

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS, GENERAL NOTES & STONE RIPRAP DITCH DESIGN
3-4	ROADWAY CROSS SECTIONS
5-13	BRIDGE DESIGN

THE FOLLOWING STANDARDS ARE A PART OF THESE PLANS AND ARE INCLUDED IN THE PROPOSAL:

000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
280001-05	TEMPORARY EROSION CONTROL SYSTEMS
701901-01	TRAFFIC CONTROL DEVICES
B.L.R. 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-6	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100500	TREE REMOVAL, ACRES	ACRE	0.20
20200100	EARTH EXCAVATION	CU YD	175.00
20300100	CHANNEL EXCAVATION	CU YD	440.00
20400800	FURNISHED EXCAVATION	CU YD	1077.00
28000305	TEMPORARY DITCH CHECKS	FOOT	14.00
28000400	PERIMETER EROSION BARRIER	FOOT	50.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	350.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	390.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	23.80
50300280	CONCRETE ENGASEMENT	CU YD	2.80
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	1320.00
50800105	REINFORCEMENT BARS	POUND	2530.00
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	106.00
51201400	FURNISHING STEEL PILES 10X42	FOOT	490.00
51202305	DRIVING PILES	FOOT	490.00
51203400	TEST PILE STEEL HP10X42	EACH	1.00
51500100	NAME PLATES	EACH	1.00
67100100	MOBILIZATION	L SUM	1.00
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.50
*Z0068900	STONE LINED DITCH	TON	169.00

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
DESIGN SPEED: 30 MPH.
HIGHWAY CLASS - LOCAL ROAD
EXISTING STRUCTURE NO.: 097-3043
PROPOSED STRUCTURE NO.: 097-3273
CURRENT A.D.T. = 80
CONTRACT NO. 99441



STATE OF ILLINOIS

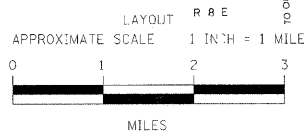
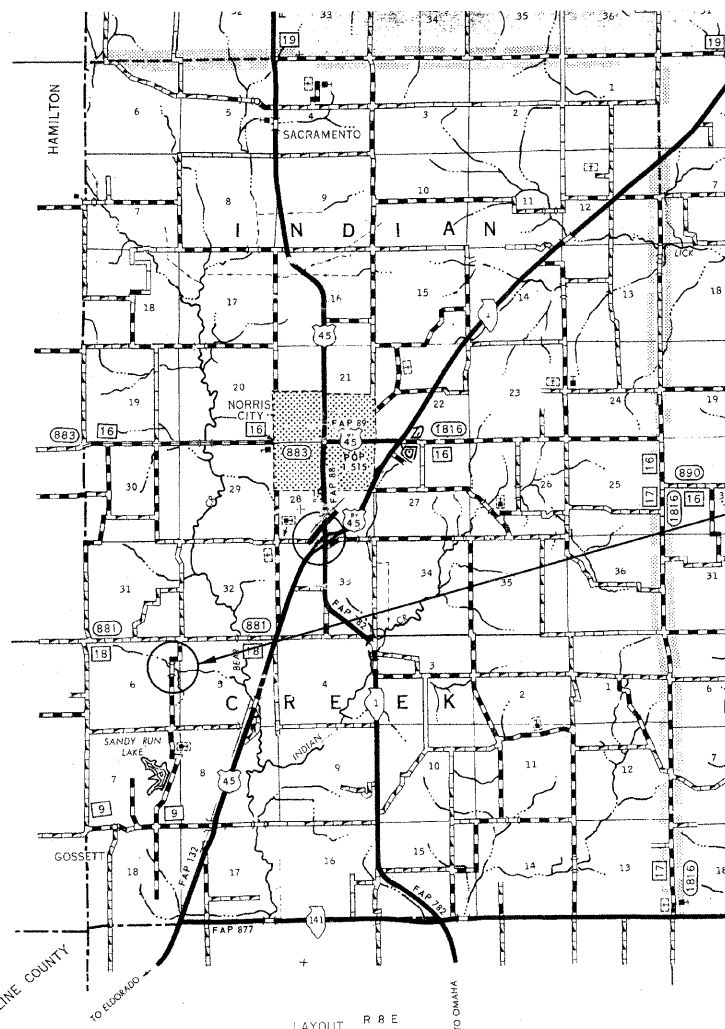
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID - H.B.P. PROJECT

T.R. 28A WHITE COUNTY SECTION 07-08137-00-BR

PROJECT NO. BROS-193(38) JOB NO. C-99-546-07

CONTRACT # 99441 BEAR CREEK TRIBUTARY



GROSS LENGTH	650.00 FT	0.123 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	650.00 FT	0.123 MILES

PLAN	1" = 50'	
PROFILE	1" = 50'	
PROFILE VERT.	1" = 5'	
CROSS SECTION	1" = 5'	

SECTION 07-08137-00-BR BEGINS STATION 1+50

STATION 5+00, STRUCTURE NO. 097-3273
A 55' LONG SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE (21" DEPTH), 24' ROADWAY, 0.00% GRADE, 20° LT. FWD. SKEW.

SECTION 07-08137-00-BR ENDS STATION 8+00

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

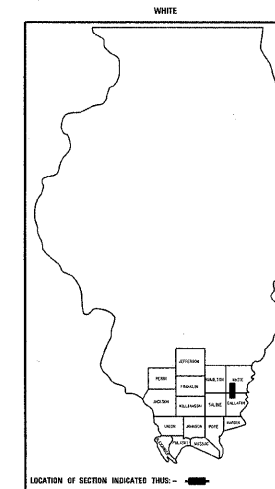
APPROVED 2/14/2011
Susan A. Ray
COUNTY ENGINEER

PASSED 3/25/2011
Dennis W. Hill
ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
BASED ON LIMITED
REVIEW: 3/28/11
Mary C. Lamie
MARY C. LAMIE, P.E.
DEPUTY DIRECTOR OF HIGHWAYS
REGION FIVE ENGINEER

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
28A	07-08137-00-BR	WHITE	13	1

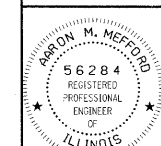
FED. ROAD DIST. NO. 9 ILLINOIS FFD. AID PROJECT
PROJECT# BROS-193(038) CONTRACT# 99441
JOB # C-99-546-07 BEAR CREEK TRIBUTARY
LEC JOB # H091L007WH



405 W. STATE ST
SUITE 1
PRINCETON, IN
47670
PHONE:
(812)-386-7611
FAX:
(812)-385-2812



PROFESSIONAL DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-000887
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron Mefford
SIGNATURE
DATE
2-15-11
11-30-11
EXPIRES

TOWNSHIP ROUTE 28A
OVER BEAR CREEK TRIBUTARY
WHITE COUNTY, ILLINOIS

SHEET TITLE:

TITLE SHEET

SCALE: VARS

BY: AMM

DATE: 2/11

REV:

1 OF 13

SHEETS

SHEET NO.

1

GENERAL NOTES:

THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2007.

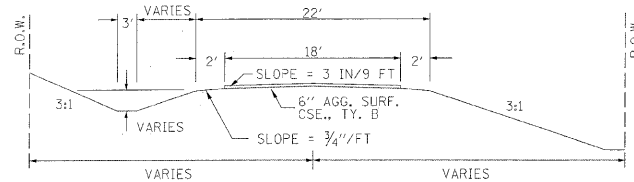
THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 55 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

ALL ELEVATIONS ARE BASED ON U.S.G.S. MEAN SEA LEVEL DATUM.

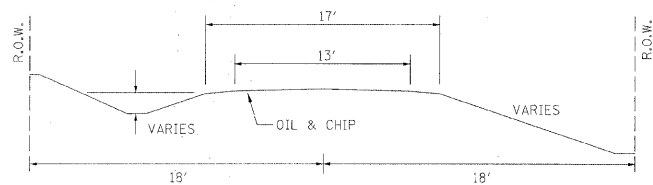
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

THE EXISTING TANK CARS SHALL BE SALVAGED AND DELIVERED TO THE INDIAN CREEK TOWNSHIP YARD. THIS WORK SHALL BE CONSIDERED AS REMOVAL OF EXISTING STRUCTURES.

TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



UTILITIES:

J.U.L.I.E. 1-800-892-0123
FRONTIER
1-618-997-0707

NOTE: CONSTRUCT SPECIAL DITCH
STA 1+50 TO STA 4+83 LT
STA 1+50 TO STA 4+65 RT
STA 6+25 TO STA 8+00 LT

NOTE: PERIMETER EROSION BARRIER

STA 6+48 TO STA 6+93 LT

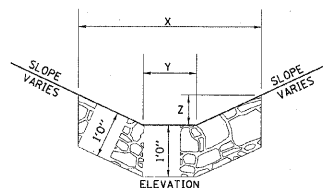
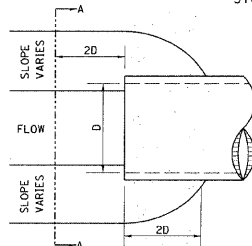
SHALL BE PLACED SO AS TO KEEP WETLAND PROTECTED DURING CONSTRUCTION.

NOTE: CONSTRUCT STONE LINED DITCH

STA 3+50 TO STA 4+83 LT (0.62 TON/LIN FT)
STA 4+00 TO STA 4+65 RT (0.62 TON/LIN FT)
STA 6+25 TO STA 7+00 LT (0.62 TON/LIN FT)
169 TON STONE LINED DITCH ALLOWED IN PROPOSAL.

SEE STONE LINED DITCH DETAIL.

STONE LINED DITCH DESIGN



NOTE:

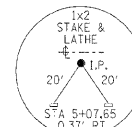
BOTTOM OF DITCH	SLOPE	
2 FT	1 1/2:1	2:1
6 FT	2:1	3:1
8 FT	2 FT	2 FT
2 FT	1 FT	1 FT
0.40	0.48	0.62 TON/LIN. FT

NOTE: FOR PLACEMENT, QUALITY GRADATION AND OTHER MISCELLANEOUS REQUIREMENTS FOR STONE LINED DITCH-SEE SPECIAL PROVISIONS.

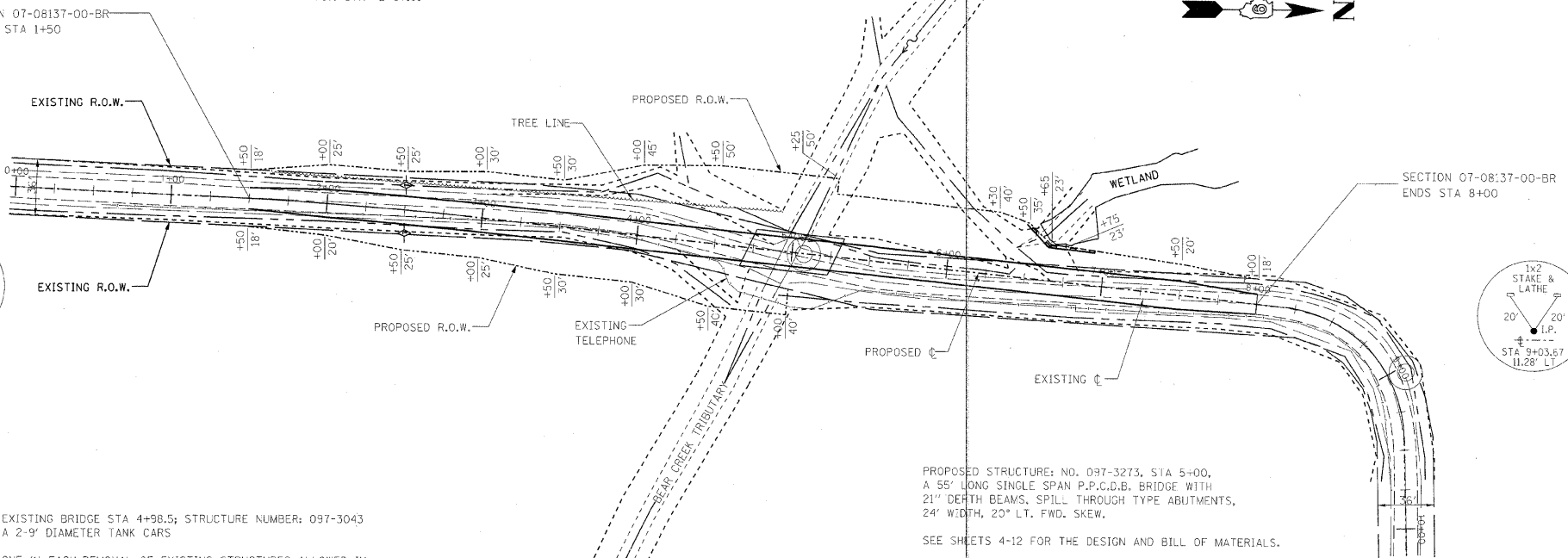
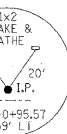
NOTE: CONSTRUCTION TRANSITION
STA. 1+50 TO STA 2+00
STA 7+50 TO STA 8+00

ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

CURVE #1
P.I. STA= 2+06.29
Δ= RT. 3°07'07"
D= 154.35'
R= 3000'
T= 81.66'
L= 163.29'
E= 1.11'
B= NONE
T.R.= NONE
S.E. RUN= NONE
P.C. STA= 1+24.63
P.T. STA= 2+87.91



SECTION 07-08137-00-BR BEGINS STA 1+50



EXISTING BRIDGE STA 4+98.5; STRUCTURE NUMBER: 097-3043
A 2-9' DIAMETER TANK CARS

ONE (3) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

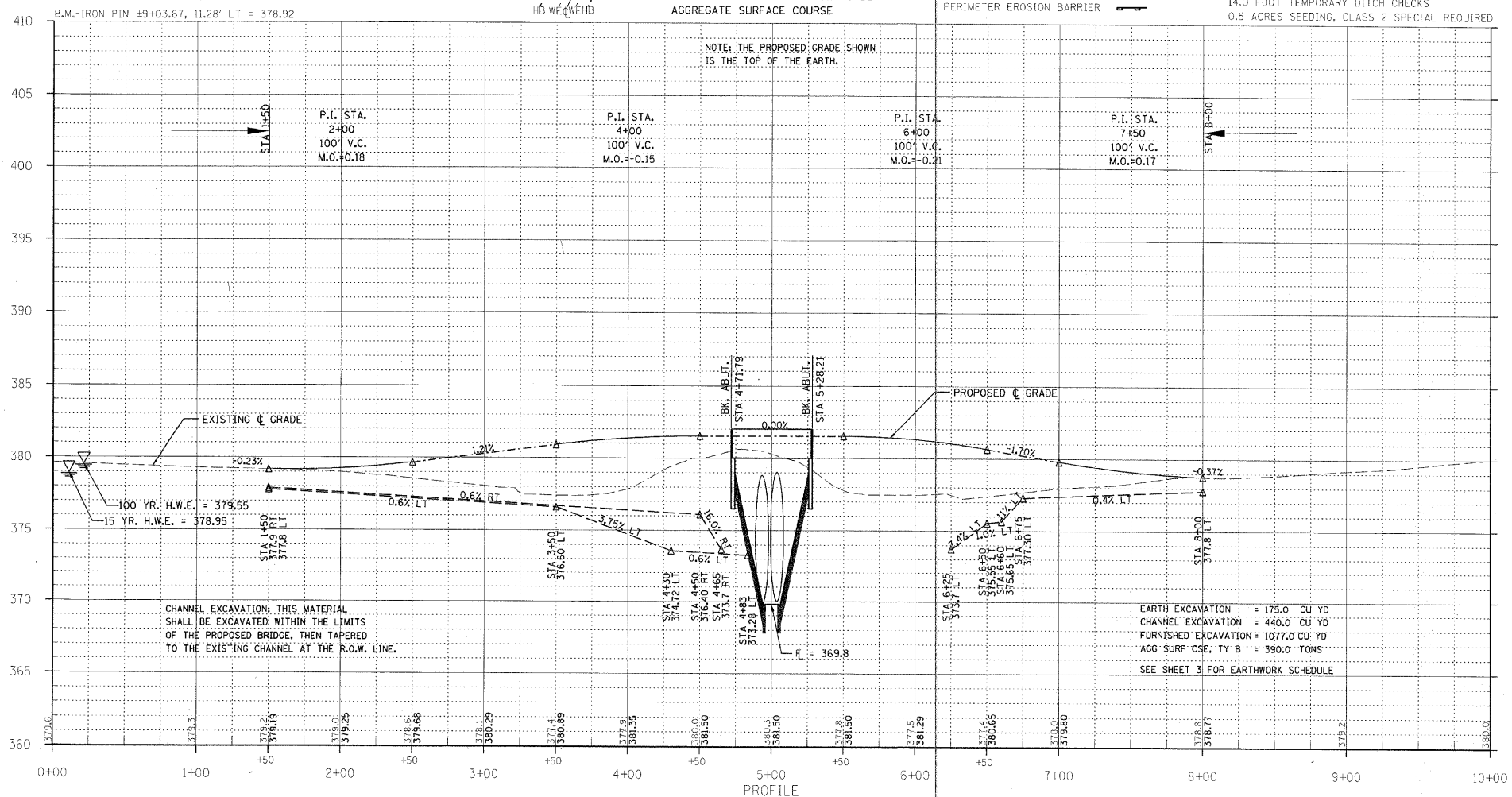
PROPOSED STRUCTURE: NO. 097-3273, STA 5+00,
A 55' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH
21" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS,
24' WIDTH, 20' LT. FWD. SKEW.

SEE SHEETS 4-12 FOR THE DESIGN AND BILL OF MATERIALS.

NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE

TEMPORARY DITCH CHECKS
PERIMETER EROSION BARRIER

0.2 ACRES TREE REMOVAL, ACRES
14.0 FOOT TEMPORARY DITCH CHECKS
0.5 ACRES SEEDING, CLASS 2 SPECIAL REQUIRED



TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
28A	07-08137-00-BR	WHITE	13	2	323 W. 3RD ST. P.O. BOX 160 MT. CARMEL, IL 62863
PROJECT # BROS-193038					CONTRACT # 93441
LEC JOB # H09L007WH					PHONE: (618)-262-8661 FAX: (618)-263-3327
405 W. STATE ST SUITE 1 PRINCETON, IN 47570					PHONE: (812)-386-7611 FAX: (812)-385-2812
LAMAC ENGINEERING CO.					
PROFESSIONAL DESIGN FIRM LAND SURVEY & ENGINEERING CORPORATION					
184-000897 (62-032435)(35-002769)					
AARON M. MEFFORD NAME SIGNATURE 2-15-11 DATE 11-30-11 EXPIRES					
TOWNSHIP ROUTE 28A OVER BEAR CREEK TRIBUTARY WHITE COUNTY, ILLINOIS					
SHEET TITLE:					
PLAN & PROFILE					
SCALE: VARIES					
BY: AMM					
DATE: 2011					
REV:					
2 OF 13					
SHEETS					
SHEET NO. 2					

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
28A	07-08137-00-BR	WHITE	13	3
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT# BROS-193(038)		CONTRACT# 99441		
JOB NO. C-99-546-07		BEAR CREEK TRIB		
LEC JOB # HD9L007WH				323 W. 3RD. ST. P.O. BOX 160 MT. CAHMEIL, IL 62863 PHONE: (618)-262-8651 FAX: (618)-263-3327

405 W. STATE ST
 SUITE 1
 PRINCETON, IN
 47670
 PHONE:
 (812)-386-7611
 FAX:
 (812)-385-2812



PROFESSIONAL
 DESIGN FIRM
 LAND SURVEY &
 PROFESSIONAL
 ENGINEERING
 CORPORATION
 184-000887
 (62-032435)(35-002769)



AARON M. MEFFORD
 NAME
Aaron M. Mefford
 SIGNATURE
 DATE
 2-15-11
 IL-30-11
 EXPIRES

TOWNSHIP ROUTE 28A
 OVER BEAR CREEK TRIBUTARY
 WHITE COUNTY, ILLINOIS

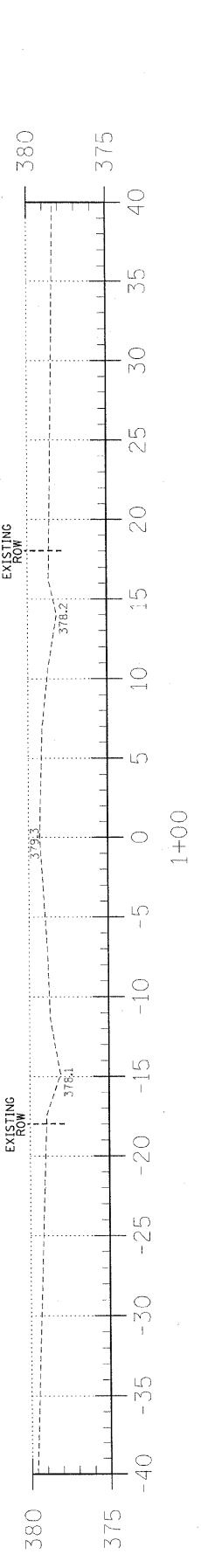
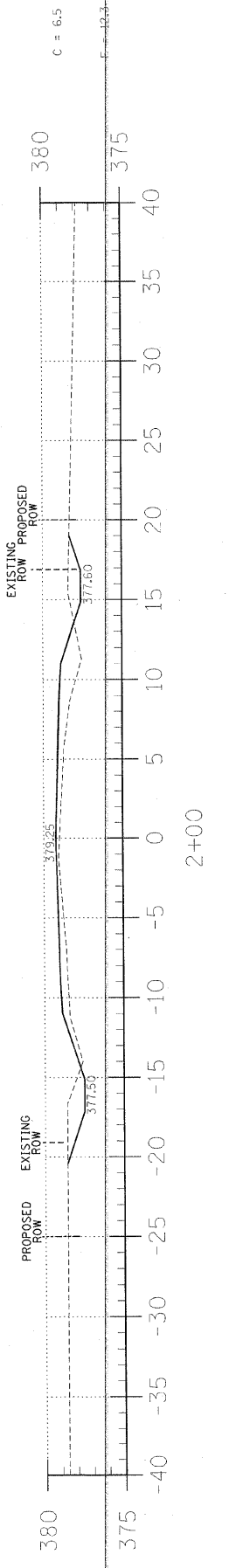
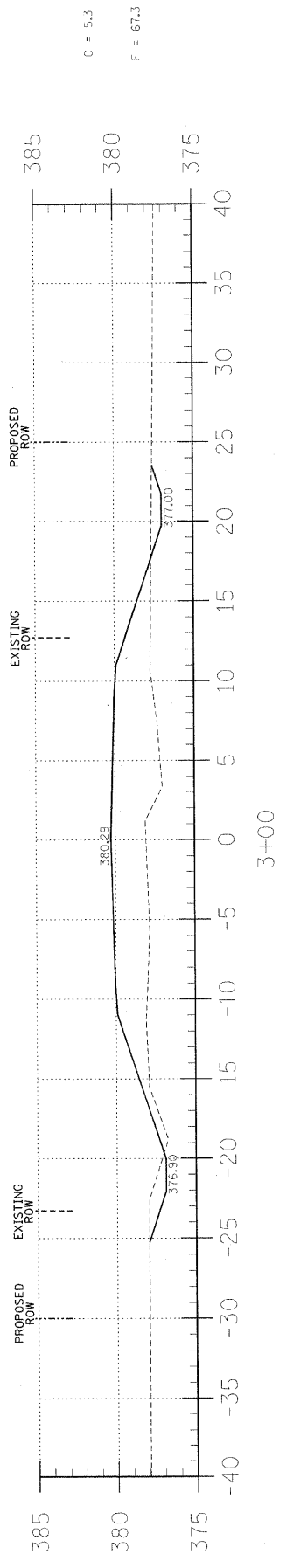
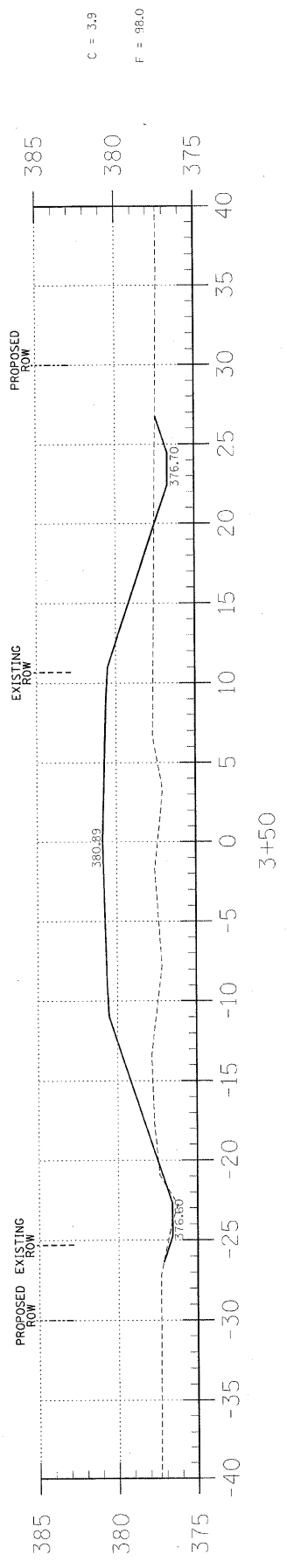
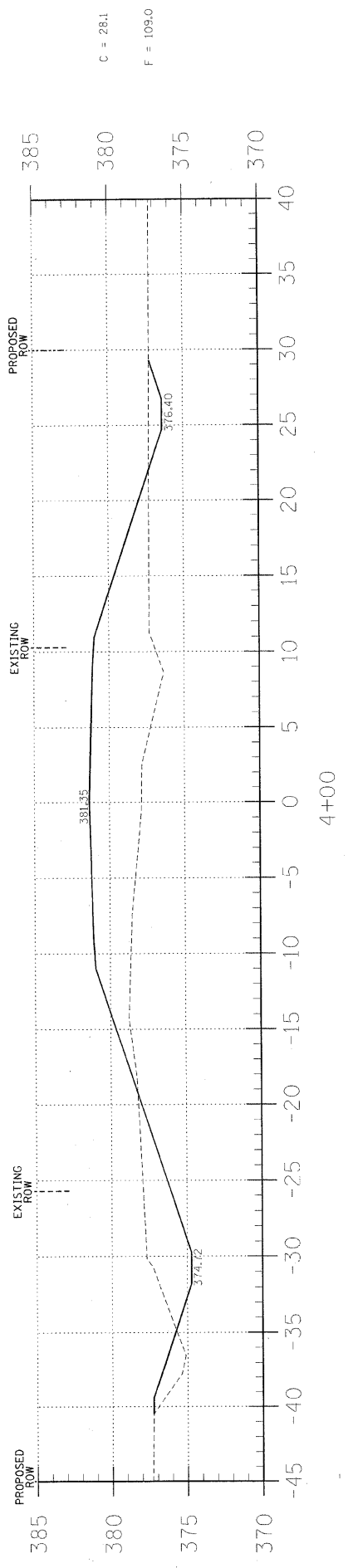
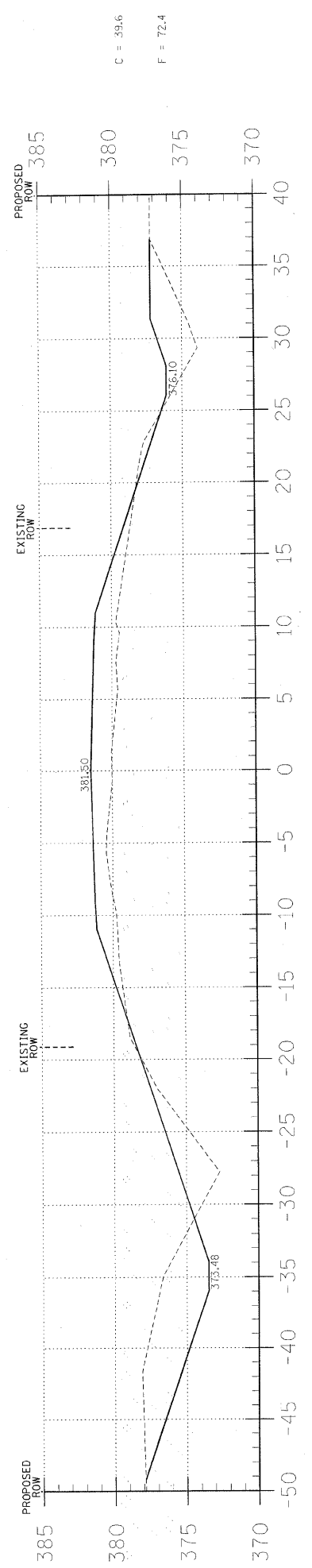
SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'
 BY: AMM
 DATE: 2011
 REV:

