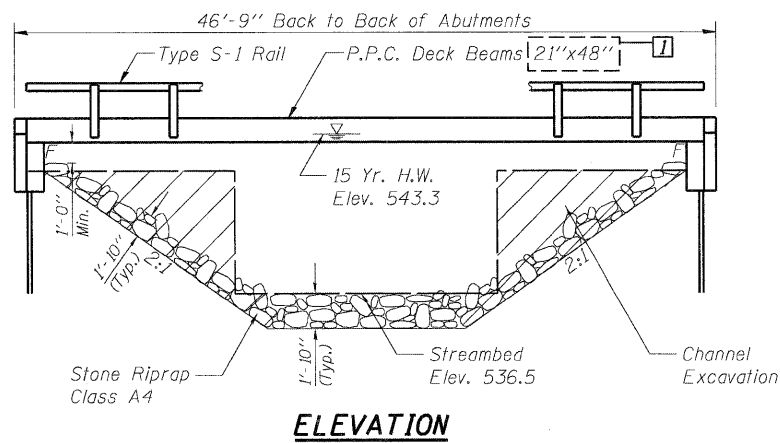


B.M. #1 : Sta. 2+65, 22' Left, RR Spike in Power Pole, Elev. 543.36  
 B.M. #2 : Sta. 11+41, 17' Right, RR Spike in Power Pole, Elev. 558.67

Existing Structure: Structure 015-3170 consists of a single span reinforced concrete deck on steel I-beams on closed concrete abutments. The bk. to bk. of abutments length is 22' and the out-to-out width is 20.4'. The existing structure shall be completely replaced. Road closure shall be used during construction.

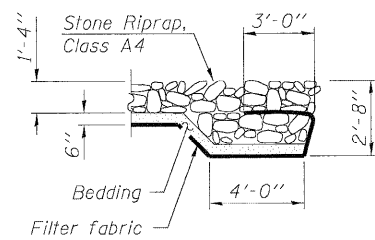


**GENERAL NOTES**

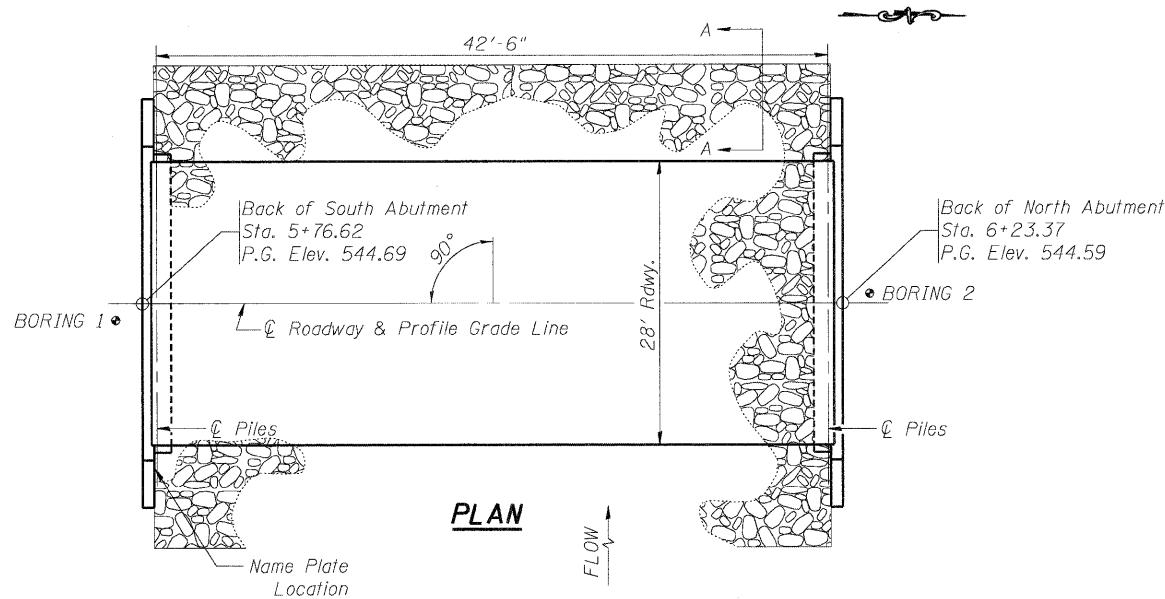
1. The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
2. Concrete sealer shall be applied to exterior face of each fascia beam.
3. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60.
4. Reinforcement bars designated (E) shall be epoxy coated.
5. Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.

