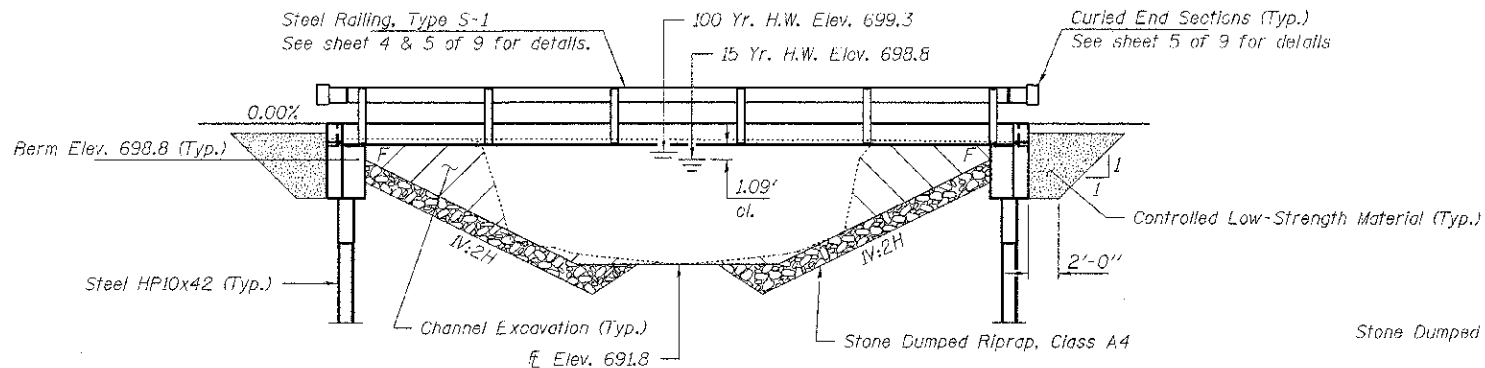


BENCHMARK: IP with IPLS 3594 cap. 40' Lt. Sta. 9+79, Elev. 698.63

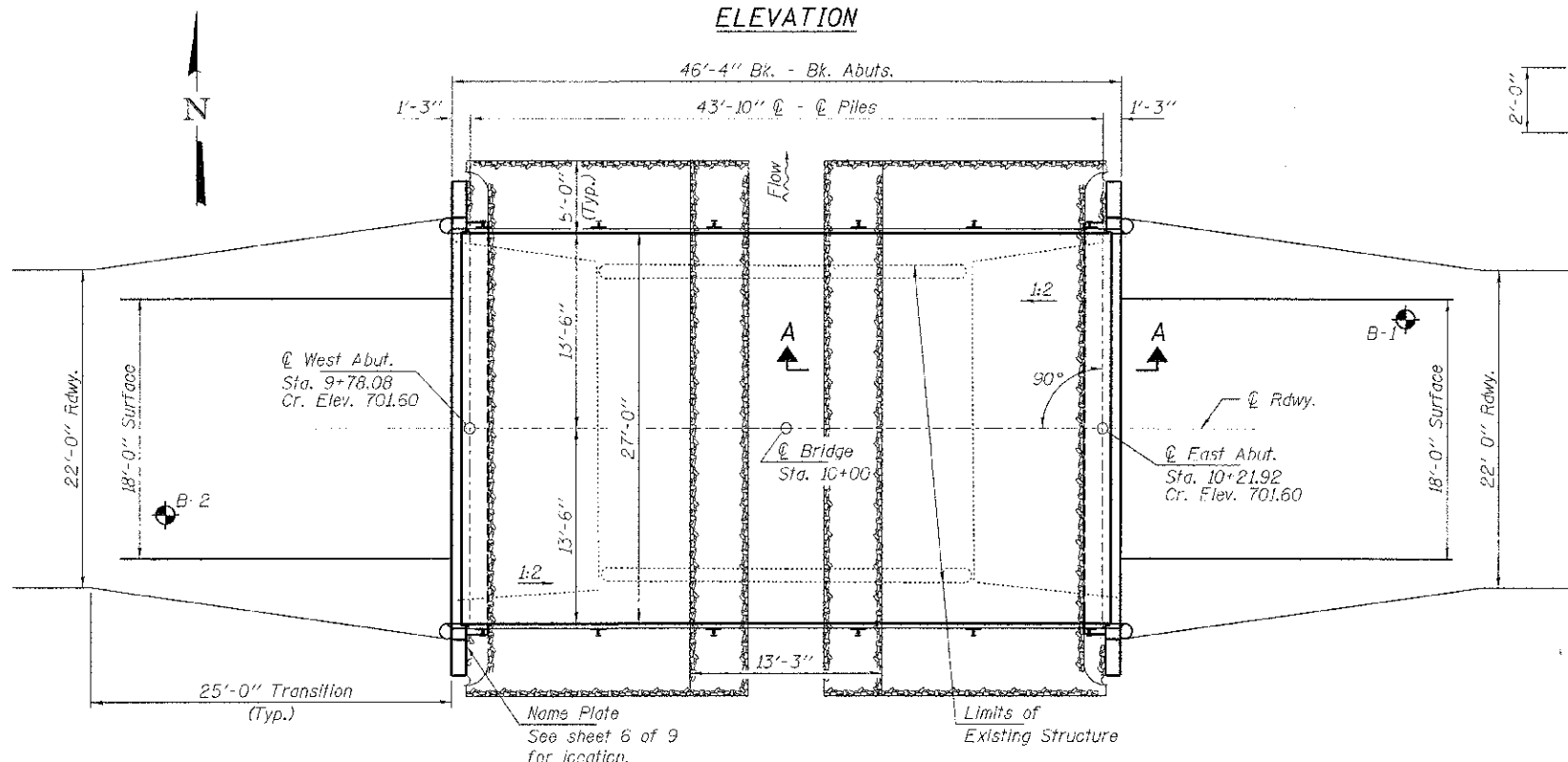
EXISTING STRUCTURE NO. 092-3111: Sta. 10+00, Single span precast concrete deck beam bridge on closed timber abutments and wingwalls, including one or more steel HP and concrete pile replacements. 26.0' bk.-bk. abuts.; 21.9' o.-o. deck.