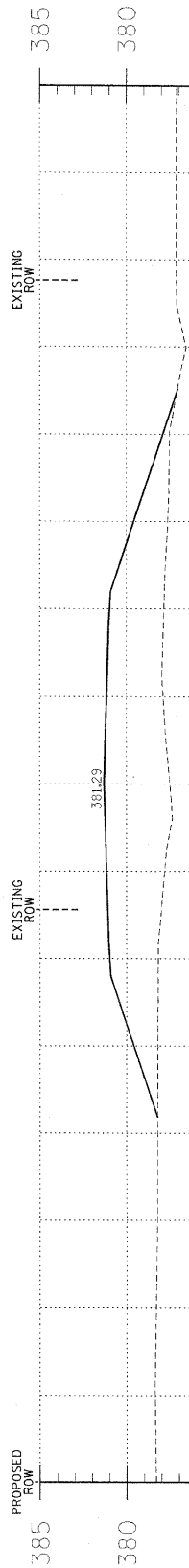
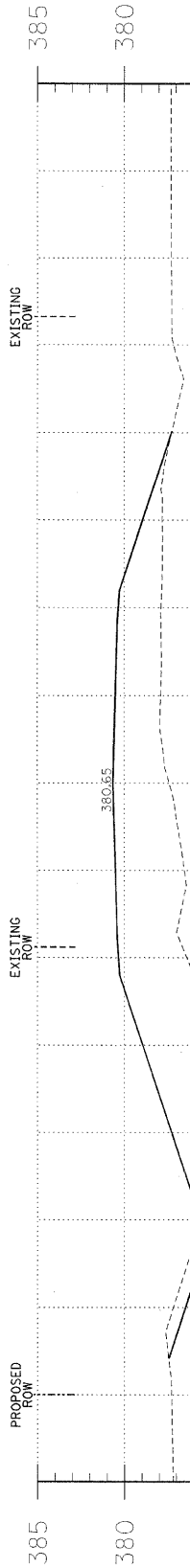
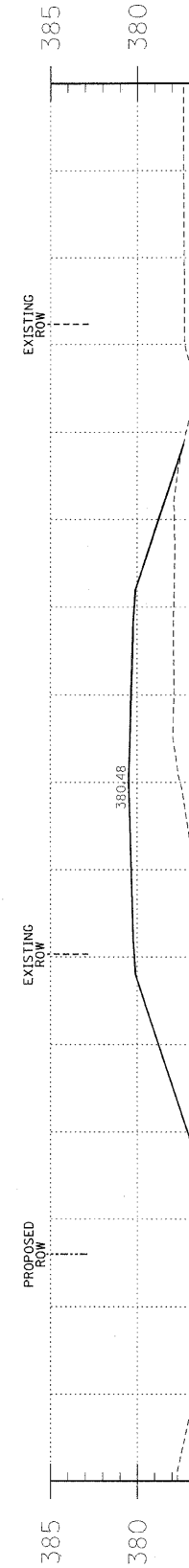
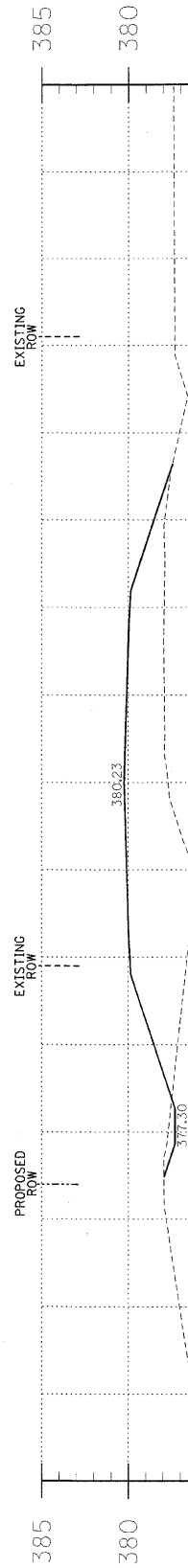
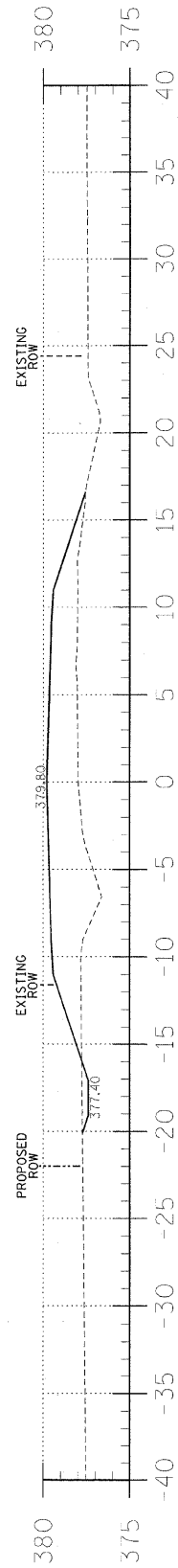
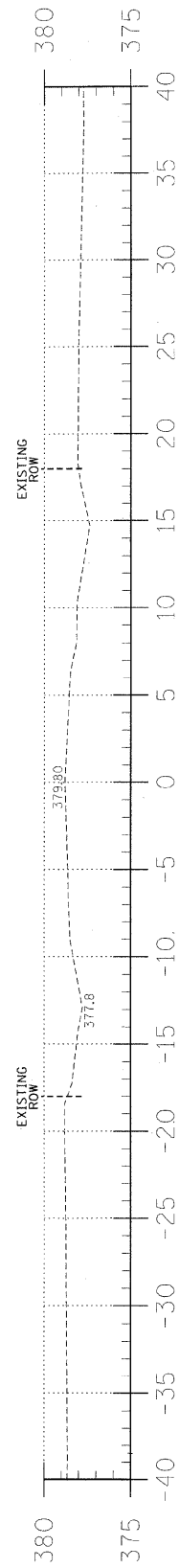
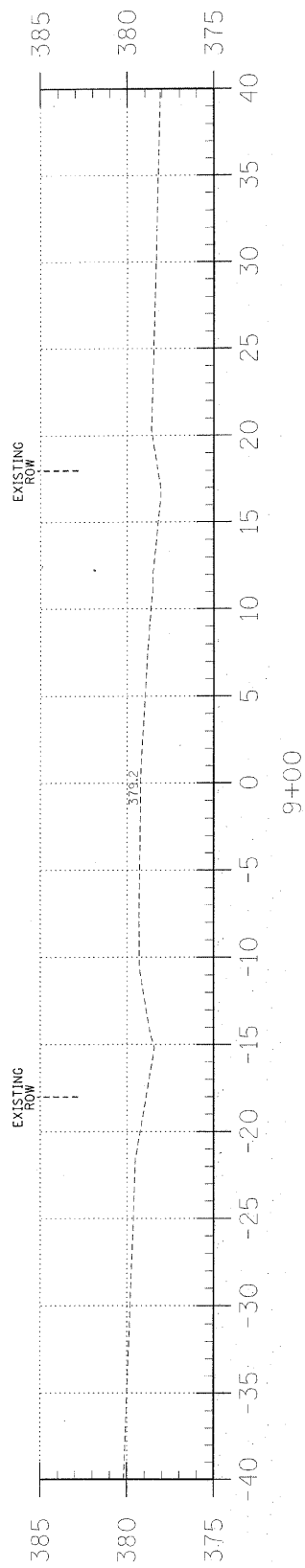
3 OF 13
 SHEETS

SHEET NO.
 3



EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	ESTIMATED UNSUITABLE MATERIAL	SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE	EMBANKMENT	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+71.8	165.4	0.0	0.0	124.1	701.5	-577.4
STA 4+71.8 TO 5+28.2	0.0	440.0	220.0	165.0	0.0	165.0
STA 5+28.2 TO 10+00	10.0	0.0	0.0	7.5	672.5	-665.0
TOTAL	175.4	440.0	220.0	296.6	1374.0	-1077.4



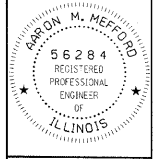
TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
28A	07-08137-00-BR	WHITE	13	4
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT# BROS-193(038)		CONTRACT# 99441		
JOB NO. C-99-546-07		BEAR CREEK TRIB		

