

INDEX OF SHEETS

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2	PLAN & PROFILE, TYPICAL SECTIONS & GENERAL NOTES
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5-13	BRIDGE DESIGN

STANDARDS

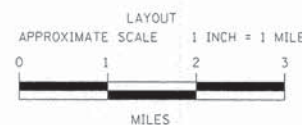
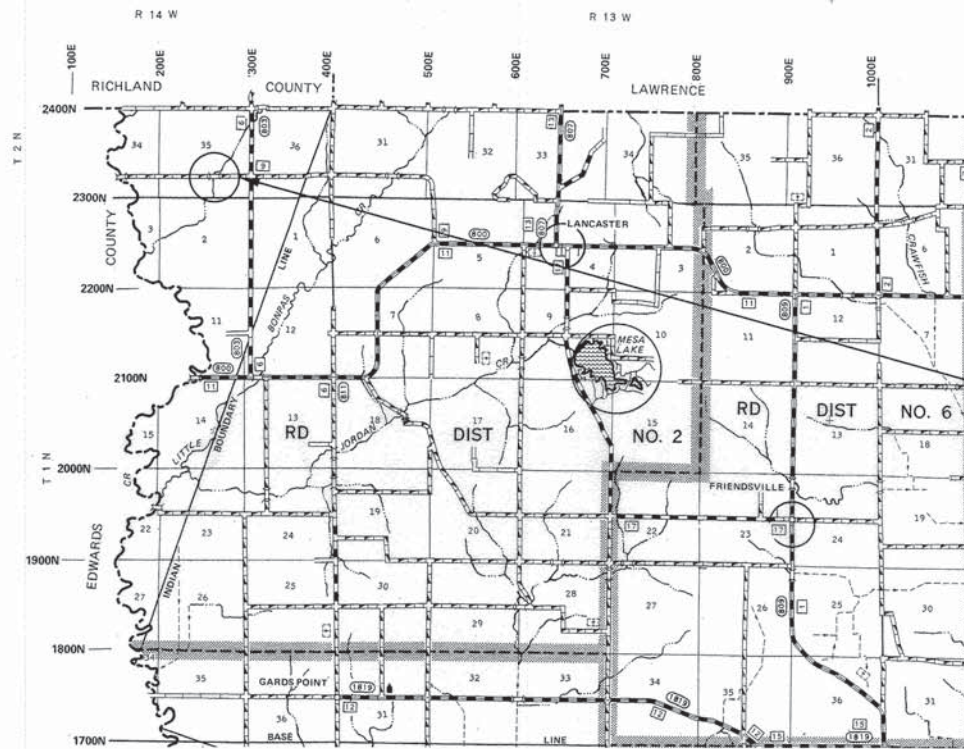
000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS (6 SHEETS)
280001-07	TEMPORARY EROSION CONTROL SYSTEMS (2 SHEETS)
515001-03	NAME PLATE FOR BRIDGES
701901-02	TRAFFIC CONTROL DEVICES
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-7	TYPICAL 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

QUANTITY	UNIT	ITEM	CODE NO.
669.00	CU YD	EARTH EXCAVATION	20200100
220.00	CU YD	CHANNEL EXCAVATION	20300100
293.00	CU YD	FURNISHED EXCAVATION	20400800
954.00	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
305.00	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1.00	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
22.40	CU YD	CONCRETE STRUCTURES	50300225
2.80	CU YD	CONCRETE ENCASEMENT	50300280
1200.00	SO FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS 121" DEPTH	50400405
2390.00	POUND	REINFORCEMENT BARS	50800105
98.00	FOOT	STEEL RAILING, TYPE S1	50900205 Δ
350.00	FOOT	FURNISHING STEEL PILES HP10X42	51201400
350.00	FOOT	DRIVING PILES	51202305
1.00	EACH	TEST PILE STEEL HP10X42	51203400
1.00	EACH	NAME PLATES	51500100
40.00	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 18"	54200223
1.00	L SUM	MOBILIZATION	67100100
0.50	ACRE	SEEDING, CLASS 2 (SPECIAL)	X2501000
118.00	TON	STONE LINED DITCH	Z0068900

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
 DESIGN SPEED: 30 MPH
 HIGHWAY CLASS - LOCAL ROAD
 EXISTING STRUCTURE NO.: 093-3019
 PROPOSED STRUCTURE NO.: 093-3135
 CURRENT A.D.T. = 100
 CONTRACT NO. 95711

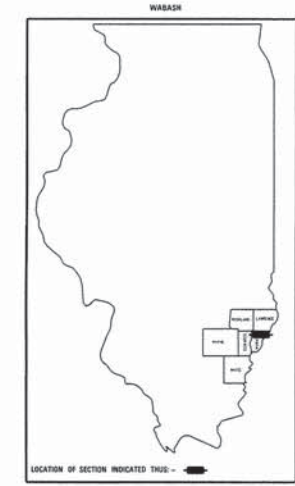


GROSS LENGTH	480.00 FT	0.091 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	480.00 FT	0.091 MILES

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
FEDERAL AID - S.T.P. BRIDGE
T.R. 9 WABASH COUNTY SECTION 10-02116-00-BR
PROJECT NO. BROS-185(034) JOB NO. C-97-048-13
CONTRACT #95711 BIG BRANCH

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9	10-02116-00-BR	WABASH	13	1

FED. ROAD DIST. NO. 7 ILLINOIS FED. AID PROJECT
 PROJECT * BROS-185(034) CONTRACT * 95711
 LEC. JOB # HD01018WB BIG BRANCH



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 PRINCETON, IN
 47670
 PHONE: (812)-386-7611
 FAX: (812)-385-2812



PROFESSIONAL DESIGN FIRM
 LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
 184-00087
 (62-032435)(05-002769)



AARON M. MEFFORD
 NAME
 SIGNATURE
 DATE 5-17-13
 11-30-13 EXPIRES

PLAN	1" = 50'	0 50' 100'
PROFILE	1" = 50'	0 50' 100'
PROFILE VERT.	1" = 5'	0 5' 10'
CROSS SECTION	1" = 5'	0 5' 10'

SECTION 10-02116-00-BR BEGINS STATION 2+50

STATION 5+00, STRUCTURE NO. 093-3135
 A 50' LONG SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE (21" DEPTH), 24' ROADWAY, 0.00% GRADE, 10° LT. FWD. SKEW.

SECTION 10-02116-00-BR ENDS STATION 7+30

APPROVED May 17th 20 13

 COUNTY ENGINEER

PASSED 6/4 2013

 DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS

Releasing For Bid Based on Limited Review 6/4 20 13

 DEPUTY DIRECTOR OF HIGHWAYS,
 REGION FOUR ENGINEER

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

BIG BRANCH
 TOWNSHIP ROUTE 9
 WABASH COUNTY, ILLINOIS

SHEET TITLE:
 TITLE SHEET

SCALE: WRES
 BY: AMM
 DATE: 5/13
 REV:

1 OF 13
 SHEETS

SHEET NO.
 1

GENERAL NOTES:

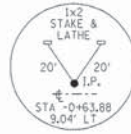
THIS SECTION SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PLANS, SPECIAL PROVISIONS AND "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", ADOPTED JANUARY 1, 2012.

THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 50 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.

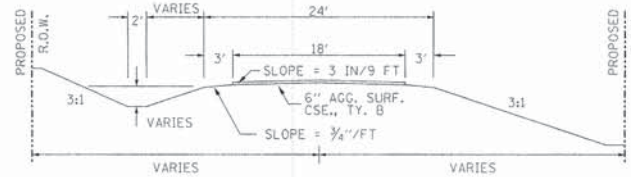
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES, AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

NOTE: CONSTRUCTION TRANSITIONS
STA. 2+50 TO STA. 3+00
STA. 7+00 TO STA. 7+30
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL

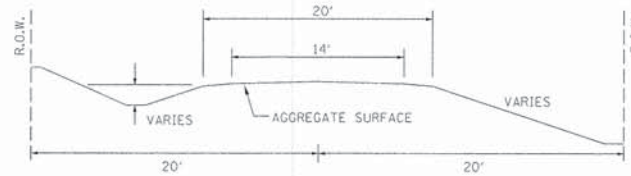


CURVE #1
P.I. STA: 7+90.51
Δ° LT: 2°12'11"
D: 1'08'45"
R: 500'
T: 96.14'
L: 192.25'
E: 0.32'
φ: NONE
T.R.: NONE
S.E. RUN: NONE
P.C. STA: 6+94.37
P.T. STA: 8+86.62

TYPICAL CROSS SECTION PROPOSED

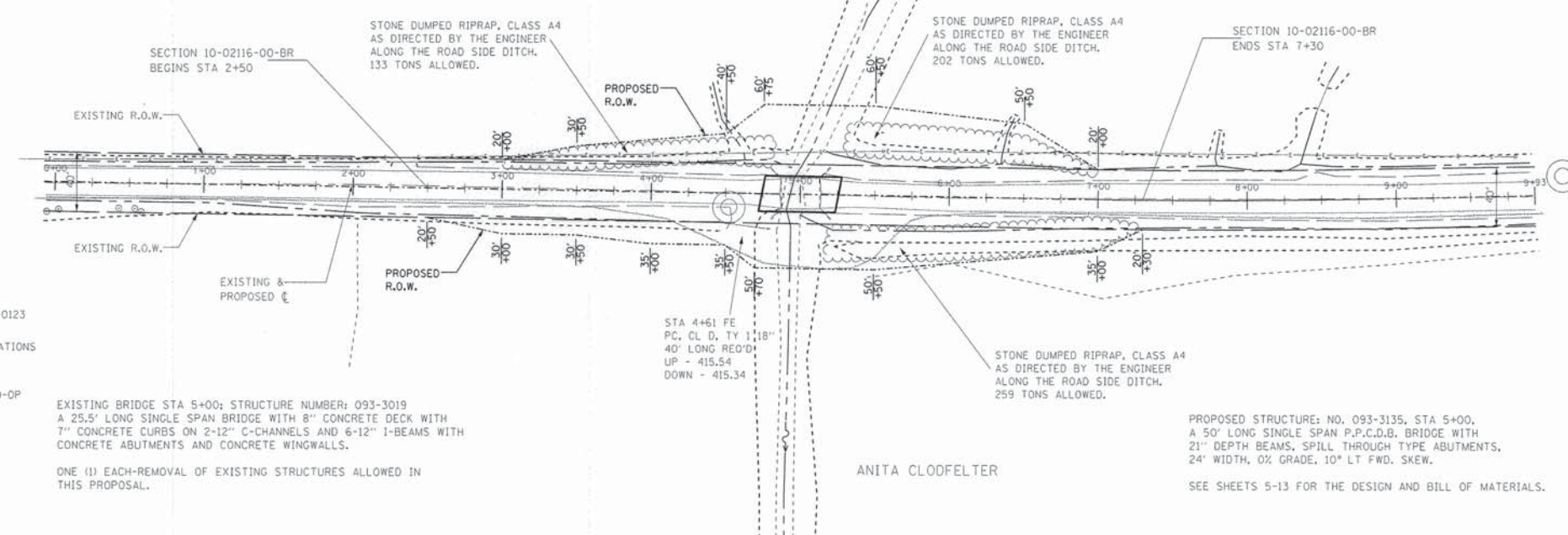


TYPICAL CROSS SECTION EXISTING



UTILITIES:

JULI, I.E. 1-800-892-0123
FRONTIER COMMUNICATIONS
618-395-6189
NORRIS ELECTRIC CO-OP
618-783-8765



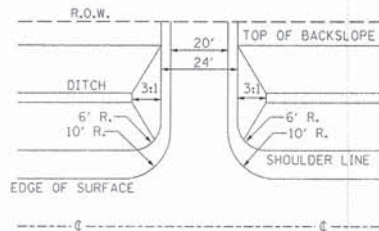
EXISTING BRIDGE STA 5+00; STRUCTURE NUMBER: 093-3019
A 25.5' LONG SINGLE SPAN BRIDGE WITH 8" CONCRETE DECK WITH 7" CONCRETE CURBS ON 2-12" C-CHANNELS AND 6-12" I-BEAMS WITH CONCRETE ABUTMENTS AND CONCRETE WINGWALLS.

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

PROPOSED STRUCTURE: NO. 093-3135, STA 5+00, A 50' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 21" DEPTH BEAMS, SPILL THROUGH TYPE ABUTMENTS, 24" WIDTH, 0% GRADE, 10° LT FWD. SKEW.

SEE SHEETS 5-13 FOR THE DESIGN AND BILL OF MATERIALS.

FIELD ENTRANCE DETAIL



NOTE: CONSTRUCT SPECIAL DITCH

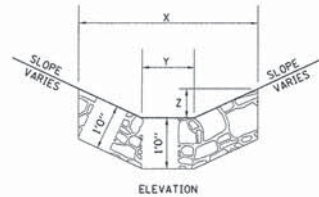
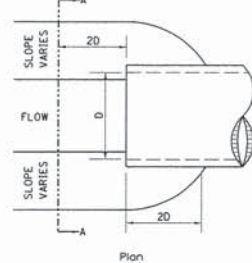
STA 2+50 TO STA 4+81.2 RT
STA 3+00 TO STA 4+81.9 LT
STA 5+16.9 TO STA 7+30 RT
STA 5+25 TO STA 7+00 LT

NOTE: CONSTRUCT STONE LINED DITCH

STA 2+50 TO STA 4+41.2 RT (0.62 TON/LIN FT)
118 TON STONE LINED DITCH ALLOWED IN PROPOSAL.

