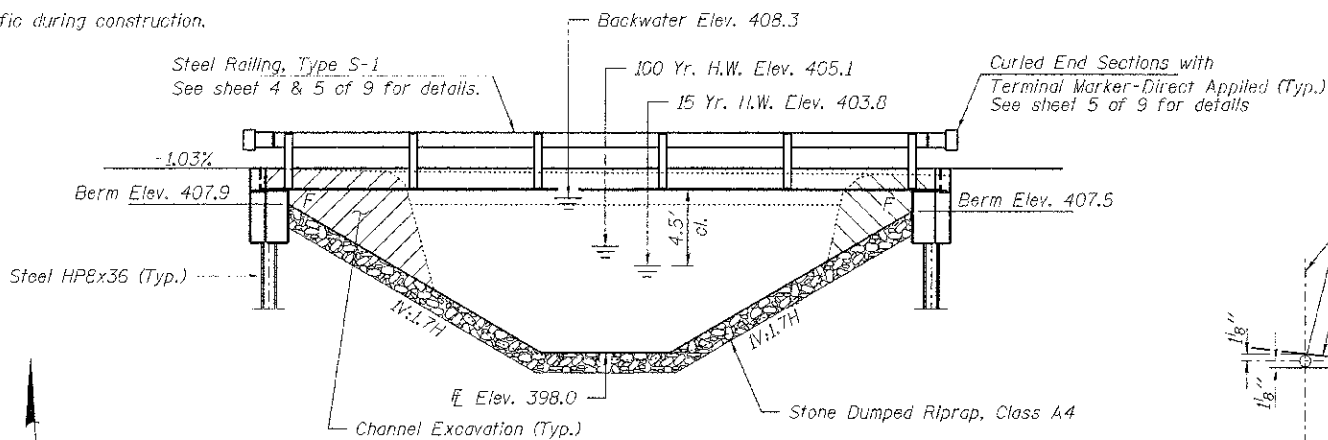


BENCHMARK:

EXISTING STRUCTURE: NO. 091-3183 Single span steel I-Beam bridge with timber deck and timber pile abutments. 30.20' fo.-to. abutts: 13.70' o.-c. deck

Structure closed to traffic during construction.

No Salvage



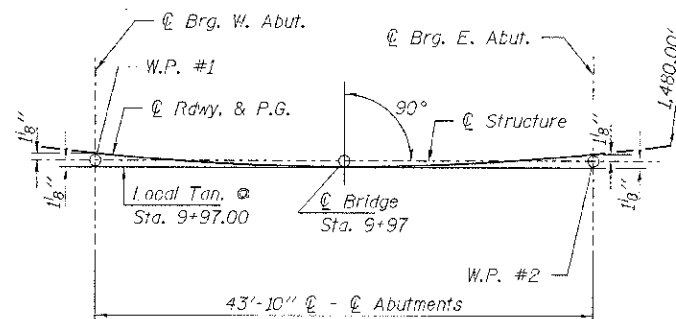
ELEVATION

HORIZONTAL CURVE DATA

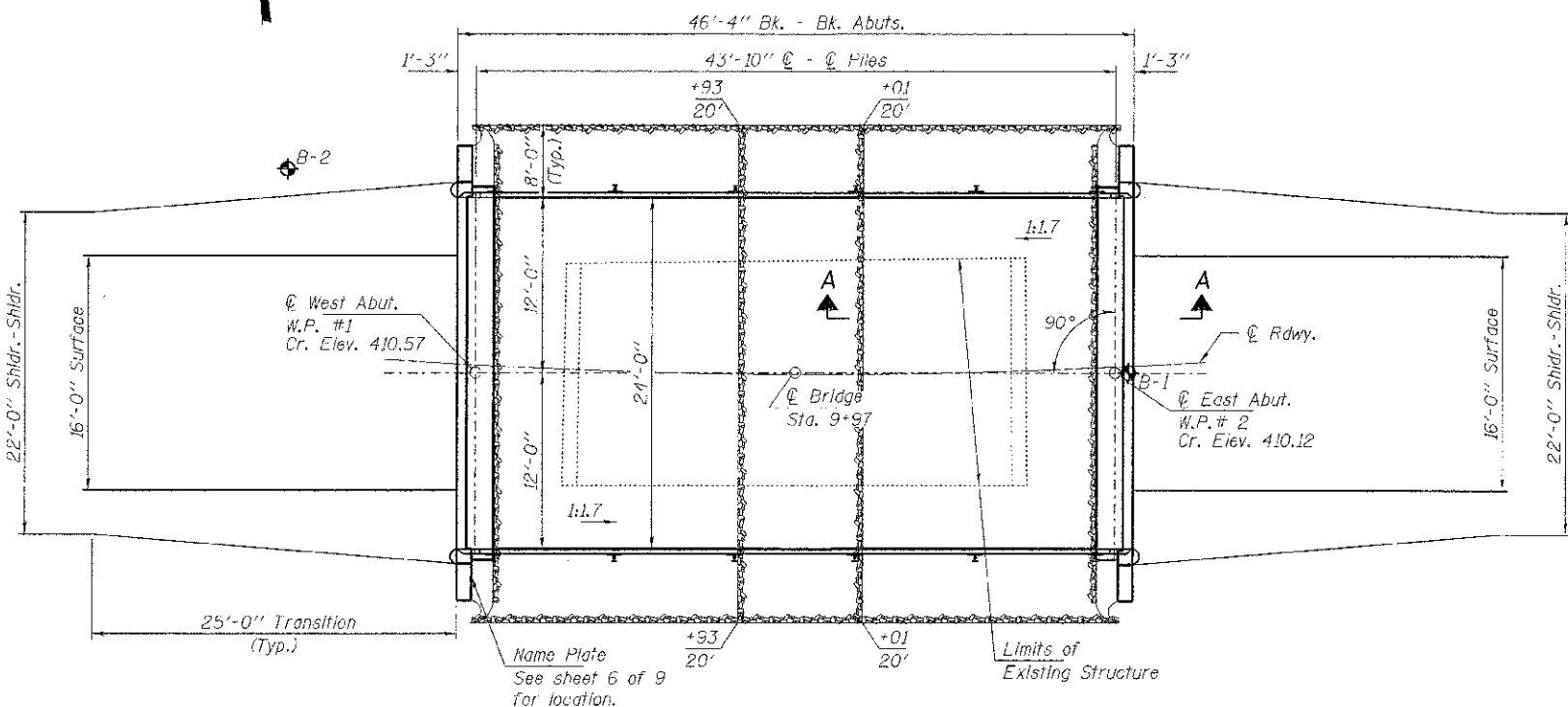
P.I. Sta. 9+53.30
 $\Delta = 6^{\circ}29'46''$ (L.I.)
 $D = 3^{\circ}52'17''$
 $R = 1,480.00'$
 $L = 167.80'$
 $T = 83.99'$
 $E = 2.38'$
 P.C. Sta. 8+69.31
 P.T. Sta. 10+37.11
 NO SE

