

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1	TITLE SHEET & SUMMARY OF QUANTITIES
2	PLAN & PROFILE, TYPICAL SECTIONS, GENERAL NOTES & STONE LINED 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
280001-07	TEMPORARY EROSION CONTROL SYSTEMS
515001-03	NAME PLATE FOR BRIDGES
542301-03	PRECAST REINFORCED CONCRETE FLARED END SECTION
701901-03	TRAFFIC CONTROL DEVICES
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-7	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
20100110	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	UNIT	92.00
20200100	EARTH EXCAVATION	CU YD	7.00
20300100	CHANNEL EXCAVATION	CU YD	460.00
20400800	FURNISHED EXCAVATION	CU YD	186.00
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	460.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	350.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300225	CONCRETE STRUCTURES	CU YD	25.00
50300280	CONCRETE ENCASEMENT	CU YD	2.80
50400605	PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH)	SQ FT	1920.00
50800105	REINFORCEMENT BARS	POUND	2630.00
Δ 50900205	STEEL RAILING, TYPE S1	FOOT	156.00
51201600	FURNISHING STEEL PILES 12X53	FOOT	360.00
51202305	DRIVING PILES	FOOT	360.00
51500100	NAME PLATES	EACH	1.00
67100100	MOBILIZATION	L SUM	1.00
Δ 78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4.00
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.30
*Z0068900	STONE LINED DITCH	TON	37.00

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
 DESIGN SPEED: 30 MPH
 HIGHWAY CLASS - LOCAL ROAD
 EXISTING STRUCTURE NO.: 097-3058
 PROPOSED STRUCTURE NO.: 097-3253
 CURRENT A.D.T. = 25
 CONTRACT NO. 99514



Know what's below.
 Call before you dig.

STATE OF ILLINOIS

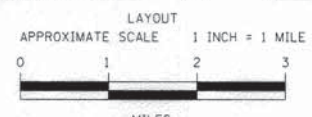
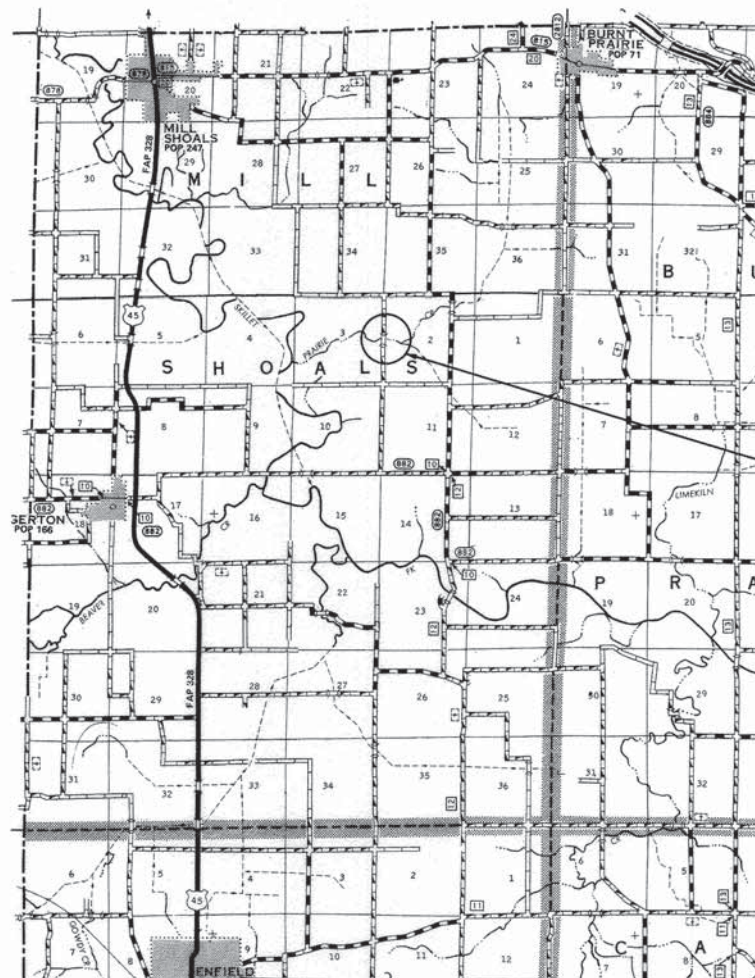
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED FEDERAL AID - S.T.P. PROJECT

T.R. 114 WHITE COUNTY SECTION 06-09122-00-BR

PROJECT NO. BROS-193(026) JOB NO. C-99-538-06

CONTRACT # 99514 PRAIRIE CREEK



GROSS LENGTH	500.00 FT	0.095 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	500.00 FT	0.095 MILES

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

SECTION 06-09122-00-BR BEGINS STATION 2+50

STATION 5+00, STRUCTURE NO. 097-3253
 A 80' LONG SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE (33" DEPTH), 24' ROADWAY, 0.00% GRADE, 00° RT. FWD. SKEW.

SECTION 06-09122-00-BR ENDS STATION 7+50

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

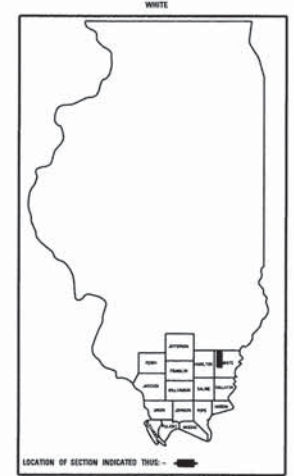
APPROVED October 24th 2013
Kevin A. Lee
 COUNTY ENGINEER

PASSED November 5, 2013
Dennis W. Hillman
 ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
 BASED ON LIMITED REVIEW: November 5, 2013
Jeffrey L. Keirn
 JEFFREY L. KEIRN, P.E.
 ACTING DEPUTY DIRECTOR OF HIGHWAYS
 REGION FIVE ENGINEER

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
114	06-09122-00-BR	WHITE	13	1

FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT
 PROJECT # BROS-193(026) CONTRACT # 99514
 JOB # C-99-538-06 PRAIRIE CREEK
 LEC JOB # H12L012WH



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
 184-00087
 (62-032435)(35-002769)



AARON M. MEFFORD
 NAME
Aaron M. Mefford
 SIGNATURE
 10-24-13
 DATE
 11-30-15
 EXPIRES

TOWNSHIP ROUTE 114
 OVER PRAIRIE CREEK
 WHITE COUNTY, ILLINOIS

SHEET TITLE:
 TITLE SHEET

SCALE:	VARS
BY: AMM	
DATE: 10/23/13	
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, 2012.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 80 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 DECK BEAMS SHALL REMAIN THE PROPERTY OF THE COUNTY.

NOTE: CONSTRUCTION TRANSITION
STA. 2+50 TO STA 4+50
STA 5+50 TO STA 7+50

ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

P.I. STA= 1+28.16
Δ= 00°44'12" LT

P.I. STA= 7+50.11
Δ= 00°44'28" RT

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
114	06-09122-00-BR	WHITE	13	2
FED. ROAD DIST. NO. 9		ILLINOIS	PRAIRIE CREEK	
PROJECT # BR05-193026		CONTRACT # 99514		
LEC JOB # HZ12L0128H				

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

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184-00087
(62-032435)(35-002769)

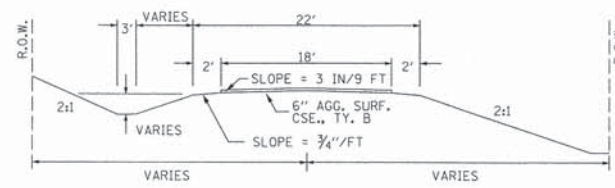


AARON M. MEFFORD
NAME
SIGNATURE
DATE
10-24-13
11-30-15
EXPIRES

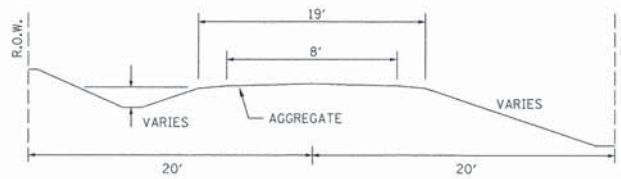
TOWNSHIP ROUTE 114
OVER PRAIRIE CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:
PLAN & PROFILE
SCALE: VARIES
BY: AMM
DATE: 10/20/13
REV:
2 OF 13 SHEETS
SHEET NO. 2

TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING

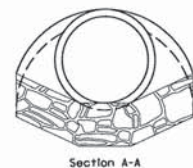
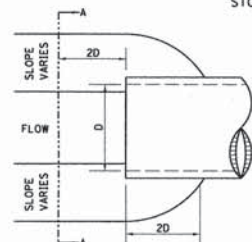


UTILITIES:
J.U.L.I.E. 1-800-892-0123

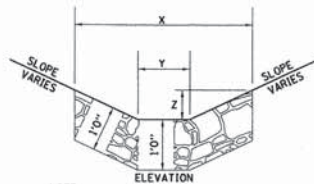
NOTE: CONSTRUCT SPECIAL DITCH
STA 5+22 TO STA 6+00 RT

NOTE: CONSTRUCT STONE LINED DITCH
STA 5+22 TO STA 6+00 RT (0.48 TON/LIN FT)
37 TON STONE LINED DITCH ALLOWED IN PROPOSAL.
SEE STONE LINED DITCH DETAIL.

