

06-13-14 LETTING ITEM 184

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 82	09-05102-00-BR	SANGAMON	22	1
FED. ROAD DIST. NO.		ILLINOIS CONTRACT NO.	93603	

INDEX OF SHEETS

SHEET NO. DESCRIPTION

- 1. COVER SHEET
- 2. SUMMARY OF QUANTITIES AND GENERAL NOTES
- 3. TYPICAL CROSS SECTIONS
- 4. PLAN & PROFILE
- 5.-13. STATION CROSS SECTIONS
- 14.-21. BRIDGE PLANS
- 22. BORINGS

HIGHWAY STANDARDS:

- 000001-06 STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
- 515001-03 NAME PLATE FOR BRIDGES
- 630301-06 SHOULDER WIDENING FOR TYPE 1 (SPECIAL) GUARDRAIL TERMINALS
- 635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
- 635011-02 REFLECTOR MARKER AND MOUNTING DETAILS
- 667101-02 PERMANENT SURVEY MARKERS
- 701901-03 TRAFFIC CONTROL DEVICES
- BLR 21-9 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
- BLR 27-1 TRAFFIC BARRIER TERMINAL, TYPE 5A

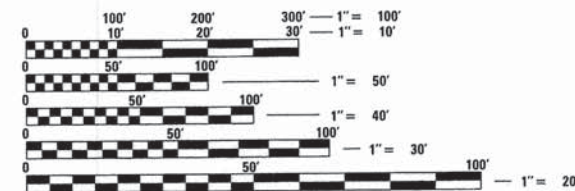
UTILITIES

VERIZON NORTH, INC. (FRONTIER)
104 MULBERRY
NORMAL, IL 61761
ATTN: MARY RUTH WILLIS

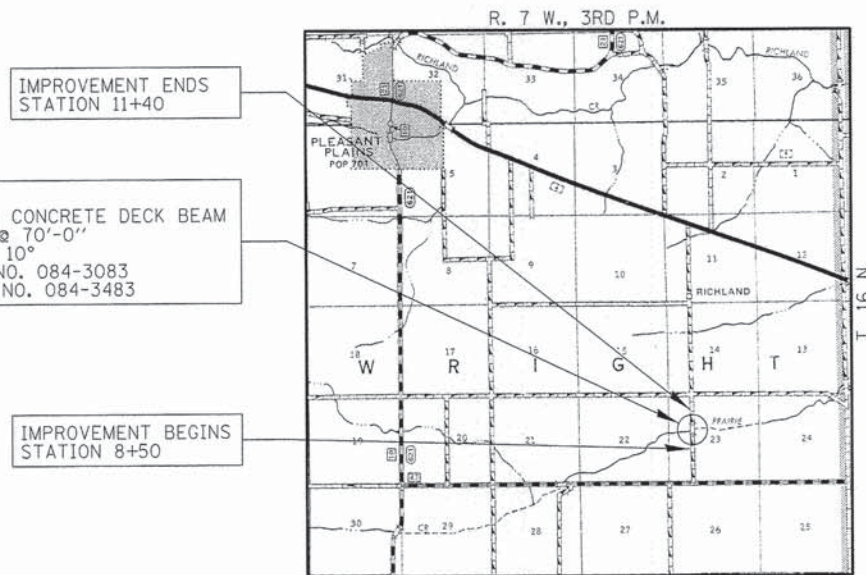
AMEREN ILLINOIS
LINCOLN SERVICE CENTER
P.O. BOX 770
LINCOLN, IL 62656
ATTN: CHARLOTTE WALSCHLEGER

PLANS FOR PROPOSED
SURFACE TRANSPORTATION / BRIDGE PROGRAM

PROJECT BROS-167(067)
SECTION 09-05102-00-BR
CARTWRIGHT ROAD DISTRICT
SANGAMON COUNTY
T.R. 82 / RICHLAND ELEVATOR ROAD
COUNTY BRIDGE PROJECT 372
PROPOSED STRUCTURE NO. 084-3483
C-96-231-12



FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE
NET LENGTH OF SECTION = 290.0 FEET = 0.055 MILES

FUNCTIONAL CLASSIFICATION: LOCAL ROAD (250-400 ADT)
DESIGN SPEED: 40 MPH
DESIGN TRAFFIC: 375 ADT
APPROACHES: 3R DESIGN



ILLINOIS DEPARTMENT OF TRANSPORTATION

APPROVED *April 16, 2013*
COUNTY ENGINEER

APPROVED *May 21, 2013*
TOWNSHIP COMMISSIONER

PASSED *May 21, 2013*
DISTRICT SIX ENGINEER OF LOCAL ROADS & STREETS

PASSED *May 21, 2013*
DISTRICT SIX ENGINEER OF CONSTRUCTION

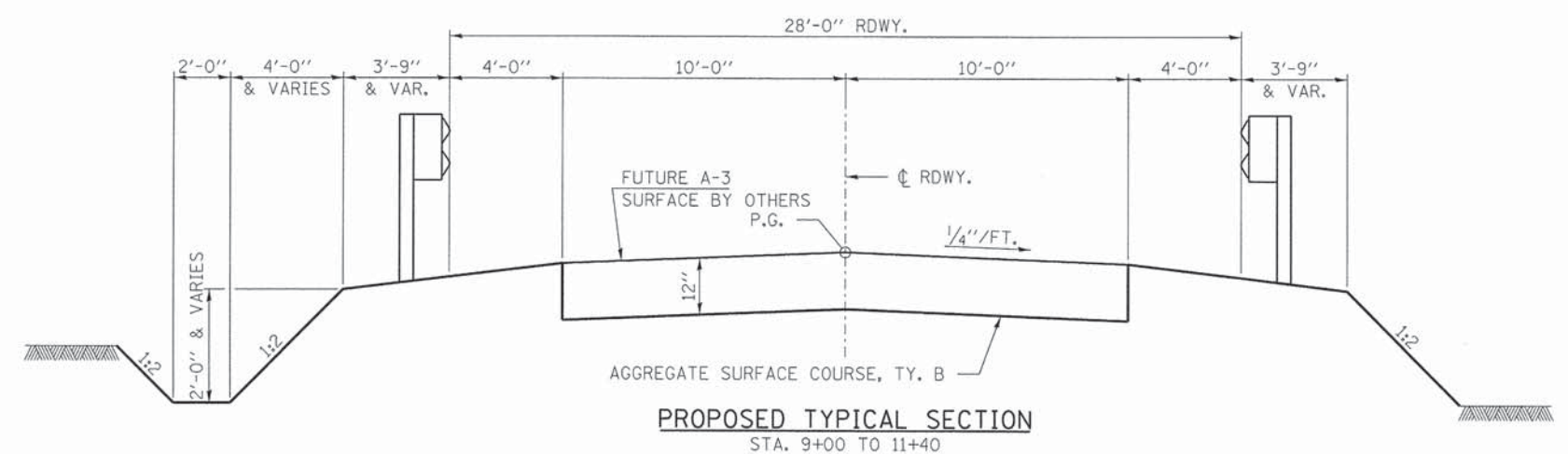
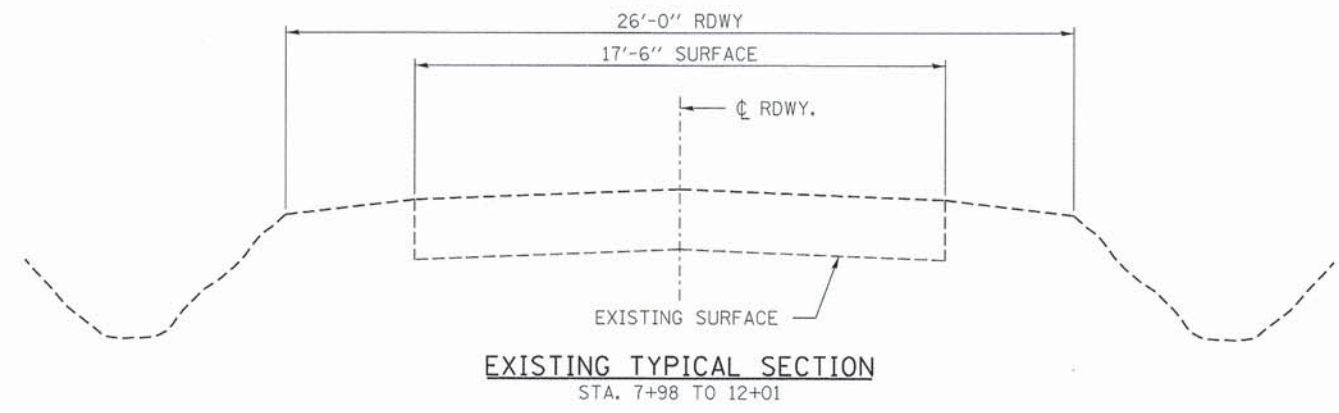
Releasing For Bid Based on Limited Review
May 21, 2013
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION



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

CONTRACT NO. 93603

PROJECT NUMBER: 10.0125.130 DATE: 04/10/12



SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING
ROADWAY IS TO BE CONSTRUCTED FROM STA. 9+00 TO 9+50 AND
STA. 10+90 TO 11+40. SEE SHEET 14 FOR TRANSITION AT BRIDGE.

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

MIXTURE REQUIREMENTS	
LOCATION(S):	TR 82 / RICHLAND ELEVATOR ROAD
MIXTURE USE(S):	HOT-MIX ASPHALT SURFACE COURSE, MIX "C", N50
AC/PG:	PG 64-22
DESIGN AIR VOIDS:	4% @ Ndes 50
MIXTURE COMPOSITION: (GRADATION MIXTURE):	IL 9.5
FRICTION AGGREGATE:	MIXTURE C
MIXTURE WEIGHTS:	112 LBS \ SY \ INCH THICKNESS

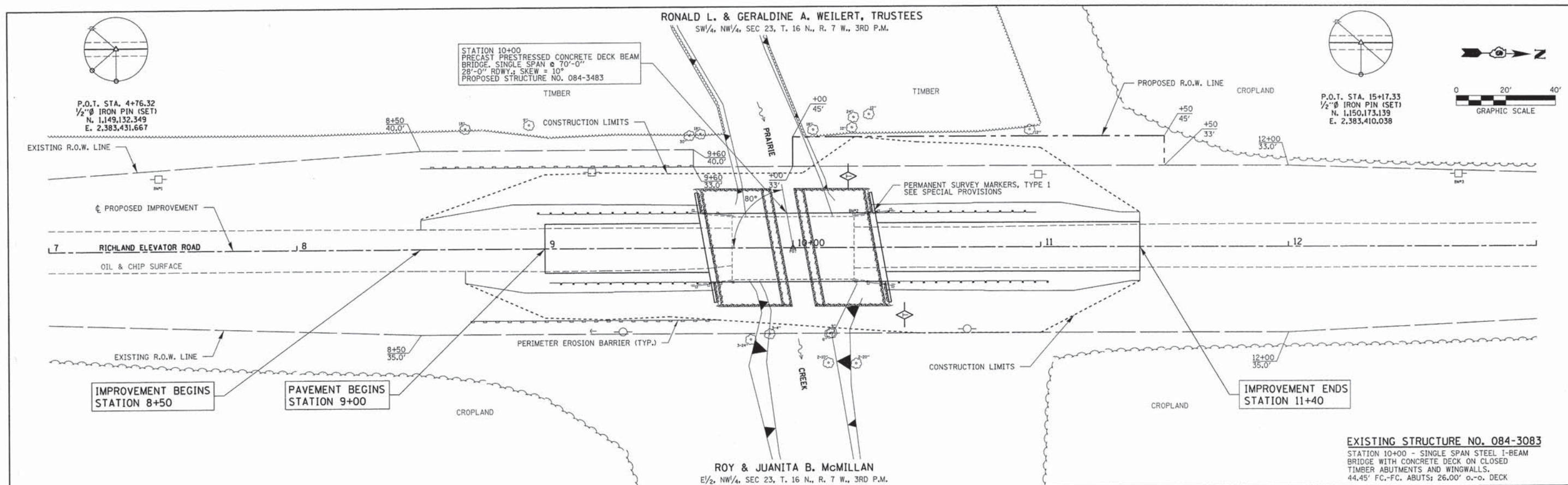
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ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184.000939	PLOT DATE = 4/11/2012

DESIGNED - J.W.F.	REVISED -
DRAWN - D.A.B.	REVISED -
CHECKED - S.W.M.	REVISED -
DATE - 04/10/12	REVISED -

STATE OF ILLINOIS
SANGAMON COUNTY HIGHWAY DEPARTMENT

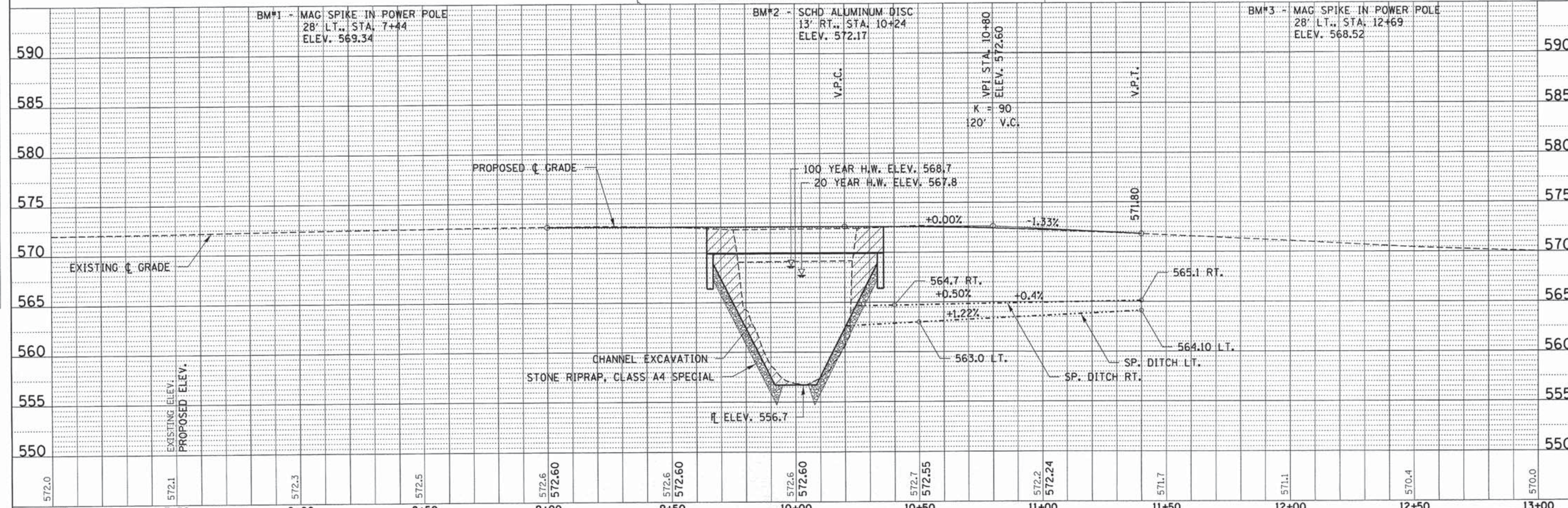
TYPICAL CROSS SECTIONS RICHLAND ELEVATOR ROAD	
SCALE: H1:V2	SHEET NO. OF SHEETS STA. TO STA.

