

BENCHMARK: BM#1 - Railroad Spike in 16" Birch Tree, 45' Rt. Sta. 10+32, Elev. 476.24

EXISTING STRUCTURE NO. 041-3064; Station 10+10 - Single span steel I-beam bridge on closed timber abutments and wingwalls. 49.4' fc.-fc. abutts.; 18.0' o.-o. deck Structure closed to traffic.

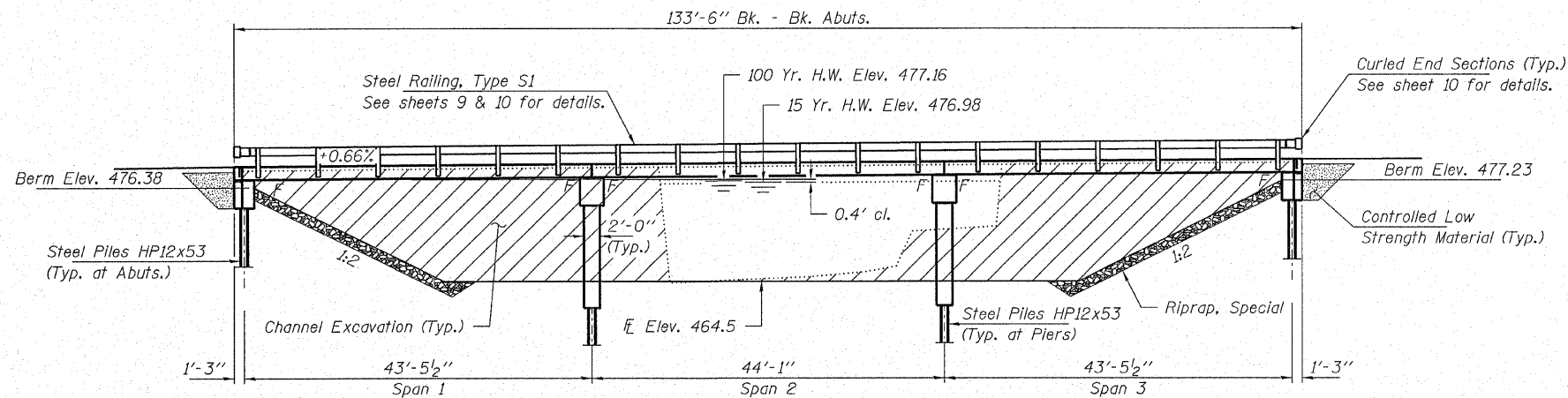
No Salvage

**GENERAL NOTES**

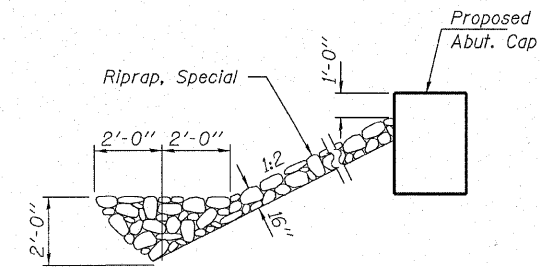
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. Excavation required to construct the Abutments shall be included in the 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 15 for Borings.

BROS-081(50)  
 RAYSE CREEK  
 BUILT 200\_ BY  
 JEFFERSON COUNTY  
 SEC. 03-03113-00-BR  
 CASNER ROAD DISTRICT  
 STR. NO. 041-3742  
 LOADING HL-93

