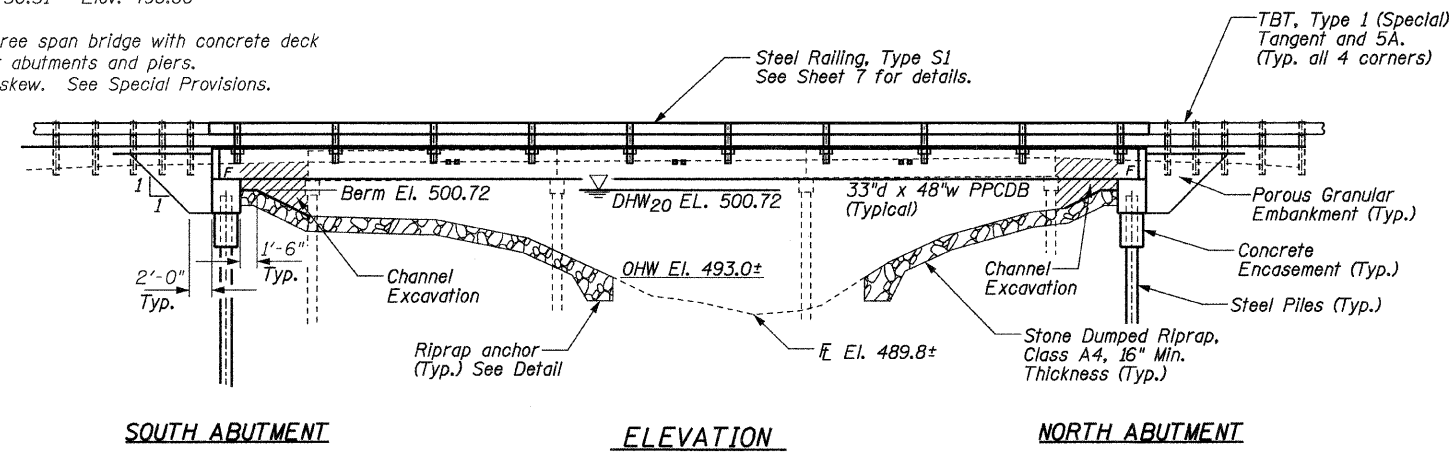


TBM 4/15/09A - RR spike in east face of power pole  
13.15' Lt. of Sta. 7+02.07 - Elev. 500.49

TBM 4/15/09B - Found chiseled square on north end of west  
curb of existing bridge, 12.29' Lt. of Sta. 10+32.39 - Elev. 504.35

TBM 4/15/09C - RR spike in west face of guy pole  
68.98' Rt. of Sta. 13+50.31 - Elev. 498.60

Existing Structure: Three span bridge with concrete deck  
slabs on closed timber abutments and piers.  
64.8'L. X 26.6'W. No skew. See Special Provisions.



**STATION 10+00.00**  
**BUILT 201\_ BY**  
**FAYETTE COUNTY**  
**F.A.S. 1714 SEC. 09-00119-00-BR**  
**LOADING HL-93**  
**STRUCTURE NO. 026-3449**

**NAME PLATE**  
See Std. 515001

**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 ( $\frac{1}{2}$ "  $\phi$  low lax. strands)  
 $f_{pbt} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax. strands)  
 $f_y = 60,000$  psi (reinforcement)

**SEISMIC DATA**  
Seismic Performance Zone (SPZ) = 2  
Soil Site Classification = D  
 $S_{D1} = 0.214$   $S_{D5} = 0.474$

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.



*Gary L. Hahn*  
Gary L. Hahn  
03-25-11  
Date of Signing  
11-30-2012  
Date of License Expiration

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

**GENERAL NOTES**

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

The Contractor shall drive test pile to 110% of the Nominal Required Bearing  
specified in a production location at the substructure location specified or  
approved by the Engineer before ordering the remainder of piles.

See Section 502 of the Standard Specifications for Structural Excavation.

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 Special Provisions for Soil Borings.

