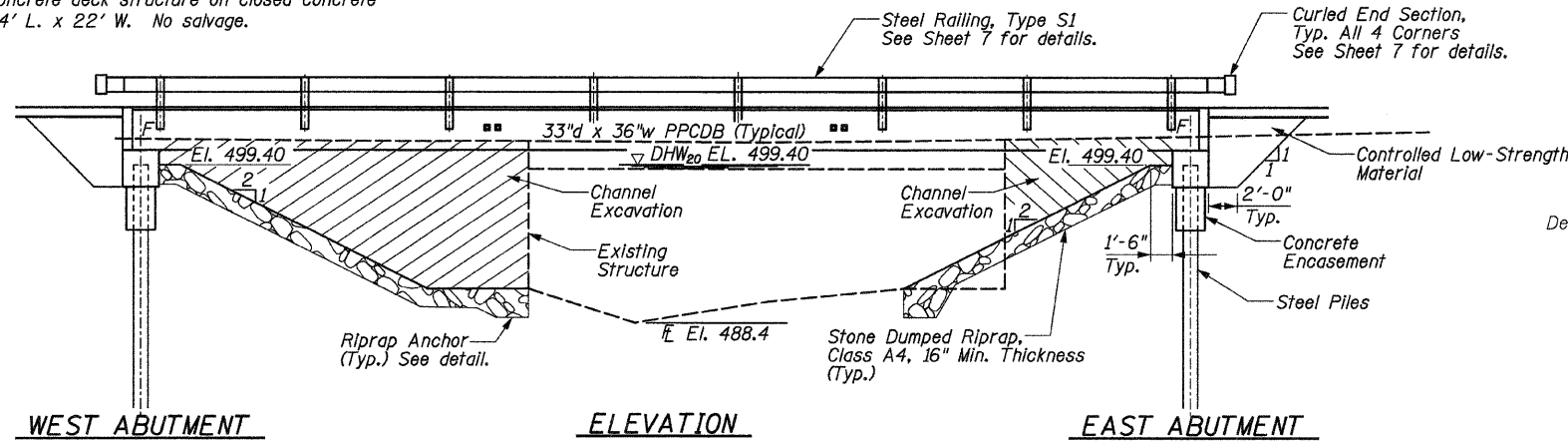


BM #1 - RR spike in 28" Sycamore tree,
78' Rt. of Sta. 49+13 - Elev. 499.89

BM #2 - RR spike in 24" tree,
52' Rt. of Sta. 50+83 - Elev. 501.81

Existing Structure: Structure No.: 013-3154. Single span steel
I-beam and concrete deck structure on closed concrete
abutments. 34' L. x 22' W. No salvage.



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 ($\frac{1}{2}$ " ϕ low lax. strands)

$f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)

$f_y = 60,000$ psi (reinforcement)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Soil Site Classification = D
 $S_{D1} = 0.235$ $S_{D5} = 0.540$

BILL OF MATERIALS (BRIDGE ONLY)

ITEM	UNIT	TOTAL
Channel Excavation	Cu Yd	451
Stone Dumped Riprap, Class A4	Ton	280
Removal of Existing Structures	Each	1
Concrete Structures	Cu Yd	18.8
Concrete Encasement	Cu Yd	2.8
PPCDB (33" Depth)	Sq Ft	1772
Reinforcement Bars	Pound	3420
Steel Railing, Type S1	Foot	150
Furnishing Steel Piles HP12x53	Foot	186
Driving Piles	Foot	186
Test Pile Steel HP12x53	Each	1
Name Plates	Each	1
Controlled Low-Strength Material	Cu Yd	38
Terminal Marker - Direct Applied	Each	4

