

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:

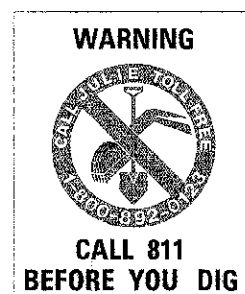
000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS
290001-07	TEMPORARY EROSION CONTROL SYSTEMS
615001-03	NAME PLATE FOR BRIDGES
701901-02	TRAFFIC CONTROL DEVICES
B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
B.L.R. 22-7	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO-WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)

SUMMARY OF QUANTITIES

CODE NO.	ITEM	UNIT	QUANTITY
20100503	TREE REMOVAL, ACRES	ACRE	0.06
20200100	EARTH EXCAVATION	CU YD	52.00
20300100	CHANNEL EXCAVATION	CU YD	244.00
20400300	FURNISHED EXCAVATION	CU YD	670.00
28000305	TEMPORARY DITCH CHECKS	FOOT	14.00
28100807	STONE GUMFED RIPRAP, CLASS A4	TON	400.00
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	360.00
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1.00
50300223	CONCRETE STRUCTURES	CU YD	28.40
50300280	CONCRETE ENCASEMENT	CU YD	3.40
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SO FT	1680.00
50800105	REINFORCEMENT BARS	POUND	2990.00
50900205	STEEL RAILING, TYPE S1	FOOT	136.00
51201400	FURNISHING STEEL PILES 10X42	FOOT	700.00
51702305	DRIVING PILES	FOOT	700.00
51500100	NAME PLATES	EACH	1.00
54200220	PIPE CURVERTS, CLASS 0, TYPE 1 15"	FOOT	50.00
*5700100	MOBILIZATION	L. SUM	1.00
*X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.40
*20068900	STONE LINED DITCH	TON	20.00

Δ SPECIALTY ITEMS

DESIGN DESIGNATION:
 DESIGN SPEED: 30 MPH
 HIGHWAY CLASS - LOCAL ROAD
 EXISTING STRUCTURE NO.: 097-3042
 PROPOSED STRUCTURE NO.: 097-3273
 CURRENT A.D.T. - 180
 CONTRACT NO. 89484

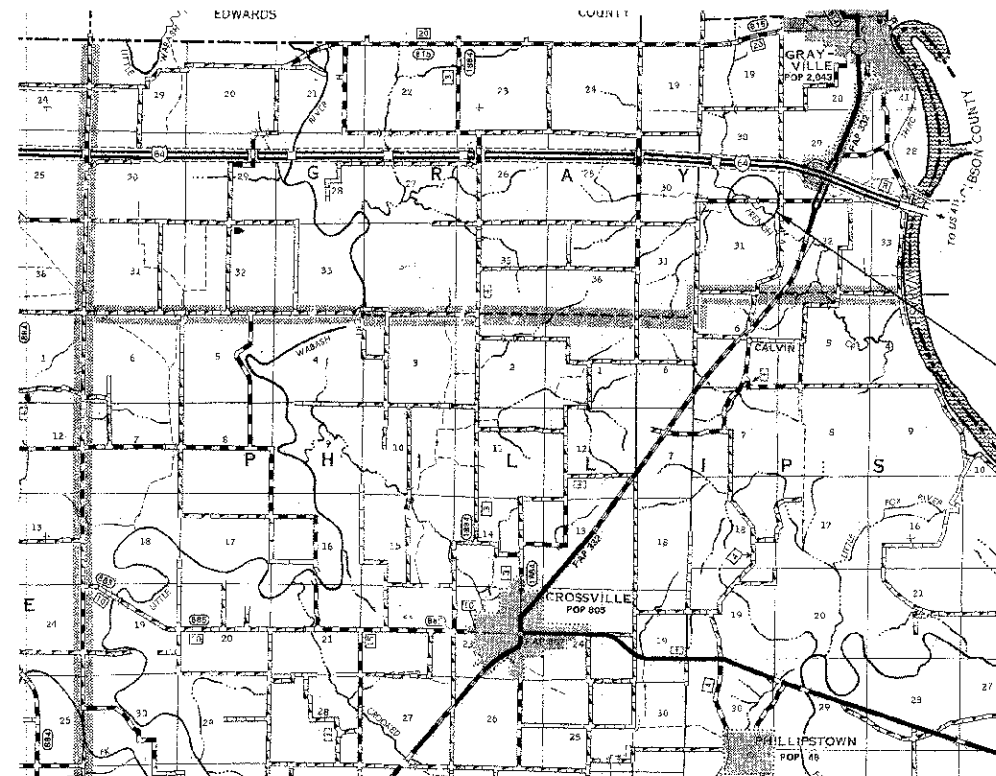


**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION
 PLANS FOR PROPOSED
 FEDERAL AID – H.B.P. PROJECT**

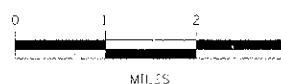
T.R. 27 WHITE COUNTY SECTION 10-05117-00-BR

PROJECT NO. BROS-193(058) JOB NO. C-99-508-11

CONTRACT # 99484 FRENCH CREEK



LAYOUT
 APPROXIMATE SCALE 1 INCH = 1 MILE



GROSS LENGTH	555.00 FT	0.105 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	555.00 FT	0.105 MILES

SECTION 10-05117-00-BR
 BEGINS STATION 2+25

STATION 5+00, STRUCTURE NO. 097-3273
 A 70' LONG SINGLE SPAN PRECAST PRESTRESSED
 CONCRETE DECK BEAM BRIDGE (27" DEPTH),
 24' ROADWAY, 0.00% GRADE, 35° RT. FWD. SKEW.

SECTION 10-05117-00-BR
 ENDS STATION 7+80

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

APPROVED 12/14/12
Brian J. Taylor
 COUNTY ENGINEER

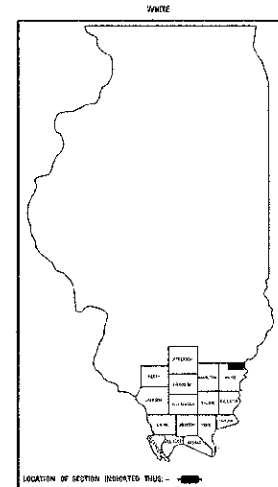
PASSED 12/27/2012
Dennis W. Hillman
 ENGINEER OF LOCAL ROADS AND STREETS

RELEASING FOR BID
 BASED ON LIMITED
 REVIEW: 12/27/12
Omer Osman
 OMER OSMAN, P.E.
 DEPUTY DIRECTOR OF HIGHWAYS
 REGION FIVE ENGINEER

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	10-05117-00-BR	WHITE	13	1

FED. ROAD DIST. NO. 9 ILLINOIS FED. AID PROJECT
 PROJECT# BROS-193(058) CONTRACT# 99484
 JOB # C-99-508-11 FRENCH CREEK
 LEC 03 * HIL.005WH

323 W. 3RD ST.
 P.O. BOX 160
 MT. CARMEL, IL
 62869
 PHONE:
 (618)-262-8651
 FAX:
 (618)-263-3327



PROFESSIONAL DESIGN FIRM
 LAND SURVEY &
 PROFESSIONAL
 ENGINEERING
 CORPORATION
 184-00187
 (62-032455)(35-002769)



AARON M. MEFFORD
 NAME
Aaron Mefford
 SIGNATURE
 12-14-12
 DATE
 11-30-13
 EXPIRES

T.R. 27
 OVER FRENCH CREEK
 WHITE COUNTY, ILLINOIS

SHEET TITLE:
 TITLE SHEET

SCALE:	VPES
BY:	AMM
DATE:	12/12
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.

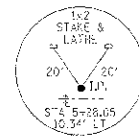
THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 70 FOOT LONG SINGLE SPAN PRECAST, PRESTRESSED CONCRETE BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

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

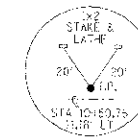
IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL THE UTILITIES AFFECTING THE PROJECT, PRIOR TO CONSTRUCTION.

NOTE: CONSTRUCTION TRANSITION STA. 2+25 TO STA 2+75 STA 7+30 TO STA 7+80

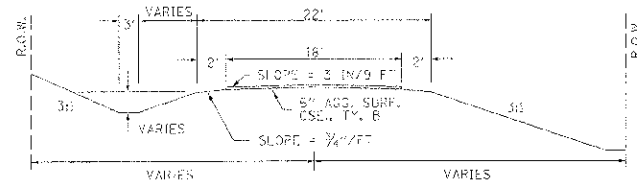
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL.



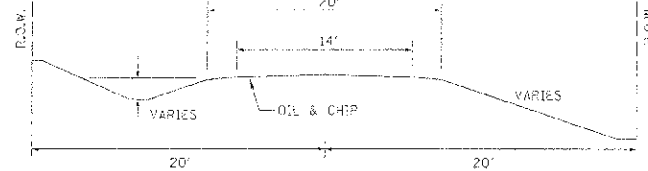
CURVE #1
P.I. STA- 6+08.81
Δθ RT. 1°09'50"
R= 257.13'
L= 60.95'
E= 121.89'
E= 0.31'
PT. STA- 6+10.75
T.P.L. NONE
S.L. RUM- NONE
P.C. STA- 5+48.86
P.T. STA- 6+10.75



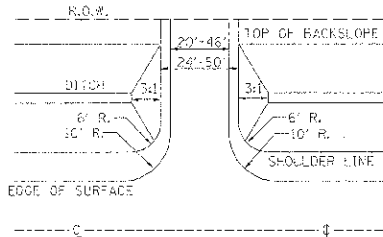
TYPICAL CROSS SECTION PROPOSED



TYPICAL CROSS SECTION EXISTING



FIELD ENTRANCE DETAIL



NOTE: CONSTRUCT SPECIAL DITCH

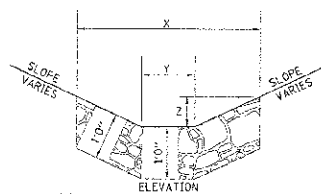
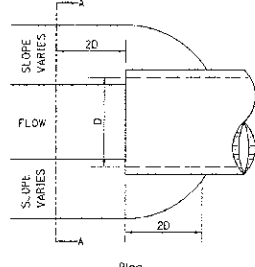
STA 3+00 TO STA 4+58 LT
STA 6+50 TO STA 7+80 LT
STA 5+75 TO STA 7+80 RT

NOTE: CONSTRUCT STONE LINED DITCH

STA 4+25 TO STA 4+58 LT (0.62 TON/LIN FT)
20 TON STONE LINED DITCH ALLOWED IN PROPOSAL.

SEE STONE LINED DITCH DETAIL.

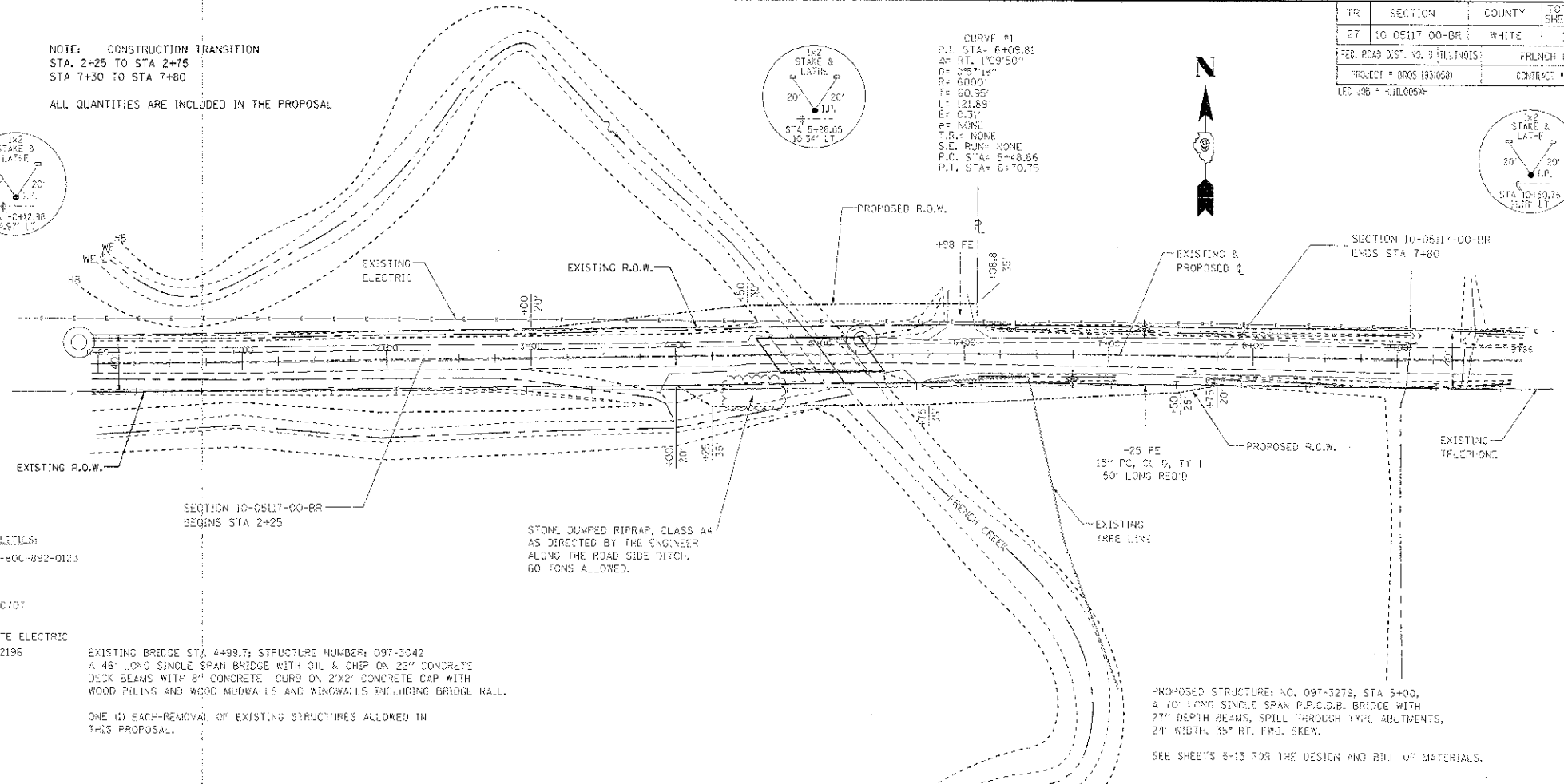
STONE LINED DITCH DESIGN



NOTE:

BOTTOM OF DITCH	SLOPE		
2 FT	1 1/2H	2H	3H
2 FT	X= 5 FT	6 FT	8 FT
2 1/2 FT	2 FT	2 FT	2 FT
2 1/2 FT	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.



