

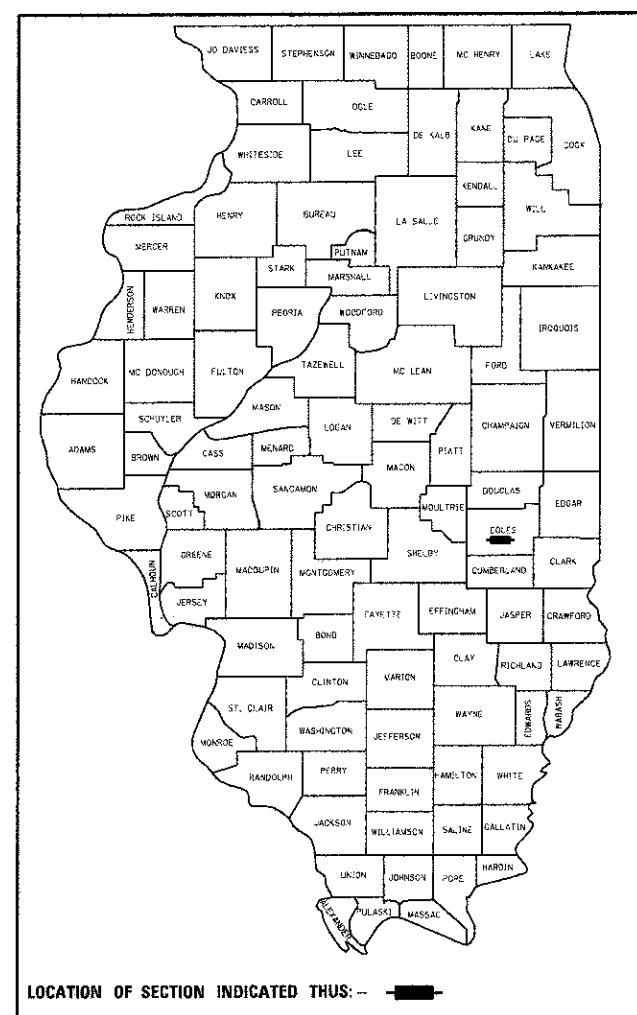
PROPOSED HIGHWAY BRIDGE PROGRAM

COUNTY HIGHWAY 7
SECTION 07-00142-00-BR
PROJECT BROS-0029(292)
COLES COUNTY

C-97-007-11

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	1
		ILLINOIS	CONTRACT NO. 95643	

CONTRACT NO: 95643



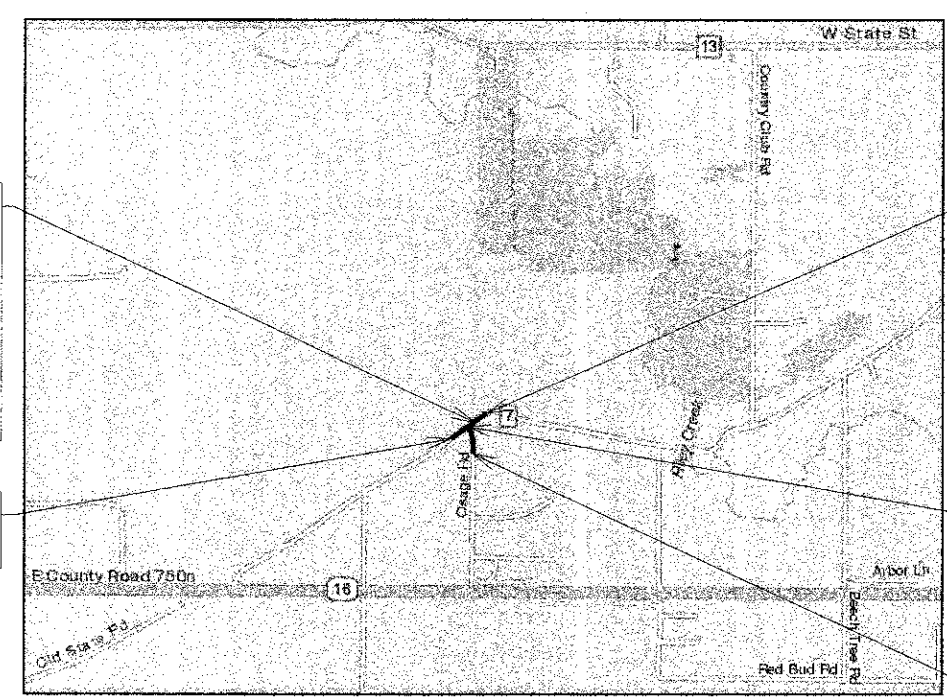
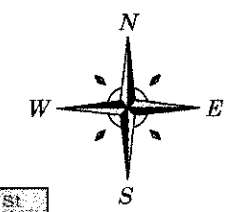
LOCATION OF SECTION INDICATED THIS: --

INDEX OF SHEETS

- 1 COVER SHEET
- 2 GENERAL NOTES / DETAILS
- 3 QUANTITIES / EARTHWORK SCHEDULES
- 4-5 PLAN AND PROFILE
- 6 GENERAL PLAN & ELEVATION
- 7 SUPERSTRUCTURE
- 8 SUPERSTRUCTURE DETAILS
- 9 BRIDGE RAIL DETAILS
- 10 ABUTMENT DETAILS
- 11 PILE DETAILS
- 12 BORING LOGS
- 13-16 CH 7 CROSS SECTIONS
- 17-18 OSAGE CROSS SECTIONS

HIGHWAY STANDARDS

- 000001-06 STANDARD SYMBOLS
- 280001-07 TEMPORARY EROSION CONTROL SYSTEMS
- 515001-03 NAME PLATE FOR BRIDGES
- 701001-02 OFF-ROAD OPERATIONS LESS THAN 15'
- 701006-04 OFF-ROAD OPERATIONS GREATER THAN 15'
- 701901-02 TRAFFIC CONTROL DEVICES
- BLR 21-9 APPLICATION OF TRAFFIC CONTROL DEVICES



**PROPOSED STRUCTURE
REPLACEMENT OVER
UNION DRAINAGE
DITCH 3
DISTRICT 7
STATION 13 + 11.21
NEW SN: 015-3425
OLD SN: 015-3022**

**PROJECT ENDS
STA 15 + 25.00**

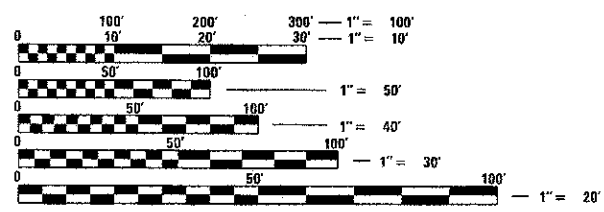
**PROJECT BEGINS
STA 9 + 75.00**

**PROJECT ENDS
STA 54 + 37.75**

**PROJECT BEGINS
STA 51 + 00.00**

ENGINEERING PLAN SUBMITTAL	
THESE ENGINEERING PLANS AND SUPPORTING DOCUMENTS ARE ISSUED FOR THE FOLLOWING PURPOSE ONLY:	
PRELIMINARY PLAN REVIEW NO.	
PRE-FINAL PLAN REVIEW NO. 1	
FINAL PLAN REVIEW NO.	
PERMIT APPLICATION	
<input checked="" type="checkbox"/> BIDDING	
CONSTRUCTION	

DATE: 02-18-2013



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.

J.U.L.I.E.
JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
1-800-892-0123
OR 811

LOCATION MAP



GROSS LENGTH = 887.75 FT = 0.168 MILE
CH7 ADT = 700 AND OSAGE RD ADT = 900
FUNCTIONAL CLASSIFICATION = LOCAL ROAD
DESIGN SPEED = 50



ESI ESI CONSULTANTS, LTD
753 WINDSOR ROAD
CHARLESTON, IL 61820
(217) 346-1500
WWW.ESICONSULTANTS.LTD.COM

ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003685
** THIS DOCUMENT IS THE PROPERTY OF ESI CONSULTANTS, LTD. AND NO PART HEREIN SHALL BE USED **
EXCEPT FOR THIS SPECIFIC PROJECT WITHOUT THE WRITTEN CONSENT OF ESI CONSULTANTS, LTD.

APPROVED 02/20 20 13
Daniel Feuerborn
COUNTY ENGINEER

APPROVED _____ 20 _____
ROAD COMMISSIONER

PASSED 2/25/20 13
Margaret Koop
DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 2/25 20 13
Daniel Feuerborn
DEPUTY DIRECTOR OF HIGHWAYS, REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



Daniel Feuerborn 2/19/2013
Date
License Expires 11-30-2013

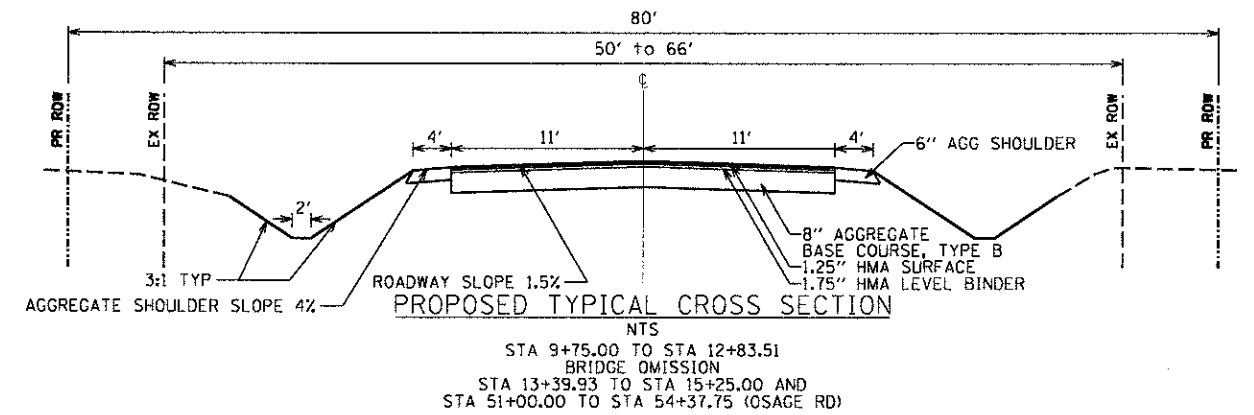
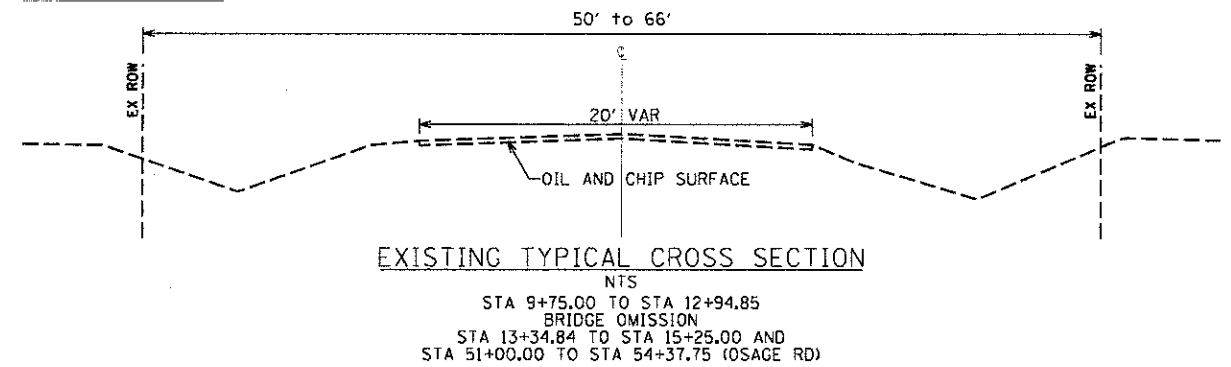
PROJECT ENGINEER: ADAM GROVES / JOE HICKOX
PROJECT MANAGER: DANIEL FEUERBORN

CONTRACT NO. 95643

GENERAL NOTES

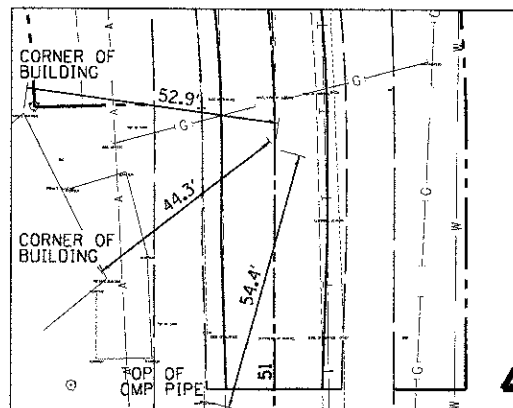
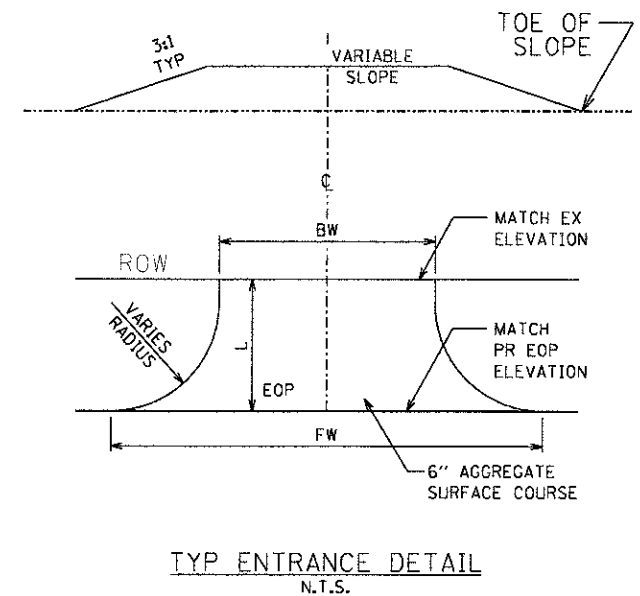
1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2012," THESE PLANS AND THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS.
2. THE REVISION NUMBER INDICATED FOR THE STANDARDS LISTED IN THE INDEX OF SHEETS SHALL BE USED IN CONSTRUCTION OF THIS SECTION.
3. THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES...
AGGREGATE SURFACE COURSE, TYPE B - 1.8 TON/CU YD
4. THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES DISTURBED DURING CONSTRUCTION AS DIRECTED BY THE ENGINEER.
5. THE LOCATIONS OF EXISTING UTILITIES AS SHOWN ON THE PLANS ARE BASED ON CAREFUL FIELD INVESTIGATION AND THE BEST INFORMATION AVAILABLE, BUT ARE NOT GUARANTEED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THEIR EXACT LOCATIONS FROM THE UTILITY COMPANIES AND BY FIELD INSPECTION. THE CONTRACTOR IS REQUIRED TO CONTACT J.U.L.I.E AT, 1-800-892-0123, PRIOR TO PROCEEDING WITH ANY EXCAVATION AND WORK ON THE PROJECT.

