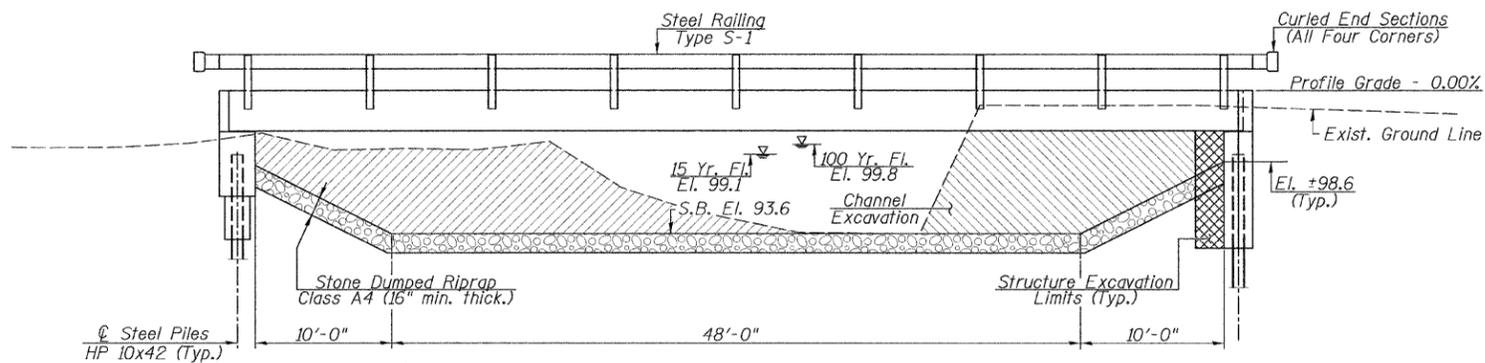
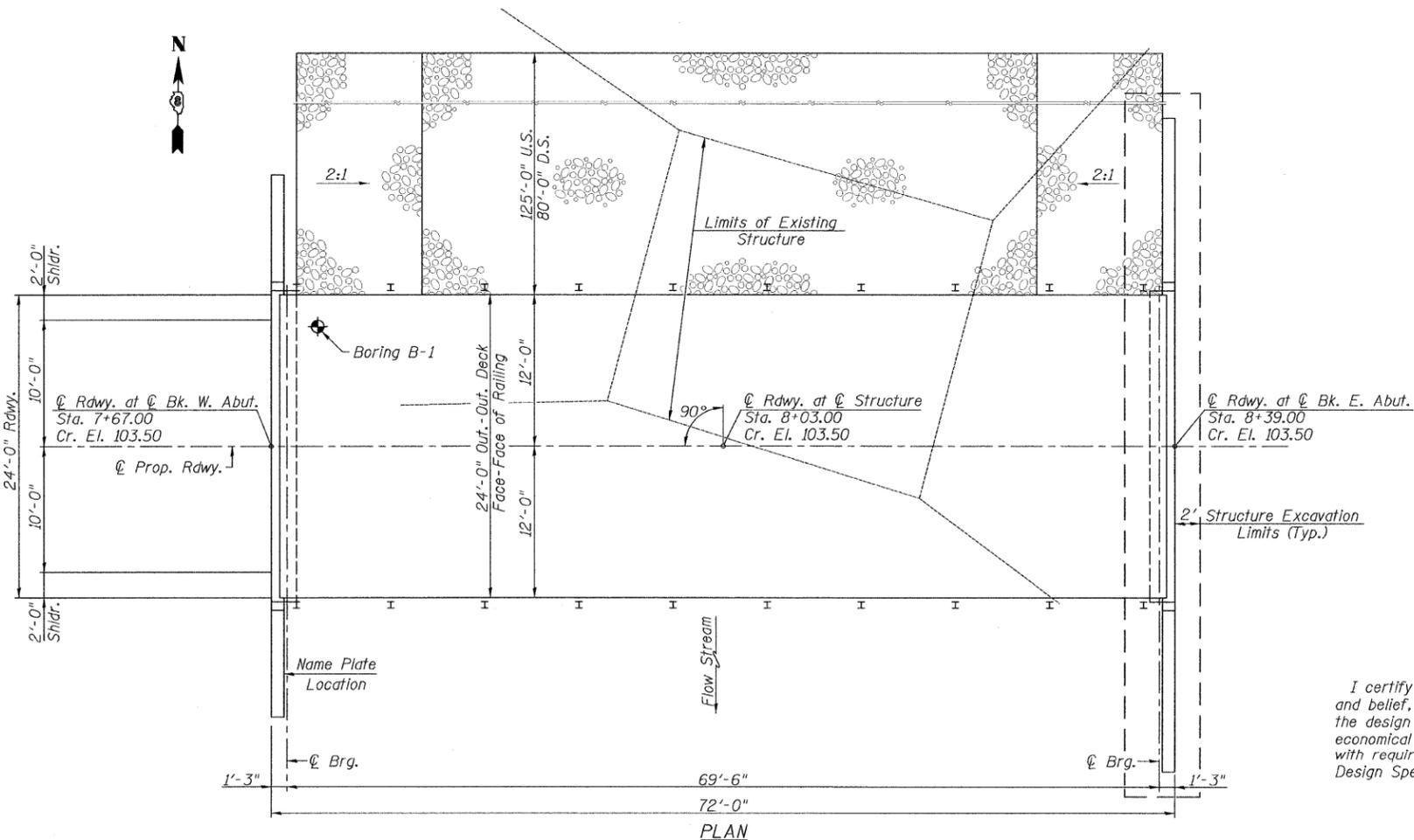


