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- 16.EROSION CONTROL PLAN

LIST OF HIGHWAY STANDARDS

- STD.000001-05 Standard Symbols, Abbreviations, and Patterns
- STD.280001-04 Temporary Erosion Control Systems
- STD.515001-03 Name Plate for Bridges
- STD.701006-03 Off Road Operations, ect
- STD.701011-02 Off Road Moving Operations, ect
- STD.701301-03 Lane Closure, 2L 2W, Short time Operations
- STD.701901-01 Traffic Control Devices
- BLR.21-8 Typical Applications of Traffic Control Devices

SCALES:

- PLAN: 1"=N/A
- PROFILE HOR.: 1"=N/A
- PROFILE VERT: 1"=N/A'
- CROSS SECTIONS VERT: 1"=N/A'
- CROSS SECTIONS HOR.: 1"=N/A'

DESIGN INFORMATION

NET LETNGTH OF SECTION: 200.00' (0.037mi)
 ADT= 75
 FUNCTIONAL CLASSIFICATION:LOCAL ROAD
 DESIGN SPEED: 35 MPH
 DESIGN POLICY: RURAL
 VARIANCES GRANTED:NONE
 COMMITMENTS: NONE

BITUMINOUS MIX REQUIREMENTS

The following mixture requirements are applicable for this project.

Mixture Use(s):	N50 Surface Course Mix C
AC/PG:	64-22
RAP% (Max)**:	15%
Design Air Voids:	4.0% Ndes=50
Mixture Composition:	IL 9.5 or 12.5
(Gradation Mixture)	
Friction Aggregate:	Mixture C

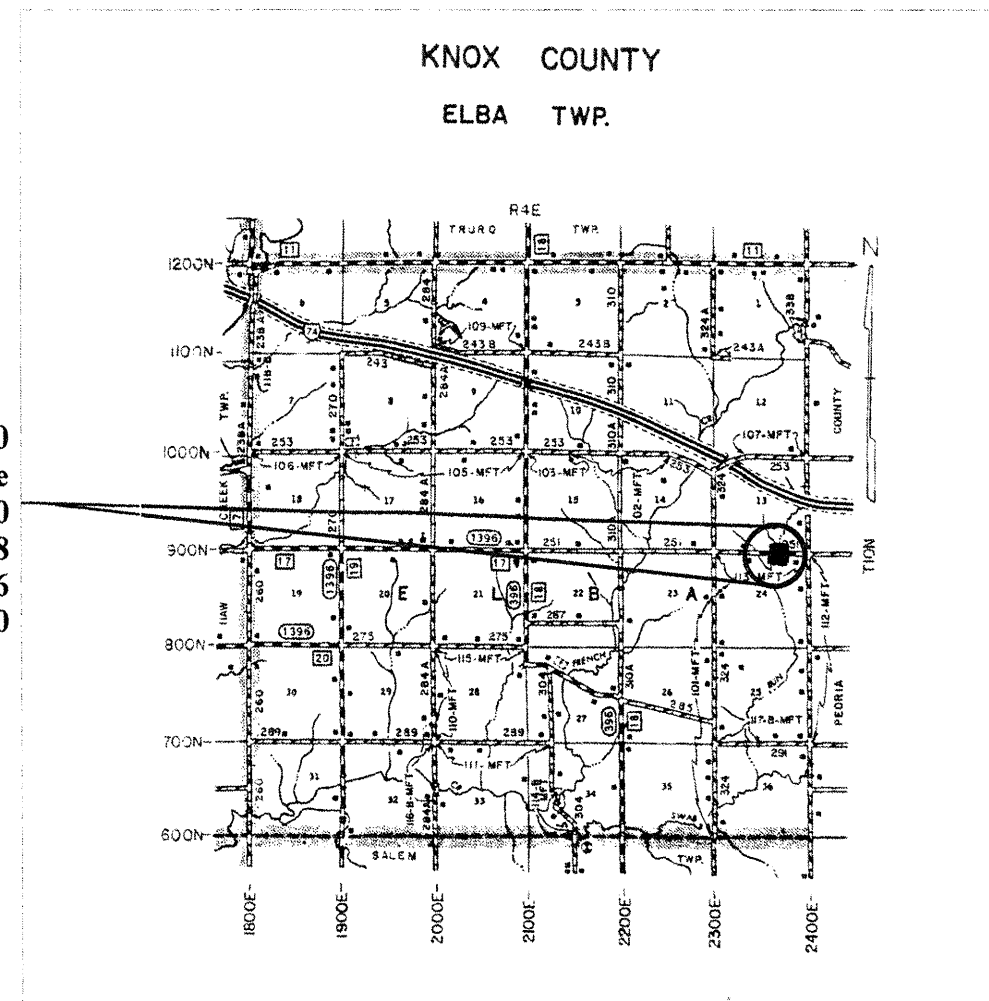
** If > 15% RAP is used, the Contractor may be required to use a softer grade of Asphalt as determined by Materials Engineer.

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 BUREAU OF LOCAL ROADS & STREETS

**PLANS FOR PROPOSED
 AMERICAN RECOVERY
 AND REINVESTMENT ACT**

PROJECT # ARA 0095 (133)
 SECTION 08-04126-00-BR
 KNOX COUNTY
 ELBA TR-251A OVER SWAB RUN CREEK
 PROPOSED STRUCTURE NO. 048-3396
 C-94-128-09

COUNTY	ROUTE	CONTRACT	SEC.	SHEET
KNOX	TR-251	89544	08-04126-00-BR	1 OF 16



End Construction STA.11+00
 Construct P.P.C. Deck Beam Bridge
 Centerline STA.10+00
 Existing Structure #048-3208
 Proposed Structure #048-3396
 Begin Construction STA.9+00

APPROVED August 17 2009
Roland Ekstrand
 Road Commissioner

APPROVED August 17 2009
Duane J. Ratermann
 County Engineer

PASSED 8-31 2009
Dud CPD
 District Four Engineer of Local Roads & Streets

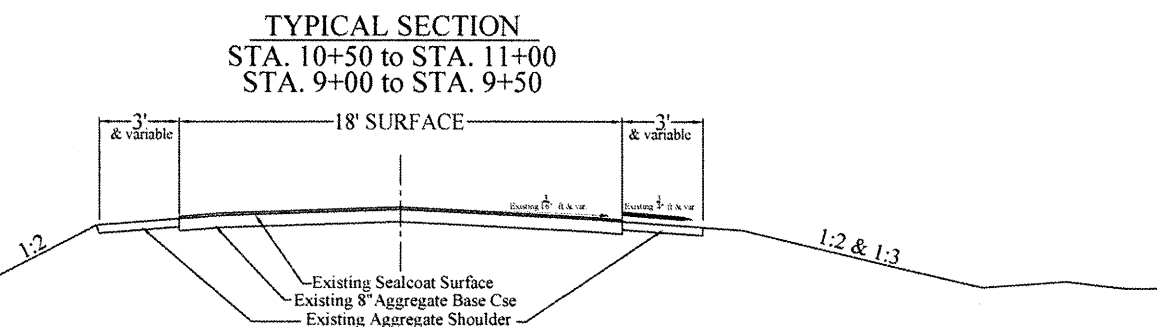
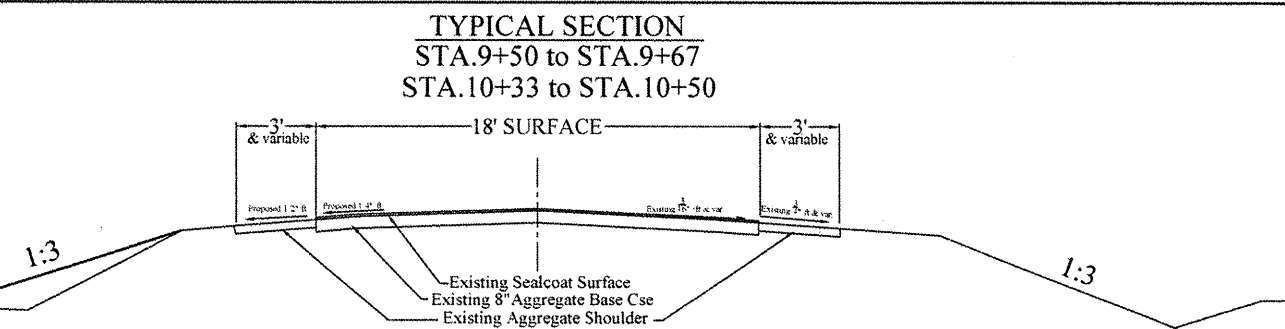
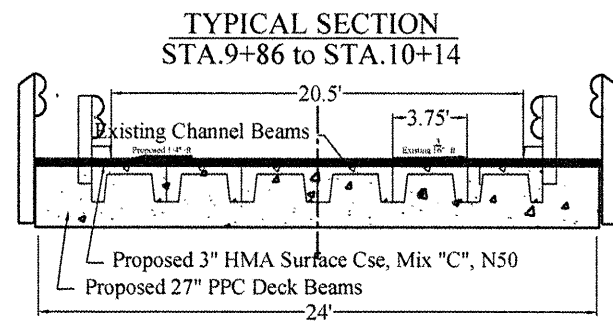
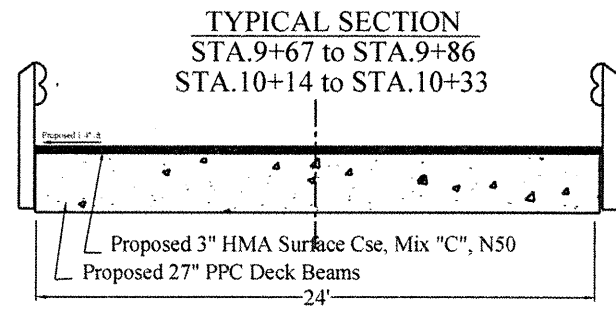
Releasing for
 Bid Based on August 31 2009
 Limited Review
[Signature]
 Deputy Director of Highways, Region Three Engineer

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

Duane J. Ratermann
 62-051696
 REGISTERED
 PROFESSIONAL
 ENGINEER
 ILLINOIS
 8/17/09
 Duane J. Ratermann
 II. Prof. Eng.#062-051696
 Expires 11-30-09

COUNTY	ROUTE	CONTRACT	SHEET
KNOX	TR-251	89544	2 OF 16

SEC.08-04126-00-BR



SUMMARY OF QUANTITIES

QUANT.	UNIT	ITEMS	CODE NUMBER
25	POUND	Temporary Erosion Control Seeding	28000250
4	EACH	Temporary Ditch Checks	28000300
209	SQ YD	Stone Dumped Riprap, Class A4	28100707
21	TON	Hot- mix asphalt Surface Course, Mix "C", N50	40603310
1	EACH	Removal of Existing Structures	50100100
20.2	CU YD	Concrete Structures	50300225
1560	SQ FT	Precast Prestressed Concrete Deck Beams (27" Depth)	50400505
2520	POUND	Reinforcement Bars, epoxy coated	50800205
130	FOOT	Steel Railing, Type S1	50900205 *
414	FOOT	Furnishing Metal Shell Piles 12" x 0.250"	51200957
414	FOOT	Driving Piles	51202305
1	EACH	Test Pile Metal shells	51203200
1	EACH	Name Plates	51500100
173	SQ YD	Waterproofing Membrane System	58100200
455	FOOT	Portland Cement Mortar Fairing Course	58300100
1	L.SUM	Mobilization	67100100

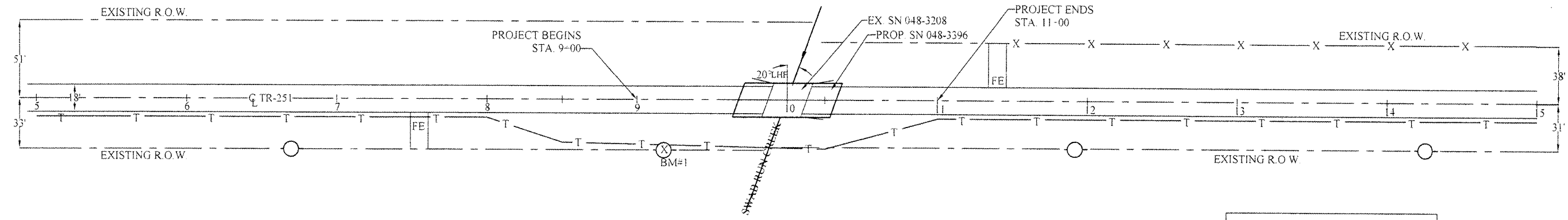
* SPECIALTY ITEMS

BM#1- ELEV. 100.0'
SPIKE IN PP
STA. 9+18 RT.

