

SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	TOTAL QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	0.03
20200100	EARTH EXCAVATION	CU YD	215
20300100	CHANNEL EXCAVATION	CU YD	230
20400800	FURNISHED EXCAVATION	CU YD	120
25000210	SEEDING, CLASS 2A	ACRE	0.3
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	27
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	27
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	27
25100115	MULCH, METHOD 2	ACRE	0.3
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	30
* 28000305	TEMPORARY DITCH CHECKS	FOOT	54
28000400	PERIMETER EROSION BARRIER	FOOT	100
28000500	INLET AND PIPE PROTECTION	EACH	1
28100107	STONE RIPRAP, CLASS A4	SQ YD	300
28200200	FILTER FABRIC	SQ YD	300
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	41
50200100	STRUCTURE EXCAVATION	CU YD	120
50300225	CONCRETE STRUCTURES	CU YD	22.4
50300280	CONCRETE ENCASEMENT	CU YD	3.5
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1253
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3970
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	92
51201400	FURNISHING STEEL PILES HP10X42	FOOT	160
51202305	DRIVING PILES	FOOT	160
51203400	TEST PILE STEEL HP10X42	EACH	2
51500100	NAME PLATES	EACH	1
542D0217	PIPE CULVERTS, CLASS D, TYPE 1 12"	FOOT	42
59300100	CONTROLLED LOW-STRENGTH MATERIAL	CU YD	36.3

SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	TOTAL QUANTITY
67100100	MOBILIZATION	L SUM	1
70101830	TRAFFIC CONTROL AND PROTECTION, STANDARD BLR 21	L SUM	1
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4
* X4020500	AGGREGATE SURFACE COURSE, TYPE B 6"	SQ YD	45
* X4020700	AGGREGATE SURFACE COURSE, TYPE B 8"	SQ YD	480

Δ SPECIALTY ITEMS

EARTHWORK SCHEDULE

STATION	CUT		FILL		TOTAL
	SQ FT	CU YD	SQ FT	CU YD	CU YD
4+80	9.3		0.0		
5+40	49.7		69.0		
5+77	27.9		20.8		
BRIDGE OMISSION					
6+23	46.5		6.7		
6+70	7.4		55.3		
7+20	15.4		13.6		
7+80	9.3		0.0		
TOTAL CUT		TOTAL FILL		TOTAL	
EARTH EXCAVATION		EMBANKMENT		EARTHWORK	
215 CU YD		270 CU YD		485 CU YD	
FURNISHED EXCAVATION =		120 CU YD			

* FURNISHED EXCAVATION INCLUDES 25% SHRINKAGE AND 5% WASTE OF EARTH EXCAVATION.

AGGREGATE SCHEDULE

STATION	TO STATION	SURFACE AREA (SQ FT)	AGG SURF CSE, TY B, 8" (SQ YD)	AGG SURF CSE, TY B, 6" (SQ YD)
4+80.0	- 5+76.63	1620	180.0	
6+23.38	- 7+80.0	2700	300.0	
FE 7+20.0		404		44.9
TOTAL :			480	45

7 - REVISED 05-25-12. DF/ADG

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ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003665

COLES COUNTY
HIGHWAY DEPARTMENT

NO.	DATE	DESCRIPTION OF REVISIONS	NO.	DATE	DESCRIPTION OF REVISIONS

ESI PROJECT NO: 10.355	ENGR: ADG
FILE: 03_TR 282.S00	DRAWN BY: ADG
DATE: 02-21-2012	QCQA:

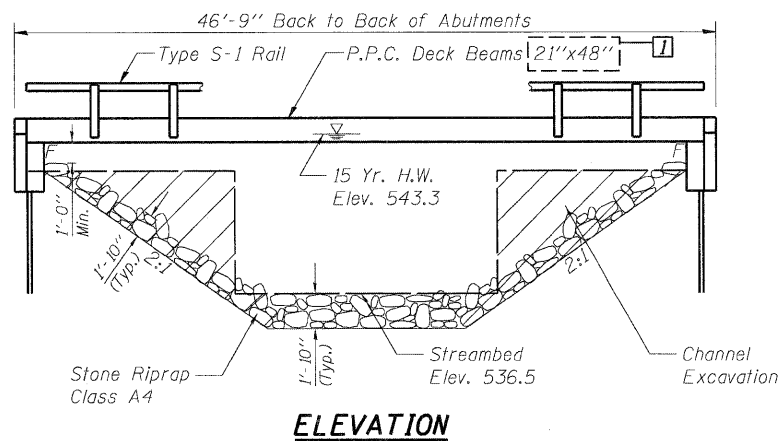
TR 282
COLES COUNTY

CONTRACT 95G79
SUMMARY OF QUANTITIES & QUANTITY SCHEDULES
SHEET 1 OF 1

DRAWING NO.
03
OF 13

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.