LEC JOB # HW11007WH
 323 W. 3RD ST.
 P.O. BOX 160
 MT. CARMEL, IL
 62863
 PHONE:
 (618)-262-8651
 FAX:
 (618)-263-3327

405 W. STATE ST.
 SUITE 1
 PRINCETON, IN
 47670
 PHONE:
 (812)-366-7611
 FAX:
 (812)-385-2812



PROFESSIONAL DESIGN FIRM
 LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
 184-000887
 (62-032435)(35-002769)



AARON M. MEFFORD
 NAME
Aaron Mefford
 SIGNATURE
 2-15-11
 DATE
 11-30-11
 EXPIRES

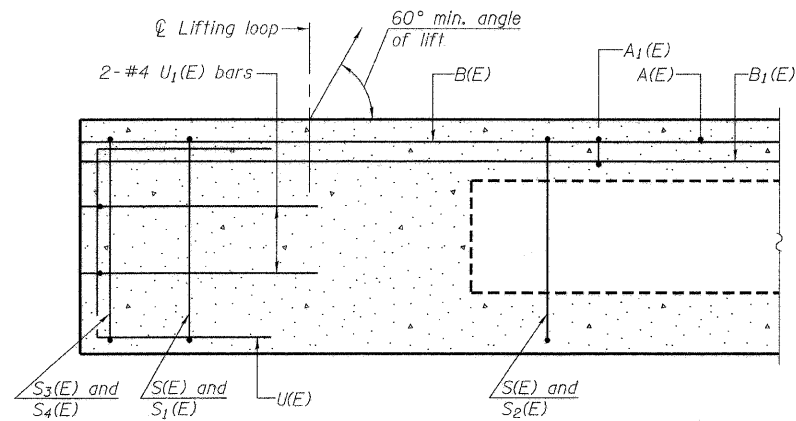
TOWNSHIP ROUTE 28A
 OVER BEAR CREEK TRIBUTARY
 WHITE COUNTY, ILLINOIS

SHEET TITLE:
 CROSS-SECTIONS

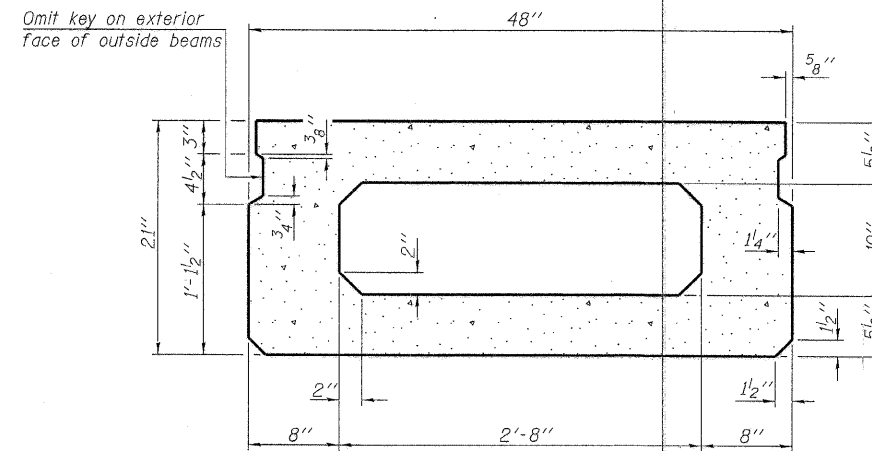
SCALE: 1" = 5'
 BY: AMM
 DATE: 2011
 REV:

4 OF 13
 SHEETS

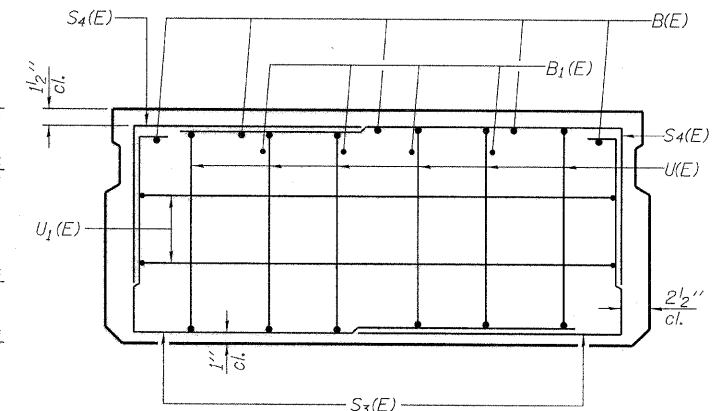
SHEET NO.
 4



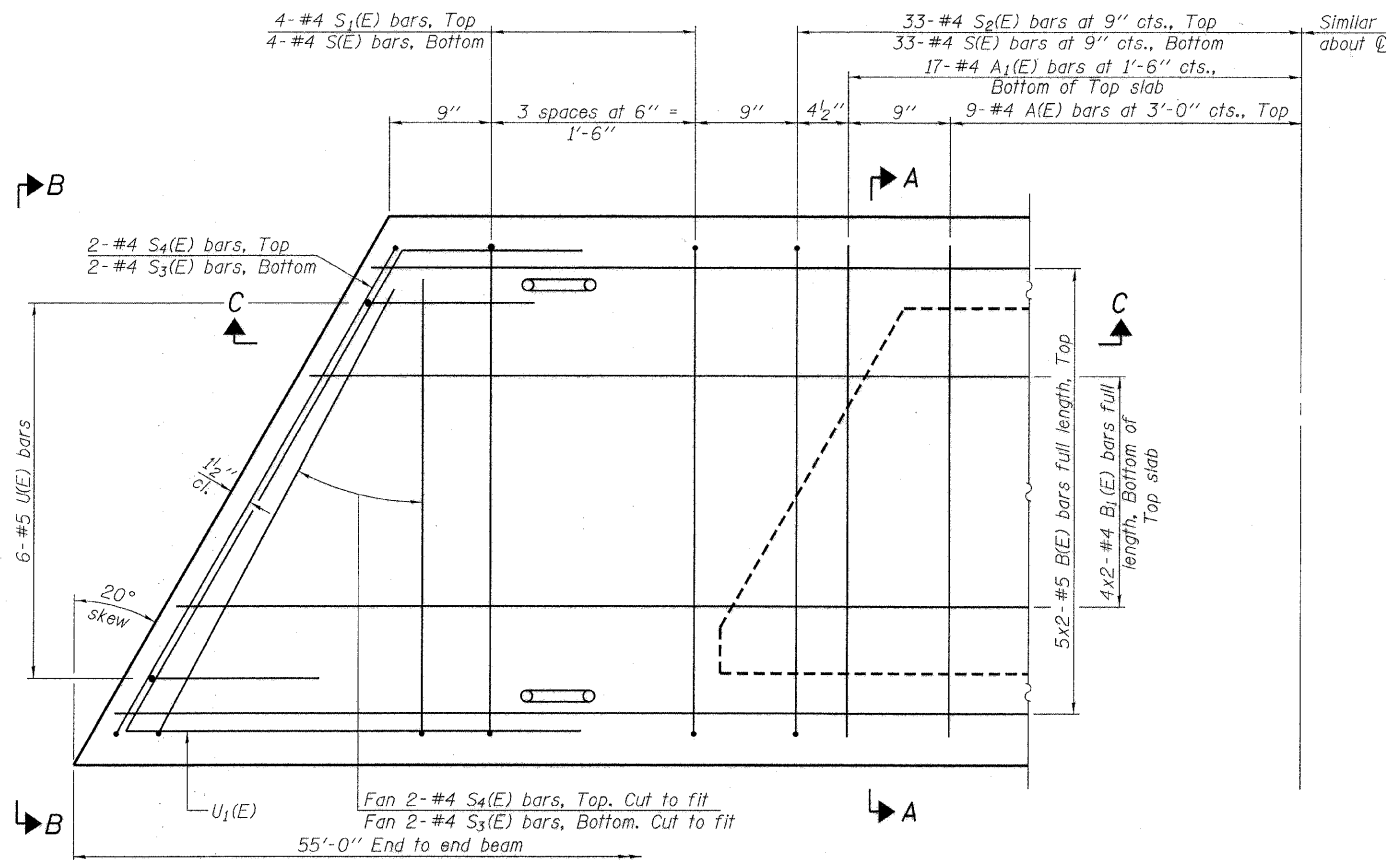
SECTION C-C



SECTION A-A
(Showing dimensions)

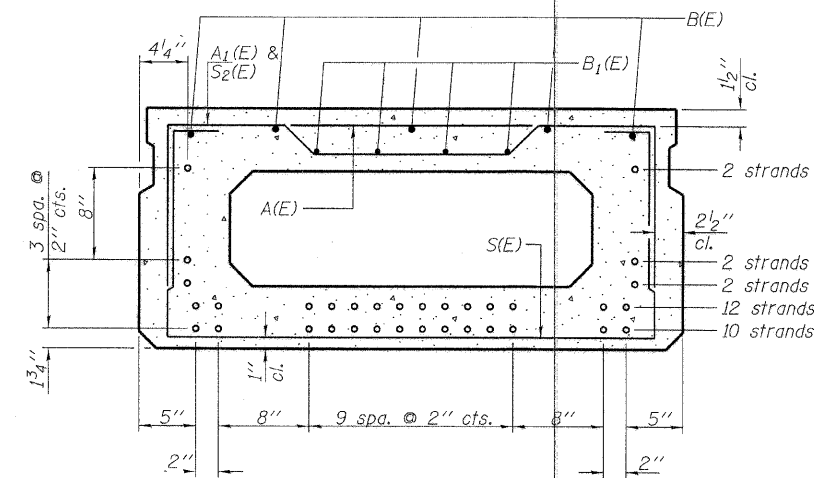


VIEW B-B



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.
Bars indicated thus 5x2-#4 etc. indicates 5 lines of bars with 2 lengths per line.



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)	18	#4	3'-7"	—
A1(E)	34	#4	3'-10"	—
B(E)	10	#5	28'-8"	—
B1(E)	8	#4	28'-5"	—
S(E)	74	#4	7'-5"	⌈
S1(E)	8	#4	5'-11"	⌈
S2(E)	66	#4	6'-2"	⌈
S3(E)	8	#4	4'-9"	⌈
S4(E)	8	#4	4'-0"	⌈
U(E)	12	#5	4'-0"	⌈
U1(E)	4	#4	7'-6"	⌈

Note: See sheets 3 & 4 of 9 for additional details and Bill of Material.

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

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - S.W.M.

PD-2148-L

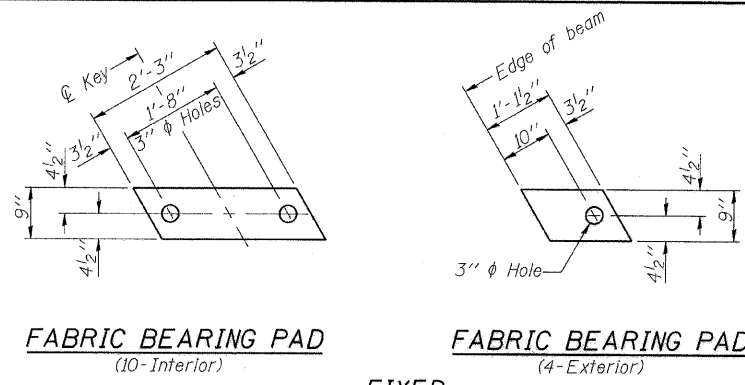
11-1-09

HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hlrengineering.com
 184.000859
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
 PROJECT NUMBER: 09.0056.130 DATE: 02/10/11

SHEET NO. 2
9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
28A	07-08137-00-BR	WHITE	13	6
INDIAN CREEK ROAD DISTRICT		CONTRACT NO. 99441		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-193(38)		

SUPERSTRUCTURE
21" X 48" PPC DECK BEAM
STRUCTURE NO. 097-3273

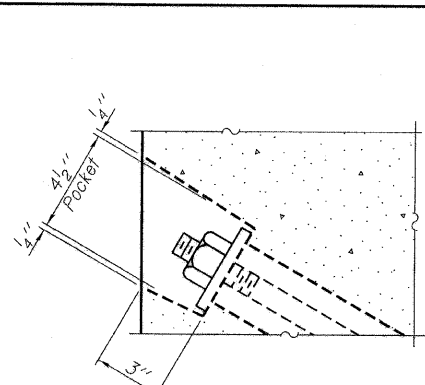


FABRIC BEARING PAD
(10-Interior)