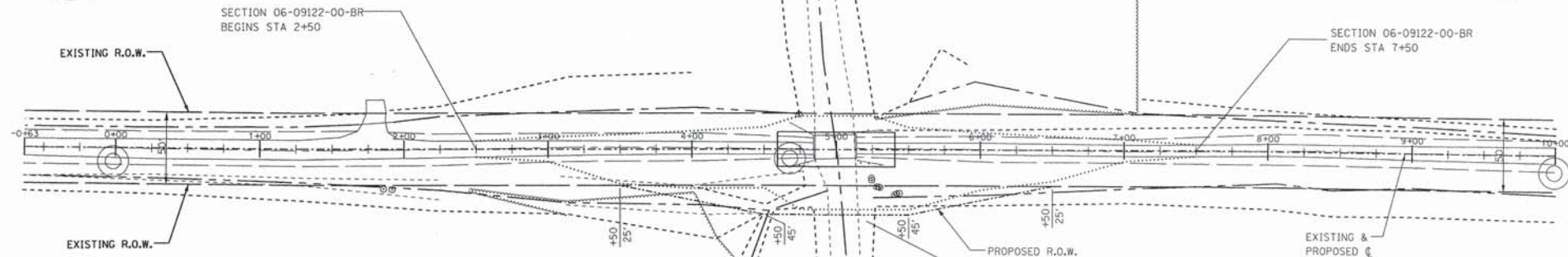
STONE LINED DITCH DESIGN



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



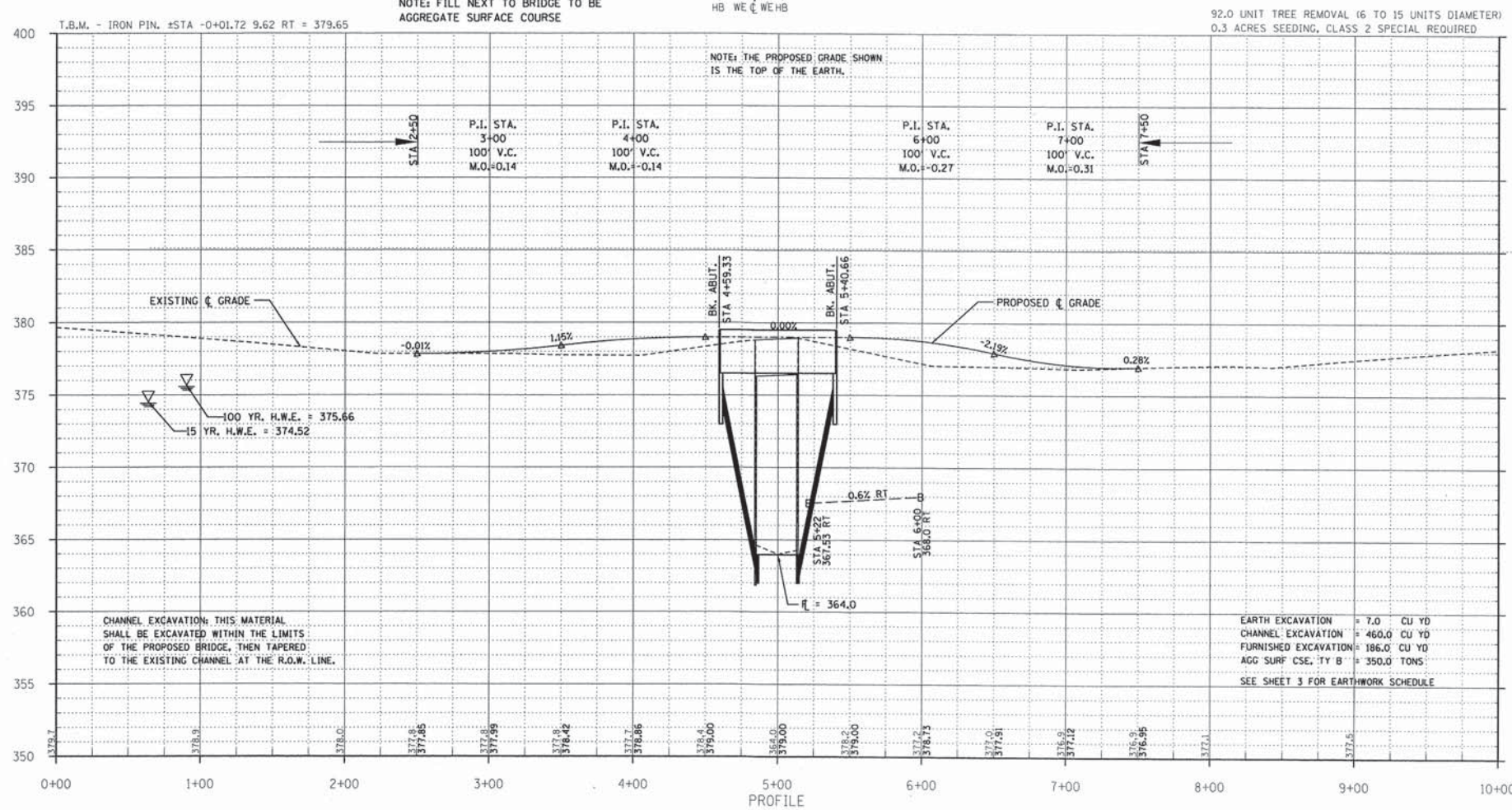
NOTE:	BOTTOM OF DITCH	SLOPE			
	2 FT	1 1/2:1	2:1	3:1	TON/LIN. FT
	X= 5 FT	6 FT	8 FT		
	Y= 2 FT	2 FT	2 FT		
	Z= 1 FT	1 FT	1 FT		
		0.40	0.48	0.62	

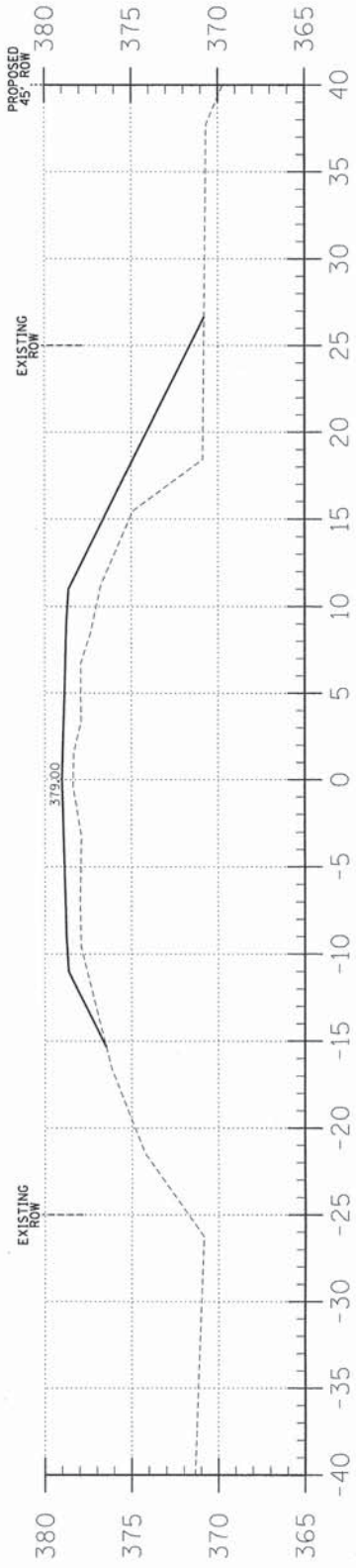


EXISTING BRIDGE STA 4+99.1; STRUCTURE NUMBER: 097-3058
30" CONCRETE DECK BEAMS WITH 8" CONCRETE CURB ON 12" WOOD CAP WITH WOOD PILING AND WOOD MUDWALLS AND WOOD WINGWALLS INCLUDING BRIDGE RAIL.

ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

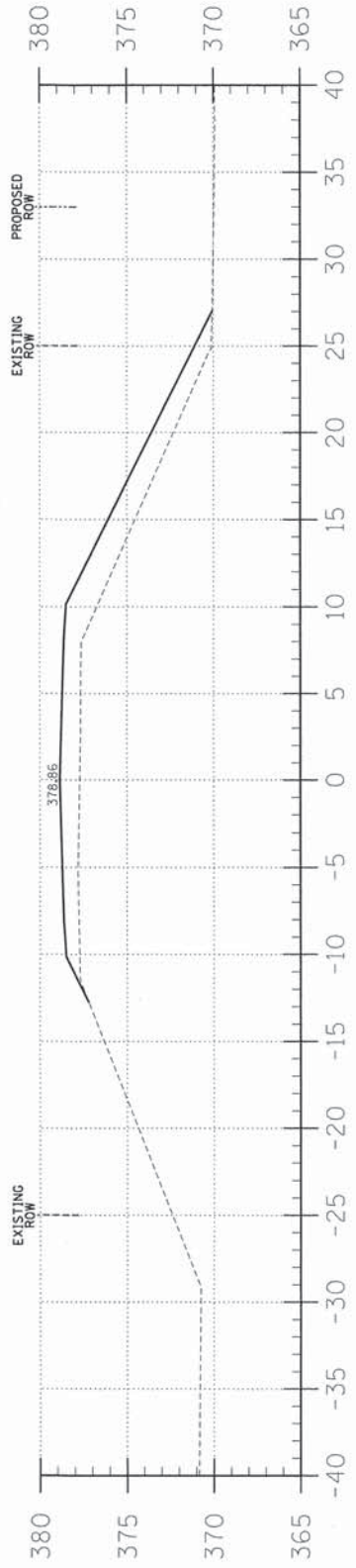
NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE





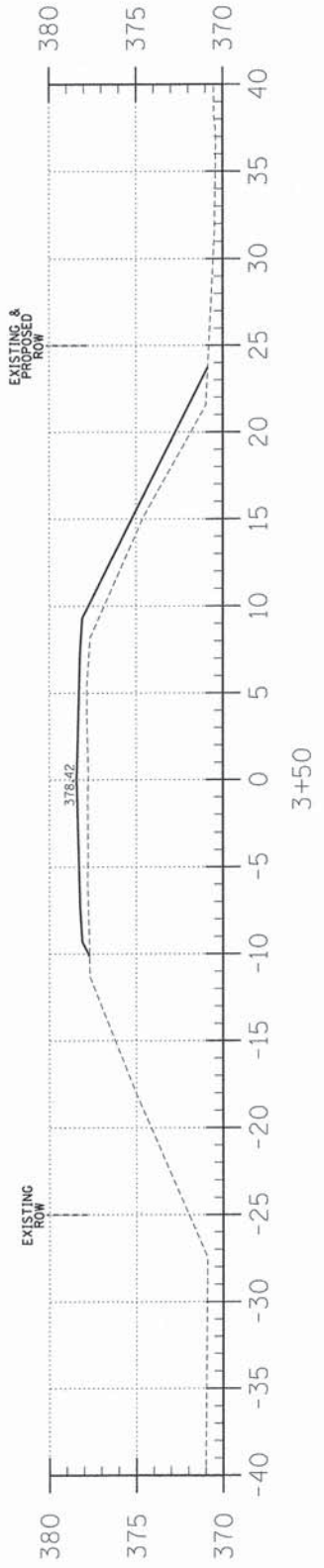
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F = 55.8

4+50



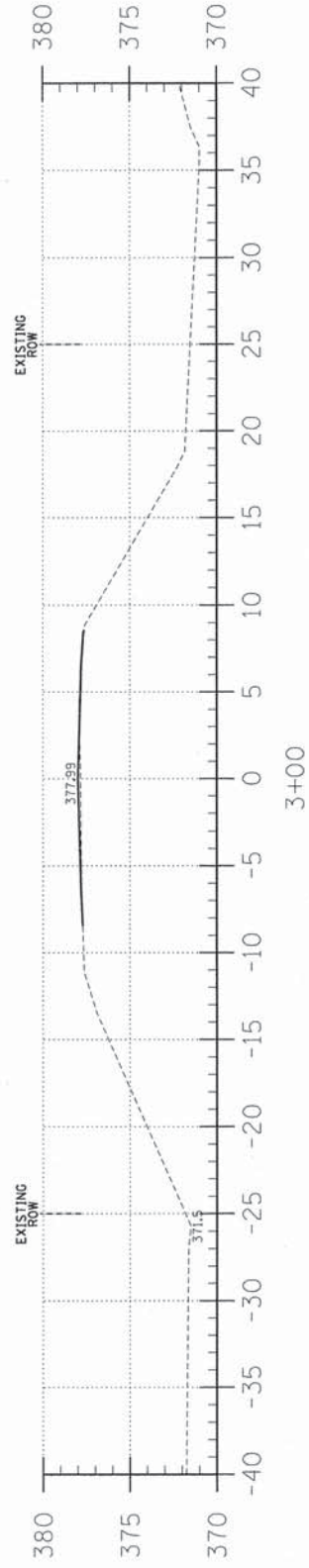
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F = 43.7

4+00



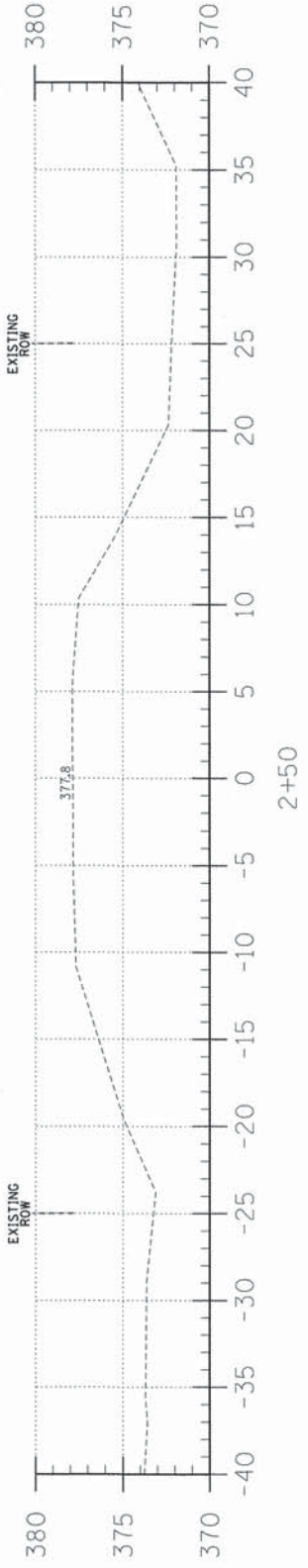
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3+50



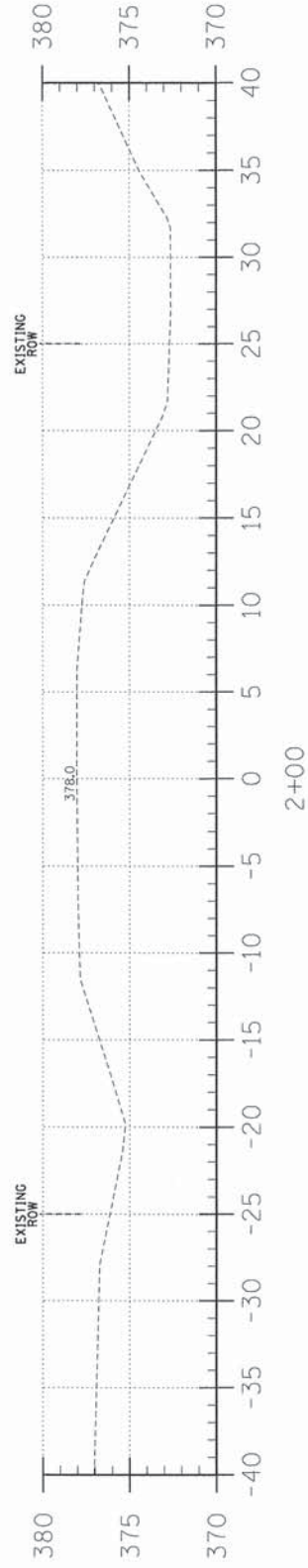
C = 0.0
F = 0.9

3+00



C = 0.0
F = 0.9

2+50



C = 0.0
F = 0.9

2+00

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+59.3	0.0		0.0		0.0		0.0		173.2		-173.2	
STA 4+59.3 TO 5+40.6	0.0		460.0		230.0		172.6		0.0		-172.6	
STA 5+40.6 TO 10+00	7.2		0.0		0.0		5.4		190.5		-185.1	
TOTAL	7.2		460.0		230.0		178.0		0.0		-185.7	