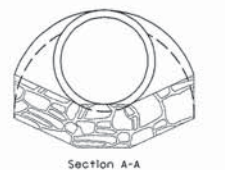
SEE STONE LINED DITCH DESIGN.

STONE LINED DITCH DESIGN



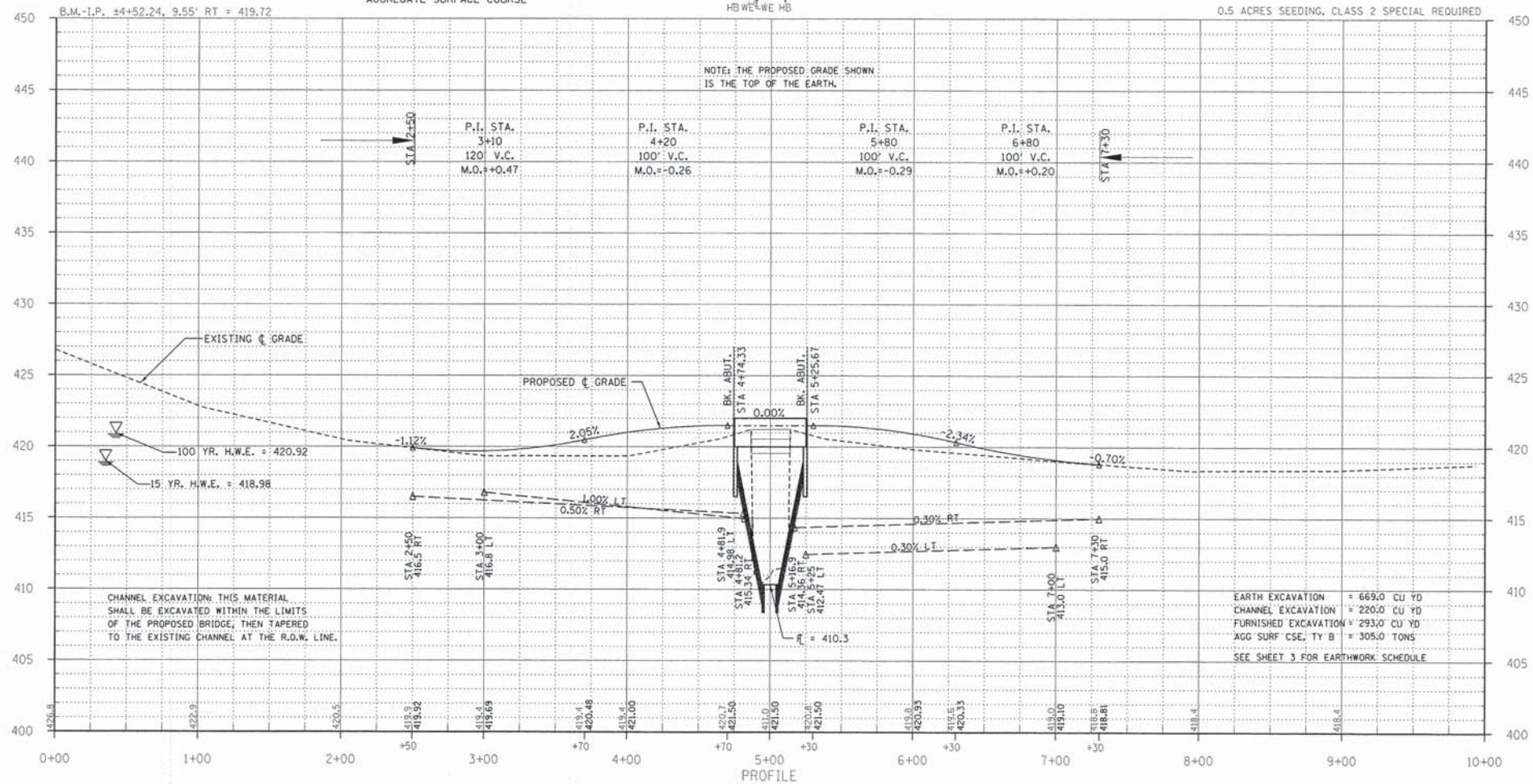
NOTE:

BOTTOM OF DITCH	SLOPE		
	1 1/2:1	2:1	3:1
2 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 TON/LIN. FT



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

NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE



NOTE: THE PROPOSED GRADE SHOWN IS THE TOP OF THE EARTH.

CHANNEL EXCAVATION: THIS MATERIAL SHALL BE EXCAVATED WITHIN THE LIMITS OF THE PROPOSED BRIDGE, THEN TAPERED TO THE EXISTING CHANNEL AT THE R.O.W. LINE.

EARTH EXCAVATION = 669.0 CU YD
CHANNEL EXCAVATION = 220.0 CU YD
FURNISHED EXCAVATION = 293.0 CU YD
AGG SURF CSE, TY B = 305.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9	10-02116-00-BR	WABASH	13	2

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FAX: (812)-385-2812

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
SIGNATURE
5-17-13
DATE
11-30-13
EXPIRES

BIG BRANCH
TOWNSHIP ROUTE 9
WABASH COUNTY, ILLINOIS

SHEET TITLE:

PLAN & PROFILE

SCALE: VARS
BY: AMM
DATE: 5/9/13
REV:

2 OF 13
SHEETS

SHEET NO.
2

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9	10-02116-00-BR	WABASH	13	3
FED. ROAD DIST. NO. 7 ILLINOIS		BIG BRANCH		
PROJECT * BR05-851034		CONTRACT * 95711		
LEC JOB * H0101018				

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PROFESSIONAL ENGINEERING CORPORATION
184-00087
(62-032435)(35-002769)



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
5-17-13
DATE
11-30-13
EXPIRES

BIG BRANCH
TOWNSHIP ROUTE 9
WABASH COUNTY, ILLINOIS

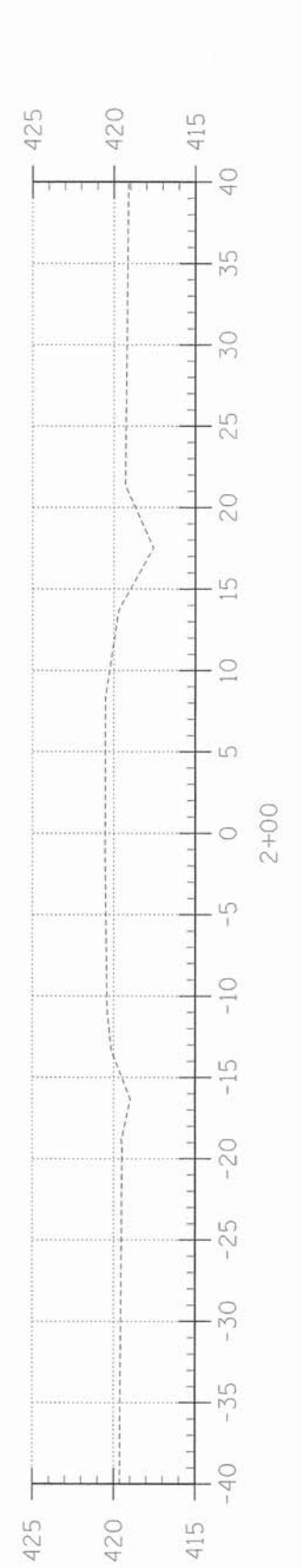
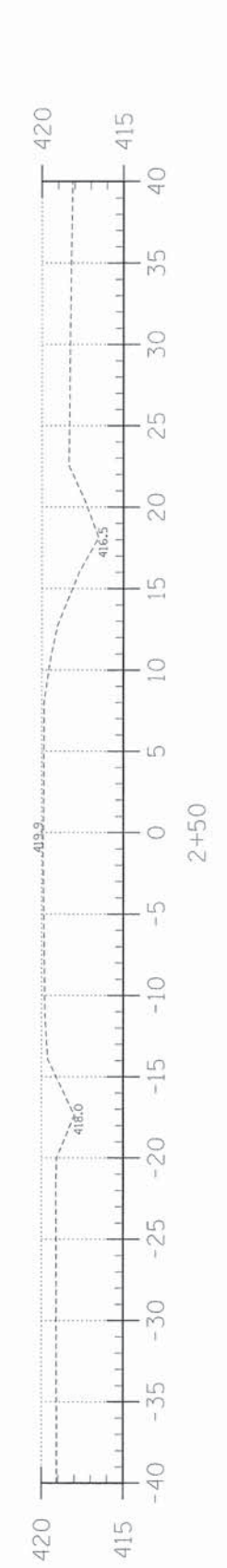
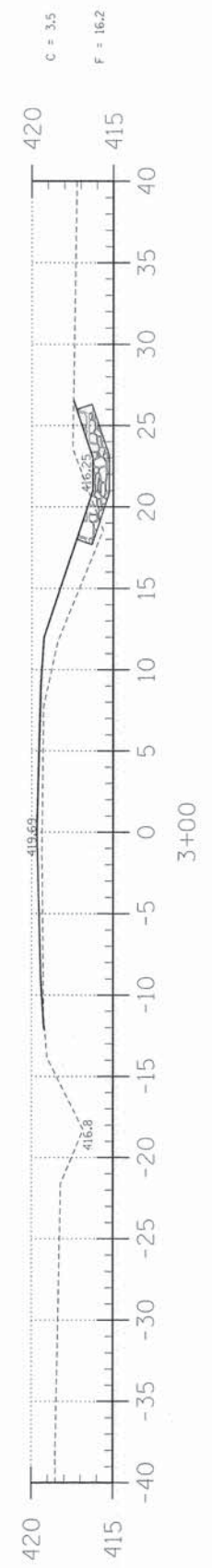
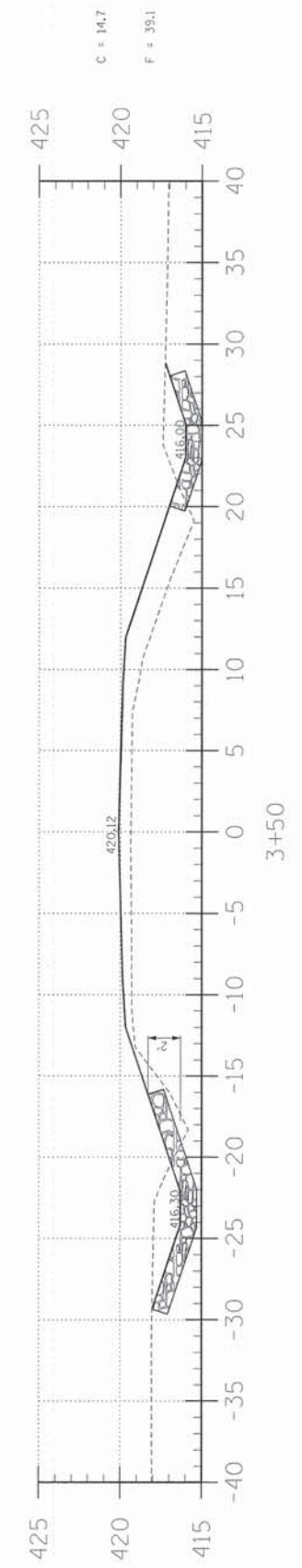
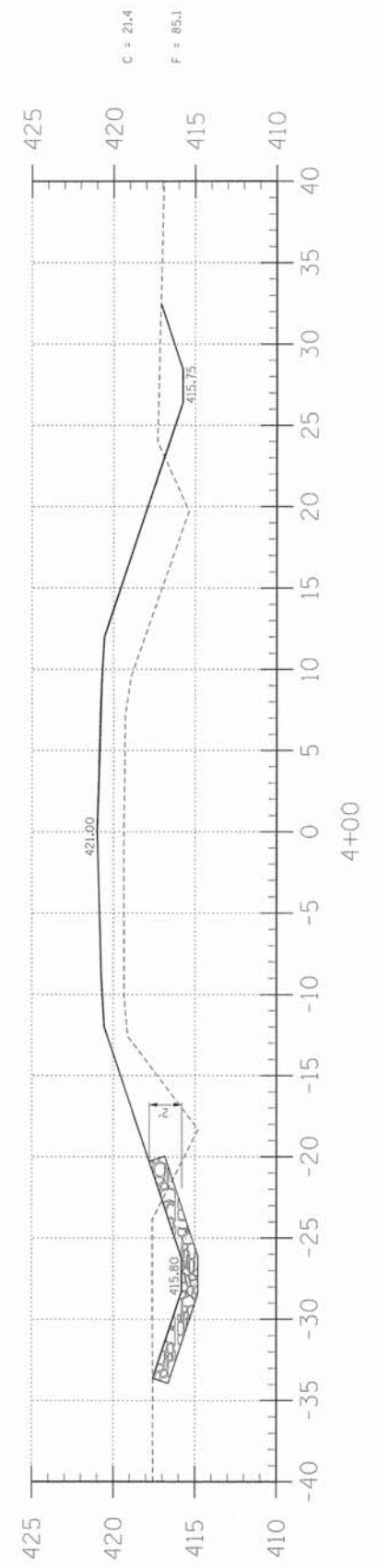
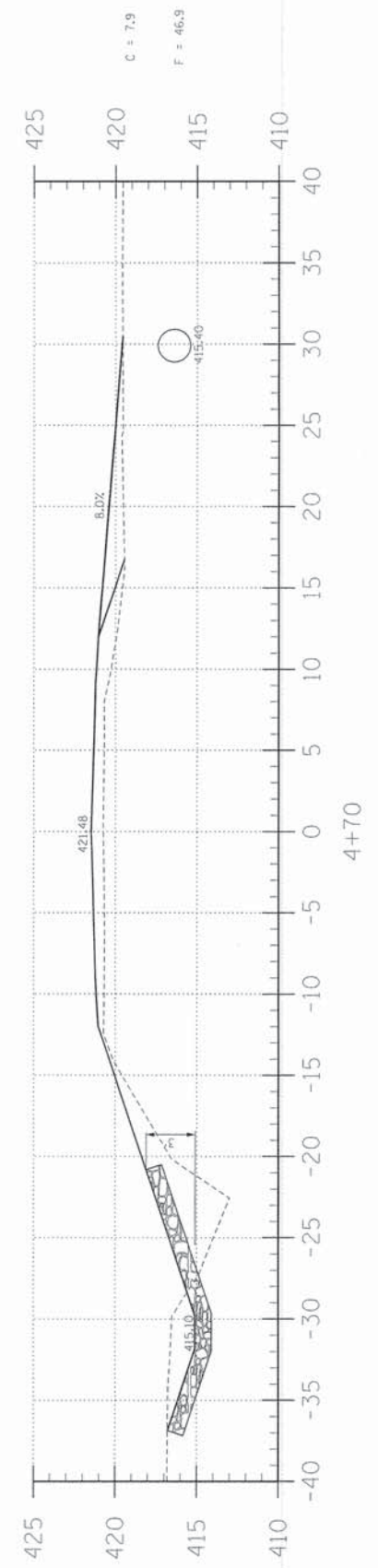
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CROSS-SECTIONS