COUNTY	TWP	ROUTE	CONTRACT	SHEET
KNOX	ELBA	TR-251	89544	3 OF 16

SEC. 08-04126-00-BR

HAROLD BEETLER, JR
SE 1/4 SEC. 13
T10NR04E

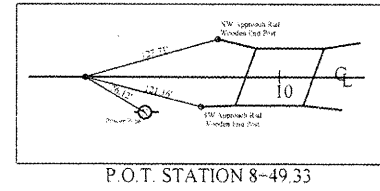


LEGEND

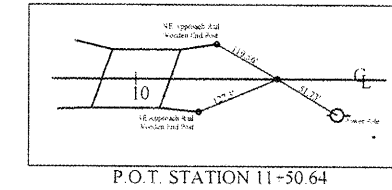
T — T Underground Phone

○ Power Pole

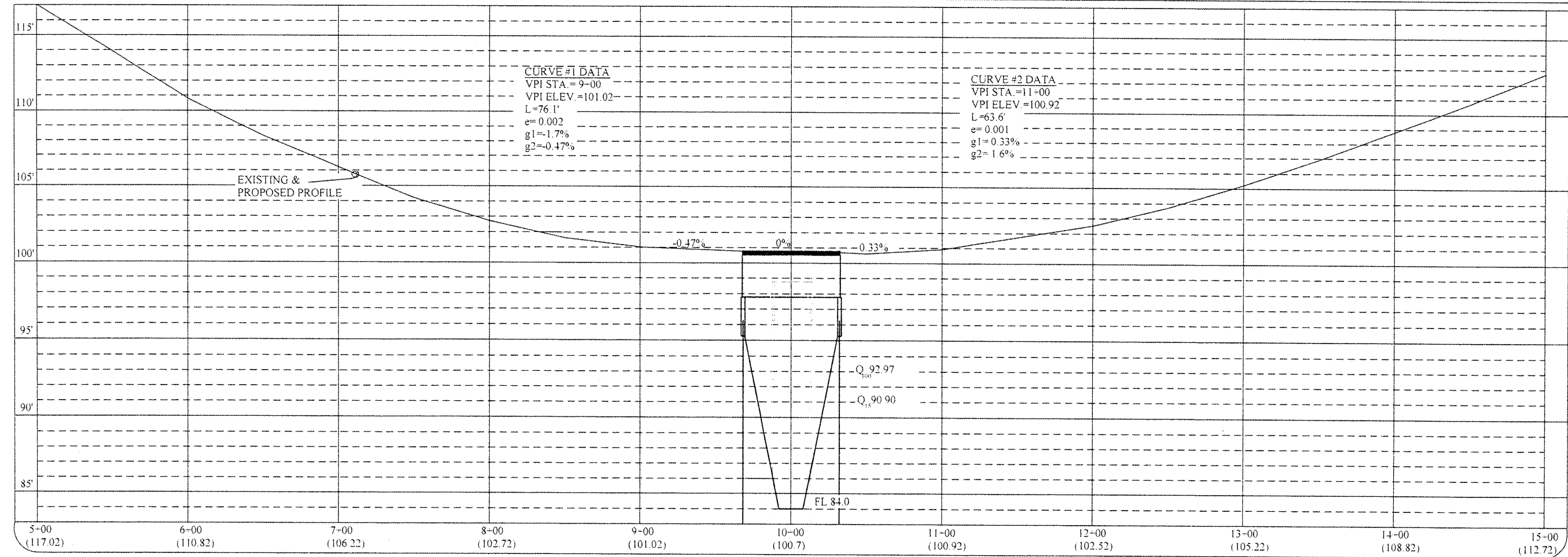
UTILITIES:
Amerin IP 1-800-755-5000
Verizon 1-800-256-4646
McLeod 1-800-289-1901



FRANCIS BARTON, et ux
NE 1/4 SEC. 24
T10NR04E



APPROACHES & PERMANENT SEEDING BY ROAD DISTRICT



NOT TO SCALE

BENCHMARK:
Spike in Power Pole Sta. 9+18.00, Rt.
Elevation = 100.00

EXISTING STRUCTURE (SN 048-3208):
Single Span Concrete Channel Beam Bridge on
Concrete Abutments with Timber Piles.
22'-10" O. to O. Deck. 26'-0" Bk.-Bk. Abutments.

Traffic is to be detoured during construction.
No Salvage.

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 251	08-04126-00-BR	KNOX	4	10
FED. ROAD DIST. NO.		ILLINOIS PROJECT		

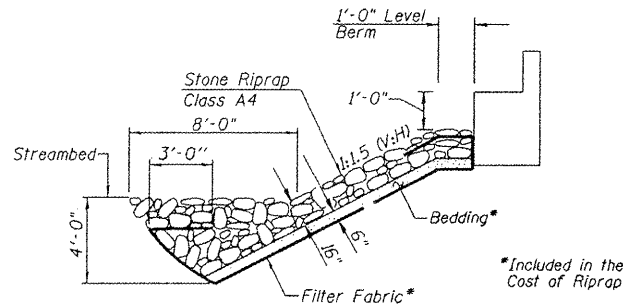
Contract 89544

GENERAL NOTES

Layout of Riprap Slopes may be varied in the field to suit ground conditions as directed by the Engineer.
See Proposal for Boring Data.
Reinforcement Bars shall conform to the requirements of ASTM A 706, Grade 60 (See Special Provisions).
The Contractor shall drive one Metal Shell Test Pile in a permanent location at the West Abutment as directed by the Engineer before ordering the remainder of piles.
Excavation required for abutment construction shall be included in Concrete Structures. No additional compensation will be provided for Structure Excavation.
Channel Excavation shall be included in the cost of Stone Riprap, Class A4.

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Removal of Existing Structures	Each			1
P.P.C Deck Beams (27" Depth)	Sq. Ft.	1560		1560
Concrete Structures	Cu. Yd.		20.2	20.2
Reinforcement Bars, Epoxy Coated	Pound		2520	2520
Furnishing Metal Shell Piles 12" x 0.250"	Foot		414	414
Driving Piles	Foot		414	414
Test Pile Metal Shells	Each		1	1
Stone Riprap, Class A4	Sq. Yd.		209	209
Name Plates	Each		1	1
Steel Railing, Type S1	Foot	130		130
Portland Cement Mortar Fairing Course	Foot	455		455
Waterproofing Membrane System	Sq. Yd.	173		173
Hot-Mix Asphalt Surface Course, Mixture C, N50	Ton	21		21



STONE RIPRAP DETAIL

SWAB RUN CREEK
BUILT 200, BY
KNOX COUNTY
SECTION 08-04126-00-BR
T.R. 251 STA. 10+00.00
STR. NO. 048-3396 LOADING HL-93

NAME PLATE
(See Std. 515001)

DESIGN SPECIFICATIONS

2007 AASHTO LRFD with 2008 Interim

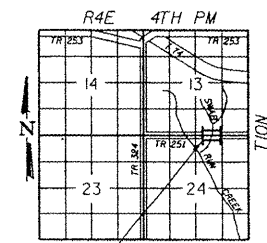
LOADING HL-93

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

DESIGN STRESSES

FIELD UNITS
f'c = 3,500 p.s.i.
fy = 60,000 p.s.i.
n = 9

PPC UNITS
f'ci = 5,000 p.s.i.
f'c = 6,000 p.s.i.
f's = 270,000 p.s.i.
f'si = 201,960 p.s.i.



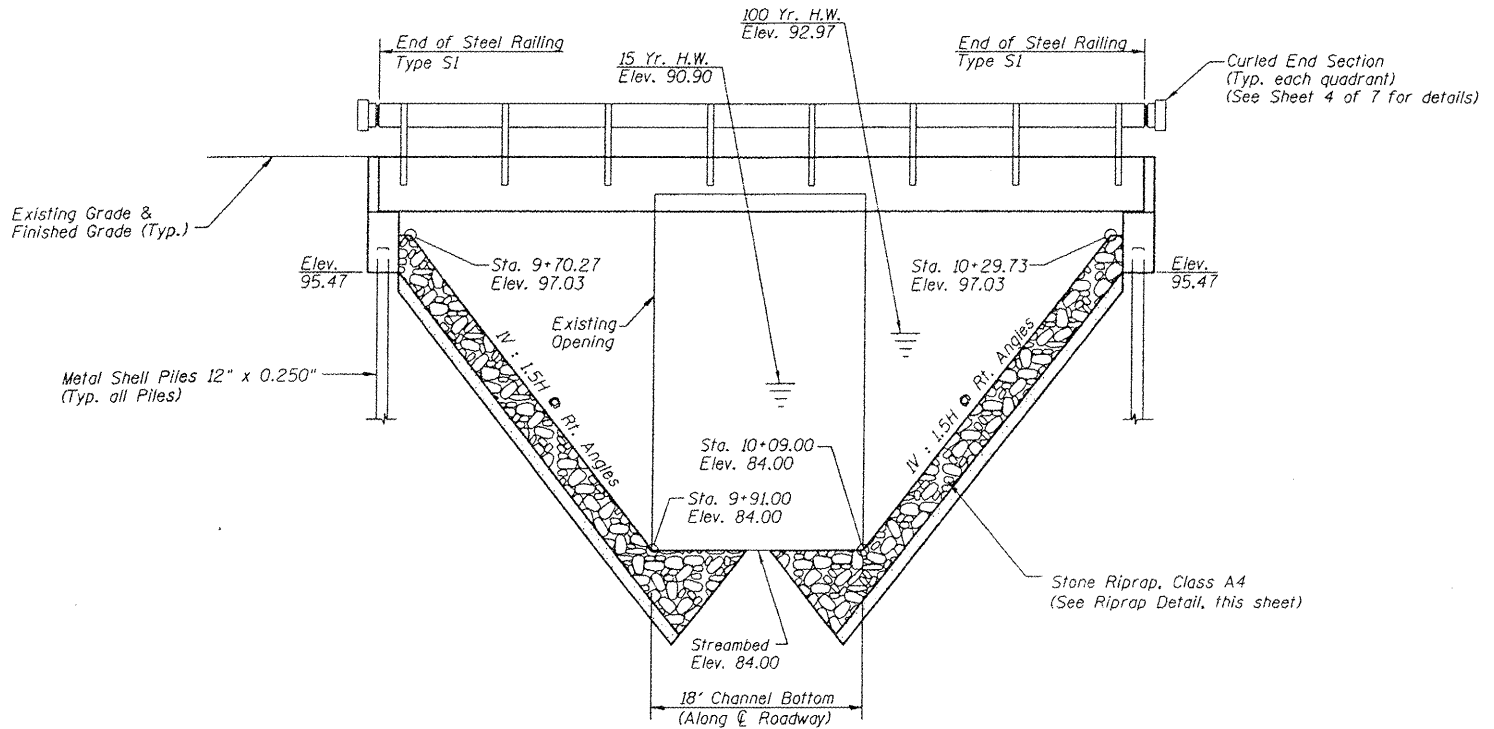
LOCATION SKETCH

WATERWAY INFORMATION

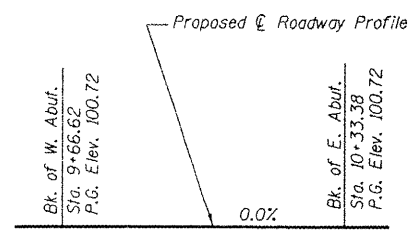
Drainage Area = 5.27 Sq. Mi. Existing Low Grade Elev. 100.62 @ Sta. 10+00.00
Proposed Low Grade Elev. 100.70 @ Sta. 10+00.00