EXISTING BRIDGE STA 4+98.7; STRUCTURE NUMBER: 097-3042
A 45' LONG SINGLE SPAN BRIDGE WITH OIL & CHIP ON 22" CONCRETE DECK BEAMS WITH 8" CONCRETE CURB ON 2'X2' CONCRETE CAP WITH WOOD PILING AND WOOD MUDWALLS AND WINDOWS INCLUDING BRIDGE HALL.

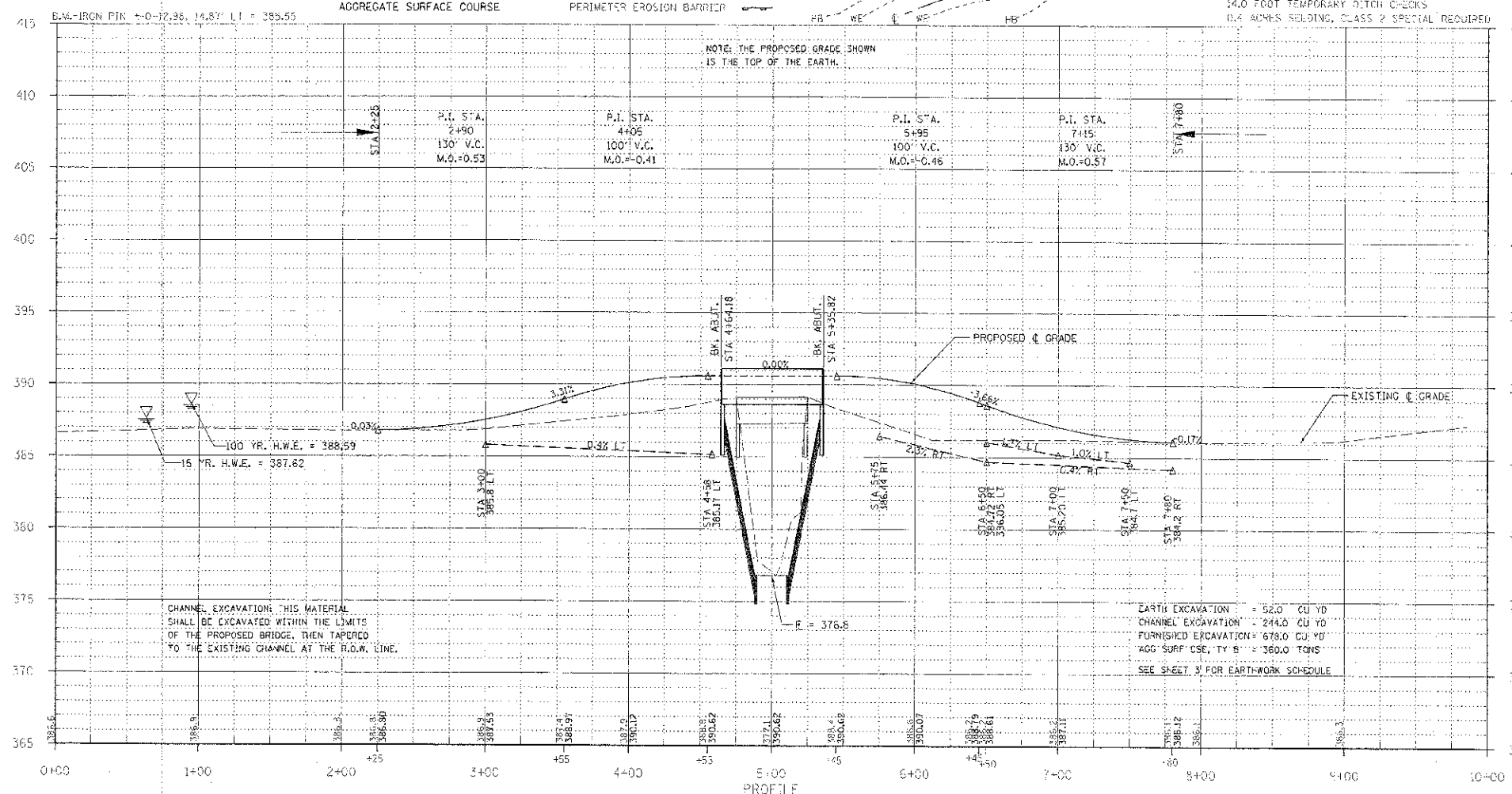
ONE (1) EACH-REMOVAL OF EXISTING STRUCTURES ALLOWED IN THIS PROPOSAL.

STONE JUMPED RIPRAP, CLASS A4 AS DIRECTED BY THE ENGINEER ALONG THE ROAD SIDE DITCH. 60 TONS ALLOWED.

NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE

TEMPORARY DITCH CHECKS PERIMETER EROSION BARRIER

0.05 ACRES TREE REMOVAL, ACRES
34.0 FOOT TEMPORARY DITCH CHECKS
0.4 ACRES SODDING, CLASS 2 SPECIAL REQUIRED



EARTH EXCAVATION = 52.0 CU YD
CHANNEL EXCAVATION = 244.0 CU YD
FURNISHED EXCAVATION = 678.0 CU YD
AGG SURF. CSE. TY. E = 360.0 TONS
SEE SHEET 3 FOR EARTHWORK SCHEDULE

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	10-0517-00-0R	WHITE	13	2

322 W. 8RD ST
P.O. BOX 160
MT. CARMEL, IL
62863
PHONE:
(618)-262-8651
FAX:
(618)-263-3327

408 W. STATE ST
SUITE
FRANCETON, IL
61764
PHONE:
(618)-386-7811
FAX:
(618)-386-2812

LAMAC
ENGINEERING CO.

PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
304-200687
(62-032435)35 0027690

ARCAD M. MEFFORD
NAME
56284
RES. 33248
PROFESSIONAL ENGINEER
OF ILLINOIS

ARCAD M. MEFFORD
DATE
12-14-12
DATE
11-30-13
EXPIRES

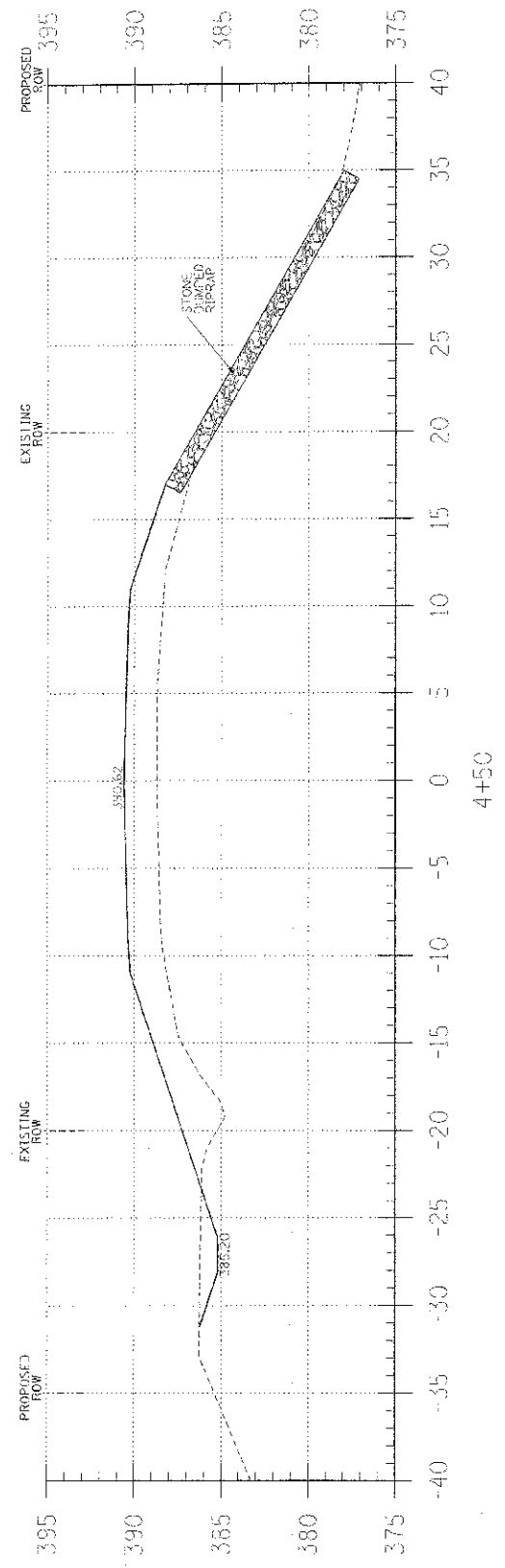
TOWNSHIP ROUTE 27
OVER FRENCH CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:
PLAN & PROFILE

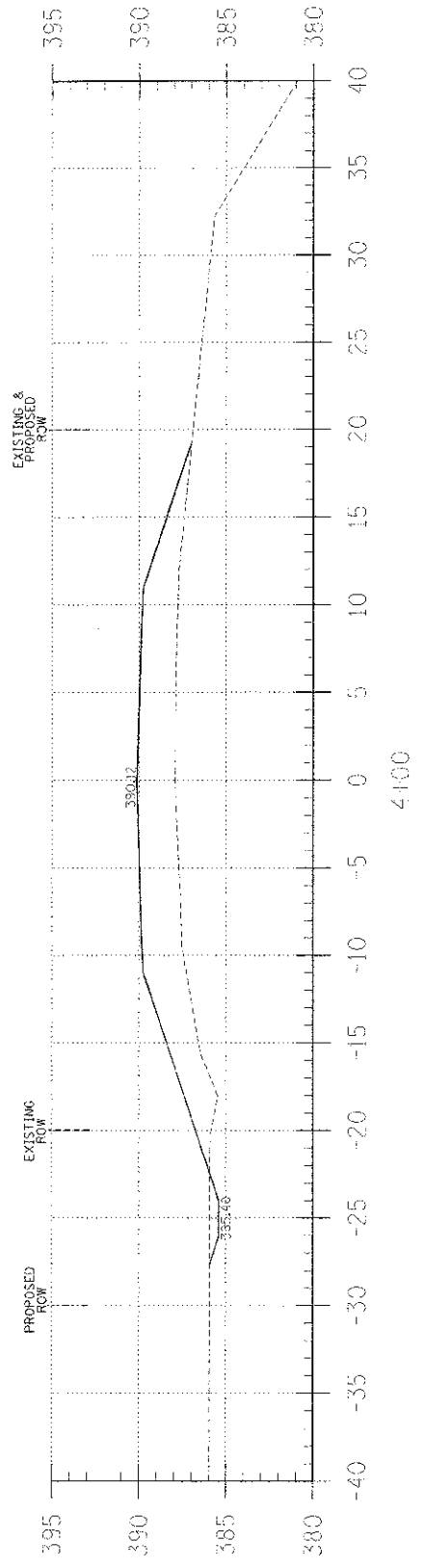
SCALE: VARS
BY: AMM
DATE: 04/12
REV:

2 OF 13
SHEETS

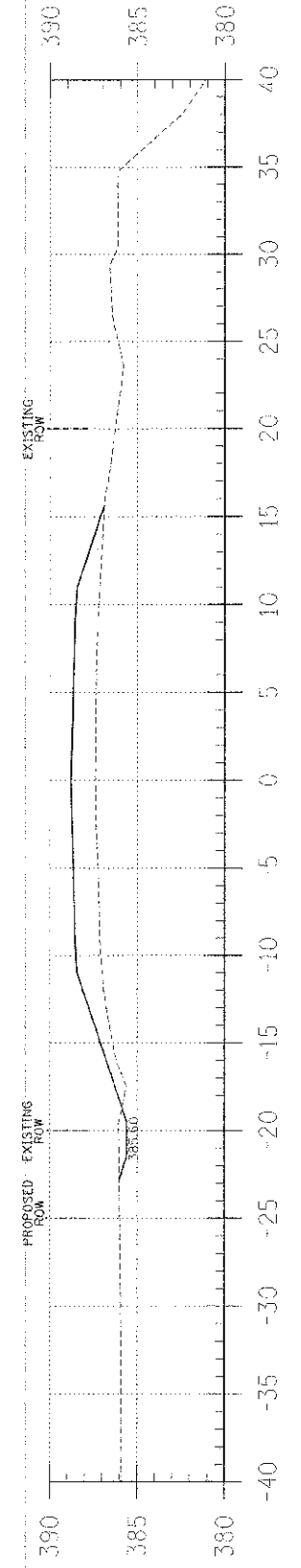
SHEET NO.
2



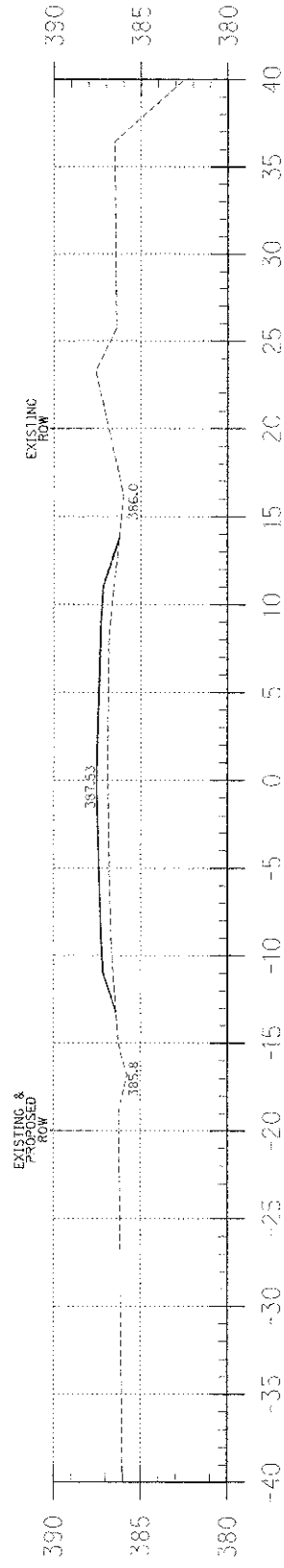
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F = 92.5



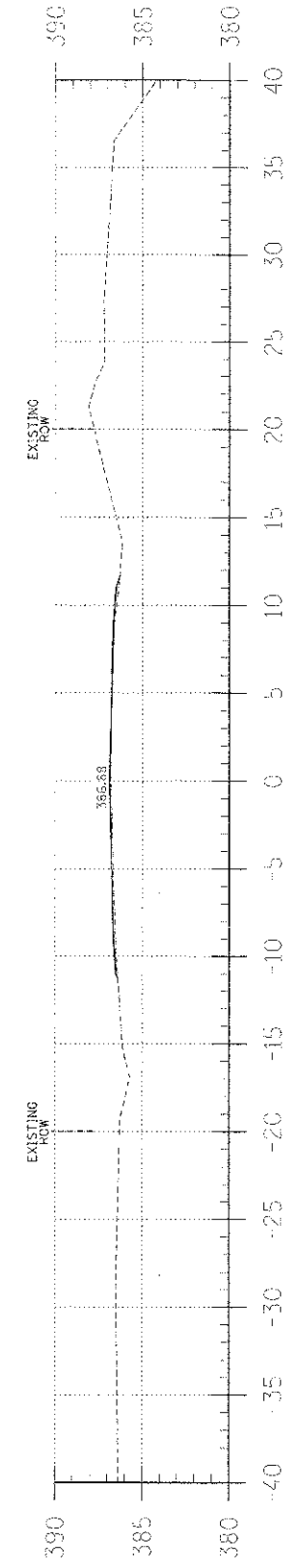
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F = 74.5