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
82	09-05102-00-BR	SANGAMON	22	3
CARTWRIGHT ROAD DISTRICT		CONTRACT NO. 3603		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		



DATE	
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SURVEYED	
PLOTTED	
CHECKED	
RT. OF WAY CHECKED	
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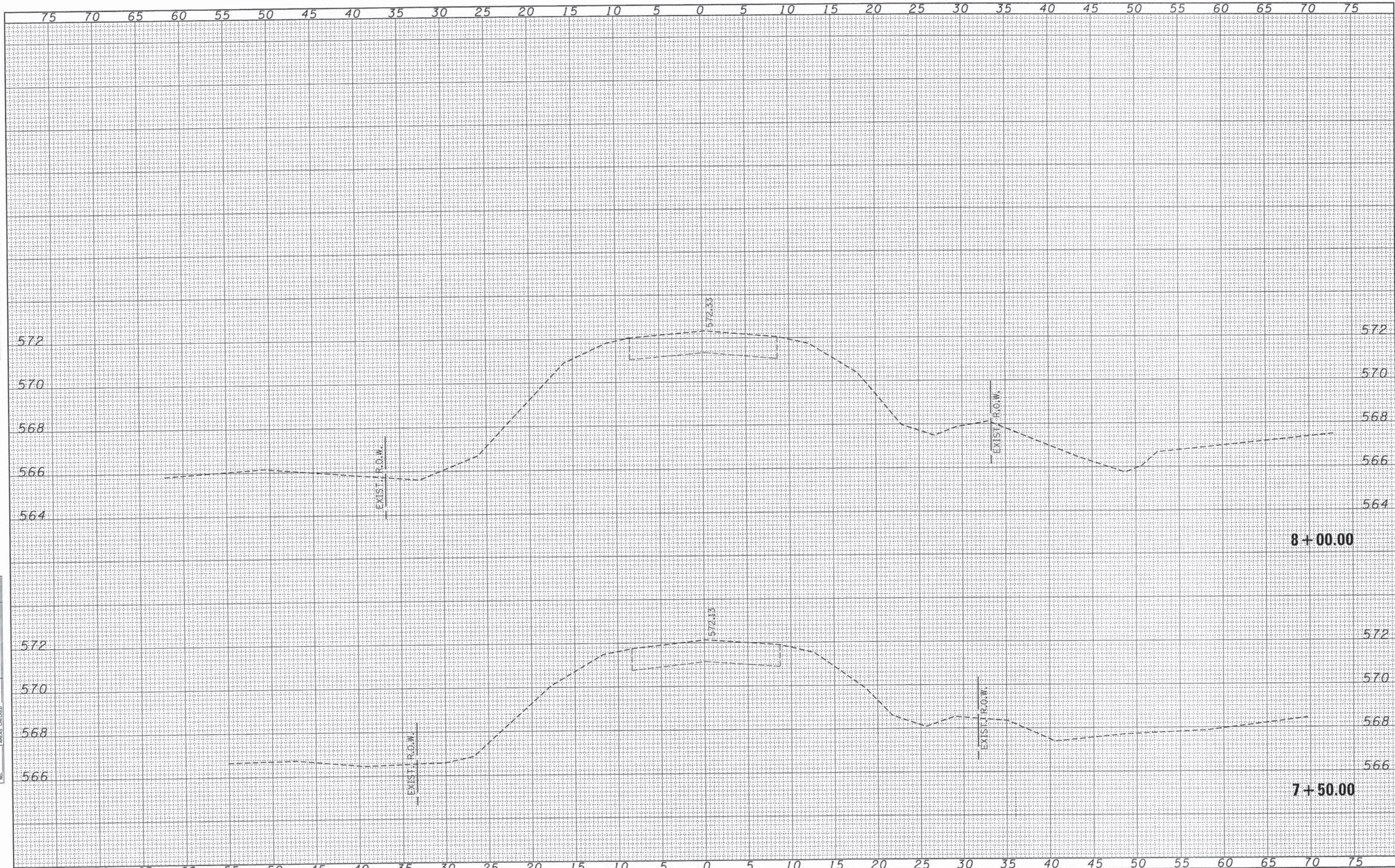
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NO. 50	



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HAMPTON, LENZINI AND REHWICK, INC.		DRAWN - D.T.M.	REVISED -			82	09-05102-00-BR	SANGAMON	22	4	
3051 STEVENSON DRIVE, SUITE 201		CHECKED - S.W.M.	REVISED -			CARTWRIGHT ROAD DISTRICT CONTRACT NO. 93603					
SPRINGFIELD, ILLINOIS 62703		DATE - 04/10/12	REVISED -			ILLINOIS FED. AID PROJECT					
ILLINOIS PROFESSIONAL DESIGN FIRM				SCALE: H20xV5	SHEET NO. 1 OF 1 SHEETS	STA. 7+00.00	TO STA. 13+00.00				

DATE	
BY	
FINISHED SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	

DATE	
BY	
ORIGINAL SURVEY	
PLOTTED	
NOTE BOOK	
AREAS CHECKED	
NO.	



FILE NAME = 100125-sht-axs.dgn
 HAMPTON, LENZINI AND RENWICK, INC.
 308 STEVENSON DRIVE, SUITE 301
 SPRINGFIELD, ILLINOIS 62703
 ILLINOIS PROFESSIONAL DESIGN FIRM
 LS / PE / SE COMP. 164.000000

USER NAME =
 PLOT SCALE =
 PLOT DATE = 4/11/2012

DESIGNED - J.W.F.	REVISED -
DRAWN - D.T.M.	REVISED -
CHECKED - S.W.M.	REVISED -
DATE - 04/10/12	REVISED -

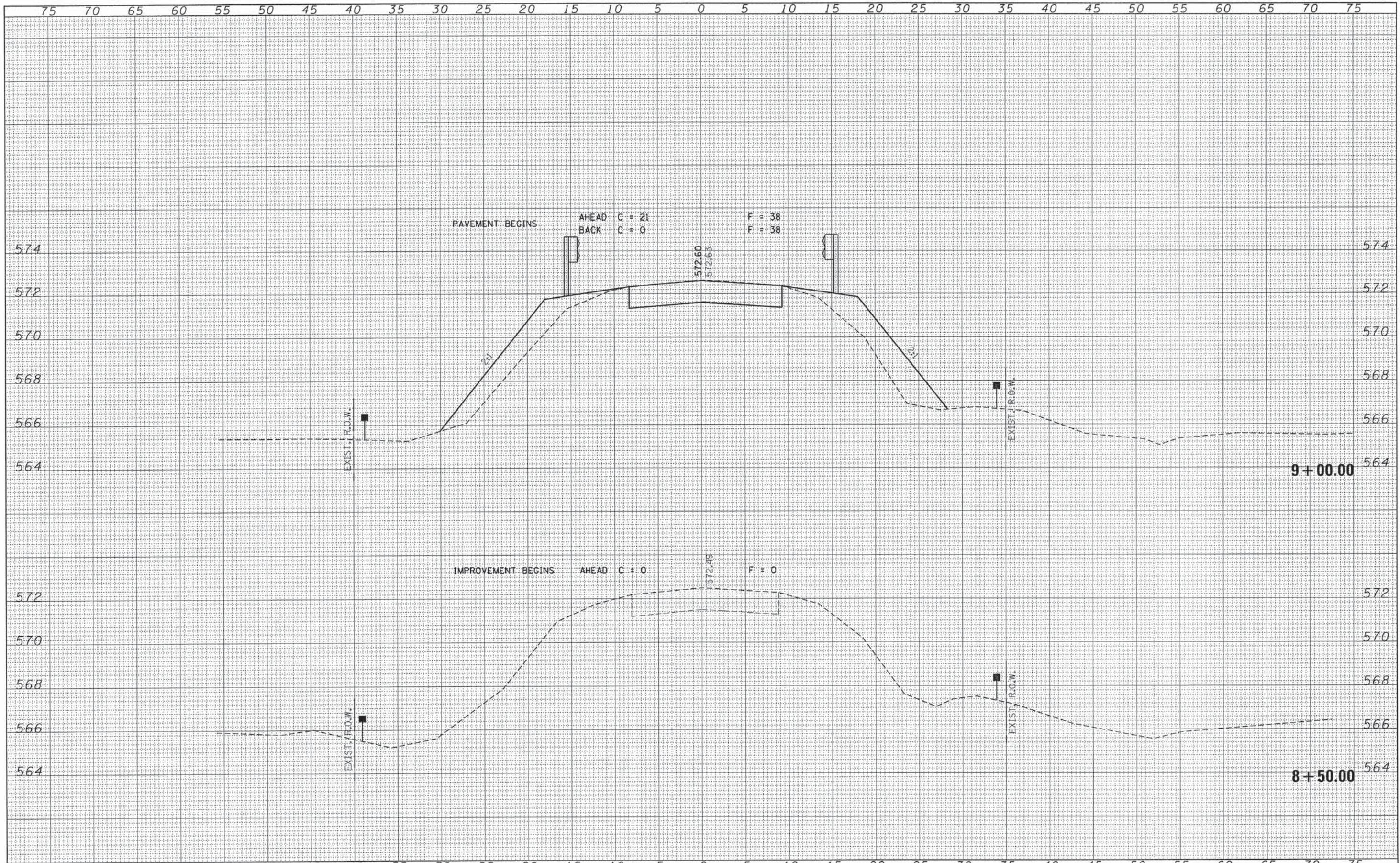
STATE OF ILLINOIS
 SANGAMON COUNTY HIGHWAY DEPARTMENT

STATION CROSS SECTIONS
 RICHLAND ELEVATOR ROAD
 SCALE: SHEET NO. OF SHEETS STA. 7+50.00 TO STA. 8+00.00

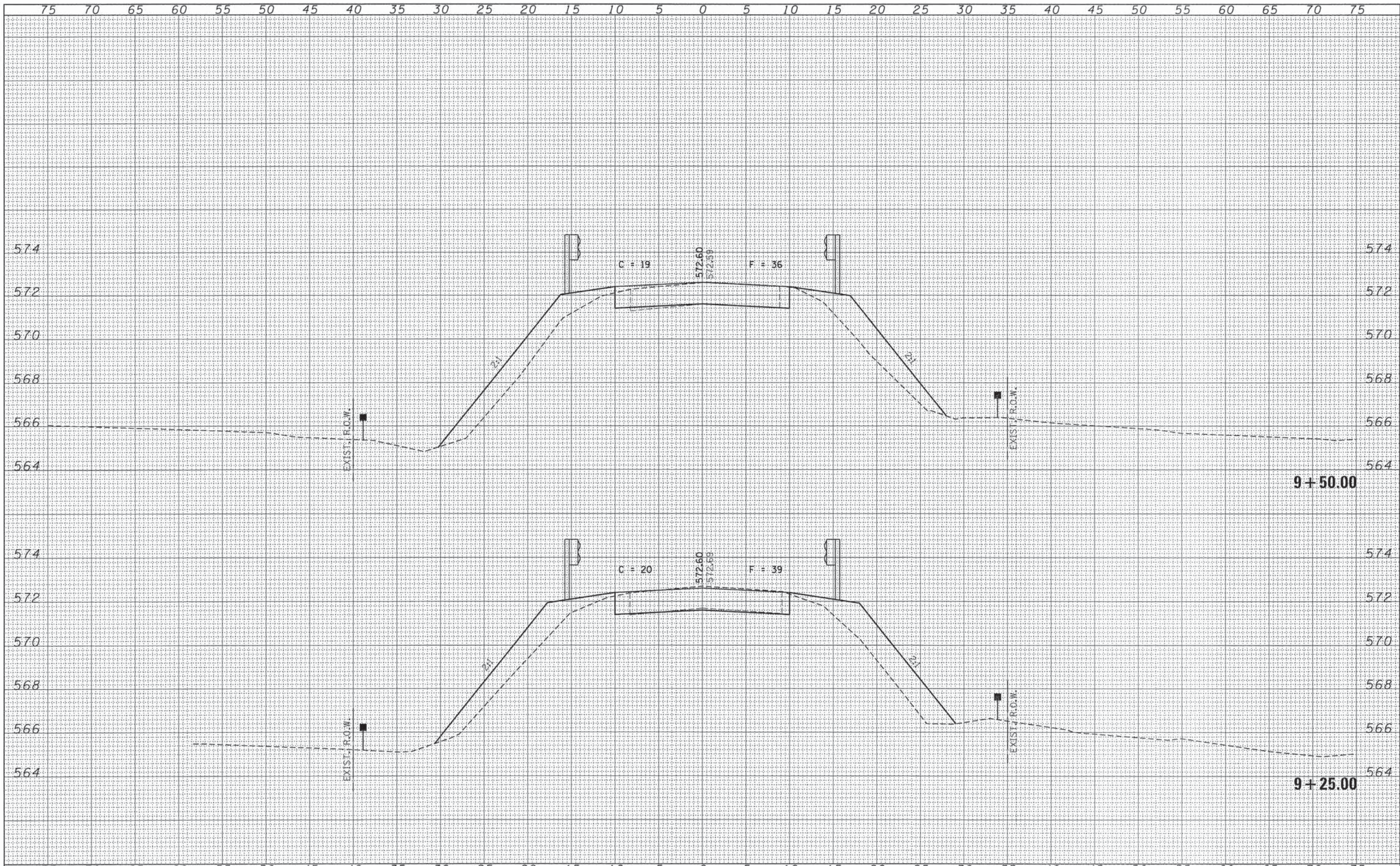
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
82	09-05102-00-BR	SANGAMON	22	5
CARTWRIGHT ROAD DISTRICT			CONTRACT NO. 93603	
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

DATE	
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PLOTTED	
TEMPLATE	
NOTE BOOK	
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BY	
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TEMPLATE	
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62738	PLOT SCALE =	DRAWN - D.T.M.	REVISED -		82	09-05102-00-BR	SANGAMON	22	6		
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184.003559	PLOT DATE = 4/11/2012	CHECKED - S.W.M.	REVISED -		CARTWRIGHT ROAD DISTRICT		CONTRACT NO. 93603				
		DATE - 04/10/12	REVISED -		SCALE:	SHEET NO.	OF	SHEETS	STA. 8+50.00 TO STA. 9+00.00	FED. ROAD DIST. NO.	(ILLINOIS) FED. AID PROJECT



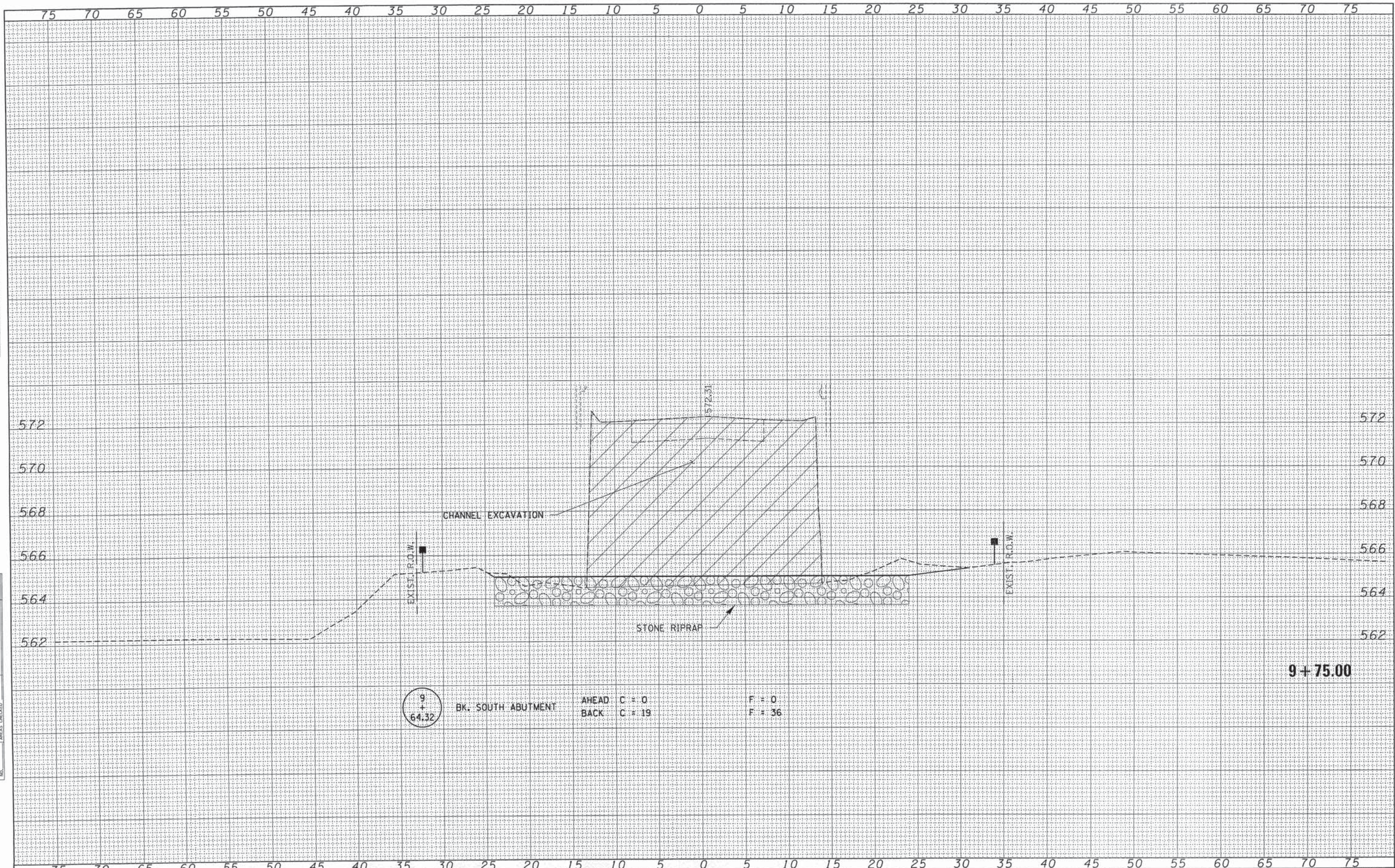
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HAMPTON, LENZINI AND RENWICK, INC. 3083 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62709 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.000899	PLOT SCALE =	DRAWN - D.T.M.	REVISED -	B2	09-05102-00-BR	SANGAMON	22	7
	PLOT DATE = 4/11/2012	CHECKED - S.W.M.	REVISED -	CARTWRIGHT ROAD DISTRICT				CONTRACT NO. 93603
		DATE - 04/10/12	REVISED -	FED. ROAD DIST. NO.				ILLINOIS FED. AID PROJECT
STATE OF ILLINOIS SANGAMON COUNTY HIGHWAY DEPARTMENT				STATION CROSS SECTIONS RICHLAND ELEVATOR ROAD				
SCALE:				SHEET NO. OF SHEETS				STA. 9+25.00 TO STA. 9+50.00