TYPICALS

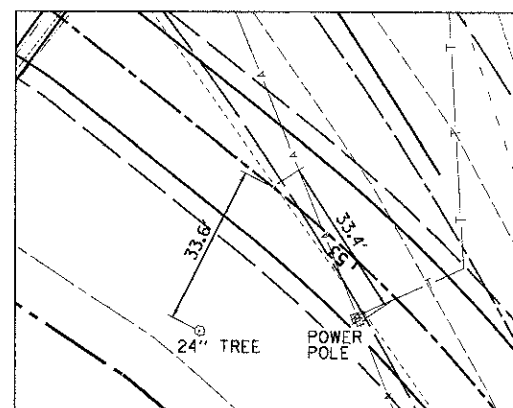


ENTRANCE SCHEDULE

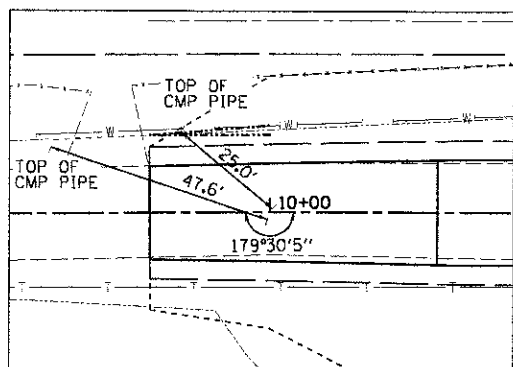
ENTRANCE TYPE	STATION	SIDE	BW	FW	L
PE	14+74.33	LT	15.0	73.9	24.0



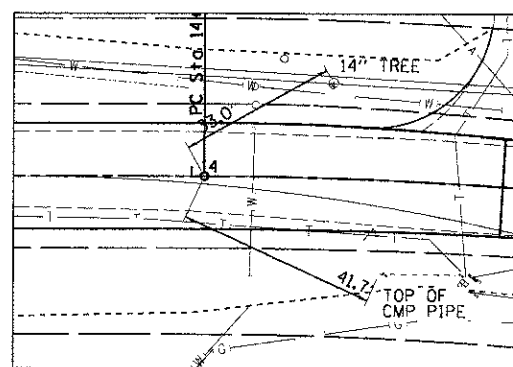
P.C. STA 51+50.00
NORTHING 3175691.6812
EASTING 3157412.3455
C TIE INFORMATION



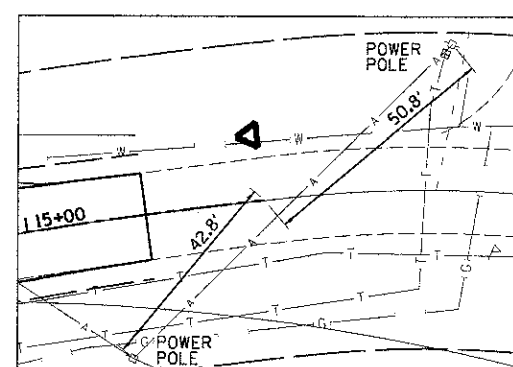
P.T. STA 19+74.81
NORTHING 3175855.8140
EASTING 3157363.2472
C TIE INFORMATION



P.O.T. STA 10+00.00
NORTHING 3175826.6236
EASTING 3157142.7334
C TIE INFORMATION



P.C. STA 14+02.66
NORTHING 3176075.8766
EASTING 3157458.9715
C TIE INFORMATION



P.T. STA 15+50.00
NORTHING 3176157.2240
EASTING 3157581.6200
C TIE INFORMATION

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: NTS SHEET NO. 1 OF 1 SHEETS

ESI CONSULTANTS, LTD
769 W. NIOSOR ROAD
CHARLESTON, IL 61830
(217) 348-1500
WWW.ESICONSULTANTS.LTD.COM
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003688

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	2

CONTRACT NO. 95643
ILLINOIS FED. AID PROJECT

PRINTED DATE: 2/18/2013 FILE NAME: N:\Projects\11-09-13\07-00142-00-BR\Drawings\Sheet\02_CH7_D01.dgn

SUMMARY OF QUANTITIES

PAY CODE	ITEM	UNITS	QUANTITY
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	28
20100210	TREE REMOVAL (OVER 15 UNITS DIAMETER)	UNIT	82
20200100	EARTH EXCAVATION	CU YD	1691
20300100	CHANNEL EXCAVATION	CU YD	25
28000250	TEMPORARY EROSION CONTROL SEEDING	POUND	213
28000305	TEMPORARY DITCH CHECKS	FOOT	59
28000400	PERIMETER EROSION BARRIER	FOOT	1546
28000500	INLET AND PIPE PROTECTION	EACH	3
28100207	STONE RIPRAP, CLASS A4	TON	210
28200200	FILTER FABRIC	SQ YD	350
35101400	AGGREGATE BASE COURSE, TYPE B	TON	872
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	23
40800100	BITUMINOUS MATERIALS (PRIME COAT)	GALLON	174
40600635	LEVELING BINDER (MACHINE METHOD), N70	TON	214
40603315	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N70	TON	153
40600982	HOT-MIX ASPHALT SURFACE REMOVAL - BUTT JOINT	SQ YD	267
48101500	AGGREGATE SHOULDERS, TYPE B 6"	SQ YD	695
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50105220	PIPE CULVERT REMOVAL	FOOT	226
50200100	STRUCTURE EXCAVATION	CU YD	132.4
50300225	CONCRETE STRUCTURES	CU YD	32.2
50300280	CONCRETE ENCASMENT	CU YD	4.2
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1520
50800205	REINFORCEMENT BARS, EPOXY COATED	POUND	3740
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	109
51201600	FURNISHING STEEL PILES HP12X53	FOOT	505
51202305	DRIVING PILES	FOOT	505
51203600	TEST PILE STEEL HP12X53	EACH	2
51500100	NAME PLATES	EACH	1
542D0220	PIPE CULVERTS, CLASS D, TYPE 1 15"	FOOT	157
542D1093	PIPE CULVERTS, CLASS D, TYPE 2 48"	FOOT	108
56109210	WATER VALVES TO BE ADJUSTED	EACH	2
67100100	MOBILIZATION	L SUM	1
X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.71
X7010216	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	L SUM	1
XX005721	WATER METER TO BE ADJUSTED	EACH	1

Δ SPECIALTY ITEMS

EARTHWORK SCHEDULE CH 7

STATION	CUT		FILL		TOTAL
	SQ FT	CU YD	SQ FT	CU YD	CU YD
9+75	27.6		4.8		
		25.6		4.4	30.0
10+00	21.6		13.0		
		40.0		24.1	64.1
10+50	16.3		15.9		
		30.2		29.4	59.6
11+00	16.9		10.1		
		31.3		18.7	50.0
11+50	27.0		29.7		
		133.5		146.9	280.4
12+84	0.0		0.0		
BRIDGE OMISSION					
13+40	17.8		59.4		
		39.6		132.2	171.8
14+00	13.7		28.7		
		25.4		53.1	78.5
14+50	26.8		8.2		
		24.3		7.4	31.7
14+75	42.6		7.5		
		40.2		7.1	47.3
15+00	43.9		3.3		
		40.6		3.1	43.7
TOTAL CUT					
EARTH EXCAVATION		TOTAL FILL		TOTAL	
431.0 CU YD		EMBANKMENT		EARTHWORK	
		426.0 CU YD		857.0 CU YD	
FURNISHED EXCAVATION =		104.0 CU YD			

EARTHWORK SCHEDULE OSAGE RD

STATION	CUT		FILL		TOTAL
	SQ FT	CU YD	SQ FT	CU YD	CU YD
51+00	33.2		6.2		
		61.5		11.5	73.0
51+50	94.3		4.2		
		174.6		7.8	182.4
52+00	172.2		2.7		
		318.9		5.0	323.9
52+50	219.0		0.1		
		405.6		0.2	405.8
53+00	161.8		11.5		
		299.6		21.3	320.9
53+50	0.0		0.0		
TOTAL CUT					
EARTH EXCAVATION		TOTAL FILL		TOTAL	
1260.0 CU YD		EMBANKMENT		EARTHWORK	
		46.0 CU YD		1306.0 CU YD	
FURNISHED EXCAVATION =		(899.0) CU YD			

TEMPORARY DITCH CHECKS

STATION	OFFSET	SIDE	LENGTH (FT)
CH 7			
10+00.00	17.0	LT	6.0
10+00.00	21.3	RT	6.0
11+00.00	23.5	LT	7.0
12+00.00	32.1	LT	8.0
OSAGE			
51+50.10	19.9	RT	8.0
52+00.00	22.4	LT	8.0
52+50.00	23.8	RT	8.0
53+00.00	26.2	LT	8.0
TOTAL =			59.0

PRINTED DATE: 2/18/2013 FILE NAME: N:\Projects\Illinois Co Highway Dept\CH 7 Over Union Drainage Ditch 3\CDR\Drawings\Sheets\A1\CH7_S01.dwg

USER NAME: #USER#	DESIGNED - ADG/JEH	REVISED -
PLOT SCALE = 1,000.00' / IN.	DRAWN - ADG/JEH	REVISED -
PLOT DATE = 2/18/2013	CHECKED - DF	REVISED -
	DATE - 02-18-2013	REVISED -

**STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION**

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: NTS SHEET NO. 1 OF 1 SHEETS

ESI ESI CONSULTANTS, LTD				
<small>753 WINDSOR ROAD CHARLESTON, IL 61920 (217) 348-1900 WWW.ESI-CONSULTANTS.LTD.COM</small>				
<small>ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #184-003885</small>				
CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	3
CONTRACT NO. 95643				
<small>ILLINOIS FED. AID PROJECT</small>				

JOHN & SUSAN BLOOMCLIST
PARCEL 02-1-00139-000

JOHN & SUSAN BLOOMCLIST
PARCEL 02-1-00199-000

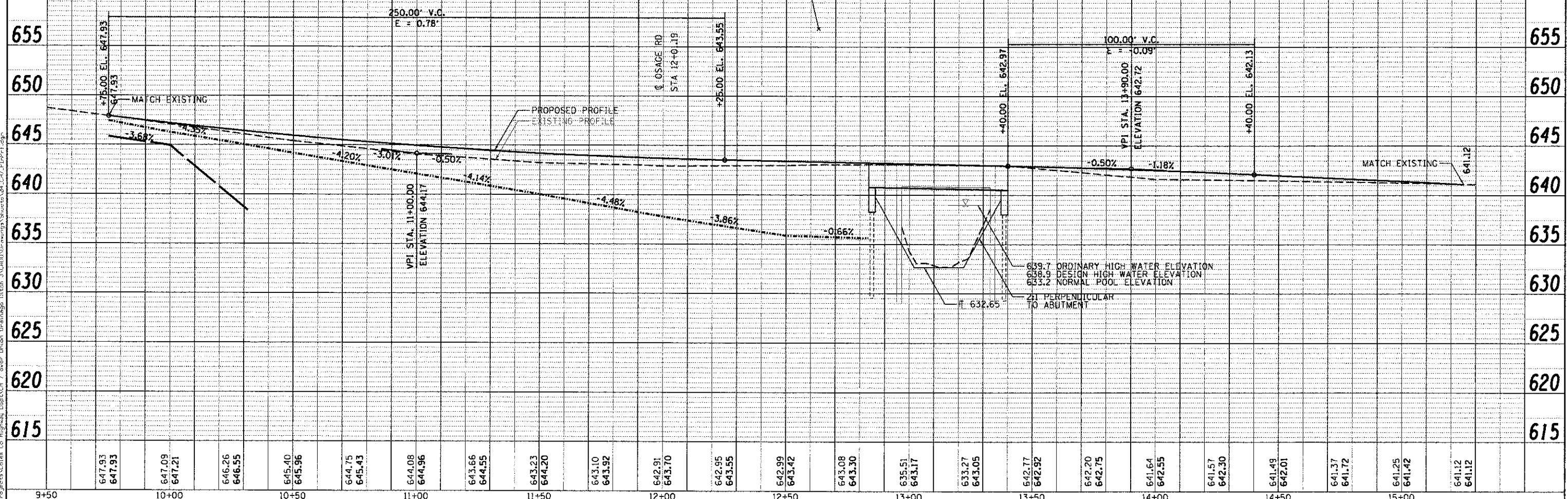
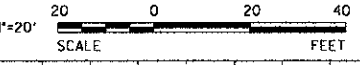
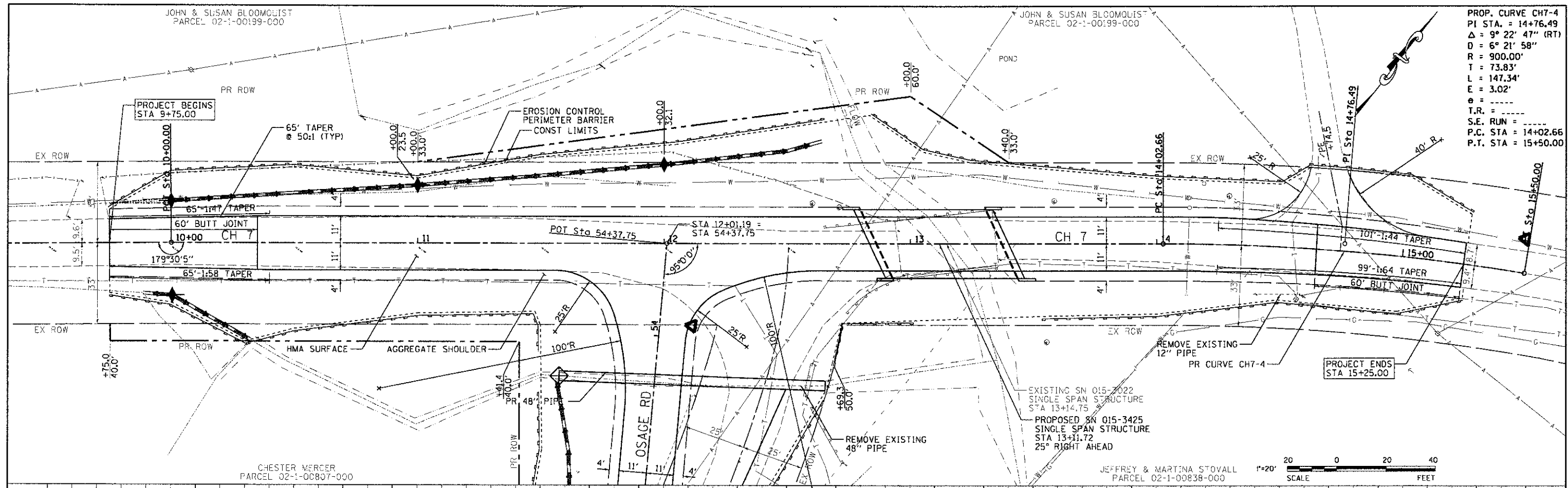
CHESTER MERCER
PARCEL 02-1-00807-000

JEFFREY & MARTINA STOVALL
PARCEL 02-1-00838-000

PROP. CURVE CH7-4
PI STA. = 14+76.49
 $\Delta = 9^\circ 22' 47''$ (RT)
D = 6° 21' 58"
R = 900.00'
T = 73.83'
L = 147.34'
E = 3.02'
e = -----
T.R. = -----
S.E. RUN = -----
P.C. STA = 14+02.66
P.T. STA = 15+50.00

PLAN	SURVEYED	DATE
	PLOTTED	
	NOTED	
	REVISIONS	
	NO. OF WAY CHECKED	
	CADD FILE NAME	
	NO.	

PROF. I.L.F.	SURVEYED	DATE
	PLOTTED	
	NOTED	
	REVISIONS	
	NO. OF WAY CHECKED	
	CADD FILE NAME	
	NO.	



