

ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
T.R. 272	08-02136-00-BR	FRANKLIN	16	1
FED. ROAD DIST. NO.		ILLINOIS	CONTRACT NO. 99426	

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

PLANS FOR PROPOSED HIGHWAY BRIDGE PROGRAM

PROJECT BROS-0055(061)
SECTION 08-02136-00-BR
BENTON ROAD DISTRICT
FRANKLIN COUNTY
T.R. 272
PROPOSED STRUCTURE NO. 028-3406
JOB NO. C-99-517-09

INDEX OF SHEETS

SHEET NO.	DESCRIPTION
1.	COVER SHEET
2.	SUMMARY OF QUANTITIES & GENERAL NOTES
3.	TYPICAL CROSS SECTIONS
4.	PLAN & PROFILE
5.-7.	STATION CROSS SECTIONS
8.-15.	BRIDGE PLANS
16.	BORINGS

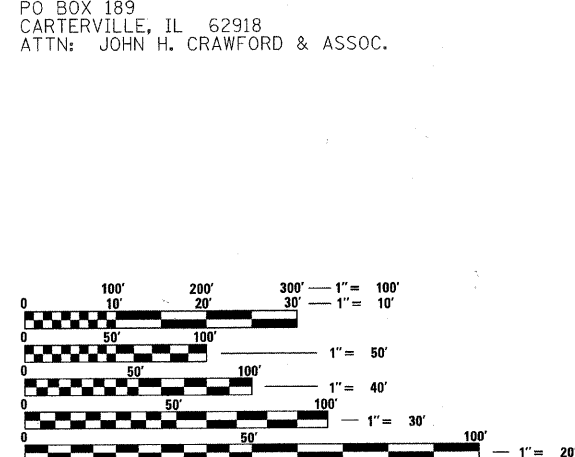
HIGHWAY STANDARDS:

000001-06	STANDARD SYMBOLS, ABBREVIATIONS, AND PATTERNS
515001-03	NAME PLATE FOR BRIDGES
701901-01	TRAFFIC CONTROL DEVICES
BLR 21-8	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS

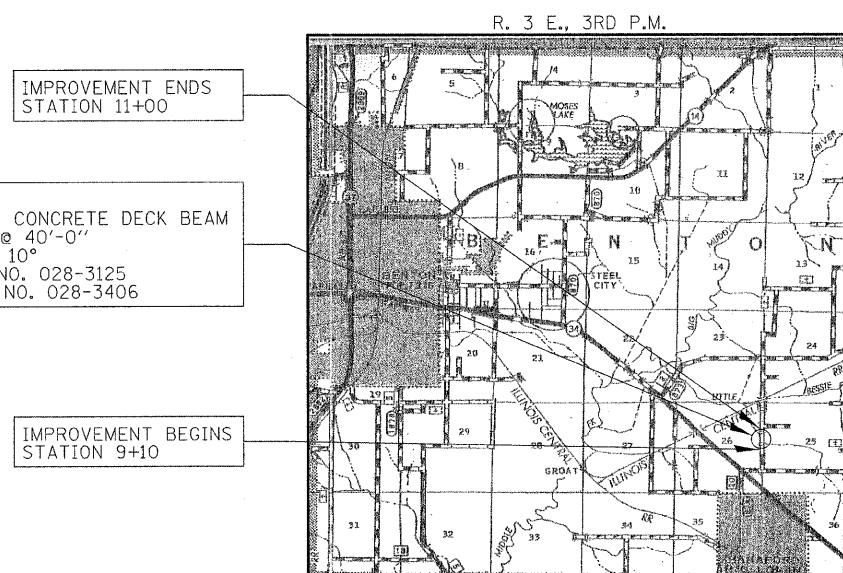
UTILITIES

VERIZON NORTH
208 WEST UNION STREET
MARION, IL 62959
ATTN: AARON RICHART

VILLAGE OF HANAFORD
PO BOX 189
CARTERVILLE, IL 62918
ATTN: JOHN H. CRAWFORD & ASSOC.

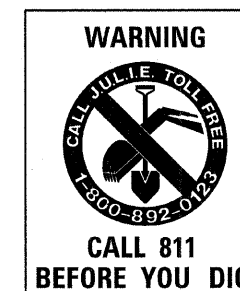


FULL SIZE PLANS HAVE BEEN PREPARED USING STANDARD ENGINEERING SCALES. REDUCED SIZED PLANS WILL NOT CONFORM TO STANDARD SCALES. IN MAKING MEASUREMENTS ON REDUCED PLANS, THE ABOVE SCALES MAY BE USED.