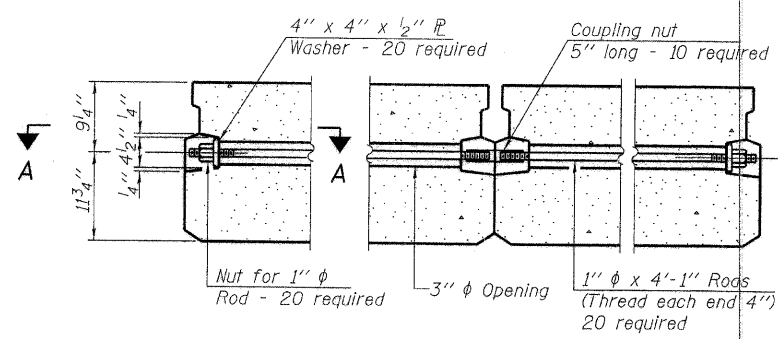
FABRIC BEARING PAD
(4-Exterior)

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

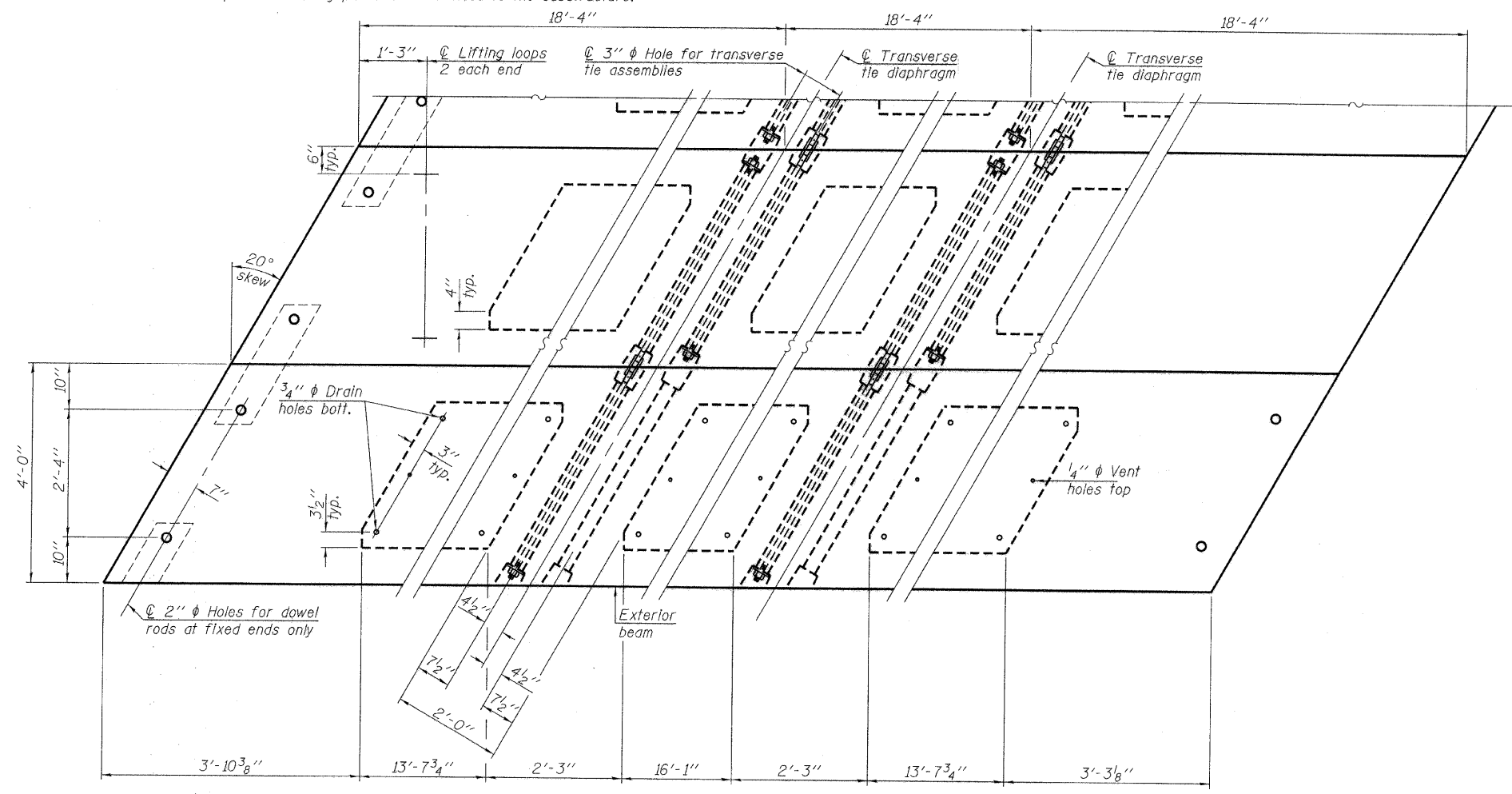
FIXED



SECTION A-A



TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

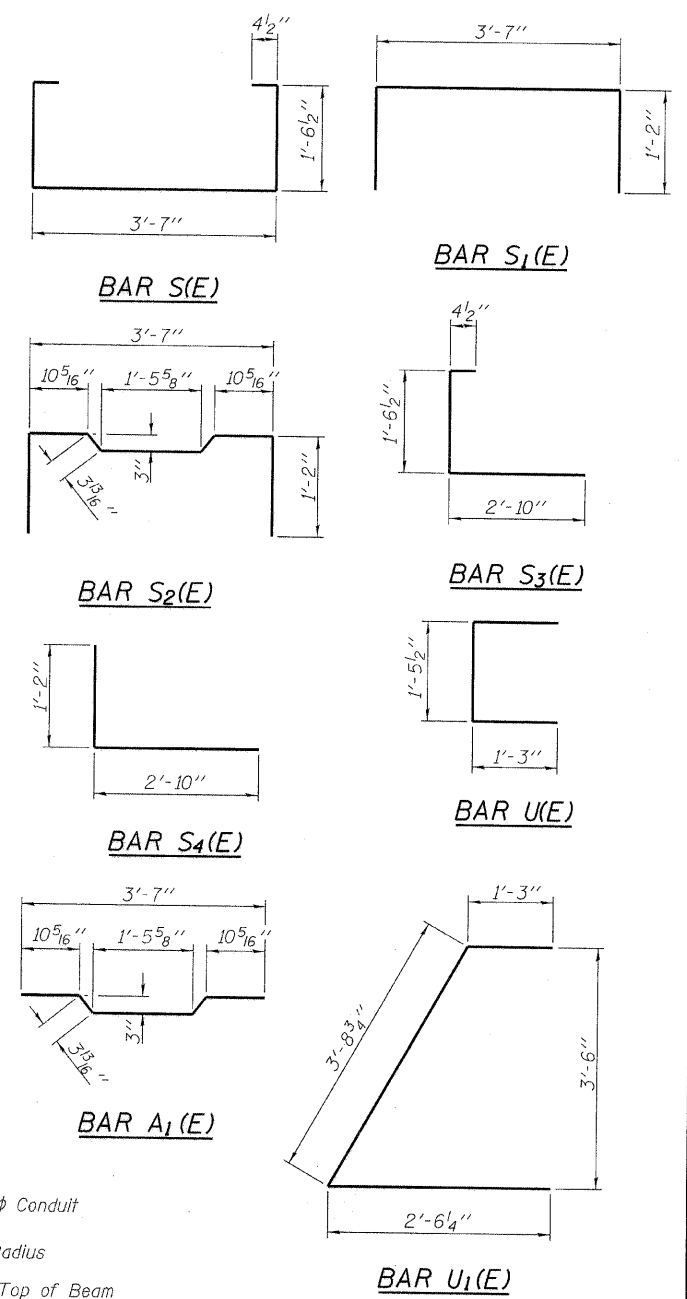
NOTES

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 3/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" 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.
All bars shall be epoxy coated.

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

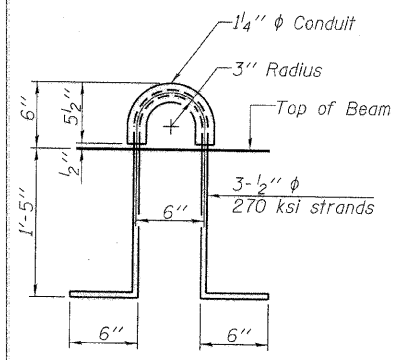
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - S.W.M.

PD-2148-LD 11-1-09



BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,320
---	---------	-------



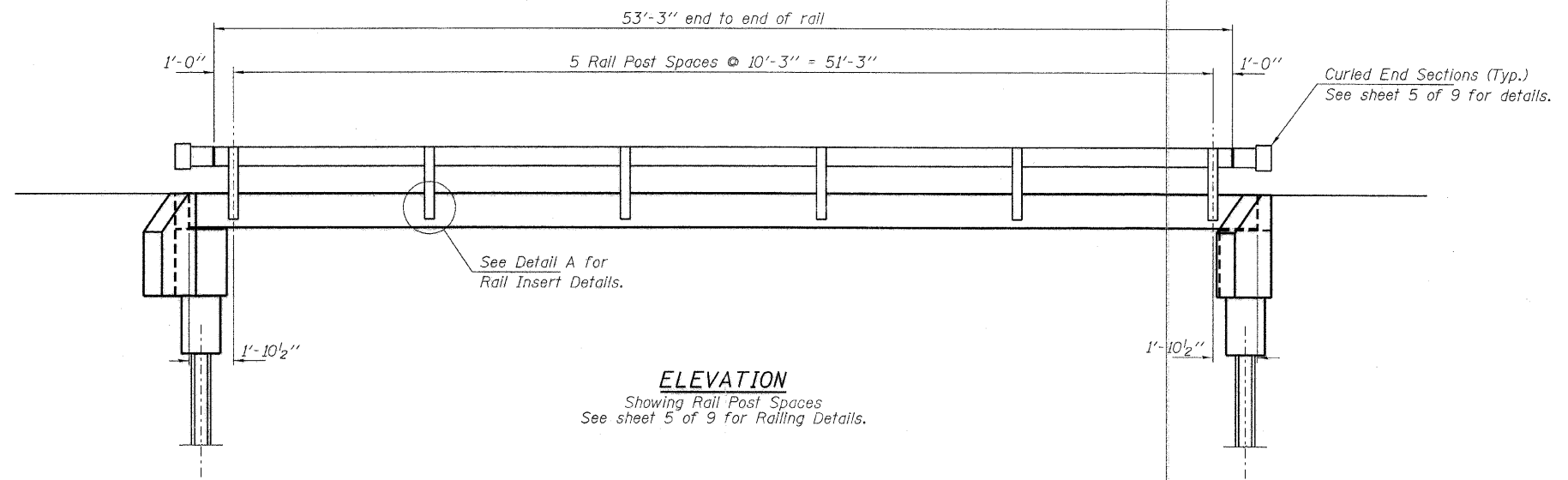
LIFTING LOOP DETAIL

SUPERSTRUCTURE DETAILS
21" X 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3273

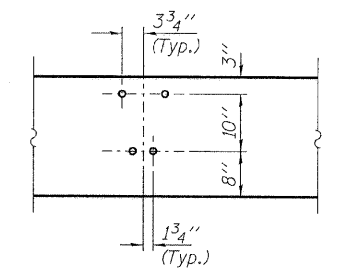
HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hirengineering.com

HLR
184.000859
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
PROJECT NUMBER: 08.0056.130 DATE: 02/10/11

