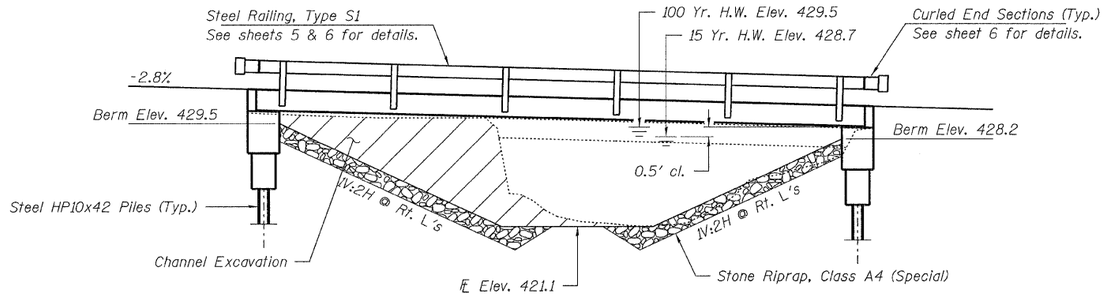
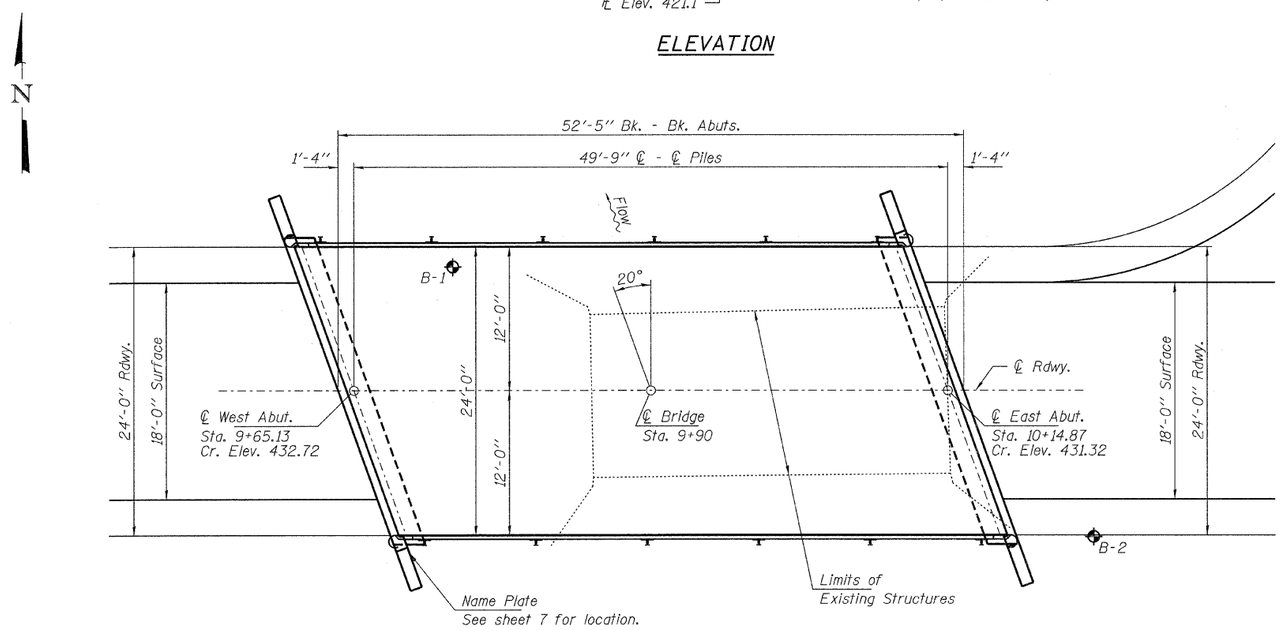
BENCHMARK: 47' Lt. Sta. 10+00; Elev. 430.69

EXISTING STRUCTURE NO. 013-3123: Sta. 10+00 - Single span cast in place concrete bridge on closed concrete abutments and wingwalls. 28.2 fc.-fc. abuts.; 13.7' o.-o. deck
Structure closed to traffic during construction.

No Salvage



ELEVATION



PLAN

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.

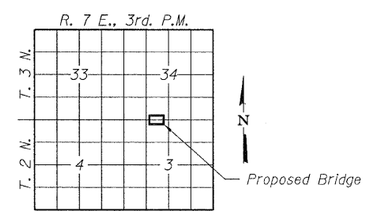
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions.

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.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. Riprap Layout
3. 21" x 48" PPC Deck Beam
4. 21" x 48" PPC Deck Beam Details
5. Superstructure Details
6. Steel Railing, Type S-1
7. West Abutment
8. East Abutment
9. HP-Pile Details
10.-11. Borings



LOCATION SKETCH

ELM CREEK TRIB.
BUILT 201_ BY
CLAY COUNTY
SEC. 07-11130-00-BR
STANFORD ROAD DISTRICT
STR. NO. 013-3238
LOADING HL-93

NAME PLATE

See Std. 515001

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 (½"ϕ low lax. strands)
fpbt = 201,960 psi (½"ϕ low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with all applicable interims.
50#/Sq. Ft. included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.210g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.440g
Soil Site Class = C

WATERWAY INFORMATION

Drainage Area = 5.9 Sq. Mi. — Existing Low Grade Elev. 427.8 @ Sta. 12+50; Proposed Low Grade Elev. 427.8 @ Sta. 12+50

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head - Ft. Exist.	Head - Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Overtopping	10	1230	130	210	428.57	0.36	0.02	428.93	428.59
Design	15	1410	130	220	428.73	0.35	0.00	429.08	428.73
Base	100	2310	130	250	429.46	0.25	0.15	429.71	429.61
Max. Calc.	500	3110	130	260	430.00	0.19	0.10	430.19	430.10

10 Year Velocity through Existing Bridge = 6.6 fps — 10 Year Velocity through Proposed Bridge = 5.1 fps

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	427.0	425.6

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. Meggnison 3/7/2012
ILLINOIS STRUCTURAL NO. 081-6064

LICENSED STRUCTURAL ENGINEER — STEVEN W. MEGGINSON 081-6064 SPRINGFIELD, IL — STATE OF ILLINOIS

Expires 11-30-2012

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			110
Stone Riprap, Class A4 (Special)	Ton			360
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		24.4	24.4
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,224		1,224
Reinforcement Bars	Pound		2,460	2,460
Steel Railing, Type S1	Foot	102		102
Furnishing Steel Piles HP10x42	Foot		365	365
Driving Piles	Foot		365	365
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1