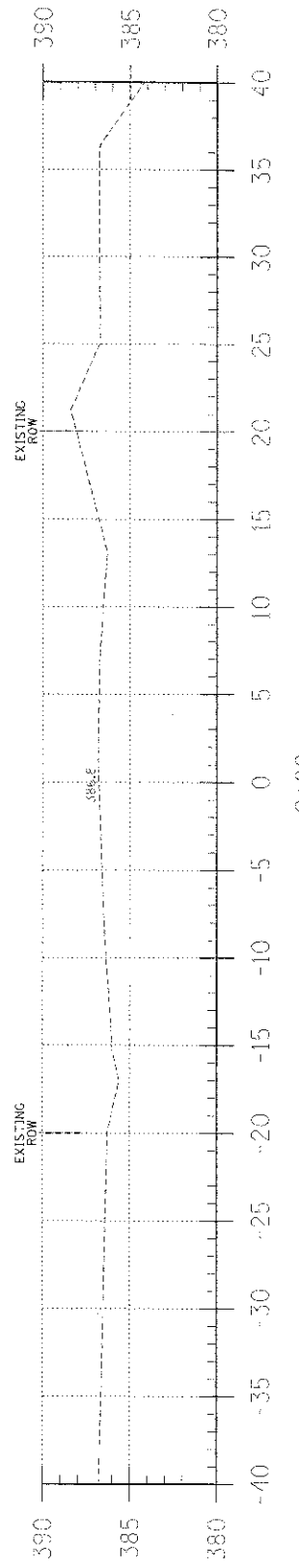
C = 1.3
F = 19.2



C = 0.0
F = 14.2



C = 0.3
F = 1.4



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	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD	CUBIC YARD
STA 0+00 TO 4+64.2	10.9	0.0	0.0	8.2	0.0	0.0	8.2	-307.1	315.3	0.0	-307.1	
STA 4+64.2 TO 5+35.8	0.0	243.7	0.0	91.4	121.8	0.0	91.4	0.0	0.0	0.0	0.0	
STA 5+35.8 TO 10+00	40.9	0.0	0.0	30.6	0.0	0.0	30.6	488.5	488.5	0.0	488.5	
2 FIELD ENTRANCE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-34.3	34.3	0.0	-34.3	
TOTAL	51.8	243.7	0.0	130.2	121.8	0.0	130.2	808.1	808.1	0.0	-577.9	

TR	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	1C-05217-00-BR	WHITE	13	3

323 W. 3RD ST
P.O. BOX 160
MT. CARMEL, IL 62863
PHONE (618)-282-8651
FAX (618)-282-3327
ECC # 02 # 115-0955R

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

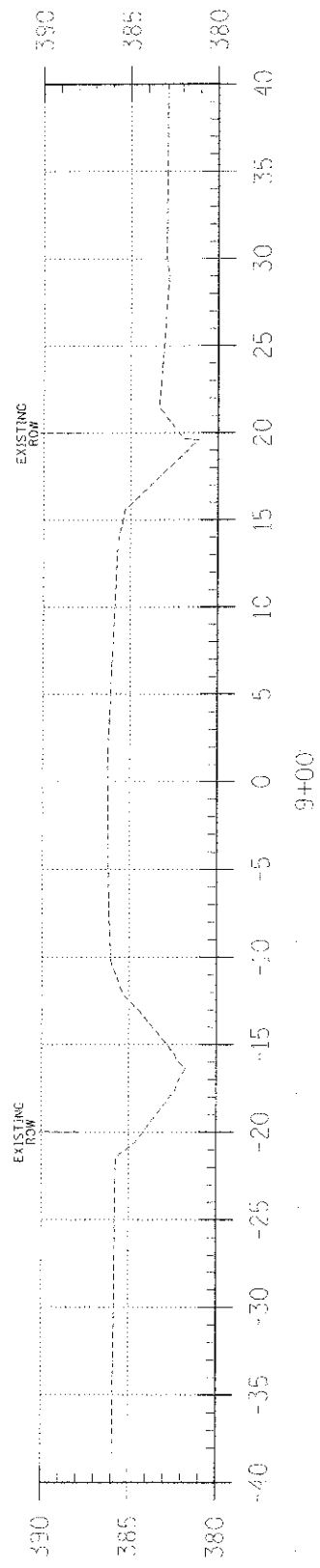
PROFESSIONAL DESIGN FIRM
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION
184-002887
(82-332436)(15-002769)

AARON M. VEFFORD
NAME
Aaron M. Vefford
SIGNATURE
DATE 12-14-12
EXPIRES 1-30-13

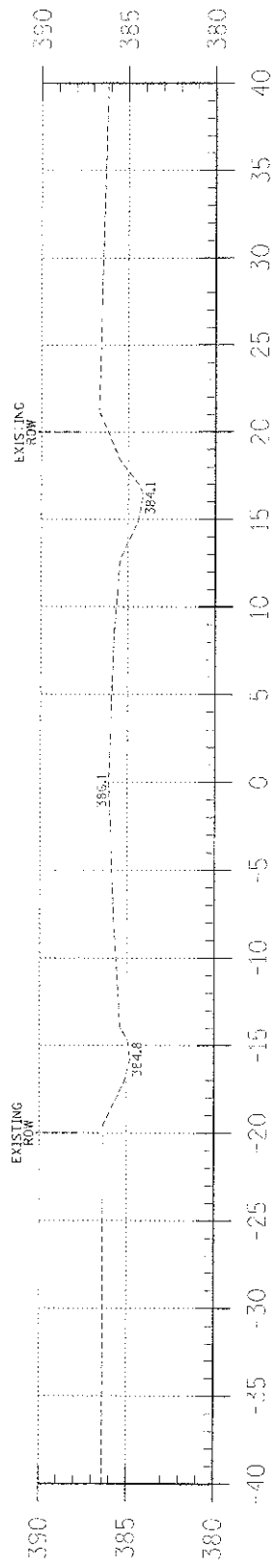
TOWNSHIP ROUTE 27
OVER FRENCH CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:
CROSS-SECTIONS
SCALE: 1" = 4'
BY: AMM
DATE: 12/02
REV:
3 OF 13 SHEETS
SHEET NO. 3

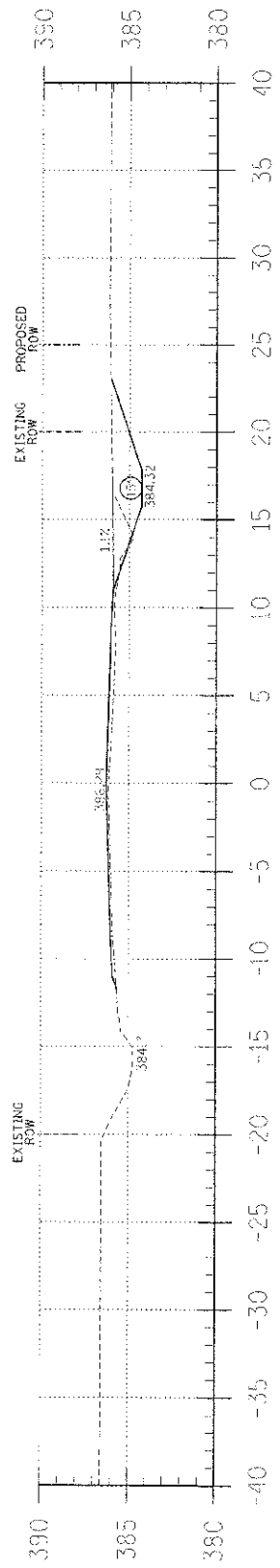




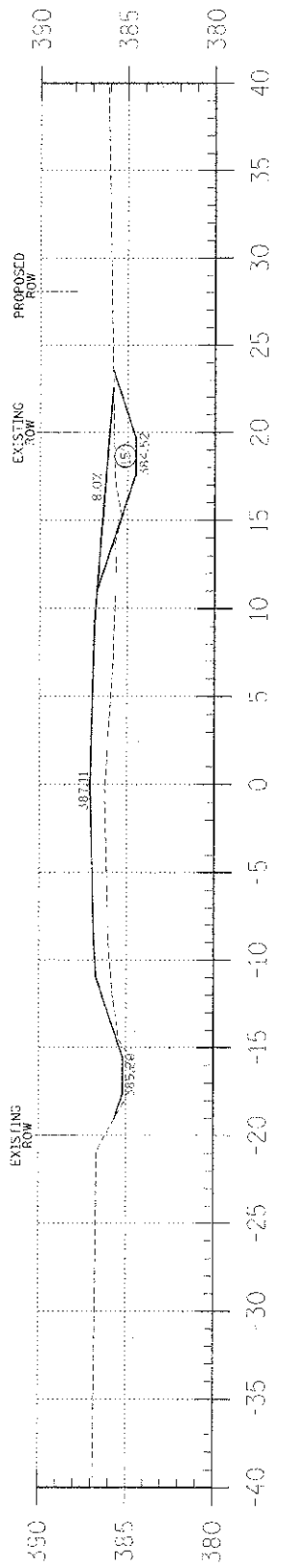
9+00



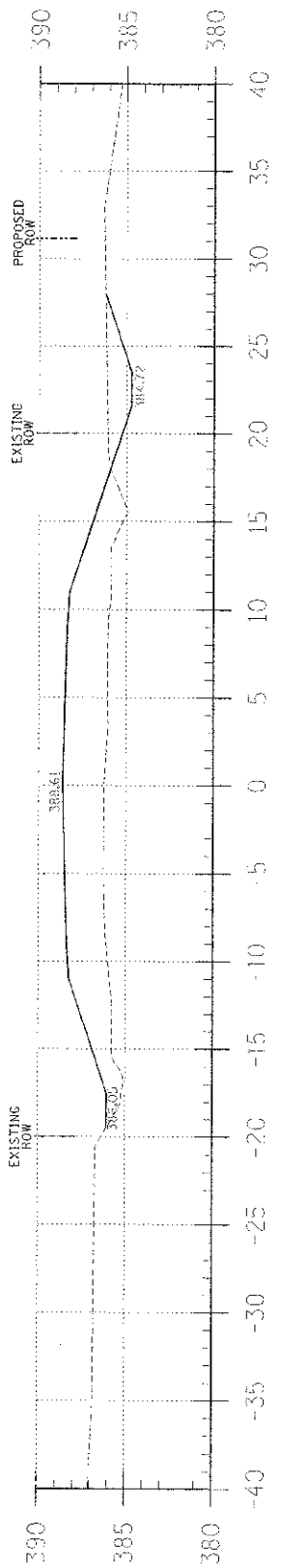
8+00



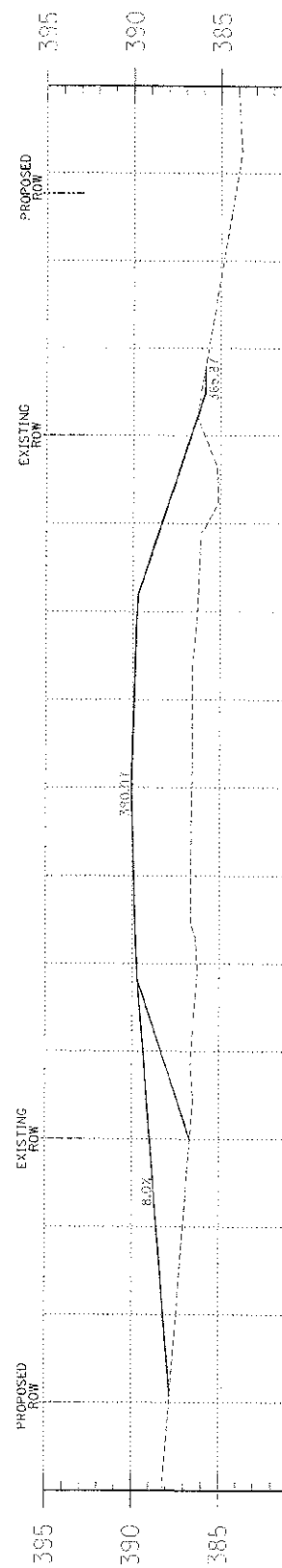
7+50



7+00



6+50



6+00



5+50

C = 8.6
F = 4.0

C = 8.4
F = 25.3

C = 8.5
F = 72.7

C = 0.3
F = 111.8

IR	SECTION	COUNTY	TOTAL SHEET	SHEETS NO.
27	20-05-17-00-BR	WHITE	13	4
REG. ROAD DIST. NO. 9 ILLINOIS		FED. AID PROJECT		
PROJECT # BROS-951050		CONTRACT # 99484		
ROR NO. 1-99-508-11		TRENCH CREEK		

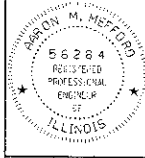
LOC. 03 * INCLUSION

384 W 3RD ST.
P.O. BOX 180
MT. CARMEL, IL
62893
PHONE:
(618)-262-8881
FAX:
(618)-263-3327

405 W STATE ST
SUITE 1
PRINCETON, IN
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PHONE:
(317)-366-7611
FAX:
(317)-366-2812



PROFESSIONAL
DESIGN FIRM
LAND SURVEY &
PROFESSIONAL
ENGINEERING
CORPORATION
184-30887
(62-02423)(75-02769)



AARON M. McHAFORD
NAME
Aaron McHafford
SIGNATURE
12-14-12
DATE
11-30-15
EXPIRES

TOWNSHIP ROUTE 27
OVER FRENCH CREEK
WHITE COUNTY, ILLINOIS

SHEET TITLE:

CROSS-SECTIONS

SCALE: 1" = 5'

BY: ANM

DATE: 9/02

REV.

4 of 13

SHEETS

SHEET NO.