SCALE: 1" = 5'
BY: AMM
DATE: 5/9/13
REV:

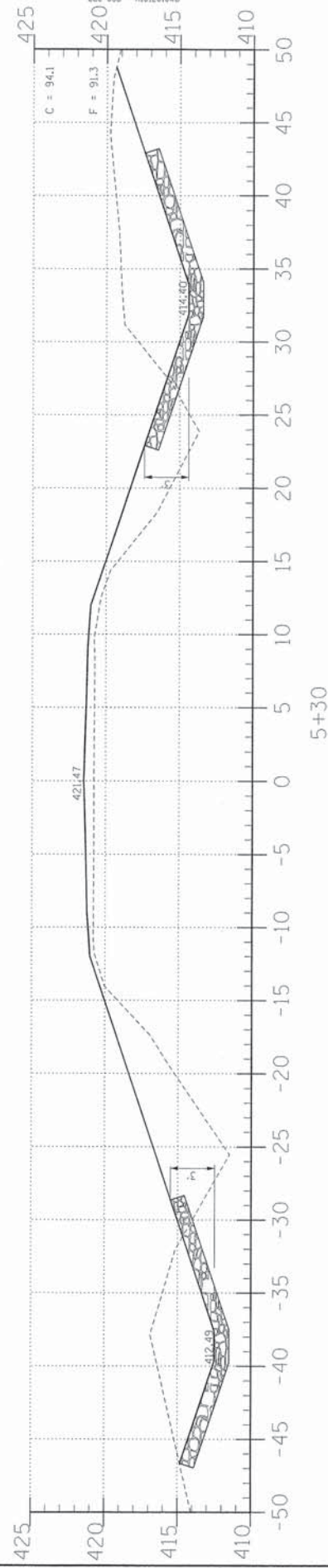
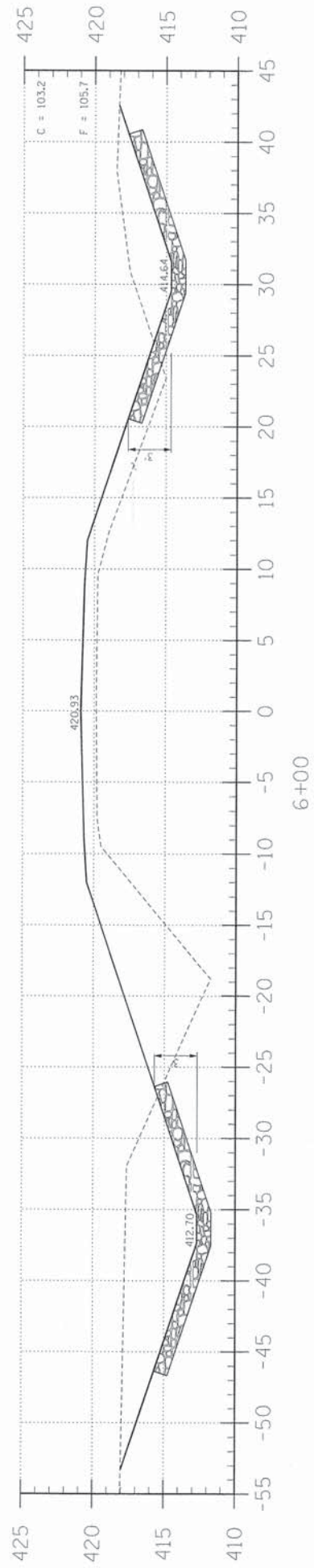
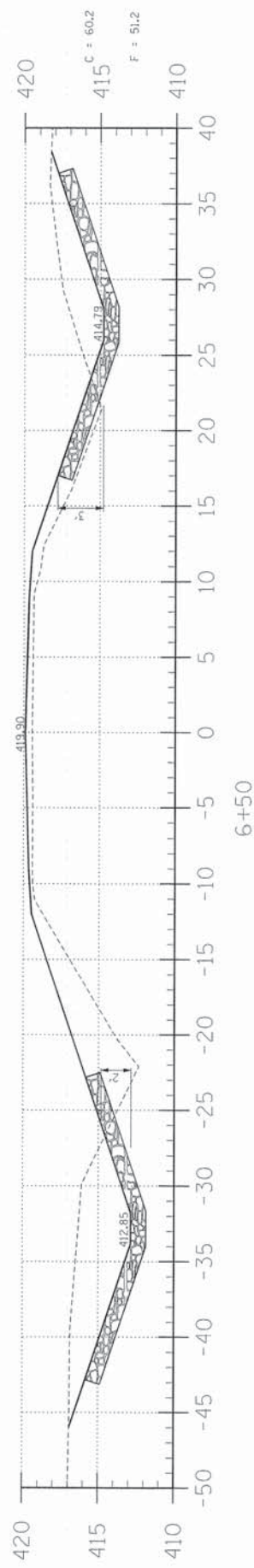
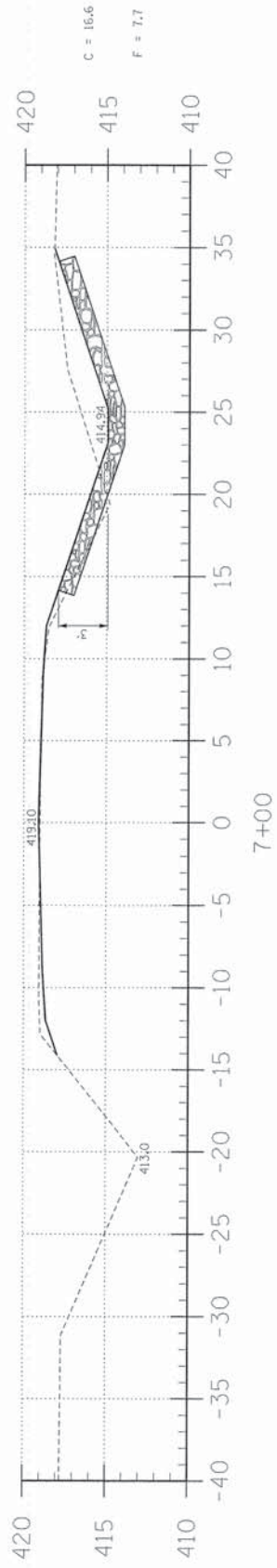
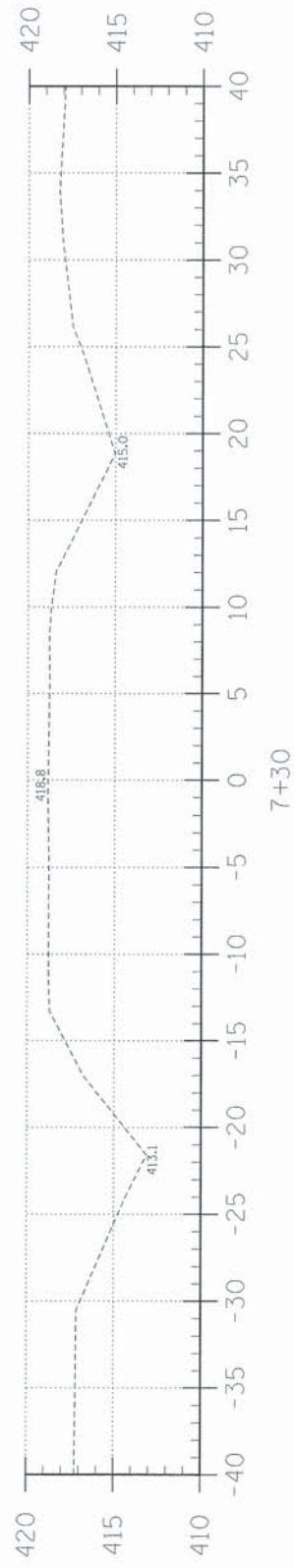
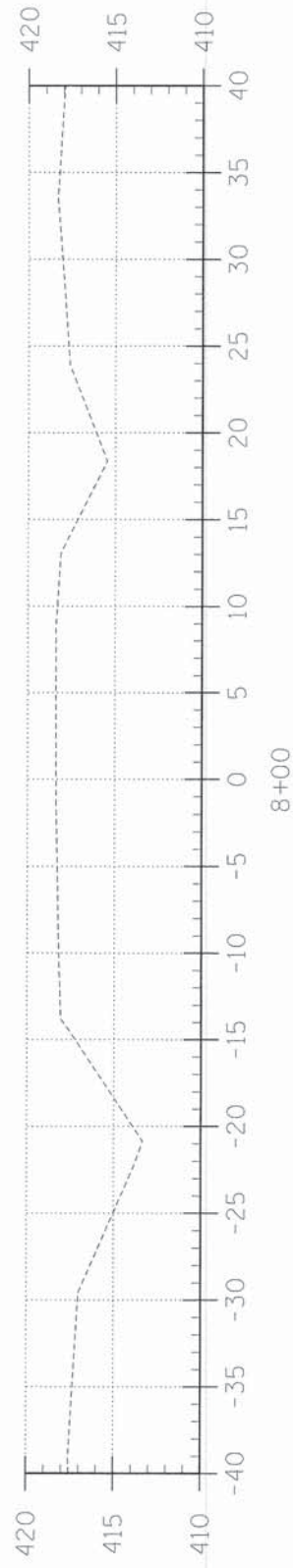
3 OF 13 SHEETS

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+74.3	124.8	0.0	0.0	93.6	375.9	-282.3
STA. 4+74.3 TO 5+25.6	0.0	220.4	110.2	82.7	0.0	+82.7
STA. 5+25.6 TO 10+00	544.6	0.0	0.0	408.5	492.7	-84.2
1 FIELD ENTRANCE	0.0	0.0	0.0	0.0	8.8	-8.8
TOTAL	669.4	220.4	110.2	584.9	877.4	-292.6



T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9	10-02116-00-BR	WABASH	13	4

FED. ROAD DIST. NO. 7 ILLINOIS
PROJECT • BR050850340

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(618)-263-3327

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



AARON M. MEFFORD
NAME
Aaron M. Mefford
SIGNATURE
DATE
5-17-13
11-30-13 EXPIRES

BIG BRANCH
TOWNSHIP ROUTE 9
WABASH COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS

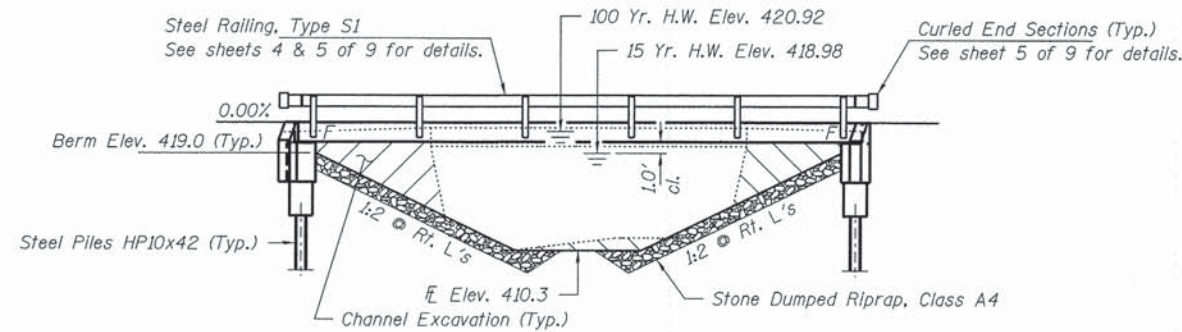
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BY: AMM
DATE: 5/9/13
REV:

