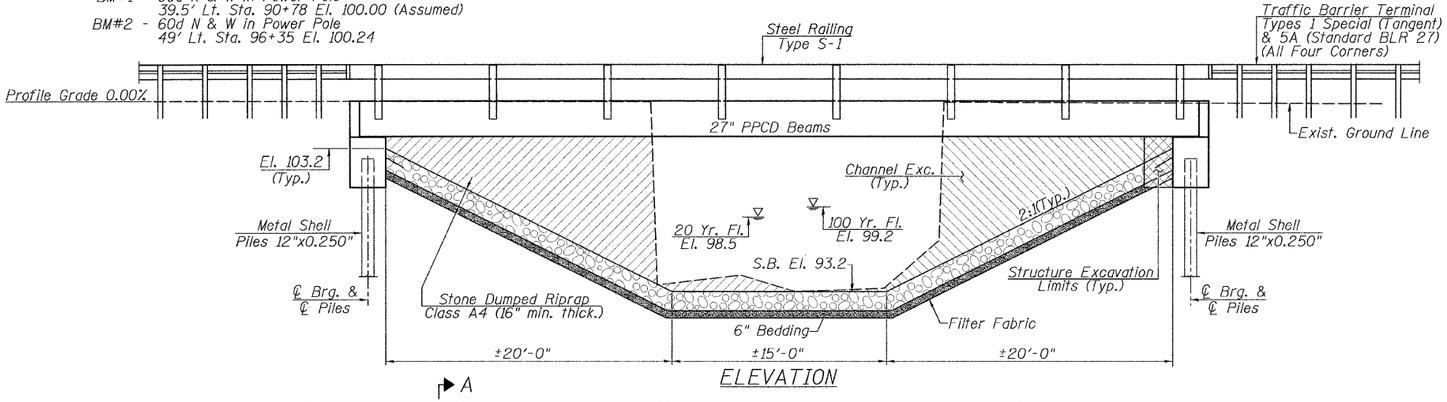
Existing Structure: Single span precast concrete deck beams supported by closed timber abutments with timber wingwalls. ±20'-3" Bk.-Bk. Abutments, ±30'-3" Out.-Out. Deck. Concrete Curbs and Steel Railing. ±0° Skew.

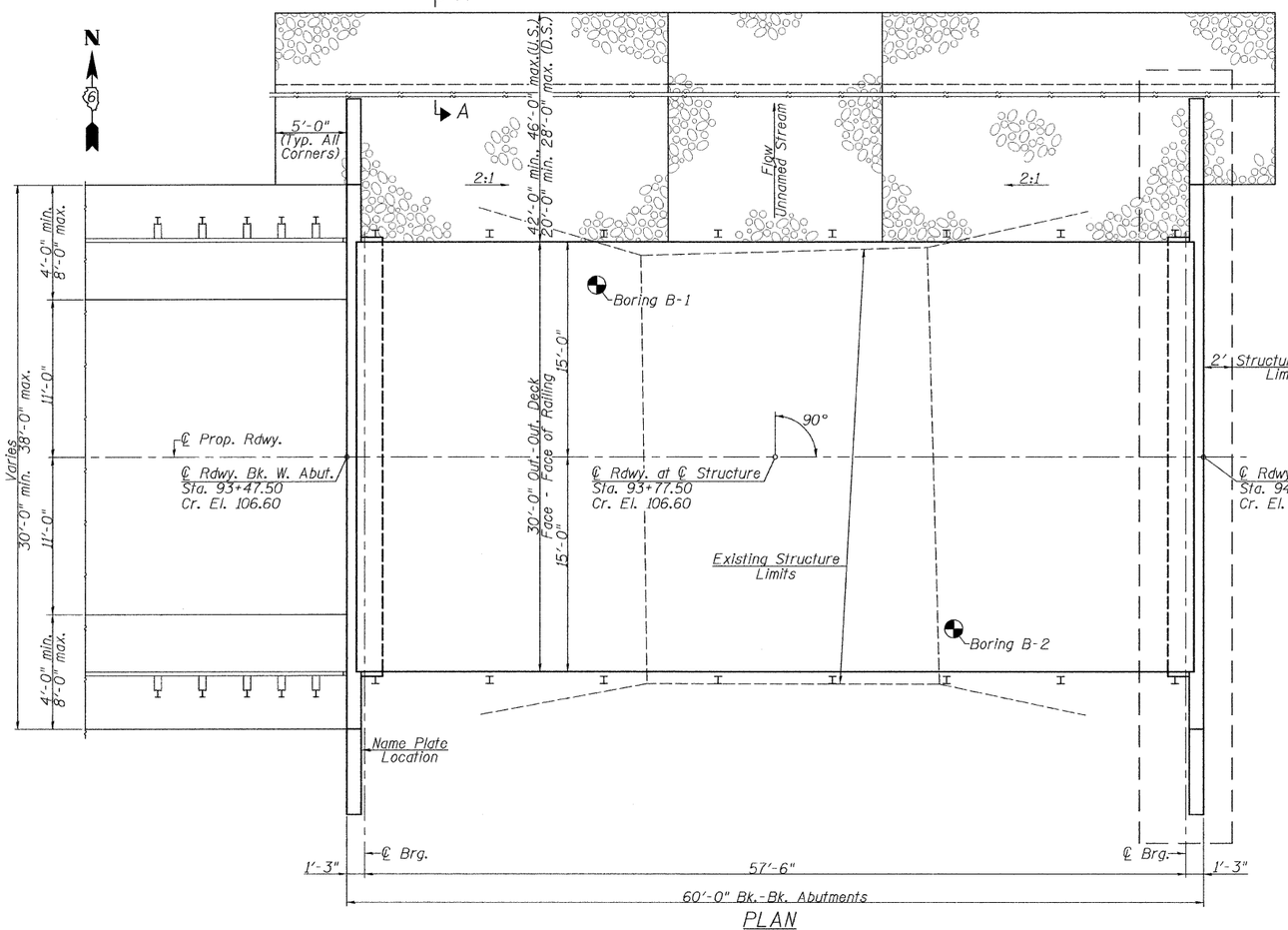
Est. Quantities - 608 Sq. Ft. Deck Beams
- 2.7 Cu. Yd. Concrete