9+50	647.93 647.93	10+00	647.09 647.21	10+50	646.26 646.55	11+00	645.40 645.96	644.75 645.43	644.08 644.96	643.66 644.55	643.23 644.20	643.10 643.92	642.91 643.70	642.95 643.55	642.99 643.42	643.08 643.30	635.51 643.17	633.27 643.05	642.77 642.92	642.20 642.75	641.64 642.55	641.57 642.30	641.49 642.01	641.37 641.72	641.25 641.42	641.12 641.12	15+50	641.12
------	------------------	-------	------------------	-------	------------------	-------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	------------------	-------	--------



DESIGNED - ADG/JEH	REVISED -
DRAWN - ADG/JEH	REVISED -
CHECKED - DF	REVISED -
DATE - 02-18-1013	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: 20:1 SHEET NO 1 OF 2 SHEETS STA 9+75.00 TO STA 15+25.00

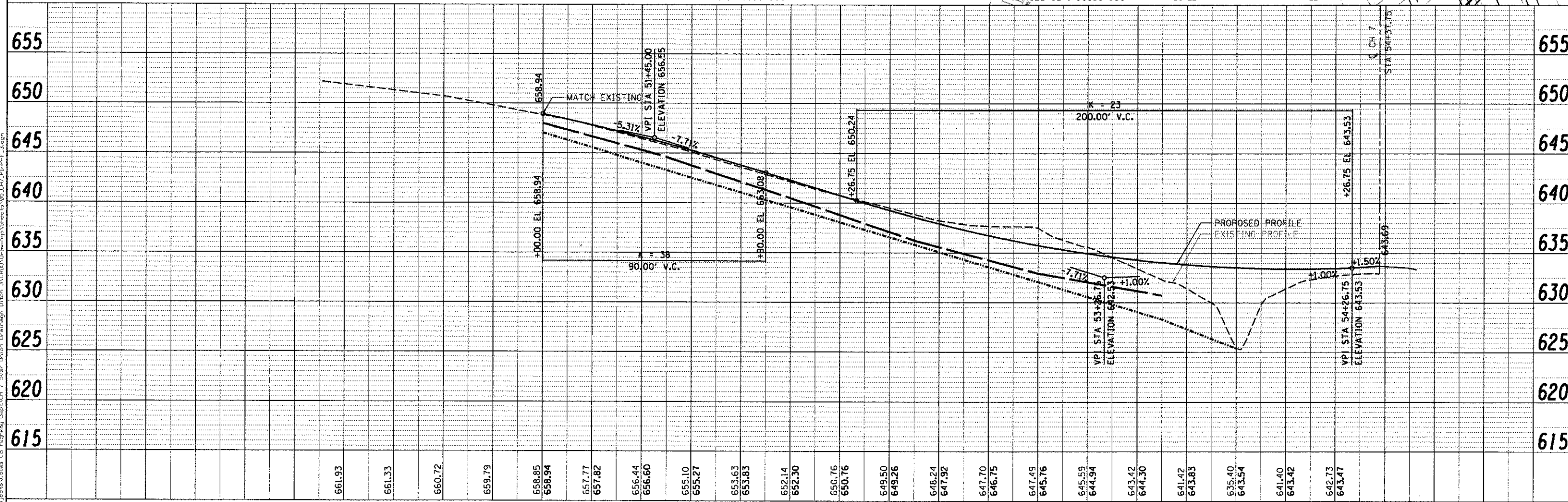
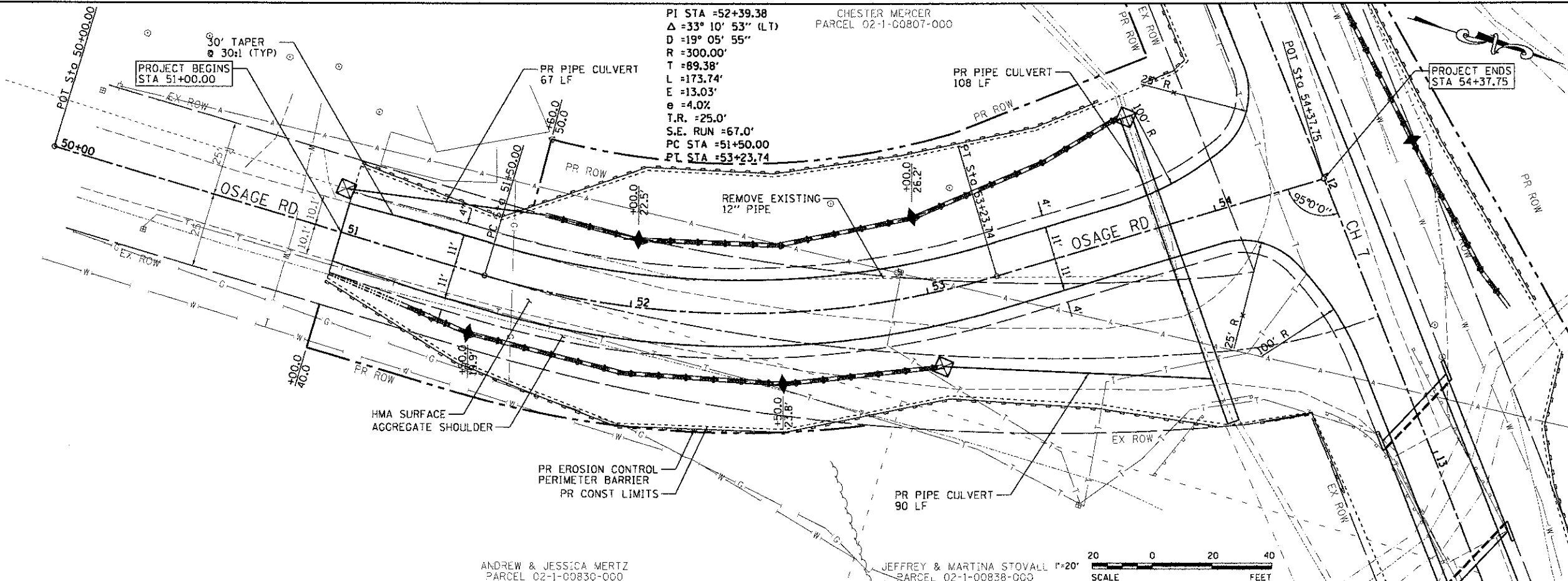
CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	4
CONTRACT NO. 95643			ILLINOIS FED. AID PROJECT	

PLAN	SURVEYED	DATE
	PLOTTED	
	BY	
	NOTE BOOK	
	NO. OF WAY CHECKED	
	CAD FILE NAME	
	NO.	

PROFILE	SURVEYED	DATE
	PLOTTED	
	BY	
	NOTE BOOK	
	NO. OF WAY CHECKED	
	STRUCTURE NOTATIONS CHK'D	
	FILE NAME	
	NO.	

PRINTED DATE: 2/16/2013
 FILE NAME: N:\Projects\Calcasieu Co Highway Dept\CH 7 over Union Drainage\Drawings\Sheet\05.CH7.P.P.F.3.dgn

PI STA = 52+39.38
 Δ = 33° 10' 53" (LT)
 D = 19° 05' 55"
 R = 300.00'
 T = 89.38'
 L = 173.74'
 E = 13.03'
 e = 4.02'
 T.R. = 25.0'
 S.E. RUN = 67.0'
 PC STA = 51+50.00
 PT STA = 53+23.74



661.93	661.33	660.72	659.79	658.85	658.94	657.77	657.82	656.44	656.60	655.10	655.27	653.63	653.83	652.14	652.30	650.76	650.76	649.50	649.26	648.24	647.92	647.70	646.75	647.49	645.76	645.59	644.94	643.42	644.30	641.42	643.83	635.40	643.54	641.40	643.42	642.73	643.47		
																				50+50	51+00	51+50	52+00	52+50	53+00	53+50	54+00												
USER NAME = \$USER\$ DESIGNED - ADG/JEH DRAWN - ADG/JEH CHECKED - DF DATE - 02-18-1013										REVISED - REVISED - REVISED - REVISED -										STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION OSAGE RD SCALE: 20:1 SHEET NO 2 OF 2 SHEETS STA 51+00.00 TO STA 54+26.75										COUNTY COLES SECTION 07-00142-00-BR TOTAL SHEETS 5 SHEET NO. 5 CONTRACT NO. 95643 ILLINOIS FED. AID PROJECT									

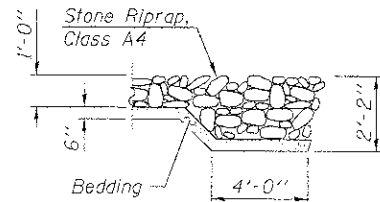
B.M.#1 - Cut square in NE corner of bridge, Sta. 13+33.15, 13.78' Left, Elev. 642.70.
 B.M.#2 - Cut square in SE corner of bridge, Sta. 12+96.49, 12.73' Right, Elev. 642.94.

Existing Structure - Structure 015-3022 consists of single span Precast Channel Beams on closed abutments. The bk. to bk. of abutments length is 39' and the out-to-out width is 23.5'. The existing structure shall be completely replaced. Road closure shall be used during construction.

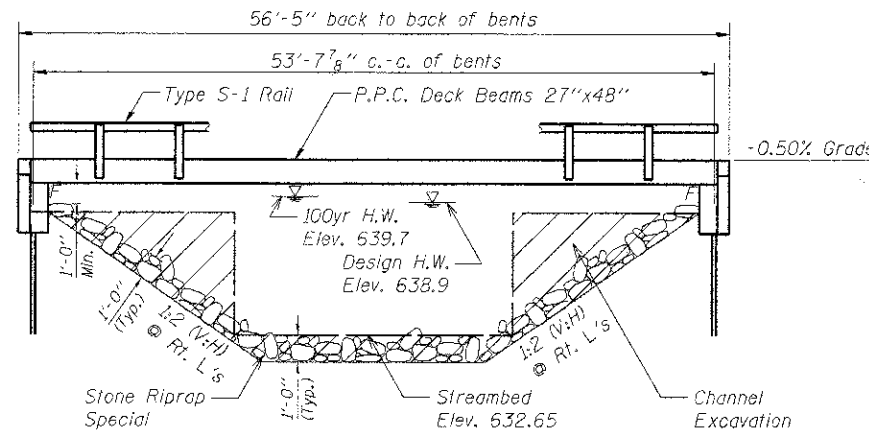
Salvage - Any material deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of Coles County. The Contractor shall dispose of all remaining material.

GENERAL NOTES

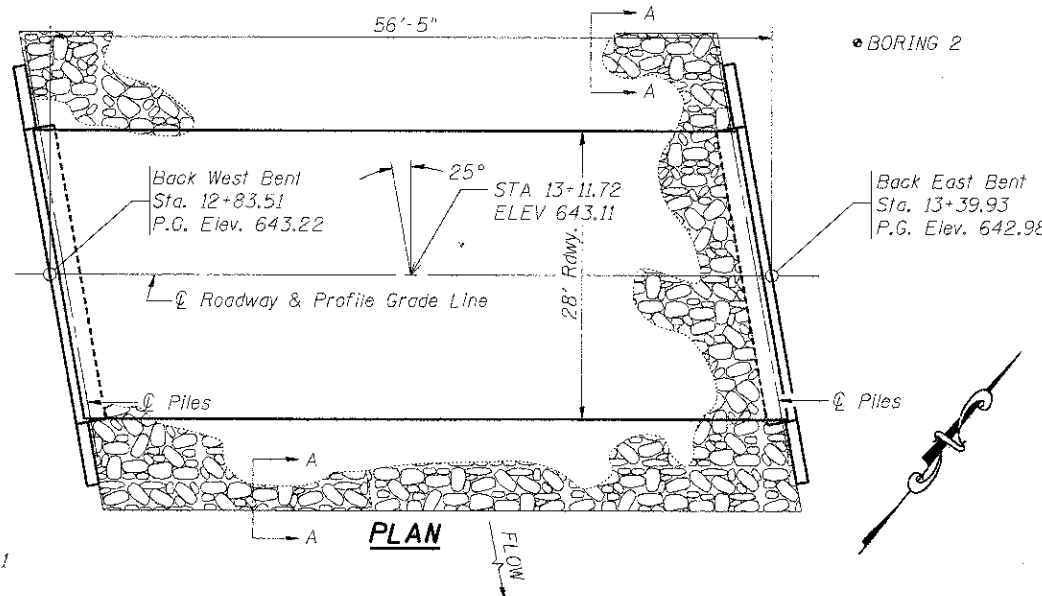
- The Contractor shall drive 1 test pile in each abutment, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Bridge Plan Sheet 7 for boring logs.
- Concrete sealer shall be applied to exterior face of each fascia beam.
- The Steel H-piles shall be according to AASHTO M270 grade 50.
- The test pile(s) shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.
- Reinforcement bars shall conform to the requirements of ASTM A 705 Gr. 60. See Special Provisions.
- Reinforcement bars designated (E) shall be epoxy coated.
- Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.



SECTION A-A



ELEVATION



PLAN

TOTAL BILL OF MATERIAL

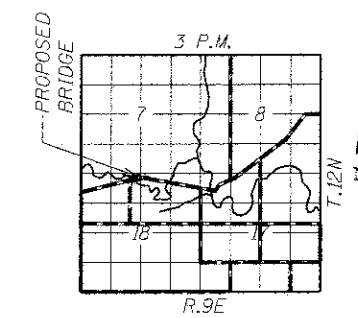
Item	Unit	Super	Sub.		Total
			Abuts.		
Removal of Existing Structures	Each	-	-	-	1
Concrete Structures	Cu. Yd.	-	-	32.2	32.2
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1520	-	-	1520
Steel Bridge Railing, Type S-1	Foot	109	-	-	109
Reinforcement Bars, Epoxy Coated	Pound	-	-	3740	3740
Furnishing Steel Piles HP 12x53	Foot	-	-	505	505
Driving Piles	Foot	-	-	505	505
Test Piles Steel HP 12x53	Each	-	-	2	2
Name Plates	Each	1	-	-	1
Structure Excavation	Cu. Yd.	-	-	132.4	132.4
Stone Riprap Class A4	Ton	210	-	-	210
Filter Fabric	Sq. Yd.	350	-	-	350
Channel Excavation	Cu. Yd.	25	-	-	25
Concrete Encasement	Cu. Yd.	-	-	4.2	4.2

INDEX OF SHEETS

- General Plan & Elevation
- Superstructure
- Superstructure Details
- Steel Railing
- Abutment Details
- Pile Details
- Boring Logs



Daniel Feuerborn
 Daniel Feuerborn
 License Expires 11-30-2014
 2/19/2013
 Date



LOCATION SKETCH

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications with 2008 & 2009 Interims

LOADING HL-93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
 Bedrock Acceleration Coefficient (A) = 0.075g
 Site Coefficient (S) = 1.0

PILE DATA (2-ABUTS.)

Type: STEEL HP 12x53
 Nominal Required Bearing: 355 kips
 Factored Resistance Available: 177kips
 Estimated Pile Length: 53 Feet East Abut. and 48 Feet West Abut.
 Number of Production Piles: 10 West
 Number of Test Piles: 2 (1 In Each Abutment)

DRAINAGE DITCH 3
 BUILT 201 BY
 COLES COUNTY
 SEC. 07-00142-00-BR
 PROJECT NO. BROS-0029(292)
 CH 7 STA.
 STR. NO. 015-3425 LOADING HL-93

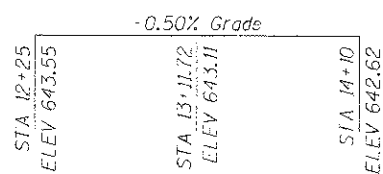
LETTERING FOR NAME PLATE

Locate Name Plate at Corner of Bridge (See Std. 515001)

WATERWAY INFORMATION

Drainage Area = 1.85 SQ MI Low Grade Elev. = 642.32 @ Sta. +

Flood	Freq. Yr.	C.F.S.	Opening Sq. Ft.		Head - Ft.		Headwater El.		
			Exist.	Prop.	H.W.E. Exist.	Prop.	Exist.	Prop.	
Design	20	739	167.4	191.1	638.9	0	0	638.9	638.9
Base	100	1140	193.5	226.8	639.7	0	0	639.7	639.7
Overtopping									
Max. Calc.	500								



PROFILE GRADE

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
 Fy = 60,000 psi (reinforcement)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
 f'ci = 5,000 psi
 f'pu = 270,000 psi (1/2" low relax. strands)
 f'psl = 201,960 psi (1/2" low relax. strands)