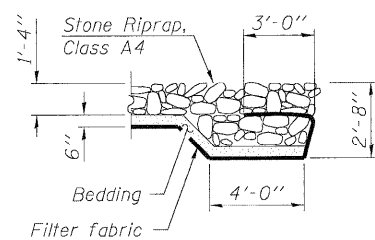


GENERAL NOTES

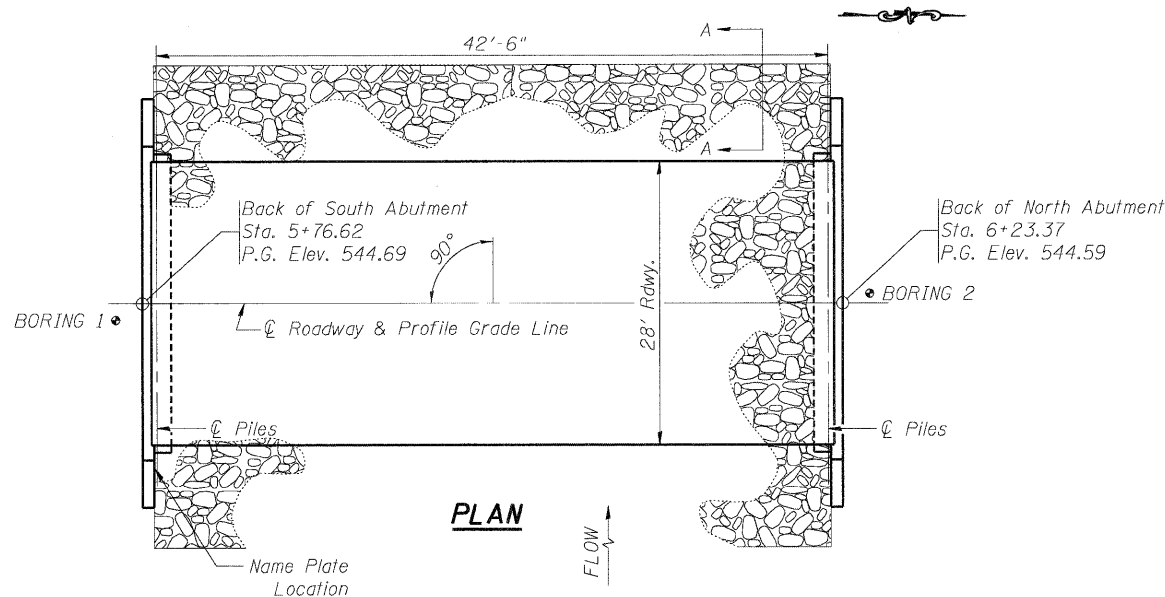
1. The Contractor shall drive 1 test pile at each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
2. Concrete sealer shall be applied to exterior face of each fascia beam.
3. Reinforcement bars shall conform to the requirements of ASTM 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

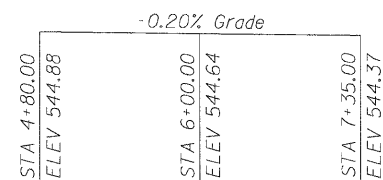
Item	Unit	Super	Sub. Abuts.	Total
Removal of Existing Structures	Each	-	-	1
Concrete Structures	Cu. Yd.	-	22.4	22.4
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1253	-	1253
Steel Bridge Railing, Type S-1	Foot	92	-	92
Reinforcement Bars, Epoxy Coated	Pound	-	3970	3970
Furnishing Steel Piles 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

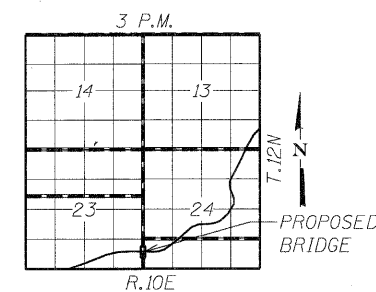
Drainage Area = 3.39 SQ MI Low Grade Elev. = @ Sta. +

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.									



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.