GENERAL NOTES

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

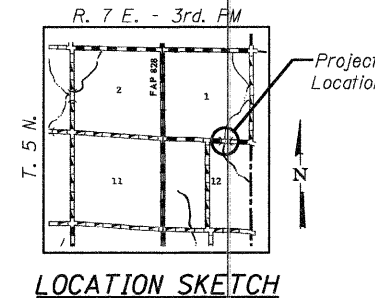
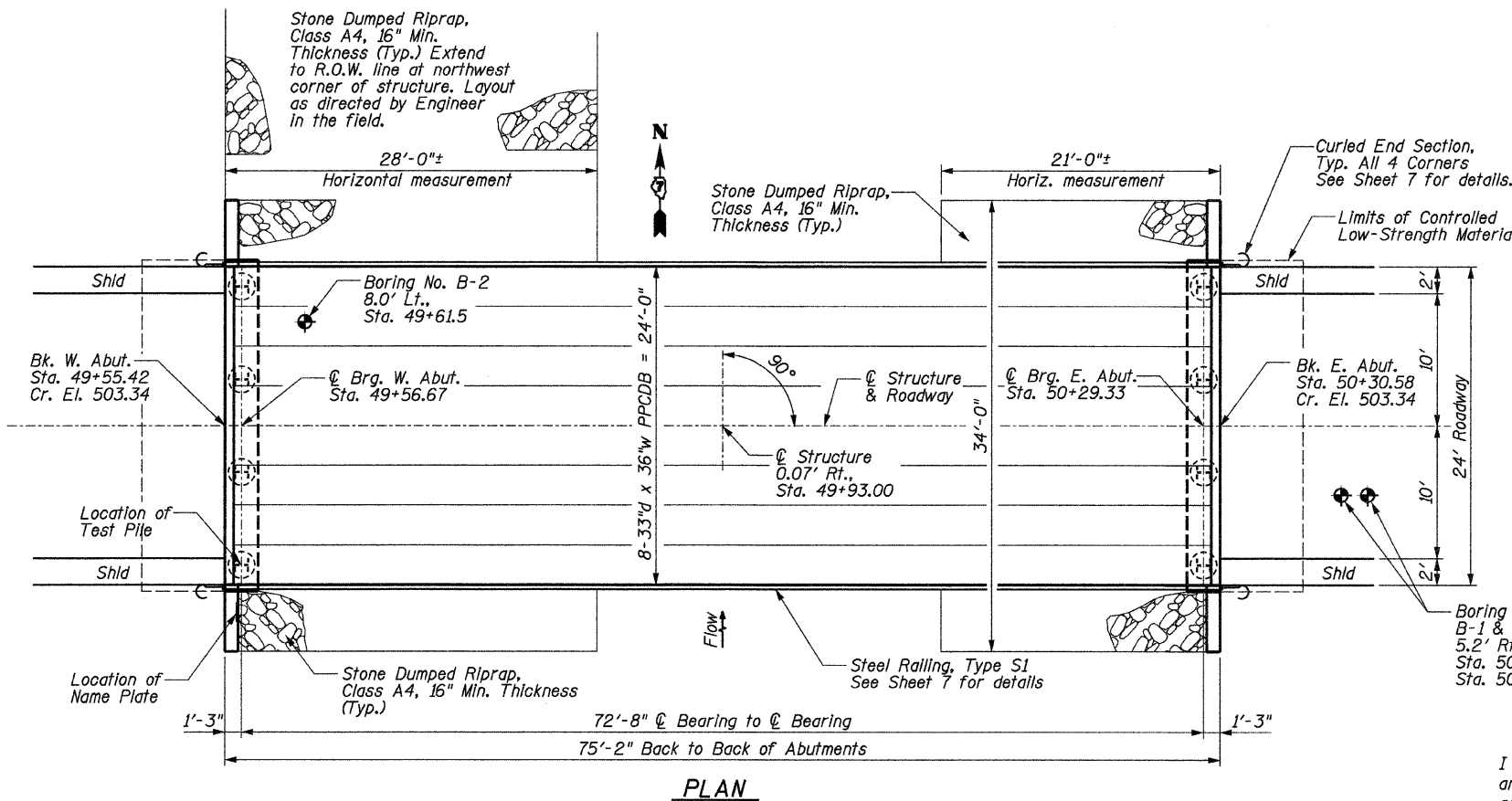
See Section 502 of the Standard Specifications for Structural Excavation.

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 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. The top surface of the
beams shall be finished according to the IDOT Manual for Fabrication of
Precast Prestressed Concrete Products.



STATION 49+93.00
BUILT 201 BY
CLAY COUNTY
TR 19 SEC. 07-01116-00-BR
LOADING HL-93
STRUCTURE NO. 013-3237

NAME PLATE
See Std. 515001

I certify that to the best of knowledge, information
and belief, this bridge/box culvert 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
04-04-2011
Date of Signing
11/30/2012
Date of License Expiration

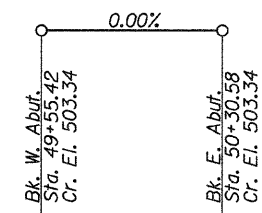
GENERAL PLAN AND ELEVATION
ATHENS LANE OVER LIMESTONE CREEK
TR 19 - SECTION 07-01116-00-BR
CLAY COUNTY
STATION 49+93.00
STRUCTURE NO. 013-3237

WATERWAY INFORMATION

Drainage Area = 5.84 sq. mi. Low Grade Elev. 500.9 @ Sta. 50+00

Flood	Freq. Yr.	Q C.F.S.	Opening	Sq. Ft.	Nat. Exist.	Prop.	H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	20	1610	301	456	499.40	0.57	0.05	499.97	499.45		
Base	100	2540	301	526	500.85	1.12	0.34	501.97	501.19		
Overtopping											
Max. Calc.	500	3450	301	526	502.02	0.91	0.82	502.93	502.84		

GRADE ON STRUCTURE
(along ϕ TR 19)



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

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 19	07-01116-00-BR	CLAY	11	4
CONTRACT NO. 95651			ILLINOIS FED. AID PROJECT	

03/30/2011 RAAI #50410