LOCATION MAP

APPROXIMATE SCALE: 0 1 MILE
NET LENGTH OF SECTION = 190 FEET = 0.036 MILES



FUNCTIONAL CLASSIFICATION: LOCAL ROAD
DESIGN SPEED: 30 MPH
DESIGN TRAFFIC: 50 ADT (2005)

ILLINOIS DEPT. OF TRANSPORTATION	
APPROVED	<i>Mark A. Jones</i> 20 11 ROAD DISTRICT COMMISSIONER
APPROVED	<i>Thomas R. Fran</i> 20 11 COUNTY ENGINEER
PASSED	<i>Devin W. Hill</i> 20 11 DISTRICT NINE ENGINEER OF LOCAL ROADS & STREETS
Releasing For Bid Based on Limited Review	<i>March 23</i> 20 11 <i>Mary C. Ramie</i> DEPUTY DIRECTOR OF HIGHWAYS REGION FIVE ENGINEER STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION



HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
HLR
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.546.3400 www.hlrengineering.com
184.000950
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0150.130

DATE: 02/07/11

CONTRACT NO. 99426

FRANKLIN COUNTY

SECTION 08-02136-00-BR

SUMMARY OF QUANTITIES				
	ITEM	UNIT	TOTAL QUANTITY	SN 028-3406 0011
20100500	TREE REMOVAL, ACRES	ACRE	0.1	0.1
20200100	EARTH EXCAVATION	CU YD	80	80
20300100	CHANNEL EXCAVATION	CU YD	120	120
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	335	335
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1	1
50300225	CONCRETE STRUCTURES	CU YD	21.8	21.8
50300280	CONCRETE ENCASEMENT	CU YD	2.8	2.8
50400305	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	SQ FT	960	960
50800105	REINFORCEMENT BARS	POUND	2330	2330
*50900205	STEEL RAILING, TYPE S1	FOOT	78	78
51201400	FURNISHING STEEL PILES HP10X42	FOOT	300	300
51202305	DRIVING PILES	FOOT	300	300
51500100	NAME PLATES	EACH	1	1
67100100	MOBILIZATION	L SUM	1	1
*78201000	TERMINAL MARKER - DIRECT APPLIED	EACH	4	4
^X2501000	SEEDING, CLASS 2 (SPECIAL)	ACRE	0.2	0.2
^LR355175	BITUMINOUS STABILIZED BASE COURSE	TON	115	115

^ SEE SPECIAL PROVISIONS
* SPECIALTY ITEMS

EARTHWORK SUMMARY							
LOCATION	EARTH EXCAVATION	CHANNEL EXCAVATION	SHRINKAGE FACTOR	% USED	EARTH EXCAVATION ADJUSTED FOR SHRINKAGE (25%)	EMBANKMENT REQUIRED	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-)
	CUBIC YARD	CUBIC YARD			CUBIC YARD	CUBIC YARD	CUBIC YARD
CH 272 / TIMOTHYLANE	20200100	20300100					
STA 9+10 TO STA 9+83.32	58		25.00%	100.00%	44	94	-50
STA 10+24.68 TO STA 11+00	23		25.00%	100.00%	17	13	4
FROM BRIDGE SUMMARY ENTRANCES		120	25.00%	70.00%	63	0	63
	81	120			124	107	17
USE	80						17
					WASTE 17		CU.YD.