4

BENCHMARK:

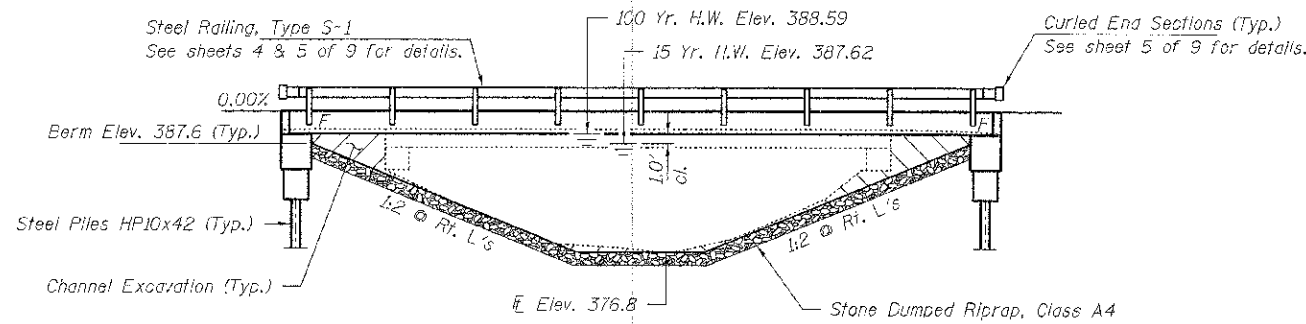
EXISTING STRUCTURE NO. 097-3042: Sta. 4+99.7 - 46' long single span bridge with oil & chip on 22" concrete deck beams with 8" concrete curb on 2'x2' concrete cap with wood piling and wood mudwalls and wingwalls.

Structure closed to traffic.

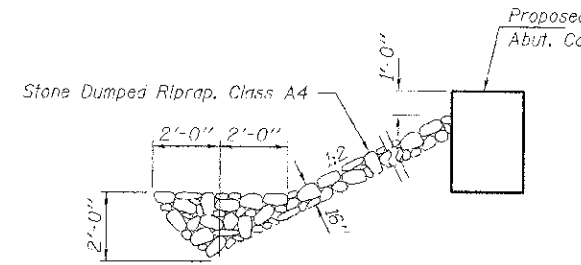
No Salvage

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.



ELEVATION

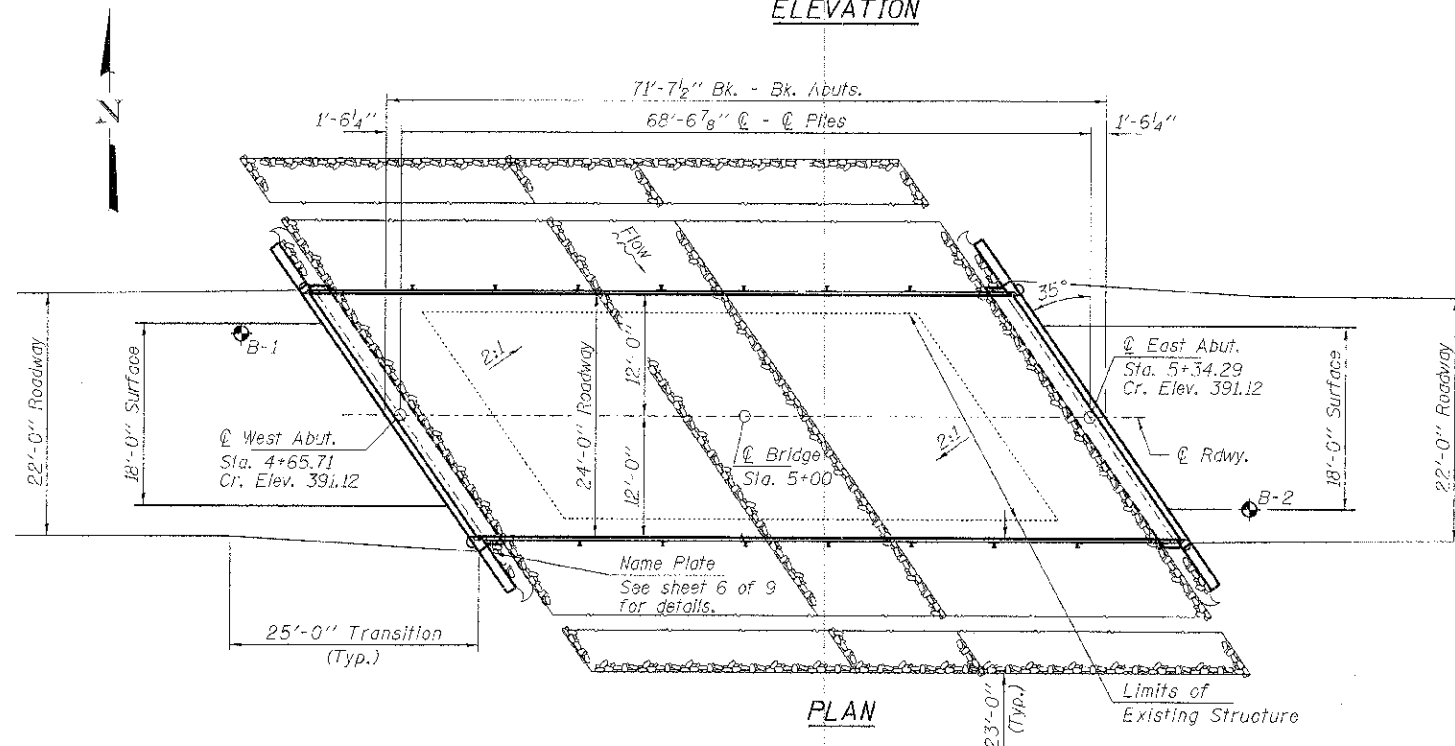


SECTION A-A

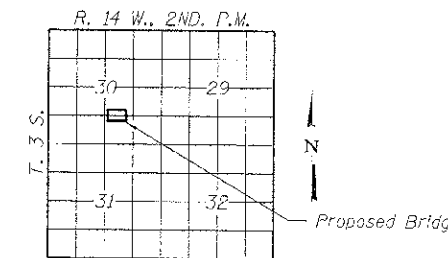
Note: See Special Provisions for Stone Dumped Riprap, Class A4.

INDEX OF STRUCTURE SHEETS

1. General Plan & Elevation
2. 27"x48" PPC Deck Beam
3. 27"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S-1
6. Abutments
7. HP Pile Details
8. Borings



PLAN



LOCATION SKETCH

FRENCH CREEK
 BUILT 2011 BY
 WHITE COUNTY
 SEC. 10-05117-00-BR
 GRAY ROAD DISTRICT
 STR. NO. 097-3279
 LOADING HL-93

NAME PLATE
 See Std. 515001

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	W. Abut.	E. Abut.
	385.0	385.0

DESIGN STRESSES

FIELD UNITS

$f'_c = 3,500$ psi
 $f_y = 60,000$ psi (Reinf.)

PRECAST PRESTRESSED UNITS

$f'_c = 6,000$ psi
 $f'_ci = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

LOADING HL-93

Design Specifications: 2012 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}) = 0.201g
 Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.556g
 Soil Site Class = C

WATERWAY INFORMATION

Flood		Freq. Yr.	Q C.F.S.	Opening Sq. Ft.	Natural H.W.E.	Head - Ft.	Headwater El.
Design	Base	15	2133	286	387.62	0.01	387.63
		100	3550	286	388.59	0.25	388.84
		500					389.10

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 10/02/2012
 ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2012

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			244
Stone Dumped Riprap, Class A4	Ton			340
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		28.4	28.4
Concrete Encasement	Cu. Yd.		3.4	3.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,680		1,680
Reinforcement Bars	Pound		2,990	2,990
Steel Railing, Type S1	Foot	136		136
Furnishing Steel Piles HP10x42	Foot		700	700
Driving Piles	Foot		700	700
Name Plates	Each		1	1

FILE NAME = 118072-shr-brldge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -
HAMPTON LENZIN AND REHWICK, INC.		CHECKED - S.W.M.	REVISED -
2008 STEVENSON DRIVE, SUITE 201		DRAWN - J.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62709		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
LSI/CSI/SECORP 18400176	PLOT DATE = 10/2/2012		

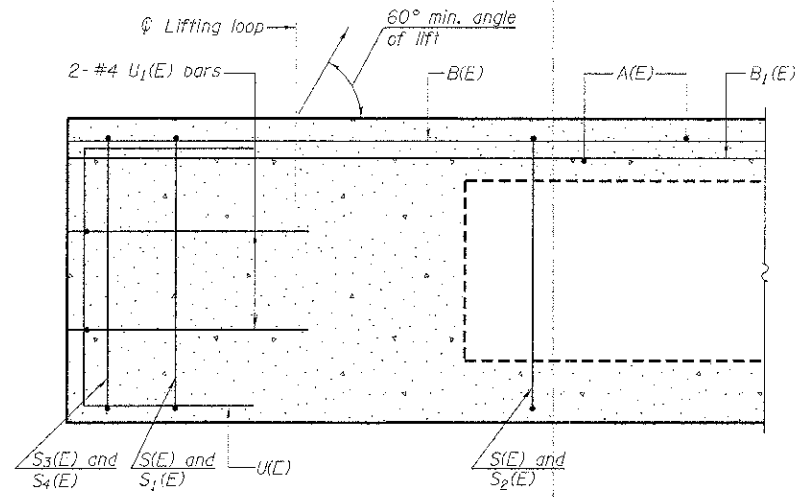
STATE OF ILLINOIS
 WHITE COUNTY HIGHWAY DEPARTMENT

GENERAL PLAN & ELEVATION
 STRUCTURE NO. 097-3279

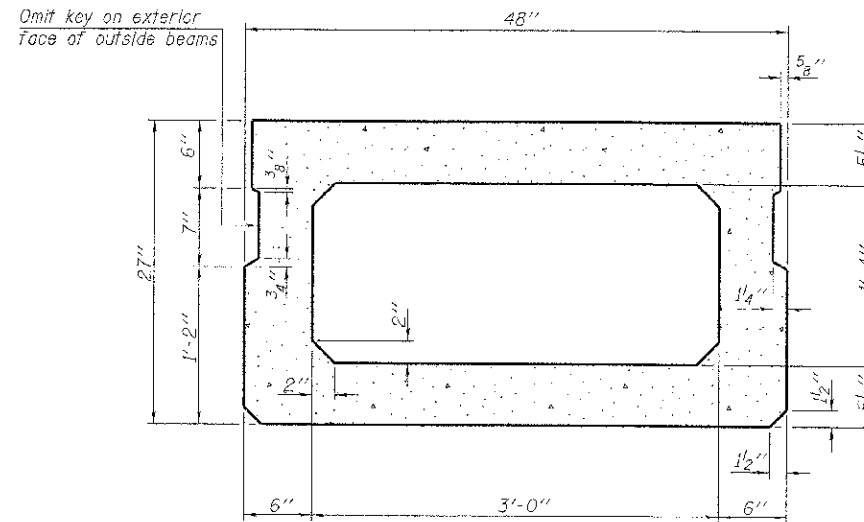
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	10-05117-00-BR	WHITE	13	5
GRAY ROAD DISTRICT			CONTRACT NO. 99484	

SHEET NO. 1 OF 9 SHEETS

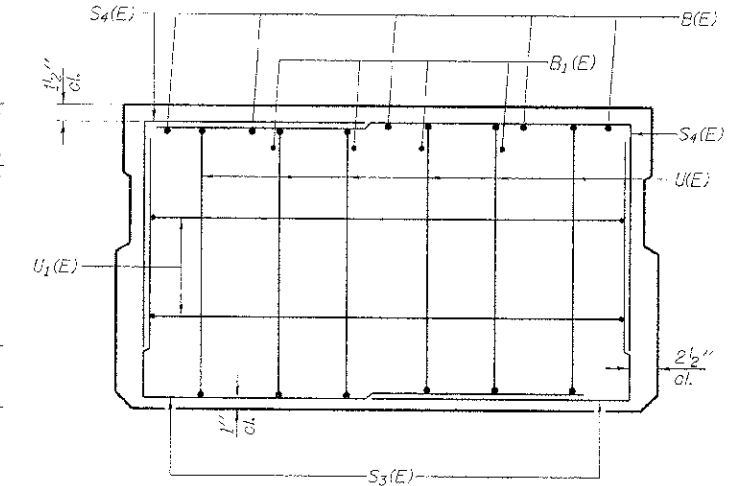
ILLINOIS FED. AID PROJECT BRCS-193(068)