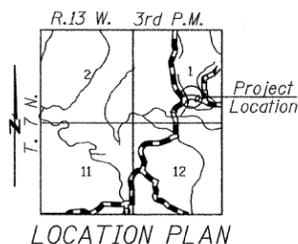
Existing Structure: Single Precast Channel Beam Bridge Founded on Closed Timber Abutments. +22'-0" Out.-Out. Deck, +26'-0" Bk.-Bk. Abutments. Steel Railing. 0° Skew Existing Structure No. 042-3089  
 Benchmark #1: 60D Nail & Washer in Power Pole Sta. 7+53.70, 5.75' Rt. El. 100.00 (Assumed)



ELEVATION



PLAN



LOCATION PLAN

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.		875	875
Stone Dumped Riprap, Class A4	Ton		730	730
Removal of Existing Structures	Each		1	1
Structure Excavation	Cu. Yd.		165	165
Concrete Structures	Cu. Yd.		47.2	47.2
Concrete Encasement	Cu. Yd.		1.7	1.7
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1696		1696
Reinforcement Bars	Pound		4450	4450
Steel Railing, Type S-1	Foot	144		144
Furnishing Steel Piles HP 10x42	Foot		530	530
Driving Piles	Foot		530	530
Name Plates	Each		1	1
Test Piles, Steel HP 10 x 42	Each		2	2
Underwater Structure Excavation Protection - Location 1 (East Abutment)	Each		1	1

WATERWAY INFORMATION

Drainage Area = 2.58 Sq. Mi. Pr. Low Grade Elev. 99.43 Sta. 11+10

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	1482	107	323	99.1	1.9	0.4	101.0	99.5
Base	100	2714	127	370	99.8	2.6	0.9	102.4	100.7
Exist. Overtop.	9.3	1300							
Prop. Overtop.	15	1610							
Max. Calc.	500	3852	159	411	100.4	2.6	1.4	103.0	101.8

DESIGN SPECIFICATIONS

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

LOADING HL-93

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

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

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 slopedwall 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.

STREAM  
 BUILT 200 BY  
 JERSEY COUNTY  
 SECTION 05-10012-00-BR  
 STA. 8+03.00  
 STR. NO. 042-3146 LOADING HL-93

NAME PLATE

(Standard 515001)

GENERAL PLAN & ELEVATION  
 T.R. RTE. 81 OVER STREAM  
 SECTION NO. 05-10012-00-BR  
 JERSEY COUNTY  
 STA. 8+03.00  
 S.N. 042-3146

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 10/30/09  
 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. 1 8 SHEETS	T.R. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
		81	05-10012-00-BR	JERSEY	19	5
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					CONTRACT NO. 97409	