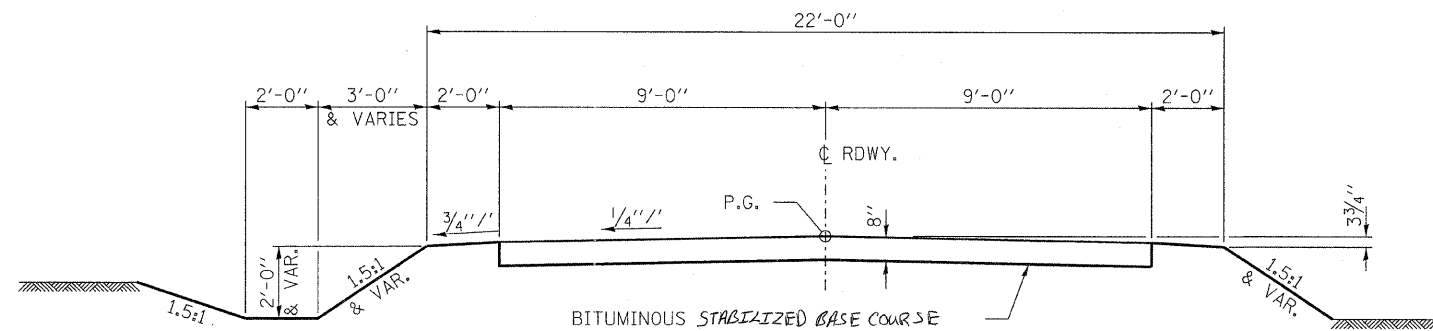
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE STATE OF ILLINOIS "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, ADOPTED JANUARY 1, 2007", (HEREIN AFTER REFERRED TO AS THE STANDARD SPECIFICATIONS; THE "SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS" ADOPTED JANUARY 1, 2010; THE LATEST EDITION OF THE "ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS"; THE DETAILS IN THE PLANS AND THE "SPECIAL PROVISIONS" INCLUDED IN THE DOCUMENTS.
- WHERE SECTION OR SUBSECTION MONUMENTS ARE ENCOUNTERED, THE ENGINEER SHALL BE NOTIFIED BEFORE SUCH MONUMENTS ARE REMOVED. THE CONTRACTOR SHALL PROTECT AND CAREFULLY PRESERVE ALL PROPERTY MARKS AND MONUMENTS UNTIL THE OWNER, AN AUTHORIZED SURVEYOR OR AGENT HAS WITNESSED OR OTHERWISE REFERENCED THEIR LOCATION.
- ANY REFERENCE TO A STANDARDS THROUGHOUT THE PLANS OR SPECIAL PROVISIONS SHALL BE INTERPRETED TO BE THE LATEST STANDARD OF THE DEPARTMENT.
- THE LOCATION ON THE PLANS OF EXISTING DRAINAGE STRUCTURES, TELEPHONE LINES, ELECTRIC LINES, WATER SERVICE LINES, GAS MAINS, AND OTHER UTILITY FACILITIES AS SHOWN ON THE PLANS ARE BASED ON FIELD INVESTIGATIONS AND THE BEST INFORMATION AVAILABLE, BUT THE LOCATIONS ARE NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THEIR EXACT LOCATION FROM THE INDIVIDUAL UTILITY COMPANIES AND BY FIELD INSPECTION.
- THE CONTRACTOR SHALL PROVIDE ACCESS TO ABUTTING PROPERTY AT ALL TIMES DURING CONSTRUCTION OF THE PROJECT.
- THE FOLLOWING RATES OF APPLICATION HAVE BEEN USED IN CALCULATING PLAN QUANTITIES
BITUMINOUS AGGREGATE MIXTURE (COLD) 2.05 TON/CU.YD.
STONE DUMPED RIPRAP, CLASS A4 1.75 TON/CU.YD.
- THE AREA TO BE SEEDED SHALL CONSIST OF ALL EARTH SURFACES WITHIN THE RIGHT OF WAY OR AS DIRECTED BY THE ENGINEER SEEDING, CLASS 2 (SPECIAL) = 0.2 ACRES

SEEDING SCHEDULE	
LOCATION	SEEDING CLASS 2 (SPECIAL) X2501000 ACRE
TR 272	
LT. STA 9+00 TO LT. STA 9+84	0.05
RT. STA 9+10 TO RT. STA 9+84	0.05
LT. STA 10+25 TO LT. STA 11+00	0.04
RT. STA 10+25 TO RT. STA 11+00	0.03
TOTAL	0.17
USE	0.20

ROADWAY SCHEDULE	
LOCATION	BITUMINOUS STABILIZED BASE COURSE LR355175 TON
TR 272	
STA 9+10 TO STA 9+83.32	56
STA 10+24.68 TO STA 11+00	57
TOTAL	113
USE	115

TREE REMOVAL, ACRES	
LOCATION	TREE REMOVAL 20100500 ACRE
TR 272	
LT. STA 9+00 TO LT. STA 10+75	0.015
RT. STA 9+50 TO RT. STA 10+50	0.040
TOTAL	0.055
USE	0.10