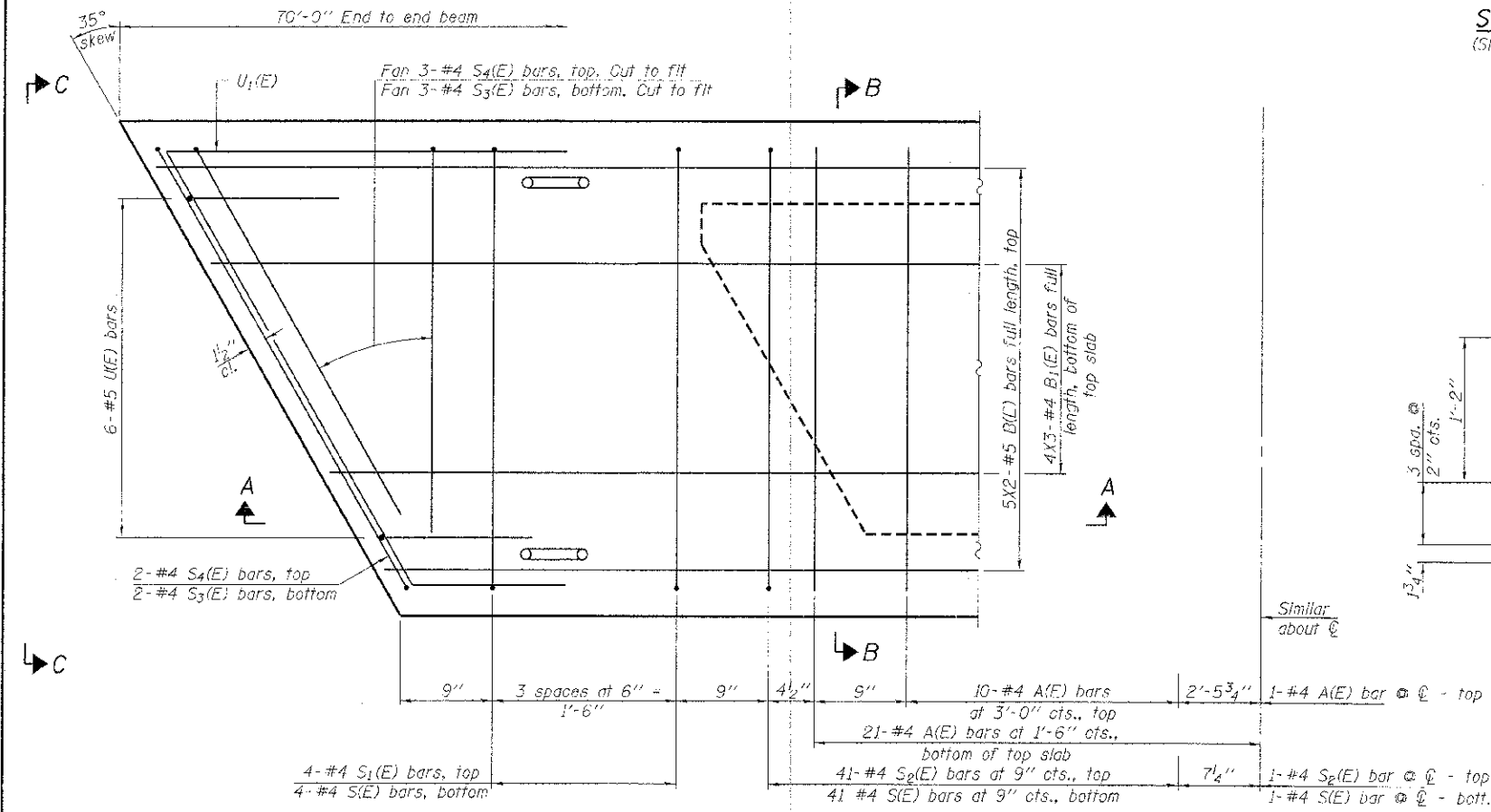
SECTION A-A



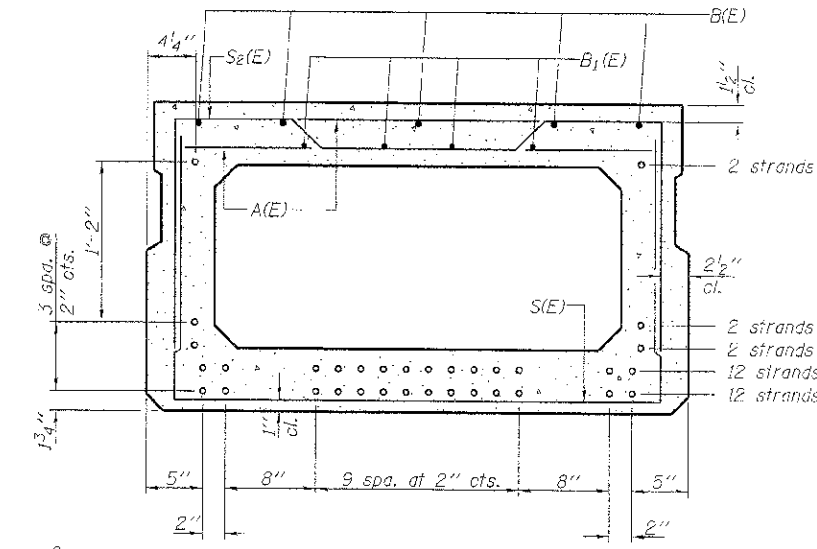
SECTION B-B
(Showing dimensions)



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)	53	#4	3'-7"	—
B(E)	10	#5	36'-2"	—
B1(E)	12	#4	24'-7"	—
S(E)	91	#4	7'-5"	┌
S1(E)	8	#4	6'-11"	┌
S2(E)	83	#4	7'-2"	┌
S2(E)	10	#4	5'-0"	┌
S4(E)	10	#4	4'-9"	┌
U(E)	12	#5	4'-6"	┌
U1(E)	4	#4	9'-3"	┌

Note: See sheets 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-2748-R 7-1-10

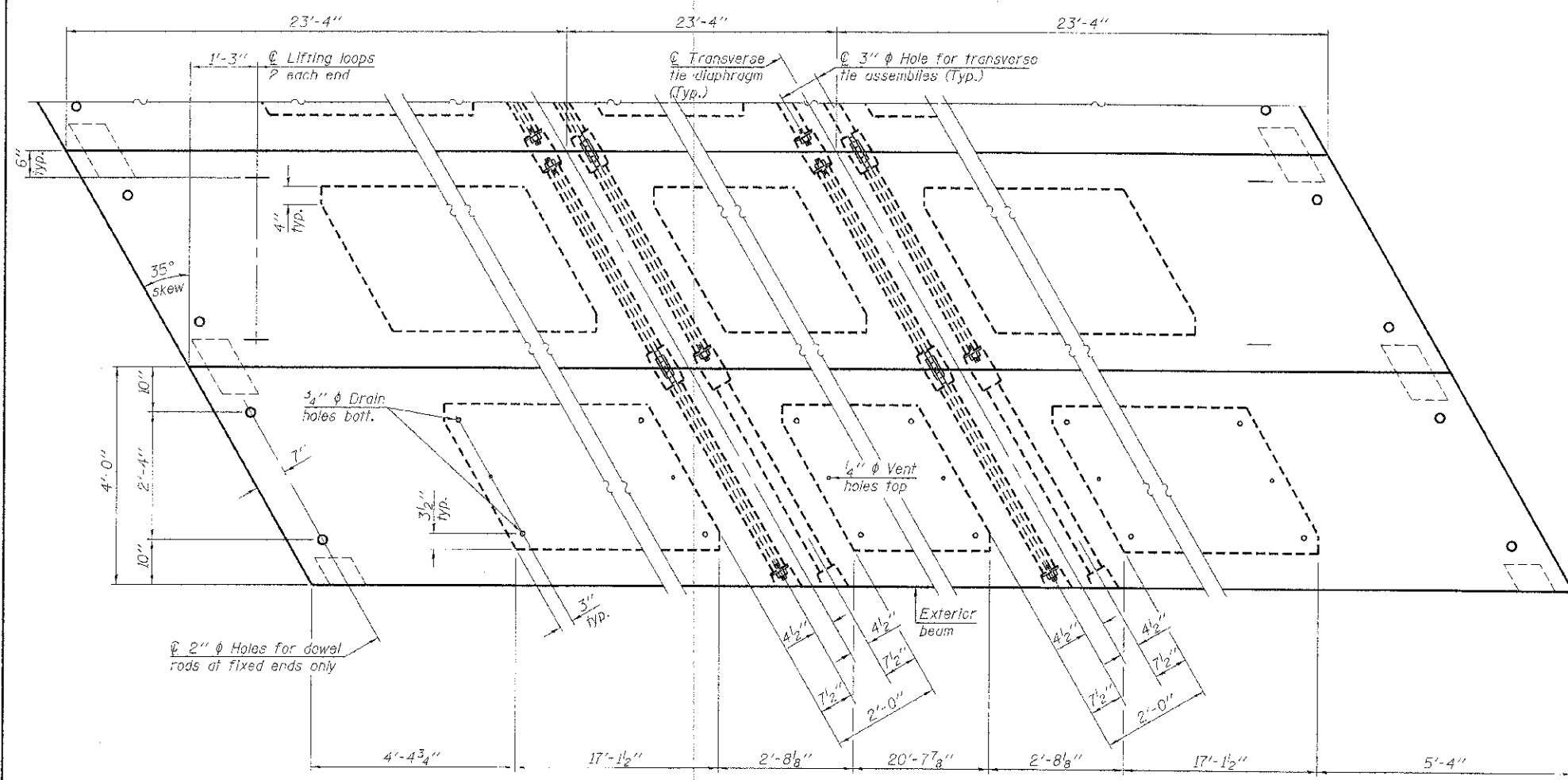
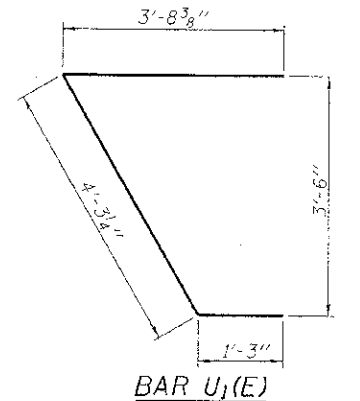
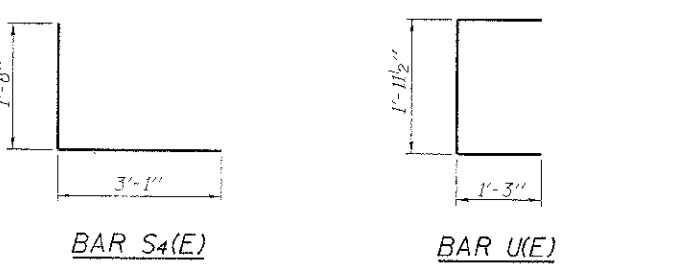
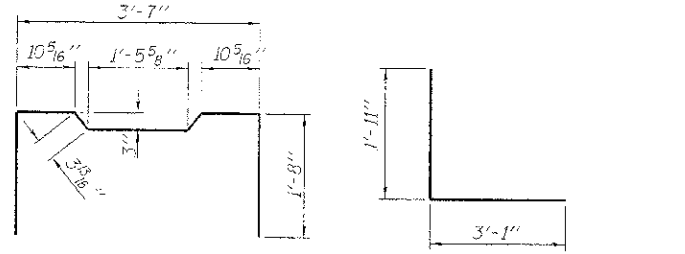
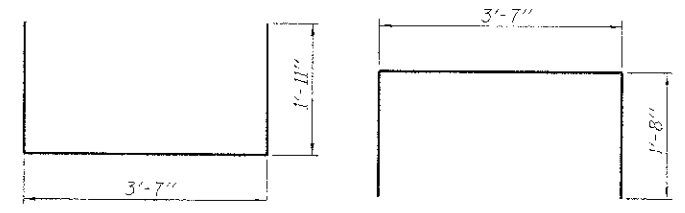
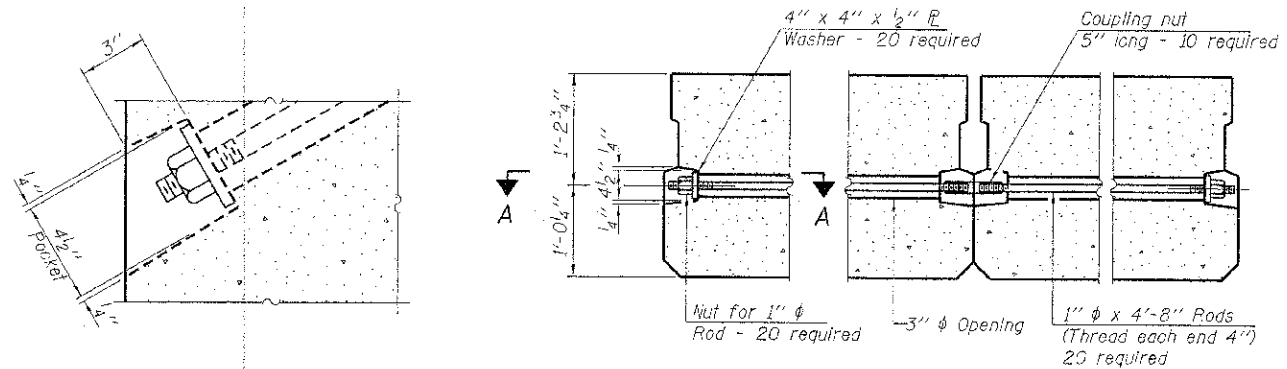
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
388 S. PETERSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62763		DRAWN - D.A.B.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L.S. # 121-000150		CHECKED - S.W.M.	REVISED -
	PLOT SCALE =		
	PLOT DATE = 12/2/2012		

STATE OF ILLINOIS
 WHITE COUNTY HIGHWAY DEPARTMENT

27" x 48" PPC DECK BEAM
 STRUCTURE NO. 097-3279

SHEET NO. 2 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
27	10-05317-00-3R	WHITE	13	6
GRAY ROAD DISTRICT			CONTRACT NO. 99484	
(ILLINOIS) FED. AID PROJECT BRGS-1930581				



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" ϕ 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.

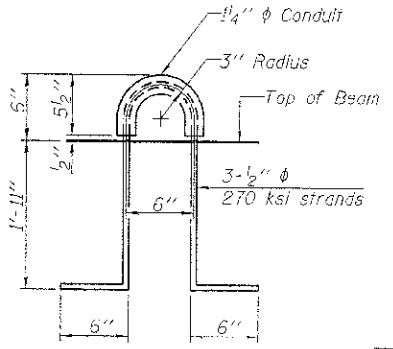
A minimum 2 1/2" ϕ lifting pin shall be used to engage the lifting loops during handling.

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 reinforcement shall be epoxy coated.



BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,680
-------------------------------------------------	---------	-------

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

PD-2748-RD 7-1-10

FILE NAME = 110072-ehf-bridge.dgn USER NAME =

DESIGNED - A.S.L. CHECKED - S.W.M.

DRAWN - D.A.S. REVISIONS -

PLotted SCALE =

PLotted DATE = 10/2/2012

DESIGNED BY: HAMPTON, LENZINI AND RENWICK, INC. 3942 S. FLEMING ST. SUITE 100 SPRINGFIELD, ILLINOIS 62760

ILLINOIS PROFESSIONAL DESIGN FIRM Lic. No. 062-000000

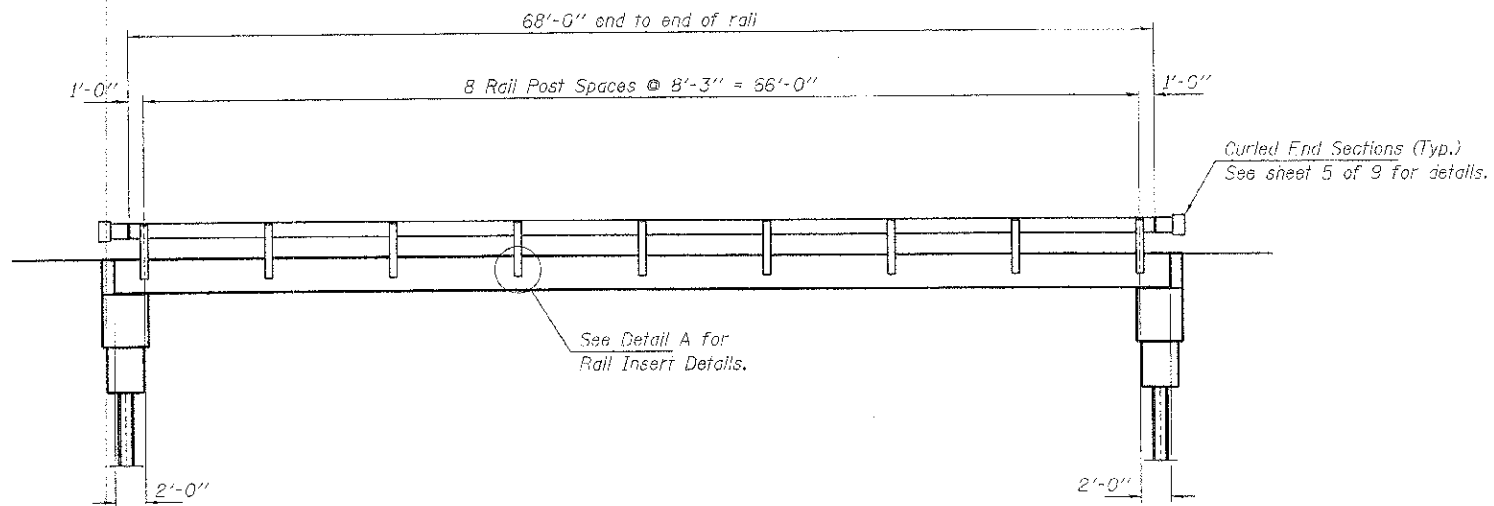
DESIGNED - A.S.L.	REVISIONS -
CHECKED - S.W.M.	REVISIONS -
DRAWN - D.A.S.	REVISIONS -
CHECKED - S.W.M.	REVISIONS -