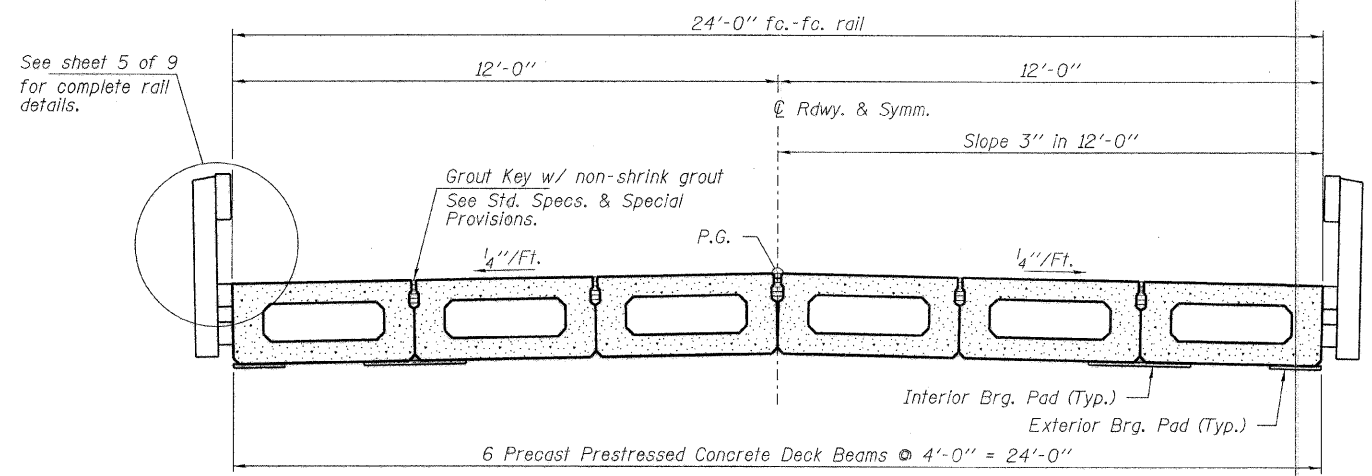
SHEET NO. 3 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	28A	07-08137-00-BR	WHITE	13	7
INDIAN CREEK ROAD DISTRICT			CONTRACT NO. 99441		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-193(38)			



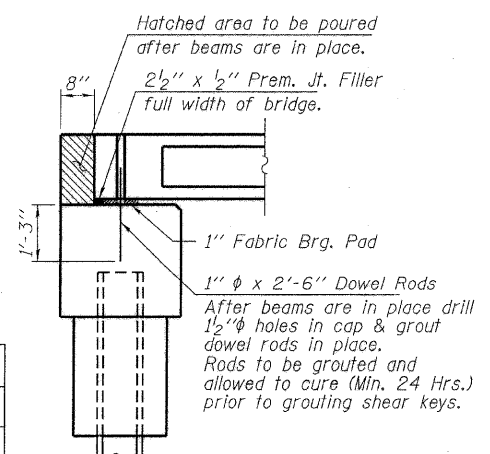
ELEVATION
Showing Rail Post Spaces
See sheet 5 of 9 for Railing Details.



DETAIL A



CROSS SECTION
See sheets 2 & 3 of 9 for Superstructure.

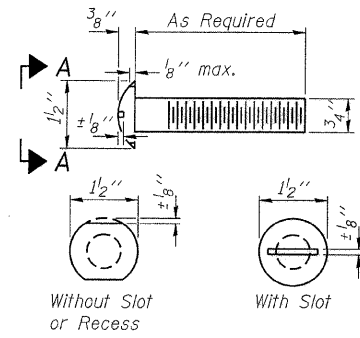


SECTION AT ABUTMENTS
© Rt. L's

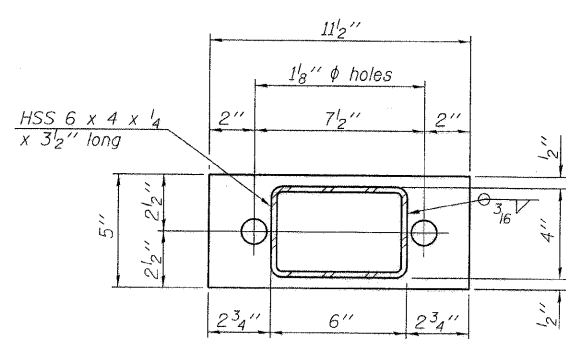
DESIGNED -	A.S.L.
CHECKED -	S.W.M.
DRAWN -	D.T.M.
CHECKED -	S.W.M.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 097-3273

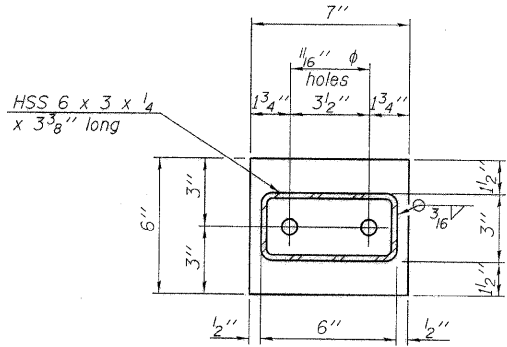
HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS • STRUCTURAL ENGINEERS • LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrengineering.com 184.009699 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION	SHEET NO. 4	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	28A	07-08137-00-BR	WHITE	13	8
PROJECT NUMBER: 09.0056.130	DATE: 02/10/11	INDIAN CREEK ROAD DISTRICT		CONTRACT NO. 99441		
		FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-193(38)		



VIEW A-A
ROUND HEAD BOLT

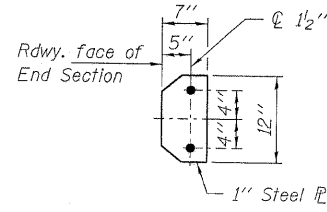


PL 1/2" x 11 1/2" x 5"

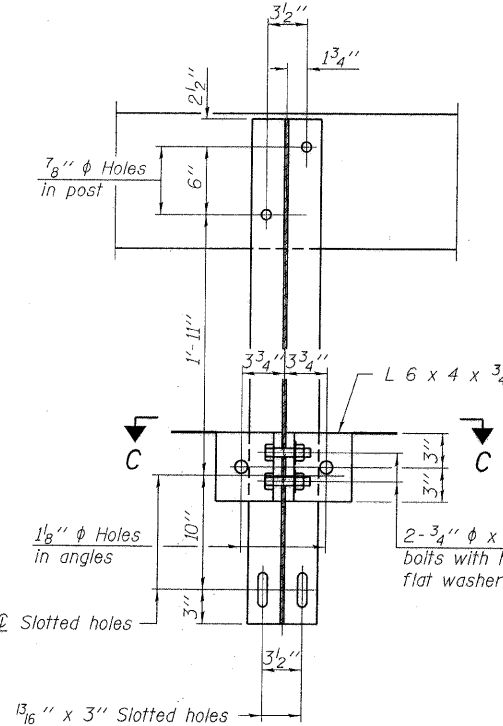
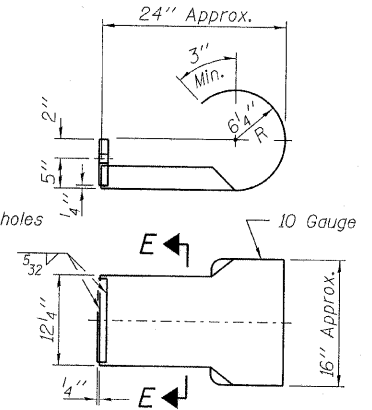


PL 1/2" x 7" x 6"

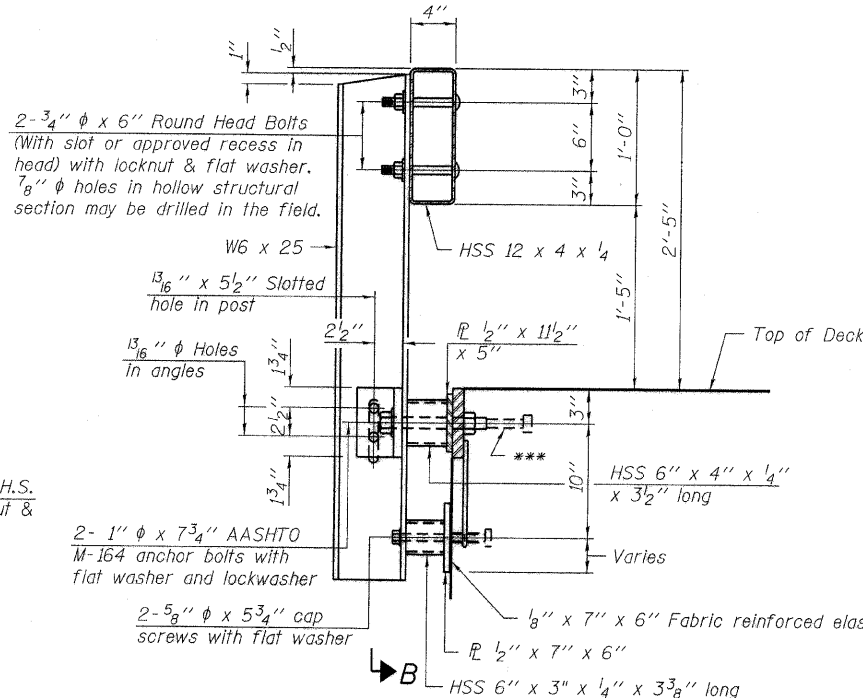
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



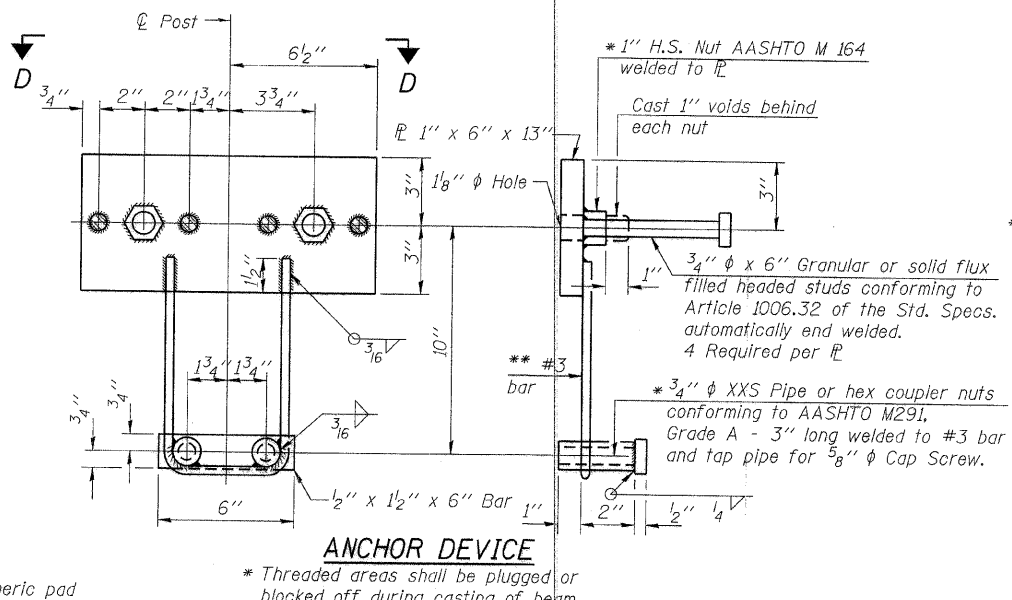
SECTION E-E
CURLLED END SECTION DETAILS



SECTION B-B

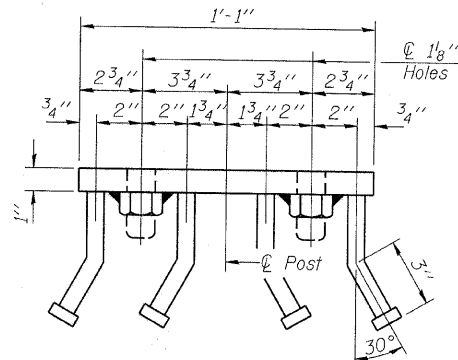


SECTION AT RAILING POST

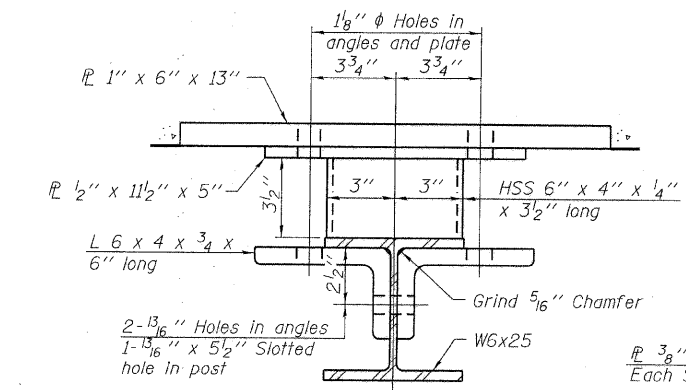


ANCHOR DEVICE

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.