LOCATION SKETCH

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\000\Drawings\Sheet\05_395_DPE.dgn

DESIGNED	DF
CHECKED	
DRAWN	ADG
CHECKED	

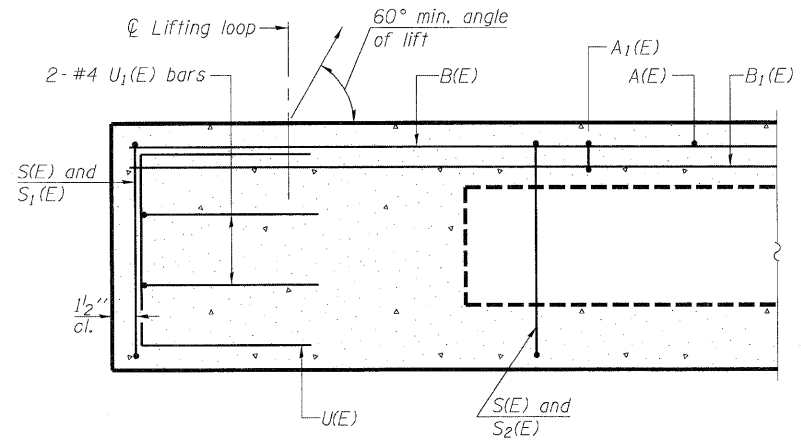
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TR 282
COLES COUNTY

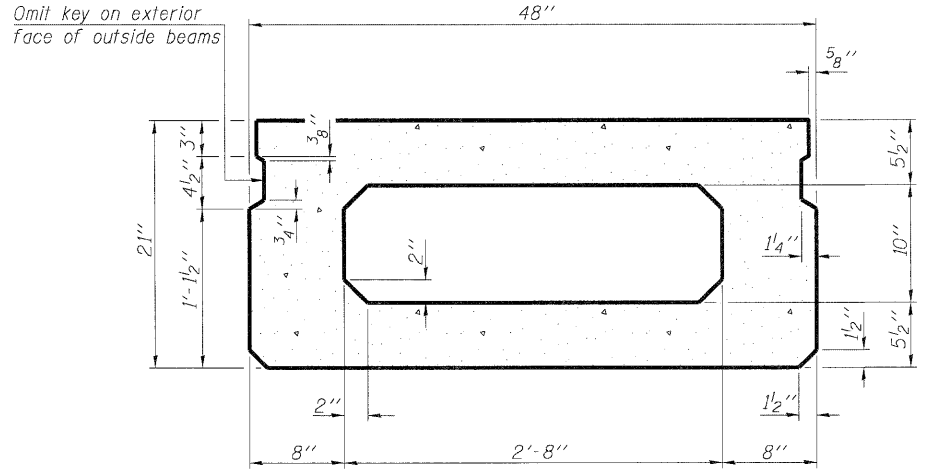
SHEET NO. 1 OF 7 SHEETS

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

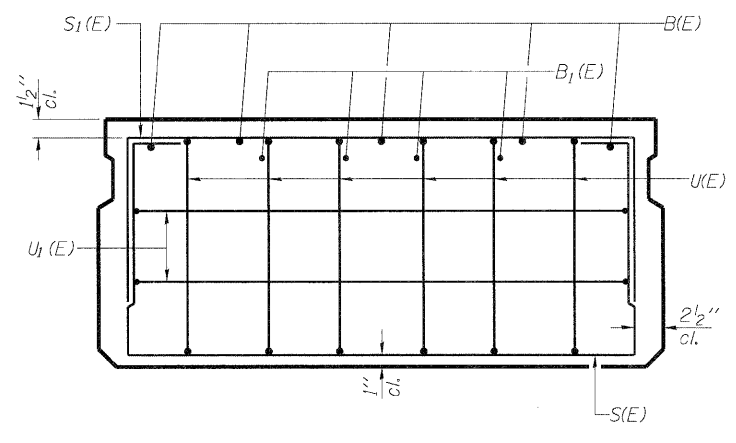
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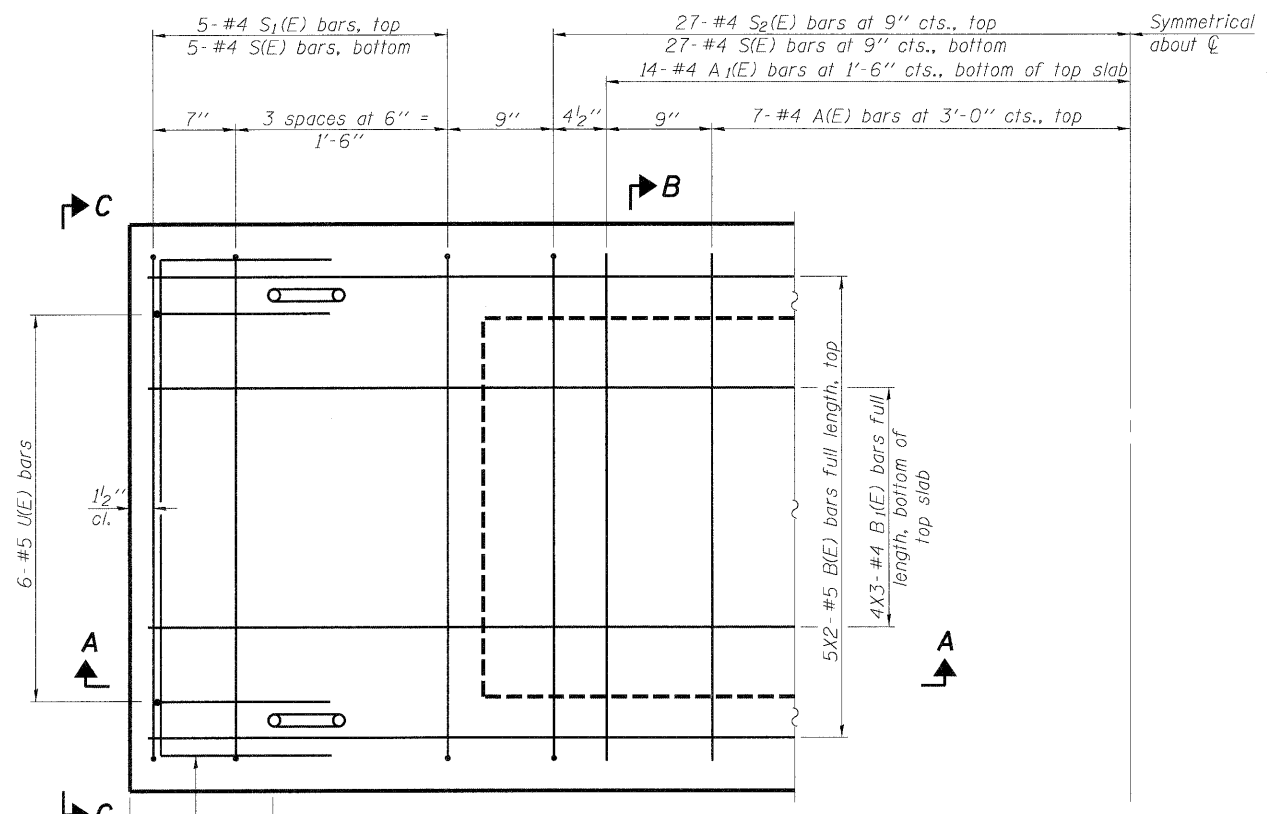
SECTION A-A