STATE OF ILLINOIS
WHITE COUNTY HIGHWAY DEPARTMENT

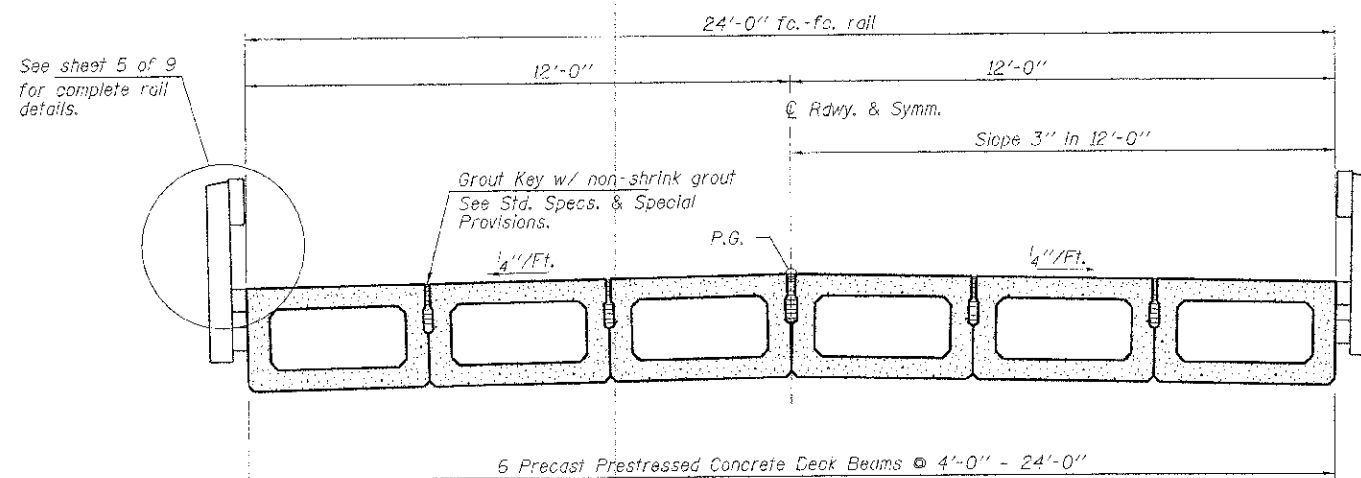
27" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 097-3279

SHEET NO. 3 OF 9 SHEETS

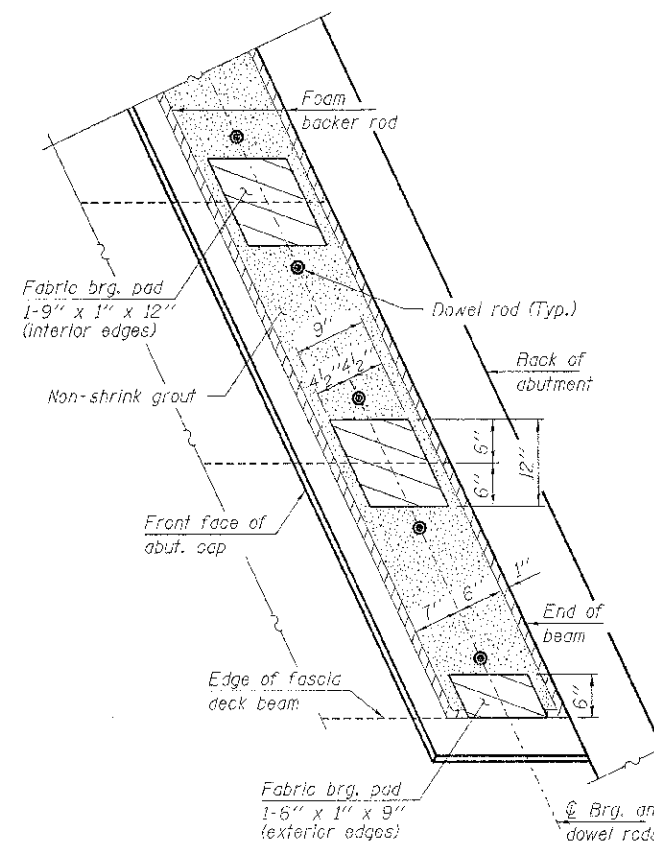
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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GRAY ROAD DISTRICT			CONTRACT NO. 99484	
ILLINOIS FED. AID PROJECT BRG-193(058)				



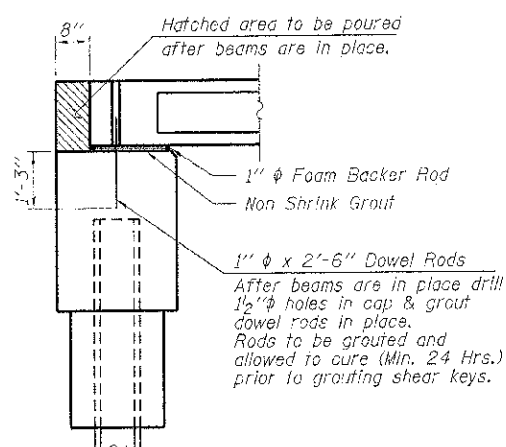
ELEVATION
Showing Rail Post Spacing
See sheet 5 of 9 for Railing Details.



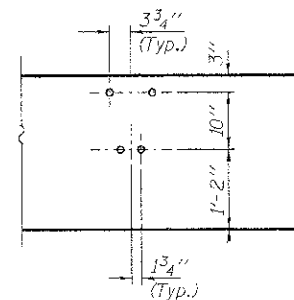
CROSS SECTION
See sheets 2 & 3 of 9 for Superstructure.



PLAN
(Abutment)



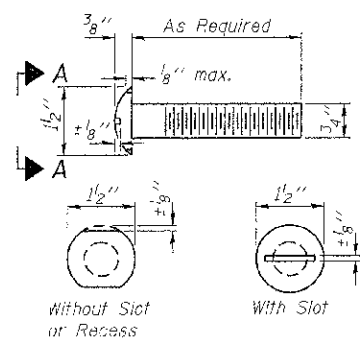
SECTION AT ABUTMENTS
@ Rt. L's



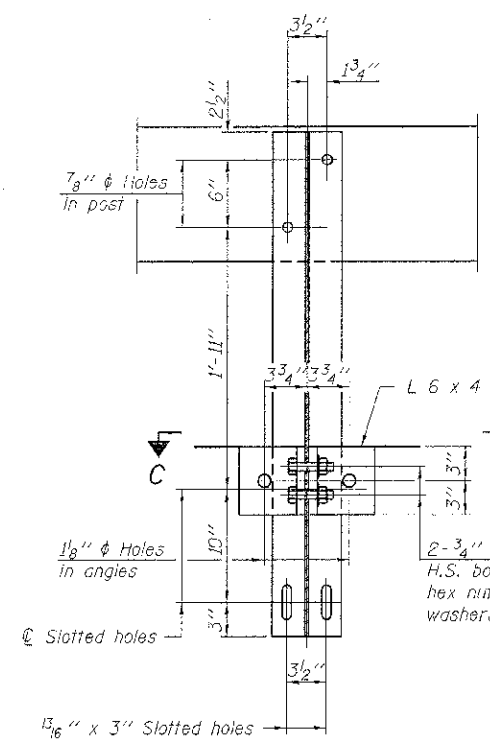
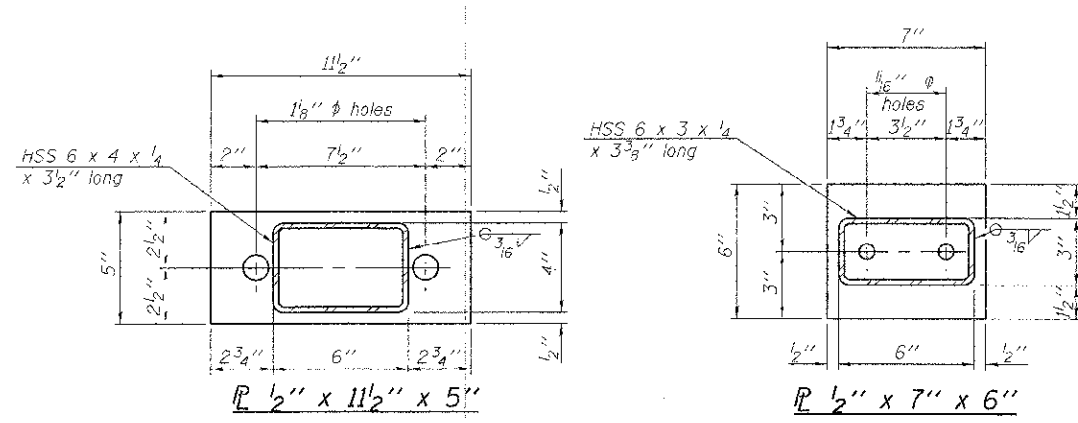
DETAIL A

Notes:
The bearing seat surfaces shall be adjusted by shimming the bearing to assure firm and even bearing prior to placement of grout. 2-1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shown shall be provided for each bearing.

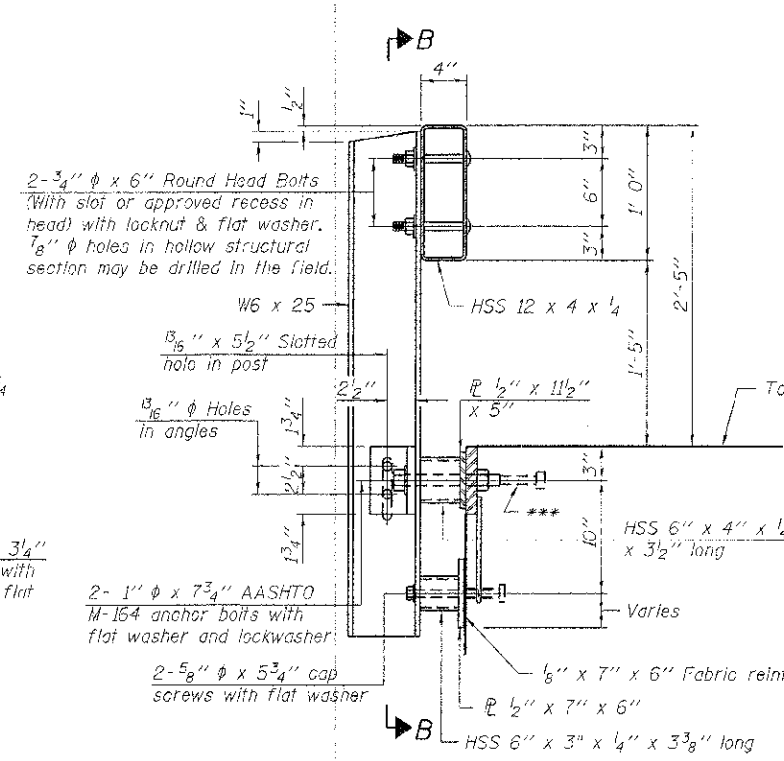
FILE NAME = 118672-shr-bridge.dgn	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 097-3279	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 365 STEVENSON DRIVE SUITE 201 SPRINGFIELD, ILLINOIS 62760	PLAT SCALE =	CHECKED - S.W.M.	REVISED -			27	10-05117-00-BR	WHITE	13	8	
HLR ILLINOIS PROFESSIONAL DESIGNERS L.S. 192188 DUMP 04/68818	PILOT DATE = 10/2/2012	DRAWN - D.A.B.	REVISED -			GRAY ROAD DISTRICT	CONTRACT NO. 99484	ILLINOIS FED. AID PROJECT BR05-19310531			
		CHECKED - S.W.M.	REVISED			SHEET NO. 4 OF 9 SHEETS					