DATE	BY

DATE	BY

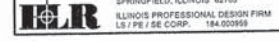


9 + 75.00

9
+
75.00
64.32

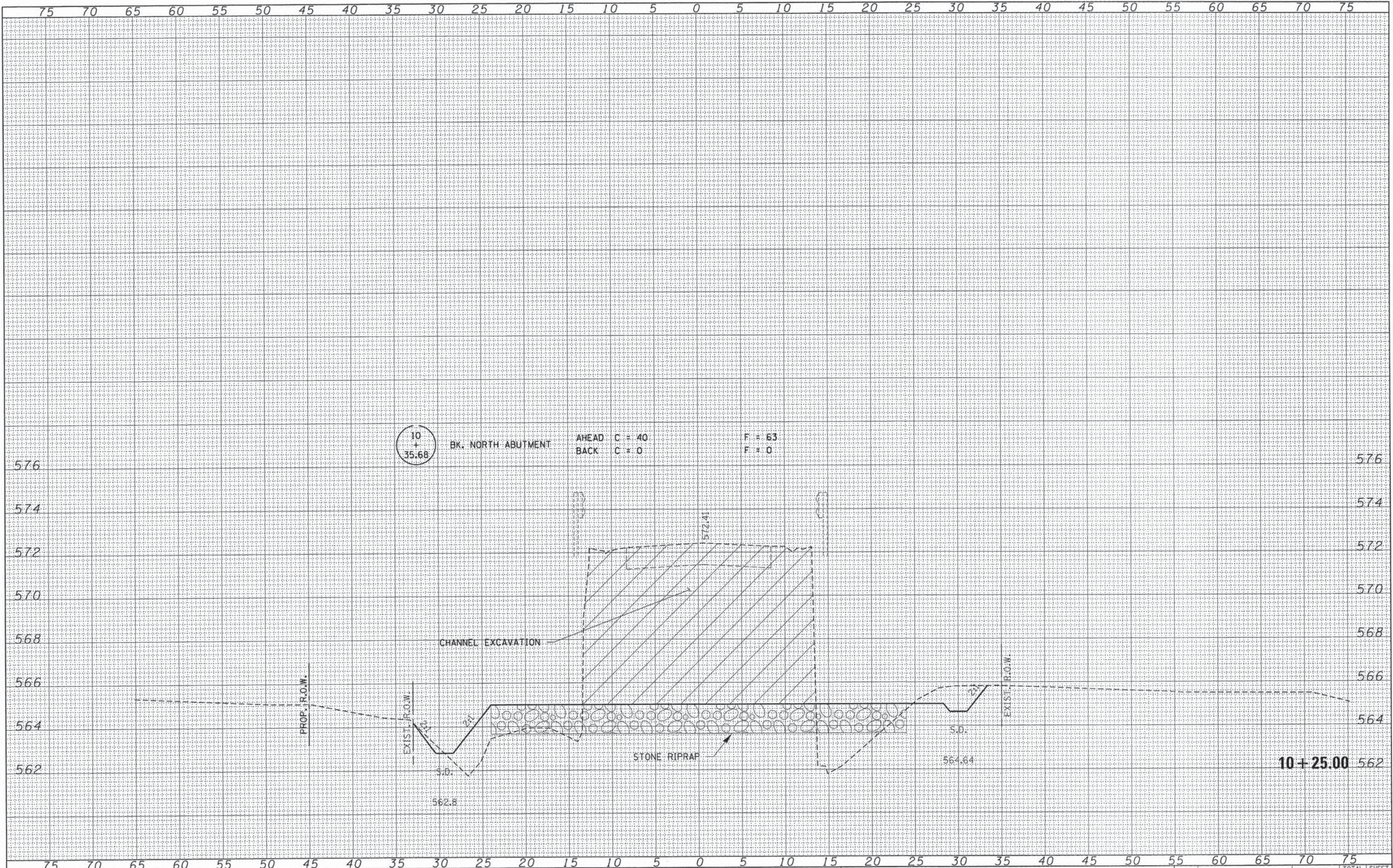
BK. SOUTH ABUTMENT

AHEAD C = 0
BACK C = 19
F = 0
F = 36

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 HAMPTON, LENZI AND RENWICK, INC. 3303 STEVENSON DRIVE, SUITE 301 SPRINGFIELD, ILLINOIS 62781 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORP. 184.00398	DRAWN - D.T.M. CHECKED - S.W.M. DATE - 04/10/12	REVISED - REVISED - REVISED -	SCALE: SHEET NO. OF SHEETS STA. 9+75.00 TO STA. 10+00.00					82	09-05102-00-BR	SANGAMON	22	9
								CARTWRIGHT ROAD DISTRICT		CONTRACT NO. 93603		
								FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		

BY	DATE
FINAL SURVEY	SUBMITTED
NOTE BOOK	PLOTTED
NO.	TEMPLATE
	AREAS CHECKED

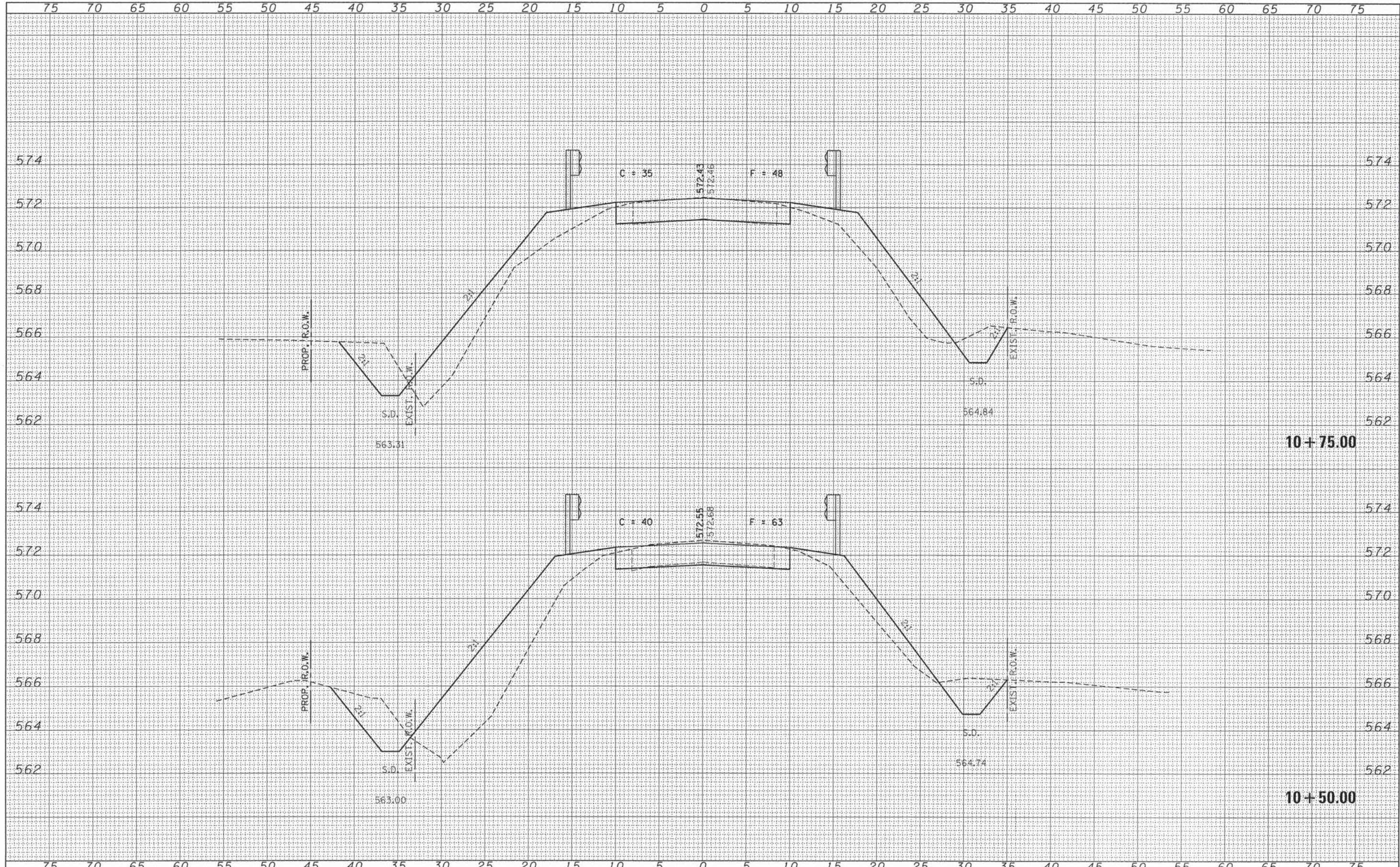
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HAMPTON, LENZINI AND RENWICK, INC. <small>3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS/P/SE CORP. 184-00089</small>	PLOT SCALE =	DRAWN - D.T.M.	REVISED -				SCALE:	SHEET NO.	OF	SHEETS	STA. 10+25.00	TO STA. 10+25.00	82	09-05102-00-BR
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		DATE - 04/10/12	REVISED -											

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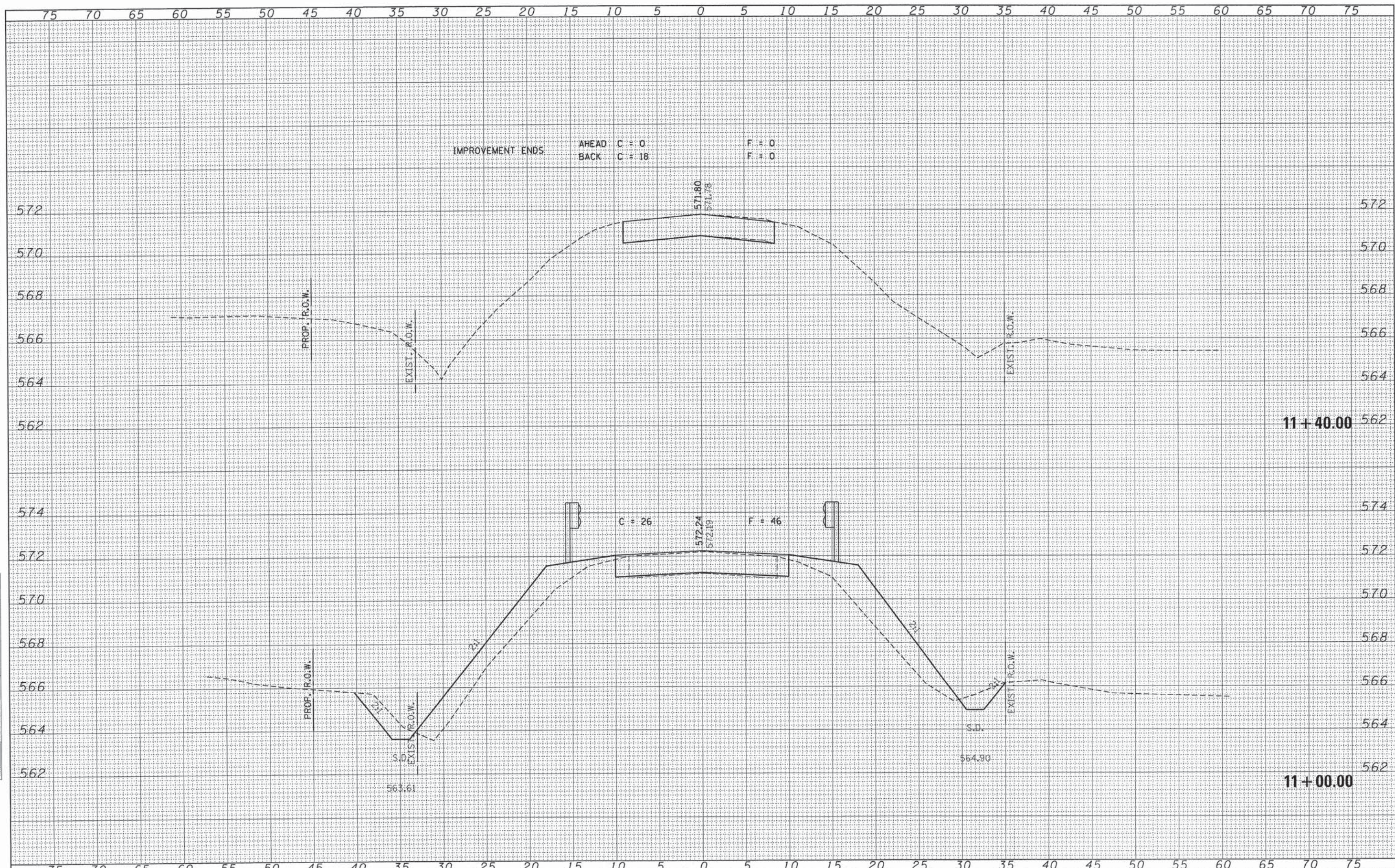
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HAMPTON, LENZINI AND RENWICK, INC. 3085 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62709	PLOT SCALE =	DRAWN - D.T.M.	REVISED -			82	09-05102-00-BR	SANGAMON	22	10	
ILLINOIS PROFESSIONAL DESIGN FIRM LS 7 PE / SE CORP. 184.000959	PLOT DATE = 4/11/2012	CHECKED - S.W.M.	REVISED -			CARTWRIGHT ROAD DISTRICT		CONTRACT NO. 93603			
		DATE - 04/10/12	REVISED -			SCALE:	SHEET NO. OF SHEETS	STA. 10+50.00 TO STA. 10+75.00	FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		

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NOTE BOOK	
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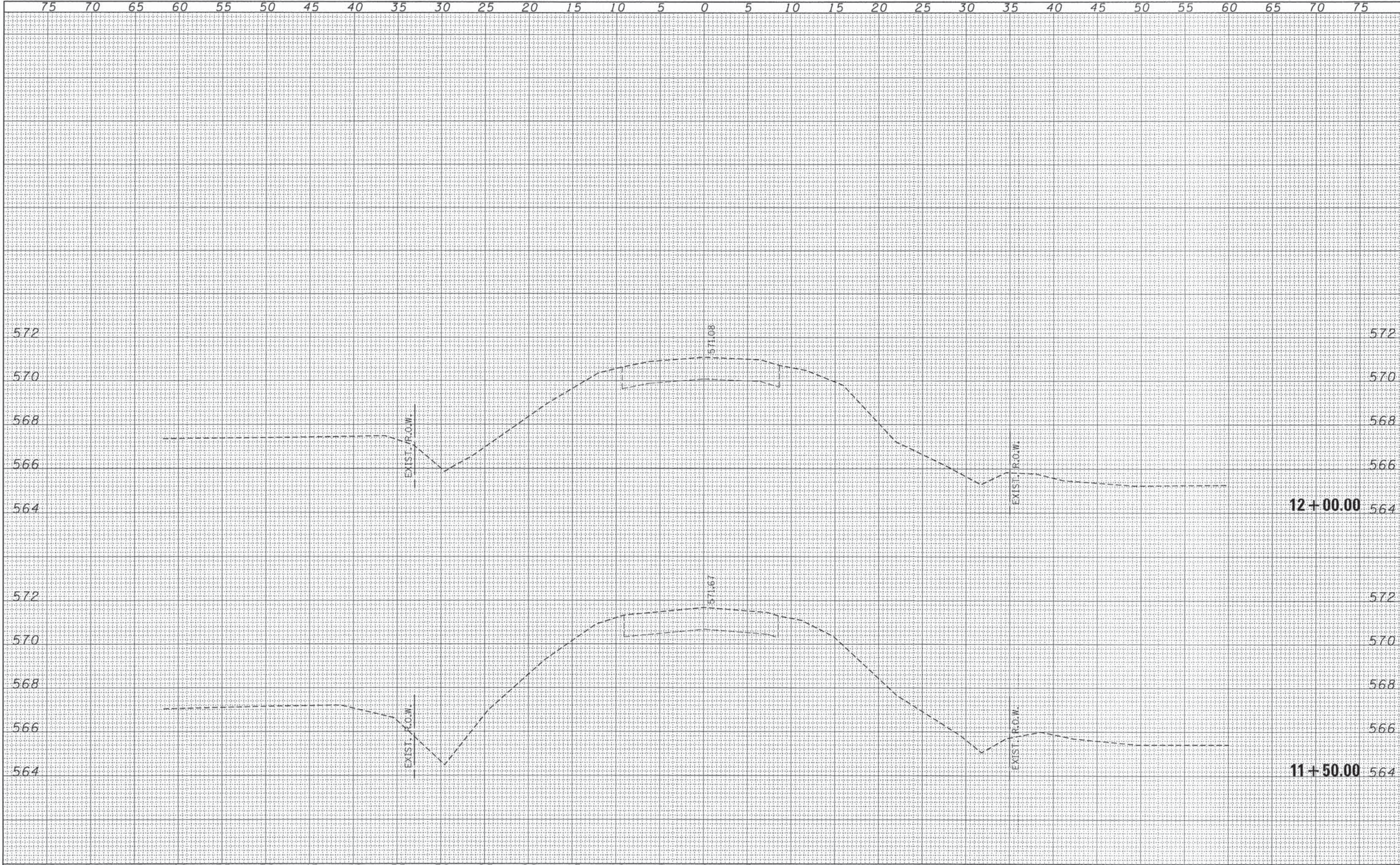
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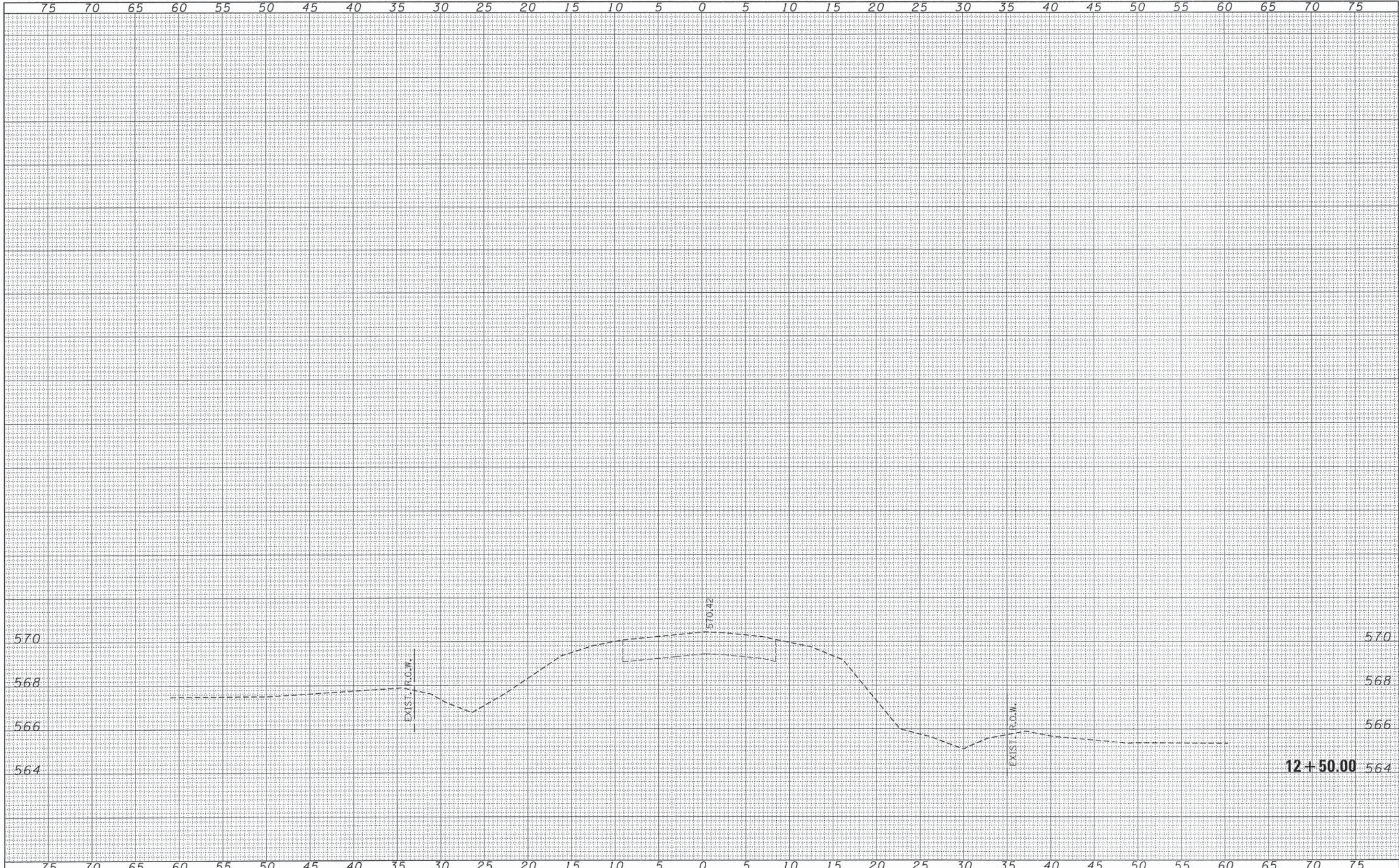
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HAMPTON, LENZINI AND RENWICK, INC. 2045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62711 ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORP. 184.000959		DRAWN - D.T.M.	REVISED -		SCALE:	SHEET NO.	OF SHEETS	STA. 11+00.00	TO STA. 11+40.00	FED. ROAD DIST. NO.	ILLINOIS FED. AID PROJECT	
		CHECKED - S.W.M.	REVISED -									
		DATE - 04/10/12	REVISED -									

