

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			385
Stone Dumped Riprap, Class A5	Ton			763
Filter Fabric	Sq. Yd.			855
Removal of Existing Structures	Each			1
Structure Excavation	Cu. Yd.		179	179
Concrete Structures	Cu. Yd.		125.2	125.2
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2803		2803
Reinforcement Bars	Pound		11500	11500
Steel Railing, Type S-1	Foot	190		190
Furnishing Metal Shell Piles 12"x0.250"	Foot		897	897
Driving Piles	Foot		897	897
Test Pile Metal Shells	Each		4	4
Name Plates	Each	1		1
Waterproofing Membrane System	Sq. Yd.			317
Hot Mix Asphalt Surface Course, Mix C N50	Ton			32
Underwater Structure Excavation Protection - Location 1 (Pier 1)	Each		1	1
Underwater Structure Excavation Protection - Location 2 (Pier 2)	Each		1	1

WATERWAY INFORMATION

Drainage Area = 13.30 Sq. Mi. Pr. Low Grade Elev. 485.2 Sta. 316+20

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	20	2234	375	520	480.1	0.0	0.0	480.1	480.1
Base	100	3494	504	665	482.1	0.1	0.1	482.2	482.2
Exist. Overtop.	Greater than 500 years								
Prop. Overtop.	Greater than 500 years								
Max. Calc.	500	4784	519	759	483.4	0.7	0.4	484.1	483.8

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

N. Abutment	S. Abutment	Pier 1	Pier 2
479.6	479.6	462.04	462.04

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

$f'_c = 6000$ psi
 $f'_{ci} = 5000$ psi
 $f_{pu} = 270000$ psi
 $f_{pbt} = 201960$ psi
 $\frac{1}{2}$ " ϕ (low lax) Strands

GENERAL NOTES

See Proposal for Boring Data.
 Reinforcement bars shall conform to the requirements of ASTM A706, Grade 60. See Special Provision.
 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 the East Abutment and at Pier 1 as directed by the Engineer in the field prior to ordering the remainder of piles.
 Protective coat shall not be applied to surfaces to which Waterproofing Membrane System is applied.
 REINFORCEMENT BARS DESIGNATED (E) SHALL BE EPOXY COATED.

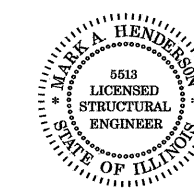
DESIGN SPECIFICATIONS

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

LOADING HL-93

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

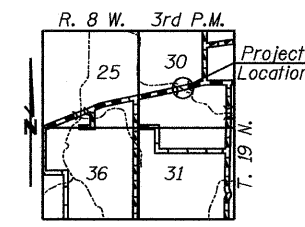
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "A.A.S.H.T.O. Standard Specifications For Highway Bridges".



Mark A. Henderson 10-27-09
 Expiration Date 11/30/2010

MIDDLE CREEK
 BUILT 20 BY
 CASS COUNTY
 SECTION 09-00074-00-BR
 F.A.S. RTE. 575
 STA. 314+18.00
 STR. NO. 009-3005 LOADING HL-93

NAME PLATE
 (Standard 51500I)
 (S.W. Wing)



LOCATION SKETCH

FILE NAME =	USER NAME = #USER#	DESIGNED -	REVISED -	<p>Allen Henderson & Associates, Inc. Civil and Structural Engineers Springfield, IL 62703 Phone: (217)544-8033 IL Design Firm No. 184-001907</p>	<p>GENERAL PLAN & ELEVATION</p>	F.A.S. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
#FILE#		DRAWN -	REVISED -			575	09-00074-00-BR	CASS	18	6	
		CHECKED -	REVISED -			CONTRACT NO. 93508					
		DATE -	REVISED -			SCALE:	SHEET NO. 6 OF 18 SHEETS	FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT	