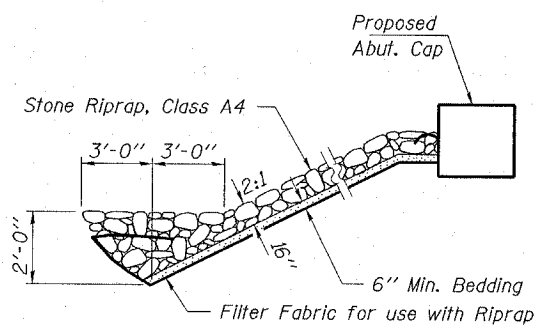
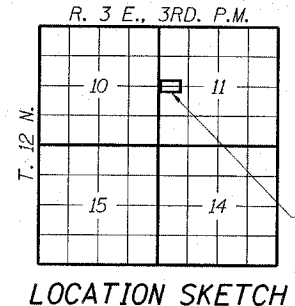
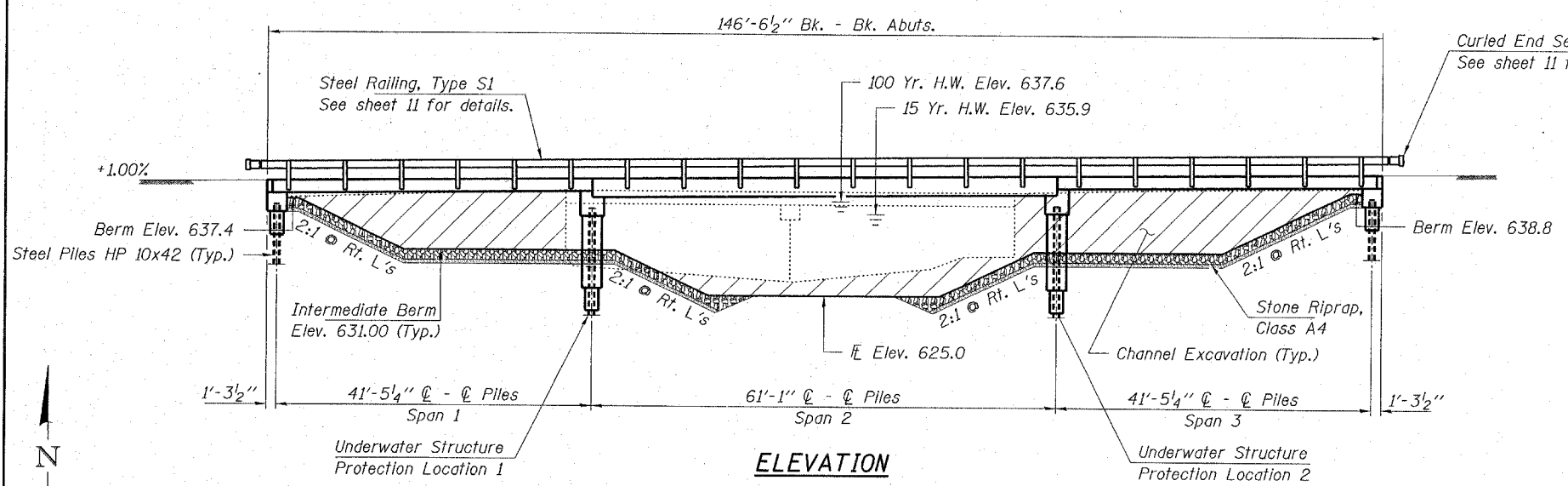


ROBINSON CREEK  
 BUILT 200\_ BY  
 RIDGE ROAD DISTRICT  
 SHELBY COUNTY  
 SEC. 03-17116-00-BR  
 F.A. PROJ. BROS-173(140)  
 STR. NO. 087-3541 LOADING HS 20