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FILE NAME = 100125-shr-axa.dgn	USER NAME =	DESIGNED - J.W.F.	REVISED -	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3095 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184-00869		DRAWN - D.T.M.	REVISED -	82	09-05102-00-BR	SANGAMON	22	12
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STATE OF ILLINOIS SANGAMON COUNTY HIGHWAY DEPARTMENT				STATION CROSS SECTIONS RICHLAND ELEVATOR ROAD				
SCALE:				SHEET NO. OF SHEETS STA. 11+50.00 TO STA. 12+00.00				



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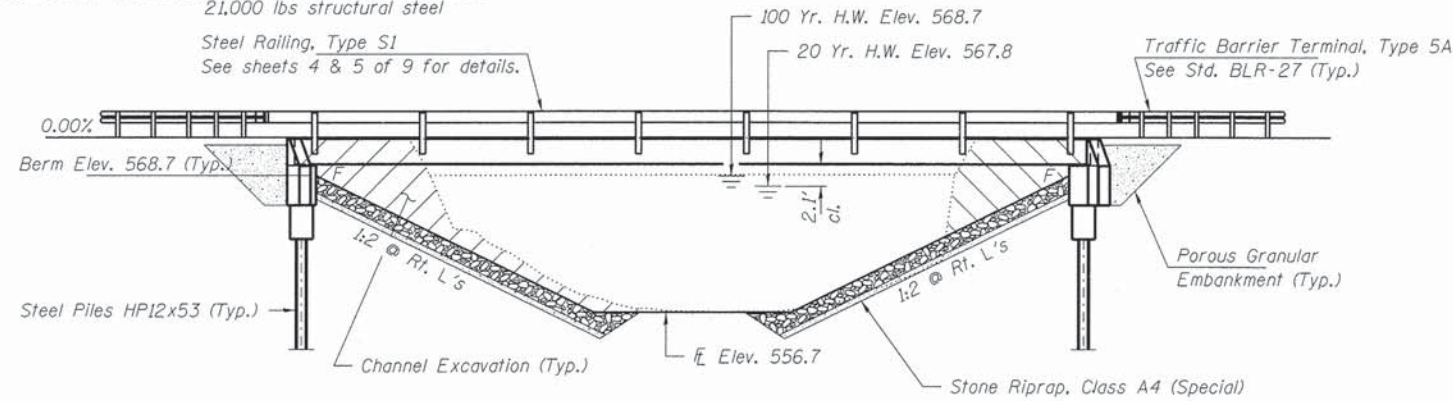
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		NOTE BOOK	
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HLR HAMPTON, LENZINI AND RENWICK, INC. 3980 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62704 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORP. 184.002859	FILE NAME = 120125-ht-xxx.dgn	DESIGNED - J.W.F.	REVISIONS	STATE OF ILLINOIS SANGAMON COUNTY HIGHWAY DEPARTMENT			STATION CROSS SECTIONS RICHLAND ELEVATOR ROAD		T.R. 82	SECTION 09-05102-00-BR	COUNTY SANGAMON	TOTAL SHEETS 22	SHEET NO. 13
	USER NAME =	DRAWN - D.T.M.	REVISIONS -						SCALE: SHEET NO. OF SHEETS STA. 12+50.00 TO STA. 12+50.00		CONTRACT NO. 93603 FED. ROAD DIST. NO. ILLINOIS FED. AID PROJECT		
	PLOT SCALE =	CHECKED - S.W.M.	REVISIONS -	DATE - 04/10/12	REVISIONS -								

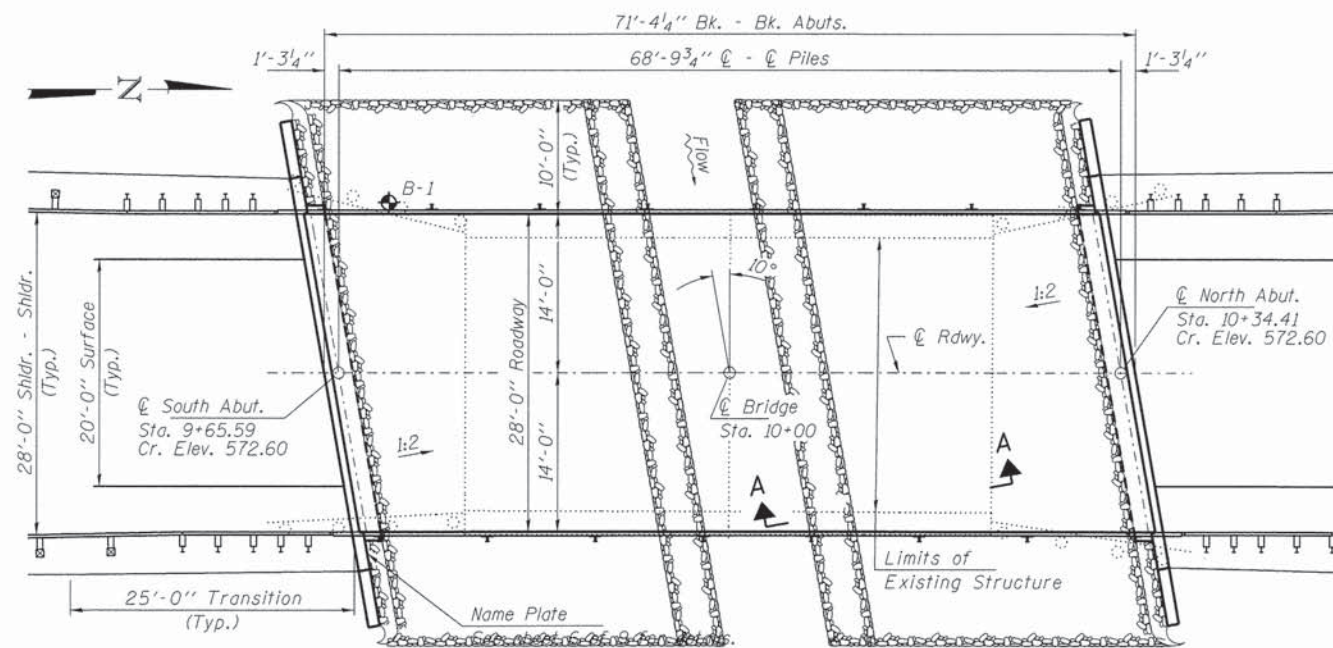
BENCHMARK: SCHD Aluminum Disc, 13' Rt., Sta. 10+24, Elev. 572.17

EXISTING STRUCTURE: Single span steel I-beam bridge with concrete deck on closed timber abutments and wingwalls. 44.5' fc.-fc. abuts.; 26.0' o.-o. deck; Str. No. 084-3083
Structure closed to traffic during construction.

No Salvage
Estimated removal quantities: 40 cu. yd. reinforced concrete
21,000 lbs structural steel



ELEVATION



PLAN

DESIGN SCOUR ELEVATION TABLE

Design Scour Elevation (ft.)	S. Abut.	N. Abut.
	566.2	566.2

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.147g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.258g
Soil Site Class = D

WATERWAY INFORMATION

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural Head - Ft.		Headwater El.	
				Natural	Prop.	Exist.	Prop.
Design	10	1660	370	567.35	0.72	568.07	568.04
Base	20	2070	390	567.79	0.96	568.75	568.70
Max. Calc.	100	3080	430	568.72	1.15	569.87	569.66
	500	4140	440	569.54	1.48	571.02	570.43

Existing Low Grade Elev. 569.8 @ Sta. 13+50
Proposed Low Grade Elev. 569.8 @ Sta. 13+50

10 Year Velocity through Existing Bridge = 4.5 Tps
10 Year Velocity through Proposed Bridge = 4.2 Tps

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
 $f_y = 60,000$ psi (Reinf.)

PRECAST PRESTRESSED UNITS

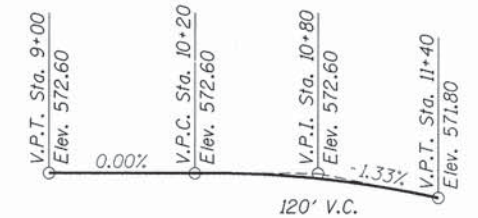
$f'_c = 6,000$ psi
 $f'_{ci} = 5,000$ psi
 $f_{pu} = 270,000$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_{pbt} = 201,960$ psi ($\frac{1}{2}$ " ϕ low lax. strands)
 $f_y = 60,000$ psi (Reinf.)

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 110% of the nominal required bearing specified in production locations at North 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.
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. 27"x48" PPC Deck Beam
3. 27"x48" PPC Deck Beam Details
4. Superstructure Details
5. Steel Railing, Type S1
6. South Abutment
7. North Abutment
8. HP Pile Details
9. Boring

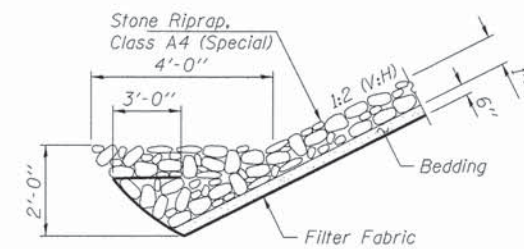


PROFILE GRADE

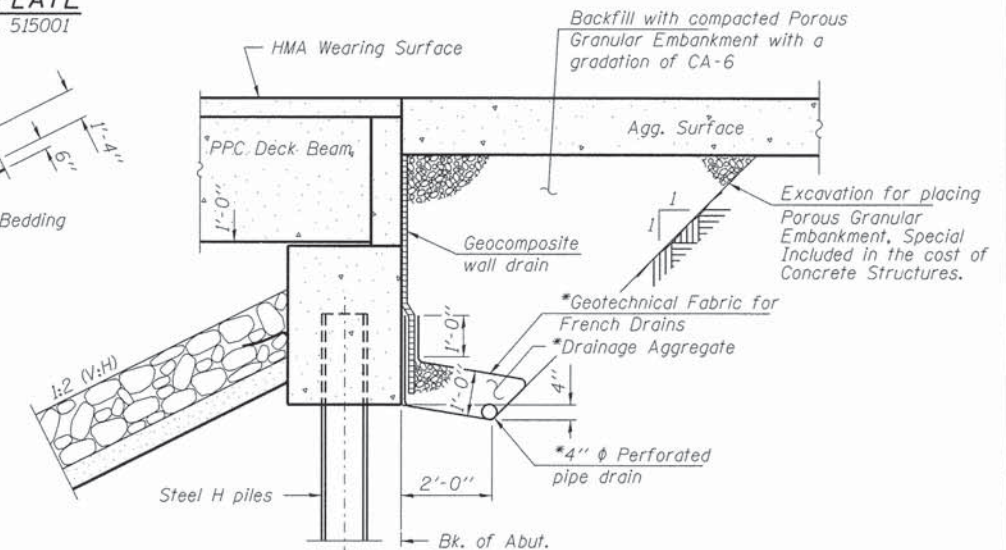
PRAIRIE CREEK
BUILT 201_ BY
SANGAMON COUNTY
SEC. 09-05102-00-BR
CARTWRIGHT ROAD DISTRICT
STR. NO. 084-3483
LOADING HL-93

NAME PLATE

See Std. 515001



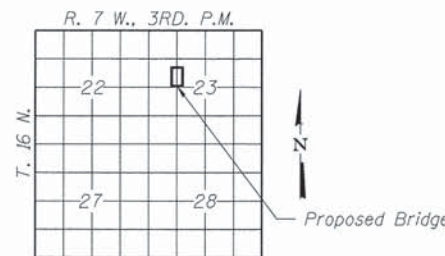
SECTION A-A



SECTION THRU ABUTMENT

(Horiz. dim. @ Rt. L's)

* Included in the cost of Pipe Underdrains For Structures 4"



LOCATION SKETCH

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 03/20/2014
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



Expires 11-30-2014

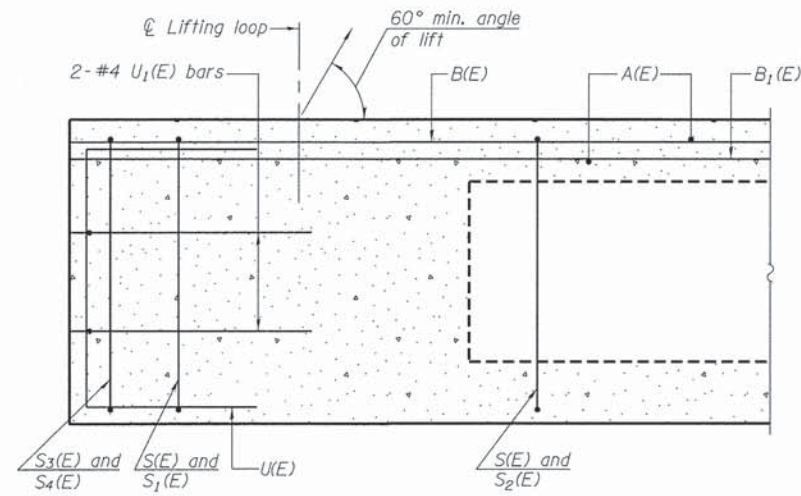
TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			205
Porous Granular Embankment	Ton			140
Stone Riprap, Class A4 (Special)	Ton			220
Hot-Mix Asphalt Surface Course, Mix "C", N50	Ton	26		26
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		29.8	29.8
Concrete Encasement	Cu. Yd.		3.4	3.4
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1,960		1,960
Reinforcement Bars	Pound		3,120	3,120
Steel Railing, Type S1	Foot	150		150
Furnishing Steel Piles HP12x53	Foot		495	495
Driving Piles	Foot		495	495
Test Pile Steel HP12x53	Each		1	1
Name Plates	Each		1	1
Waterproofing Membrane System	Sq. Yd.	222		222
P.C. Mortar Fairing Course	Foot	105		105
Geocomposite Wall Drain	Sq. Yd.			49
Pipe Underdrains for Structures 4"	Foot			110

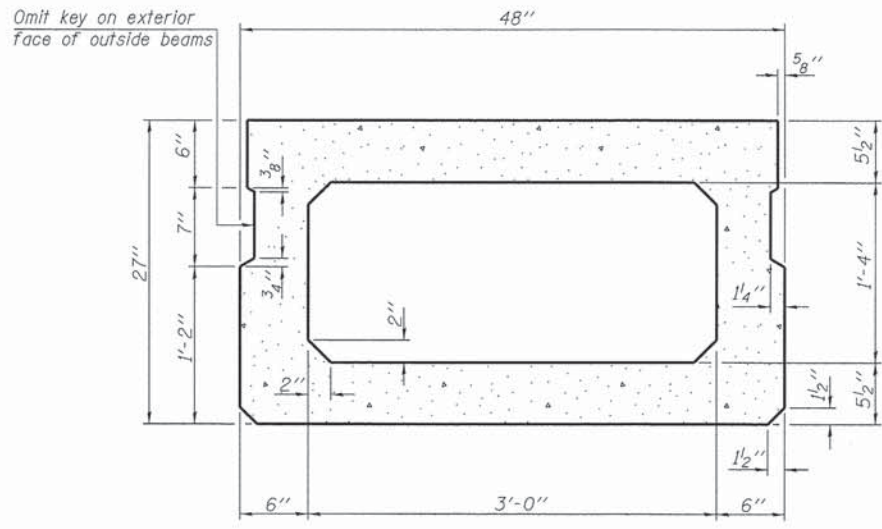
nds)
nds)