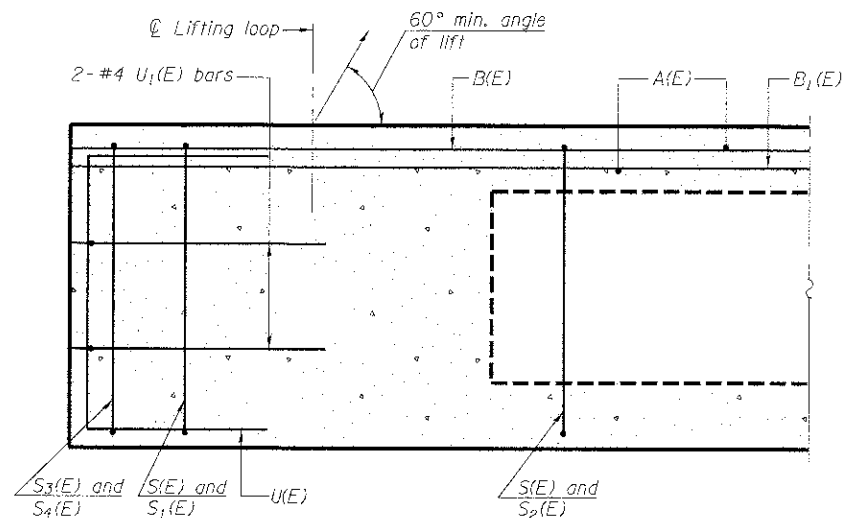


**GENERAL PLAN & ELEVATION
 STRUCTURE NO. 015-3425**

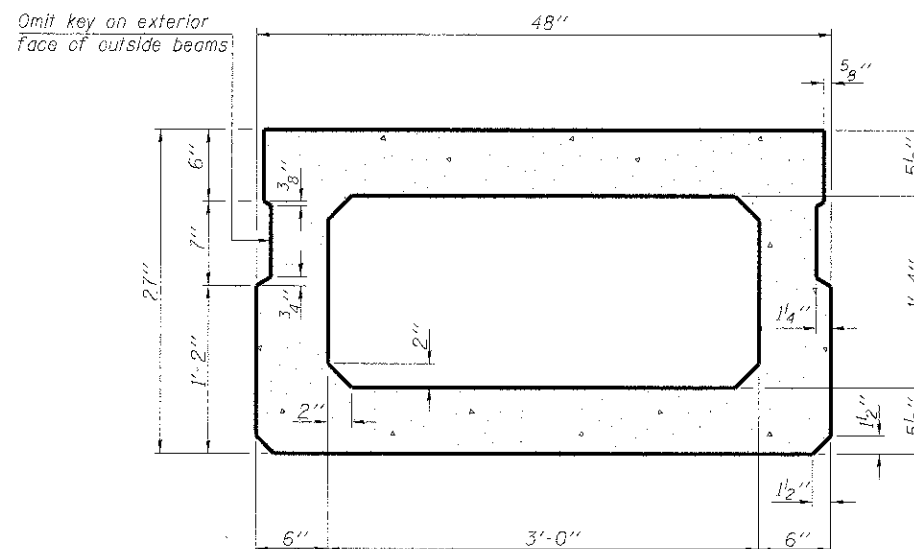
DATE: 02-18-2013 DRAWN BY: ADG/JEH CHECKED BY: DF

SHEET NO. 1 OF 7 SHEETS	CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7	07-00142-00-BR	COLES	18	6
CONTRACT NO. 95643					
FED. ROAD DIST. NO. - ILLINOIS FED. AID PROJECT					

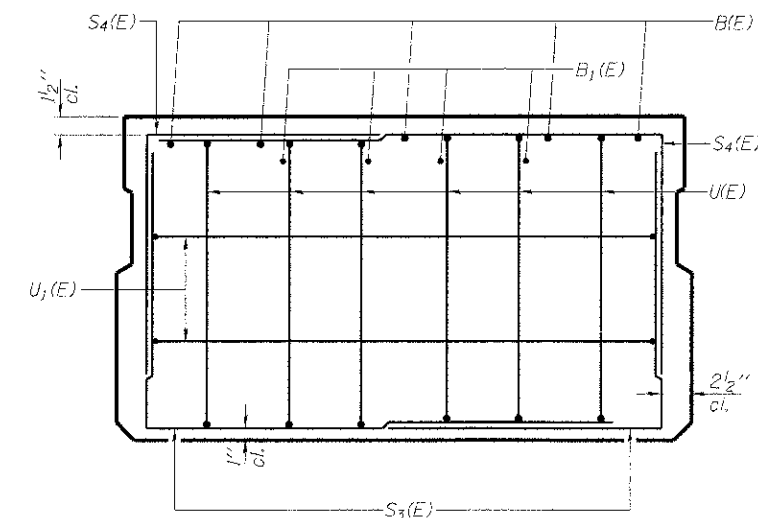
PRINTED DATE: 2/18/2013
 FILE NAME: S:\Projects\015-3425\07-00142-00-BR\Drawings\Sheets\015-3425-07-00142-00-BR.dwg



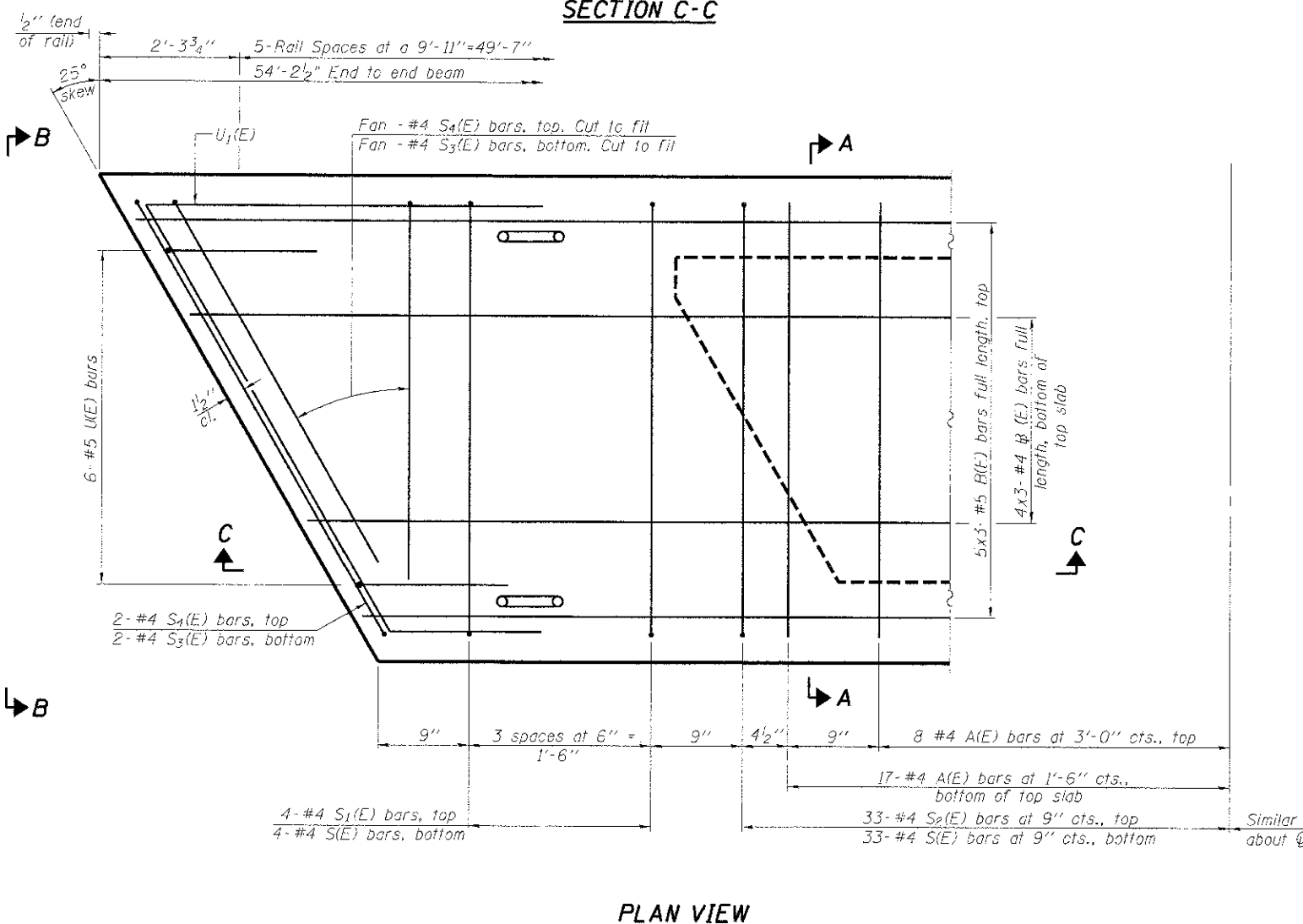
SECTION C-C



SECTION A-A
(Showing dimensions)

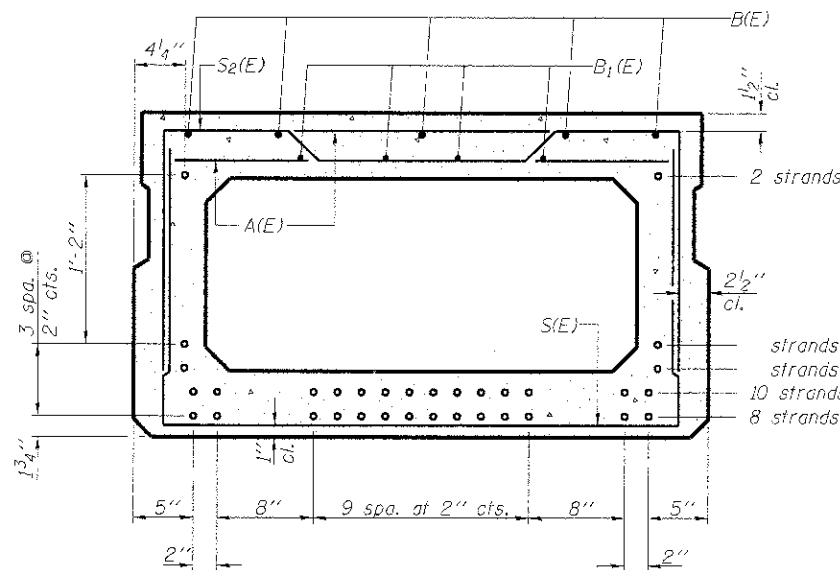


VIEW B-B



PLAN VIEW

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.



SECTION A-A

(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)	49	#4	3'-7"	—
B(E)	15	#5	19'-8"	—
B1(E)	12	#4	19'-4"	—
S(E)	73	#4	7'-5"	U
S1(E)	8	#4	6'-11"	U
S2(E)	65	#4	7'-2"	U
S3(E)	12	#4	4'-8"	U
S4(E)	12	#4	4'-5"	U
U(E)	12	#5	4'-6"	U
U1(E)	4	#4	8'-2"	U

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

MINIMUM BAR LAP
#4 bar = 2'-0"
#5 bar = 2'-6"

27" X 48" PPC DECK BEAM
SUPERSTRUCTURE
STRUCTURE NO. 015-3425

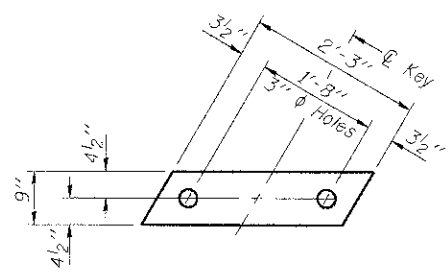
DATE: 02-18-2013 DRAWN BY: ADG/JEH CHECKED BY: JF



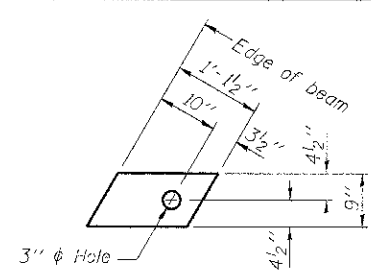
PD-2748-R

11-1-09

SHEET NO. 2 OF 7 SHEETS	CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7	07-00142-00-BR	COLES	18	7
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT		
CONTRACT NO. 95643					



FABRIC BEARING PAD
(Interior)

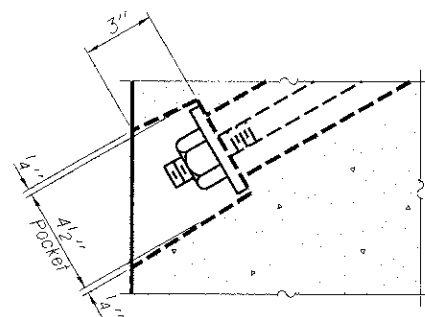


FABRIC BEARING PAD
(Exterior)

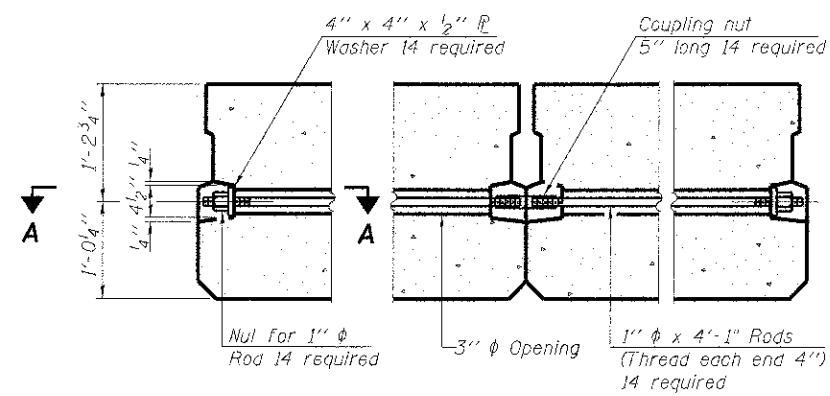
FIXED

Notes:

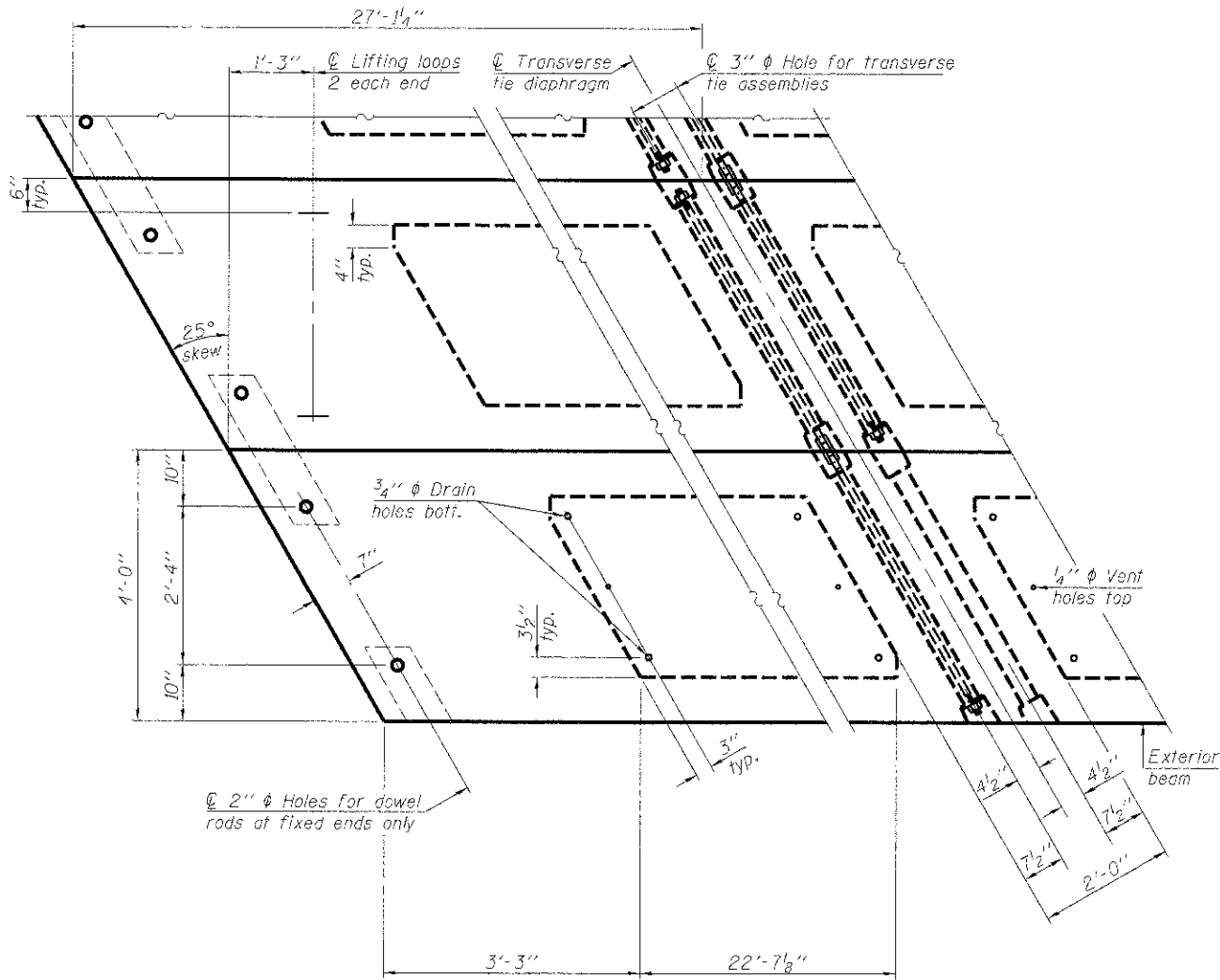
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A