4 OF 13
SHEETS
SHEET NO.
4

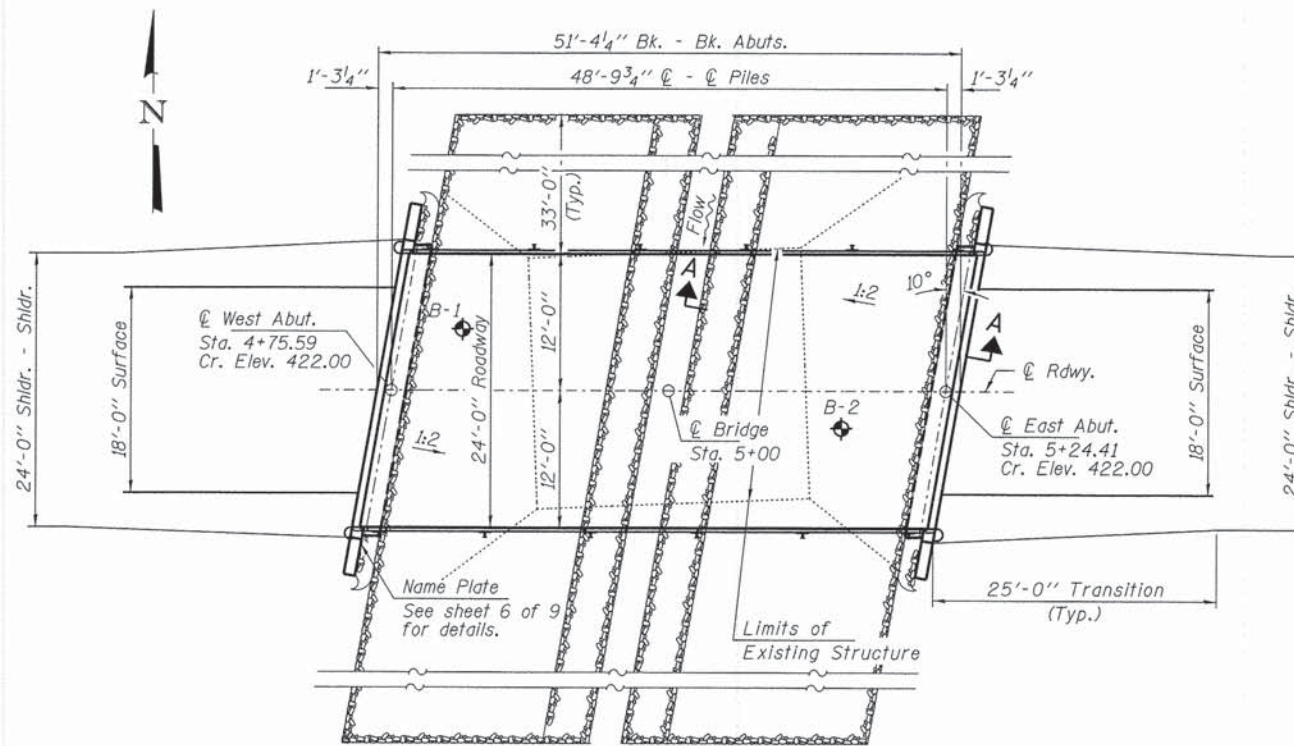
EXISTING STRUCTURE: Single span bridge with concrete deck and curbs on steel beams with concrete abutments and wingwalls. 27.0' bk.-bk. abuts., 22.0' o.o. deck. Str. No. 093-3019

Structure closed to traffic during construction.

No Salvage



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2012 AASHTO LRFD Bridge Design Specifications, 6th Edition with all applicable Interims.

LOADING HL-93

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

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)
fpbt = 201,960 psi (1/2" low lax. strands)
fy = 60,000 psi (Reinf.)

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.252g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.598g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 3.9 Sq. Mi.		Existing Low Grade Elev. 418.4 @ Sta. 8+00		Proposed Low Grade Elev. 418.4 @ Sta. 8+00			
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Natural Prop. H.W.E.	Head - Ft. Exist.	Headwater El. Prop.	
Design	15	1347	199	246	418.98	0.14	419.12
Base/Max. Calc.	100	2330	214	294	420.92	0.89	421.81
						0.06	420.98

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	416.4	416.4

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."

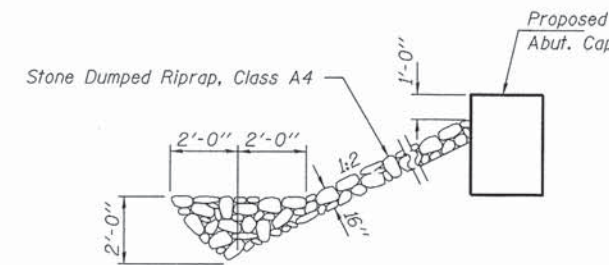
Steven W. Megginson 05/15/2013
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2014

GENERAL NOTES

Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. The Contractor shall drive test piles to 100% of the nominal required bearing specified in production locations at East Abutment or approved by the Engineer before ordering the remainder of piles. 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.

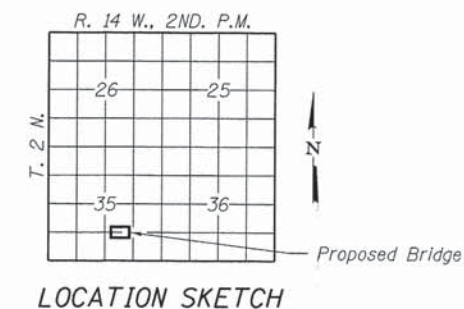


SECTION A-A

Note: See Special Provisions for Stone Dumped Riprap, Class A4.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 21"x48" PPC Deck Beam
3. 21"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
- 8-9. Borings



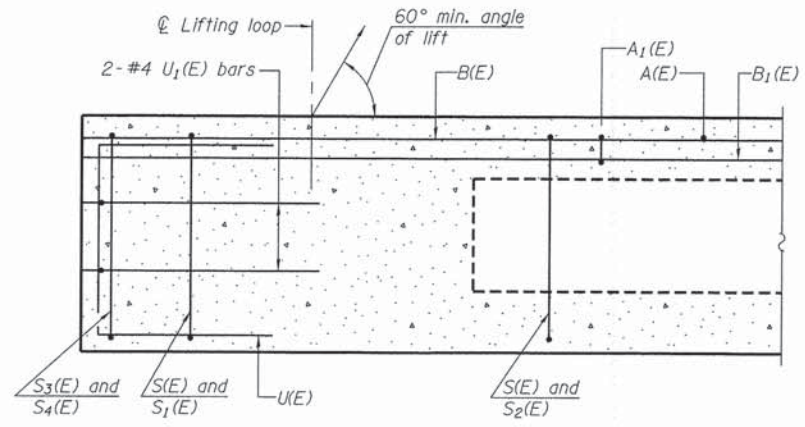
BIG BRANCH
BUILT 201_ BY
WABASH COUNTY
SEC. 10-02116-00-BR
ROAD DISTRICT #2
STR. NO. 093-3135
LOADING HL-93

NAME PLATE
See Std. 515001

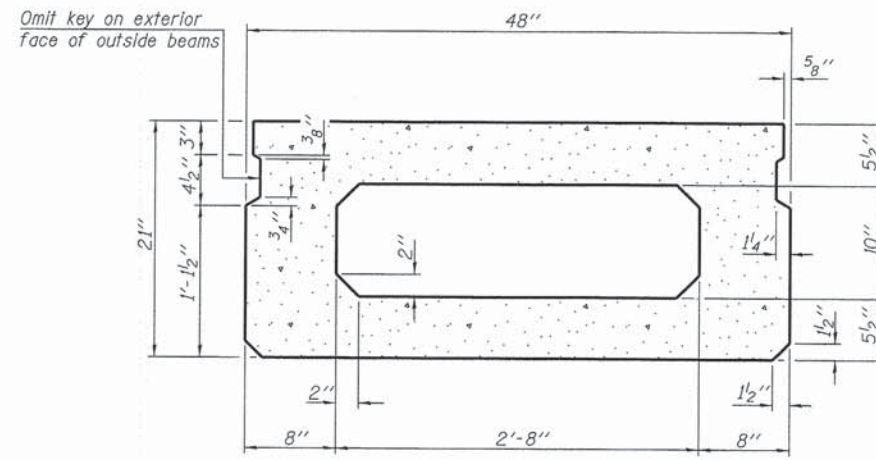
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			220
Stone Dumped Riprap, Class A4	Ton			360
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.4	22.4
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,200		1,200
Reinforcement Bars	Pound		2,390	2,390
Steel Railing, Type S1	Foot	98		98
Furnishing Steel Piles HP10x42	Foot		350	350
Driving Piles	Foot		350	350
Test Pile Steel HP10x42	Each		1	1
Name Plates	Each		1	1

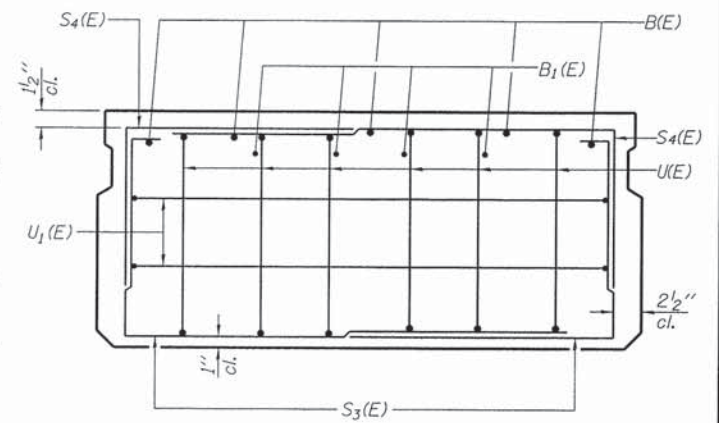
FILE NAME = 110867-sh1-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS WABASH COUNTY HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 093-3135 SHEET NO. 1 OF 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3085 ELEVATION DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			9	10-02116-00-BR	WABASH	13	5
ILLINOIS PROFESSIONAL DESIGN FIRM 15 / P.E. / BE CORP. 184.000888	PLOT DATE = 5/15/2013	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2				CONTRACT NO. 95711
		CHECKED - S.W.M.	REVISED -							ILLINOIS FED. AID PROJECT



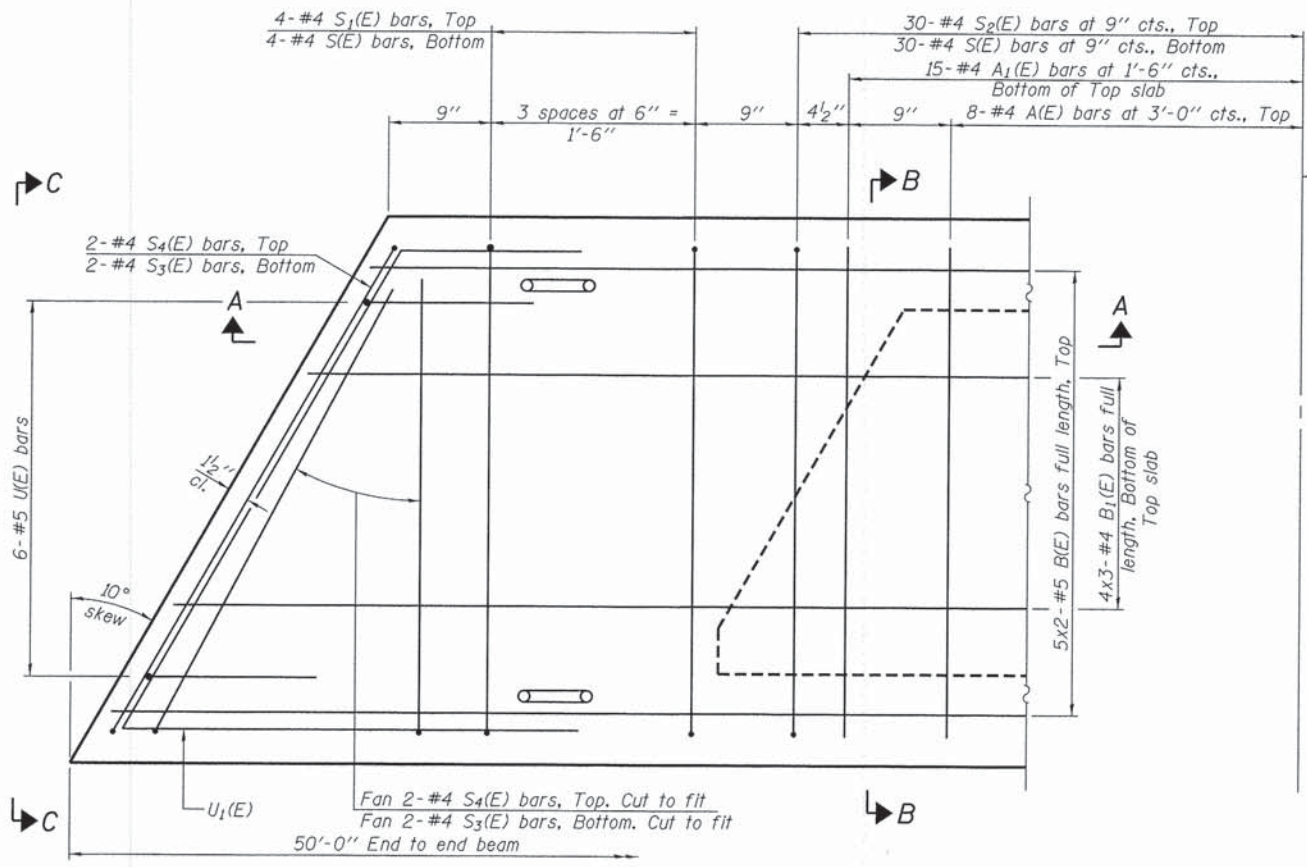
SECTION A-A



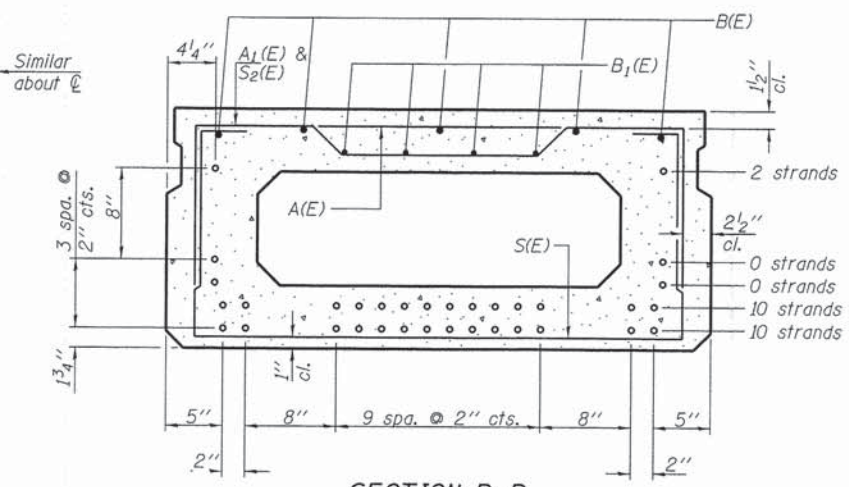
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



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

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

BAR LIST
ONE BEAM ONLY

(For information only)

Bar	No.	Size	Length	Shape
A(E)	16	#4	3'-7"	—
A1(E)	30	#4	3'-10"	—
B(E)	10	#5	26'-2"	—
B1(E)	12	#4	17'-11"	—
S(E)	68	#4	7'-5"	U
S1(E)	8	#4	5'-11"	U
S2(E)	60	#4	6'-2"	U
S3(E)	8	#4	4'-8"	U
S4(E)	8	#4	3'-11"	U
U(E)	12	#5	4'-0"	U
U1(E)	4	#4	6'-8"	U

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

Notes:
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-#5 etc. indicates 5 lines of bars with 2 lengths per line.