LRFD

FILE NAME = 100125-sh1-br-ridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -	STATE OF ILLINOIS SANGAMON COUNTY HIGHWAY DEPARTMENT	GENERAL PLAN & ELEVATION STRUCTURE NO. 084-3483 SHEET NO. 1 OF 9 SHEETS	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 3000 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - A.S.L.	REVISED -			82	09-05102-00-BR	SANGAMON	22	14
ILLINOIS PROFESSIONAL DESIGN FIRM L8 / P2 / BE CORP. 184.00989	PLOT DATE = 3/20/2014	DRAWN - D.A.B.	REVISED -			CARTWRIGHT ROAD DISTRICT		CONTRACT NO. 93603		
		CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT				

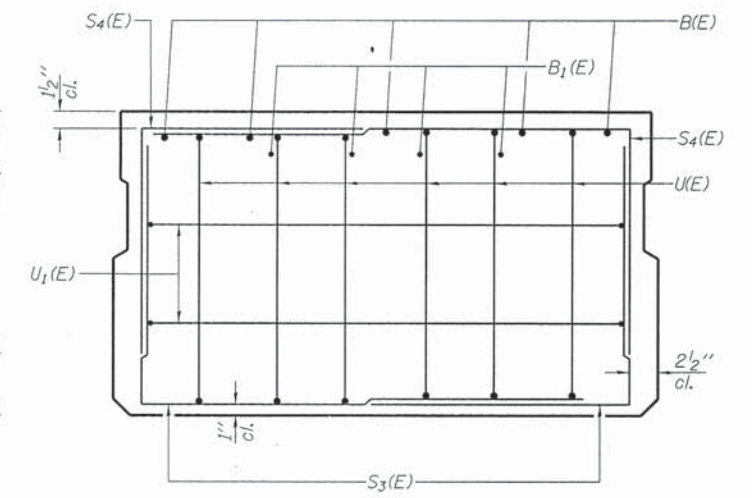


SECTION A-A

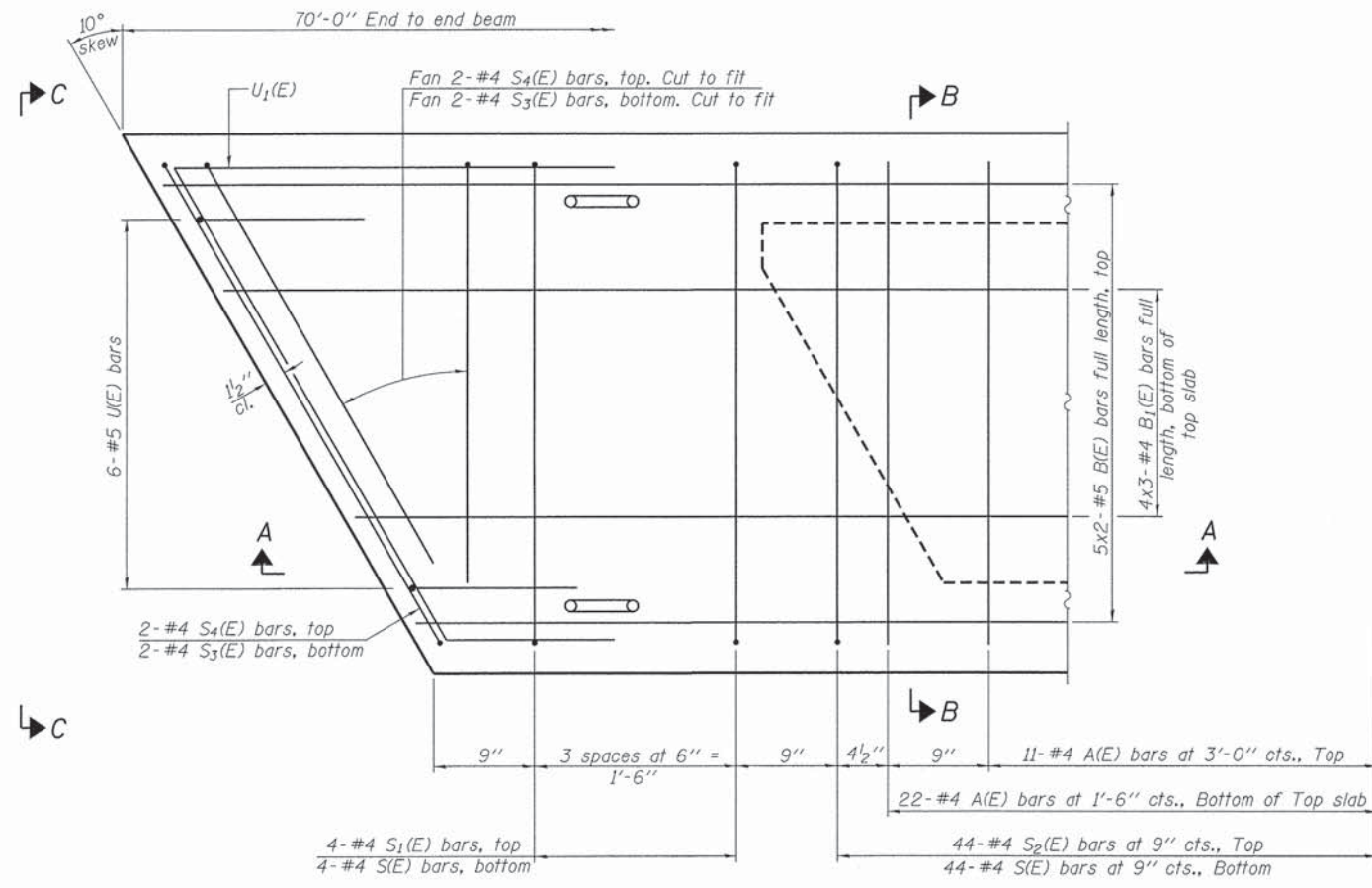


SECTION B-B

(Showing dimensions)
* Rail Post Anchoring Devices to be cast into exterior face of outside beams.



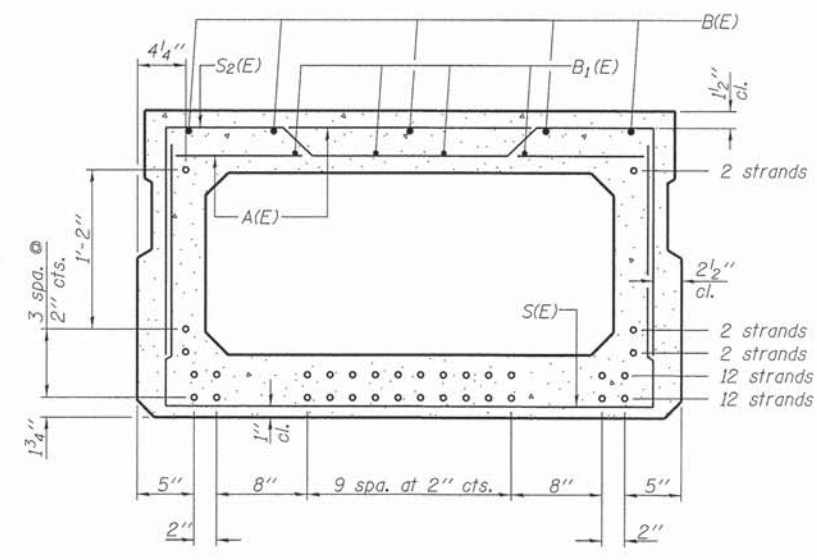
VIEW C-C



PLAN VIEW

Notes: Spacing of S1(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.

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



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)	66	#4	3'-7"	—
B(E)	10	#5	36'-1"	—
B1(E)	12	#4	24'-7"	—
S(E)	96	#4	7'-5"	┌
S1(E)	8	#4	6'-11"	┌
S2(E)	88	#4	7'-2"	┌
S3(E)	8	#4	4'-8"	┌
S4(E)	8	#4	4'-5"	┌
U(E)	12	#5	4'-6"	┌
U1(E)	4	#4	6'-8"	┌

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

MINIMUM BAR LAP

#4 bar = 2'-0"
#5 bar = 2'-6"

PD-2748-R 7-1-10

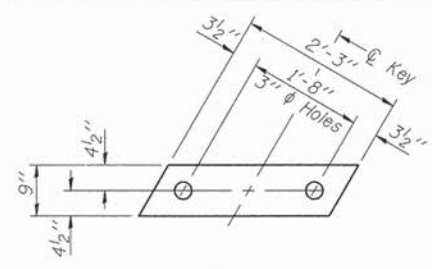
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - A.S.L.	REVISED -
3050 STEVENSON DRIVE, SUITE 201		DRAWN - D.A.B.	REVISED -
SPRINGFIELD, ILLINOIS 62763		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
LS / PE / SE CORP. 184.000269			
PLOT SCALE =	PLOT DATE = 4/11/2012		

STATE OF ILLINOIS
SANGAMON COUNTY HIGHWAY DEPARTMENT

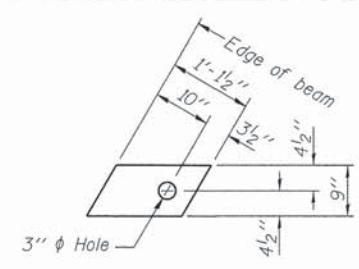
27" x 48" PPC DECK BEAM
STRUCTURE NO. 084-3483

SHEET NO. 2 OF 9 SHEETS

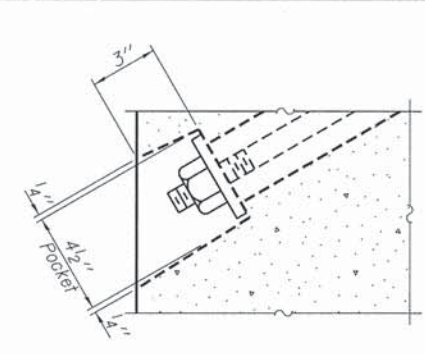
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
82	09-05102-00-BR	SANGAMON	22	15
CARTWRIGHT ROAD DISTRICT			CONTRACT NO. 93603	
ILLINOIS FED. AID PROJECT				



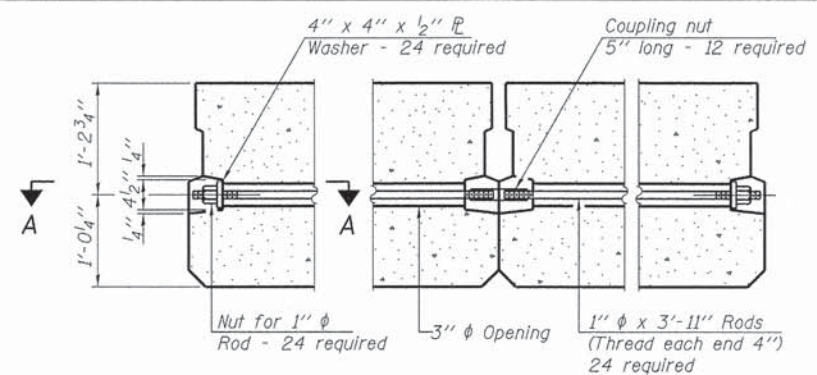
FABRIC BEARING PAD
(Interior - 12 Required)



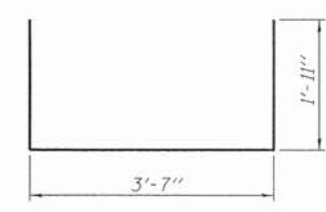
FABRIC BEARING PAD
(Exterior - 4 Required)



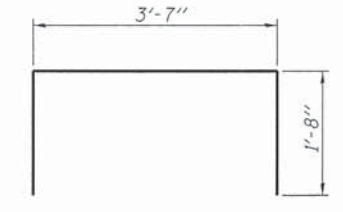
SECTION A-A



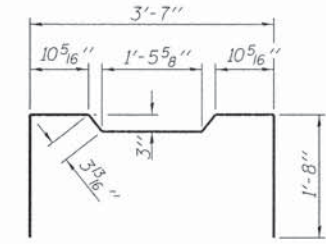
TYPICAL TRANSVERSE TIE ASSEMBLY



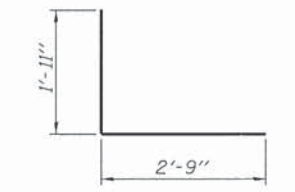
BAR S1(E)



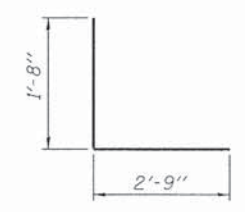
BAR S2(E)



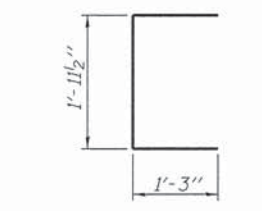
BAR S3(E)



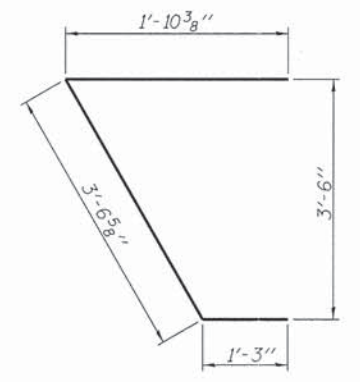
BAR S4(E)



BAR U1(E)

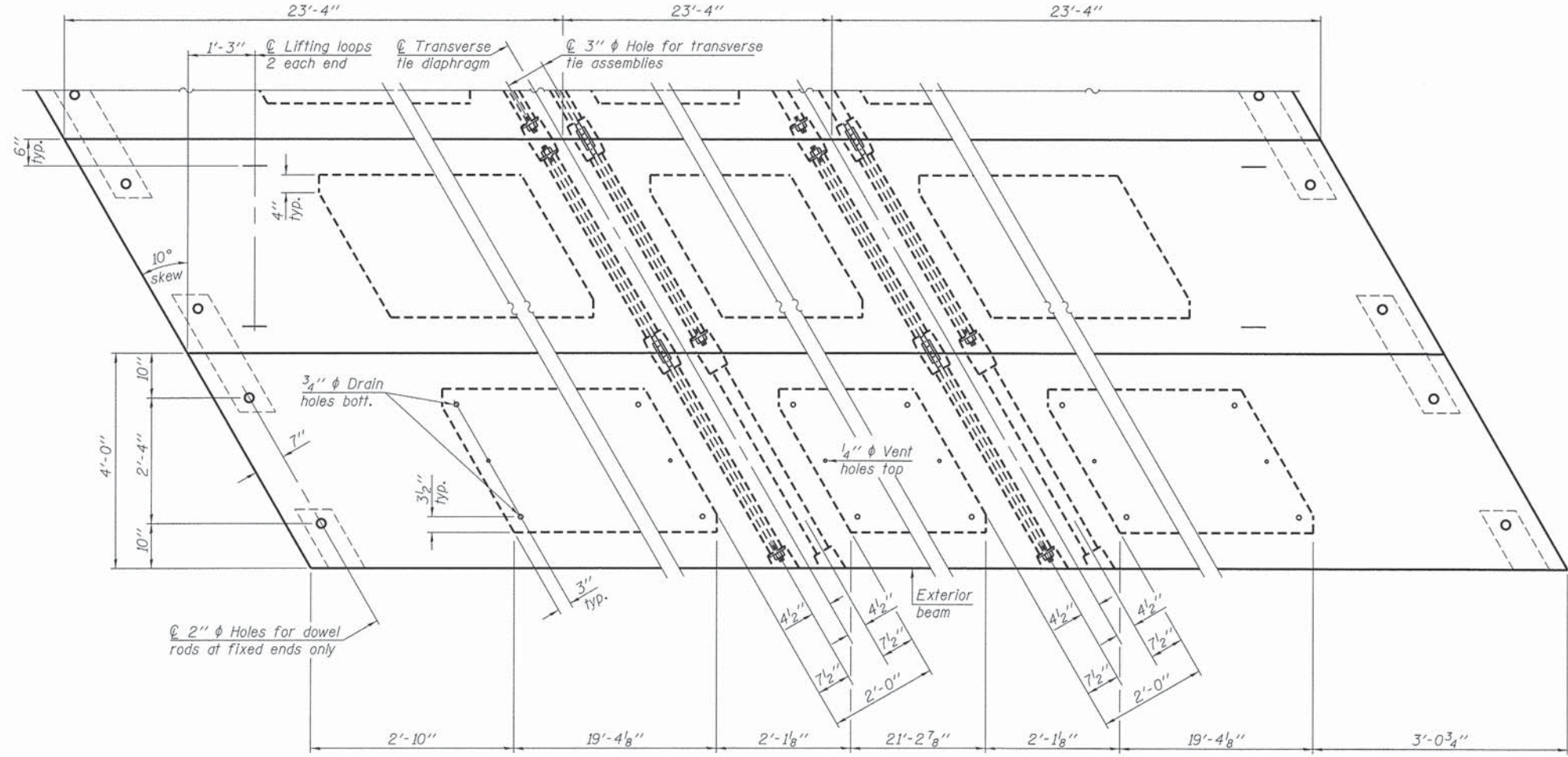


BAR U2(E)



BAR U3(E)

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

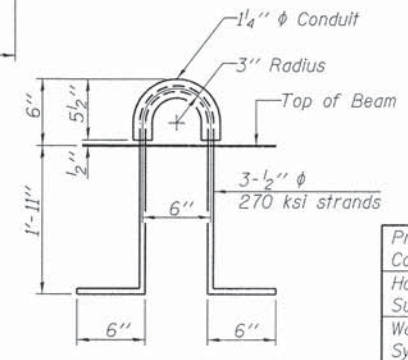


PLAN VIEW

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.
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)(10) 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.