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
114	06-09122-00-BR	WHITE	13	3
FED. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT* BROS-193(026)		CONTRACT* 99514		
JOB NO. C-99-538-06		PRAIRIE CREEK		
LEC JOB * HZL0L0ZWH				

323 W. 3RD ST.
P.O. BOX 160
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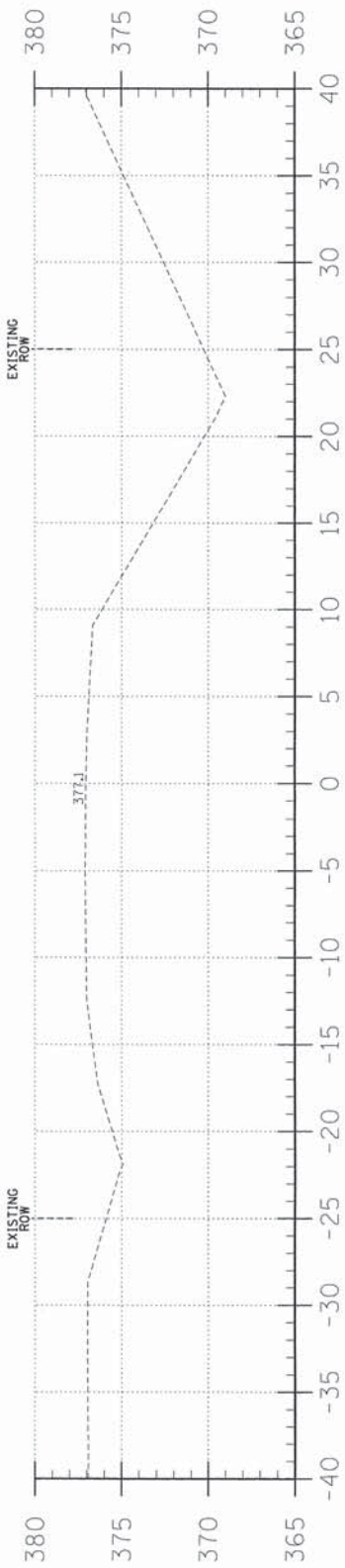
PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
SIGNATURE
10-24-13
DATE
11-30-15 EXPIRES

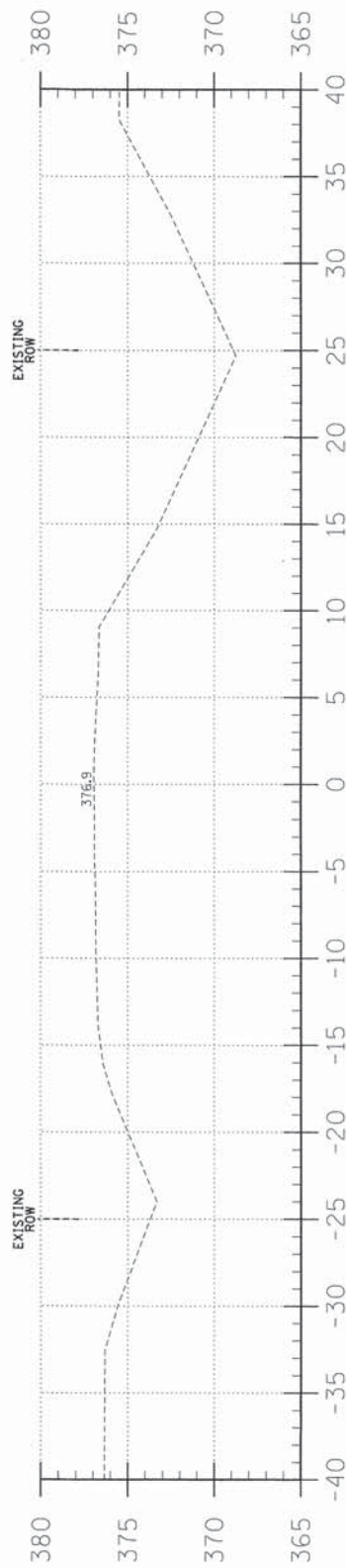
TOWNSHIP ROUTE 114
OVER PRAIRIE CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS
SCALE: 1" = 5'
BY: AMM
DATE: 10/23/13
REV:
3 OF 13 SHEETS
SHEET NO. 3

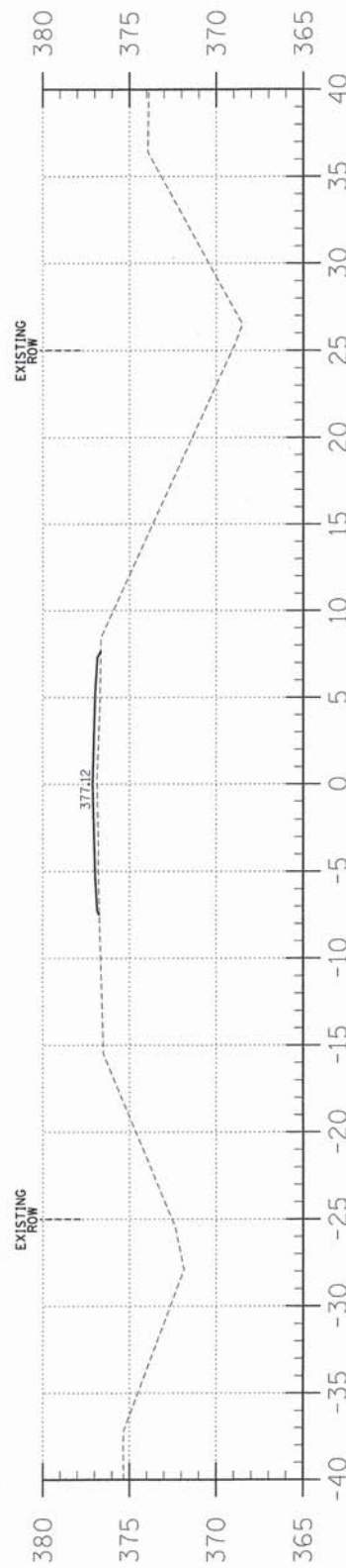


8+00

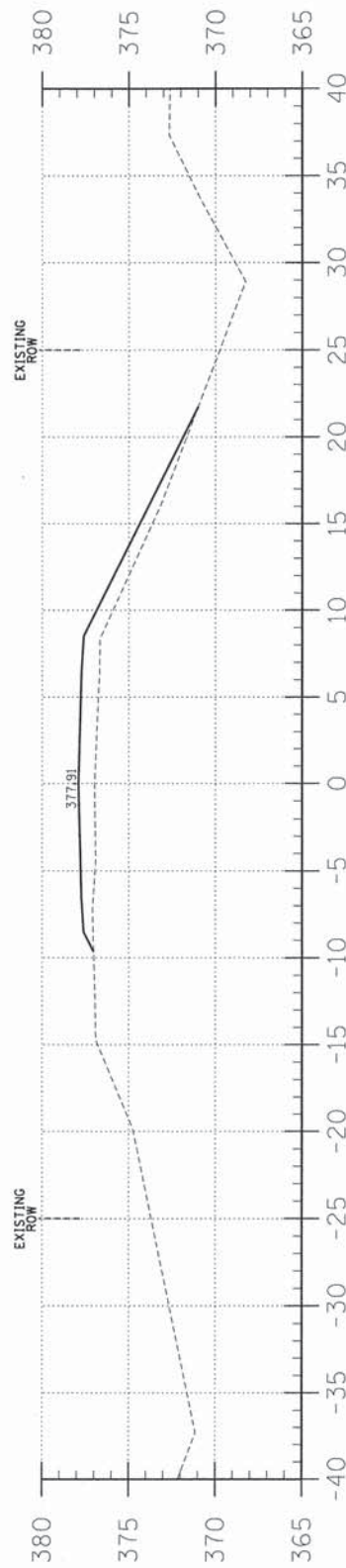
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F = 3.5



7+50

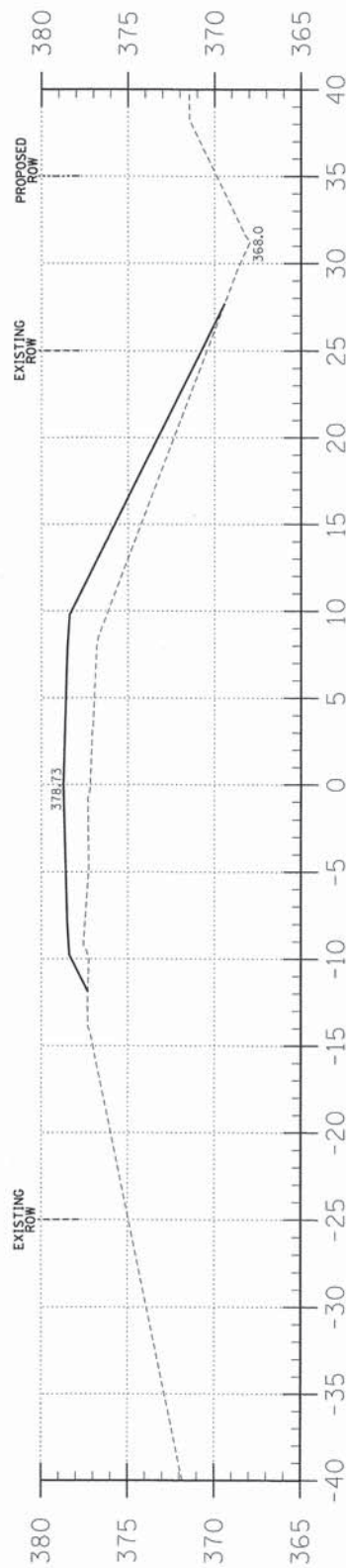


7+00



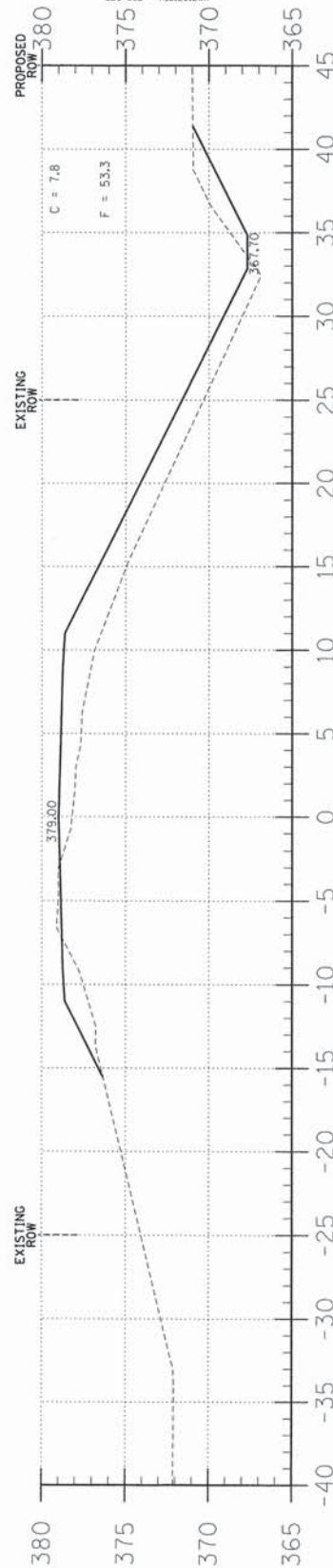
6+50

C = 0.0
F = 23.8



6+00

C = 0.0
F = 48.9



5+50

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
114	06-09122-00-BR	WHITE	13	4
FED. ROAD DIST. NO. 9		ILLINOIS	FED. AID PROJECT	
PROJECT# BROS-193/026		CONTRACT# 99514		
JOB NO. C-99-538-06		PRAIRIE CREEK		
LEC JOB # HJZLOI2W				

