

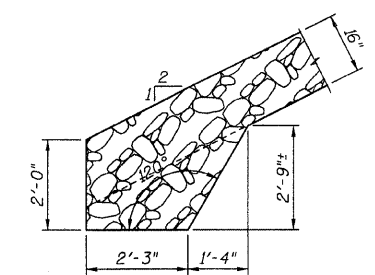
TBM 04/17/09D - RR spike in East face of power pole, 48.62' Lt. of Sta. 6+74.04 - Elev. 547.72  
 TBM 04/17/09C - RR spike in West face of 24" Ash tree, 22.71' Rt. of Sta. 9+75.68 - Elev. 524.40  
 TBM 04/17/09A - RR spike in East face of power pole, 40.98' Lt. of Sta. 11+61.04 - Elev. 533.00

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

Existing Structure: Single span bridge with cast-in-place concrete deck on closed concrete abutments, 39' Bk. to Bk. abutments, 19.3' Out to Out of deck. Existing S.N. 026-3126. No skew. No salvage. See Special Provisions.

**BILL OF MATERIALS (BRIDGE ONLY)**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu Yd	-	287	287
Porous Granular Embankment	Ton	-	80	80
Stone Dumped Riprap, Class A4	Ton	-	100	100
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu Yd	-	20.4	20.4
Concrete Encasement	Cu Yd	-	2.8	2.8
PPCDB (27" Depth)	Sq Ft	1560	-	1560
Reinforcement Bars	Pound	-	3460	3460
Steel Railing, Type S1	Foot	133	-	133
Furnishing Steel Piles HP12x53	Foot	-	221	221
Driving Piles	Foot	-	221	221
Test Pile Steel HP12x53	Each	-	1	1
Name Plates	Each	-	1	1



**RIPRAP ANCHOR DETAIL**

**RICHLAND CREEK  
 BUILT 20 BY  
 FAYETTE COUNTY  
 SEC. 03-20126-00-BR  
 LOADING HL-93  
 STRUCTURE NO. 026-3448**

**NAME PLATE**  
 (See State Standard 515001 for details)

**LOADING HL-93**  
 50#/sq. ft. included in dead load for future wearing surface.

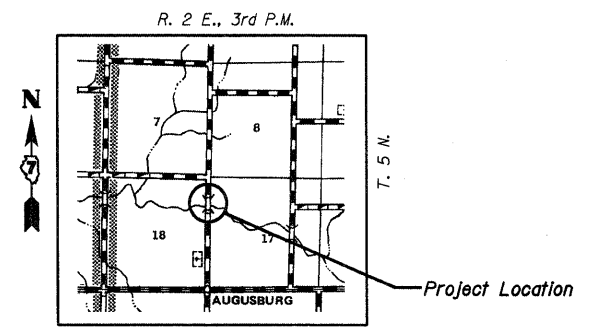
**DESIGN SPECIFICATIONS**  
 2007 (4th Ed.) AASHTO LRFD Bridge Design Specifications, with 2008 Interims.

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

**SEISMIC DATA**  
 Seismic Performance Zone (SPZ) = 2  
 Soil Site Classification = C  
 $S_{D1} = 0.170$   $S_{D5} = 0.431$

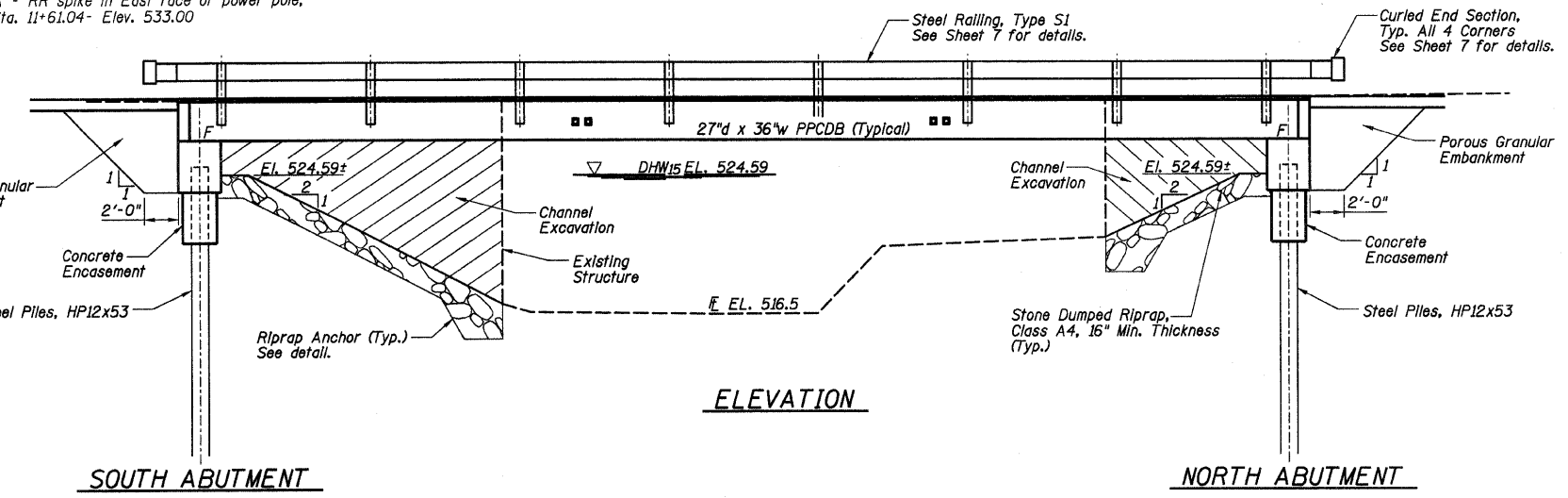
**GENERAL NOTES**  
 See Section 502 of the Standard Specifications for Structural Excavation.  
 Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.  
 Channel excavation shall be excavated as shown within the limits of the proposed bridge, 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.  
 The Test Pile shall be driven to 110 percent of the Nominal Required Bearing Indicated in the pile data information.  
 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,  $\frac{1}{2}$ " fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.



