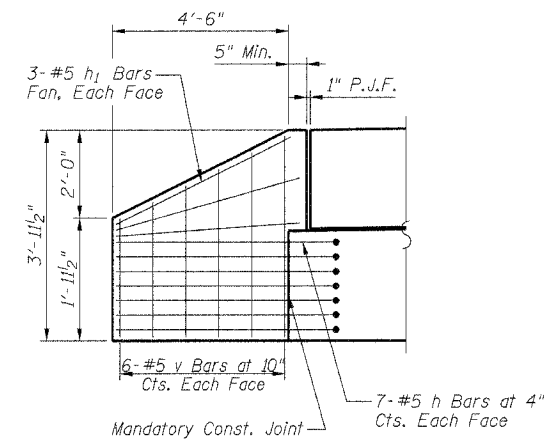
PRECAST PRESTRESSED CONCRETE DECK BEAMS PROPOSED BRIDGE OVER NORTH FORK CREEK TR 571B SECTION 00-07125-00-BR FAYETTE COUNTY, ILLINOIS

08/12/2005

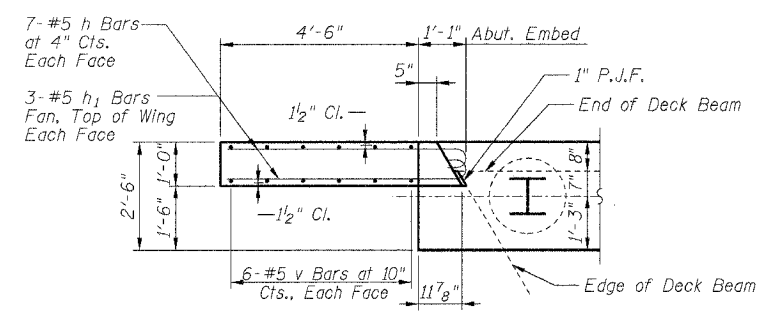
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 571B	00-07125-00-BR	FAYETTE	9	9
FED. ROAD DIST. NO. 7	ILLINOIS	FEDERAL AID PROJECT		
CONTRACT NO. 95443				



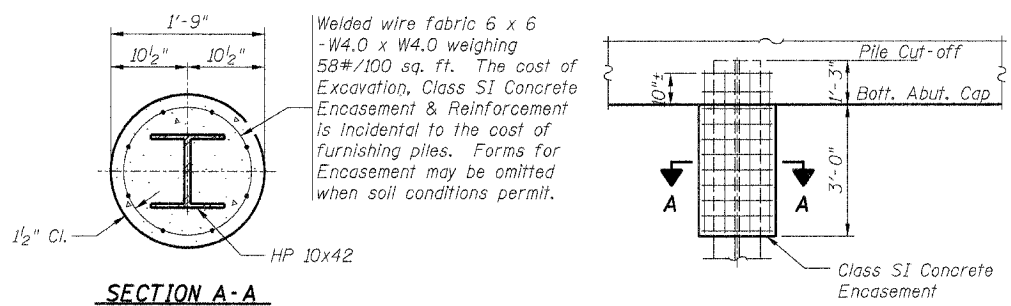
SECTION THRU ABUTMENT
(Normal to Abutment)