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

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



AARON M. MEFFORD
NAME
SIGNATURE
10-24-13
DATE
11-30-15
EXPIRES

TOWNSHIP ROUTE 114
OVER PRAIRIE CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

SCALE: T = 5'
BY: AMM
DATE: 10/23
REV:

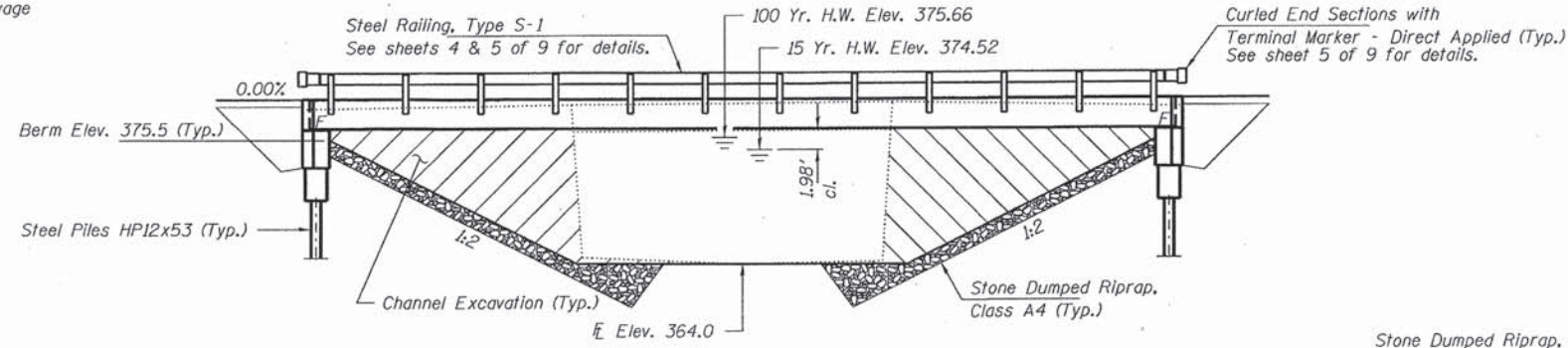
4 OF 13
SHEETS

SHEET NO.
4

EXISTING STRUCTURE: Sta. 4+99.10, Str. No. 097-3058. 28' Single span concrete deck beam bridge on closed timber abutments.

Structure closed to traffic during construction.

No Salvage



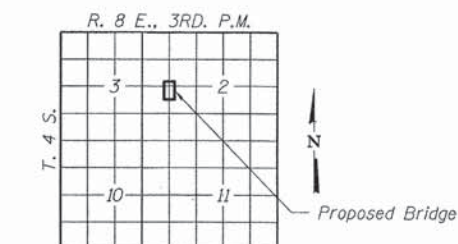
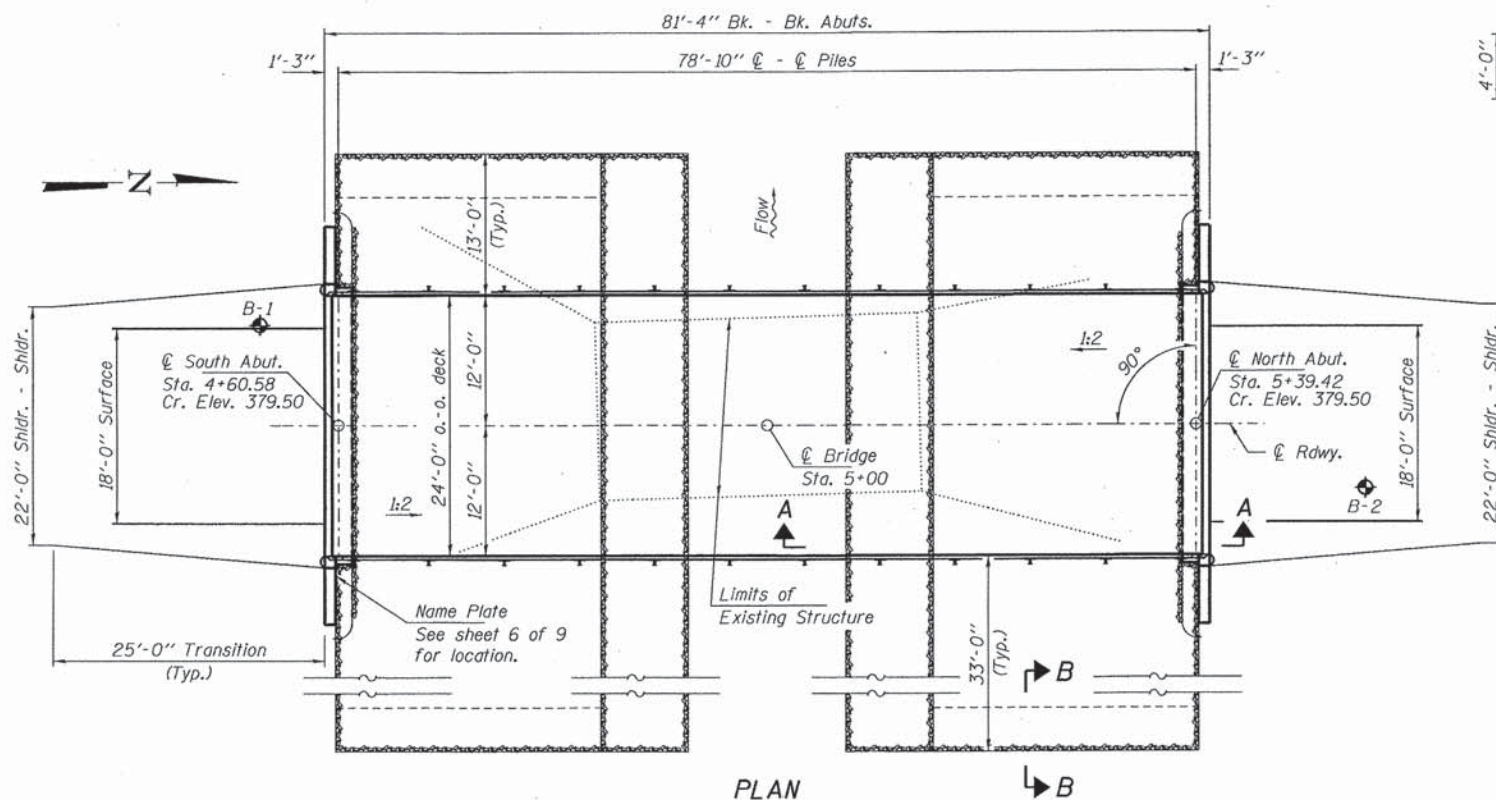
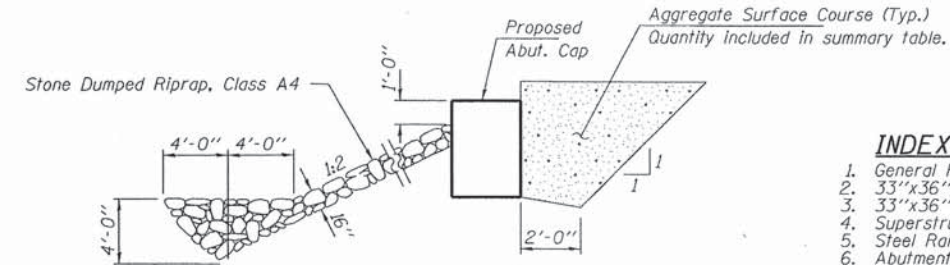
ELEVATION

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer.
Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60. See Special Provisions.
Excavation required to construct the Abutments shall be included in the cost of Concrete Structures. No additional compensation will be allowed for Structure Excavation.
All proposed construction activities shall be in accordance with Nationwide Permit number 14 of the Department of the Army authorized under Section 404 of the Clean Water Act. The IEPA has issued Section 401 Water Quality Certification for this activity. See Special Provisions for conditions.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 33"x36" PPC Deck Beam
3. 33"x36" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
- 8-9. Borings



LOCATION SKETCH

PRAIRIE CREEK
BUILT 201. BY
MILL SHOALS ROAD DISTRICT
WHITE COUNTY
SEC. 06-09122-00-BR
STR. NO. 097-3253
LOADING HL-93

NAME PLATE
See Std. 515001

DESIGN STRESSES

FIELD UNITS

f'c = 3,500 psi
fy = 60,000 psi (Reinf.)

PRECAST PRESTRESSED UNITS

f'c = 6,000 psi
f'ci = 5,000 psi
fpu = 270,000 psi (1/2" low lax. strands)
fpb = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

LOADING HL-93

Design Specifications: 2010 AASHTO LRFD with all applicable Interims.
50#/Sq. Ft. Included in dead load for future wearing surface.

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.294g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.704g
Soil Site Class = D

	S. Abut.	N. Abut.
Q100	372.9	372.9

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Natural H.W.E. Exist.	Prop.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design/Overtop	15	2743	288	541	374.52					
Base	100	4630	323	626	375.66	3.42	0.49	379.08	376.15	

Drainage Area = 12.3 Sq. Mi.
Existing Low Grade Elev. 376.9 @ Sta. 7+50
Proposed Low Grade Elev. 376.9 @ Sta. 7+50

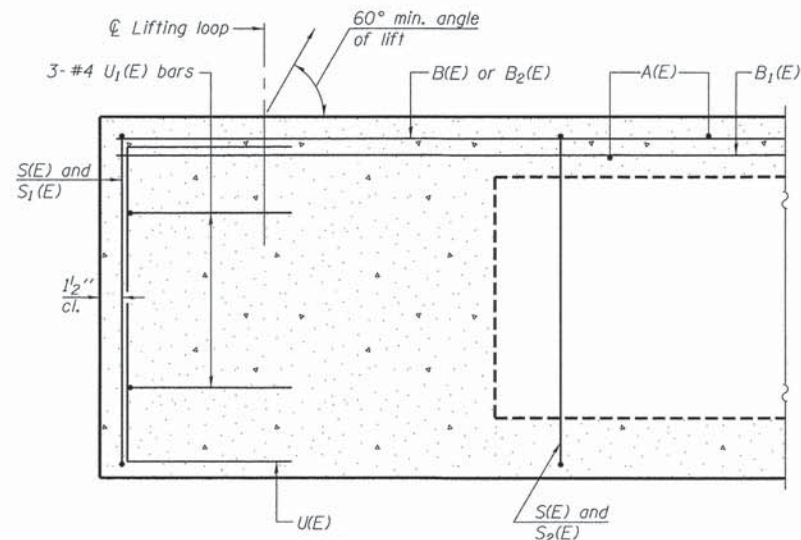
I certify that to the best of my knowledge, information and belief, this bridge design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current "AASHTO LRFD Specifications."

