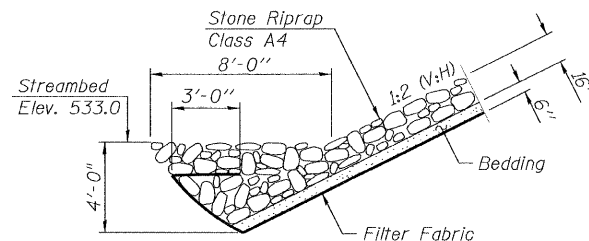
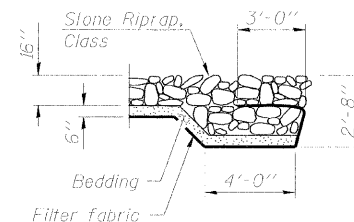


TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		605	605
Stone Riprap, Class A4	Ton		499	499
Filter Fabric	Sq. Yd.		671	671
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		67	67
Concrete Structures	Cu. Yd.		88.3	88.3
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2122		2122
Reinforcement Bars	Lb.		8260	8260
Steel Railing, Type S-1	Foot	180		180
Furnishing Steel Piles HP 10x42	Foot		699	699
Driving Piles	Foot		699	699
Test Piles Steel HP 10x42	Each		4	4
Name Plates	Each		1	1
Underwater Structure Excavation - Location 1	Each		1	1
Underwater Structure Excavation - Location 2	Each		1	1



TOE STONE RIPRAP TREATMENT



SECTION A-A

WATERWAY INFORMATION

Flood		Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Natural H.W.E.	Head - ft.		Headwater El.	
				Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design		15	3662	376	693	544.6	0.0	0.5	544.6	545.1
Base		100	6140	451	767	546.4	0.0	0.4	546.4	546.8
Exist. Overtop.		5	2690							
Prop. Overtop.		8	3015							
Max. Calc.		500	8265	451	767	547.7	0.0	0.4	547.7	548.1

LOADING HL-93

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

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications, 4th Edition with 2009 Interims

DESIGN STRESSES

FIELD UNITS

$f'_c = 3500$  psi  
 $f_y = 60000$  psi (Reinforcement)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$  psi  
 $f'_{ci} = 5,000$  psi  
 $f_{pu} = 270,000$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strands)  
 $f_{pb} = 201,960$  psi ( $\frac{1}{2}$ "  $\phi$  low lax strands)

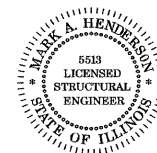
GENERAL NOTES

- See Proposal for Boring Data.
- Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provisions.
- Layout of slope protection system may be varied in the field to suit ground conditions as directed by the Engineer.
- Excavation behind existing abutment walls shall be performed to balance front and back soil pressure before removing the existing superstructure.
- The Contractor shall drive one test pile in a permanent location at each pier and abutment as directed by the Engineer in the field prior to ordering the remainder of the piles.

GENERAL DATA  
 S.N. 087-3571

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. LRFD Bridge Design Specifications.

*Mark A. Henderson* 4/1/2010  
 Expiration Date 11/30/2010



Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL. 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907	SHEET NO. 2	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	10 SHEETS	140	09-05118-00-BR	SHLEBY	21	5
		STR. NO. 087-3571		CONTRACT NO. 95628		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT						