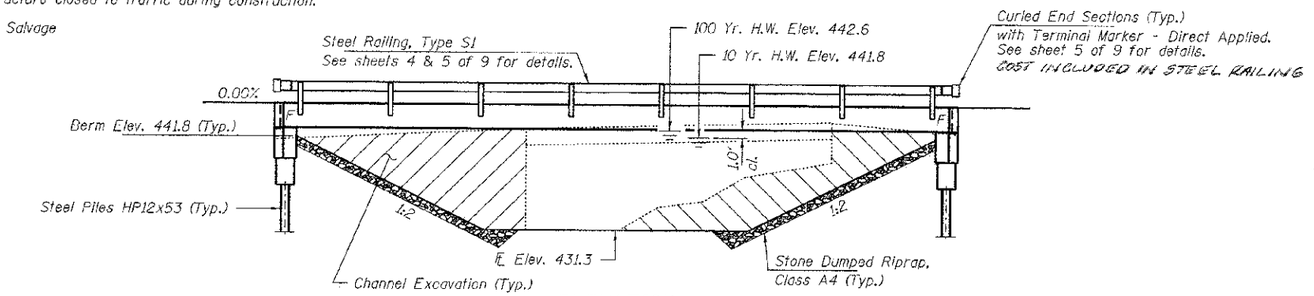
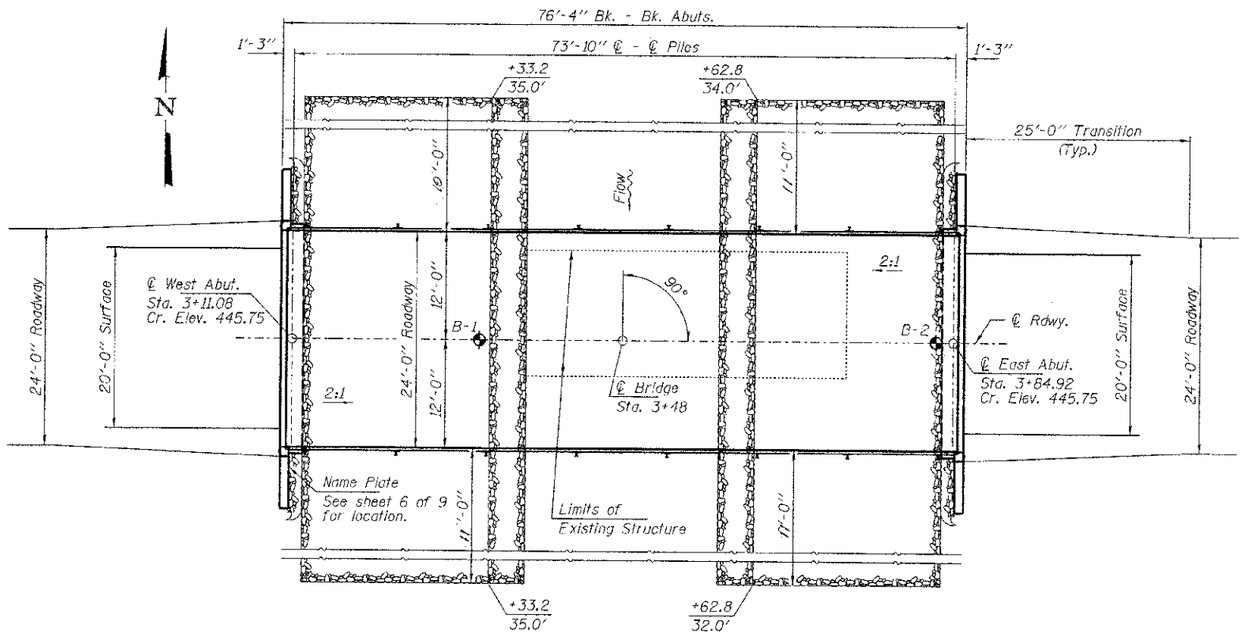
BENCHMARK: P.K. nail in fence post. Sta. 7+27, ±20' Rt., Elev. 441.90

EXISTING STRUCTURE: Single span I-beam bridge with concrete deck on closed concrete abutments and wingwalls. 36.0' bk. - bk. abuts.; 14.0' 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.

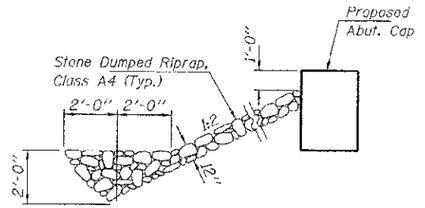
The Contractor shall drive test piles to 110% of the nominal required bearing specified in production locations at East Abutment or approved by the Engineer before ordering the remainder of piles.

Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. 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.

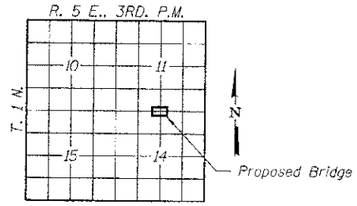
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.



SECTION A-A

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

INDEX OF STRUCTURE SHEETS



LOCATION SKETCH

BRUSH CREEK
BUILT 200_ BY
WAYNE COUNTY
SEC. 08-18110-00-BR
ORCHARD ROAD DISTRICT
STR. NO. 096-3448
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: 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}) = 0.404g
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 0.84ig
Soil Site Class = E

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	439.15	439.15

WATERWAY INFORMATION

Drainage Area = 30.1 Sq. Mi. — Existing Low Grade Elev. 438.0 @ Sta. 6+00; Proposed Low Grade Elev. 439.1 @ Sta. 7+00

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.
Design	10	3,940	246	475	441.8	0.0	0.1	441.8	441.9
Base	100	7,210	246	532	442.6	0.0	0.1	442.6	442.7
Max. Calc.	500	9,780	246	546	443.2	0.0	0.0	443.2	443.2

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. Meggenson 10/30/2012
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064

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

Expires 11-30-2014

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			290
Stone Dumped Riprap, Class A4	Ton			168
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		25.2	25.2
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1,800		1,800
Reinforcement Bars	Pound		2,660	2,660
Steel Railing, Type S1	Foot	148		148
Furnishing Steel Piles HP12x53	Foot		455	455
Driving Piles	Foot		455	455
Test Pile Steel HP12x53	Each		1	1
Name Plates	Each		1	1

FILE NAME = 080240-sht-bridge.dgn | USER NAME = | DESIGNED - A.S.L. | REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3068 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 | CHECKED - S.W.M. | REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM I.D./PES#184.000459 | PLOT SCALE = | DRAWN - D.A.B. | REVISED -
PLOT DATE = 10/30/2012 | CHECKED - S.W.M. | REVISED -

STATE OF ILLINOIS
WAYNE COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
STRUCTURE NO. 096-3448
SHEET NO. 1 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
16TA	08-18110-00-BR	WAYNE	12	4
ORCHARD ROAD DISTRICT		CONTRACT NO. 95588		
ILLINOIS FED. AID PROJECT				