

B.M. No. 1 - Disk in concrete abutment stamped "SCHD",  
NW corner of bridge, sta. 20+21.12, 12.79' LT  
Elev. 572.63

Existing structure SN 087-3302 is a two span steel beam bridge  
with an oil & chip surface.  
The structure measures 83'-0" bk to bk of abutments,  
has a 0'-0" clear span and a 18'-0" clear deck width.  
The substructure is closed timber abutments on timber piles  
with and timber planking walls.  
Skew = 20° Fwd. Lt.

**DESIGN SCOUR ELEVATION TABLE**

Design Scour Elevation (ft.)	W. Abut.	Pier 1	Pier 2	E. Abut.
	578.77	565.60	571.16	578.77

BECK'S CREEK  
BUILT 20\_\_ BY  
SHELBY COUNTY  
SEC. 09-00267-00-BR  
CH 12 STA. 9+95.00  
LOADING HL-93  
STR. NO. 087-3574

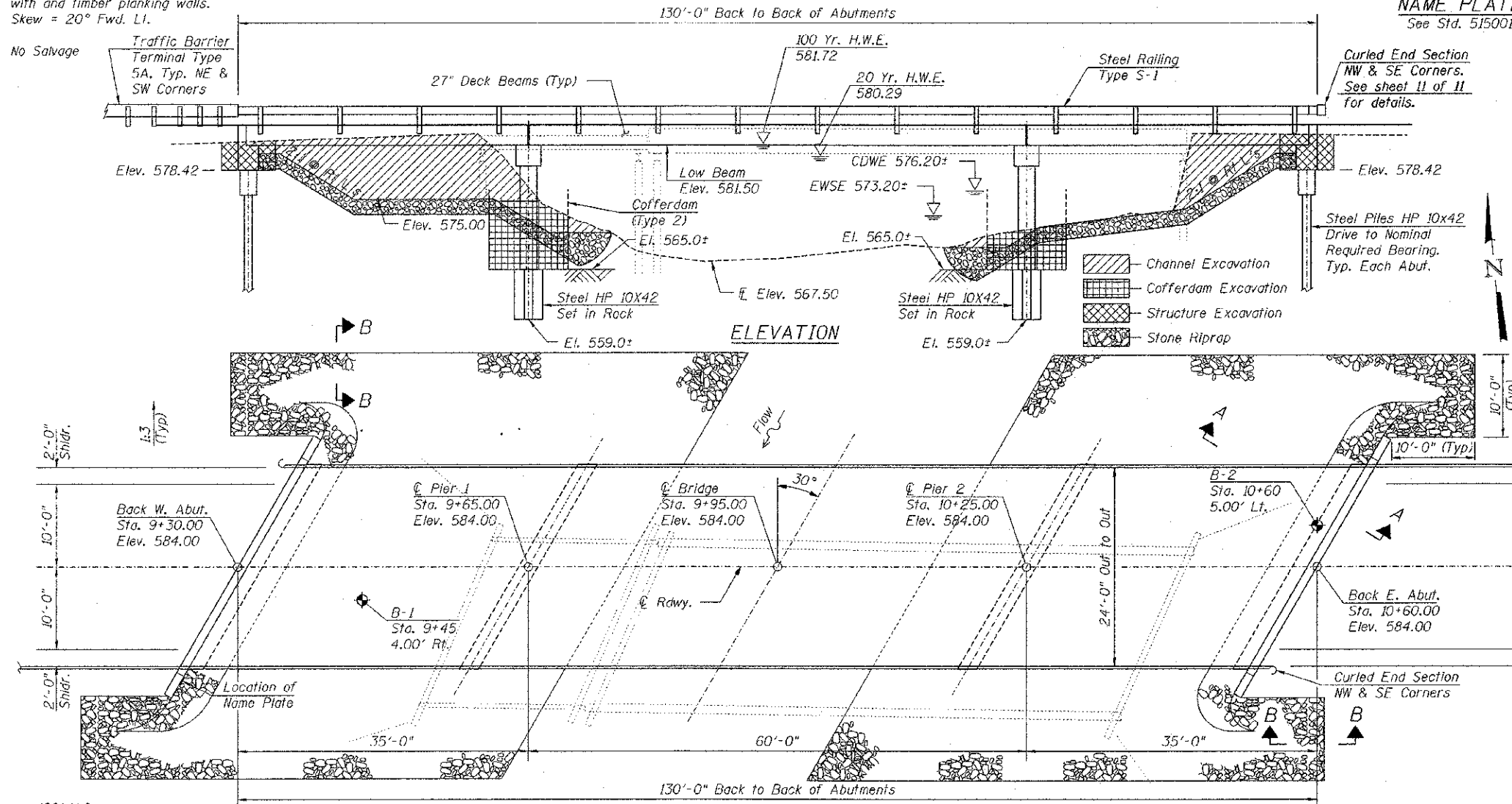
**WATERWAY INFORMATION**

Drainage Area	33.70	Sq. Mi.
Required Opening (20 yr.)	776	Sq. Ft.
Provided Opening	839	Sq. Ft.
Present Opening	839	Sq. Ft.
20 yr. Discharge	5,620	cfs
100 yr. Discharge	8,370	cfs
Created head at Bridge (100 yr.)	< 1.0	Ft.
Created Head 1000' upstream (100 yr.)	< 0.5	Ft.

