TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			2098
Stone Dumped Riprap, Class A4	Ton		563	563
Filter Fabric	Sq. Yd.		786	786
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		146	146
Concrete Structures	Cu. Yd.		28.0	28.0
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	2133		2133
Reinforcement Bars	Pound		3260	3260
Steel Railing, Type S-1	Foot	155		155
Furnishing Metal Shell Piles 12"x0.250"	Foot		815	815
Driving Piles	Foot		815	815
Test Pile Metal Shells	Each		2	2
Name Plates	Each		1	1

WATERWAY INFORMATION

Drainage Area = 11.44 Sq. Mi. Pr. Low Grade Elev. 544.79 @ 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.
Design	20	1556	242	395	539.4	1.7	0.1	541.1	539.5
Base	100	2317	295	507	541.2	2.3	0.1	543.5	541.3
Exist. Overtop.	Greater than 500 years								
Prop. Overtop.	Greater than 500 years								
Max. Calc.	500	3074	331	592	542.4	4.4	0.2	546.8	542.6

Construction Permits: The Requirements of the IDNR - Office of Water Resources have been fulfilled in accordance with Statewide Permit No. 2.

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	N. Abut.	S. Abut.
	540.0	540.0

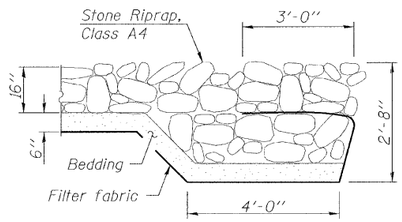
DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

f'c = 6000 psi
f'ci = 5000 psi
fpu = 270000 psi ($\frac{1}{2}\phi$" low lax strands)
fpbt = 201960 psi ($\frac{1}{2}$"ϕ low lax strands)



SECTION A-A

GENERAL NOTES

See Proposal for Boring Data.

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

The layout of the riprap slopewall may be varied to suit conditions in the field as determined by the Engineer.

The contractor shall drive one test pile in a permanent location at each abutment 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

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2008 Interims.

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec (S_{D1}) = .139g
Design Spectral Acceleration at 0.2 sec (S_{DS}) = .227g
Soil Site Class = D

MARK A. HENDERSON
062-051421
LICENSED PROFESSIONAL ENGINEER
OF
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 A Henderson 2/26/2010
Expiration Date 11/30/2010

FILE NAME = #FILE1#	USER NAME = #USER#	DESIGNED - MAH	REVISED -
		DRAWN - MJS	REVISED -
	PLOT SCALE = #SCALE#	CHECKED -	REVISED -
	PLOT DATE = #DATE#	DATE -	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

SCALE: | SHEET NO. 5 OF 15 SHEETS | STA. | TO STA.

T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
43	08-03115-00-BR	MENARD	15	5
		CONTRACT NO. 93530		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		