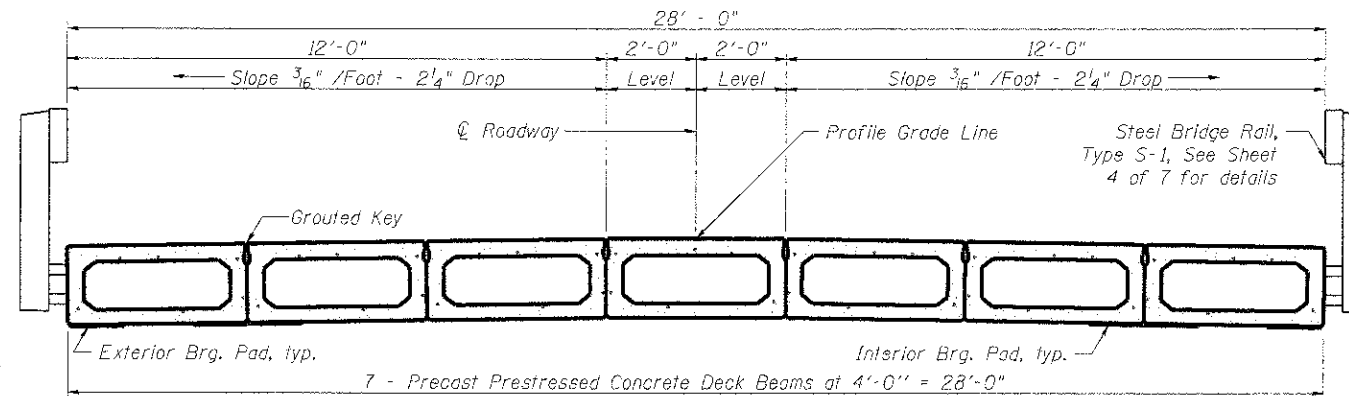


TYPICAL TRANSVERSE TIE ASSEMBLY

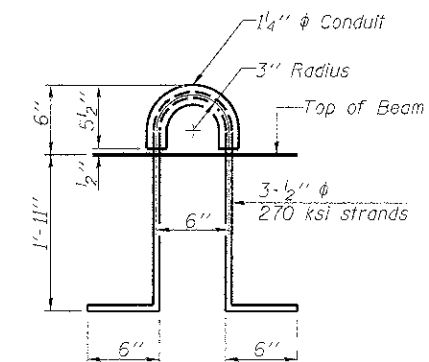


PLAN VIEW

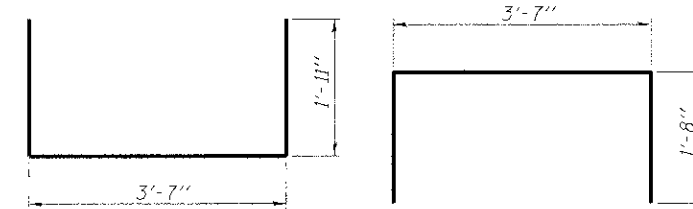
Note: Connect beams in pairs with the transverse tie configuration shown.



CROSS SECTION

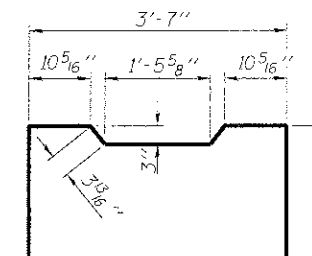


LIFTING LOOP DETAIL

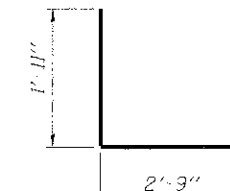


BAR S1(E)

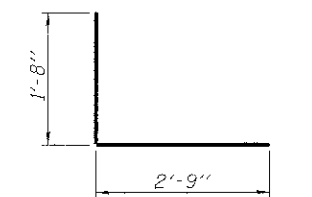
BAR S1(E)



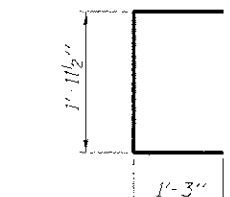
BAR S2(E)



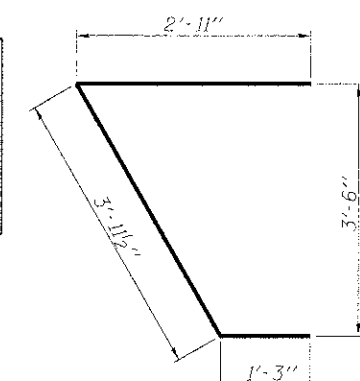
BAR S3(E)



BAR S4(E)



BAR U1(E)



BAR U1(E)

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft. 1520
---	--------------

27" X 48" PPC DECK BEAM DETAILS

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 015-3425

DATE: 02-18-2013 DRAWN BY: ADG/JEH CHECKED BY: DF

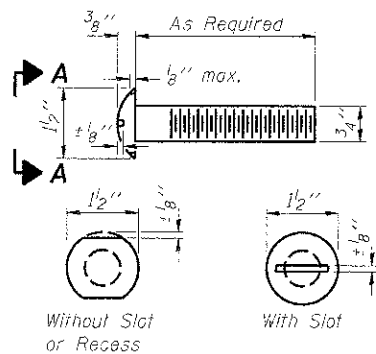
SHEET NO. 3 OF 7 SHEETS	CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7	07-00142-00-BR	COLES	18	8
			CONTRACT NO. 95643		
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					



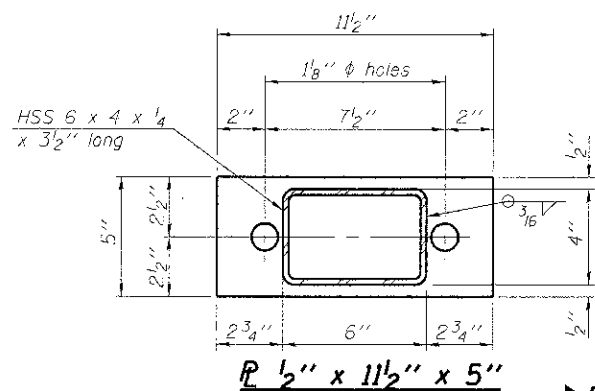
PD-2748-RD

11-1-09

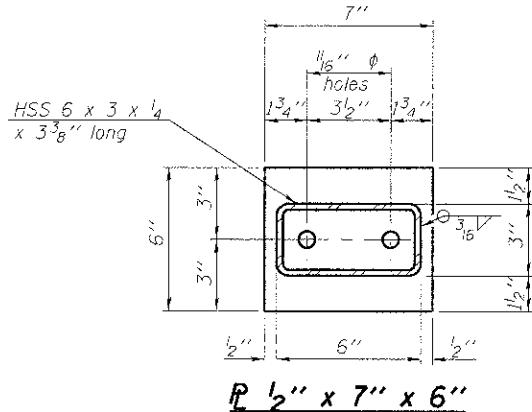
PRINTED DATE: 2/18/2013 FILE NAME: I:\Projects\GIS\Gis\Highway\Drawings\07 - over Union Drainage\Drawings\Sheets\08 - CIV - Super-De-ck.dwg



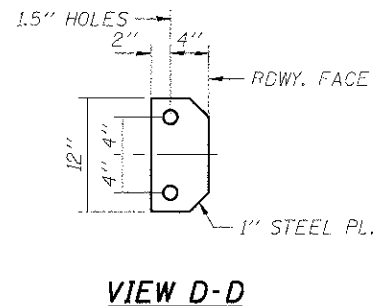
**VIEW A-A
ROUND HEAD BOLT**



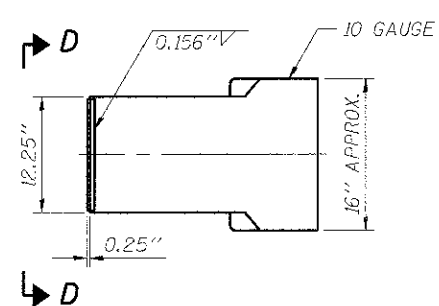
SECTION B-B



SECTION AT RAILING POST

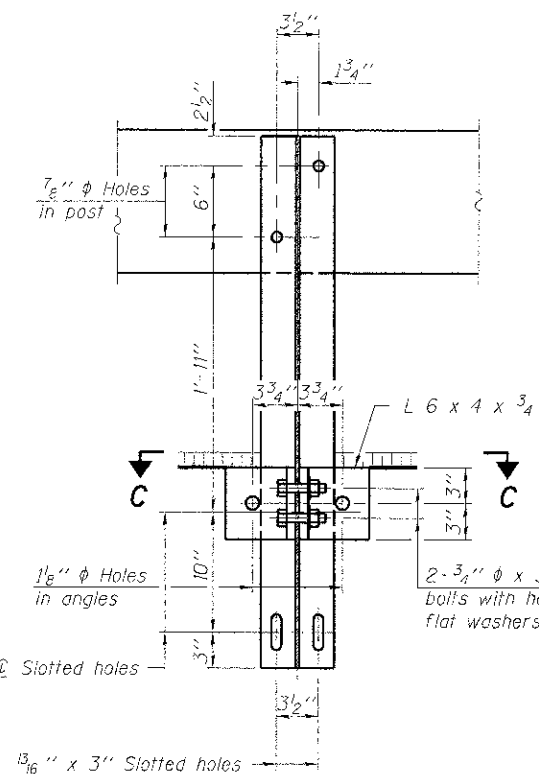
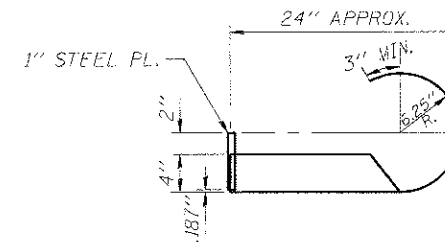


VIEW D-D

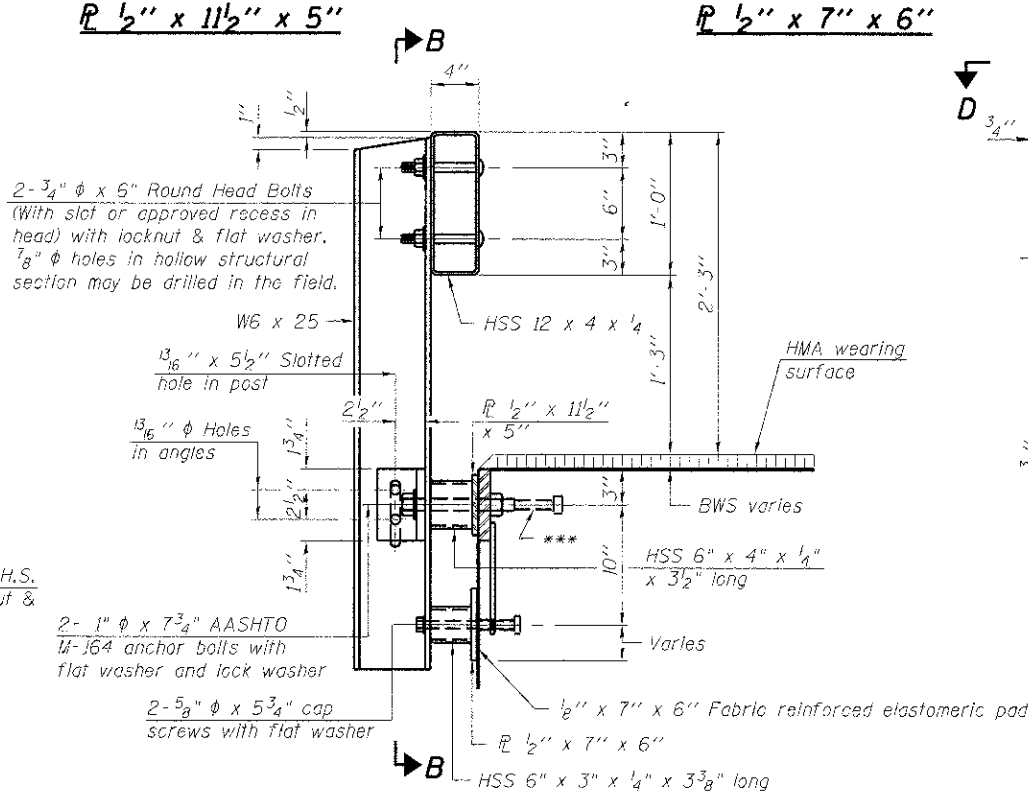


CURLLED END SECTION DETAILS

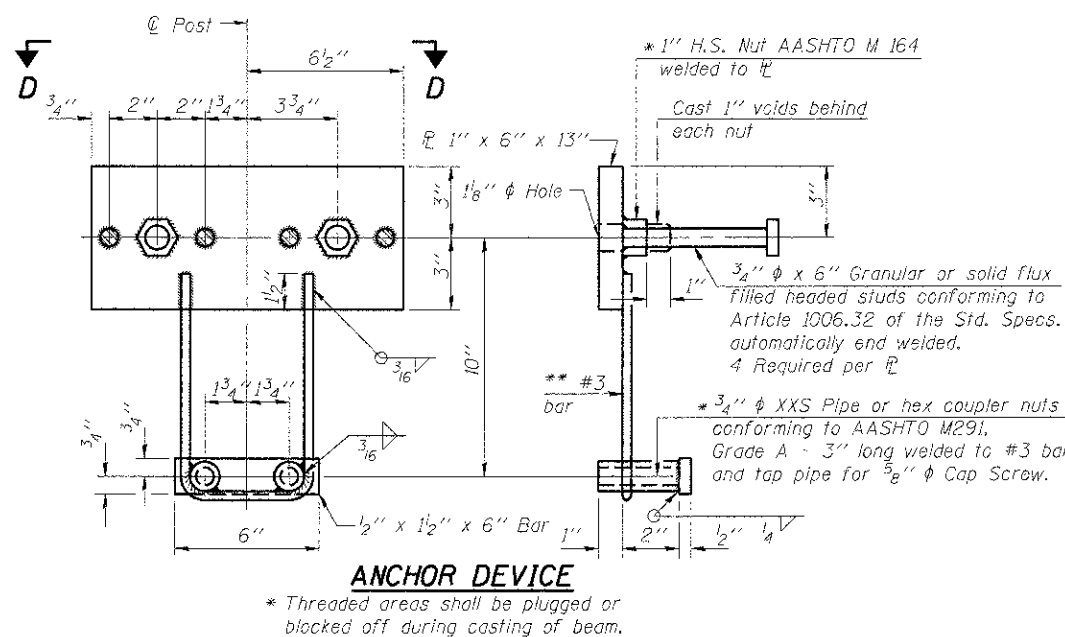
4 REQUIRED - COST INCLUDED IN "STEEL RAILING, TYPE S-1"



SECTION C-C



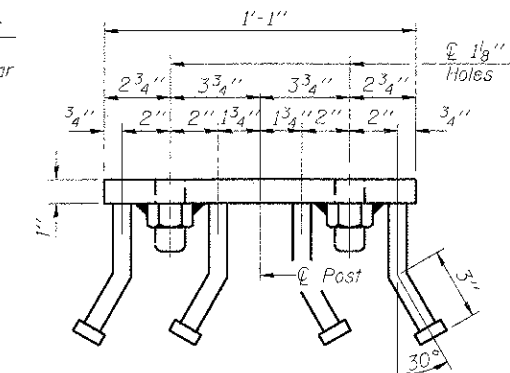
SECTION AT RAILING POST



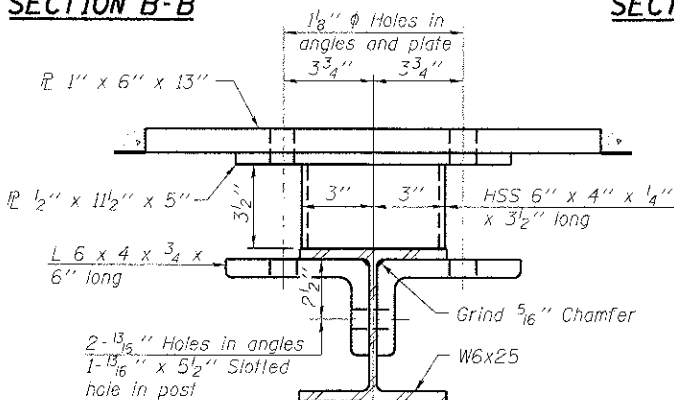
ANCHOR DEVICE

* Threaded areas shall be plugged or blocked off during casting of beam.

Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection.
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
*** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

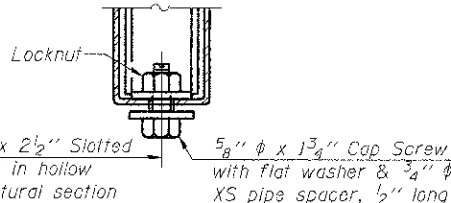


VIEW D-D

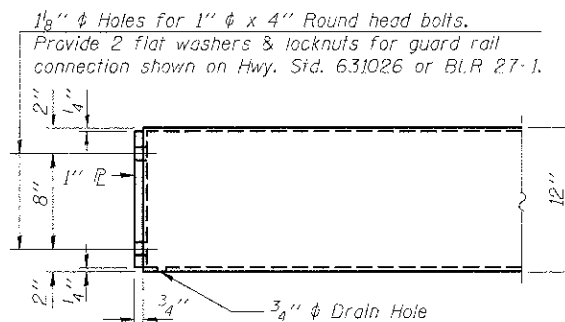


SECTION B-B

SECTION AT RAILING POST



**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	109

**STEEL RAILING, TYPE S-1
STRUCTURE NO. 015-3425**

DATE: 02-18-2013 DRAWN BY: AUC/JEF CHECKED BY: DF

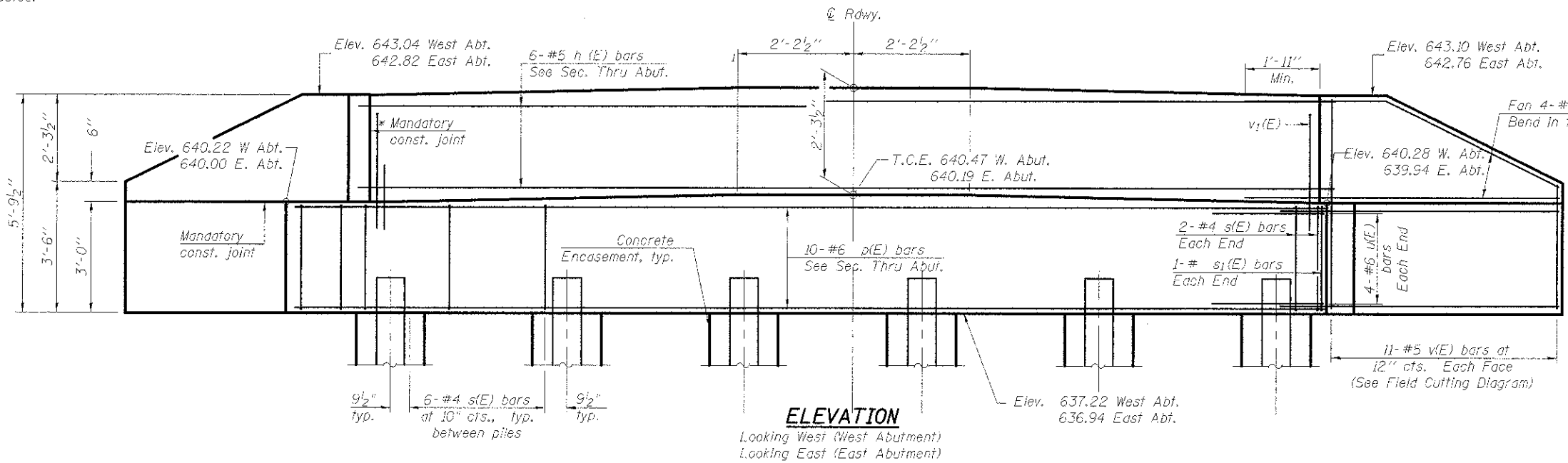
SHEET NO.	CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
4	7	07-00142-00-BR	COLES	18	9
OF 7 SHEETS					
CONTRACT NO. 95643					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

SECTIONS AT RAIL SPLICE

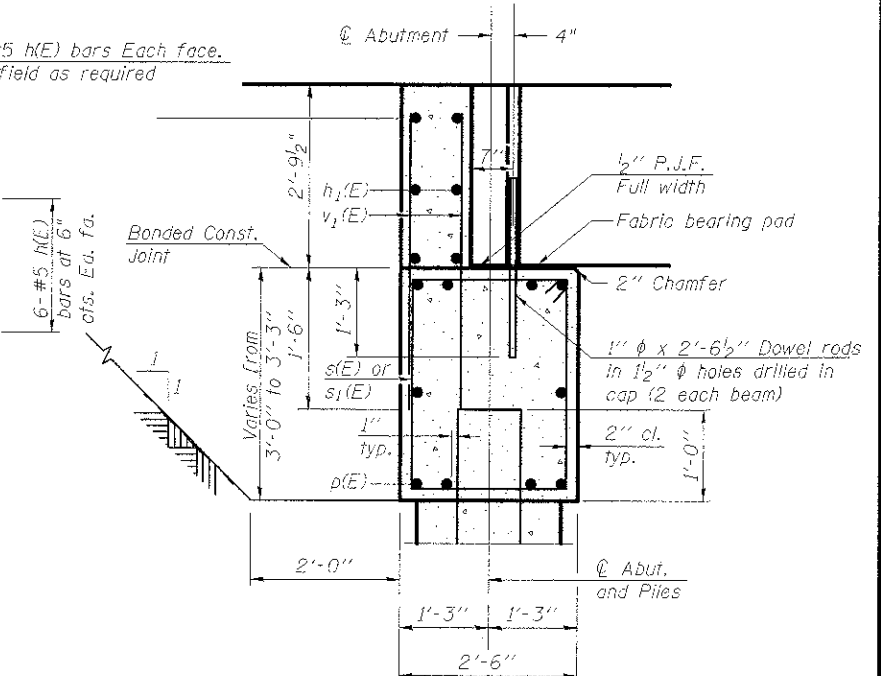
**PLAN-BOTT. SPLICE AT
TYPICAL**

PRINTED DATE: 2/18/2013
 FILE NAME: \\MSProjects\Calculus Co Highway Dept\CH 7 over Urban\Design\Bldg 3\VC000D-01-01\Sheet\05_CHZ_RailLeg

* Cast top of wingwall flush with exterior beam face after beams have been erected.



ELEVATION
Looking West (West Abutment)
Looking East (East Abutment)

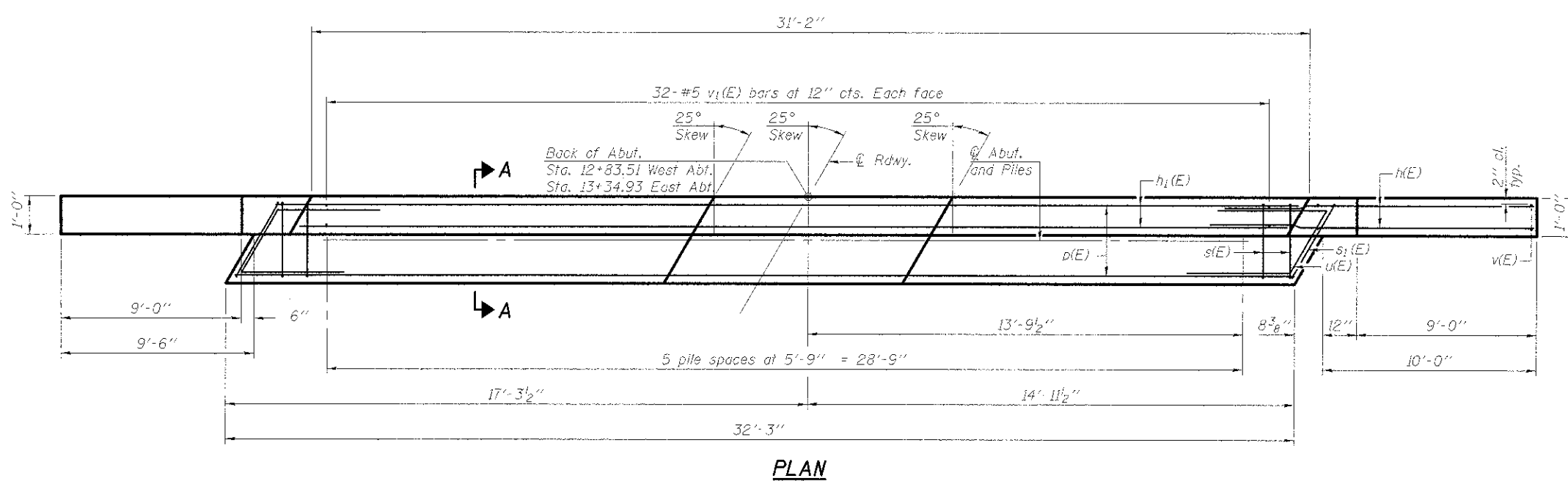


SECTION A-A
(Dimensions are at Rt. L's)

BILL OF MATERIAL
Two Abutments

Bar	No.	Size	Length	Shape
h(E)	48	#5	12'-3"	—
h1(E)	12	#5	30'-10"	—
p(E)	20	#6	31'-11"	—
s(E)	68	#4	10'-5"	□
s1(E)	4	#4	10'-9"	□
u(E)	16	#6	11'-4"	∟
v(E)	44	#5	8'-7"	—
v1(E)	128	#5	4'-7"	—
Structure Excavation		Cu. Yd.	132.4	
Concrete Structures		Cu. Yd.	32.2	
Reinforcement Bars, Epoxy Coated		Pound	3740	
Furnishing Steel Piles HP 12x53		Foot	505	
Driving Piles		Foot	505	
Test Pile, Steel HP 12x53		Each	2	
Concrete Encasement		Cu. Yd.	4.2	

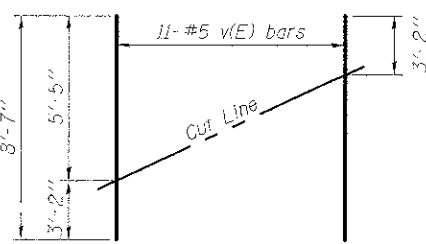
Notes:
For details of piles and Concrete Encasement, see sheet 6 of 7.
Cast backwall after beams and concrete wearing surface, if applicable, have been erected.



PLAN

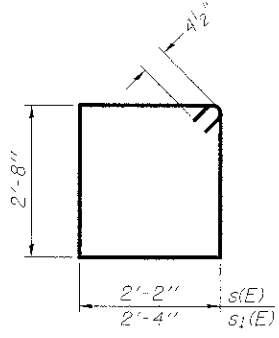
PILE DATA

Type: Steel HP 12x53
Nominal Required Bearing: 355K
Factored Resistance Available: 177K
Est. Length: 53' East Abt., 48' West Abt.
No. Production Piles: 10
No. Test Piles: 2

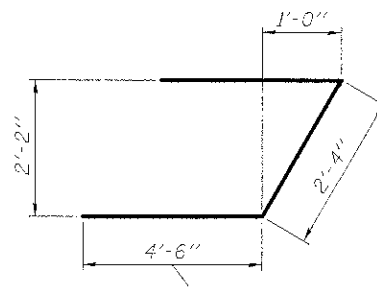


FIELD CUTTING DIAGRAM

Order v(E) full length. Cut as shown and use remainder of bars in opposite face.



BARS s(E) & s1(E)



BAR u(E)

ABUTMENT DETAILS
STRUCTURE NO. 015-3425

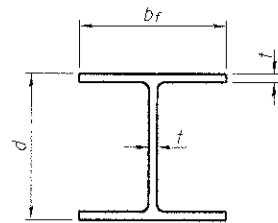
DATE: 08-19-2013 DRAWN BY: ABE/JEM CHECKED BY: DF

SHEET NO. 5 OF 7 SHEETS	CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	7	07-00142-00-BR	COLES	18	10
CONTRACT NO. 95643					
FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT					

ESI CONSULTANTS, LTD.
13 WINDY HILLS
CHARLESTON, IL 61920
(312) 248-1800
www.esiconsultants.com
ILLINOIS DEPARTMENT OF PROFESSIONAL REGULATION REGISTRATION #164-003889

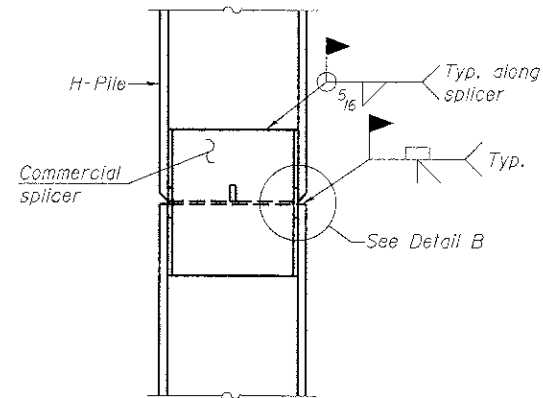
AD-2742-R 11-1-09

PRINTED DATE: 2/27/2013 FILE NAME: I:\Projects\Coles Co Highway\Drawings\Sheet\15-015-3425-01-01.dwg

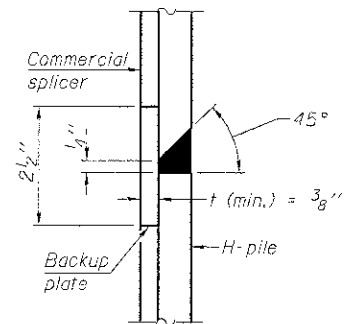


STEEL PILE TABLE

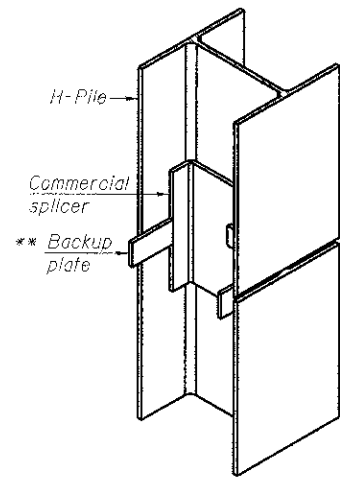
Designation	Depth d	Flange width b _f	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"



ELEVATION

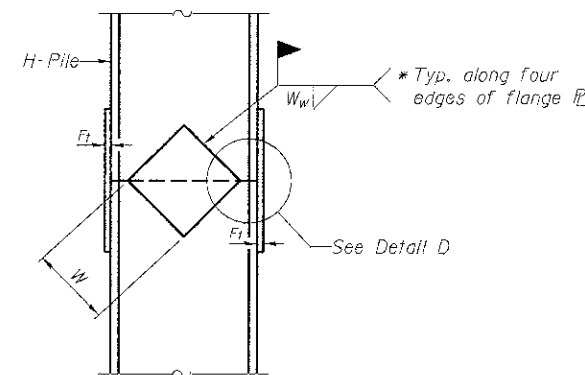


DETAIL "B"