Steven W. McQuinn 10/23/2013
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



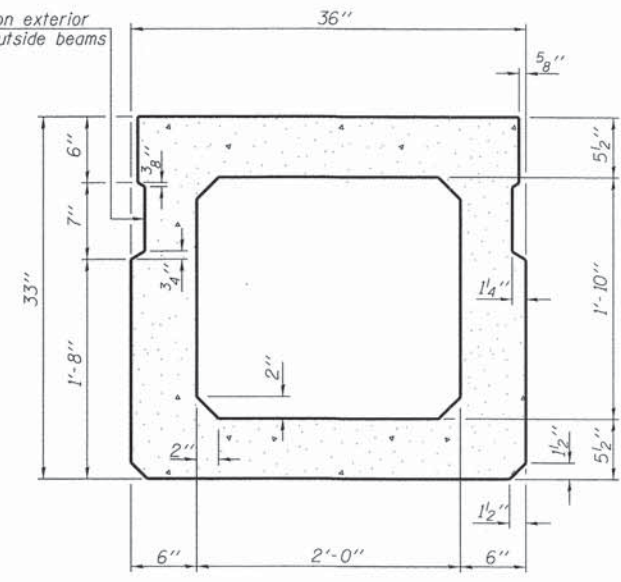
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			460
Stone Dumped Riprap, Class A4	Ton			460
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		25.0	25.0
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (33" Depth)	Sq. Ft.	1,920		1,920
Reinforcement Bars	Pound		2,630	2,630
Steel Railing, Type S-1	Foot	156		156
Furnishing Steel Piles HP12x53	Foot		360	360
Driving Piles	Foot		360	360
Name Plates	Each		1	1
Terminal Marker - Direct Applied	Each	4		4

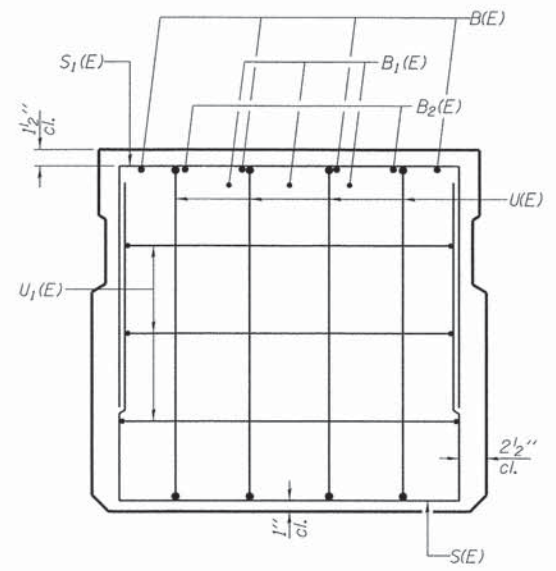


SECTION A-A

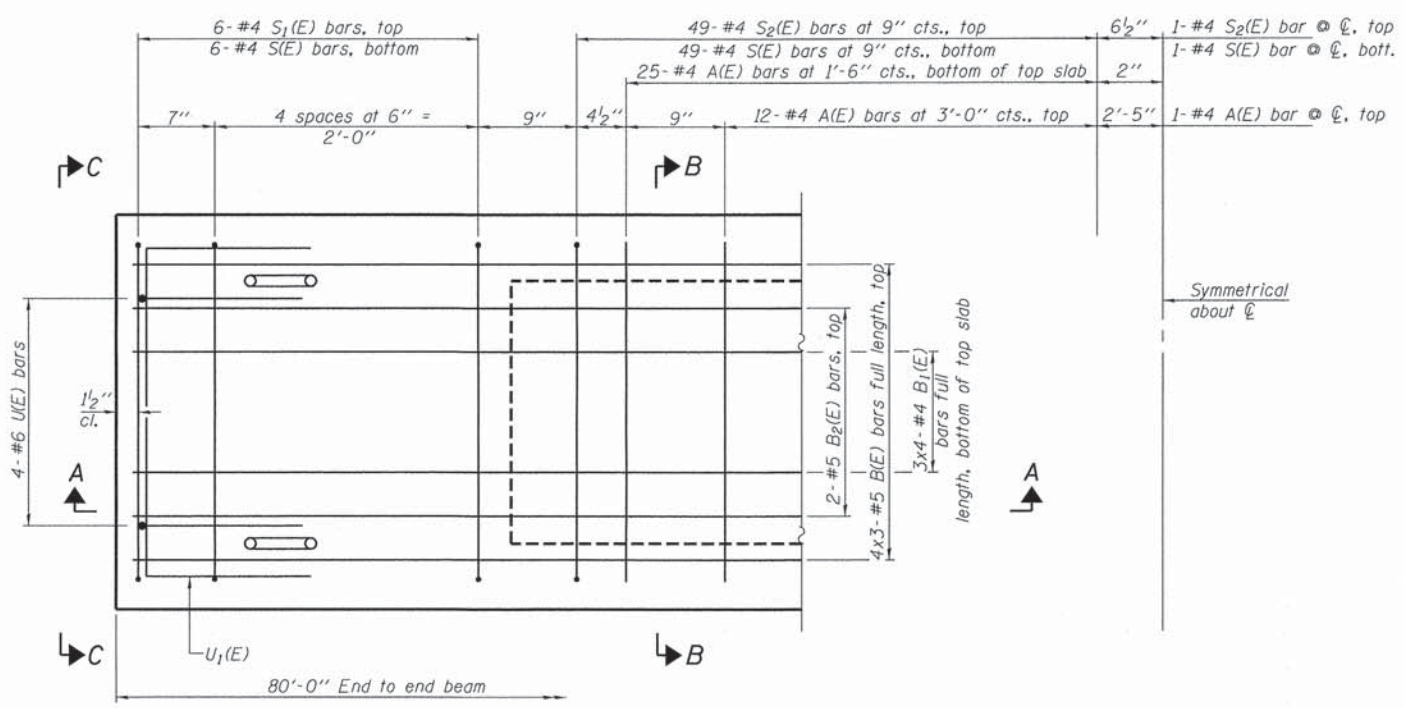
Omit key on exterior face of outside beams



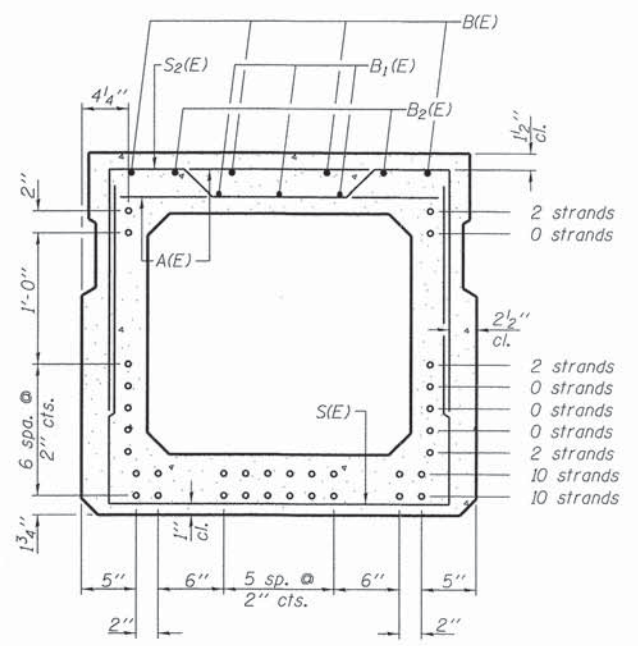
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



SECTION B-B
(Showing reinforcement and permissible strand locations)

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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	75	#4	2'-7"	—
B(E)	12	#5	28'-3"	—
B1(E)	12	#4	21'-6"	—
B2(E)	4	#5	10'-0"	—
S(E)	111	#4	7'-5"	—
S1(E)	12	#4	6'-3"	┌
S2(E)	99	#4	6'-6"	┌
U(E)	8	#6	5'-0"	┌
U1(E)	6	#4	5'-0"	┌

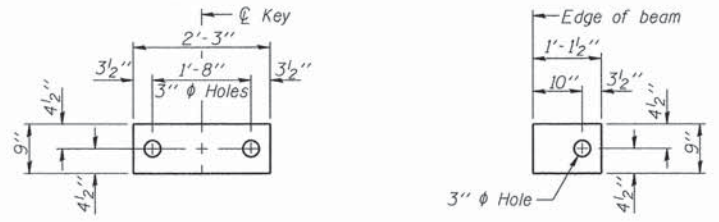
Note: See sheets 3 & 4 of 9 for additional details and Bill of Material.

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 4x3-#5 etc. indicates 4 lines of bars with 3 lengths per line.

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

PD-3336-0 7-1-10

FILE NAME = #FILE*	USER NAME *	DESIGNED - D.A.B.	REVISED -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	33" x 36" PPC DECK BEAM STRUCTURE NO. 097-3253	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3093 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62791	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			114	06-09122-00-BR	WHITE	13	6	
ILLINOIS PROFESSIONAL DESIGN FIRM L.E. / P.E. / S.E. CORP. 184 00289	PLOT DATE = #DATE*	DRAWN - D.A.B.	REVISED -			MILL SHOALS ROAD DISTRICT	CONTRACT NO. 99514				
		CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT					

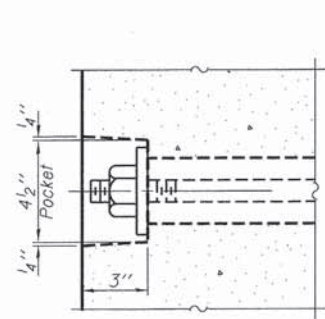


FABRIC BEARING PAD
(Interior - 14 Req'd)

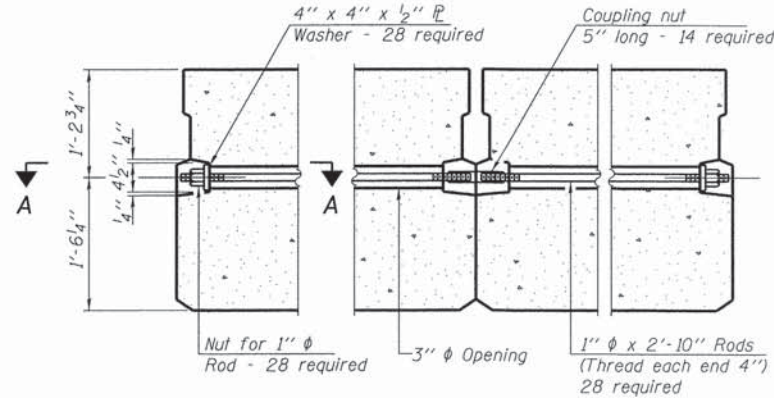
FABRIC BEARING PAD
(Exterior - 4 Req'd)

FIXED

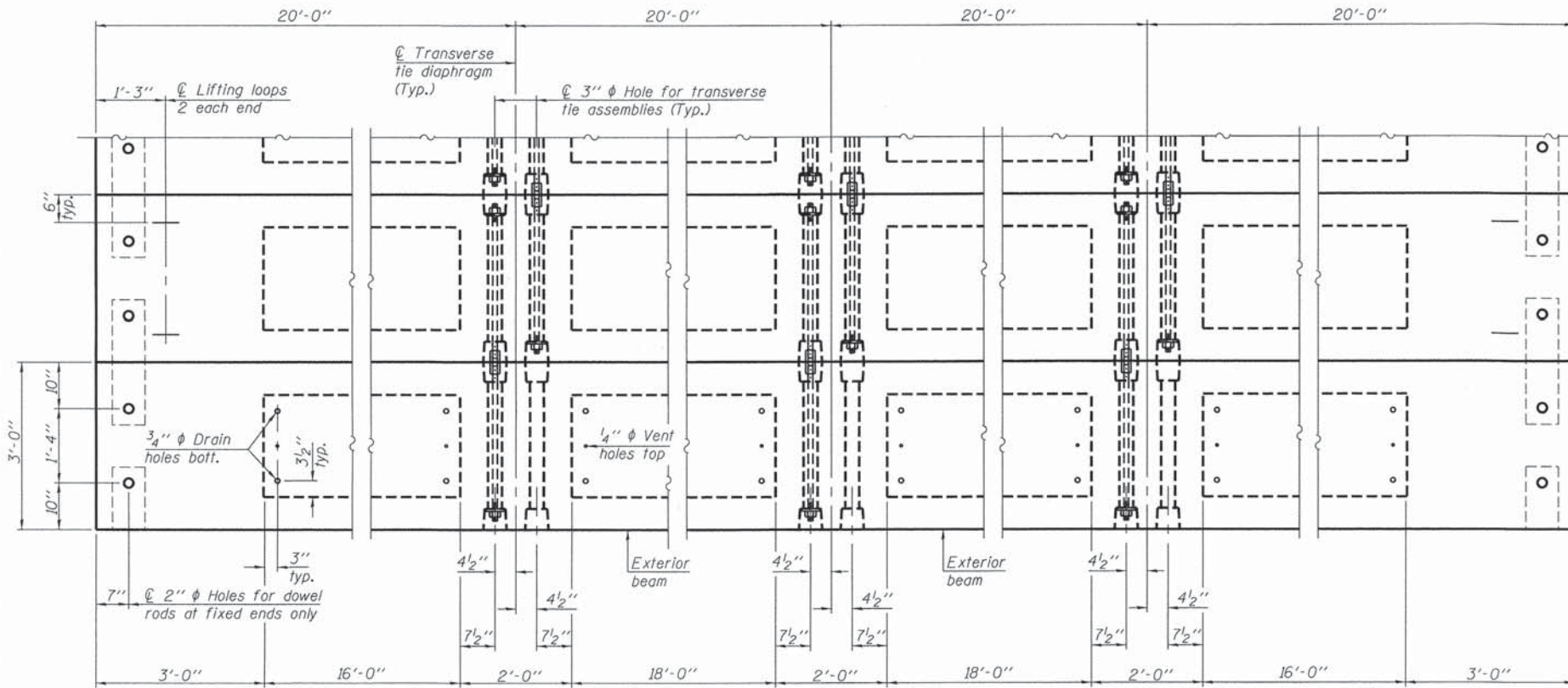
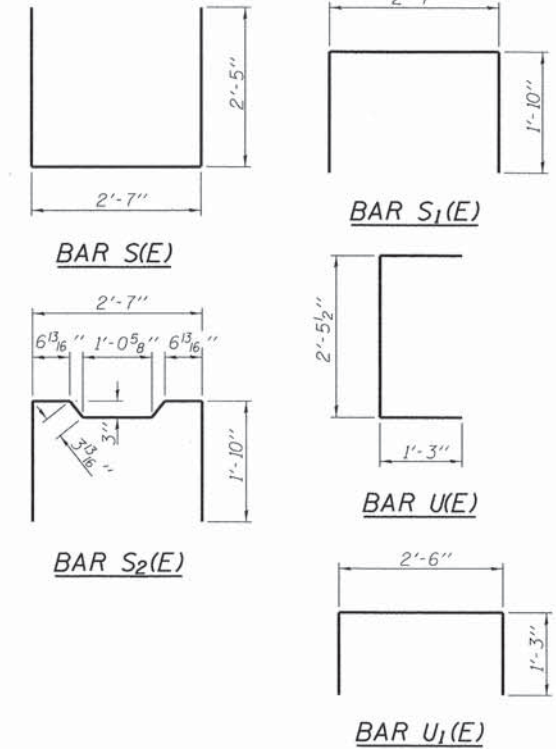
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.