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

PD-2148-L 7-1-10

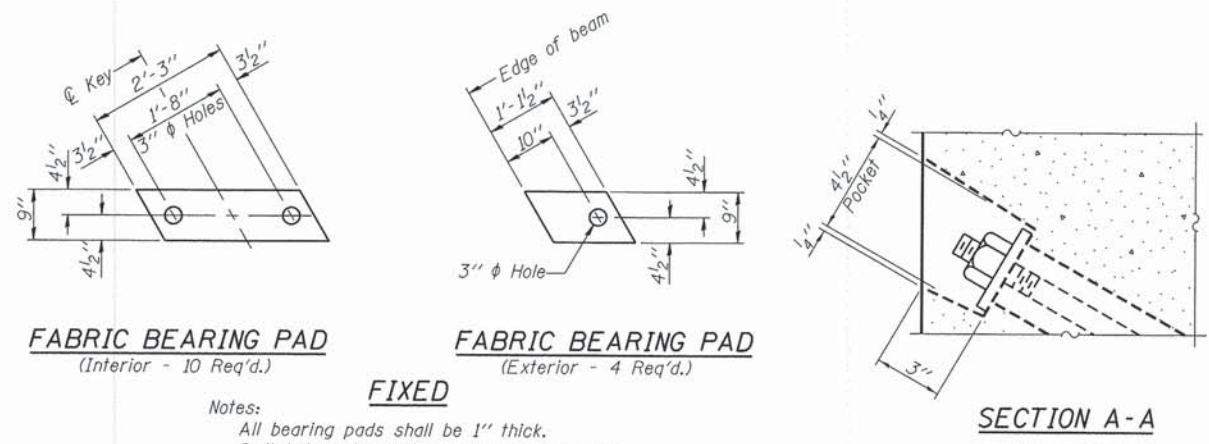
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HAMPTON, LENZINI AND RENWICK, INC. 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62710	DESIGNED - S.W.M.	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE COMP. 184.000959	DRAWN - D.A.B.	CHECKED - S.W.M.	REVISED -
PLOT SCALE =	PLOT DATE = 5/15/2013		

STATE OF ILLINOIS
WABASH COUNTY HIGHWAY DEPARTMENT

21" x 48" PPC DECK BEAM
STRUCTURE NO. 093-3135

SHEET NO. 2 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9	10-02116-00-BR	WABASH	13	6
ROAD DISTRICT #2		CONTRACT NO. 95711		
ILLINOIS FED. AID PROJECT				

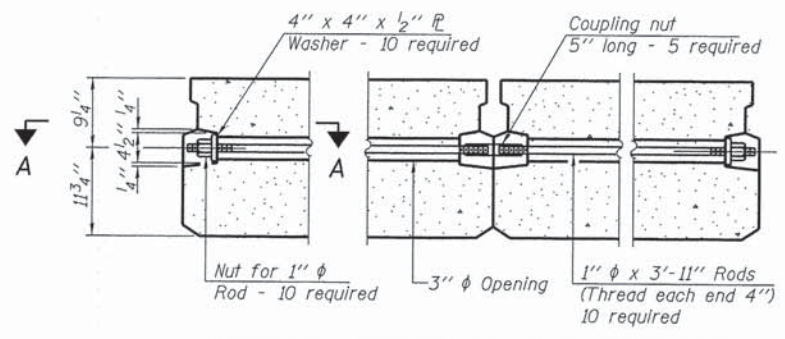


FABRIC BEARING PAD
(Interior - 10 Req'd.)

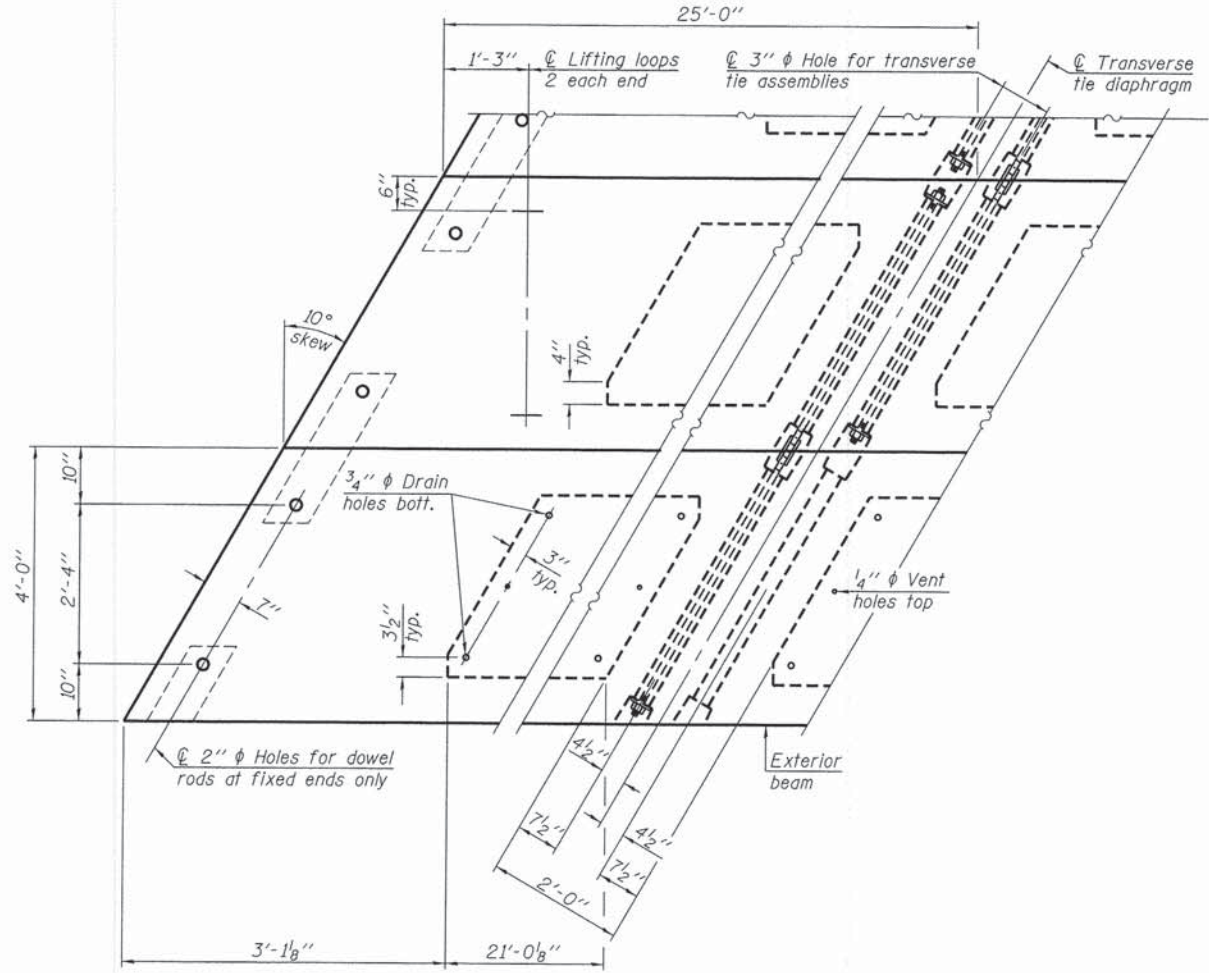
FABRIC BEARING PAD
(Exterior - 4 Req'd.)

SECTION A-A

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

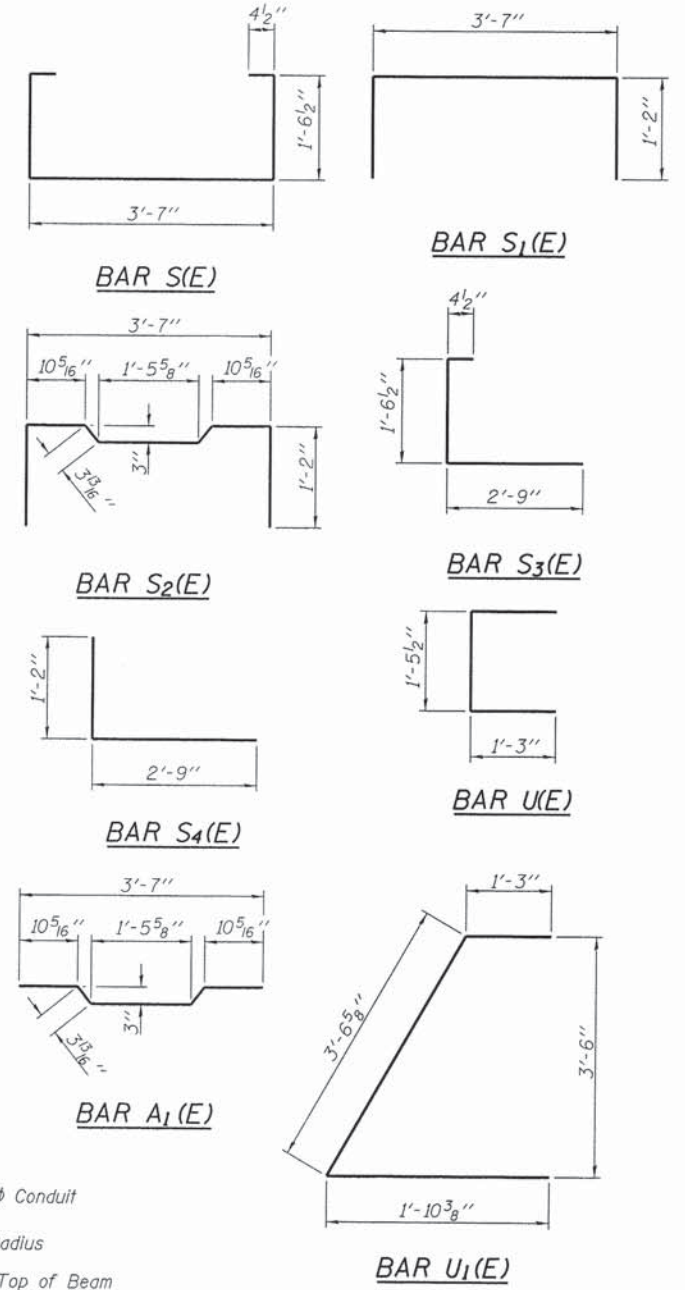


TYPICAL TRANSVERSE TIE ASSEMBLY



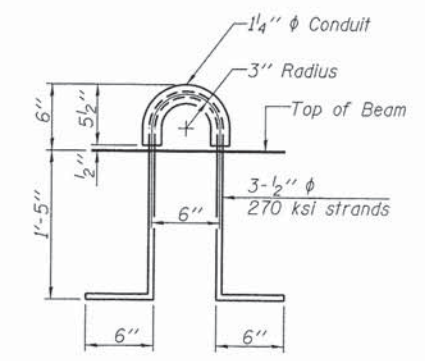
PLAN VIEW

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



BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,200
---	---------	-------



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" phi rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces 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" phi 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.
All bars shall be epoxy coated.