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.
 Earth 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 IFPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.
 Steel piles shall be constructed at the West Abutment only if determined by the Engineer to be required for capacity. The top of limestone elevation may vary greatly or be a false surface. In this case, the pile foundation will be constructed as directed by the Engineer. If adequate capacity is determined at the rock surface, no piling is required.



OFFSET SKETCH



PLAN

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

LOADING HL-93

Design Specifications: 2012 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_{D1}) = 0.469g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 1.241g
 Soil Site Class = C

DESIGN SCOUR ELEVATION TABLE

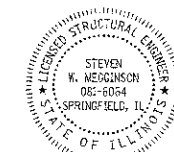
Design Scour Elevation (ft.)	W. Abut. 404.5	E. Abut. 404.8
------------------------------	----------------	----------------

WATERWAY INFORMATION

Drainage Area = 1.23 Sq. Mi.		Existing Low Grade Elev. 408.9 @ Sta. 11+50		Proposed Low Grade Elev. 408.9 @ Sta. 11+50	
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural Head - Ft.	Headwater E.L.
			Exist. Prop.	Exist. Prop.	Exist. Prop.
Design	10	785	80	100	403.46
	15	890	90	110	403.79
	100	1410	110	150	405.11
Base	500	1900	120	180	406.10
Max. Calc.					408.66

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."

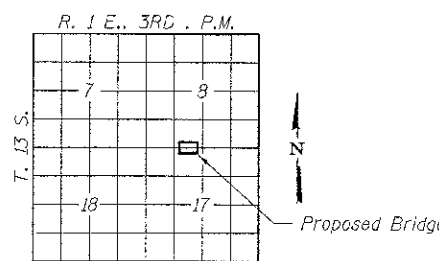
Steven W. Megawson 03/15/2013
 ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2014

SECTION A-A

Note: See Special Provisions for Stone Dumped Riprap, Class A4

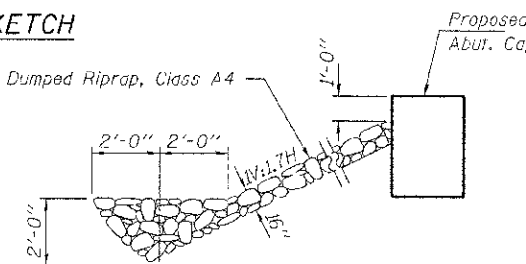


LOCATION SKETCH

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 17"x48" PPC Deck Beam
3. 17"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. W. Abutment
7. E. Abutment
8. HP Pile Details
- 9-10. Borings

PROFILE GRADE



NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			80
Rock Excavation	Cu. Yd.			1.2
Stone Dumped Riprap, Class A4	Ton			170
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		23.6	23.6
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,080		1,080
Reinforcement Bars	Pound		2,360	2,360
Steel Railing, Type S1	Foot	87		87
Furnishing Steel Piles HP8x36	Foot		120	120
Driving Piles	Foot		120	120
Name Plates	Each		1	1

FILE NAME = 128823-ehs-bridge.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -	STATE OF ILLINOIS UNION COUNTY HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 091-3241	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC.	CHECKED - S.W.M.	REVISED -	239			11-01201-00-BR	UNION	20	12	
3600 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, IL 62766-8700	DRAWN - R.D.H.	REVISED -	COUNTY UNIT ROAD DISTRICT			CONTRACT NO. 99503				
ILLINOIS PROFESSIONAL DESIGN FIRM LE/PE/SE CORP. 181.028.580	PLOT SCALE =	REVISED -	ILLINOIS			FED. AID PROJECT DROS-01810089				
	PLOT DATE = 3/15/2013	CHECKED - S.W.M.	REVISED -	SHEET NO. 1 OF 9 SHEETS						