SECTION A-A



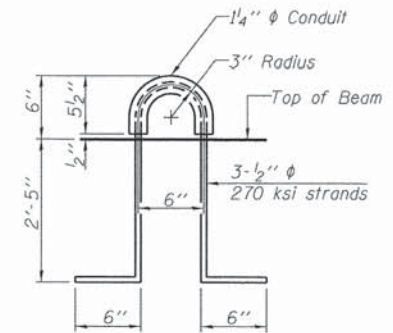
TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

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 1021.07 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.
Reinforcement bars designated (E) shall be epoxy coated.



LIFTING LOOP DETAIL

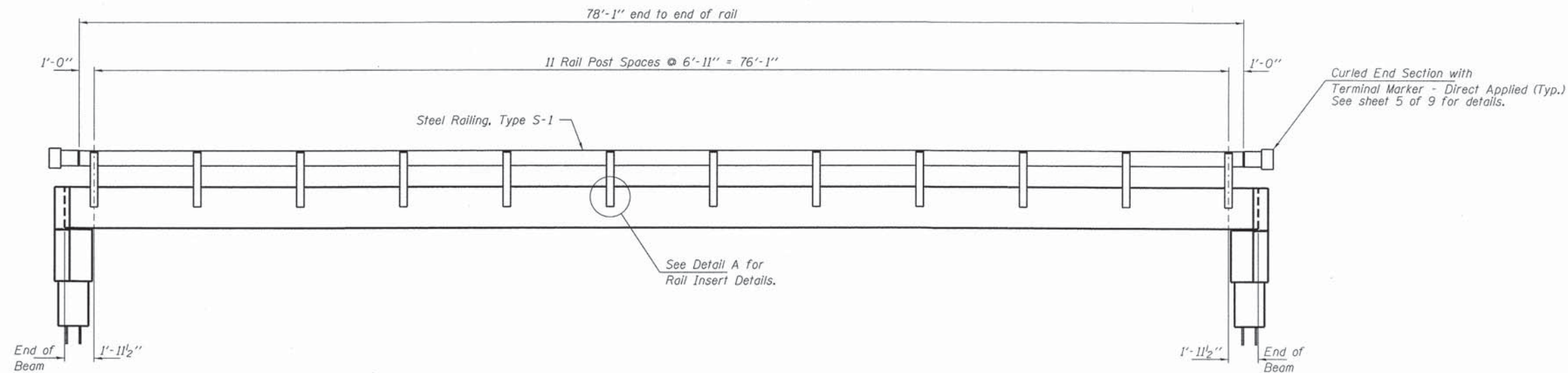
BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (33" depth)	Sq. Ft.	1,920
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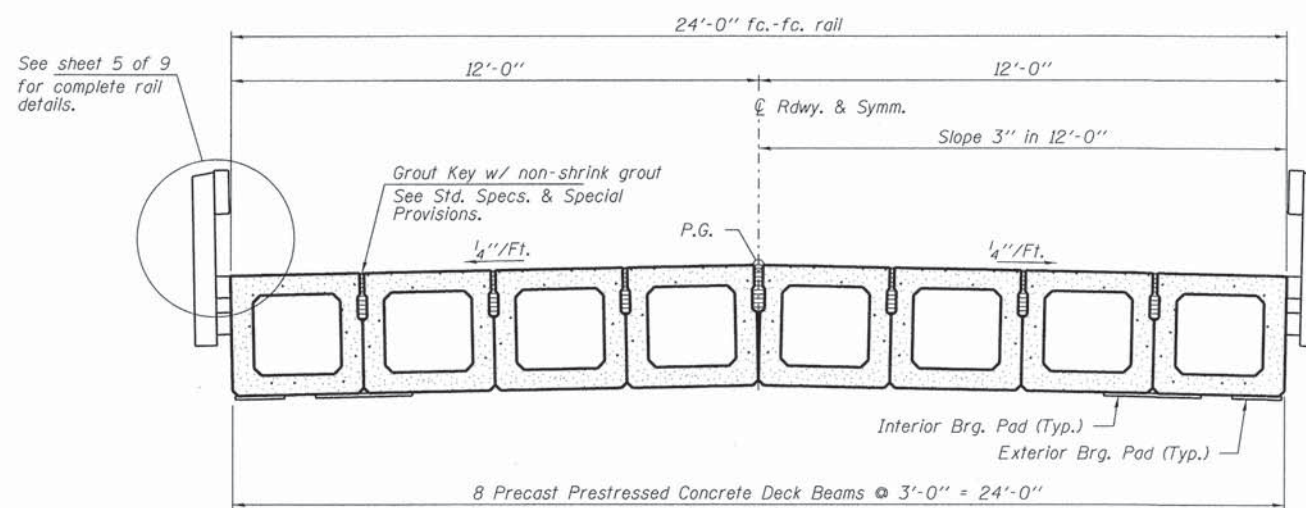
Note: Connect beams in pairs with the transverse tie configuration shown.

PD-3336-0D 7-1-10

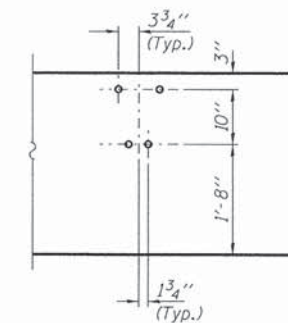
FILE NAME = #FILE#	USER NAME =	DESIGNED - D.A.B.	REVISED -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	33" x 36" PPC DECK BEAM DETAILS STRUCTURE NO. 097-3253 SHEET NO. 3 OF 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62779	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			114	06-09122-00-BR	WHITE	13	7	
ILLINOIS PROFESSIONAL DESIGN FIRM LS / FS / BE CORP. 18N-020989	PLOT DATE = #DATE#	DRAWN - D.A.B.	REVISED -			MILL SHOALS ROAD DISTRICT	CONTRACT NO. 99514	ILLINOIS FED. AID PROJECT			
		CHECKED - S.W.M.	REVISED -								



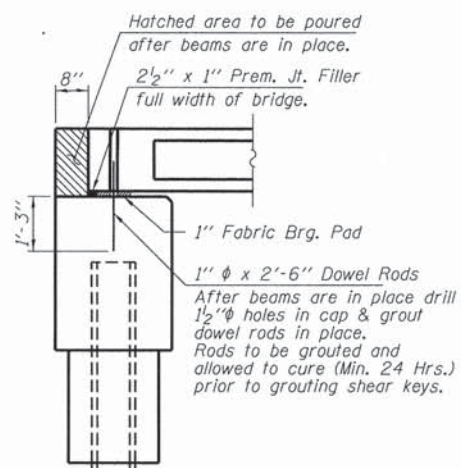
ELEVATION
Showing Rail Post Spaces
See sheet 5 of 9 for Railing Details.



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

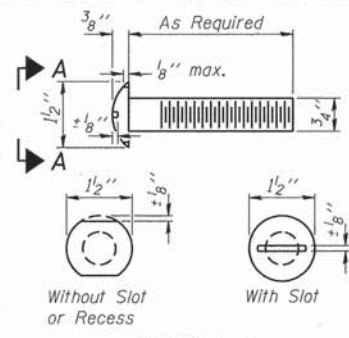


DETAIL A

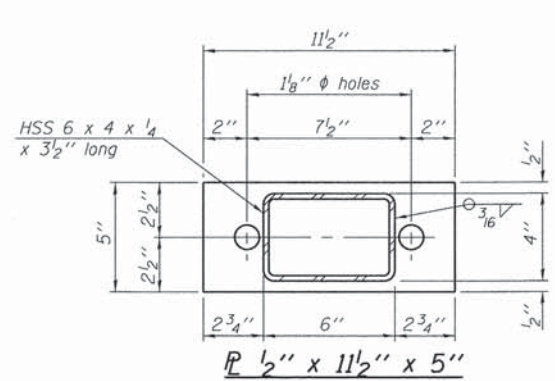


SECTION AT ABUTMENTS
© Rt. L's

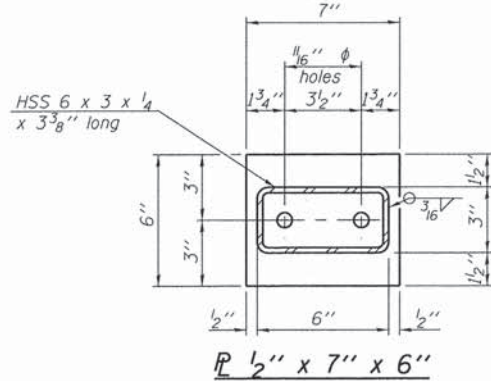
FILE NAME * #FILE*	USER NAME *	DESIGNED - D.A.B.	REVISED -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 097-3253	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3080 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761	PLOT SCALE *	CHECKED - S.W.M.	REVISED -			114	06-09122-00-BR	WHITE	13	8
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / BE CORP. 184.000089	PLOT DATE * #DATE*	DRAWN - D.A.B.	REVISED -			MILL SHOALS ROAD DISTRICT		CONTRACT NO. 99514		
		CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT				
SHEET NO. 4 OF 9 SHEETS										



**VIEW A-A
ROUND HEAD BOLT**

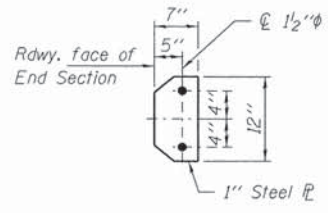


**SECTION B-B
R 1/2" x 11 1/2" x 5"**

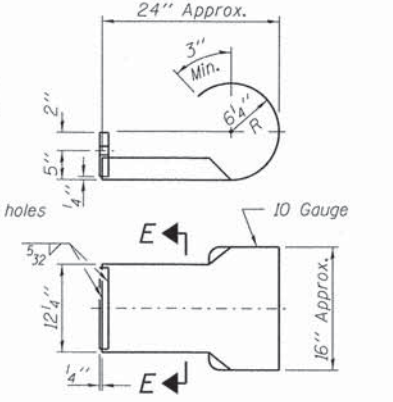


**SECTION AT RAILING POST
R 1/2" x 7" x 6"**

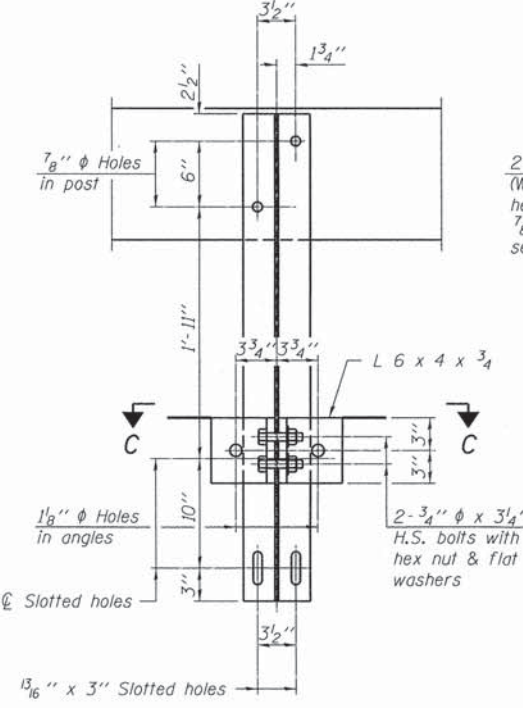
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