**NAME PLATE**  
 See Std. 515001

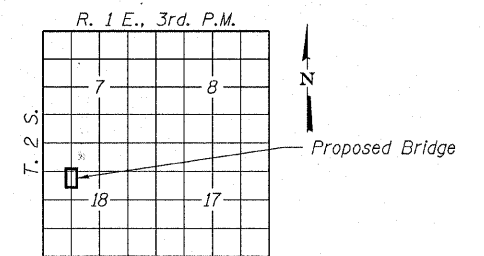


**ELEVATION**

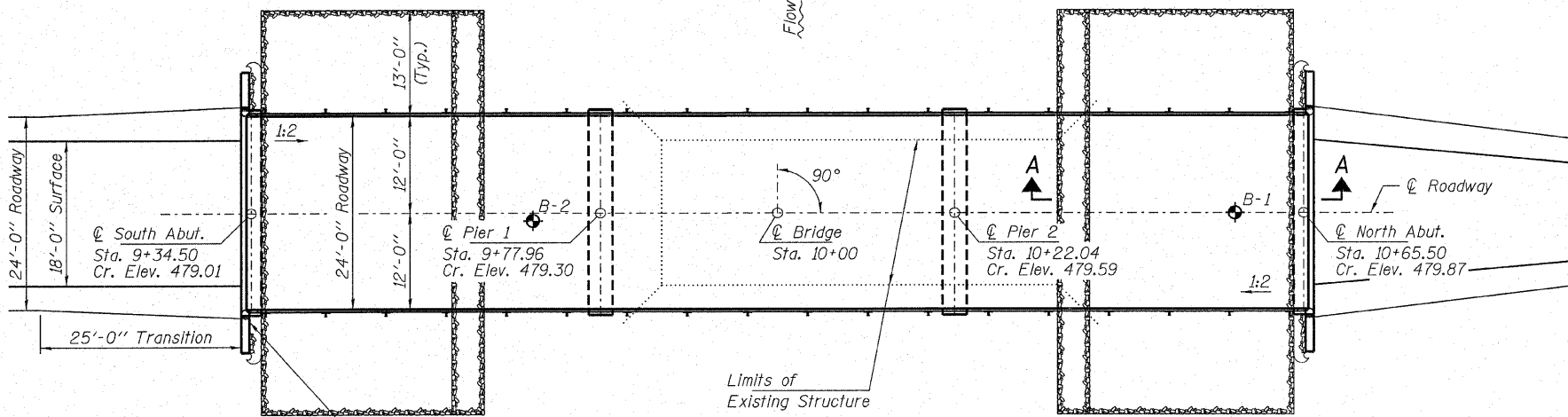


**SECTION A-A**

Note: See Special Provisions for Riprap, Special.



**LOCATION SKETCH**



**PLAN**

Name Plate  
See sheet 11 for details.

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			1,095
Riprap, Special	Ton			270
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		42.0	42.0
Concrete Encasement	Cu. Yd.		15.8	15.8
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	3,168		3,168
Reinforcement Bars	Pound		4,240	4,240
Steel Railing, Type S1	Foot	259		259
Furnishing Steel Piles HP12x53	Foot		720	720
Driving Piles	Foot		720	720
Name Plates	Each		1	1
Controlled Low Strength Material	Cu. Yd.		40	40

**DESIGN STRESSES**

**FIELD UNITS**

f'c = 3,500 psi  
 fy = 60,000 psi (Reinf.)

**PRECAST PRESTRESSED UNITS**

f'c = 6,000 psi  
 f'ci = 5,000 psi  
 fpu = 270,000 psi (1/2" low lax. strands)  
 fpbt = 201,960 psi (1/2" low lax. strands)  
 fy = 60,000 psi (Reinf.)

**LOADING HL-93**

Design Specifications: 2007 AASHTO LRFD with all applicable Interims.  
 50#/Sq. Ft. Included in dead load for future wearing surface.

**SEISMIC DATA**

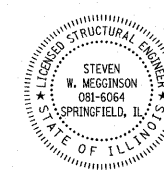
Seismic Performance Zone (SPZ) = 3  
 Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.431g  
 Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.848g  
 Soil Site Class = E

**WATERWAY DATA**

Drainage Area..... 14.54 Sq. Mi.  
 Existing Opening (15 yr)..... 382 Sq. Ft.  
 Req'd Opening (15 yr)..... 1,191 Sq. Ft.  
 Proposed Opening (15 yr)..... 1,191 Sq. Ft.  
 Design Discharge (15 yr)..... 2,973 C.F.S.  
 Created Head (15 yr)..... Ft.  
 100 Yr. Discharge..... 5,000 C.F.S.  
 100 Yr. Created Head..... 0.12 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 LRFD Specifications."

Steven W. Megginson 1/22/2009  
 ILLINOIS STRUCTURAL NO. 081-6064



Expires 11-30-10

**GENERAL PLAN AND ELEVATION  
 STRUCTURE NO. 041-3742**

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - D.A.B.

**HAMPTON, LENZINI & RENWICK, INC.**  
 CIVIL & STRUCTURAL ENGINEERS  
 LAND SURVEYORS

**HLR** 3085 STEVENSON DRIVE, SUITE 201  
 SPRINGFIELD, ILLINOIS 62703  
 (217) 548-3400

PROJECT NUMBER: 08.0127.130 DATE: 01/21/09

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
10	03-03113-00-BR	JEFFERSON	15	6
CASNER ROAD DISTRICT		CONTRACT NO. 99362		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		