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



LIFTING LOOP DETAIL

BILL OF MATERIAL

Material	Unit	Quantity
Precast Prestressed Conc. Deck Bms. (27" depth)	Sq. Ft.	1,960
Hot-Mix Asphalt Surface Course	Ton	26
Waterproofing Membrane System	Sq. Yd.	222
P.C. Mortar Fairing Course	Foot	105

PD-2748-RD 7-1-10

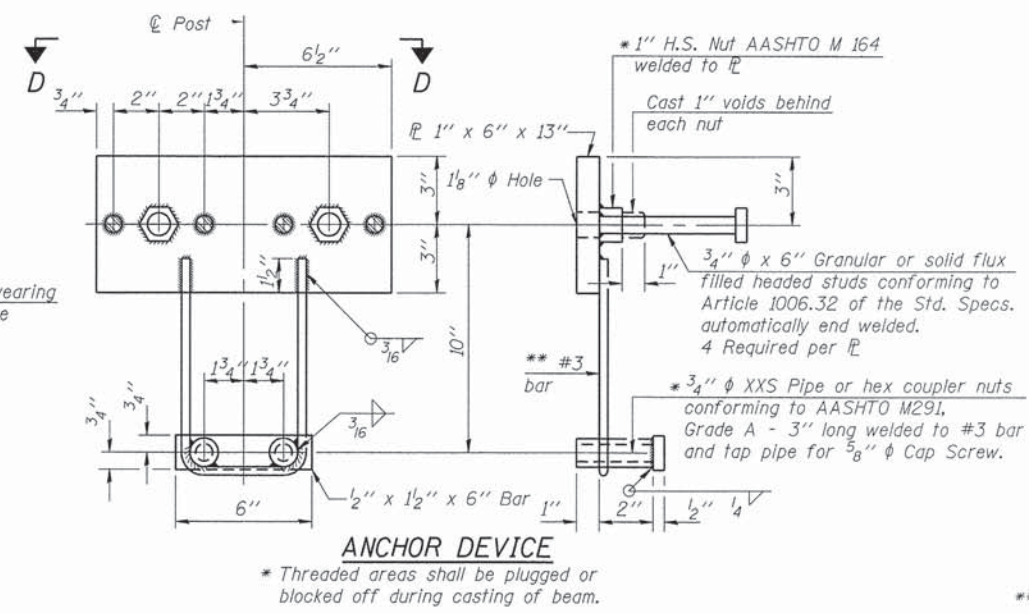
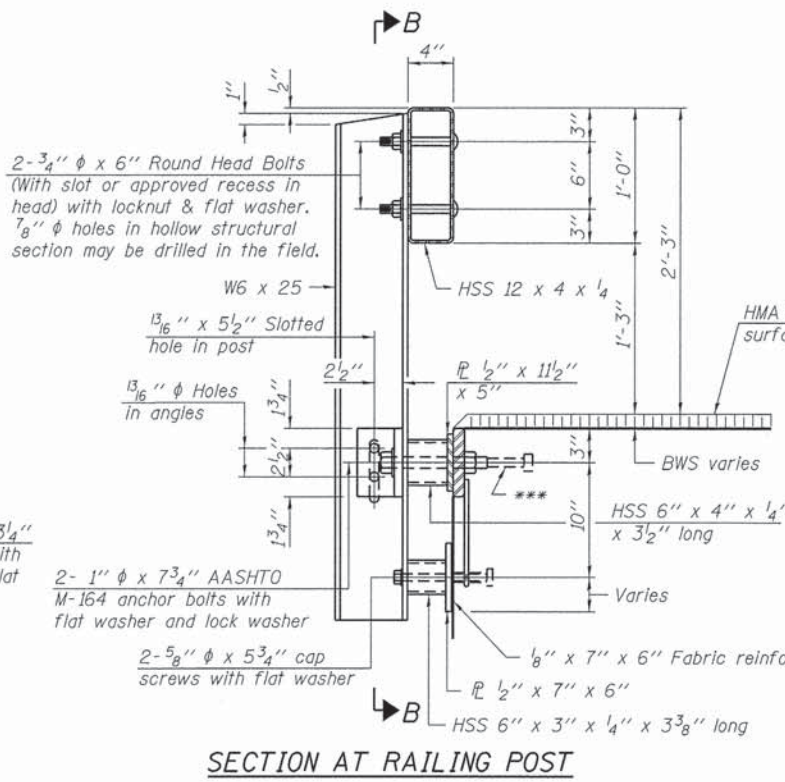
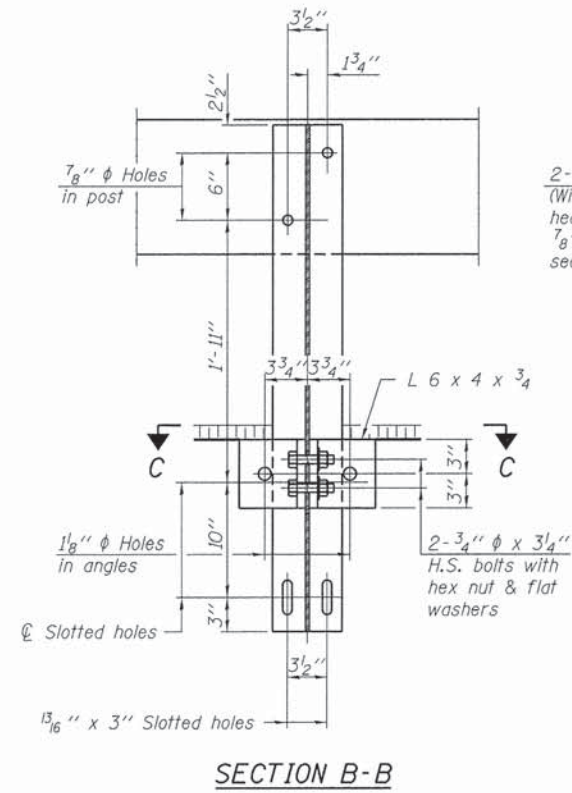
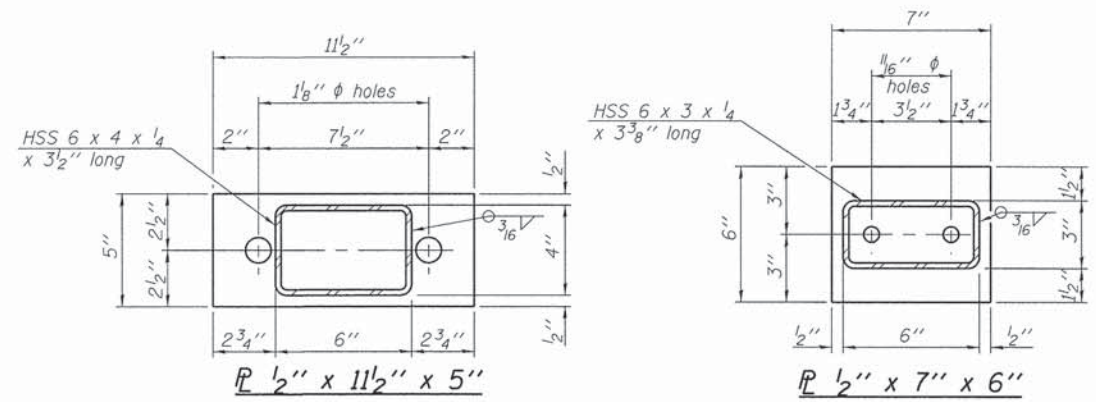
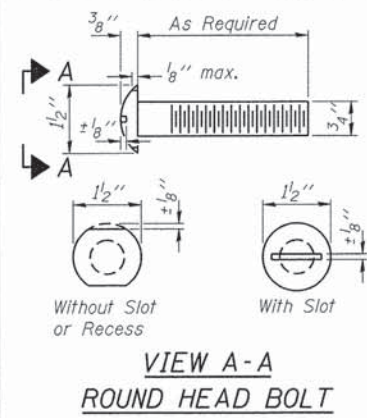
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3583 STEVENSON DRIVE, SUITE 201	DRAWN - D.A.B.	REVISED -	
SPRINGFIELD, ILLINOIS 62763	CHECKED - S.W.M.	REVISED -	
ILLINOIS PROFESSIONAL DESIGN FIRM			
LS / PE / SE CORP. 184.000958			

STATE OF ILLINOIS
SANGAMON COUNTY HIGHWAY DEPARTMENT

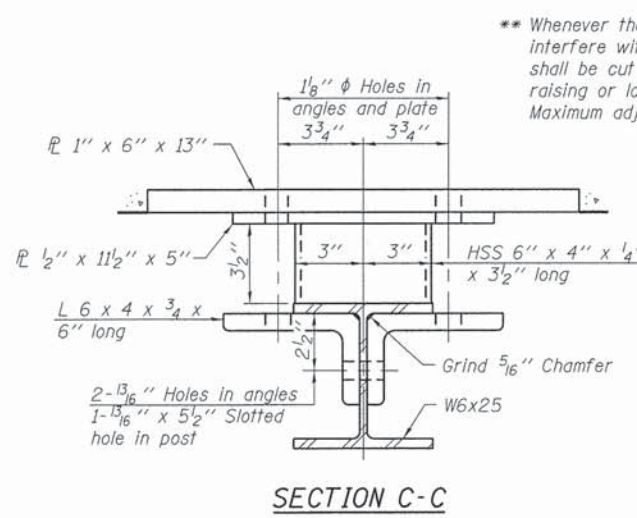
27" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 084-3483

SHEET NO. 3 OF 9 SHEETS

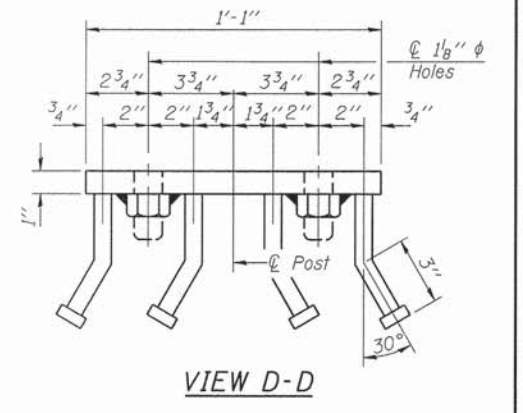
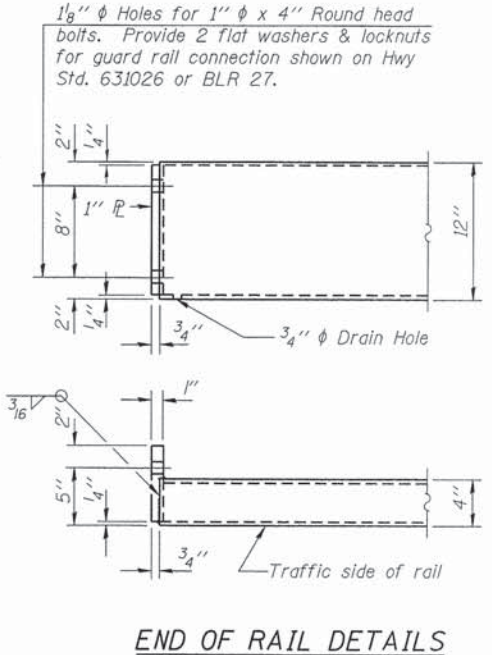
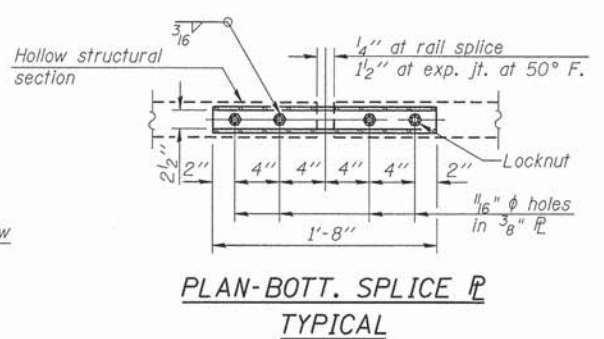
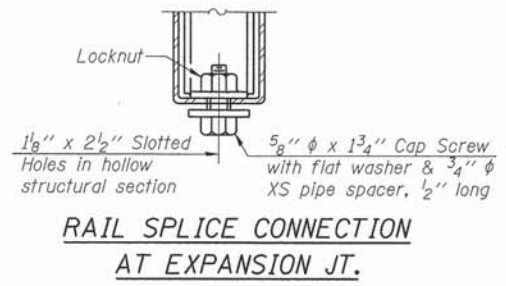
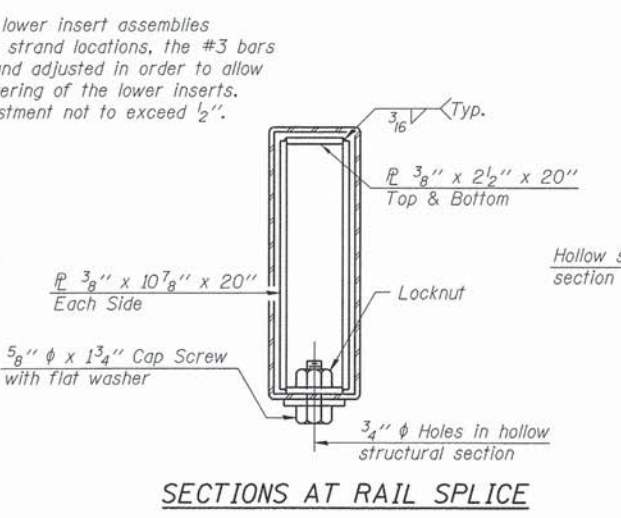
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
82	09-05102-00-BR	SANGAMON	22	16
CARTWRIGHT ROAD DISTRICT			CONTRACT NO. 93603	
ILLINOIS FED. AID PROJECT				



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.



** 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".



BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	150

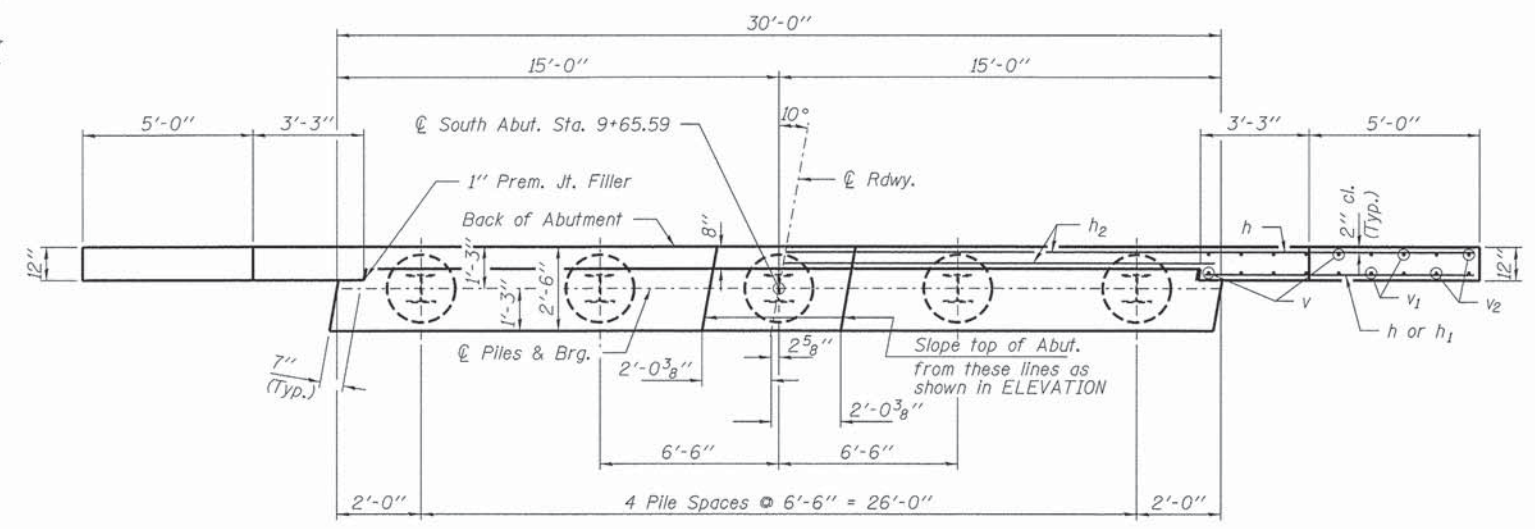
R-23A 7-1-10 (10'-9" Maximum Post Spacing)

FILE NAME = 100125-ahb-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - A.S.L.	REVISED -
3035 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62708	PLOT SCALE =	DRAWN - D.A.B.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L817/SE CORP. 184-000959	PLOT DATE = 4/11/2012	CHECKED - S.W.M.	REVISED -

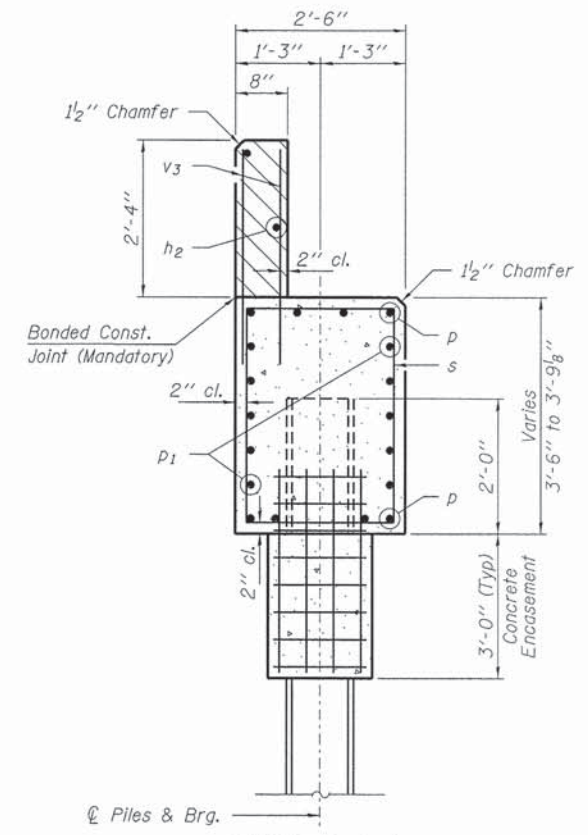
STATE OF ILLINOIS
SANGAMON COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1
STRUCTURE NO. 084-3483
SHEET NO. 5 OF 9 SHEETS