Flood	Freq. Yr.	Opening Sq. Ft.		Nat. H.W.E.	Head-Ft.		Headwater El. Exist. Prop.
		Exist.	Prop.		Exist.	Prop.	
Design	15	1250	181	90.90	0.74	0.64	91.64 91.54
Base	100	2070	262	92.97	0.97	0.84	93.94 93.81
Overtopping							
Max. Calc.	500	2780	326	350	94.42	1.13	0.98 95.55 95.40

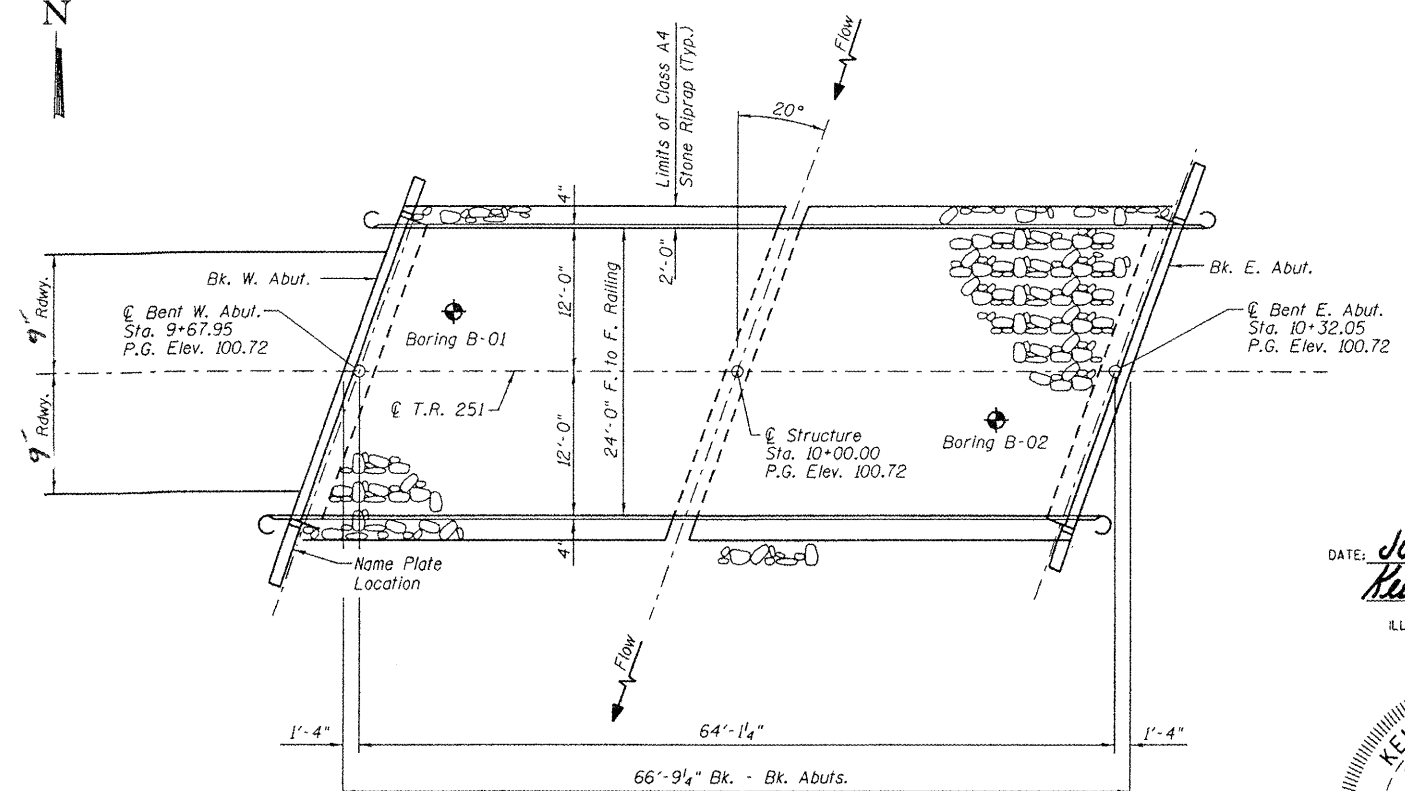
Low Beam Elev. (Prop.) = 98.03



ELEVATION
(Stationing along \varnothing Roadway)



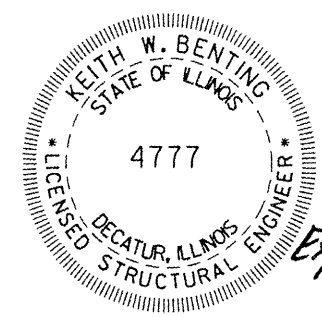
PROFILE T.R. 251



PLAN

DATE: July 21, 2009
Keith W. Bunting
KEITH W. BUNTING
ILL. STRUCTURAL NO. 4777

"I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THIS BRIDGE DESIGN IS STRUCTURALLY ADEQUATE FOR THE DESIGN LOADING DESIGN 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."



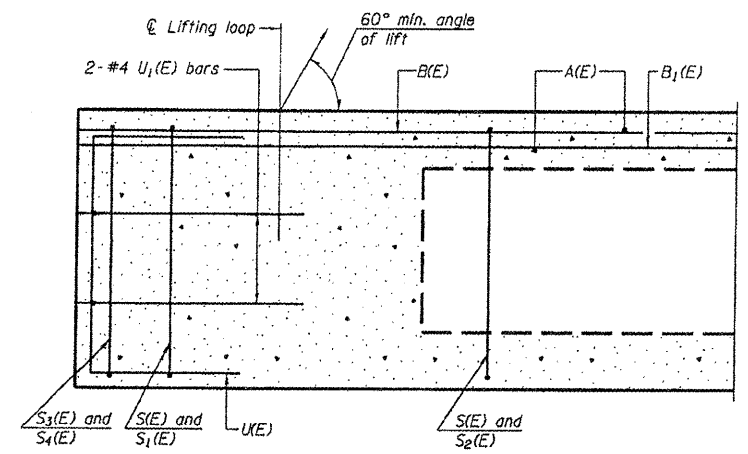
Exp. 11/30/2010

GENERAL PLAN AND ELEVATION

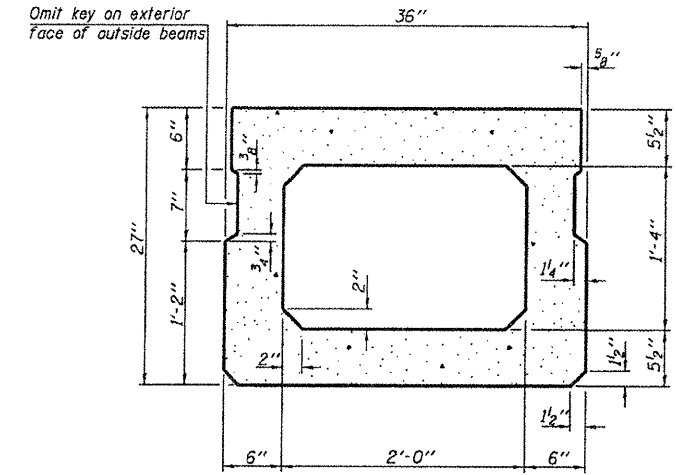
Date	Designed MJJ	T.R. 251 OVER SWAB RUN CREEK SECTION 08-04126-00-BR KNOX COUNTY STA. 10+00.00 PROP. STR. NO. 048-3396	Sheet No.
Revisions	Drawn BKN		1
	Checked MJJ		
	Approved KWB		
			of 7
Prepared by:	URS 345 East Ash Avenue Decatur, IL 62526		URS Job No. 36432412

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 251	08-04126-00-BR	KNOX	5	16
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

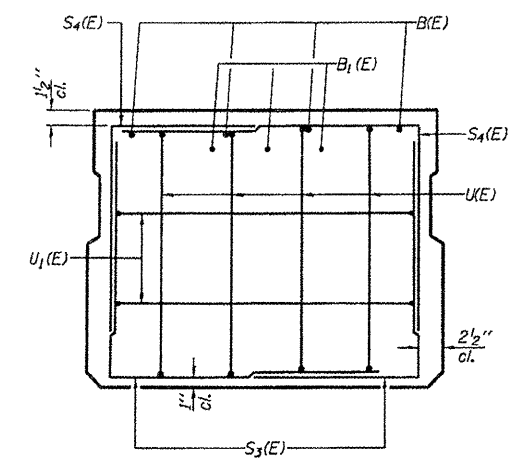
Contract 89544



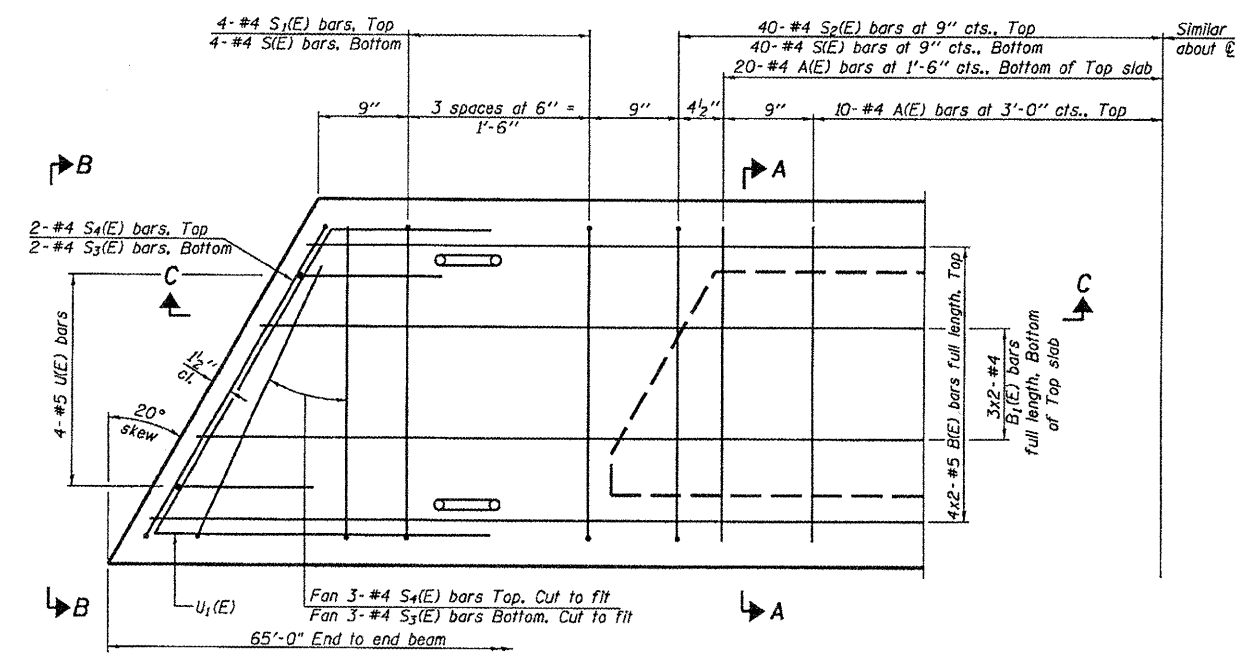
SECTION C-C



SECTION A-A
(Showing dimensions)



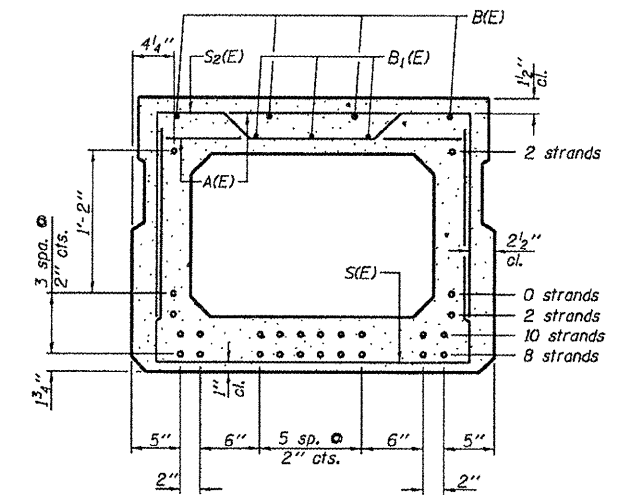
VIEW B-B



PLAN VIEW

Note: Spacing of S1(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.