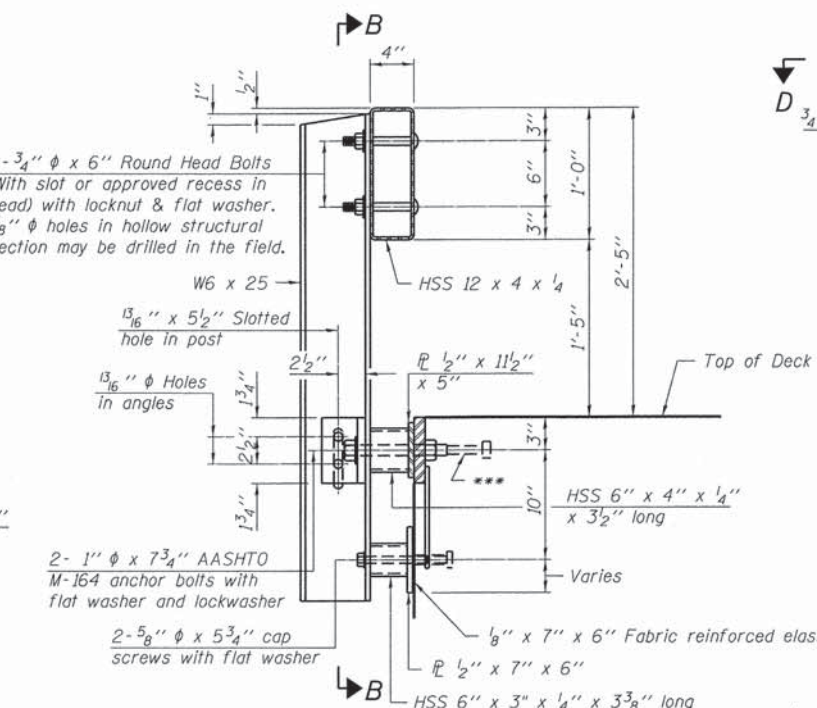
SECTION E-E



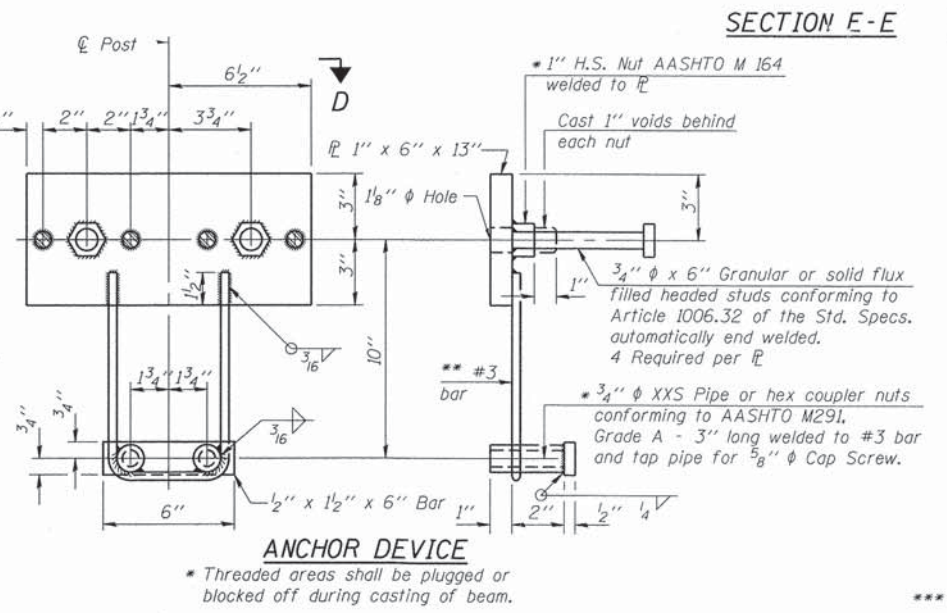
CURLED END SECTION DETAILS



SECTION B-B

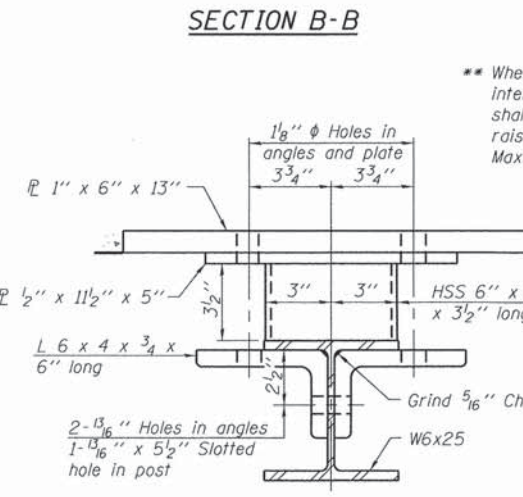


SECTION AT RAILING POST



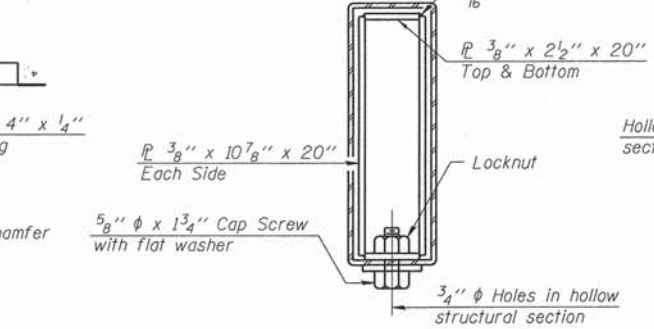
ANCHOR DEVICE

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.

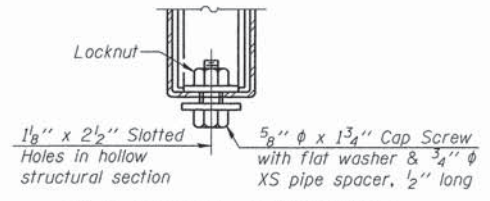


SECTION C-C

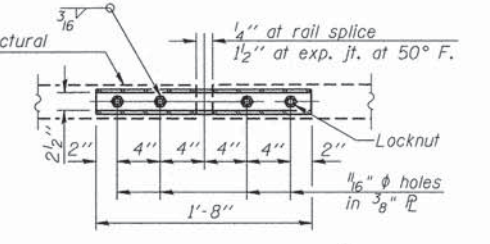
*** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2".



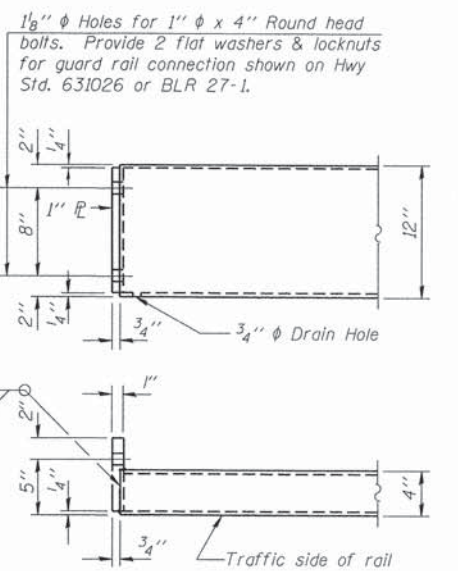
SECTIONS AT RAIL SPLICE



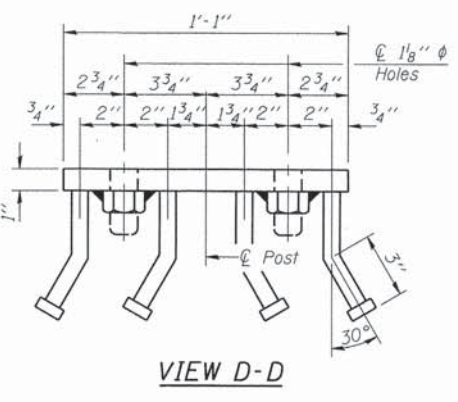
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE R TYPICAL



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	156

R-23A

7-1-10 (10'-9" Maximum Post Spacing)

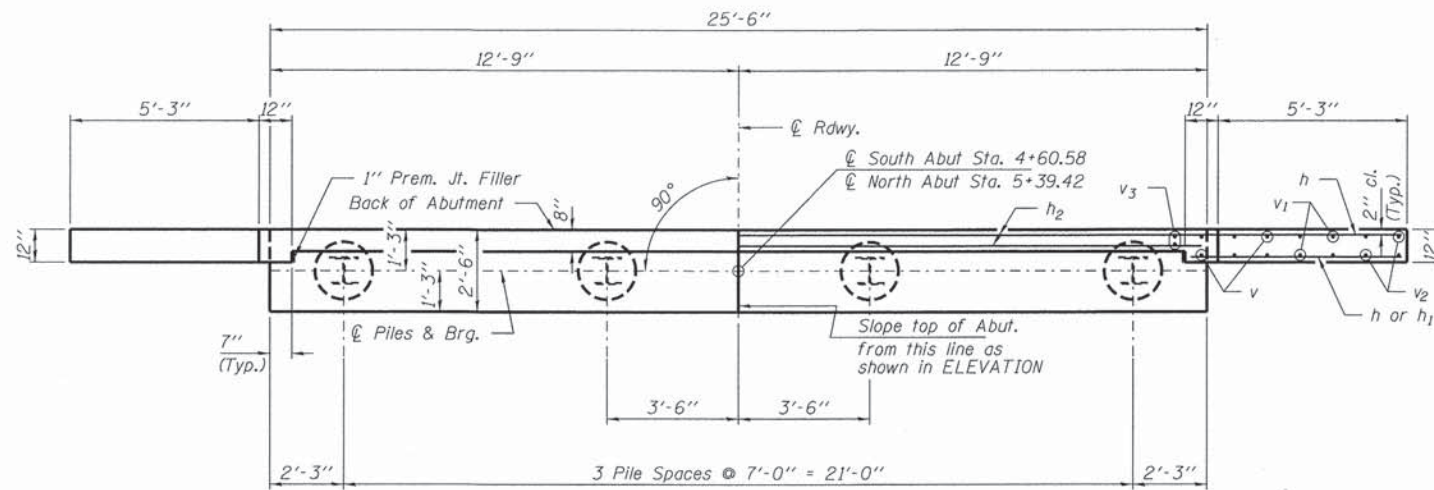
FILE NAME = #FILE#	USER NAME =	DESIGNED - D.A.B.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3645 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62715		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
LSI P.E. / I.E. CORP. 184.00895			

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

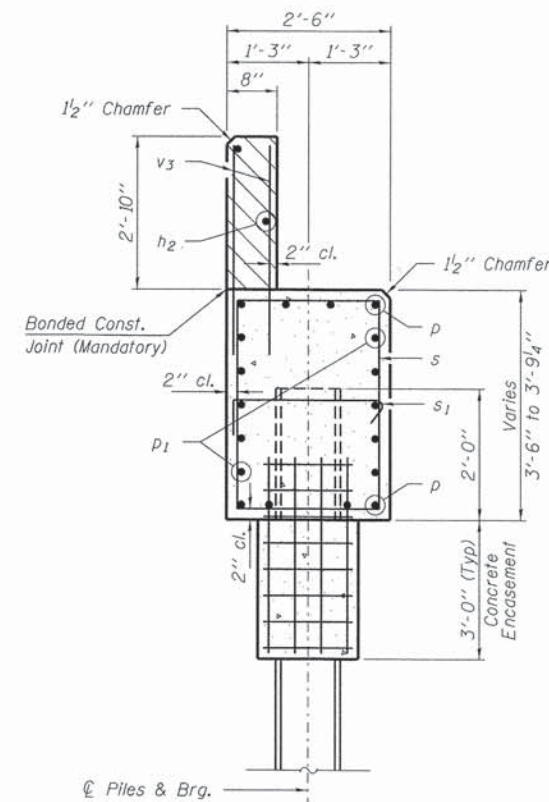
STEEL RAILING, TYPE S-1
STRUCTURE NO. 097-3253

SHEET NO. 5 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
114	06-09122-00-BR	WHITE	13	9
MILL SHOALS ROAD DISTRICT			CONTRACT NO. 99514	
ILLINOIS FED. AID PROJECT				

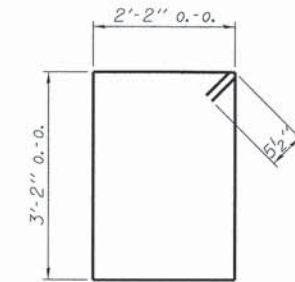


PLAN

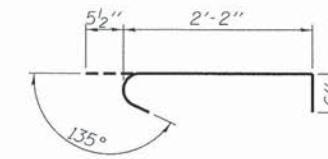


SECTION A-A

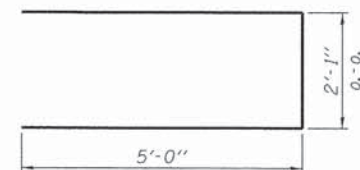
Hatched area to be poured after beams are in place.