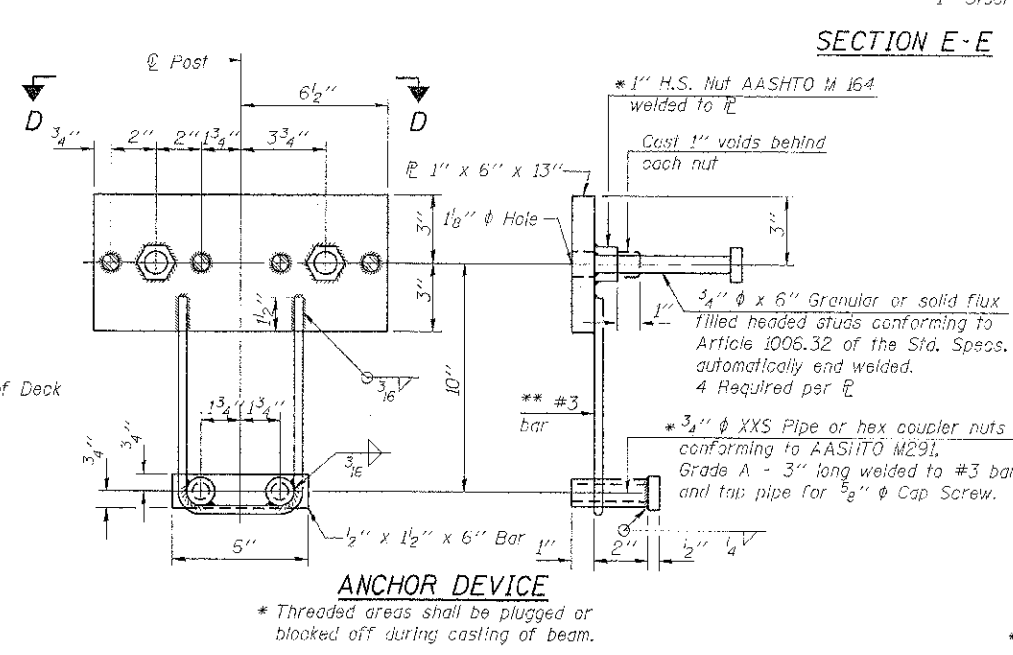
**VIEW A-A
ROUND HEAD BOLT**



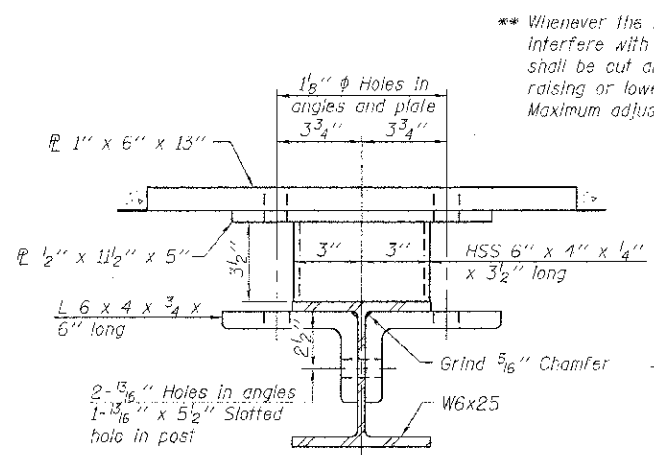
SECTION C-C



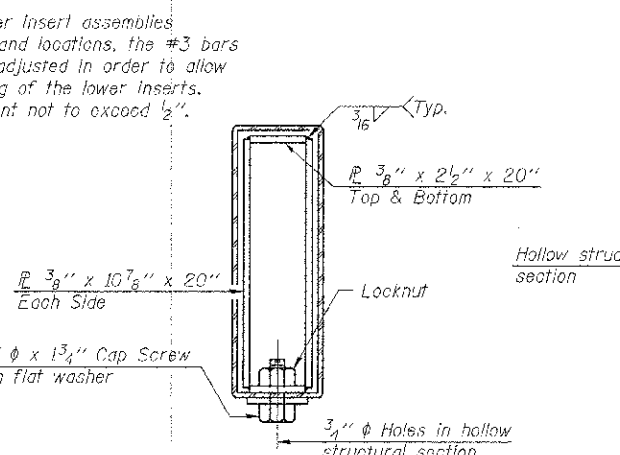
SECTION AT RAILING POST



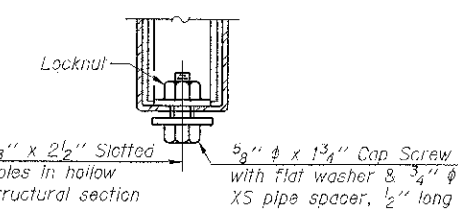
ANCHOR DEVICE



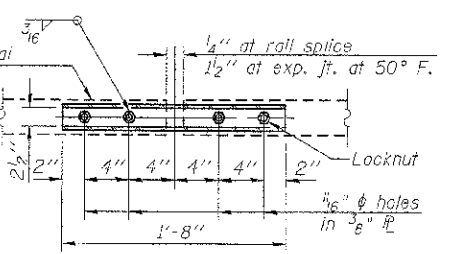
SECTION C-C



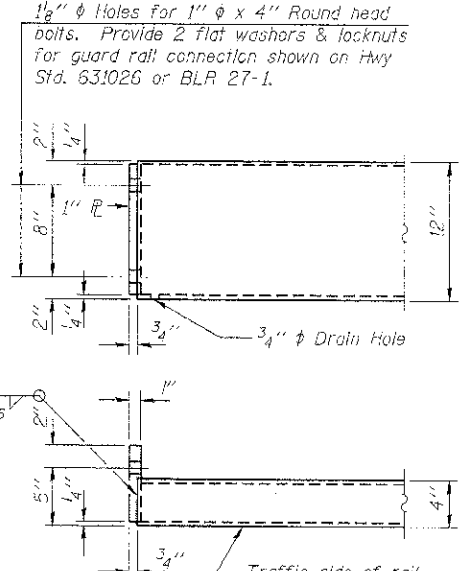
SECTIONS AT RAIL SPLICE



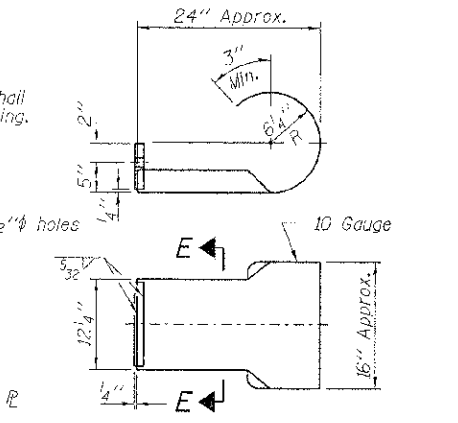
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



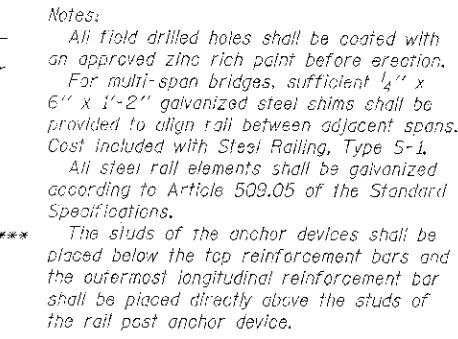
**PLAN-BOTT. SPLICE
TYPICAL**



END OF RAIL DETAILS



**SECTION E-E
CURLED END SECTION DETAILS**



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	136

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

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

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

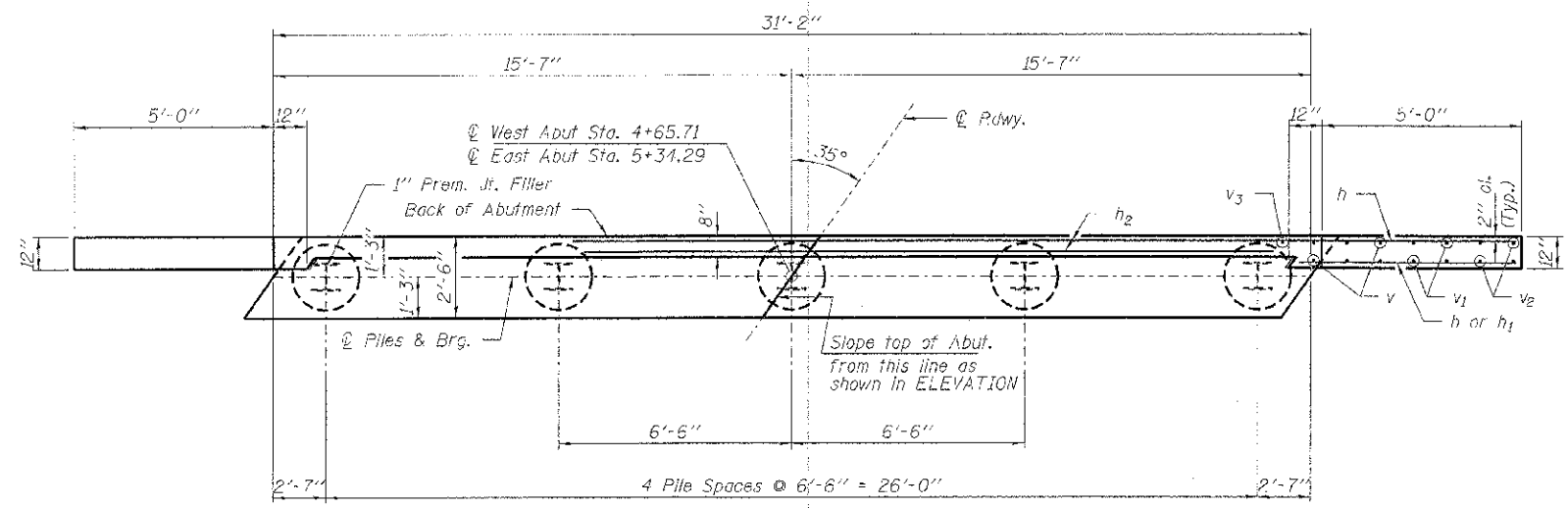
* Threaded areas shall be plugged or blocked off during casting of beam.

1/2" Holes for 1" x 4" Round head bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Hwy Std. 631026 or BLR 27-1.

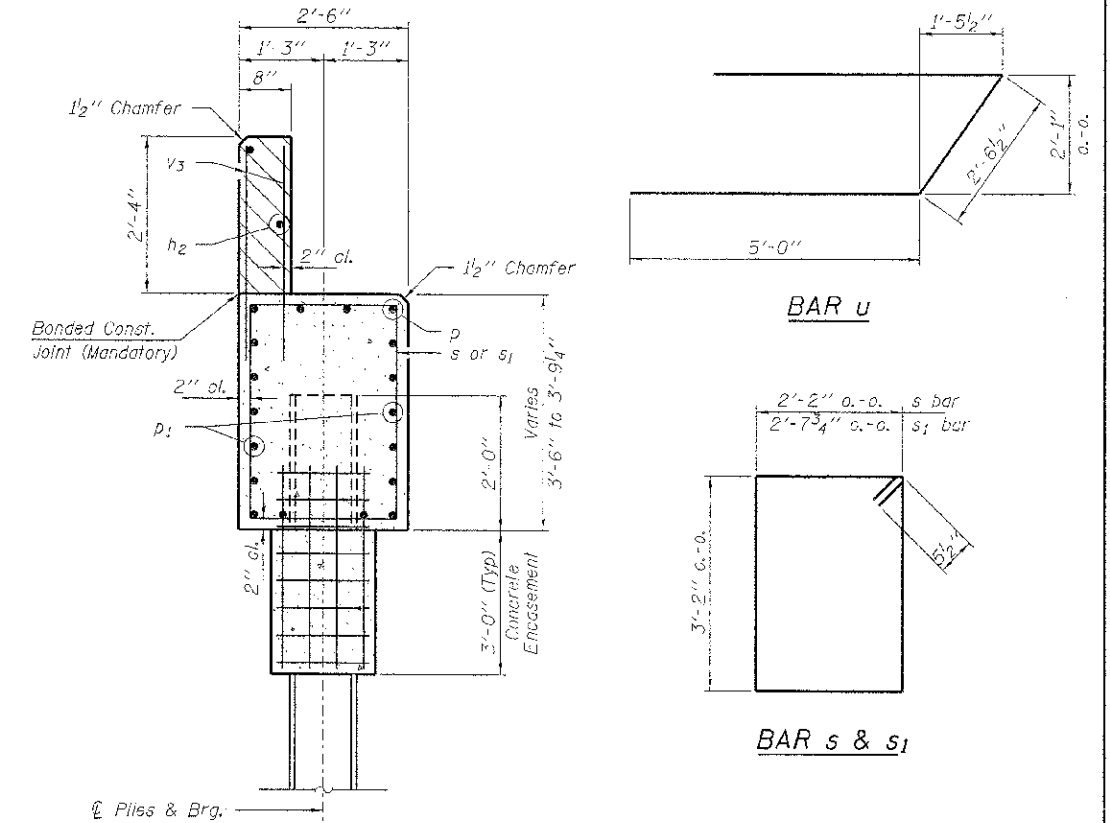
R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = 110072-int-bridge.dwg	USER NAME =	DESIGNED - A.S.L.	REVISED -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	STEEL RAILING, TYPE S-1 STRUCTURE NO. 097-3279	T.R.	SECTION	COUNTY	TOTAL SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC.	PLLOT SCALE =	CHECKED - S.W.M.	REVISED -			27	10-05117-00-BR	WHITE	13	9
1035 S. WASHINGTON ST. SUITE 201 SPRINGFIELD, ILLINOIS 62708	PLLOT DATE = 10/2/2012	DRAWN - D.A.B.	REVISED -			GRAY ROAD DISTRICT				CONTRACT NO. 99484
ILLINOIS PROFESSIONAL DESIGN FIRM LS 17/PE/SE/CC/CP 184.000089		CHECKED - S.W.M.	REVISED -							ILLINOIS FED. AID PROJECT BR03-193058

SHEET NO. 5 OF 9 SHEETS

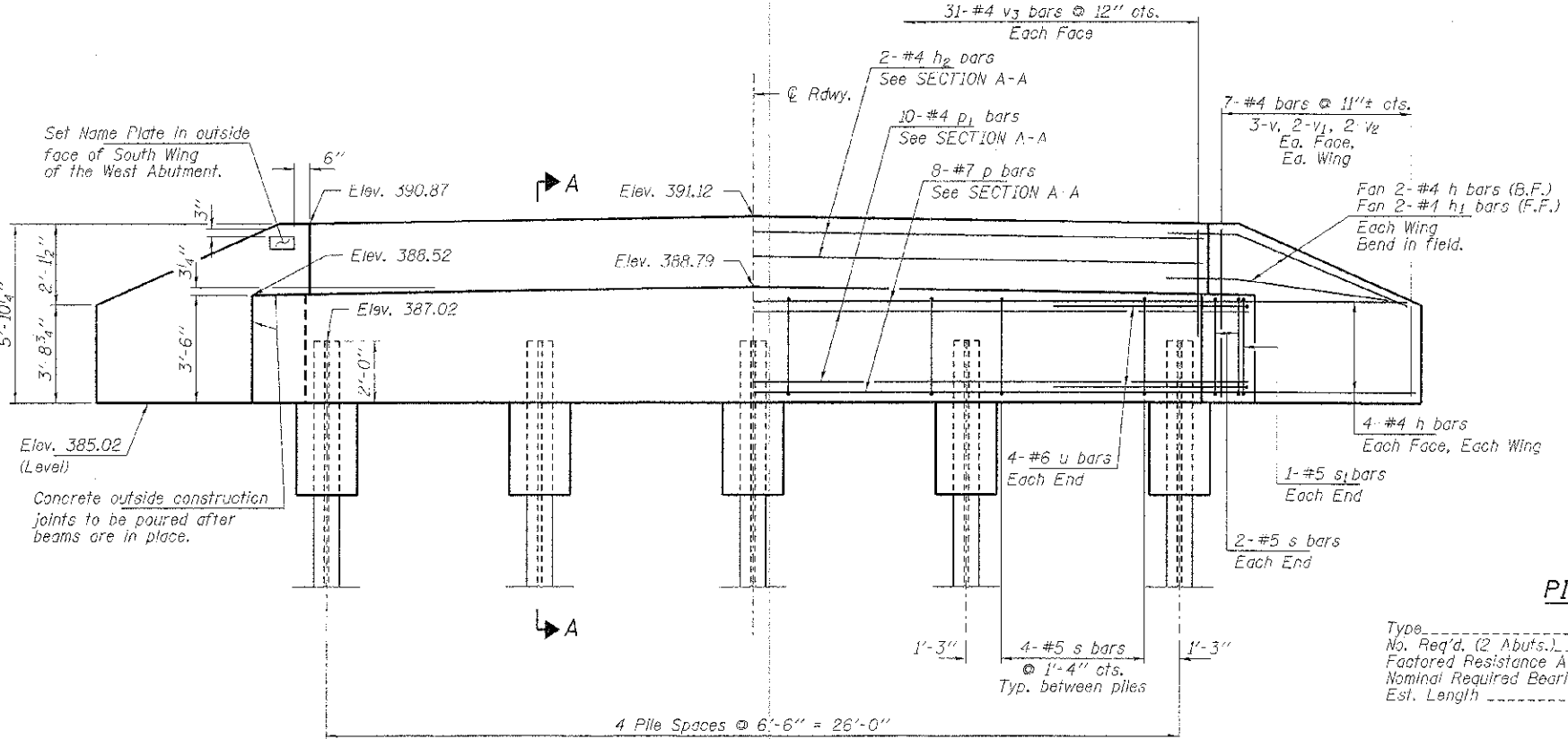


PLAN



SECTION A-A

Hatched area to be poured after beams are in place.