Min. Bar Lap
#4 bar = 1'-8"
#5 bar = 2'-2"



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)	60	#4	2'-7"	—
B(E)	8	#5	33'-5"	—
B1(E)	6	#4	33'-2"	—
S(E)	88	#4	6'-5"	U
S1(E)	8	#4	5'-11"	U
S2(E)	80	#4	6'-2"	U
S3(E)	10	#4	4'-8"	U
S4(E)	10	#4	4'-5"	U
U(E)	8	#5	4'-6"	U
U1(E)	4	#4	6'-1"	U

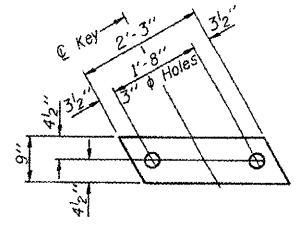
Note: See sheet 3 of 7 for additional details and Bill of Material.

27" X 36" PPC DECK BEAM
STRUCTURE NO. 048-3396

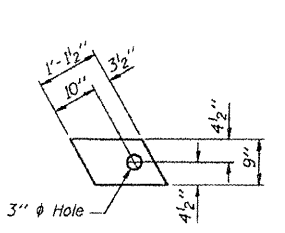
Date Revisions Designed MJP Drawn BKN Checked MJP Approved KWB		SUPERSTRUCTURE T.R. 251 OVER SWAB RUN CREEK SECTION 08-04126-00-BR KNOX COUNTY STA. 10+00.00 PROP. STR. NO. 048-3396	Sheet No.
			2
Prepared by: URS		345 East Ash Avenue Decatur, IL 62526	URS Job No. 36432412

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 251	08-04126-00-BR	KNOX	6	16
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

Contract 89544

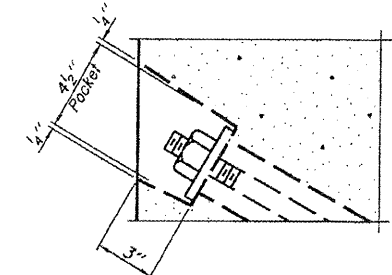


FABRIC BEARING PAD (Interior)

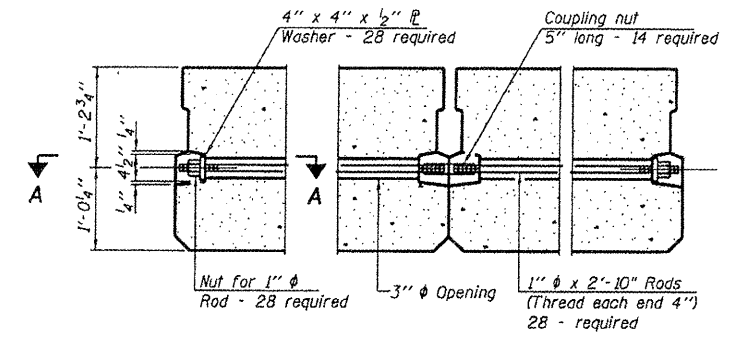


FABRIC BEARING PAD (Exterior)

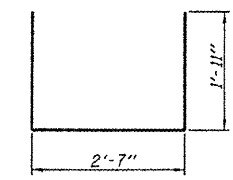
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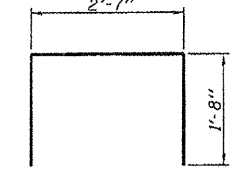
SECTION A-A



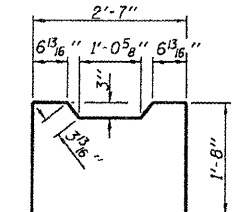
TYPICAL TRANSVERSE TIE ASSEMBLY



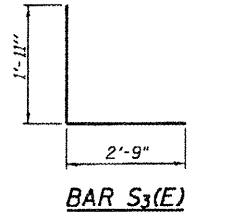
BAR S1(E)



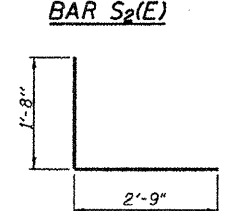
BAR S1(E)



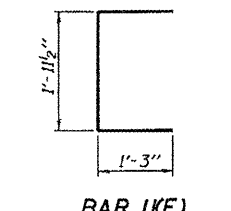
BAR S2(E)



BAR S3(E)

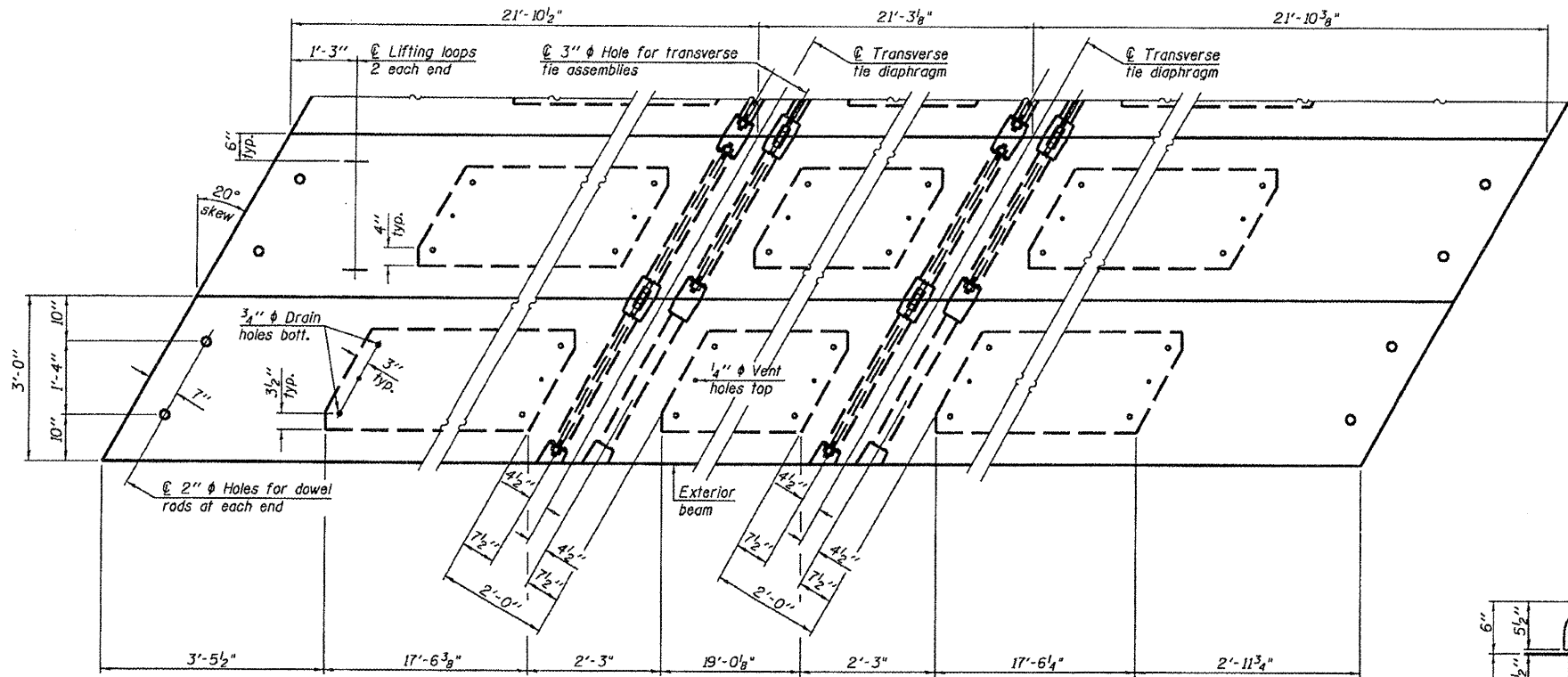


BAR S4(E)



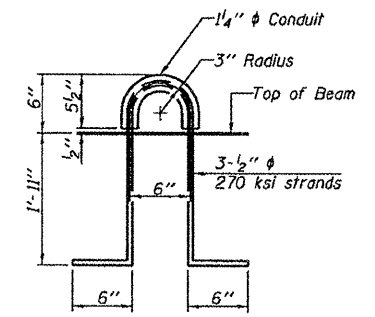
BAR U1(E)

BAR U1(E)



PLAN VIEW

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



LIFTING LOOP DETAIL

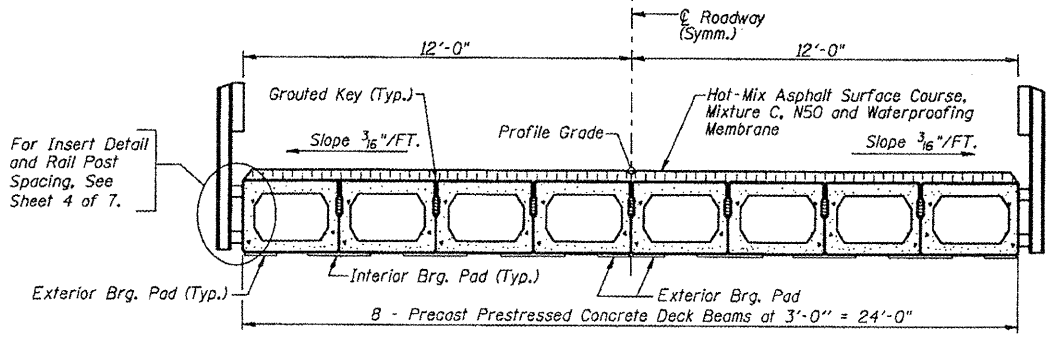
NOTES

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 1/2" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location. A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling. Corrosion Inhibitor, per Article 1020.05(b)(X12) 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.