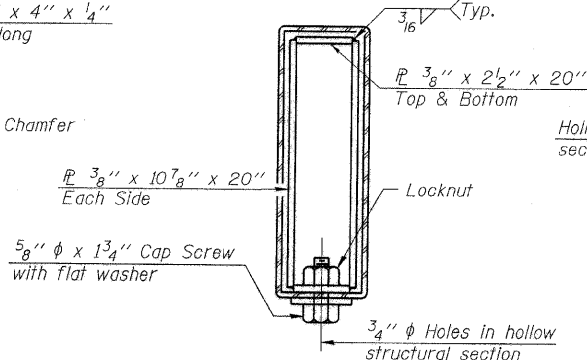


VIEW D-D

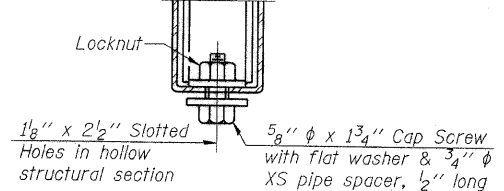


SECTION C-C

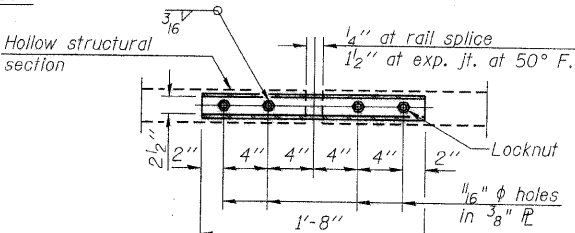
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



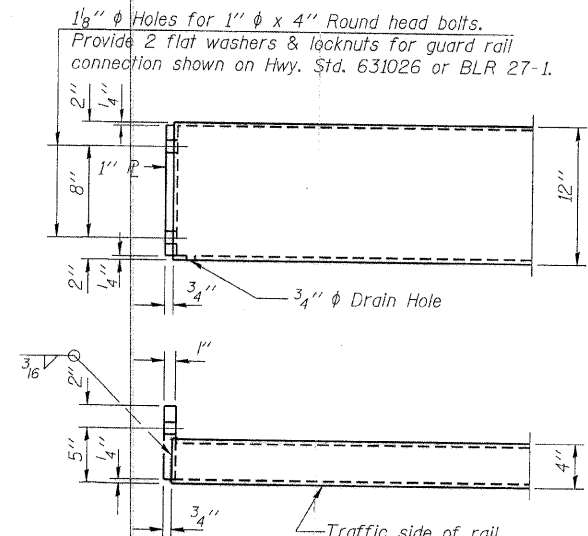
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION
AT EXPANSION JT.



PLAN-BOTT. SPLICE PL
TYPICAL



END OF RAIL DETAILS

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	106

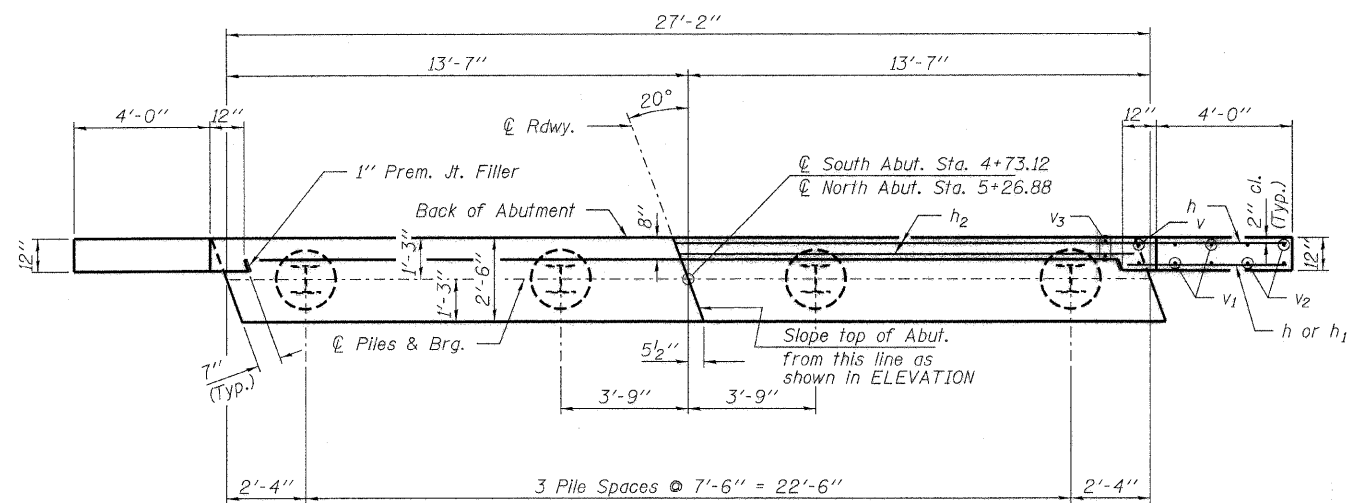
STEEL RAILING, TYPE S-1
STRUCTURE NO. 097-3273

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - S.W.M.

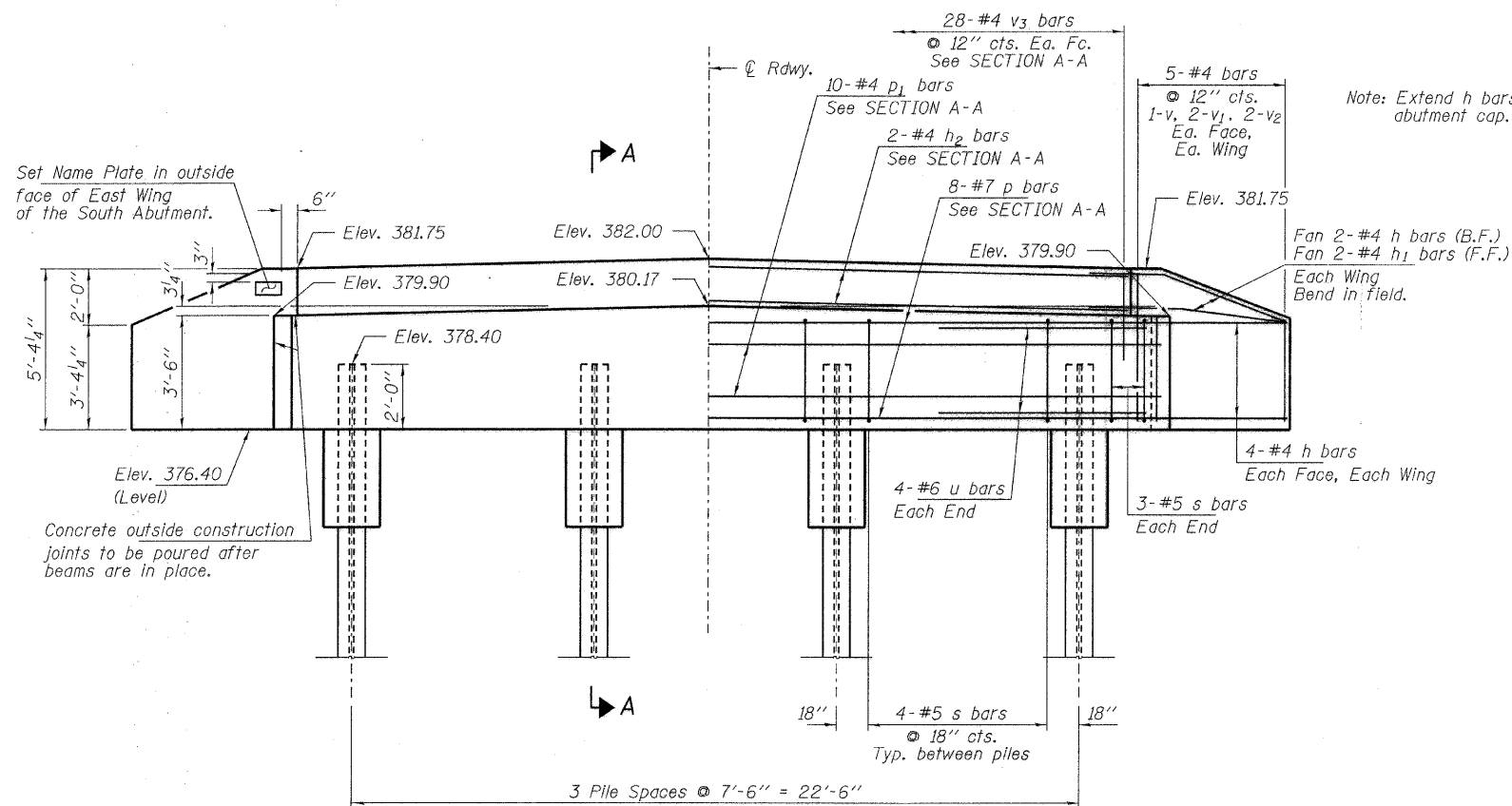
R-23A 11-1-09 (10'-9" Maximum Post Spacing)

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
194.00989
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
PROJECT NUMBER: 09.0056.130 DATE: 02/10/11

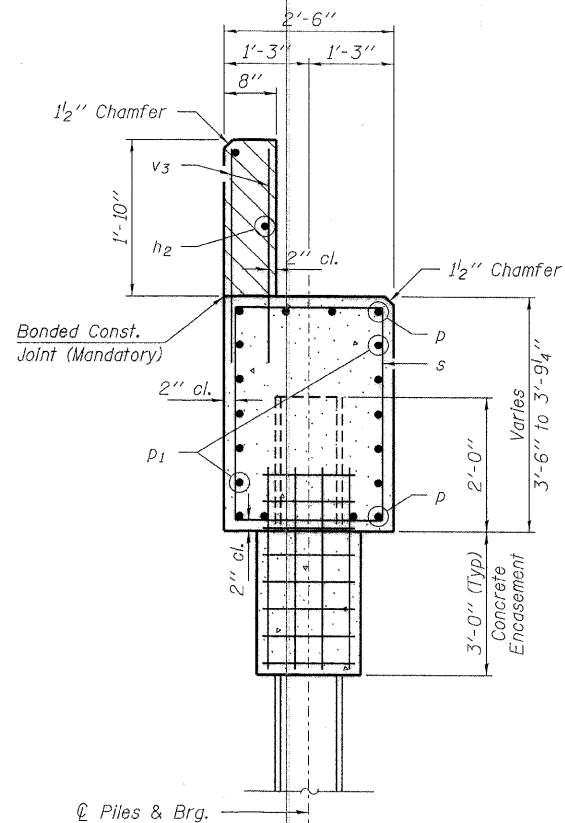
SHEET NO. 5 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	28A	07-08137-00-BR	WHITE	13	9
INDIAN CREEK ROAD DISTRICT			CONTRACT NO. 99441		
FED. ROAD DIST. NO.		ILLINOIS	FED. AID PROJECT BROS-193(38)		



PLAN

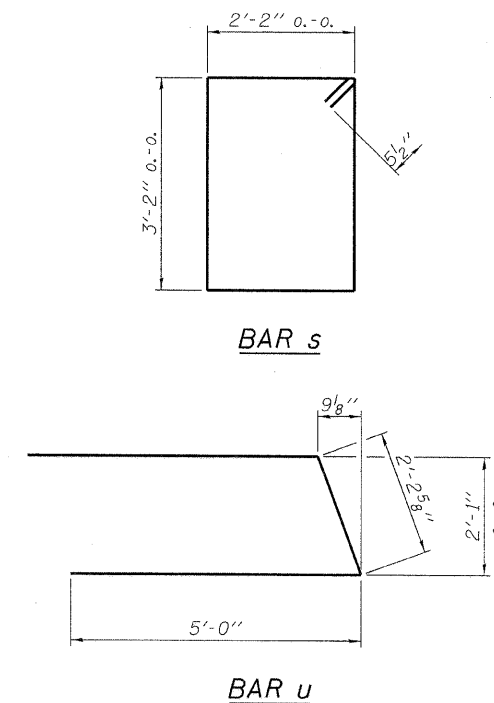


ELEVATION



SECTION A-A

Hatched area to be poured after beams are in place.



BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE	
h	40	#4	6'-3"	—	
h1	8	#4	4'-9"	—	
h2	4	#4	26'-10"	—	
p	16	#7	26'-10"	—	
p1	20	#4	26'-10"	—	
s	36	#5	11'-7"	□	
u	16	#6	12'-3"	⊏	
v	8	#4	5'-0"	—	
v1	16	#4	4'-0"	—	
v2	16	#4	3'-0"	—	
v3	112	#4	2'-8"	—	
Concrete Structures				Cu. Yd.	23.8
Concrete Encasement				Cu. Yd.	2.8
Reinforcement Bars				Pound	2,530
Steel Piles HP10x42				Foot	490
Test Pile Steel HP10x42				Each	1
Name Plates				Each	1

PILE DATA

Type	Steel HP10x42
No. Req'd. (2 Abuts.)	8*
Factored Resistance Available (Rf)	167 Kips/Pile
Nominal Required Bearing (Rn)	335 Kips/Pile
Est. Length	70 Ft/Pile

Notes: * Includes one test pile to be driven in permanent locations at the South Abutment.