**NAME PLATE**  
 See Std. 515001

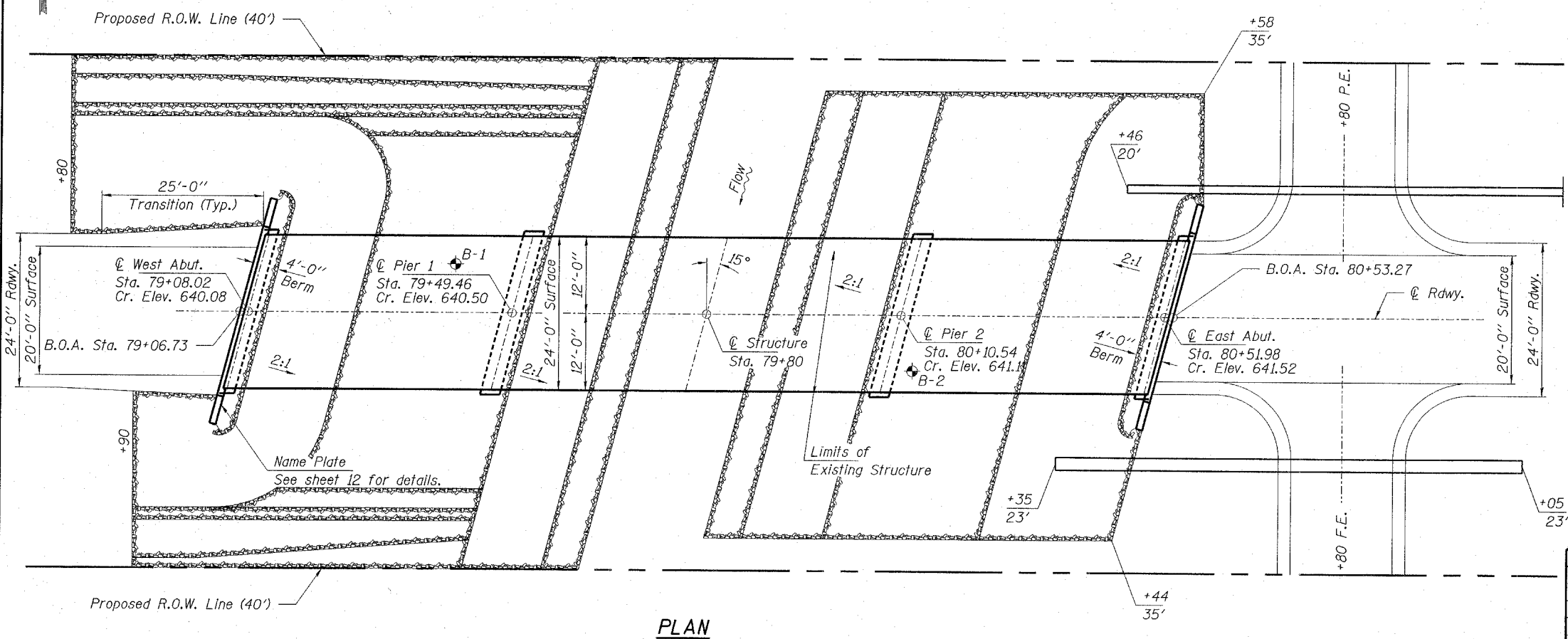


**SECTION A-A**  
 Note: See Special Provisions for Riprap, Special.



**GENERAL NOTES**

Layout of riprap may be varied in the field to suit ground conditions as directed by the Engineer.  
 The Contractor shall drive one steel test pile in a permanent location, one at each Abutment and one at each Pier, as directed by the Engineer before ordering the remainder of the piles.  
 Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.  
 All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions. See Sheet 16 for Borings.



**PLAN**

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $f_y = 60,000$  psi (Reinf.)

**PRECAST PRESTRESSED UNITS**

$f'_c = 5,000$  psi  
 $f'_{ci} = 4,000$  psi  
 $f'_s = 270,000$  psi ( $\frac{1}{2}$ " low lax. strands)  
 $f'_{si} = 201,960$  psi ( $\frac{1}{2}$ " low lax. strands)  
 $f_y = 60,000$  psi (Reinf.)

Loading HS 20-44  
 Design Specifications: 2002 AASHTO & all applicable Interims.  
 25#/Sq. Ft. included in dead load for future wearing surface.

**SEISMIC DATA**

Seismic Performance Category (SPC) = B  
 Bedrock Acceleration Coefficient (A) = 0.10g  
 Site Coefficient (S) = 1.5

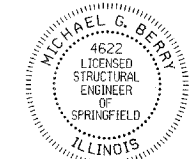
**WATERWAY INFORMATION**

Drainage Area = 28.9 Sq. Mi.		Low Grade Elev. 638.5 @ Sta. 77+00					
Flood Yr.	Freq.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft. Exist.	Headwater El. Prop.	Headwater El. Prop.
Design	15	3,860	450 ①	780	635.9	1.0	637.0
Base	100	6,150	520 ②	990	637.6	1.3	638.9
Overtopping							
Max. Calc.	500	8,010	520 ③	1,110	638.7	1.6	640.3

Approach Opening: ① 90 sq. ft.  
 ② 450 sq. ft.  
 ③ 820 sq. ft.

I certify that to the best of my 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".

*Michael G. Berry* 1/31/06  
 ILLINOIS STRUCTURAL No. 4622



Expires 11-30-06

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2,016		2,016
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,464		1,464
Concrete Structures	Cu. Yd.		78.1	78.1
Reinforcement Bars	Pound		5,740	5,740
Steel Railing, Type S1	Foot	286		286
Name Plates	Each		1	1
Concrete Encasement	Cu. Yd.		4.6	4.6
Steel Piles HP10x42	Foot		720	720
Test Pile Steel HP10x42	Each		4	4
Stone Riprap, Class A4	Ton			1,000
Filter Fabric for use with Riprap	Sq. Yd.			1,190
Underwater Structure Excavation Protection, Location 1	Each		1	1
Underwater Structure Excavation Protection, Location 2	Each		1	1

**HLR**  
 Roe, Berry and Associates  
 A Division of Hampton, Lenzini and Renwick, Inc.  
 Civil & Structural Engineers  
 3085 Stevenson Drive  
 Suite 201  
 Springfield, Illinois 62703  
 217-546-3400  
 P.O. Box 1036  
 DuQuoin, Illinois 62832  
 618-790-4637  
 Account Number 12-87-0014-1  
 Date: 01/30/06  
 DESIGNED: T.P.L. CHECKED: S.W.M. DRAWN: D.T.M.

**GENERAL PLAN AND ELEVATION**  
**SECTION 03-17116-00-BR**  
**RIDGE ROAD DISTRICT**  
**SHELBY COUNTY**  
**STRUCTURE NO. 087-3541 / STATION 79+80**