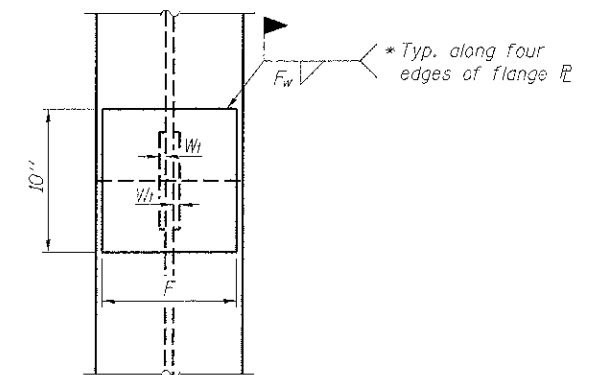


ISOMETRIC VIEW

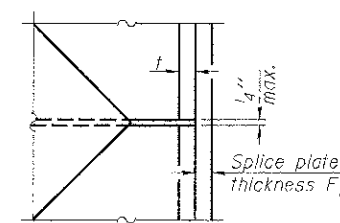
WELDED COMMERCIAL SPLICE



ELEVATION



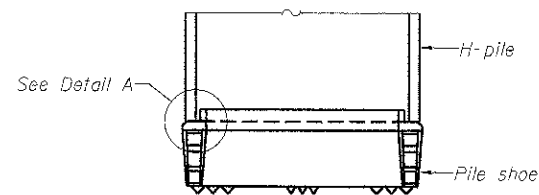
END VIEW



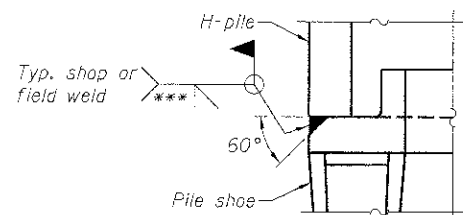
DETAIL D

WELDED PLATE FIELD SPLICE

Designation	F	F _t	F _w	W	W _t	W _w
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

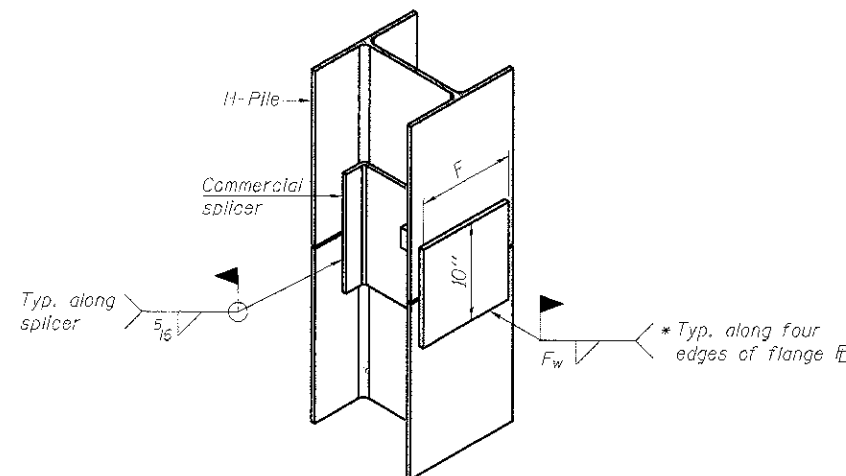


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

- * Interrupt welds 1/4" from end of web and/or each flange.
- ** Remove portions of backup plates that extend outside the flanges.
- *** Weld size per pile shoe manufacturer (5/16" min.).

Note:
The steel H-piles shall be according to
AASHTO M270 Grade 50.

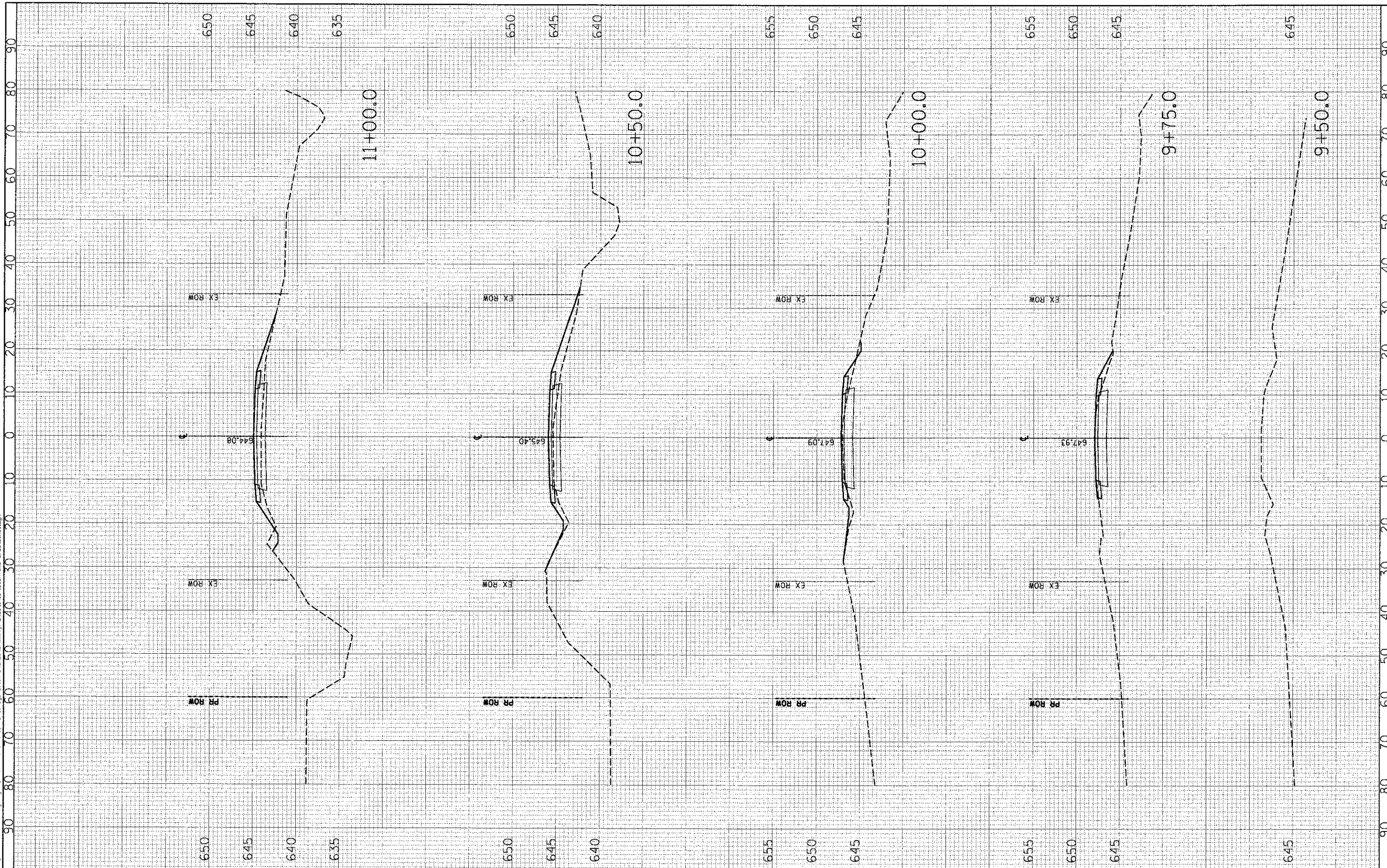
HP PILE DETAILS
STRUCTURE NO. 015-3425
DATE: 02-19-2013 DRAWN BY: AGG/JEH CHECKED BY: DF

SHEET NO. 6 OF 7 SHEETS	CNTY HWY 7	SECTION 07-00142-00-BR	COUNTY COLES	TOTAL	SHEET
				SHEETS	NO.
				18	11
				CONTRACT NO. 95643	
FED. ROAD DIST. NO. _		ILLINOIS		FED. AID PROJECT	

FINAL SURVEY	DATE
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

ORIGINAL SURVEY	DATE
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

PRINTED DATE: 2/18/2013
 FILE NAME: N:\Projects\2013 Co Highways\Drawings\Drawings\13-16-CH7 XS Sheets-Rev.dgn



USER NAME = gusers
 PLOT SCALE = 10.0000' / 1"
 PLOT DATE = 2/18/2013

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 02-18-2013

REVISED -
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: 1"=10' 1"V=5'

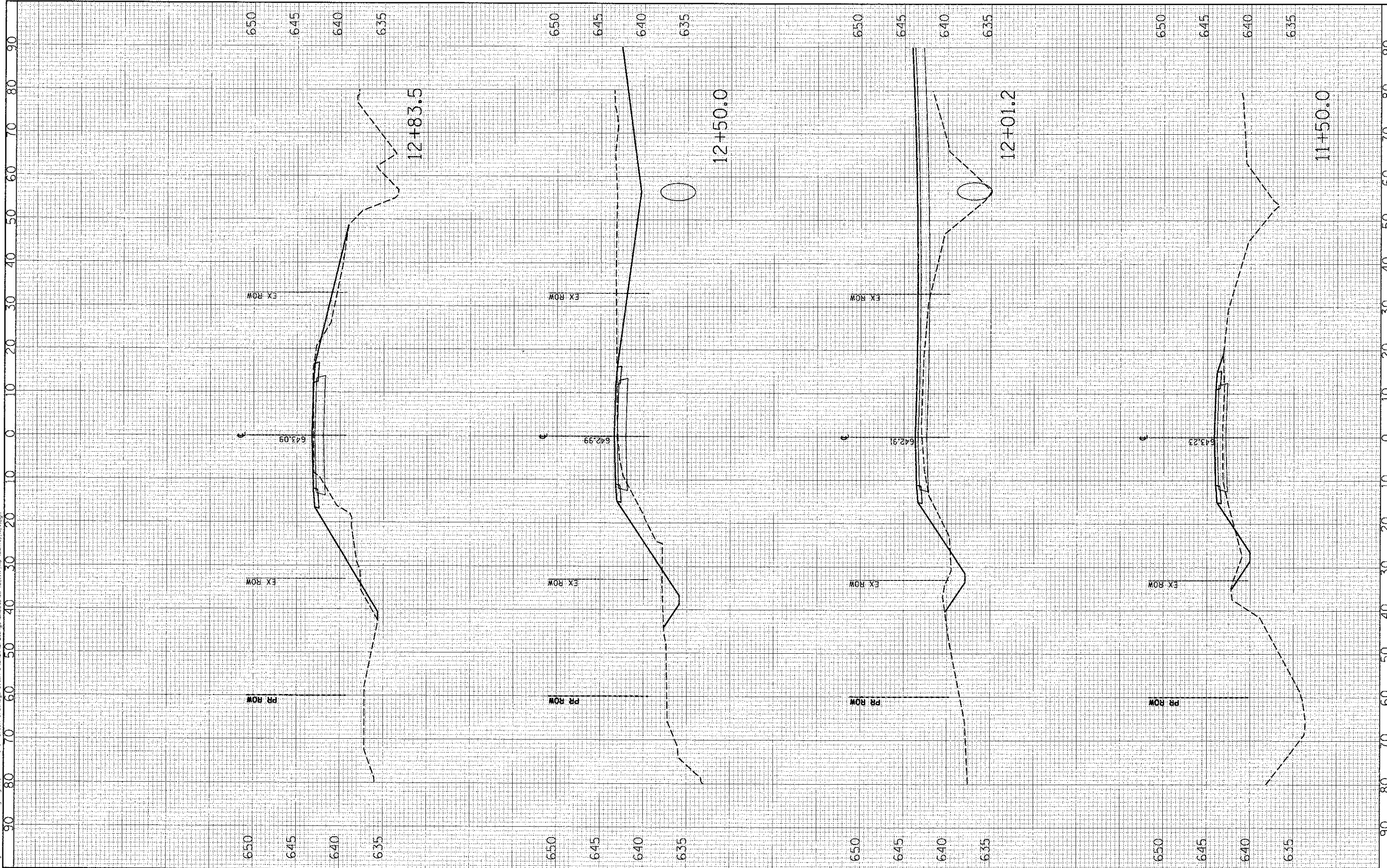
STA. 9+50.0 TO STA. 11+00.0

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	13
CONTRACT NO. 95643				
ILLINOIS FED. AID PROJECT				

FINAL	SURVEYED	DATE
SAMPLE	PLOTTED	BY
NOTE BOOK	APPROVED	
NO.	AREA, OR CALCU.	

ORIGINAL	SURVEYED	DATE
SURVEY	PLOTTED	BY
NOTE BOOK	APPROVED	
NO.	AREA, OR CALCU.	

PRINTED DATE: 2/18/2013
 FILE NAME: N:\Projects\Coles Co Highway Dept\ATH 7 over Union Drainage Ditch 3\DWG\Drawings\Sheets\11-18-13\11-18-13.dwg
 USER NAME: 9USER8



DESIGNED	-	JEH	REVISED	-
DRAWN	-	JEH	REVISED	-
CHECKED	-	DF	REVISED	-
DATE	-	02-18-2013	REVISED	-

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: 1"=10' 1"V=5'

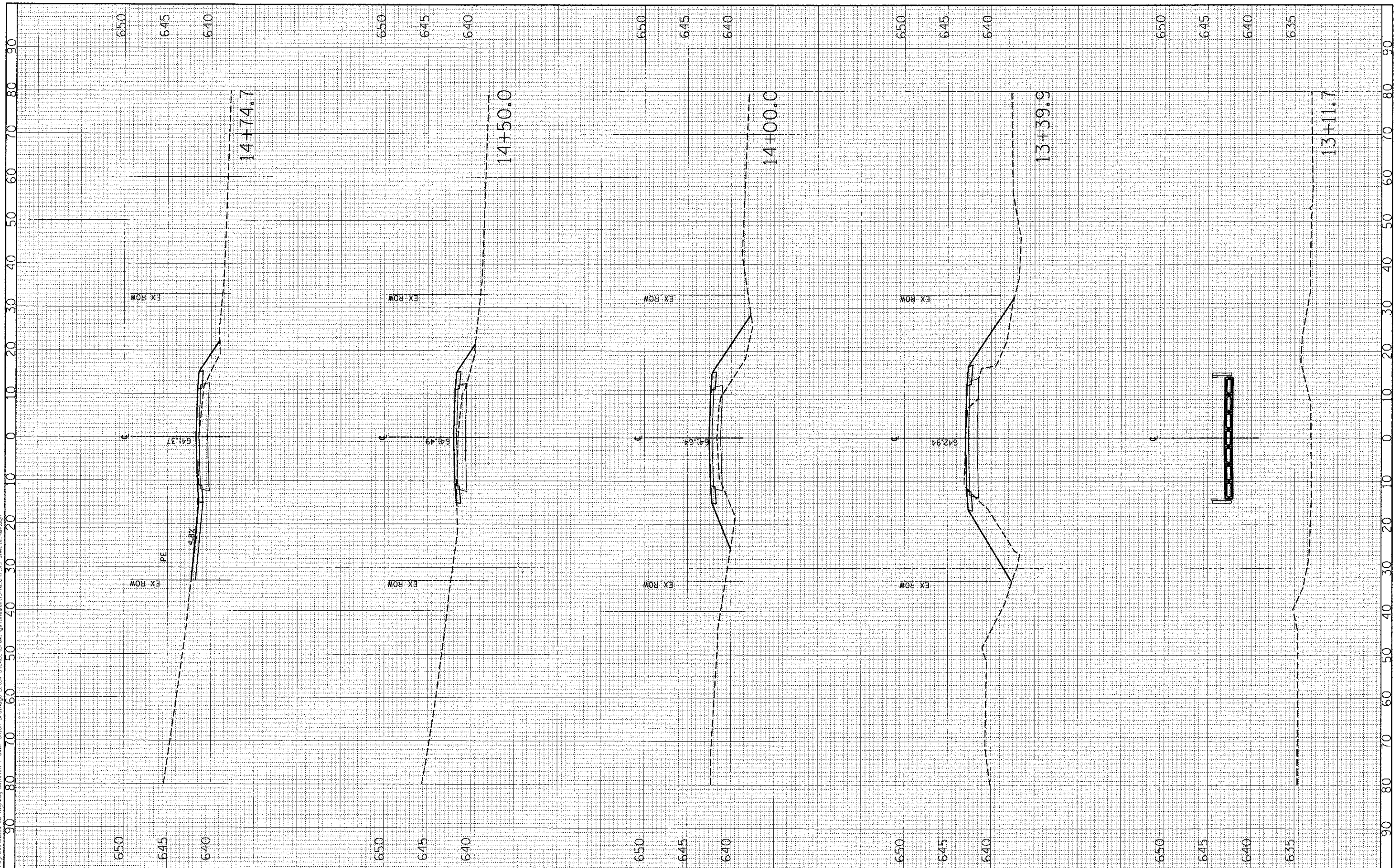
STA. 11+50.0 TO STA. 12+83.5

CNTY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	14
			CONTRACT NO. 95643	
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AS BUILT	TEMPERATURE		
NO. OF STAKES	ADJUSTED		