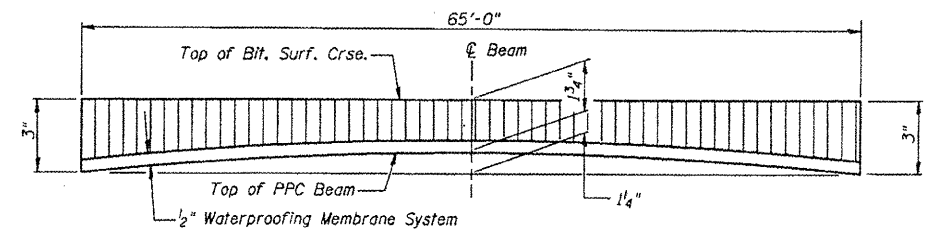
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1560
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27" X 36" PPC DECK BEAM DETAILS
STRUCTURE NO. 048-3396



CROSS SECTION



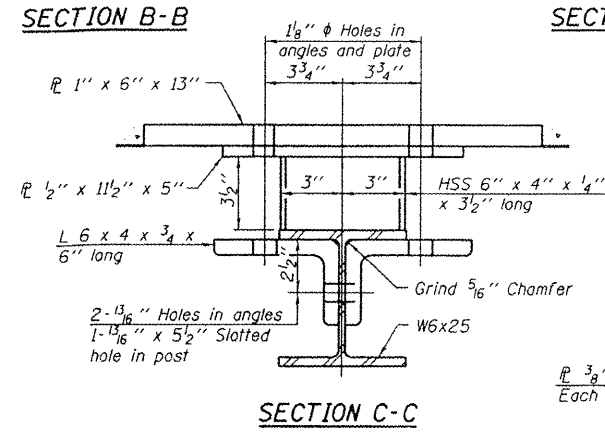
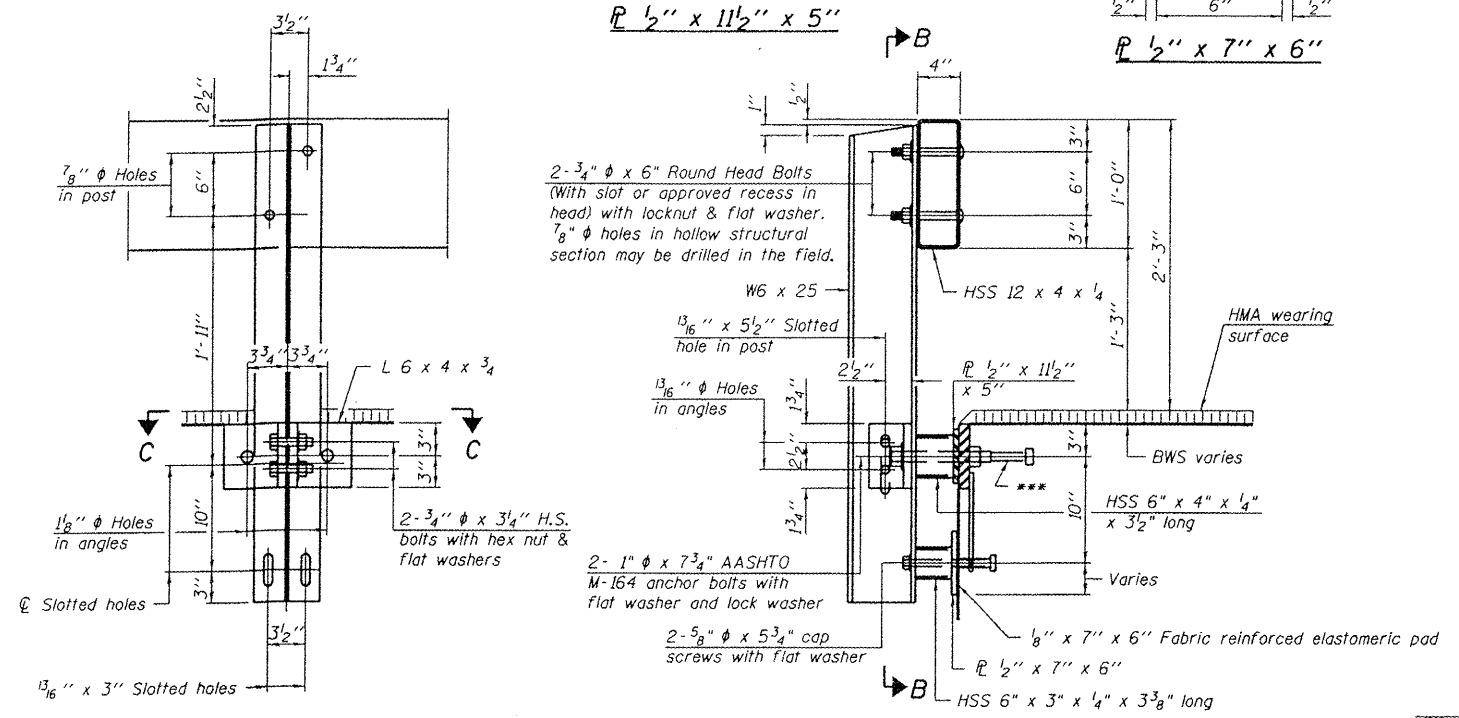
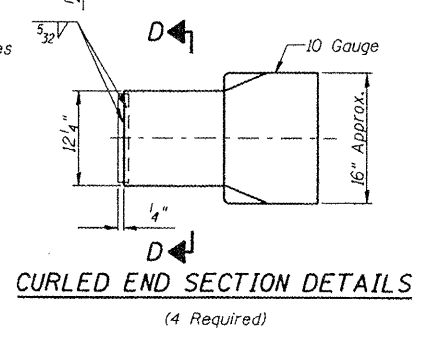
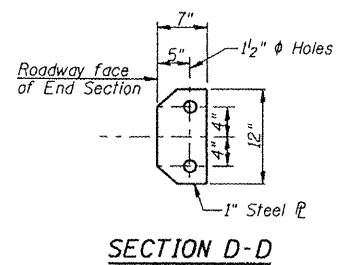
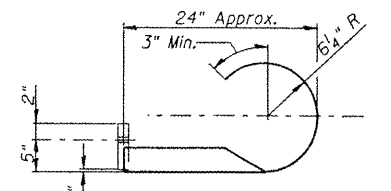
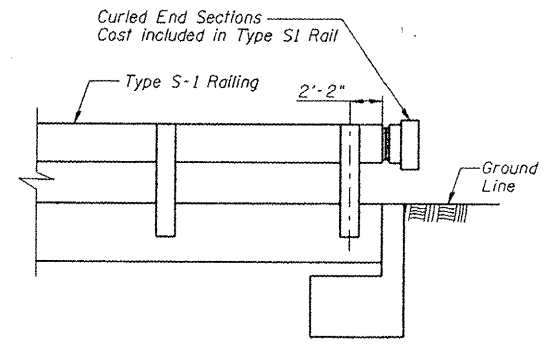
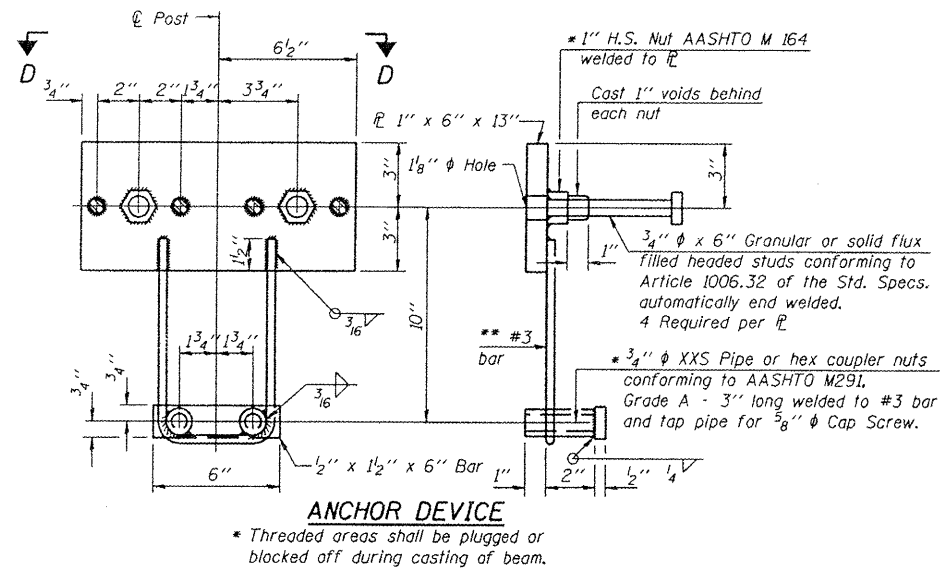
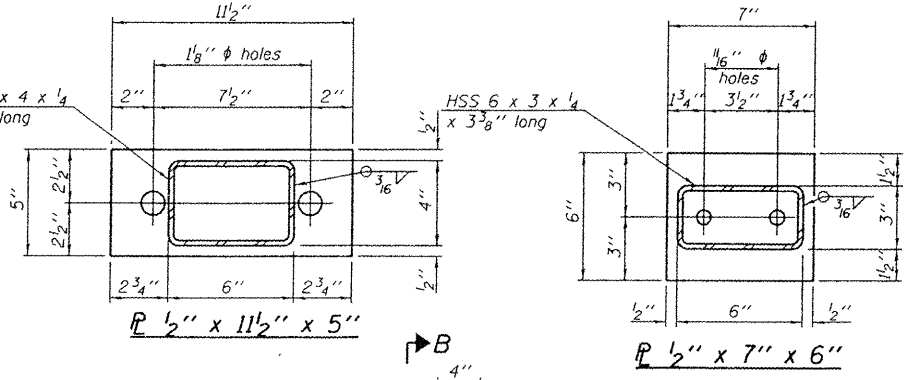
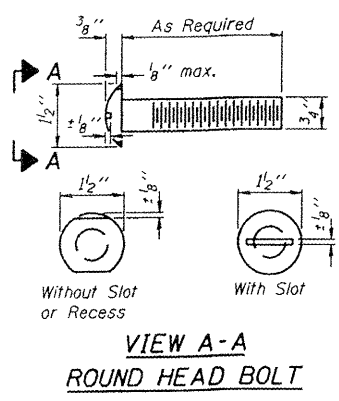
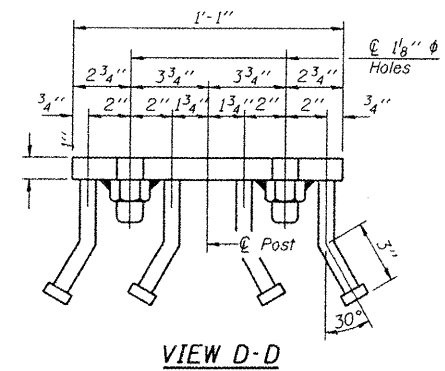
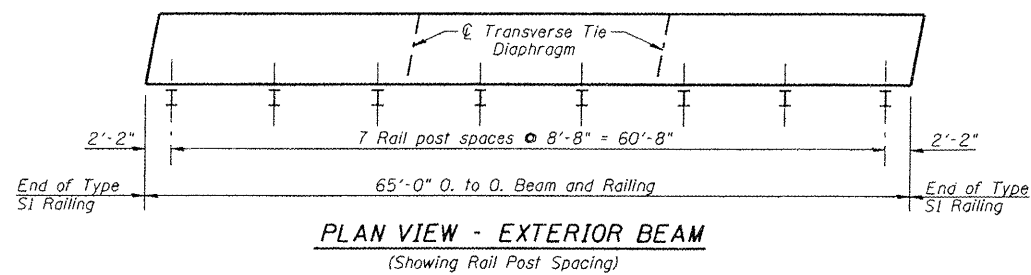
ANTICIPATED CAMBER DIAGRAM

SUPERSTRUCTURE DETAILS

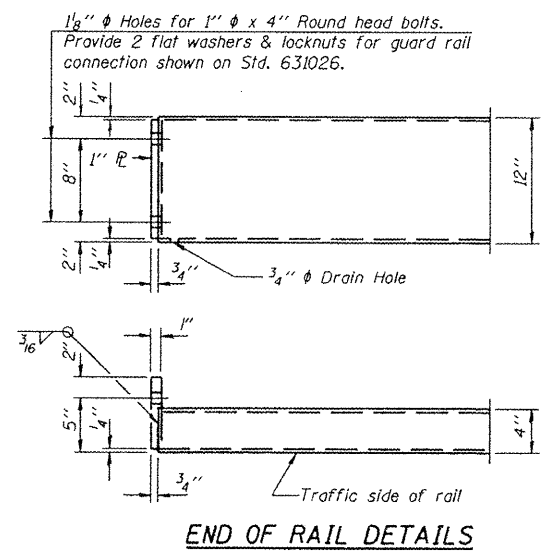
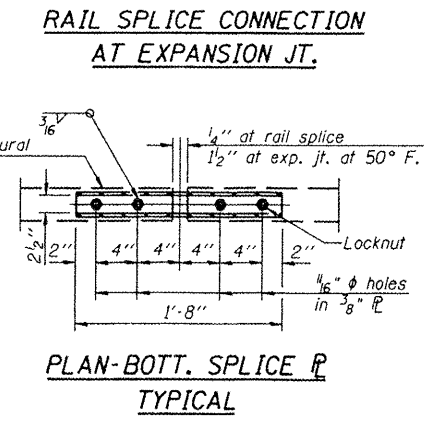
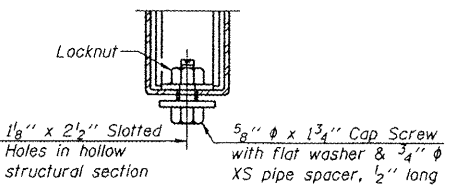
Date	Designed MJP	T.R. 251 OVER SWAB RUN CREEK SECTION 08-04126-00-BR KNOX COUNTY STA. 10+00.00 PROP. STR. NO. 048-3396	Sheet No.
Revisions	Drawn BKN		3
	Checked MJP		of 7
	Approved KWB		URS Job No.
Prepared by: URS	345 East Ash Avenue Decatur, IL 62526		36432412

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 251	08-04126-00-BR	KNOX	7	16
FED. ROAD DIST. NO.	ILLINOIS PROJECT			

Notes: **Contract 89544**
 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.



*** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



SECTIONS AT RAIL SPLICE

SECTIONS AT RAIL SPLICE

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	130

STEEL RAILING, TYPE S-1
 STRUCTURE NO. 048-3396

STEEL RAILING			Sheet No.
Date	Designed MJP	T.R. 251 OVER SWAB RUN CREEK SECTION 08-04126-00-BR KNOX COUNTY STA. 10+00.00 PROP. STR. NO. 048-3396	4
Revisions	Drawn BKN		
	Checked MJP		
	Approved KWB		
Prepared by:	URS		
345 East Ash Avenue Decatur, IL 62526			of 7 URS Job No. 36432412

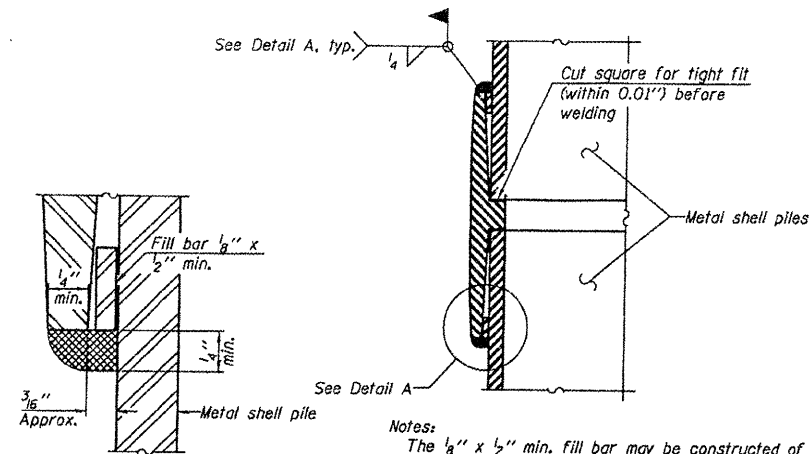
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 251	08-04126-00-BR	KNOX	10	10
FED. ROAD DIST. NO.		ILLINOIS PROJECT		

Contract 89544



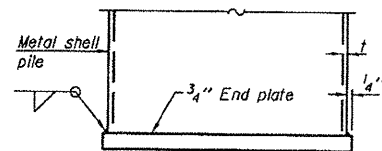
METAL SHELL PILE TABLE

Designation and outside diameter	Wall thickness t	Weight per foot (Lbs./ft.)	Inside volume (yd. ³ /ft.)
PP12	0.179"	22.60	0.0274
PP12	0.250"	31.37	0.0267
PP14	0.250"	36.71	0.0368
PP14	0.312"	45.61	0.0361

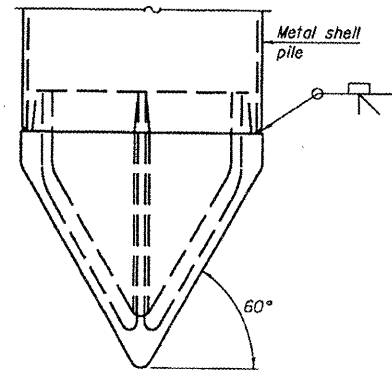


Notes:
 The 1/8" x 1/2" min. fill bar may be constructed of 2 bars with a 1/8" max. gap between them.
 Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE



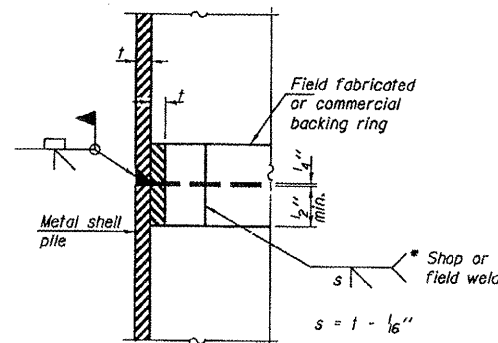
END PLATE ATTACHMENT



Note A:
 When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.

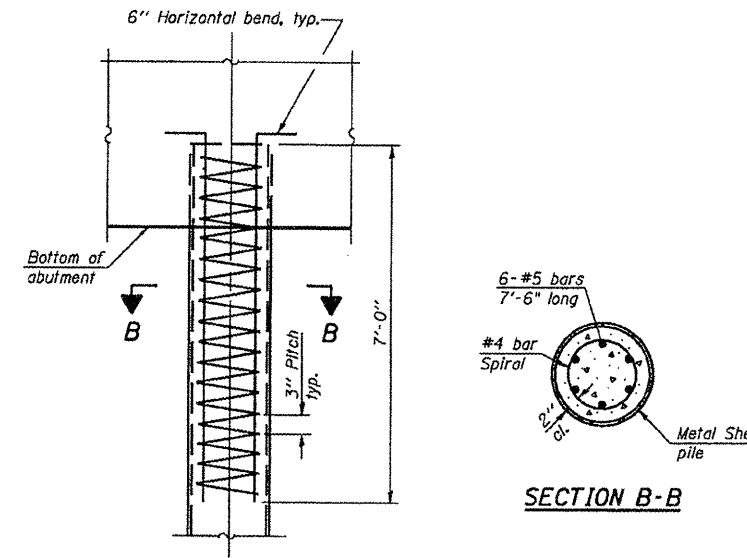
METAL SHELL PILE SHOE ATTACHMENT

(See Note A)



COMPLETE PENETRATION WELD SPLICE

* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.



ELEVATION

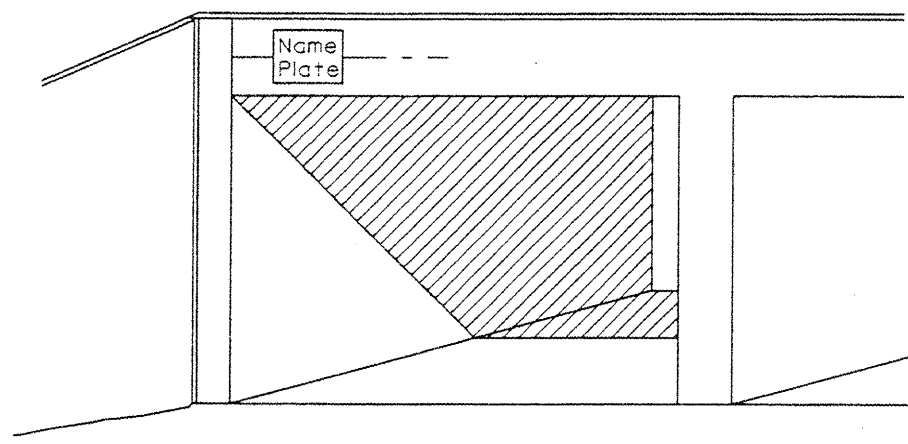
METAL SHELL REINFORCEMENT AT ABUTMENTS

SECTION B-B

**METAL SHELL PILE DETAILS
 STRUCTURE NO. 048-3396**

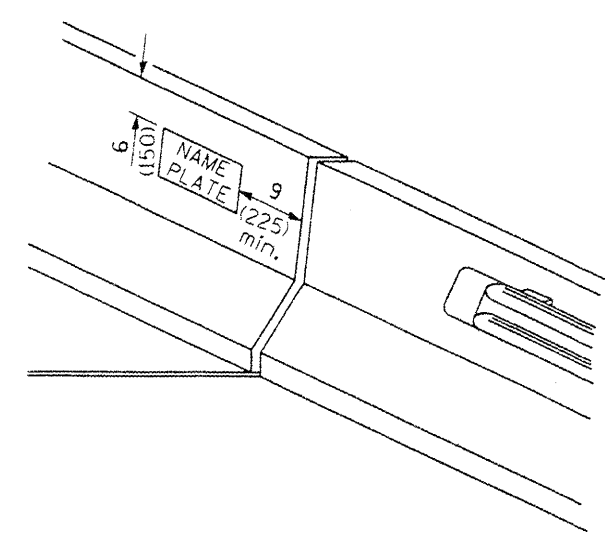
PILE DETAILS

Date	Designed MJP	T.R. 251 OVER SWAB RUN CREEK SECTION 08-04126-00-BR KNOX COUNTY STA. 10+00.00 PROP. STR. NO. 048-3396	Sheet No.
Revisions	Drawn BKN		7
	Checked KWB		
	Approved KWB		
Prepared by:	URS 3040 North University Avenue Decatur, IL 62526		URS Job No. 36432412

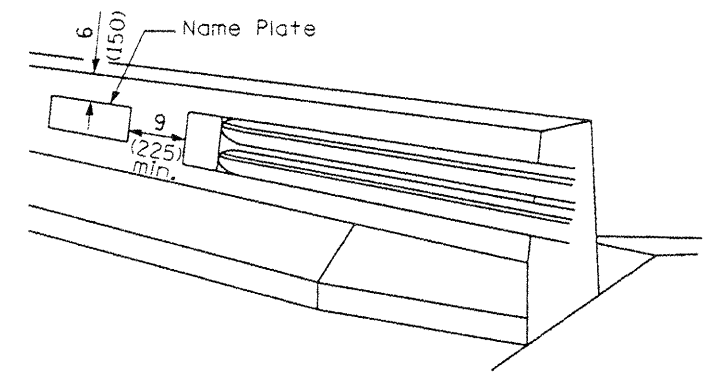


FOR MULTI-SPAN CULVERTS

(Unless otherwise noted on the plans, name plates are not required for structures less than 20' (6.1 m) in length)