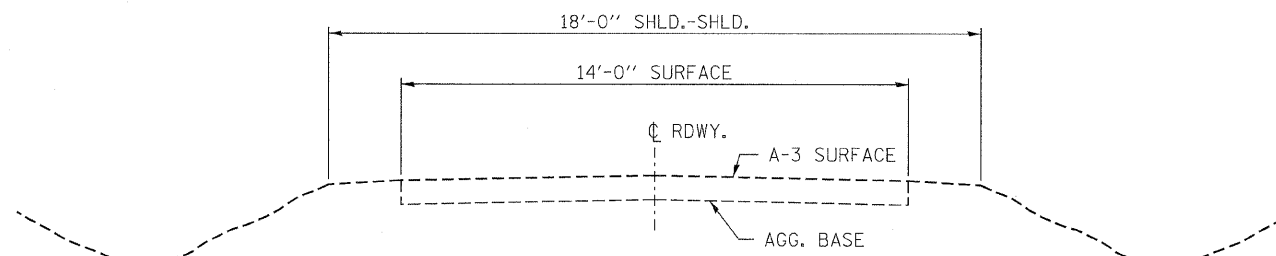
SUGGESTED CUT SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS

TYPICAL CROSS SECTION

STA. 9+10.00 TO 11+00.00

TRANSITION FROM THE PROPOSED ROADWAY TO THE EXISTING
ROADWAY IS TO BE CONSTRUCTED FROM STA. 9+10 TO 9+83.32 AND
STA. 10+24.68 TO 11+00. SEE SHEET 8 FOR TRANSITION AT BRIDGE.

SUGGESTED FILL SECTION
CONSTRUCT AS SHOWN IN
STATION CROSS SECTIONS



EXISTING CROSS SECTION

STA. 9+10 TO 11+00

FILE NAME =
090150-sh1-typsections.dgn

USER NAME =

DESIGNED - A.S.L.

REVISED -

DRAWN - D.A.B.

REVISED -

PLOT SCALE =

CHECKED - S.W.M.

REVISED -

PLOT DATE = 2/7/2011

DATE - 02/07/11

REVISED -

STATE OF ILLINOIS
FRANKLIN COUNTY HIGHWAY DEPARTMENT



SCALE:

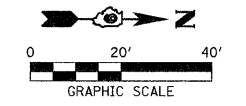
TYPICAL CROSS SECTIONS
TIMOTHY LANE

SHEET NO. OF SHEETS STA. TO STA.

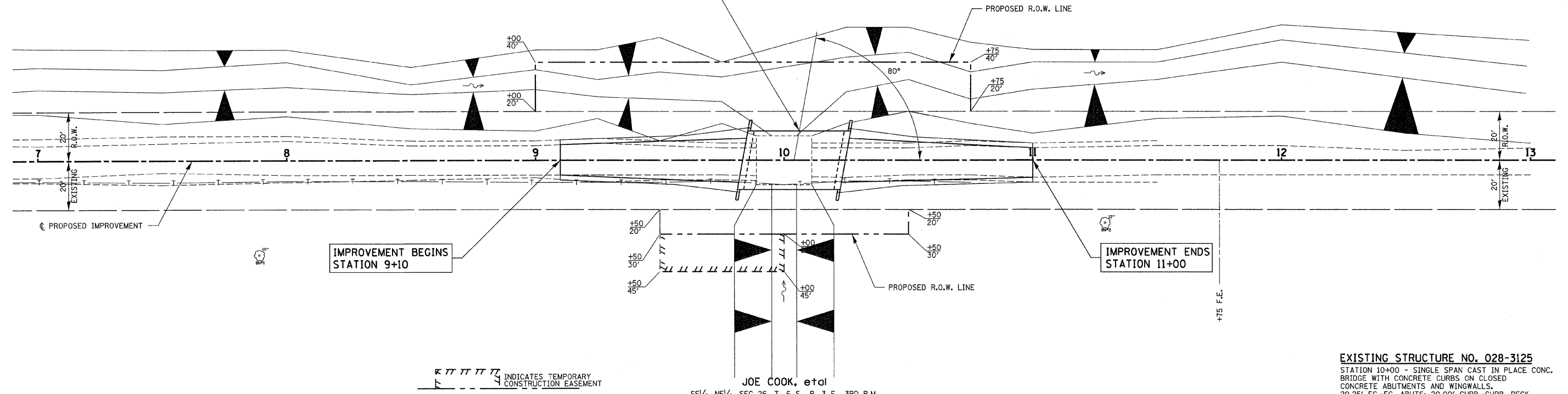
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	3
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BR05-0055(061)		

HAROLD L. W/ MURIEL J. ROSE
SW 1/4, NW 1/4, SEC 25, T. 6 S., R. 3 E., 3RD P.M.