DESIGNED	BY	DATE
DRAWN		
CHECKED		
DATE		

PRINTED DATE: 2/18/2013
 FILE NAME: N:\Projects\Cuba Co Highway Dept\CH 7 over Union Drainage Ditch 3\CADD\Drawings\Sheet\13+11.7 to 14+74.7.dwg
 USER: JEH



USER NAME =	USER\$
DESIGNED -	JEH
DRAWN -	JEH
CHECKED -	DF
DATE -	02-18-2013
REVISIONS	
REVISIONS	
REVISIONS	
REVISIONS	

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: 1"=10' 1"=5'

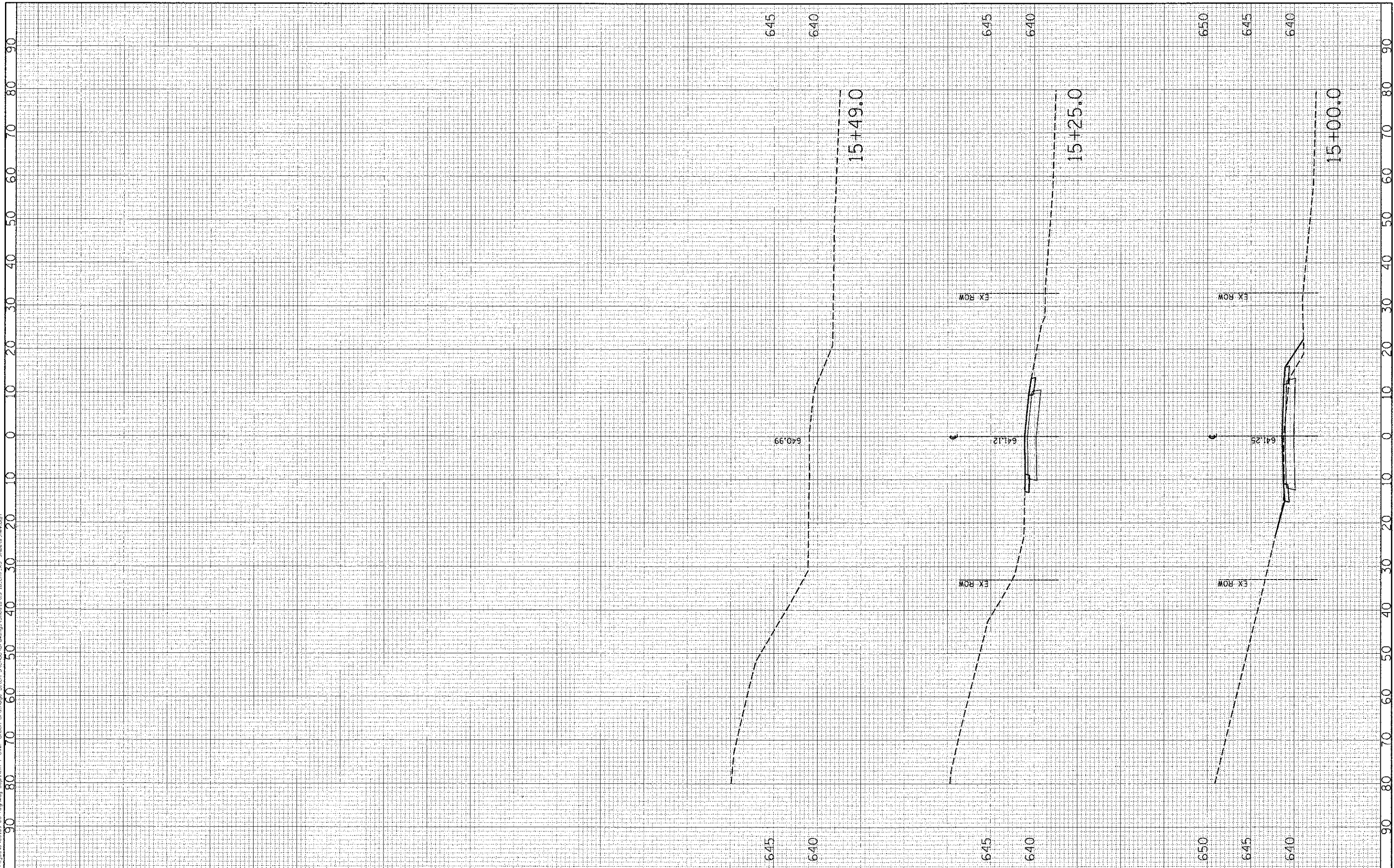
STA. 13+11.7 TO STA. 14+74.7

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS
7	07-00142-00-BR	COLES	18
			NO. 15
			CONTRACT NO. 95643
ILLINOIS FED. AID PROJECT			

ORIGINAL SURVEY NO.	SURVEYED BY	DATE
NO.	NO.	
NO.	NO.	
NO.	NO.	

ORIGINAL SURVEY NO.	SURVEYED BY	DATE
NO.	NO.	
NO.	NO.	
NO.	NO.	

PRINTED DATE: 2/18/2013
 FILE NAME: N:\Projects\Colias Co Highway Dept\7 over Union Drain\Drawings\Sheets\13-16-CH7-AS Sheets (Rev.dgn)



USER NAME = USER@
 PLOT SCALE = 10.0000' / IN.
 PLOT DATE = 2/18/2013

DESIGNED - JEH
 DRAWN - JEH
 CHECKED - DF
 DATE - 02-18-2013

REVISED -
 REVISED -
 REVISED -
 REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

COUNTY HIGHWAY 7 OVER UNION DRAINAGE DITCH 3

SCALE: 1"=10' 1"=5'

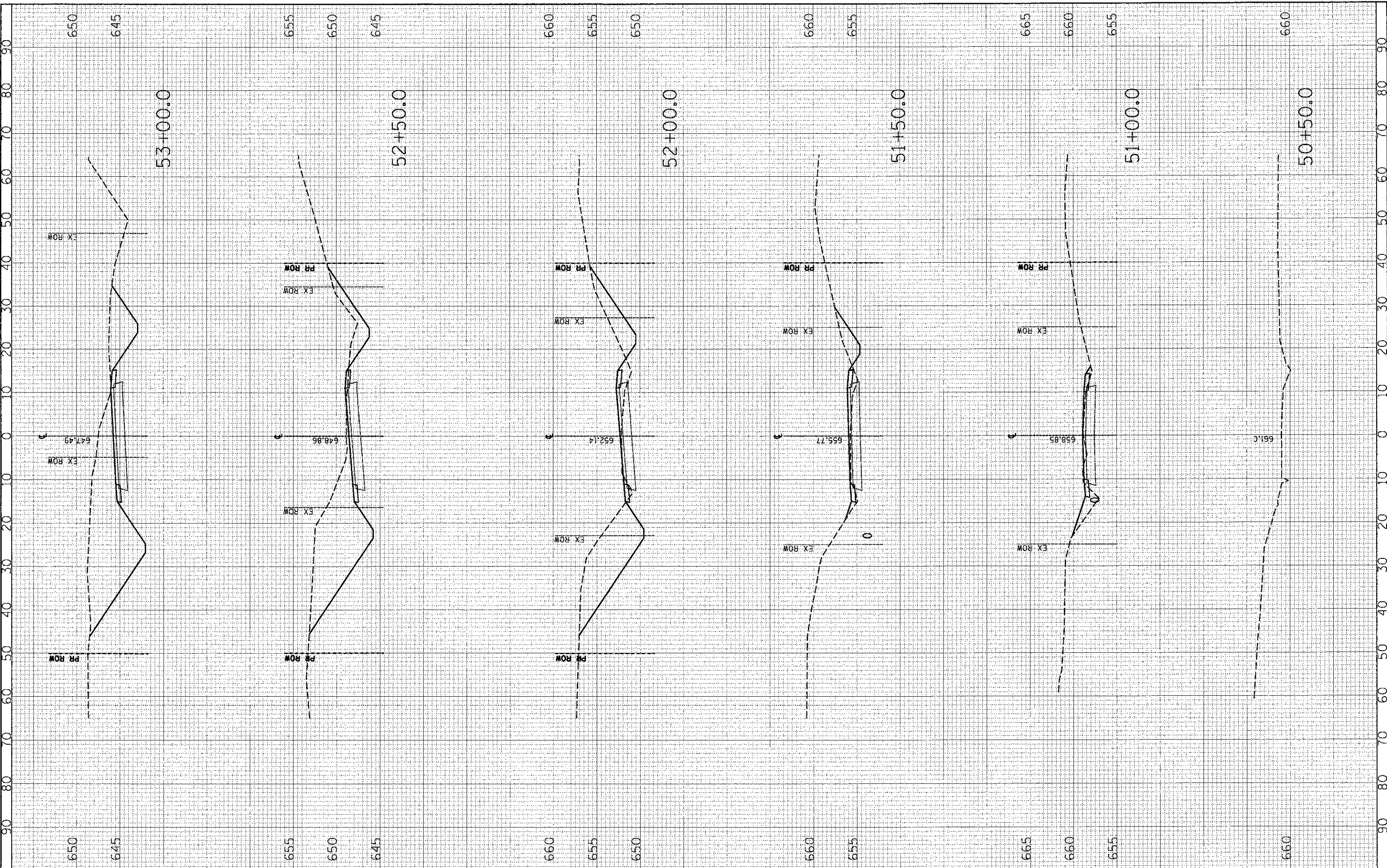
STA. 15+00.0 TO STA. 15+49.0

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	16
CONTRACT NO. 95643				
ILLINOIS FED. AID PROJECT				

FWM	STATUS	DATE
SURVEY	PLotted	
NOTE BOOK	TEMPLATE	
AREAS	AREAS	
AREAS CHECKED	AREAS CHECKED	

ORIGINAL	DATE
SURVEY	
NOTE BOOK	
AREAS	
AREAS CHECKED	

PRINTED DATE: 2/18/2013
 FILE: \\ESL\Projects\Colo Co Highway Dept\CH 7 over Union Drainage\Drawn\3141800\Drawings\Sheet\17-18_0505E-AS Streets.sds



USER NAME	= SUSER*
DESIGNED	- JEH
DRAWN	- JEH
CHECKED	- DF
DATE	- 02-18-2013
PLLOT SCALE	= 10:2000' / IN.
PLLOT DATE	= 2/18/2013

REVISED	-
REVISED	-
REVISED	-
REVISED	-

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

OSAGE RD

SCALE: 1"=10' 1"V=5' SHEET NO. 1 OF 2 SHEETS

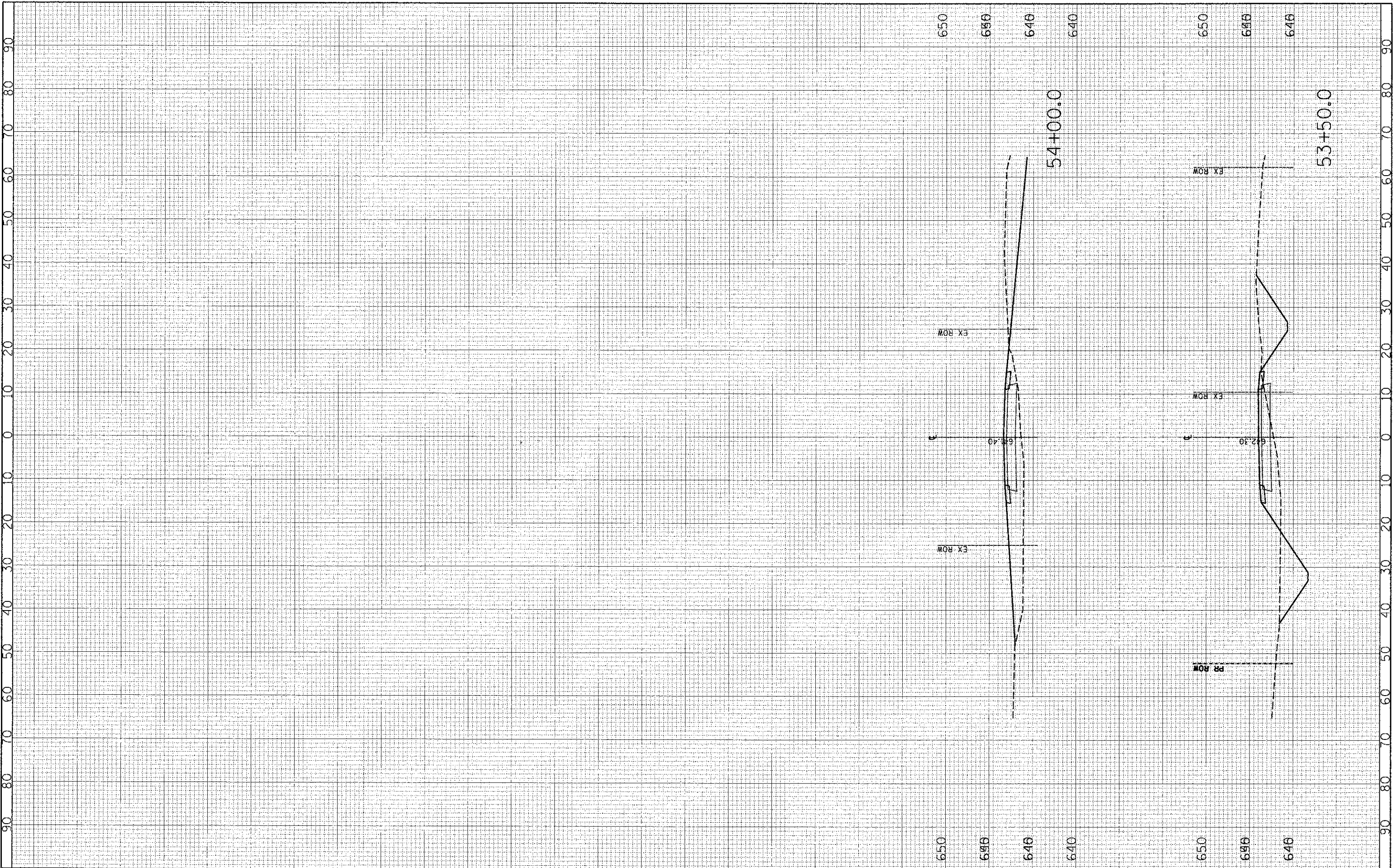
STA. 50+50.0 TO STA. 53+00.0

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	17
			CONTRACT NO. 95643	
ILLINOIS FED. AID PROJECT				

FINAL SURVEY	DATE
PLANNED SURVEY	BY
FIELD BOOK	
REVISIONS	
NO.	

ORIGINAL SURVEY	DATE
PLANNED SURVEY	BY
FIELD BOOK	
REVISIONS	
NO.	

PRINTED DATE: 2/18/2013
 FILE NAME: N:\Projects\Coles Co Highway Dept\CH 7 over Union Drainage Ditch\CADD\Drawings\Sheets\17-18.05RCE AS Stationing



USER NAME = *USER*
DESIGNED - JEH
DRAWN - JEH
CHECKED - DF
DATE - 02-18-2013
PLLOT SCALE = 1/8"=1'-0"
PLLOT DATE = 2/18/2013

REVISED -
REVISED -
REVISED -
REVISED -

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

SCALE: 1"=10' 1"=5'
SHEET NO. 2 OF 2 SHEETS
STA. 53+50.0 TO STA. 54+00.0

CNTY HWY	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
7	07-00142-00-BR	COLES	18	18
CONTRACT NO. 95643				
ILLINOIS FED. AID PROJECT				