PD-2148-LD 7-1-10

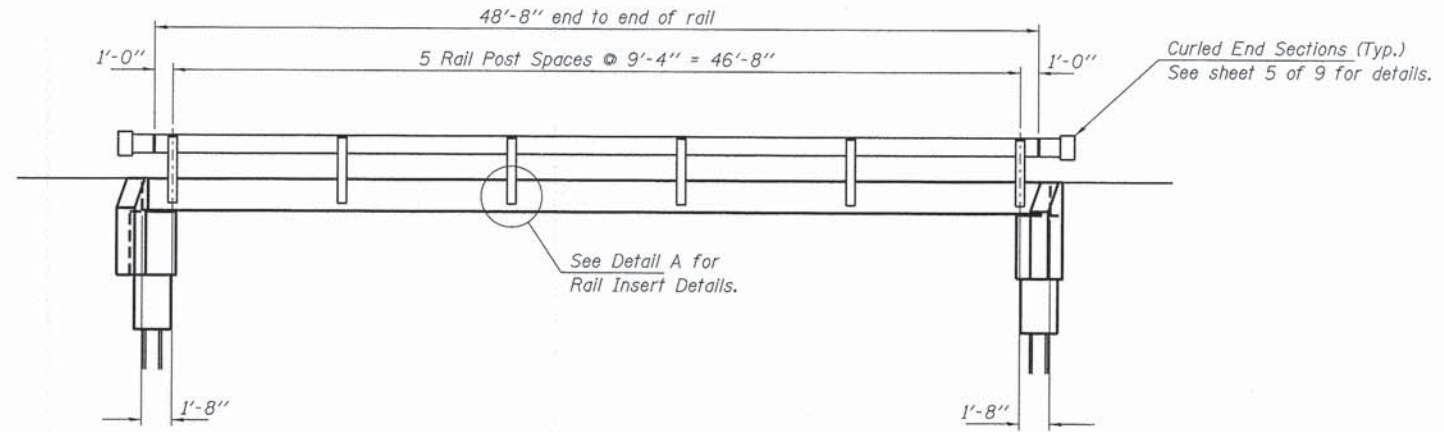
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
3088 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM	PLOT DATE = 5/15/2013		
LS/P&E/SE CORP. 184-000023			

STATE OF ILLINOIS
WABASH COUNTY HIGHWAY DEPARTMENT

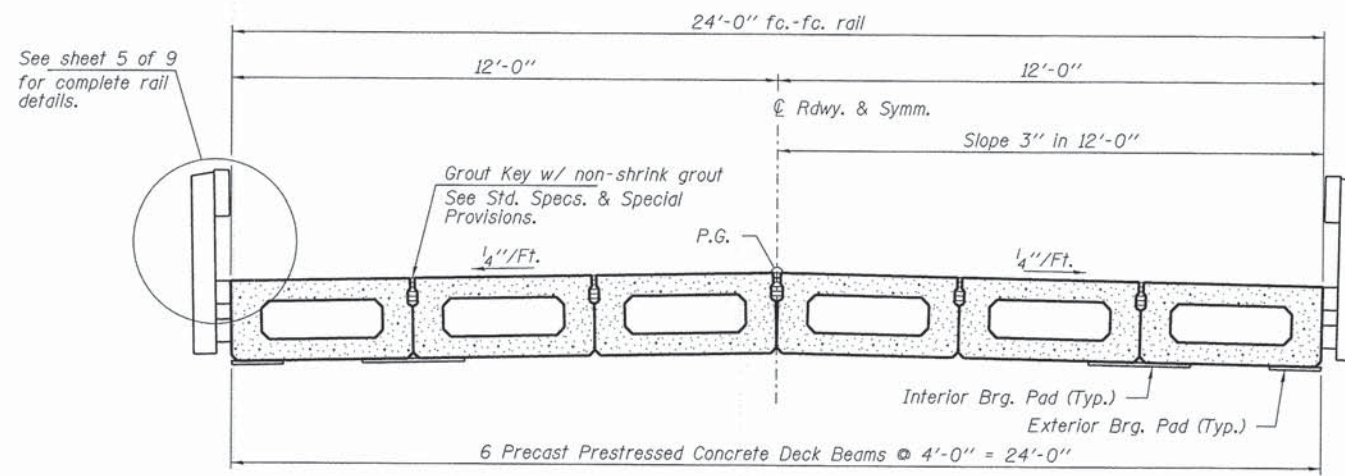
21" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 093-3135

SHEET NO. 3 OF 9 SHEETS

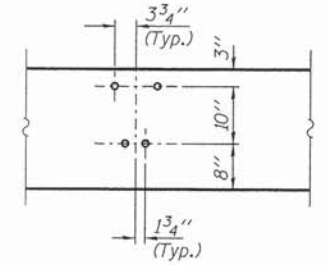
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
9	10-02116-00-BR	WABASH	13	7
ROAD DISTRICT #2		CONTRACT NO. 95711		
[ILLINOIS] FED. AID PROJECT				



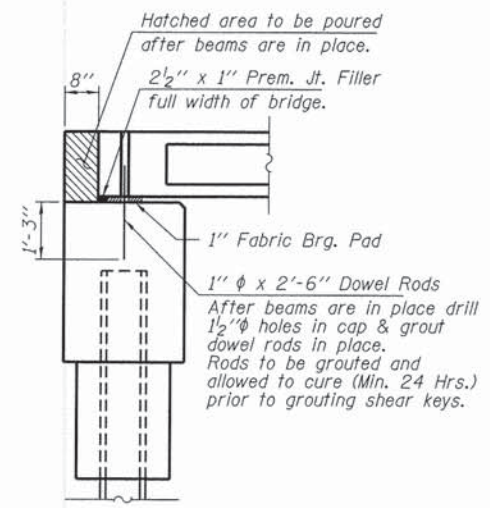
ELEVATION
 Showing Rail Post Spaces
 See sheet 5 of 9 for Railing Details.



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



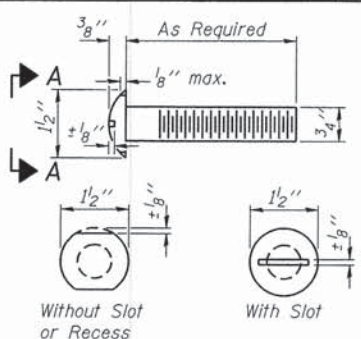
DETAIL A



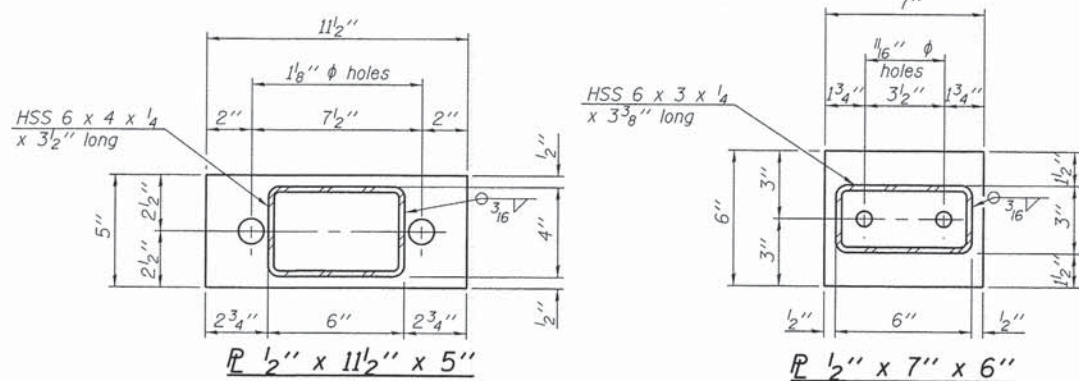
SECTION AT ABUTMENTS
 @ Rt. L's

FILE NAME = 110067-shr-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS WABASH COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 093-3135	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			9	10-02116-00-BR	WABASH	13	8	
HLR ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 104 000809	PLOT DATE = 5/15/2013	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2	CONTRACT NO. 95711				
		CHECKED - S.W.M.	REVISED -			SHEET NO. 4 OF 9 SHEETS					

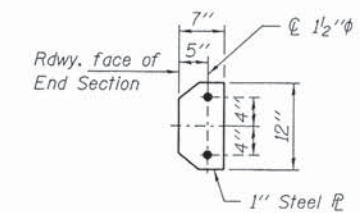
ILLINOIS FED. AID PROJECT



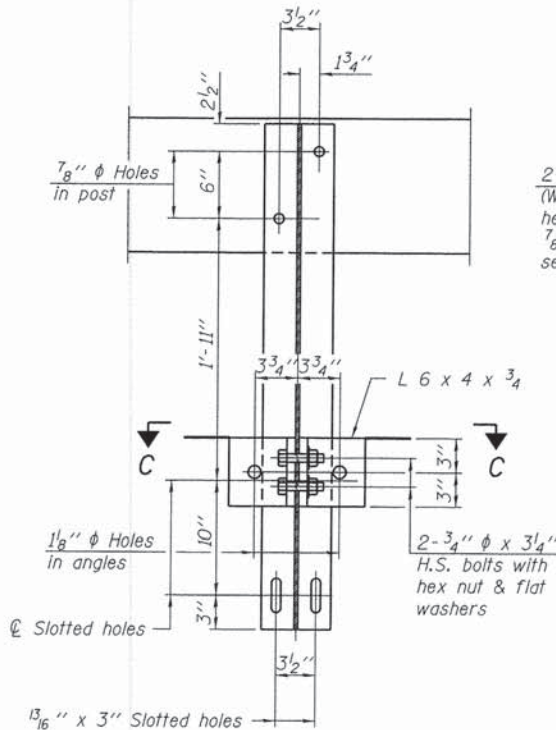
**VIEW A-A
ROUND HEAD BOLT**



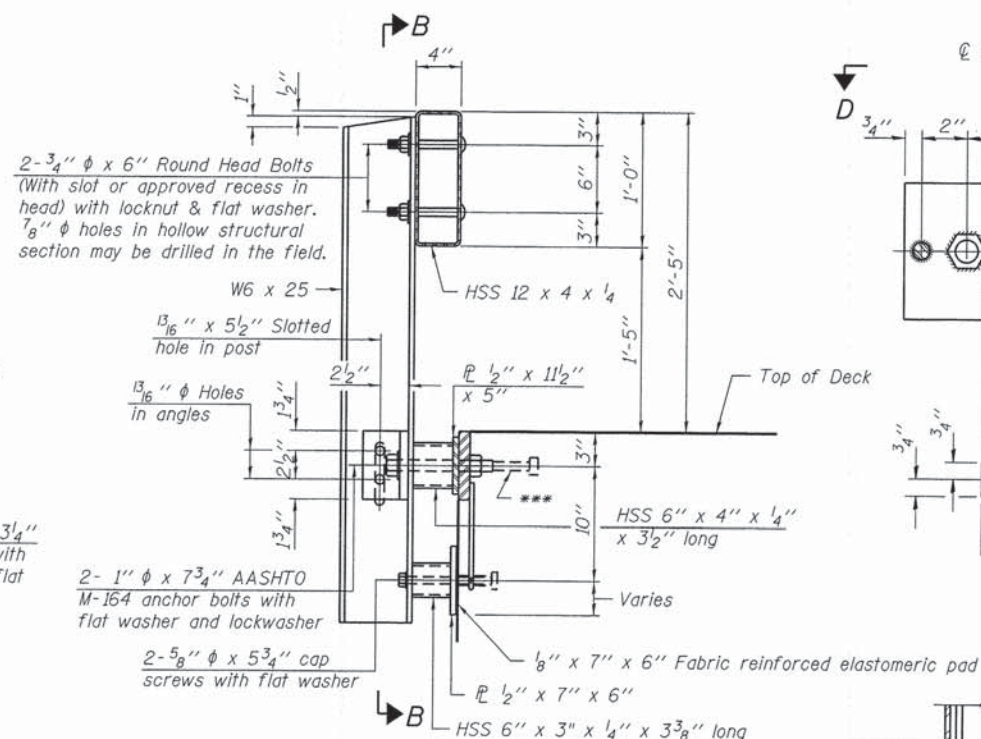
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