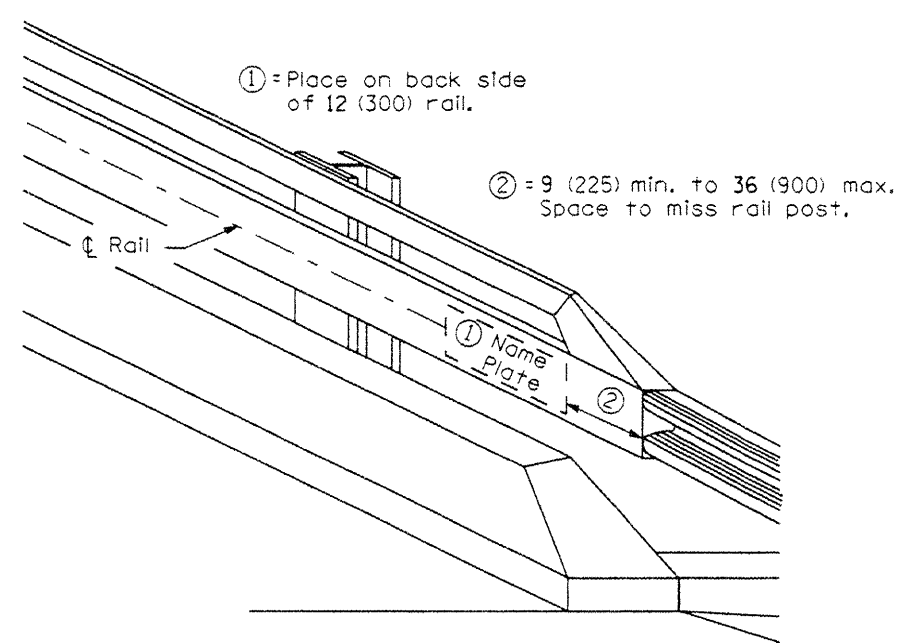


FOR PARAPET AND END POST MOUNTED

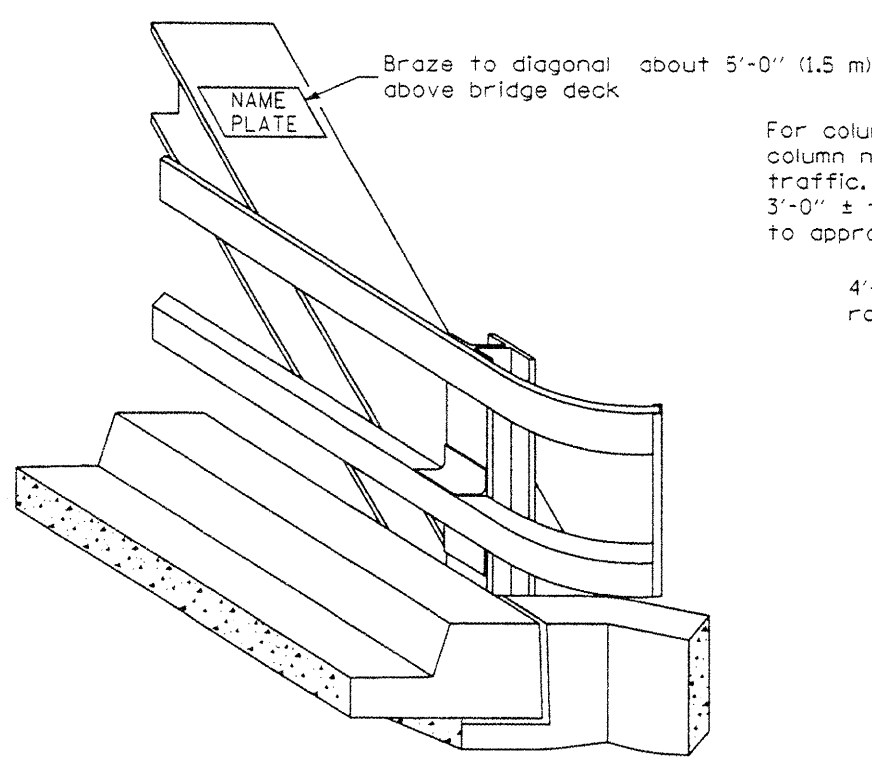


FOR PARAPET

(When Dog Ear Wing is used)



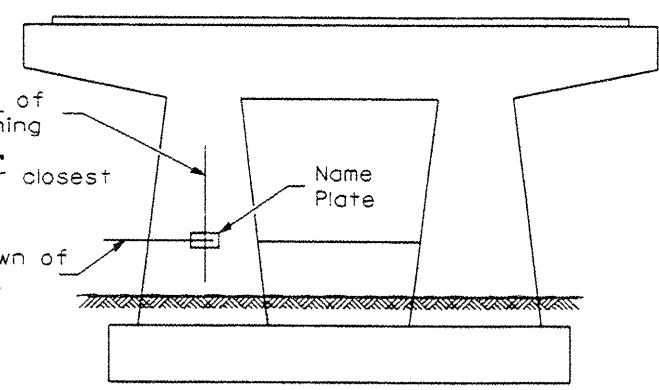
FOR STEEL RAILS



FOR TRUSSES

For column type piers, \uparrow of column nearest approaching traffic. For solid piers, 3'-0" \pm from end of pier closest to approaching traffic.

4'-0" \pm above crown of roadway elevation.



FOR PIERS ON FAI ROUTES

GENERAL NOTES

On one-way traffic structures, place name plate on right side of approach end. On two-way traffic structures, place name plate on right side of approach end while looking in the direction of increasing stationing.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED January 1, 2009
Ralph E. Anderson
 ENGINEER OF BRIDGES AND STRUCTURES

ISSUED 1-1-97

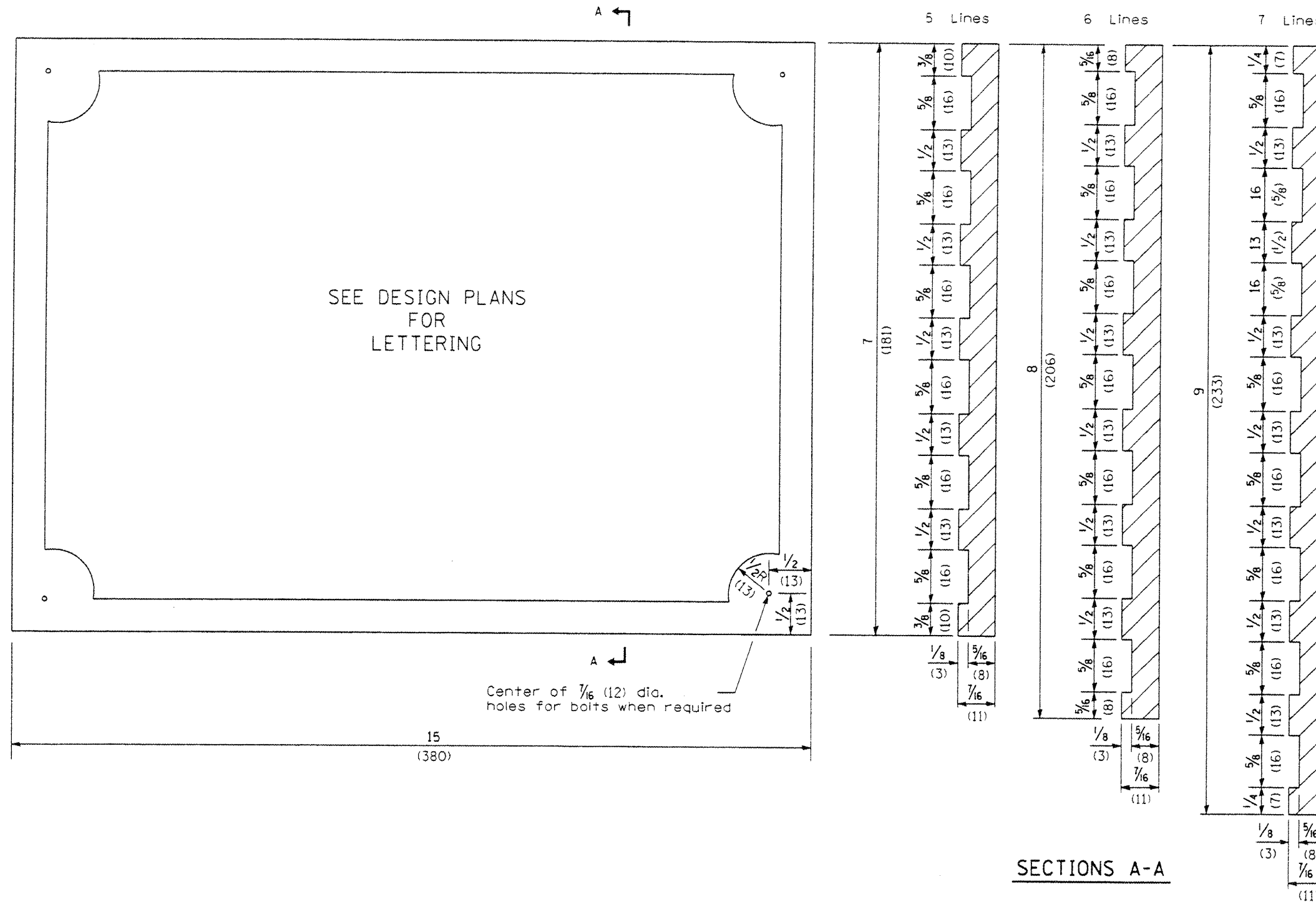
APPROVED January 1, 2009
Eric S. Han
 ENGINEER OF DESIGN AND ENVIRONMENT

DATE	REVISIONS
1-1-09	Switched units to English (metric). Added pier detail.
1-1-02	Remove Placing: note on sht. 2. Added Braze to diag. note on sht. 1.

NAME PLATE FOR BRIDGES

(Sheet 1 of 2)

STANDARD 515001-03



NOTE

Border and lettering:
 Raised $\frac{1}{8}$ (3), square cut and not tapered.

Illinois Department of Transportation

APPROVED January 1, 2009
Ralph E. Anderson
 ENGINEER OF BRIDGES AND STRUCTURES

APPROVED January 1, 2009
Ken E. Han
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

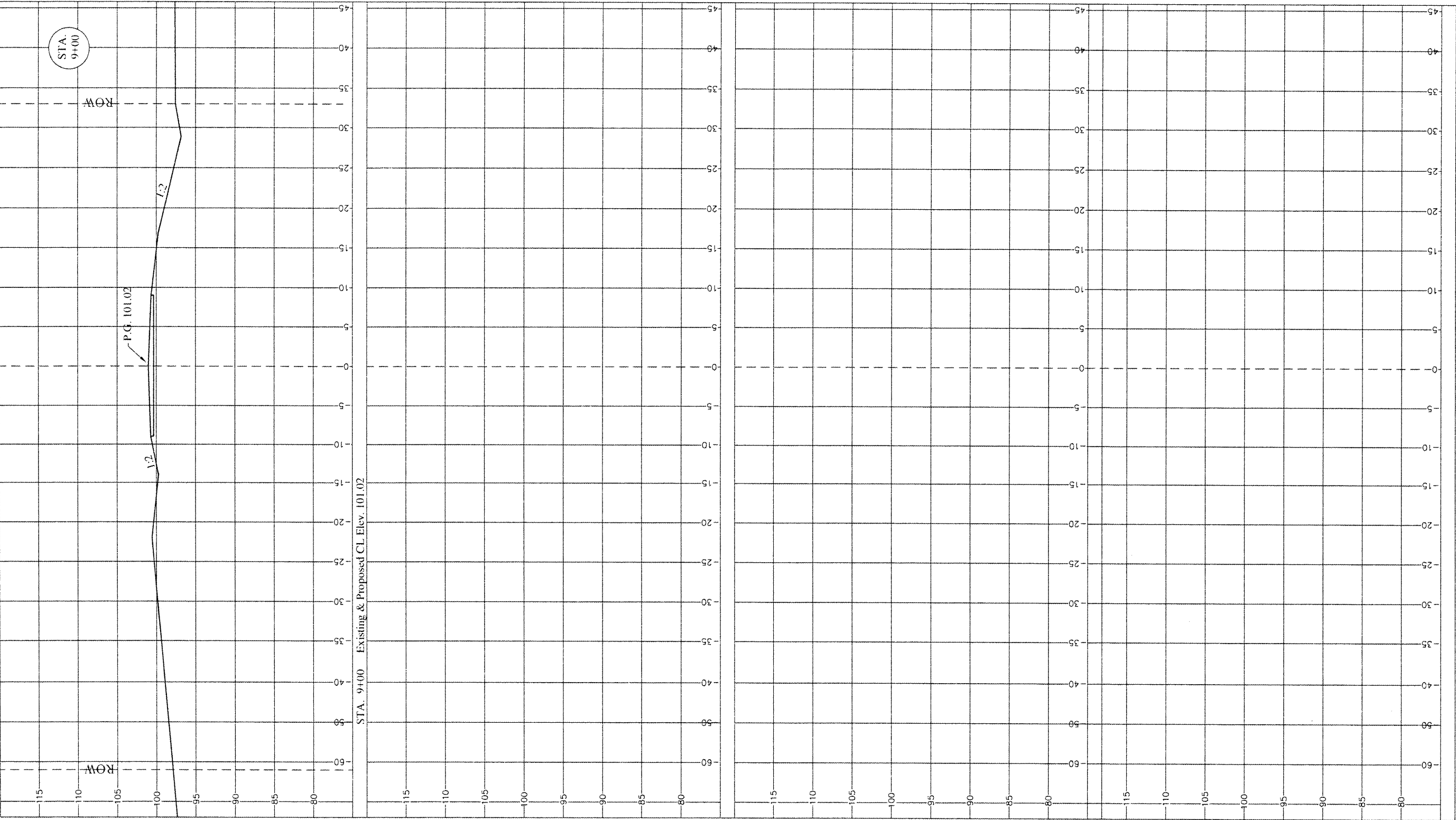
NAME PLATE
 FOR BRIDGES

(Sheet 2 of 2)