**NAME PLATE**  
See Std. 515001

**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
CHANNEL EXCAVATION	CU YD		544	544
STONE RIPRAP, CLASS A4	TON		581	581
FILTER FABRIC	SQ YD		640	640
REMOVAL OF EXISTING STRUCTURES No. 1	EACH		1	1
STRUCTURE EXCAVATION	CU YD		74	74
CONCRETE STRUCTURES	CU YD		104.6	104.6
CONCRETE ENCASEMENT	CU YD		3.6	3.6
PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SO FT	3,061		3,061
REINFORCEMENT BARS	POUND		9,220	9,220
STEEL RAILING, TYPE S1	FOOT	258		258
FURNISHING STEEL PILES HP10X42	FOOT		502	502
DRIVING PILES	FOOT		152	152
TEST PILE STEEL HP10X42	EACH		2	2
NAME PLATES	EACH		1	1
SETTING PILES IN ROCK	EACH		14	14
COFFERDAM EXCAVATION	CU YD		219	219
COFFERDAM (TYPE 2) (LOCATION 1)	EACH		1	1
COFFERDAM (TYPE 2) (LOCATION 2)	EACH		1	1



**GENERAL NOTES**

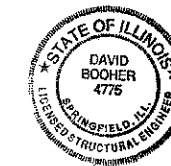
See Proposal for Boring Data.

The contractor shall drive one Test Pile at a permanent location at each Abutment. The Test Piles shall be driven to 110% of the Nominal Required Bearing specified in production locations at the structures specified or approved by the Engineer before ordering the remainder of the piles.

Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.

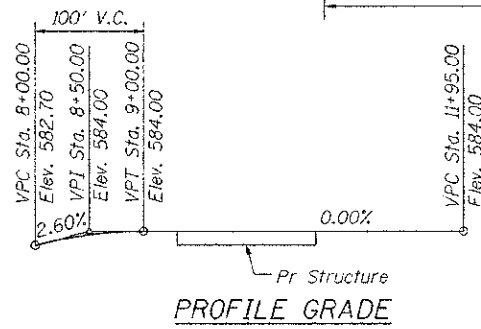
Reinforcement bars designated (E) shall be epoxy coated.

Seal coat thickness design is based on the Estimated Water Surface Elevation (EWSE). Cofferdam design details and proposed changes in seal coat thickness shall be submitted to the Engineer for approval with the cofferdam design.

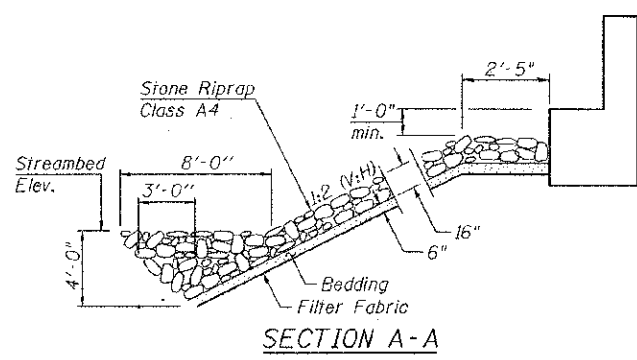


*D. Boohar*  
David Boohar, Illinois S.E. 081-004775 Date 1-2-2013  
Expires 11-30-2014

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 "AASHTO LRFD Bridge Design Specifications".



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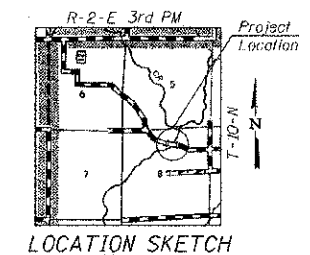
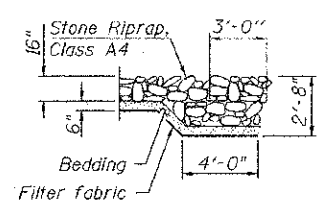


**DESIGN SPECIFICATIONS**  
AASHTO LRFD Bridge Design Specifications, 5th Edition with 2010 Interims

**DESIGN STRESSES**

FIELD UNITS	PRECAST UNITS
f'c = 3,500 psi	f'c = 6,000 psi
fy = 60,000 psi (Reinforcement)	f'cl = 5,000 psi
	f's = 270,000 psi
	f'si = 189,000 psi

**LOADING HL-93**  
Allow 50#/sq. ft. for future wearing surface.



FILE NAME =	USER NAME =	DESIGNED - SCD	REVISED - 2/27/2013	<b>STATE OF ILLINOIS</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>GENERAL PLAN AND DETAILS</b> <b>STRUCTURE NO. 087-3574</b> SHEET NO. 1 OF 11 SHEETS	CH. RTE. 12	SECTION 09-00267-00-BR	COUNTY SHELBY	TOTAL SHEETS 24	SHEET NO. 14
PLOT SCALE =	DRAWN - JEB	CHECKED - DRB	REVISED -			CONTRACT NO. 95700				
PLOT DATE =	CHECKED - SCD	DRAWN - JEB	REVISED -			ILLINOIS FED. AID PROJECT				