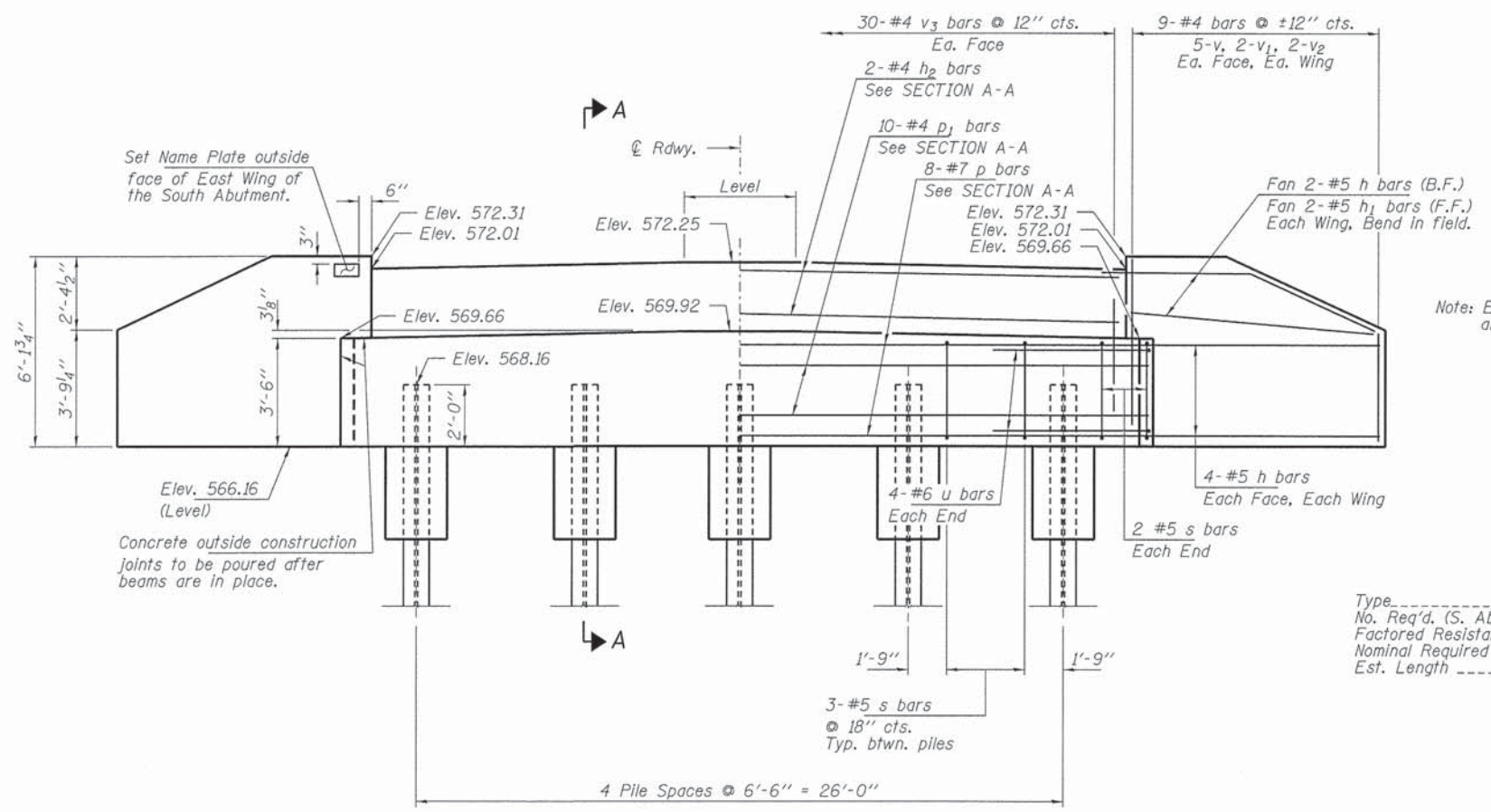
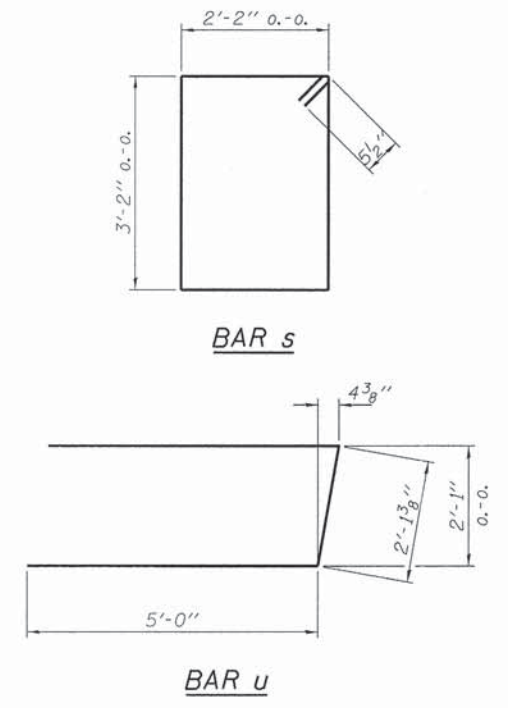
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
82	09-05102-00-BR	SANGAMON	22	18
CARTWRIGHT ROAD DISTRICT			CONTRACT NO. 93603	
ILLINOIS FED. AID PROJECT				



PLAN



SECTION A-A
Hatched area to be poured after beams are in place.



ELEVATION
(Looking South)

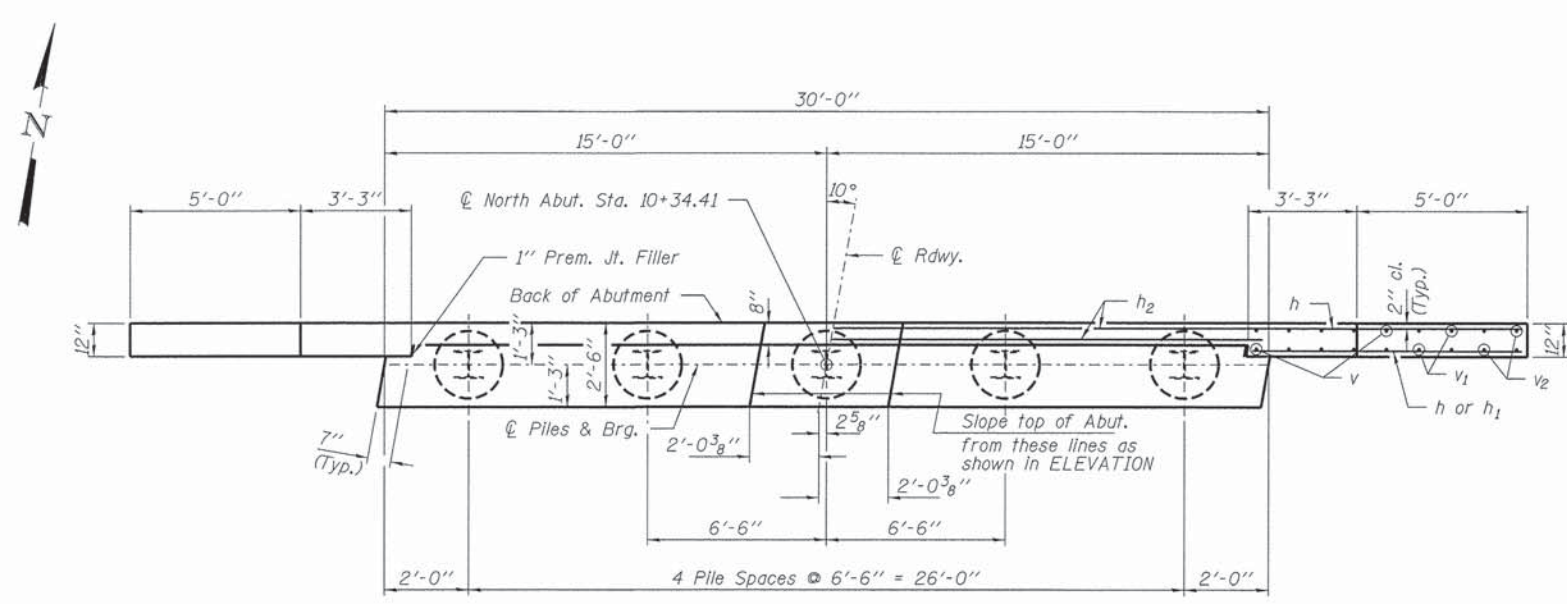
Note: Extend h bars into abutment cap.

PILE DATA

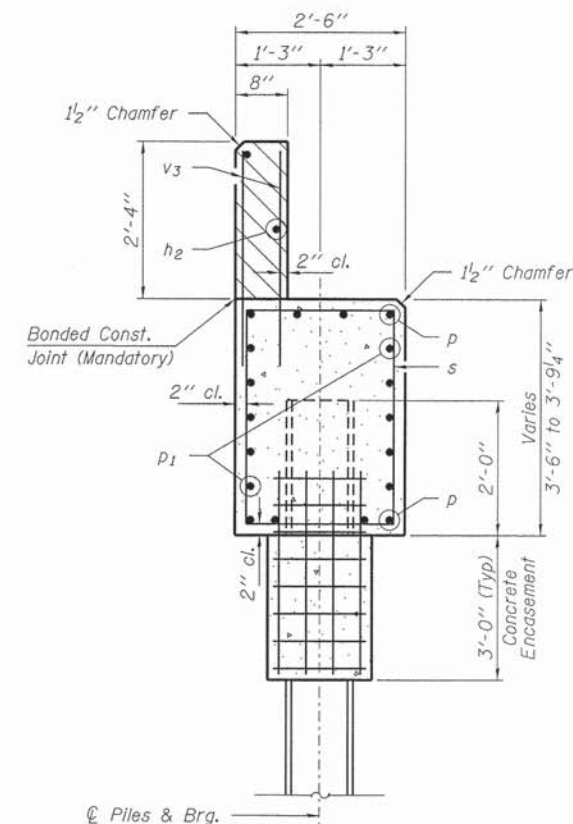
Type ----- Steel HP12x53
 No. Req'd. (S. Abut.) ----- 5
 Factored Resistance Available (Rf) ----- 167 Kips/Pile
 Nominal Required Bearing (Rn) ----- 304 Kips/Pile
 Est. Length ----- 55 Ft/Pile

BILL OF MATERIAL - S. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	20	#5	9'-6"	—
h1	4	#5	8'-0"	—
h2	2	#4	29'-8"	—
p	8	#7	29'-8"	—
p1	10	#4	29'-8"	—
s	16	#5	11'-7"	□
u	8	#6	12'-2"	U
v	20	#4	5'-5"	—
v1	8	#4	4'-5"	—
v2	8	#4	3'-6"	—
v3	60	#4	3'-2"	—
Concrete Structures			Cu. Yd.	14.9
Concrete Encasement			Cu. Yd.	1.7
Reinforcement Bars			Pound	1,560
Steel Piles HP12x53			Foot	275
Name Plates			Each	1

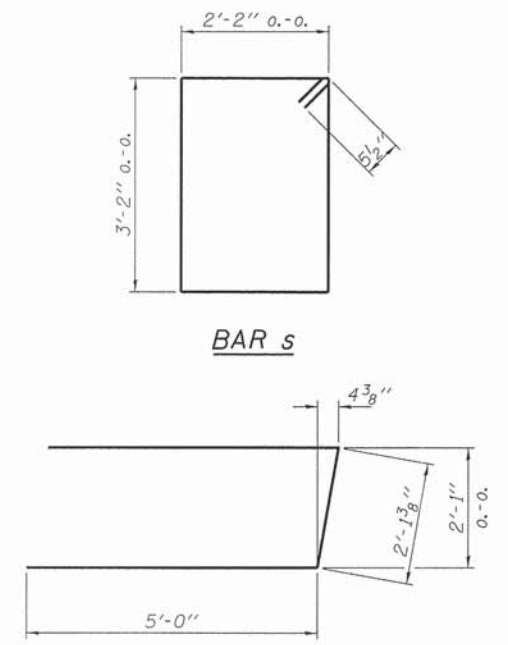


PLAN



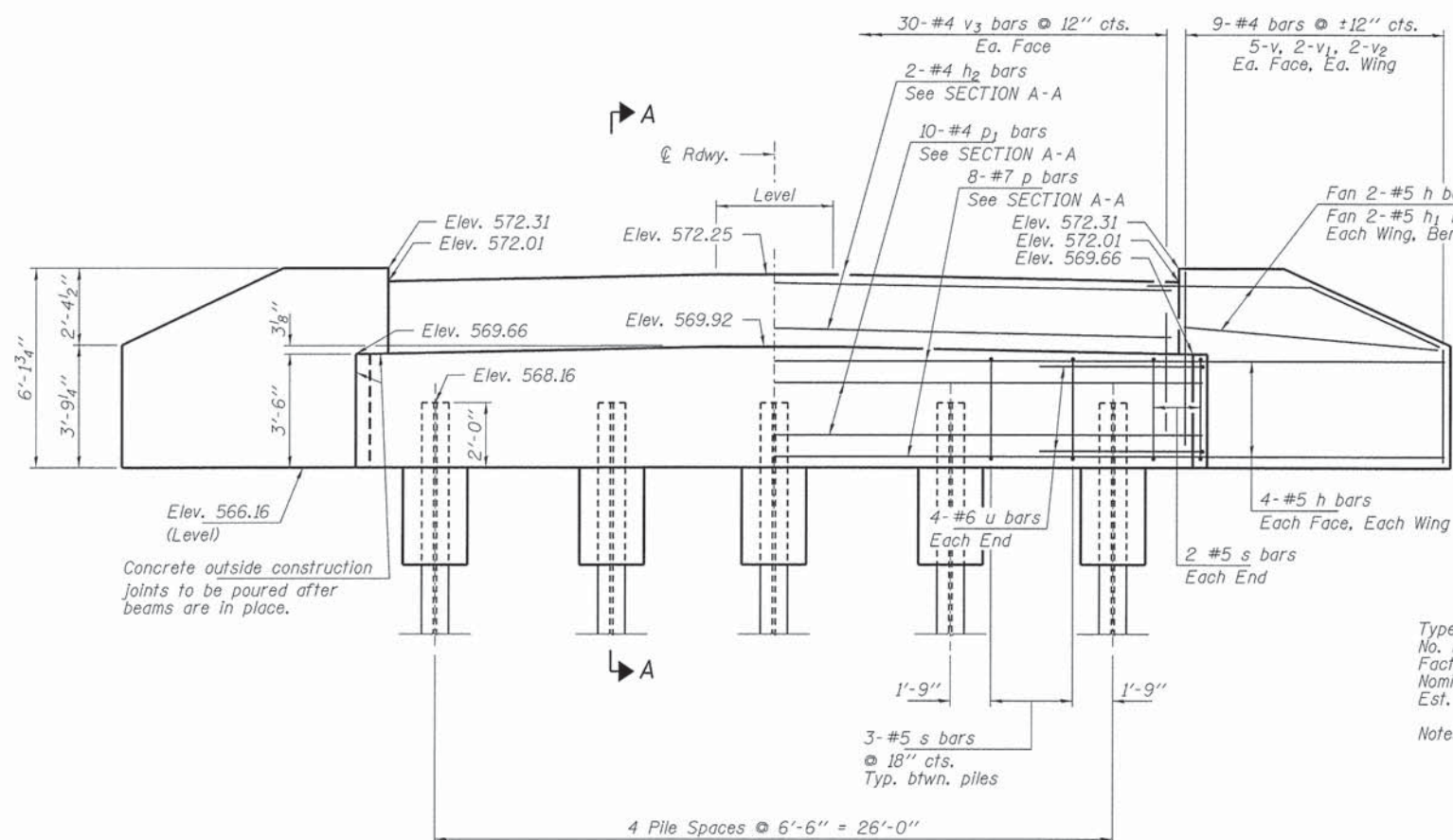
SECTION A-A

Hatched area to be poured after beams are in place.



BAR s

BAR u



ELEVATION
(Looking North)

Note: Extend h bars into abutment cap.

PILE DATA

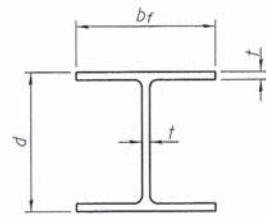
Type ----- Steel HP12x53
 No. Req'd. (N. Abut.) ----- 5
 Factored Resistance Available (Rf) ----- 167 Kips/Pile
 Nominal Required Bearing (Rn) ----- 304 Kips/Pile
 Est. Length ----- 55 Ft/Pile

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

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

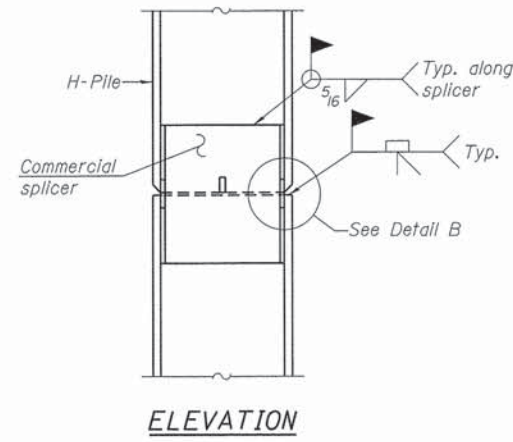
BILL OF MATERIAL - N. ABUT.