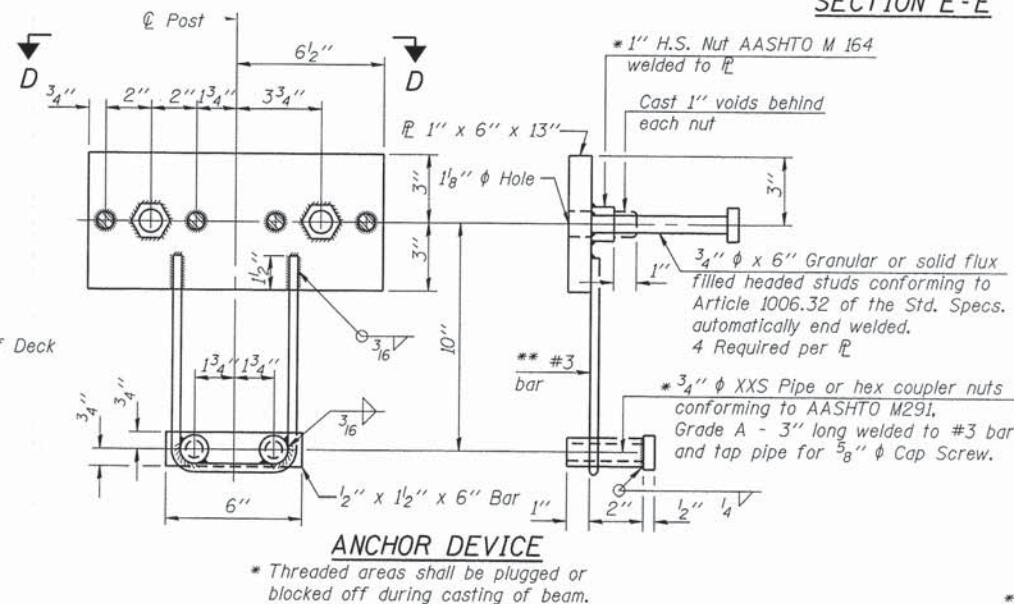
SECTION E-E CURLED END SECTION DETAILS



SECTION B-B

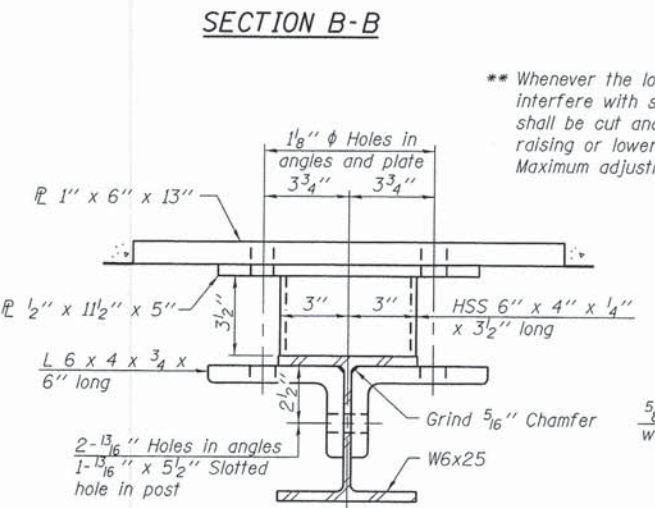


SECTION AT RAILING POST

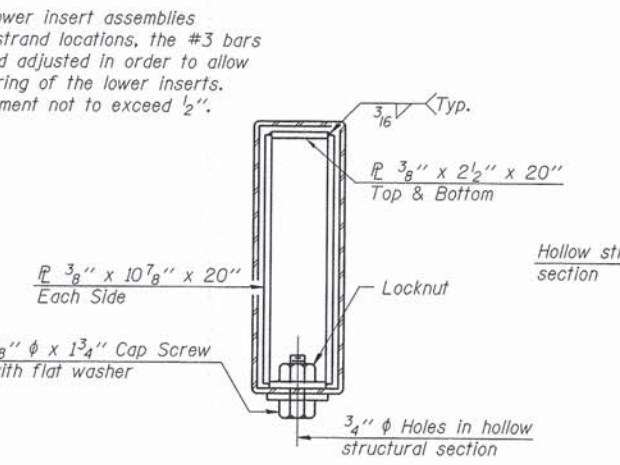


ANCHOR DEVICE

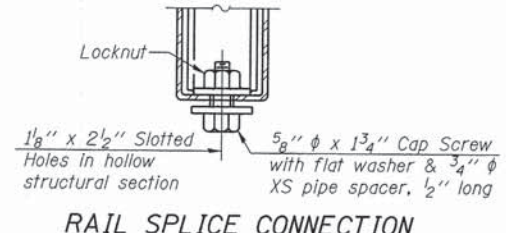
Notes:
All field drilled holes shall be coated with an approved zinc rich paint before erection. For multi-span bridges, sufficient 1/4 inch x 6 inch x 1'-2 inch galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1. All steel rail elements 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.



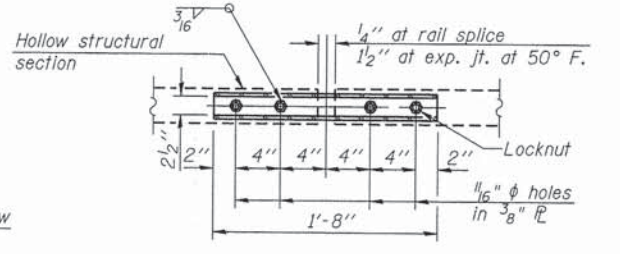
SECTION C-C



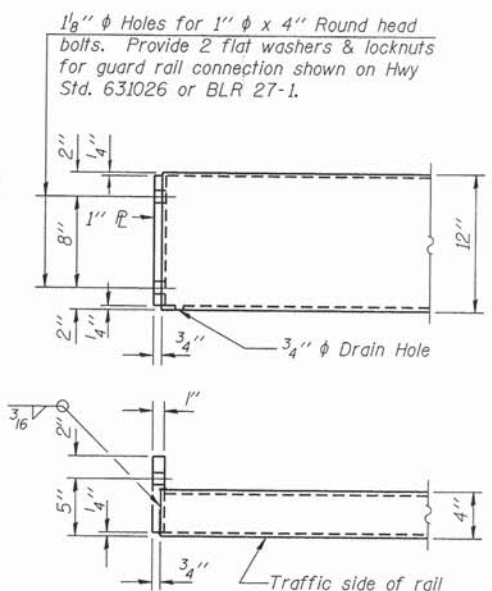
SECTIONS AT RAIL SPLICE



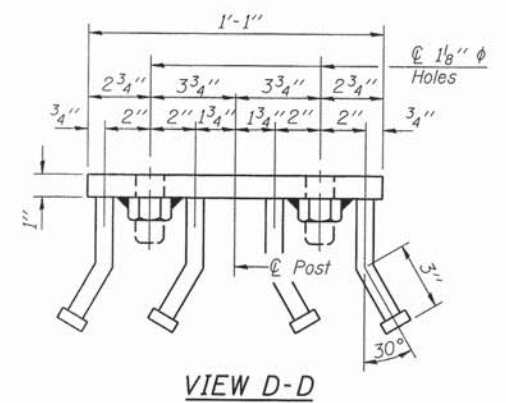
RAIL SPLICE CONNECTION AT EXPANSION JT.



PLAN-BOTT. SPLICE TYPICAL



STEEL RAILING, TYPE S-1 END OF RAIL DETAILS



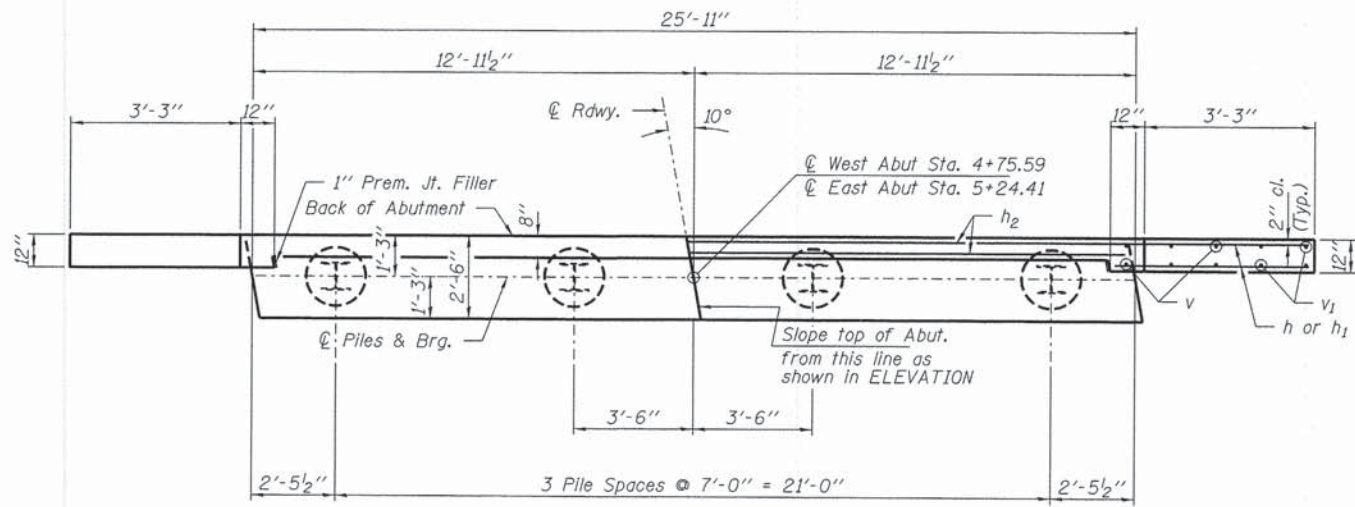
VIEW D-D

BILL OF MATERIAL

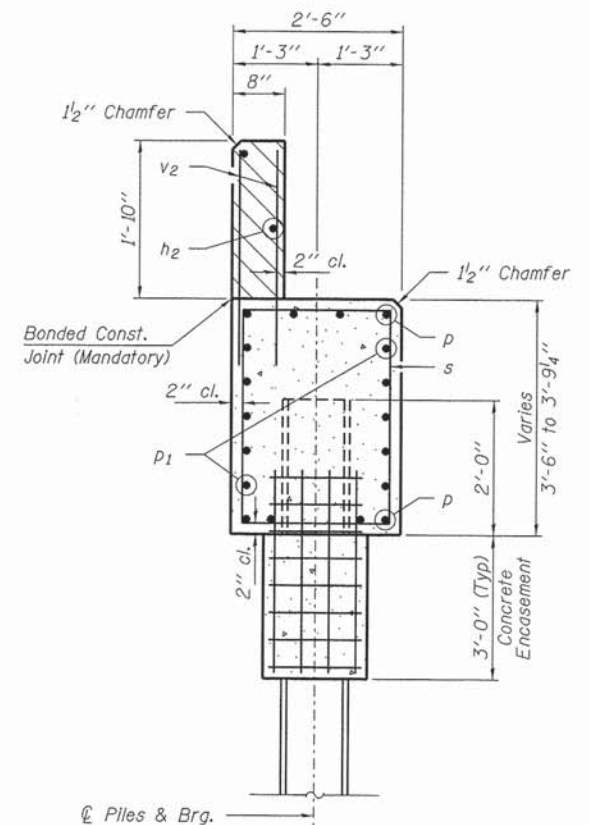
Item	Unit	Quantity
Steel Railing, Type S-1	Foot	98

R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = 110067-shr-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS WABASH COUNTY HIGHWAY DEPARTMENT	STEEL RAILING, TYPE S-1 STRUCTURE NO. 093-3135	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3088 STEVENSON DRIVE, SUITE 251 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			9	10-02116-00-BR	WABASH	13	9	
LR ILLINOIS PROFESSIONAL DESIGN FIRM L8 / PE / SE CORP. 184 00090	PLOT DATE = 5/15/2013	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2	CONTRACT NO. 95711				
		CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT					

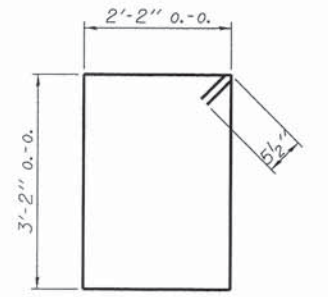


PLAN

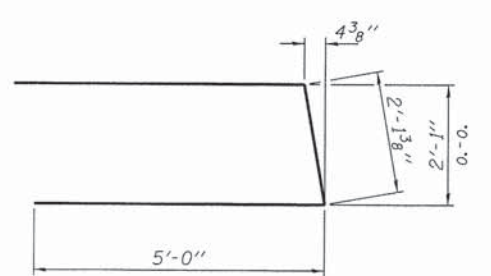


SECTION A-A

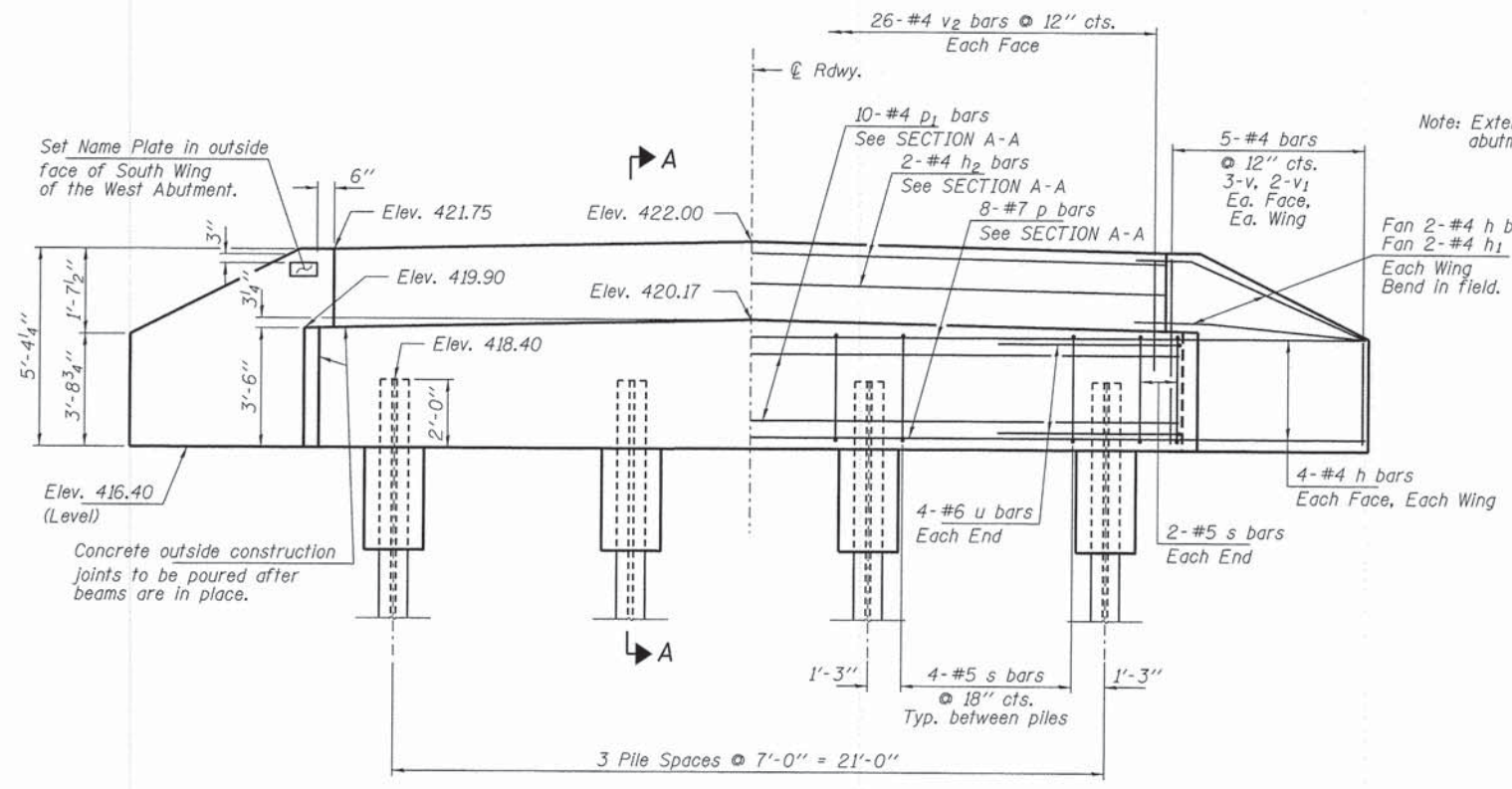
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

PILE DATA

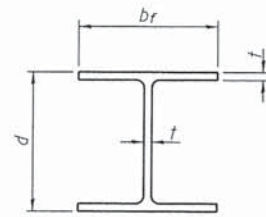
Type ----- Steel HP10x42
 No. Req'd. (2 Abuts.) ----- 8
 Factored Resistance Available ----- 184 Kips/Pile
 Nominal Req'd Bearing ----- 335 Kips/Pile
 Est. Length ----- 50 Ft/Pile

Notes: * Includes one test pile to be driven in a permanent location at the East Abutment.