STANDARD 515001-03

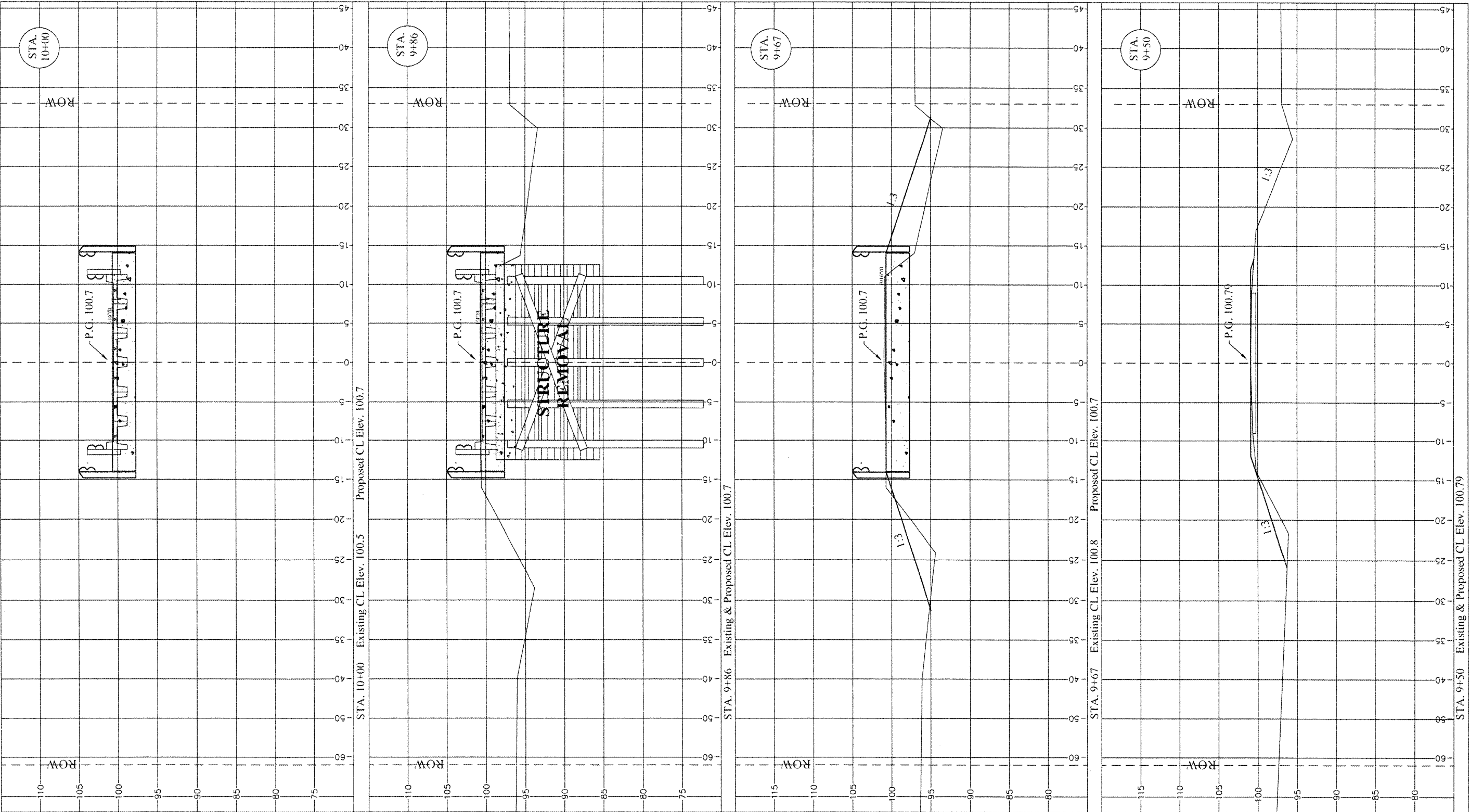
COUNTY	TWP	ROUTE	CONTRACT	SHEET
KNOX	ELBA	TR-251	89544	13 OF 16

SECTION 08-04126-00-BR



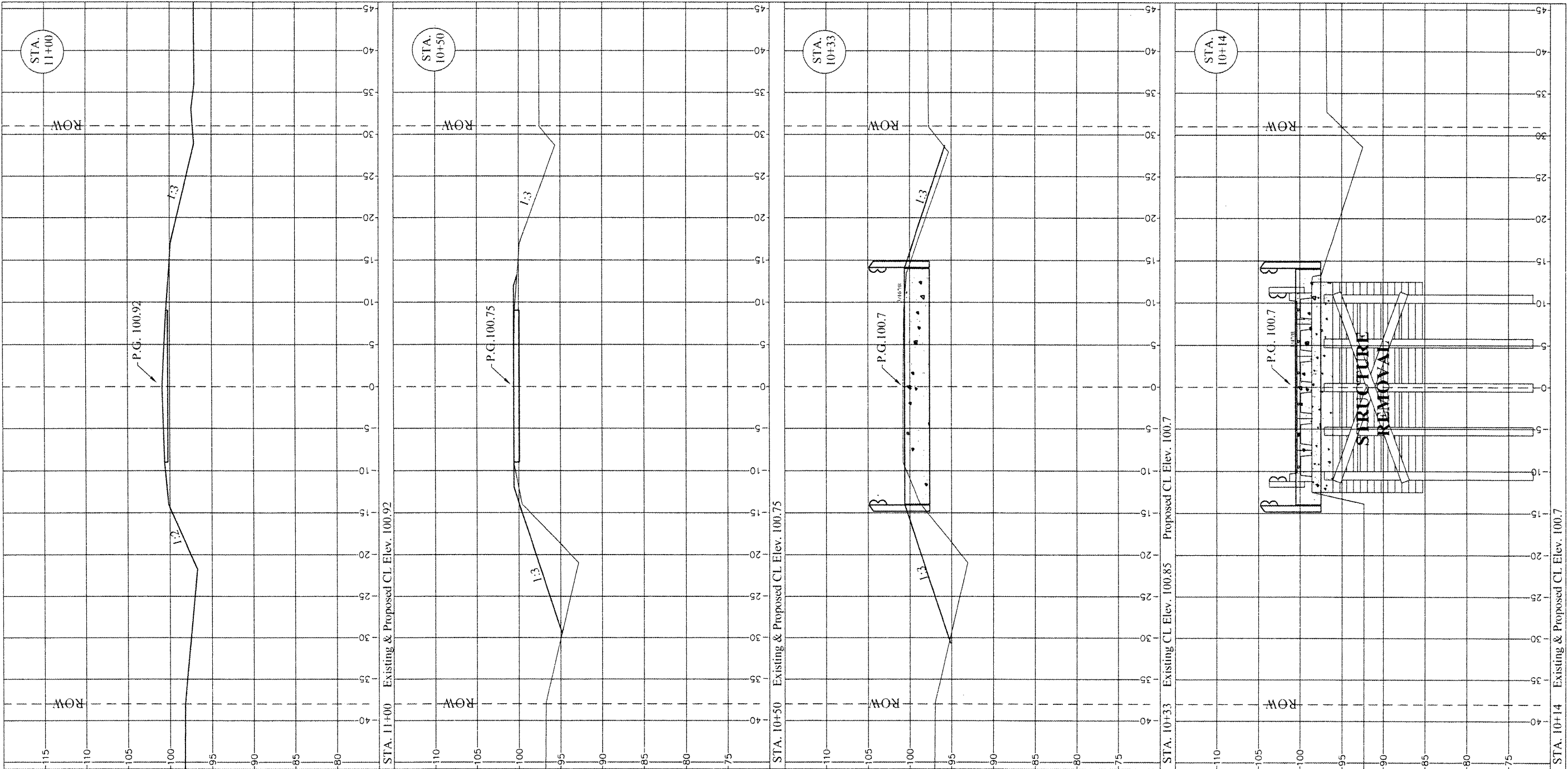
COUNTY	TWP	ROUTE	CONTRACT	SHEET
KNOX	ELBA	TR-251	89544	14 OF 16

SECTION 08-04126-00-BR



COUNTY	TWP	ROUTE	CONTRACT	SHEET
KNOX	ELBA	TR-251	89544	15 OF 16

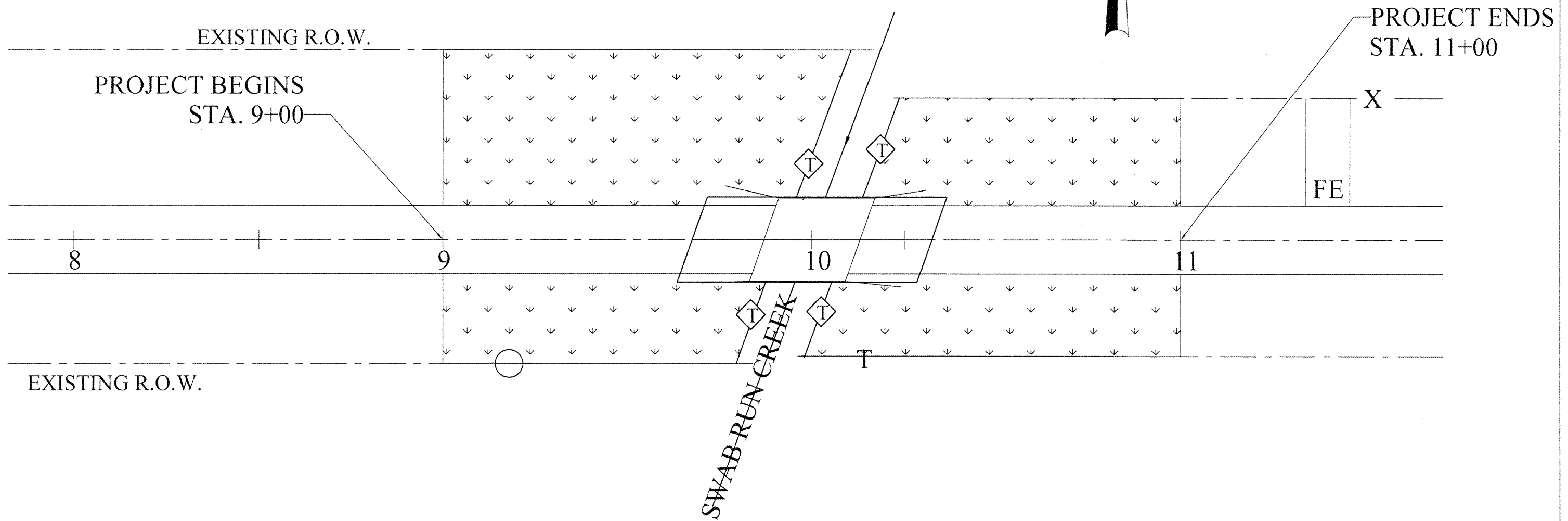
SECTION 08-04126-00-BR



COUNTY	TWP	ROUTE	CONTRACT	SHEET
KNOX	ELBA	TR-251	89544	16 OF 16

SEC 08-04126-00-BR

EROSION CONTROL PLAN



EROSION CONTROL LEGEND

 TEMPORARY DITCH CHECK

 TEMPORARY EROSION CONTROL SEEDING