The Steel H-Piles shall be according to AASHTO M270 Grade 50.

The test piles shall be driven to 110 percent of the Nominal Required Bearing indicated in the pile data information.

ABUTMENTS
STRUCTURE NO. 097-3273

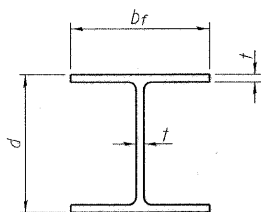
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - S.W.M.

HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hirengineering.com

SHEET NO. 6
9 SHEETS

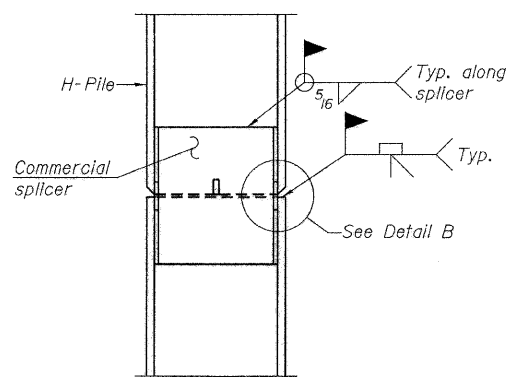
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
28A	07-08137-00-BR	WHITE	13	10
INDIAN CREEK ROAD DISTRICT		CONTRACT NO. 99441		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-193(38)		

PROJECT NUMBER: 09.0056.130 DATE: 02/10/11

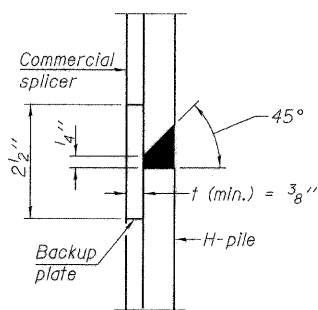


STEEL PILE TABLE

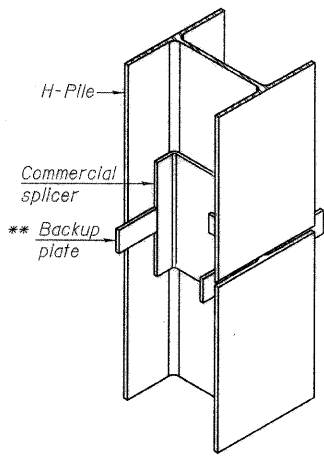
Designation	Depth d	Flange width bf	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	11/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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

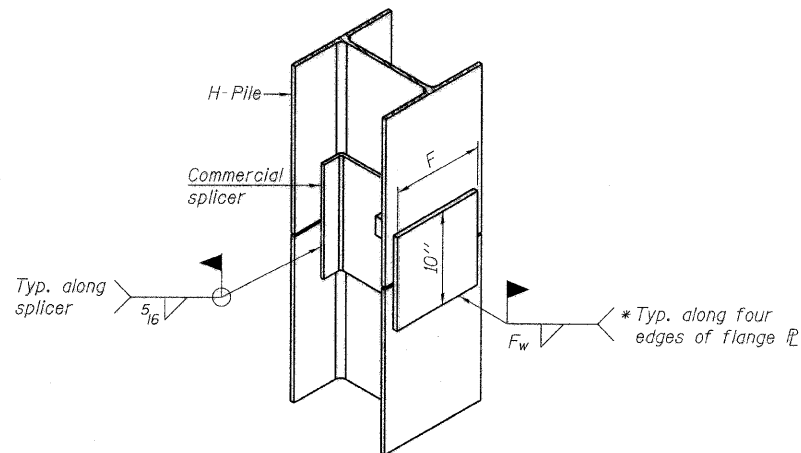


DETAIL "B"



ISOMETRIC VIEW

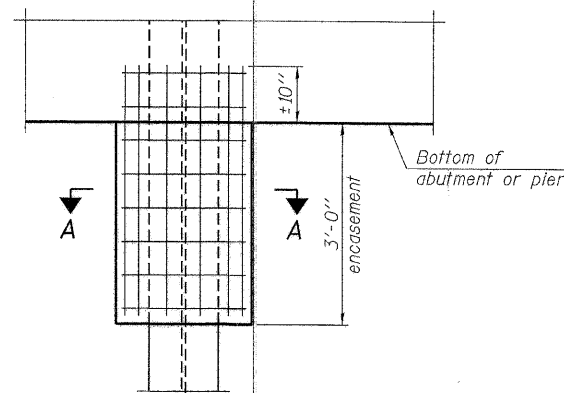
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

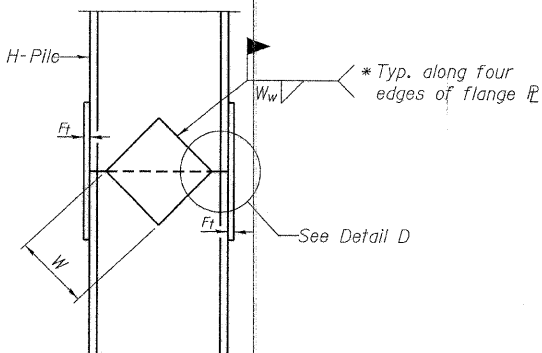
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).

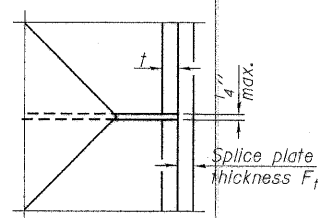


ELEVATION

PILE ENCASEMENT

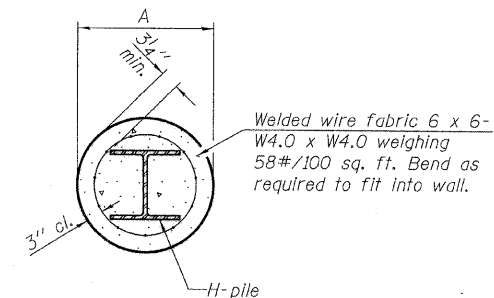


ELEVATION



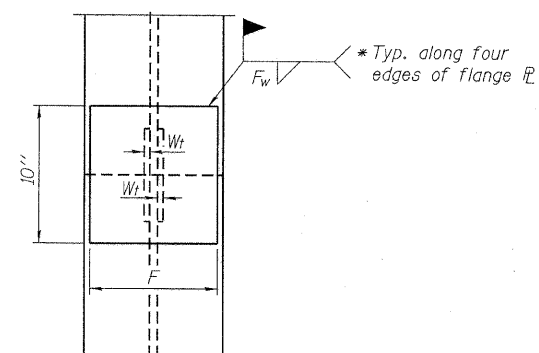
DETAIL D

WELDED PLATE FIELD SPLICE



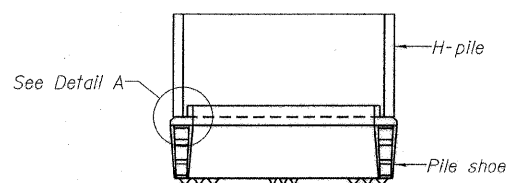
SECTION A-A

Note:
Forms for encasement may be omitted when soil conditions permit.

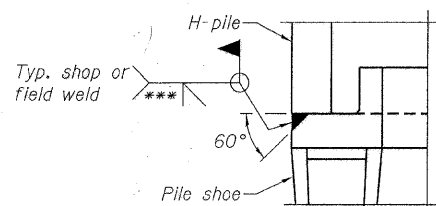


END VIEW

Designation	F	Ft	Fw	W	Wt	Ww
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"	11/16"	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"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	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

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - S.W.M.

F-HP 11-1-09

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

HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
 217.546.3400 www.hlrengineering.com
 184.000659
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
 PROJECT NUMBER: 09 0056 130 DATE: 02/10/11

SHEET NO. 7
9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
28A	07-08137-00-BR	WHITE	13	11
INDIAN CREEK ROAD DISTRICT		CONTRACT NO. 99441		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT BROS-193(38)		

**HP PILE DETAILS
STRUCTURE NO. 097-3273**

HOLCOMB FOUNDATION ENGINEERING INC. P.O. Box 88 618-529-5262 Carbondale, Il. 62903 618-457-8991 fax Page 1 of 2											
Bridge Foundation Boring Log											
Project: <u>H-09190</u> Bridge <u>Co Rd 100 E</u> Date: <u>8/3/09</u>				Section: <u>07-08137-00-BR</u> Station _____ Bored by: <u>D. Russell</u>				Structure: _____ Checked By: <u>T. Holcomb</u>			
Boring No: <u>1</u>				Surface Water Elev. _____				Ground Water Elev. _____			
Station: _____				During Drilling <u>354.4</u>				Upon Completion <u>346.4</u>			
Offset: _____				Elevation				Elevation			
				N				N			
				Qu				Qu			
				tsf				tsf			
				w				w			
				%				%			
Ground Surface <u>379.4</u> 0				sandy clay (continued)							
4" Topsoil											
Brown Mottled Gray Silty CLAY (A-6)											
				1				0.7B 20			
				1.15				28			
				-25							
				375.4				352.9			
Gray Silty CLAY (A-6) to Clayey SILT (A-4)				Gray Clayey SAND (A-2-4)							
				2				0.6B 27			
				1.4S				22			
				-30				6 -- 18			
				-10				4 1.0B 27			
				5				1.8S 24			
				-35				10 -- 15			
				365.4							
Gray Mottled Brown CLAY (A-6)											
				7				2.1B 24			
				-15							
				362.9				340.4			
Brown Mottled Gray Silty CLAY (A-6)				Gray Clayey SAND (A-2-4) with gravel							
				7				2.4S 27			
				-40				14 -- 18			
				360.4							
Gray Silty CLAY (A-6)											
				8				1.6S 34			
				-20							
				357.9				335.4			
Gray Sandy CLAY (A-6)				Gray Sandy CLAY (A-6)							
				2				0.6B 19			

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu - Unconfined Compressive Strength in tons/sq.ft.
 w - Water Content - percentage of oven dry weight-%
 B = Bulge Failure
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

HOLCOMB FOUNDATION ENGINEERING INC. P.O. Box 88 618-529-5262 Carbondale, Il. 62903 618-457-8991 fax Page 2 of 2											
Bridge Foundation Boring Log											
Project: <u>H-09190</u> Bridge <u>Co Rd 100 E</u> Date: <u>8/3/09</u>				Section: <u>07-08137-00-BR</u> Station _____ Bored by: <u>D. Russell</u>				Structure: _____ Checked By: <u>T. Holcomb</u>			
Boring No: <u>1</u>				Surface Water Elev. _____				Ground Water Elev. _____			
Station: _____				During Drilling <u>354.4</u>				Upon Completion <u>346.4</u>			
Offset: _____				Elevation				Elevation			
				N				N			
				Qu				Qu			
				tsf				tsf			
				w				w			
				%				%			
sandy clay (continued)				shale (continued)							
				4.5				15 3.4S 15			
				100				7/3' -- 7			
				-70							
				330.4				307.4			
Gray CLAY (A-7-6)				End of Boring @ -72.0'							
				-50				7 1.2S 42			
				-75							
				325.4							
Gray Mottled Brown Sandy CLAY (A-6)											
				50				3.4S 18			
				-80							
				-60				43 2.9S 18			
				315.4							
Gray-Brown Weathered SHALE											
				54				3.7S 14			
				-65							
				312.9				100			
				/1'				7			
Gray SHALE											

N = Standard Penetration Test Blows per foot to drive 2" O.D. Split Spoon Sampler 12" with a 140 lbs. hammer falling 30"
 Qu - Unconfined Compressive Strength in tons/sq.ft.
 w - Water Content - percentage of oven dry weight-%
 B = Bulge Failure
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.T.M.
CHECKED - S.W.M.

BORING 1

**BORINGS
STRUCTURE NO. 097-3273**

HAMPTON, LENZINI AND RENWICK, INC. CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 217.546.3400 www.hlrengineering.com 144.000000 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION PROJECT NUMBER: 09.0056.130 DATE: 02/10/11	SHEET NO. 8	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	9 SHEETS	28A	07-08137-00-BR	WHITE	13	12
			INDIAN CREEK ROAD DISTRICT		CONTRACT NO. 99441	
			FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BR05-193(38)	