BAR	NO.	SIZE	LENGTH	SHAPE
h	20	#5	9'-6"	—
h1	4	#5	8'-0"	—
h2	2	#4	29'-8"	—
p	8	#7	29'-8"	—
p1	10	#4	29'-8"	—
s	16	#5	11'-7"	□
u	8	#6	12'-2"	U
v	20	#4	5'-5"	—
v1	8	#4	4'-5"	—
v2	8	#4	3'-6"	—
v3	60	#4	3'-2"	—
Concrete Structures			Cu. Yd.	14.9
Concrete Encasement			Cu. Yd.	1.7
Reinforcement Bars			Pound	1,560
Steel Piles HP12x53			Foot	220
Test Pile Steel HP12x53			Each	1

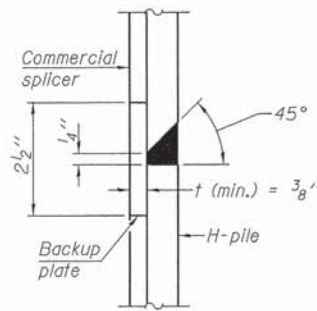


STEEL PILE TABLE

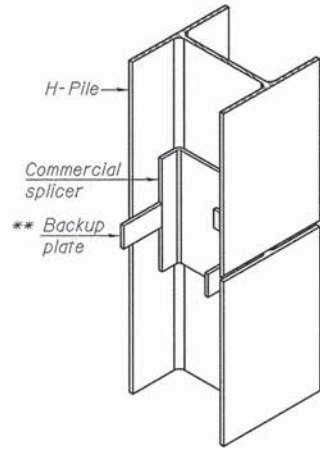
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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

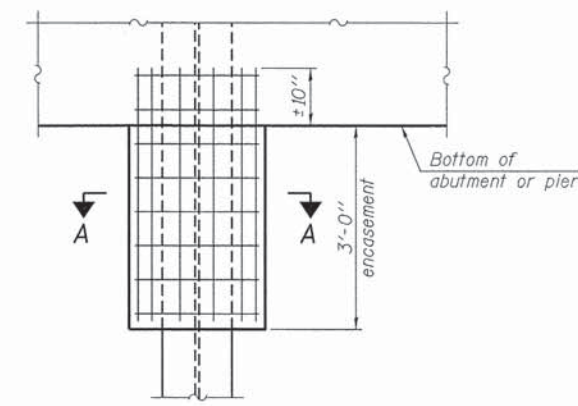


DETAIL "B"



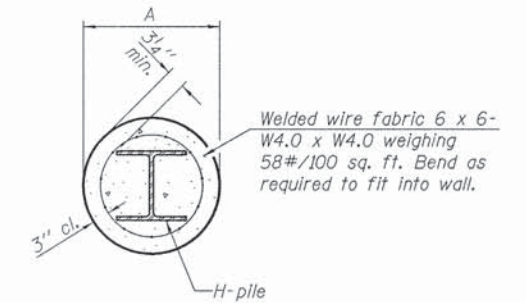
ISOMETRIC VIEW

WELDED COMMERCIAL SPLICE



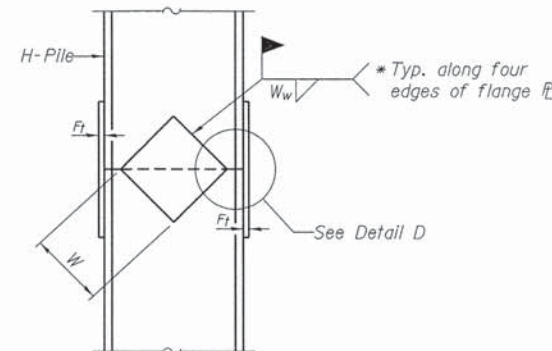
ELEVATION

PILE ENCASEMENT

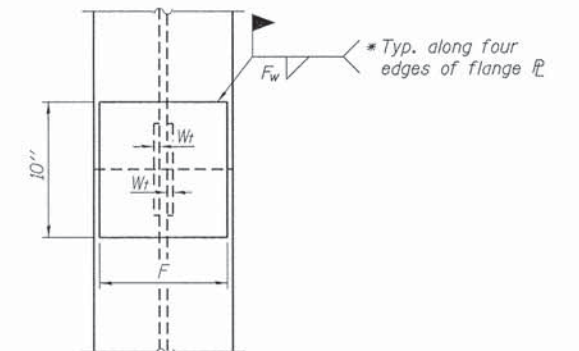


SECTION A-A

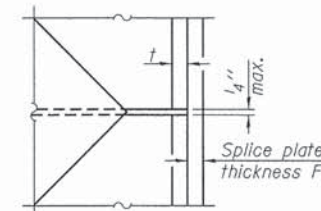
Note:
Forms for encasement may be omitted when soil conditions permit.



ELEVATION



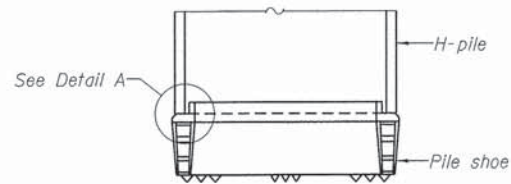
END VIEW



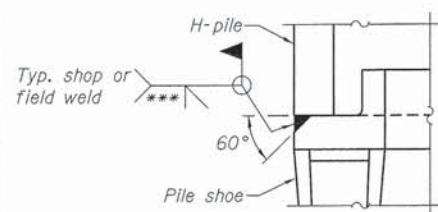
DETAIL D

WELDED PLATE FIELD SPLICE

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"

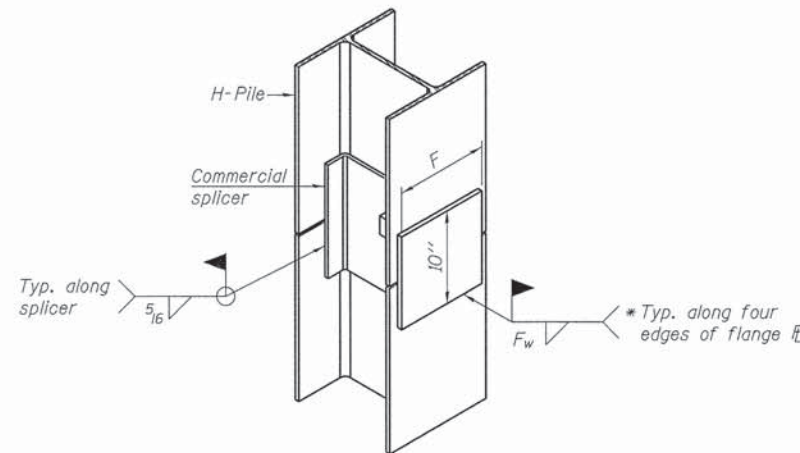


ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT

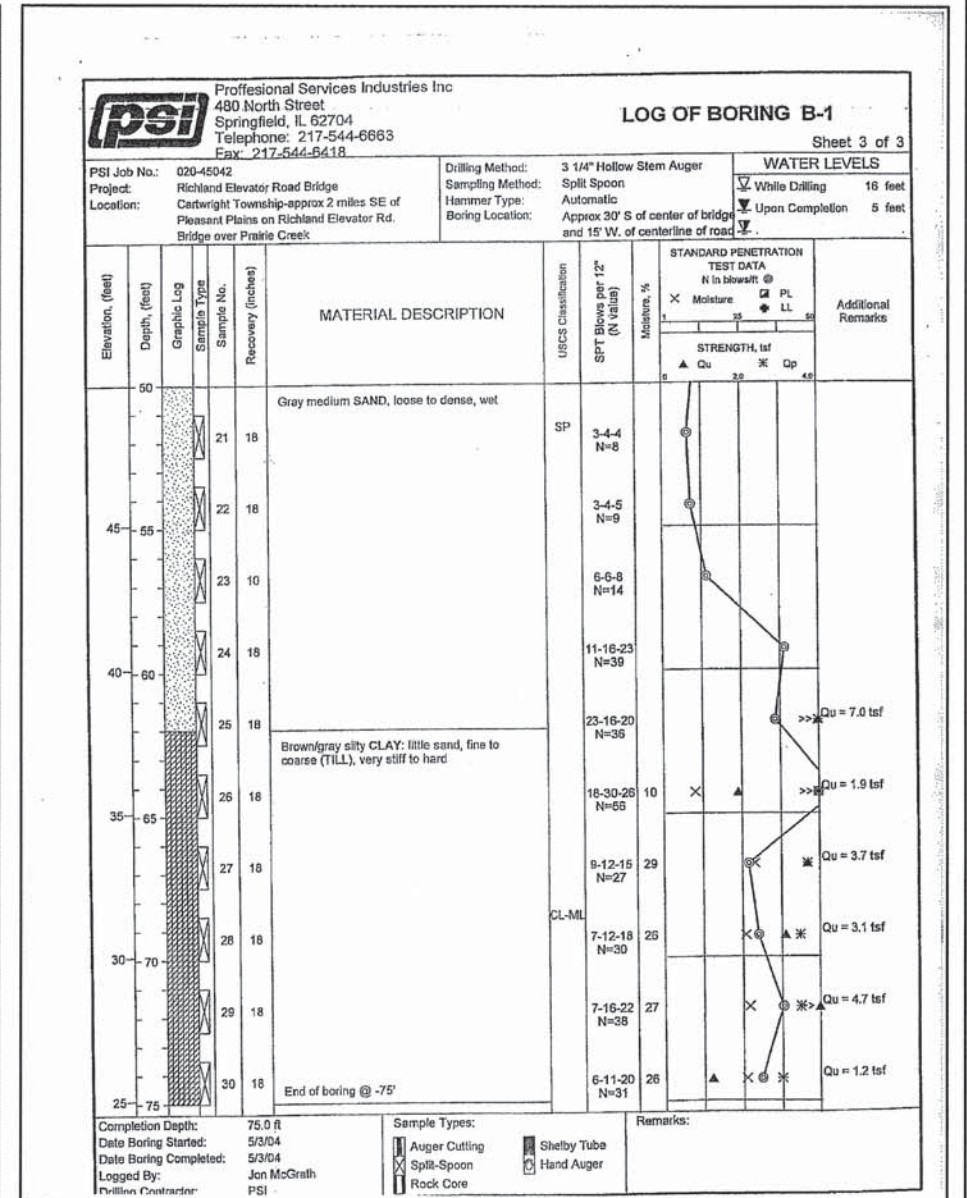
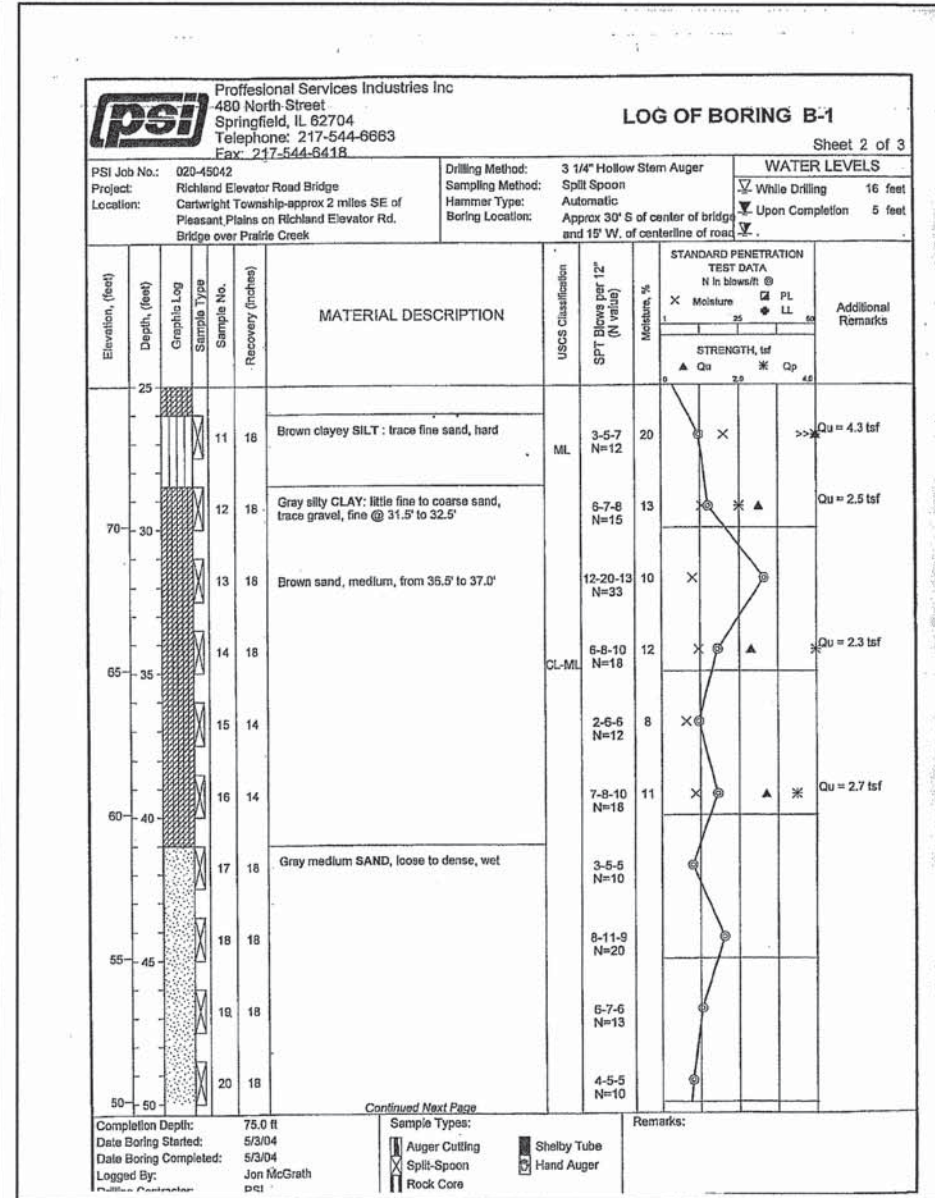
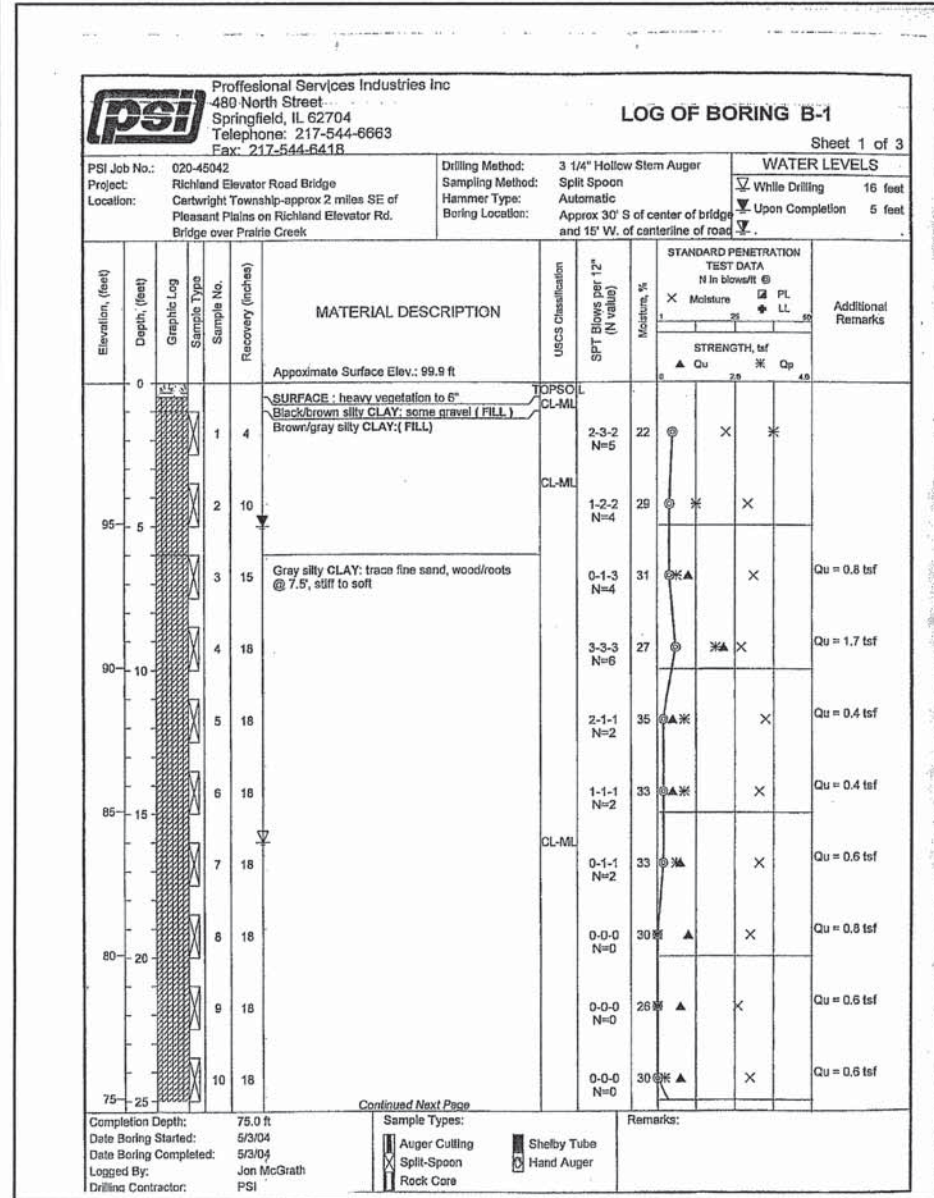


ISOMETRIC VIEW

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.



BORING