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

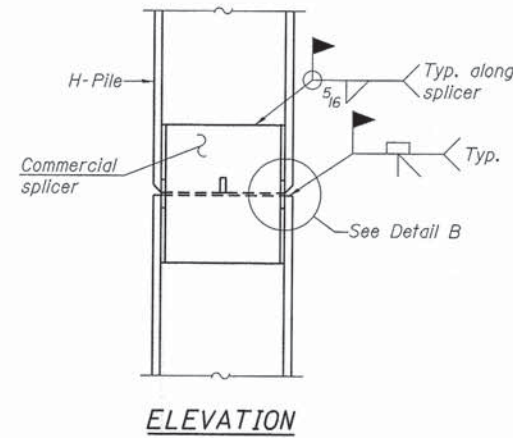
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	5'-6"	—
h ₁	8	#4	4'-0"	—
h ₂	4	#4	25'-7"	—
p	16	#7	25'-7"	—
p ₁	20	#4	25'-7"	—
s	32	#5	11'-7"	□
u	16	#6	12'-2"	—
v	24	#4	4'-5"	—
v ₁	16	#4	3'-5"	—
v ₂	104	#4	2'-8"	—
Concrete Structures			Cu. Yd.	22.4
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,390
Steel Piles HP10x42			Foot	350
Test Pile Steel HP10x42			Each	1
Name Plates			Each	1

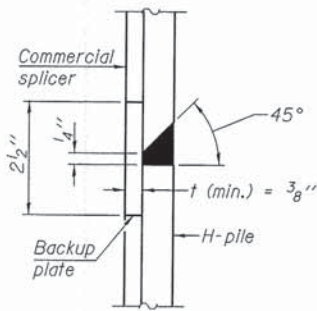


STEEL PILE TABLE

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"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11 3/4"	12"	7/16"	24"
HP 10x57	10"	10 1/4"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

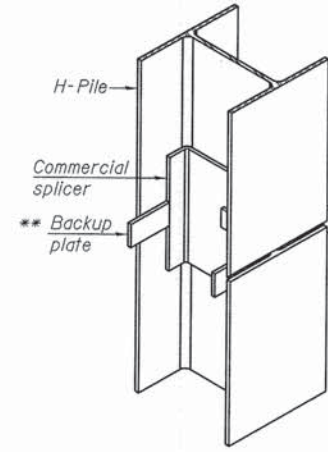


ELEVATION

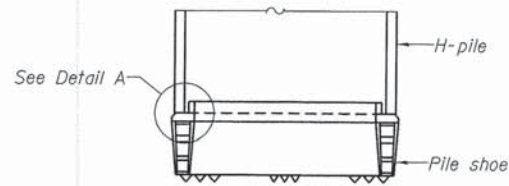


DETAIL "B"

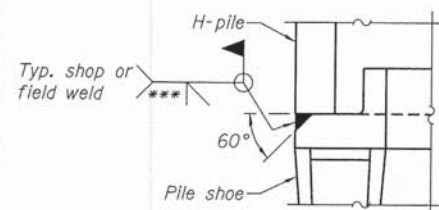
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

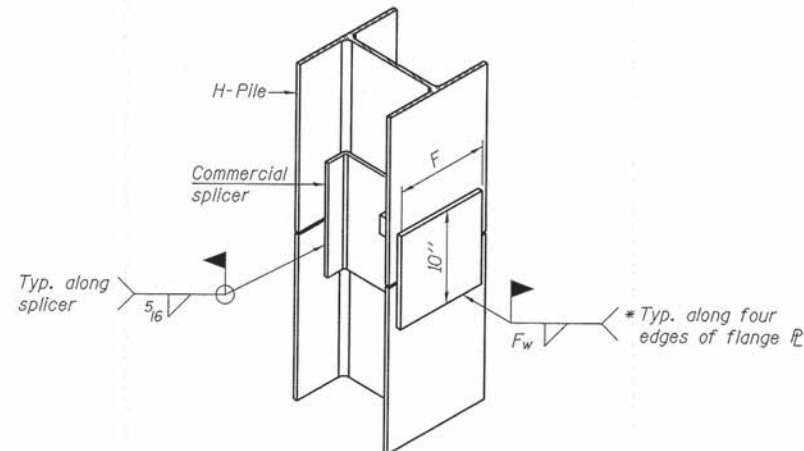


ELEVATION



DETAIL A

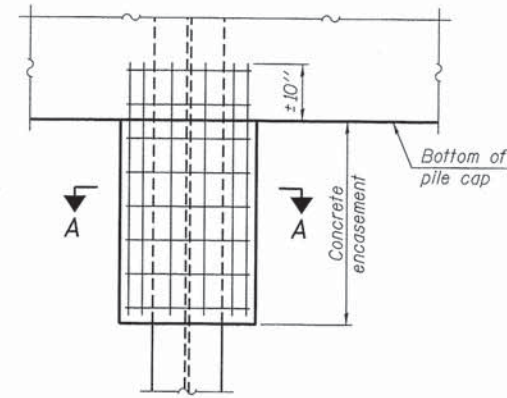
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

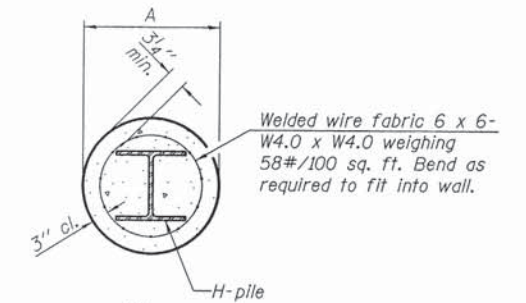
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).



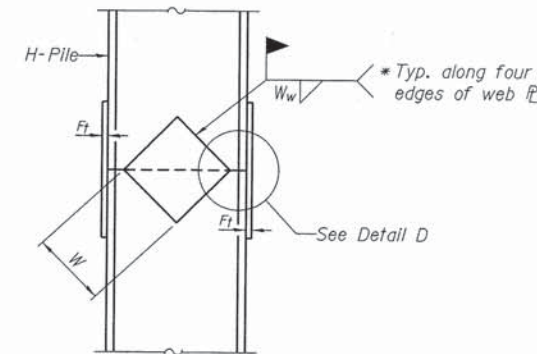
ELEVATION

PILE ENCASEMENT



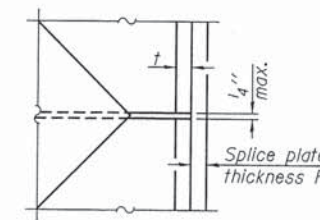
SECTION A-A

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

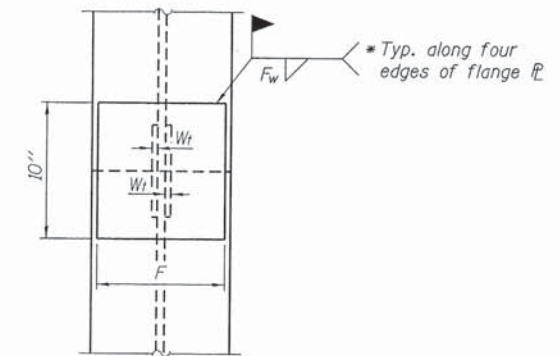


ELEVATION

DETAIL D



WELDED PLATE FIELD SPLICE



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"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

F-HP

1-27-12

FILE NAME = 110067-ah-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISIONS -	STATE OF ILLINOIS WABASH COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 093-3135	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 3080 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISIONS -			9	10-02116-00-BR	WABASH	13	11	
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184-000959	PLOT DATE = 5/15/2013	DRAWN - D.A.B.	REVISIONS -			ROAD DISTRICT #2		CONTRACT NO. 95711			
		CHECKED - S.W.M.	REVISIONS -			SHEET NO. 7 OF 9 SHEETS					

ILLINOIS FED. AID PROJECT

Bridge Foundation Boring Log

Project: H-11023 Bridge _____ Date: 2/8/11
Section: 10-02116-00-BR Station _____
Route: _____ Bored by: D. Russell
County: Wabash _____ Checked By: T. Holcomb

Boring No. 1 Station: Offset:	Elevation	N	Qu	tsf	w	%	Surface Water Elev.		Elevation	N	Qu	tsf	w	%
							During Drilling	Upon Completion						
Ground Surface	421.5	0												
8" Crushed Limestone	420.8							402.5						
Brown Mottled Gray Sandy CLAY (A-6)								397.5						
	418.5		12	1.45	16				-25	6				26
Brown Mottled Gray Sandy CLAY (A-6) w/ gravel														
	415.0		60	1.18	17					5				21
Gray Mottled Brown Sandy CLAY (A-6)								392.5						
	415.0		9	1.15	18				-30	7	2.1B			23
Gray Mottled Brown Silty CLAY (A-6)														
	410.0		5	0.8B	23									
Gray Mottled Brown Silty CLAY (A-6)								382.5						
	410.0		5	1.1B	25				-35	6	1.0B			23
Gray Mottled Brown Silty CLAY (A-6) with sand														
	405.0		6	1.9B	24									
Gray Sandy CLAY (A-6)														
	402.5		6	1.6S	25				-40	11	2.0S			18
	402.5		4	0.3B	20									
			3	0.4B	25									

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-percent of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

Bridge Foundation Boring Log

Project: H-11023 Bridge _____ Date: 2/8/11
Section: 10-02116-00-BR Station _____
Route: _____ Bored by: D. Russell
County: Wabash _____ Checked By: T. Holcomb

Boring No. 1 Station: Offset:	Elevation	N	Qu	tsf	w	%	Surface Water Elev.		Elevation	N	Qu	tsf	w	%
							During Drilling	Upon Completion						
								402.5						
sandy clay (continued)														
	45													
	43		4.2B						-70					
Gray SANDSTONE								373.0						
	373.0		100											22
Gray SHALE								370.5						
	370.5		100											8
End of Boring @ -54.0'								367.5						
	367.5		100											16
	-55													
	-60													
	-65													
	-80													
	-85													

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-percent of oven dry weight-%
B = Bulge Failure
S = Shear Failure
E = Estimated Value
P = Penetrometer

BORING 1

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-11023</u>		Bridge _____		Date: <u>2/8/11</u>		Section: <u>10-02116-00-BR</u>		Station _____		Bored by: <u>D. Russell</u>	
Route: _____		County: <u>Wabash</u>		Checked By: <u>T. Holcomb</u>		Surface Water Elev. _____		Ground Water Elev. During Drilling <u>402.6</u>		Upon Completion <u>Plugged</u>	
Boring No: <u>2</u>		Station: _____		Offset: _____		Elevation		N		Qu tsf	
Ground Surface		421.6		0							
8" Crushed Stone		420.9									
Brown Mottled Gray Sandy CLAY (A-6)				8		1.3S		17			
		417.6									
Gray Mottled Brown Sandy CLAY (A-6)				8		1.7S		18			
		415.1									
Gray Mottled Brown Silty CLAY (A-6)				6		1.4S		20			
		410.1									
Brown Mottled Gray Sandy CLAY (A-6)				7		0.9S		20		387.6	
		407.6									
Gray Mottled Brown Silty CLAY (A-6) with sand				7		1.2S		27			
		405.1									
Gray Mottled Brown Silty CLAY (A-6)				6		1.5S		26			
		400.1									
Gray Silty CLAY (A-6) w/ sand				6		0.9B		28		14 3.3S 17	
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-11023</u>		Bridge _____		Date: <u>2/8/11</u>		Section: <u>10-02116-00-BR</u>		Station _____		Bored by: <u>D. Russell</u>	
Route: _____		County: <u>Wabash</u>		Checked By: <u>T. Holcomb</u>		Surface Water Elev. _____		Ground Water Elev. During Drilling <u>402.6</u>		Upon Completion <u>Plugged</u>	
Boring No: <u>2</u>		Station: _____		Offset: _____		Elevation		N		Qu tsf	
sandy clay (continued)		45									
		372.6									
Gray Fine SAND				3		---		29			
		367.6									
Gray SANDSTONE				100		/6'		--- 20			
		362.6									
End of Boring @ -59.0'		-60									
		-65									
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			

BORING 2