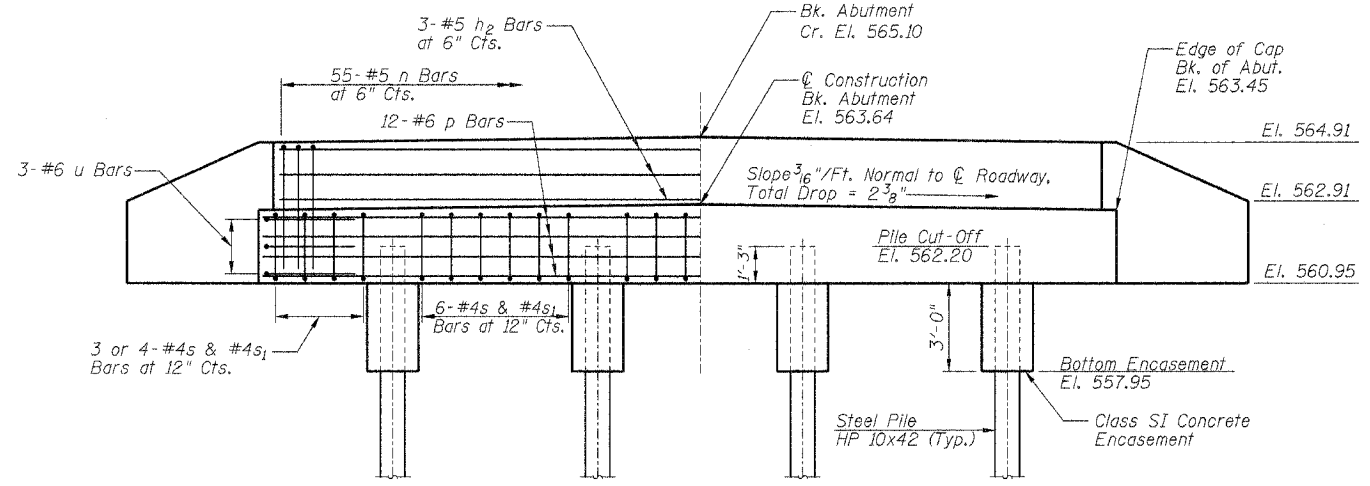
ELEVATION OF WINGWALL



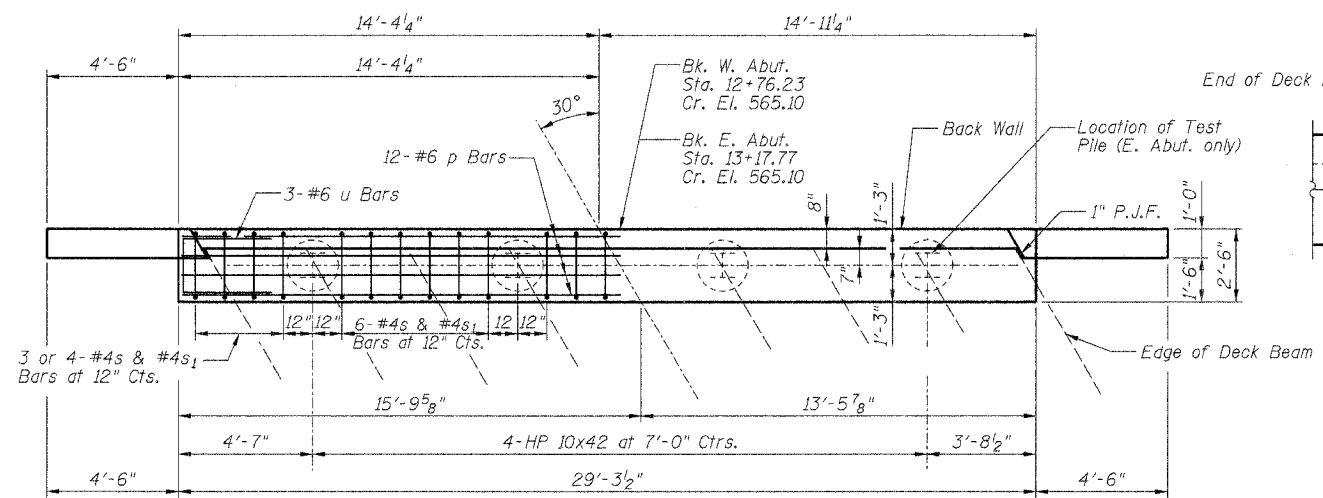
WINGWALL CONNECTION DETAIL



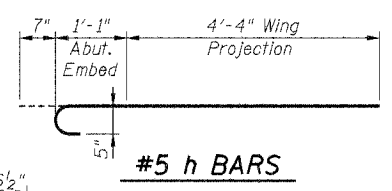
PILE ENCASEMENT DETAIL



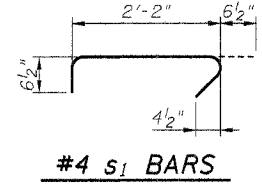
ELEVATION



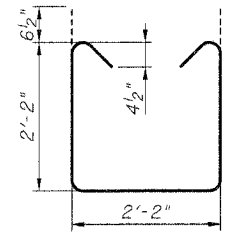
PLAN



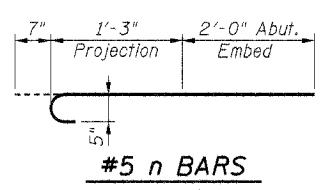
#5 h BARS



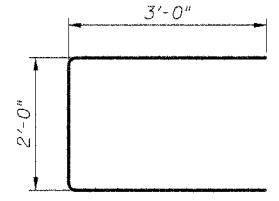
#4 s1 BARS



#4 s BARS



#5 n BARS



#6 u BARS

PILE DATA

Type:
W. Abutment HP 10x42
E. Abutment HP 10x42

Estimated Capacity:
W. Abutment 68 tons
E. Abutment 68 tons

Estimated Length:
W. Abutment 45 foot
E. Abutment 50 foot

Number Required:
W. Abutment 4
E. Abutment 3+1 Test pile

Total Estimated Length:
Not including Test Pile HP 10x42 330 foot

Drive to 68 ton capacity

BILL OF MATERIALS
ONE ABUTMENT w/ WINGWALLS

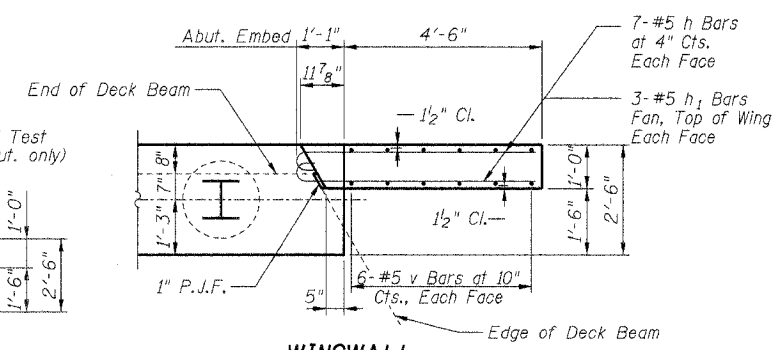
Bar	No.	Size	Length	Shape
h	28	#5	6'-0"	
h1	12	#5	4'-6"	
h2	3	#5	27'-3"	
n	55	#5	3'-10"	
p	12	#6	29'-0"	
s	25	#4	7'-7"	
s1	25	#4	3'-3"	
u	6	#6	8'-0"	
v	24	#5	3'-8"	CUT IN FIELD
Concrete Structures		Cu. Yd.	9.2	
Reinforcement Bars		Pound	1410	

GENERAL NOTES

All exposed edges shall have standard 3/4" chamfer, unless otherwise noted.

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

The Contractor shall drive one (1) Steel HP10x42 Test Pile in a permanent location at the East Abutment as directed by the Engineer before ordering the remainder of the piles.



WINGWALL CONNECTION DETAIL

ABUTMENTS
PROPOSED BRIDGE OVER
NORTH FORK CREEK

TR 571B
SECTION 00-07125-00-BR
FAYETTE COUNTY, ILLINOIS