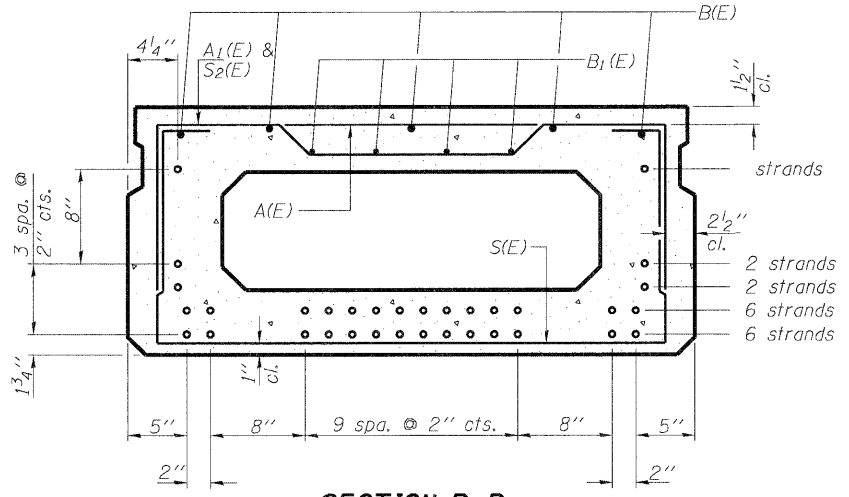
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B

(Showing reinforcement and permissible strand locations)
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For Information Only)

Bar	No.	Size	Length	Shape
A(E)	14	#4	3'-7"	—
A1(E)	28	#4	3'-10"	—
B(E)	10	#5	23'-6"	—
B1(E)	12	#4	16'-2"	—
S(E)	64	#4	7'-5"	□
S1(E)	10	#4	5'-11"	□
S2(E)	54	#4	6'-2"	□
U(E)	12	#5	4'-0"	□
U1(E)	4	#4	6'-0"	□

Note: See sheet 3 of 7 for additional details and Bill of Material.

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

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PD-2148-0 7-1-10

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TR 282
COLES COUNTY

21" x 48" PPC DECK BEAM
STRUCTURE NO. 015-3427

SHEET NO 2 OF 7 SHEETS

TWP	SECTION	COUNTY	TOTAL SHEETS	SHEET NO
282	07-05136-00-BR	COLES	13	06
CONTRACT NO 02027			ILLINOIS FEDERAL AID PROJECT	