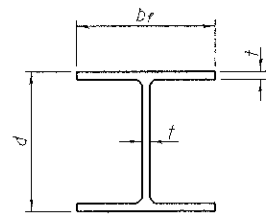
ELEVATION

PILE DATA

Type ----- Steel HP10x42
 No. Req'd. (2 Abuts.) ----- 10
 Factored Resistance Available (Rf) ----- 184 Kips/Pile
 Nominal Required Bearing (Rn) ----- 335 Kips/Pile
 Est. Length ----- 75 Ft/Pile

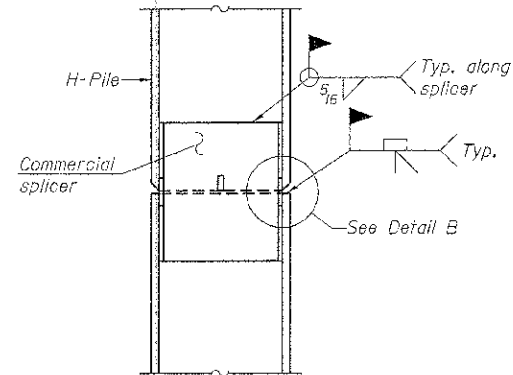
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	7'-3"	—
h1	8	#4	5'-9"	—
h2	4	#4	30'-10"	—
p	16	#7	30'-10"	—
p1	20	#4	30'-10"	—
s	40	#5	11'-7"	□
s1	4	#5	12'-7"	□
u	16	#6	12'-7"	—
v	24	#4	5'-0"	—
v1	16	#4	4'-3"	—
v2	16	#4	3'-5"	—
v3	124	#4	3'-2"	—
Concrete Structures			Cu. Yd.	28.4
Concrete Encasement			Cu. Yd.	3.4
Reinforcement Bars			Pounds	2,990
Steel Piles HP10x42			Foot	700
Name Plates			Each	1

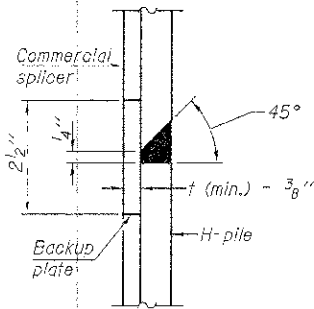


STEEL PILE TABLE

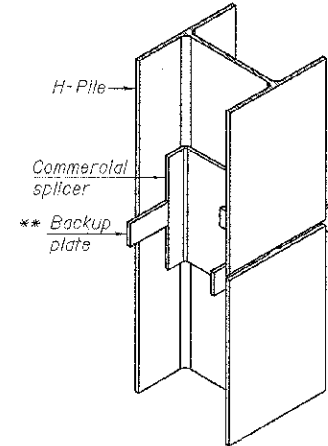
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	1 1/8"	30"
x102	14"	14 3/4"	1 1/8"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1 1/8"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53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



ELEVATION

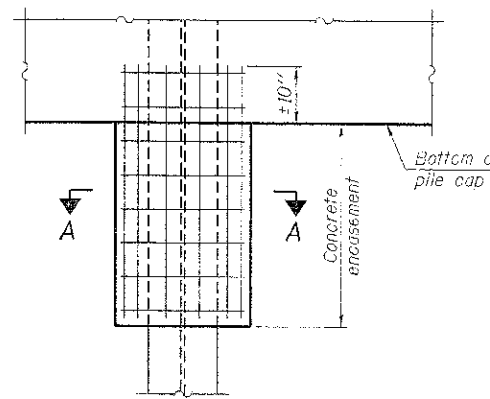


DETAIL "B"



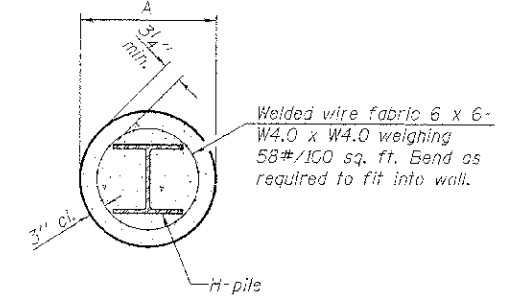
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE

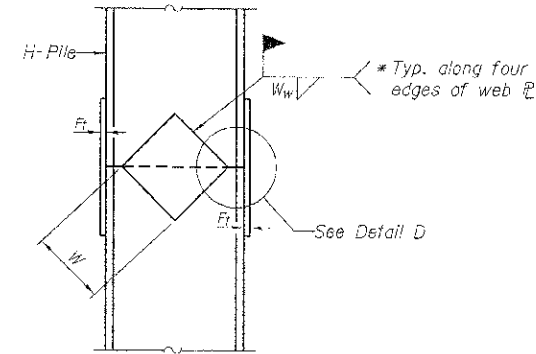


ELEVATION

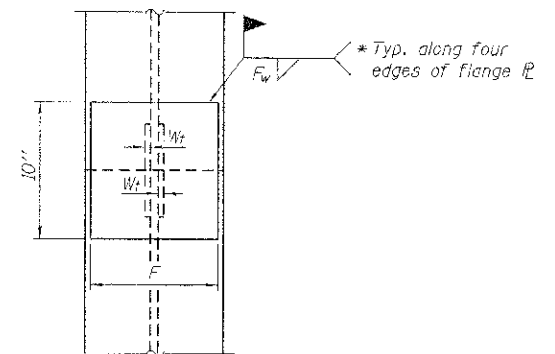
PILE ENCASEMENT



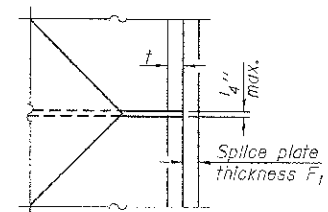
SECTION A-A



ELEVATION



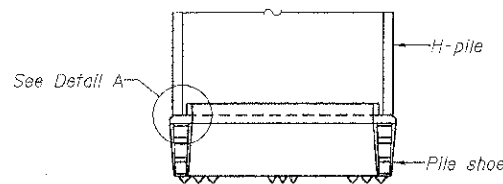
END VIEW



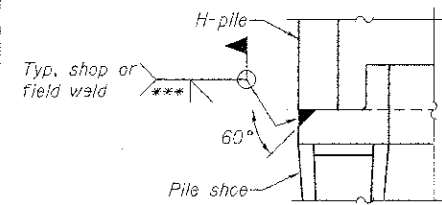
DETAIL D

WELDED PLATE FIELD SPLICE

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

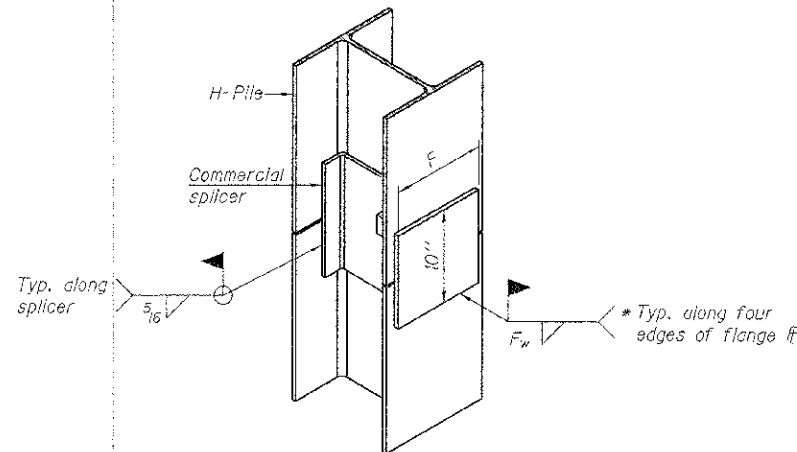


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE ALTERNATE

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

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

F-HP

1-27-12

FILE NAME: 110272-211-brd.dgn	USER NAME: *	DESIGNED: A.S.L.	REVISED: -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	HP PILE DETAILS STRUCTURE NO. 097-3279	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 303 STEVENSON DRIVE, SUITE 701 SPRINGFIELD, ILLINOIS 62701	PLOT SCALE: =	CHECKED: S.W.M.	REVISED: -			27	10-05117-00-BR	WHITE	13	11	
ELI'S PROFESSIONAL DESIGN FIRM 151 P.E. 36 COMP. 184 09289	PLOT DATE: 12/2/2012	DRAWN: D.A.B.	REVISED: -			CONTRACT NO. 99484					
		CHECKED: S.W.M.	REVISED: -			[ILLINOIS] FED. AID PROJECT BR05-193(05B)					

HOLCOMB FOUNDATION ENGINEERING INC. P.O. Box 88 Carbondale, IL 62903		618-529-5262 618-427-5991 fax		Page 1 of 2	
Bridge Foundation Boring Log					
Project: H-11088 Bridge Gray Rd Over French Creek		Date: 5/20/2011			
Section: 10-05117-00-BR Station:		Bored by: J. Schwartz			
Structure:		Checked By: T. Holcomb			
County: White					
Boring No: 1 Station: Offset:	Elevation N Qu W	Surface Water Elev. Ground Water Elev. During Drilling Upon Completion	Elevation N Qu W		
Ground Surface 8" Crushed Stone and Clay Mix	386.3 0	344.3 365.3		clay (continued)	
Gray Mottled Brown Silty CLAY (A-6)	0 1.75 25		9 2.08 25		
Gray Silty CLAY (A-6)	2 0.88 25		12 2.59 25		
Gray Silty CLAY (A-6)	2 1.98 26		12 2.98 27		
Gray Silty CLAY (A-6) with pebbles	2 0.66 20				
Gray Fat CLAY (A-7-B)	3 0.68 14.5		13 2.58 24		
Gray Silty CLAY (A-6) with sand and pebbles	15 0 3.58 3.5				
Gray Fat Clay (A-7-B)	6 1.20 26		17 2.58 28		
Gray Fat Clay (A-7-B) with trace sand	10 2.45 29		18 3.58 21		
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 - %		P = Penetrometer B = Bulge Failure S = Shear Failure E = Estimated Value	

HOLCOMB FOUNDATION ENGINEERING INC. P.O. Box 88 Carbondale, IL 62903		618-529-5262 618-427-5991 fax		Page 2 of 2	
Bridge Foundation Boring Log					
Project: H-11088 Bridge Gray Rd Over French Creek		Date: 5/20/2011			
Section: 10-05117-00-BR Station:		Bored by: J. Schwartz			
Structure:		Checked By: T. Holcomb			
County: Fayette					
Boring No: 1 Station: Offset:	Elevation N Qu W	Surface Water Elev. Ground Water Elev. During Drilling Upon Completion	Elevation N Qu W		
clay (continued)	47.5 2.18 28			clay (continued)	
Gray Silty CLAY (A-6)	19 1.15 14		19 1.15 14		
Gray Silty CLAY (A-6) with pebbles	12 1.30 24				
Gray Silty CLAY (A-6) with pebbles	5 1.98 24				
Gray Fat Clay (A-7-B)	17 2.58 28				
Gray Fat Clay (A-7-B) with trace sand	18 3.58 21				
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 - %		P = Penetrometer B = Bulge Failure S = Shear Failure E = Estimated Value	

BORING 1

FILE NAME = 110872-ah1-bridge.dgn USER NAME # HAMPTON, LENZINI AND RENWICK, INC. 3885 EYE/EBBON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62704 ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 0000000000	DESIGNED - A.S.L. CHECKED - S.W.M. DRAWN - D.A.B. CHECKED - S.W.M.	REVISED - REVISED - REVISED - REVISED -	STATE OF ILLINOIS WHITE COUNTY HIGHWAY DEPARTMENT	BORINGS STRUCTURE NO. 097-3279 SHEET NO. 8 OF 9 SHEETS	T.R. 27 GRAY ROAD DISTRICT	SECTION 10-05117-00-BR	COUNTY WHITE	TOTAL SHEETS 13 CONTRACT NO. 99484	SHEET NO. 12
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ILLINOIS FED. AID PROJECT BR05-193059

Bridge Foundation Boring Log
 Project: H-11086 Bridge Gray Rd over French Creek Date: 5/20/2011
 Section: 10-0517-00-BR Station: Pored by: B. Schwartz
 Structure: Checked By: J. Holcomb
 County: White

Boring No.	Station	Offset	Surface Water Elev.			Ground Water Elev. During Drilling			Upon Completion		
			Elevation	N	Q _u Test	Elevation	N	Q _u Test	Elevation	N	Q _u Test
			388.4			344.4					
			384.4								
				4	1.75	19					
			384.4								
				5	1.65	25					
				2	0.60	30					
				3	1.10	25					
				10							
				11	2.45	27					
				13	2.65	25					
				17	4.15	24					
			369.4								
				15	5.39	22					
				13	1.8	28					

Ground Surface: 388.4
 6" Crushed Stone and Clay Mix
 Brown Mottled Gray Silty CLAY (A-B)
 Gray Mottled Brown Silty CLAY to CLAY (A-B)
 Gray Clay to Fat CLAY (A-B)
 Gray Medium SAND (A-2-4)

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

Bridge Foundation Boring Log
 Project: H-11086 Bridge Gray Rd over French Creek Date: 5/20/2011
 Section: 10-0517-00-BR Station: Pored by: B. Schwartz
 Structure: Checked By: J. Holcomb
 County: White

Boring No.	Station	Offset	Surface Water Elev.			Ground Water Elev. During Drilling			Upon Completion		
			Elevation	N	Q _u Test	Elevation	N	Q _u Test	Elevation	N	Q _u Test
			388.4			344.4					
			384.4								
				4	1.75	19					
			384.4								
				5	1.65	25					
				2	0.60	30					
				3	1.10	25					
				10							
				11	2.45	27					
				13	2.65	25					
				17	4.15	24					
			369.4								
				15	5.39	22					
				13	1.8	28					
			324.4								
				14	2.09	18					
				14	2.09	18					
				11							
				16							
			324.4								
				16	8.75	15					
				16							
			322.4								
				15							

soil (continued)
 shale (continued)
 Lead of Piling 9' (10)
 Gray Silty CLAY (A-B) with sand and pebbles
 Gray Weathered SHALE
 Dark 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'
 Q_u = Unconfined Compressive Strength in tons/sq ft.
 W = Water Content - percentage of oven dry weight %
 S = Shear Failure
 E = Estimated Value
 P = Penetrometer

BORING 2