BM#1 - 60d N & W in Power Pole
39.5' Lt. Sta. 90+78 El. 100.00 (Assumed)

BM#2 - 60d N & W in Power Pole
49' Lt. Sta. 96+35 El. 100.24



ELEVATION



PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			597
Stone Dumped Riprap, Class A4	Ton		522	522
Filter Fabric	Sq. Yd.		829	829
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		156	156
Concrete Structures	Cu. Yd.		30.6	30.6
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1760		1760
Reinforcement Bars	Pound		3740	3740
Steel Railing, Type S-1	Foot	120		120
Metal Shell Piles 12"x0.250"	Foot		344	344
Driving Piles	Foot		344	344
Test Pile Metal Shells	Each		2	2
Name Plates	Each		1	1

WATERWAY INFORMATION

Drainage Area = 1.16 Sq. Mi. | Pr. Low Grade Elev. 104.17 | @ Sta. 98+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	20	478	88	132	98.5	2.8	0.3	101.3	98.8
Base	100	772	102	159	99.2	4.0	0.8	103.2	100.0
Exist. Overtop.	Greater than 500 Years								
Prop. Overtop.	Greater than 500 Years								
Max. Calc.	500	1080	110	174	99.6	5.1	1.4	104.7	101.0

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (FT.)	N. Abut.	S. Abut.
	100.5	100.5

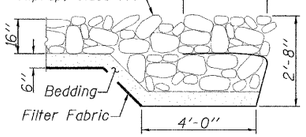
DESIGN STRESSES

FIELD UNITS

f'c = 3500 psi
fy = 60000 psi
(Reinforcement)

PRECAST PRESTRESSED UNITS

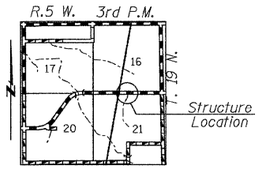
f'c = 6000 psi
f'ci = 5000 psi
fpu = 270000 psi (½ϕ" low lax strands)
fpbt = 201960 psi (½"ϕ low lax strands)



SECTION A-A

UNNAMED STREAM
BUILT 20 BY
MENARD COUNTY
SECTION 10-00060-00-BR
PROJECT RS-0573(318)
STR. NO. 065-3125 LOADING HL-93

NAME PLATE
(Standard 515001)



LOCATION SKETCH

GENERAL NOTES

See Proposal for Boring Data.

Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60.

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 one test pile in a permanent location at the East and West Abutments as directed by the Engineer in the field prior to 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.

DESIGN SPECIFICATIONS

2010 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2009 Interims.

LOADING HL-93

Allow 50#/sq. ft. for future wearing surface.

MARK A. HENDERSON
593
LICENSED STRUCTURAL ENGINEER
STATE OF ILLINOIS

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 "A.A.S.H.T.O. Standard Specifications For Highway Bridges".

Mark G Henderson 11/15/2011
Expiration Date 11/30/2012

FILE NAME =	USER NAME =	DESIGNED -	REVISED -
		CHECKED -	REVISED -
	PLOT SCALE =	DRAWN -	REVISED -
	PLOT DATE =	CHECKED -	REVISED -

Allen Henderson & Associates, Inc.
Civil and Structural Engineers Springfield, IL.
62703 Phone: (217)544-8033 IL. Design Firm
No. 184-001907

GENERAL PLAN & ELEVATION

SHEET NO. 1 OF 6 SHEETS

C.H. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
1	10-00060-00-BR	MENARD	15	5
		CONTRACT NO. 93561		
		ILLINOIS FED. AID PROJECT		