STATION 10+04
PRECAST PRESTRESSED CONCRETE DECK BEAM
BRIDGE, SINGLE SPAN @ 40'-0"
24'-0" RDWY, SKEW = 10°
PROPOSED STRUCTURE NO. 028-3406



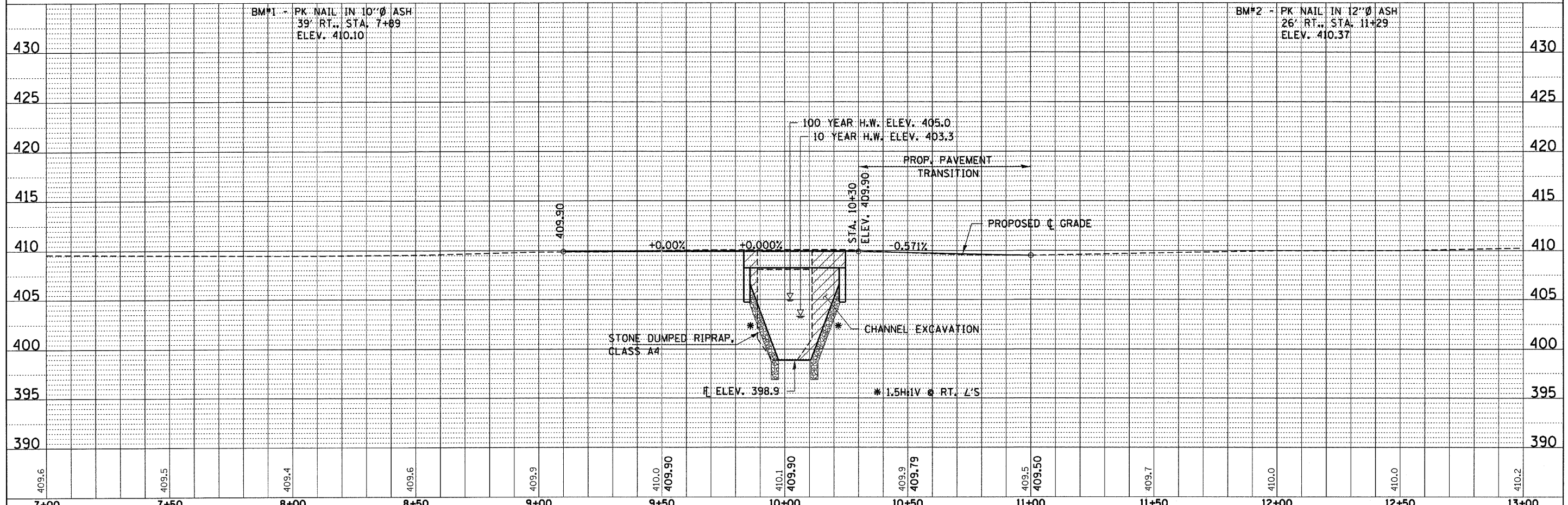
PLAN	SURVEYED	DATE
NOTE BOOK	ALIGNED	
NO.	RT. OF WAY CHECKED	
	NO.	
	PROJ. FILE NAME	