Structure closed to traffic during construction.

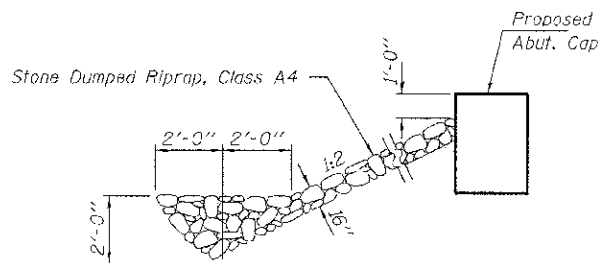
No Salvage



ELEVATION

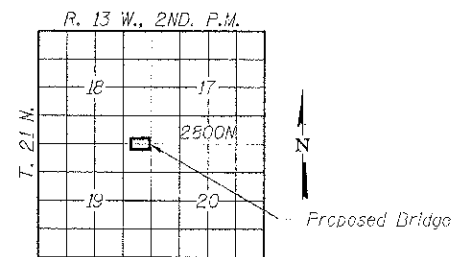


PLAN



SECTION A-A

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



LOCATION SKETCH

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at West Abutment or approved by the Engineer before ordering the remainder of piles. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions. 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.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 17"x36" PPC Deck Beam
3. 17"x36" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
- 8-9. Borings

BUILT 2011 BY
VERMILION COUNTY
SEC. 10-15145-00-BR
PILOT ROAD DISTRICT
STR. NO. 092-3523
LOADING HL-93

NAME PLATE
See Sta. 515001

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) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.12/g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.214g
Soil Site Class = D

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	696.3	696.3

WATERWAY INFORMATION

Drainage Area = 1.34 Sq. Mi.		Existing Low Grade Elev. 699.3 @ Sta. 11+50		Proposed Low Grade Elev. 699.5 @ Sta. 12+00	
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.
Design	10	412	140 180	698.67 0.17 0.19	698.64 698.66
Base	100	810	150 210	699.31 0.33 0.37	699.64 699.68
Overtop Exist.	100	810	150 210	699.31 0.33 0.37	699.64 699.68
Overtop Prop.	500	1110	150 220	699.63 0.36 0.65	699.99 700.28
Max. Calc.	500	1110	150 220	699.63 0.36 0.65	699.99 700.28

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 02/26/2013
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			75
Controlled Low-Strength Material	Cu. Yd.			46
Stone Dumped Riprap, Class A4	Ton			130
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		65	65
Concrete Structures	Cu. Yd.		23.6	23.6
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	1,215		1,215
Reinforcement Bars	Pound		2,530	2,530
Steel Railing, Type S1	Foot	88		88
Furnishing Steel Piles HP10x42	Foot		270	270
Driving Piles	Foot		270	270
Pile Shoes	Each		8	8
Test Pile Steel HP10x42	Each		2	2
Name Plates	Each		1	1
Concrete Cut-Off Wall	Cu. Yd.		6.4	6.4