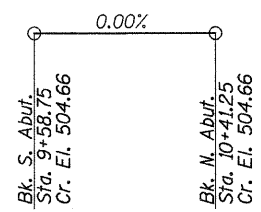
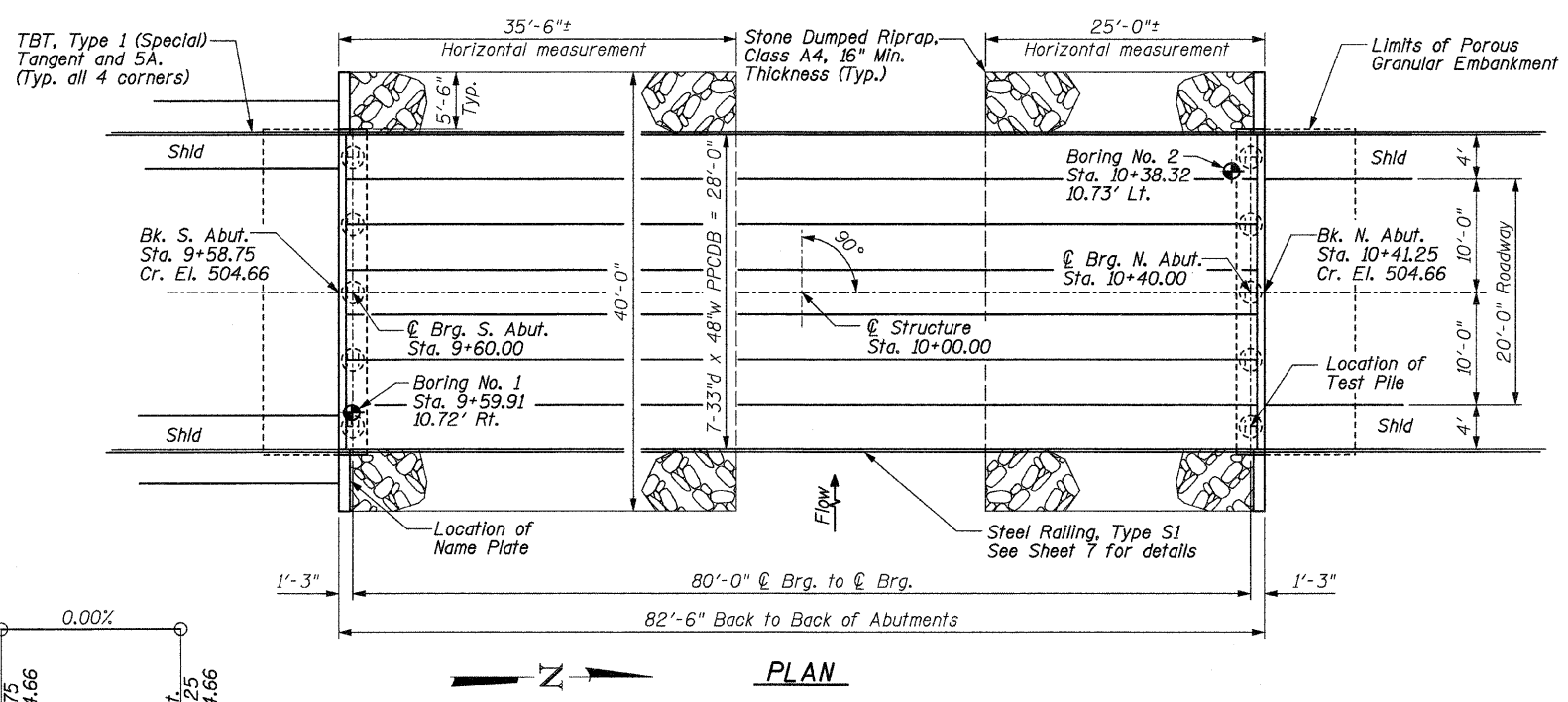
Do not scale these drawings.

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

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.

**BILL OF MATERIALS (BRIDGE ONLY)**

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	100
Porous Granular Embankment	Ton	104
Stone Dumped Riprap, Class A4	Ton	200
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	25.0
Concrete Encasement	Cu Yd	3.6
PPC Deck Beams (33" Depth)	Sq Ft	2273
Reinforcement Bars	Pound	3800
Steel Railing, Type S1	Foot	166
Furnishing Steel Piles HP12x53	Foot	549
Driving Piles	Foot	549
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1

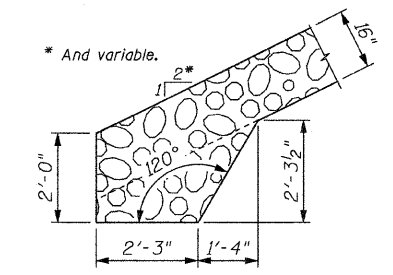


**PROFILE GRADE  
ACROSS STRUCTURE**  
(along  $\phi$  F.A.S. Rte. 1714)

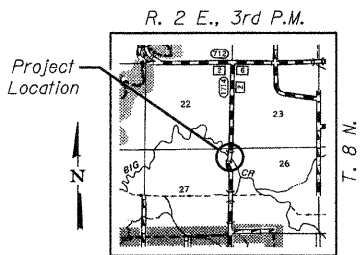
**WATERWAY INFORMATION**

Drainage Area = 100.115 sq. mi. Low Grade Elev. 497.16 ft. @ Sta. 17+00.00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	H.W.E. Prop.	Exist.	Prop.	
Design	20	8492	382	394	500.72	0.03	0.06	500.75	500.78
Base	100	13,100	405	423	501.10	0.03	0.04	501.13	501.14
Overtopping									
Max. Calc.	500	17,400	423	446	501.40	0.04	0.04	501.44	501.44



**RIPRAP ANCHOR DETAIL**



**LOCATION SKETCH**

03/25/2011 RAAI #50509

**GENERAL PLAN AND ELEVATION**  
**COUNTY HIGHWAY 2 OVER BIG CREEK**  
**F.A.S. ROUTE 1714 - SECTION 09-00119-00-BR**  
**FAYETTE COUNTY**  
**STATION 10+00.00**  
**STRUCTURE NO. 026-3449**

F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1714	09-00119-00-BR	FAYETTE	12	4
<b>CONTRACT NO. 95648</b>				
ILLINOIS FED. AID PROJECT				