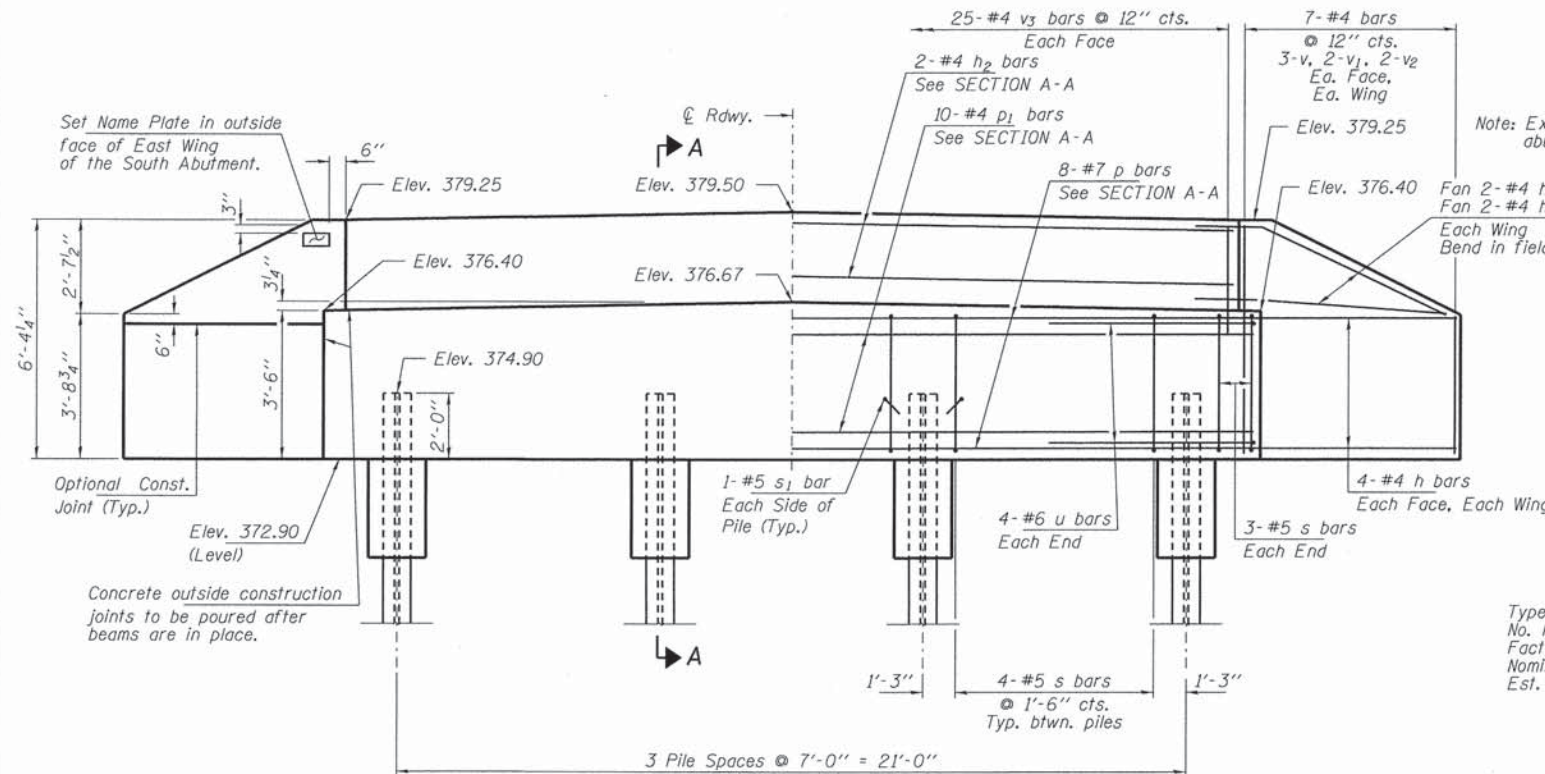
BAR s



BAR s1



BAR u



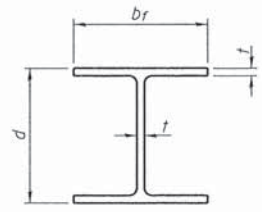
ELEVATION

PILE DATA

Type Steel HP12x53
 No. Req'd. (2 Abuts.) 8
 Factored Resistance Available (Rf) 230 Kips/Pile
 Nominal Required Bearing (Rn) 419 Kips/Pile
 Est. Length 45 Ft./Pile

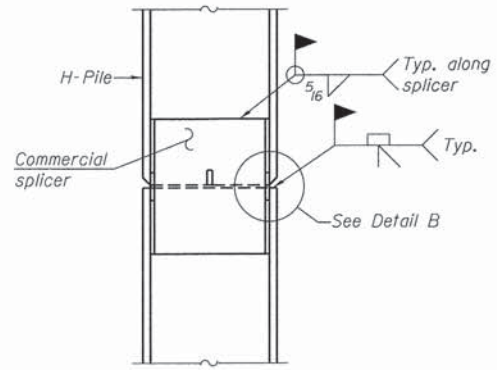
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	7'-6"	—
h1	8	#4	6'-0"	—
h2	4	#4	25'-2"	—
p	16	#7	25'-2"	—
p1	20	#4	25'-2"	—
s	36	#5	11'-7"	□
s1	8	#5	3'-2"	U
u	16	#6	12'-1"	U
v	24	#4	5'-5"	—
v1	16	#4	4'-5"	—
v2	16	#4	3'-5"	—
v3	100	#4	3'-8"	—
Concrete Structures			Cu. Yd.	25.0
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,630
Steel Piles HP12x53			Foot	360
Name Plates			Each	1

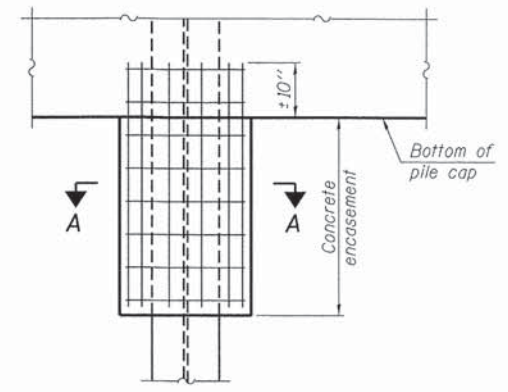


STEEL PILE TABLE

Designation	Depth d	Flange width br	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"

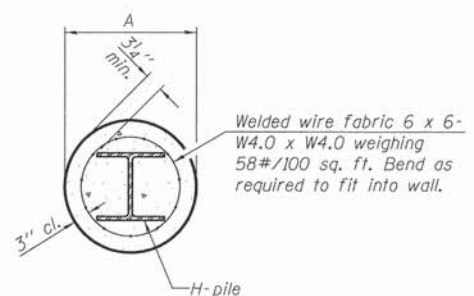


ELEVATION



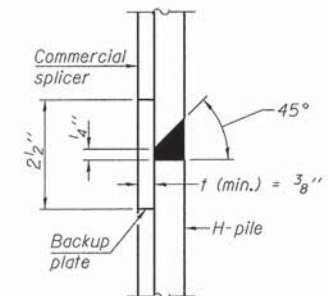
ELEVATION

PILE ENCASEMENT

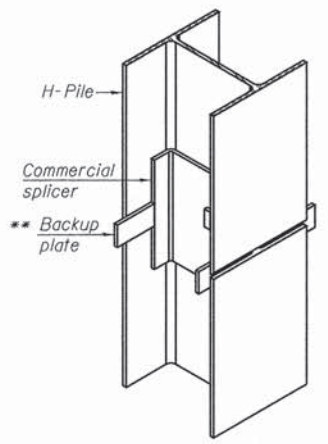


SECTION A-A

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

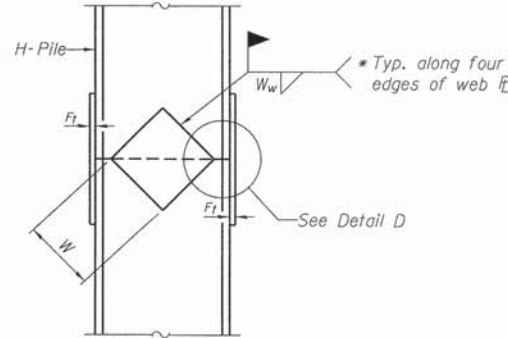


DETAIL "B"

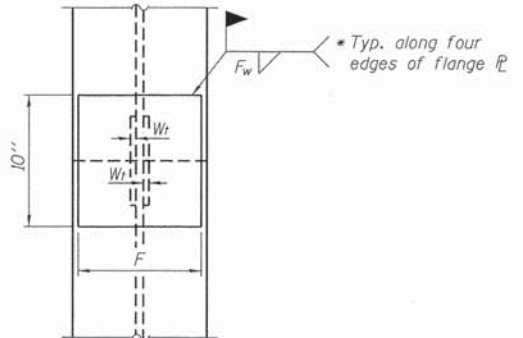


ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

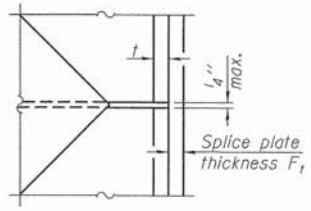


ELEVATION



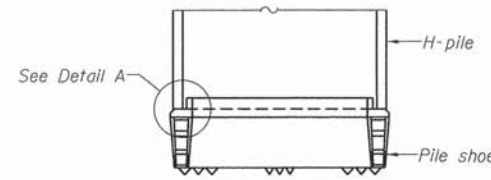
END VIEW

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5 1/2"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/2"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5 1/2"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/2"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5 1/2"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5 1/2"	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"

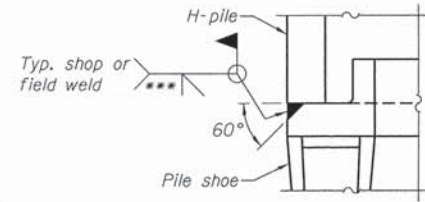


DETAIL D

WELDED PLATE FIELD SPLICE

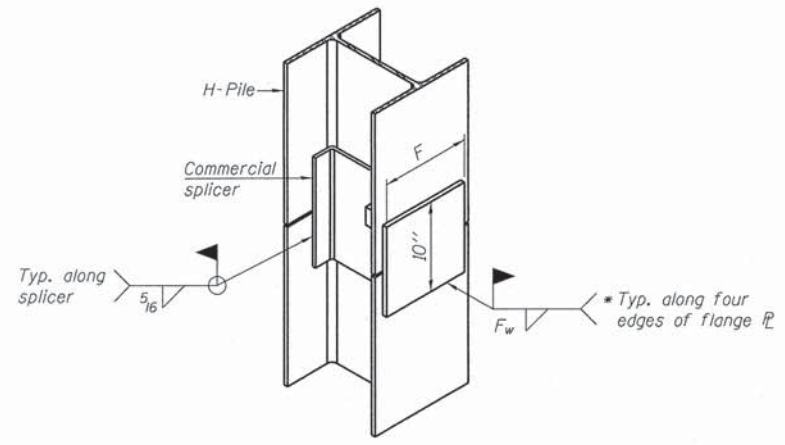


ELEVATION



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.

F-HP

1-27-12

FILE NAME = #FILE#	USER NAME =	DESIGNED - D.A.B.	REVISIONS -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 097-3253	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3080 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62761	PLOT SCALE =	CHECKED - S.W.M.	REVISIONS -			114	06-09122-00-BR	WHITE	13	11	
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184 000093	PLOT DATE = #DATE#	DRAWN - D.A.B.	REVISIONS -			MILL SHOALS ROAD DISTRICT		CONTRACT NO. 99514		ILLINOIS FED. AID PROJECT	
		CHECKED - S.W.M.	REVISIONS -			SHEET NO. 7 OF 9 SHEETS					