**TOTAL BILL OF MATERIAL**

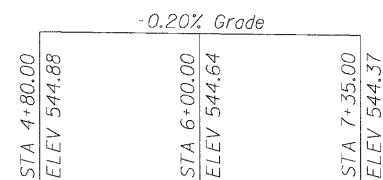
Item	Unit	Super	Sub. Abuts.	Total
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. Yd.	-	22.4	22.4
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1253	-	1253
Steel Bridge Railing, Type S-1	Foot	92	-	92
Reinforcement Bars, Epoxy Coated	Pound	-	3970	3970
Furnishing Steel Piles HP 10x42	Foot	-	160	160
Driving Piles	Foot	-	160	160
Test Pile Steel HP 10x42	Each	-	2	2
Name Plates	Each	1	-	1
Structure Excavation	Cu. Yd.	-	120	120
Stone Riprap Class A4	Sq. Yd.	-	300	300
Channel Excavation	Cu. Yd.	-	230	230
Controlled Low-Strength Material	Cu. Yd.	-	36.3	36.3
Concrete Encasement	Cu. Yd.	-	3.5	3.5



**SECTION A-A**



**PLAN**



**PROFILE GRADE**

**DESIGN STRESSES**

**FIELD UNITS**

$f'_c = 3,500$  psi  
 $F_y = 60,000$  psi (reinforcement)

**PRECAST PRESTRESSED UNITS**

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

**DESIGN SPECIFICATIONS**

2007 AASHTO LRFD Bridge Design Specifications - 4th ed.

**LOADING HL-93**

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

**SEISMIC DATA**

Seismic Performance Zone (SPZ) = 2  
 Design Spectral Acceleration at 1.0 sec. ( $S_{D1}$ ) = 0.181  
 Design Spectral Acceleration at 0.2 sec. ( $S_{D5}$ ) = 0.381  
 Site Soil Class = D

REVISED 05-25-12, DF/ADG

BUILT 201. BY  
 COLES COUNTY  
 SEC. 07-05136-00-BR  
 PROJECT NO. BROS-029(293)  
 TR 282 STA. 6+00  
 STR. NO. 015-3427 LOADING HL-93

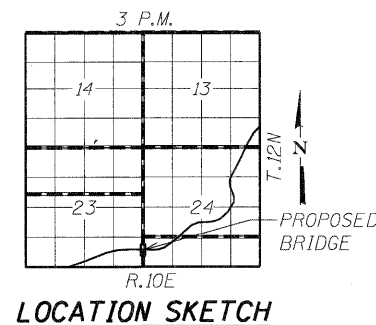
**LETTERING FOR NAME PLATE**

Locate Name Plate on the outside face of the Southeast Wingwall.

**WATERWAY INFORMATION**

Drainage Area = 3.39 SQ MI Low Grade Elev. = @ Sta. +

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.	
			Exist.	Prop.		Exist.	Prop.	Exist.	Prop.
Design	15	704	115	202	543.3	0.2	0.0	543.5	543.3
Base	100	1163	115	202	544.0	1.0	0.5	545.0	544.5
Overtopping									
Max. Calc.									



**LOCATION SKETCH**

**INDEX OF SHEETS**

1. General Plan & Elevation
2. Superstructure
3. Superstructure Details
4. Steel Railing
5. Abutment Details
6. Pile Details
7. Boring Logs



*Daniel Feuerborn*  
 Daniel Feuerborn  
 License Expires 11-30-2012  
 5/31/2012  
 Date

I certify that to the best of 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 Standard Specifications for Highway Bridges.

**GENERAL PLAN & ELEVATION**  
**TOWNSHIP ROUTE 282 OVER CREEK**  
**SEC. 07-05136-00-BR**  
**COLES COUNTY**  
**STATION 6+00.00**  
**STRUCTURE NO. 015-3427**

PRINTED DATE: 5/25/2012 FILE NAME: N:\PROJECTS\Coles Co Highway Dept\TR 282\CD\01-Drawings\Sheet\015\_3427\_DPE.dgn

DESIGNED	DF
CHECKED	
DRAWN	ADG
CHECKED	

**ESI** ESI CONSULTANTS, LTD  
 753 WINDSOR ROAD  
 CHARLESTON, IL 61820  
 (217) 348-1800  
 WWW.ESICONSULTANTS.LTD.COM  
 ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685

**TR 282**  
**COLES COUNTY**

SHEET NO. 1 OF 7 SHEETS

TWP RTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
282	07-05136-00-BR	COLES	13	05
			CONTRACT NO. 93477	

ILLINOIS FEDERAL AID PROJECT