**LOCATION SKETCH**

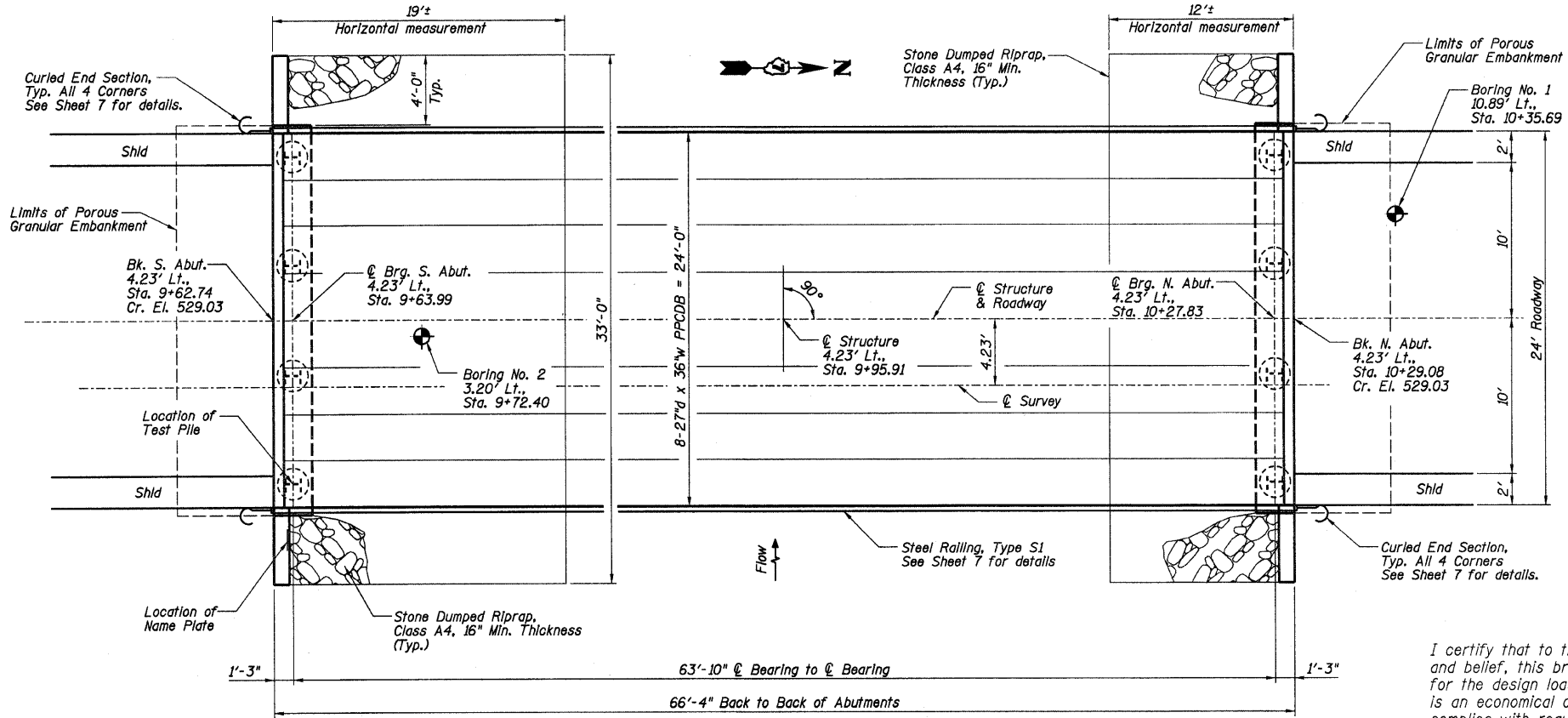
**GENERAL PLAN AND ELEVATION  
 TR 292 OVER RICHLAND CREEK  
 SECTION 03-20126-00-BR  
 FAYETTE COUNTY  
 STATION 9+95.91  
 STRUCTURE NO. 026-3448**

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 292	03-20126-00-BR	FAYETTE	10	4
CONTRACT NO. 95619				
ILLINOIS FED. AID PROJECT				



**SOUTH ABUTMENT**

**NORTH ABUTMENT**

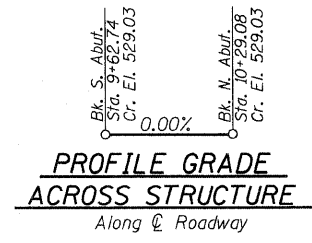


**PLAN**

**WATERWAY DATA**

Drainage Area = 3.630 Sq. Mi. Low Grade Elev. 528.9 @ Sta. 9+50

Flood	Freq. Yr.	Q	Opening Sq. Ft.	Natural H.W.E.	Head - Ft.	Headwater El.
Design	15	1029	223	293	524.59	0.04
Base	100	1770	275	384	526.08	0.16
Max. Calc.	500	2400	300	415	526.92	0.33
					0.15	527.25



**PROFILE GRADE  
 ACROSS STRUCTURE**  
 Along @ Roadway



Gary L. Hahn  
 12-24-2009  
 Date of Signing  
 11-30-2010  
 Date of License Expiration

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

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.

12/24/2009 RAAI #50409