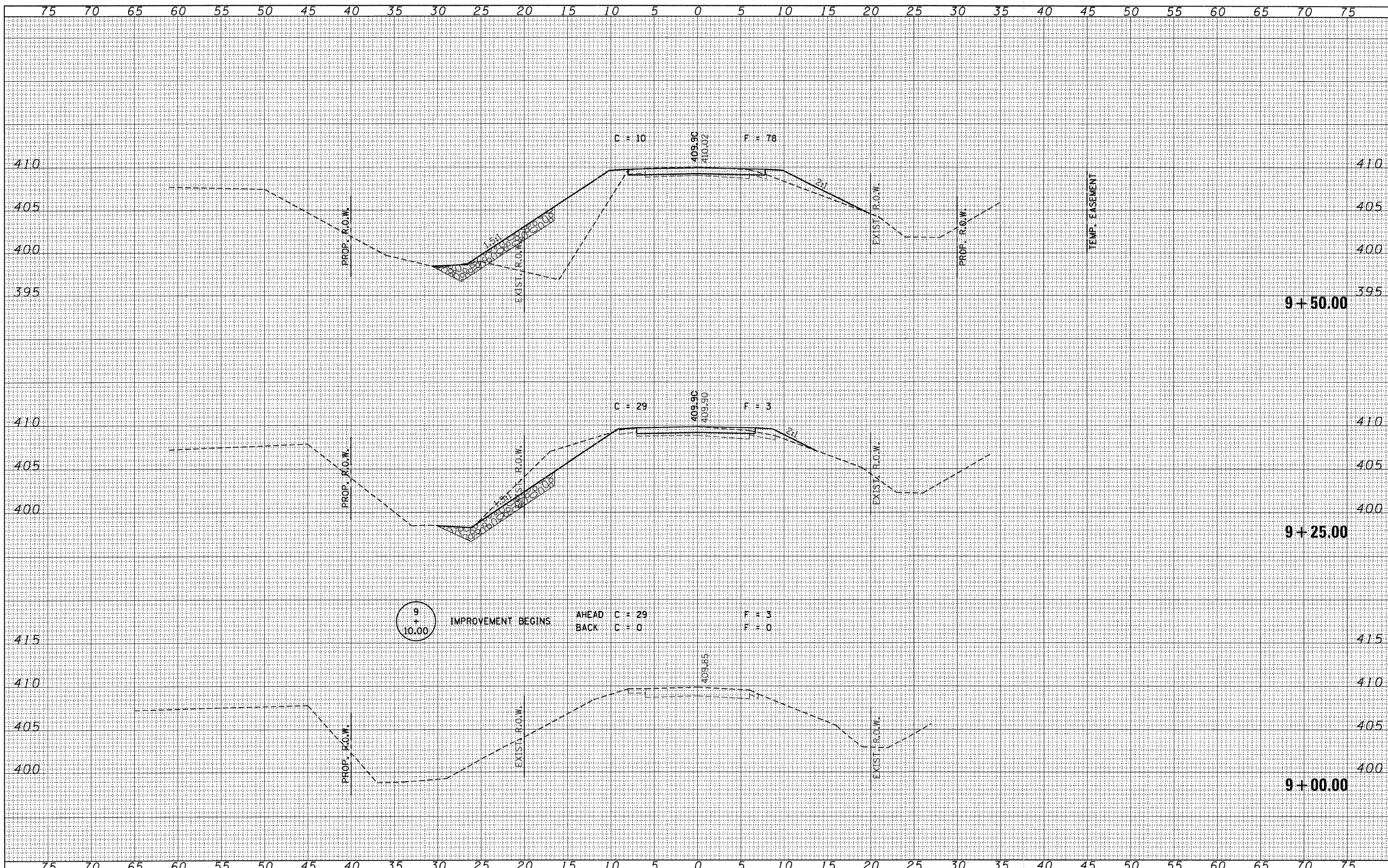
JOE COOK, et al
SE 1/4, NE 1/4, SEC 26, T. 6 S., R. 3 E., 3RD P.M.

EXISTING STRUCTURE NO. 028-3125
STATION 10+00 - SINGLE SPAN CAST IN PLACE CONC.
BRIDGE WITH CONCRETE CURBS ON CLOSED
CONCRETE ABUTMENTS AND WINGWALLS.
20.25' FC-FC. ABUTS; 20.00' CURB-CURB. DECK

PROFILE	SURVEYED	DATE
NOTE BOOK	GRADED	
NO.	NOTES	
	STRUCTURE NOTATIONS	



FILE NAME =	USER NAME =	DESIGNED - J.W.F.	REVISED -	<p align="center">STATE OF ILLINOIS FRANKLIN COUNTY HIGHWAY DEPARTMENT</p>	<p align="center">PLAN & PROFILE TIMOTHY LANE</p>	T.R.	SECTION	COUNTY	TOTAL SHEETS	
090150-shr-pp1.dgn		DRAWN - D.T.M.	REVISED -			272	08-02136-00-BR	FRANKLIN	16	4
		CHECKED - S.W.M.	REVISED -			BENTON ROAD DISTRICT		CONTRACT NO. 99426		
		DATE - 09/10/09	REVISED -			ILLINOIS FED. AID PROJECT BR05-0051061				



FINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	DATE		
NO.	AREAS CHECKED		

ORIGINAL SURVEY	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
AREAS CHECKED	DATE		
NO.	AREAS CHECKED		

FILE NAME = 090150-shr-sxs.dgn
 USER NAME =
 PLOT SCALE =
 PLOT DATE = 2/7/2011

DESIGNED - J.W.F.	REVISED -
DRAWN - D.T.M.	REVISED -
CHECKED - S.W.M.	REVISED -
DATE - 11/23/09	REVISED -

STATE OF ILLINOIS
 FRANKLIN COUNTY HIGHWAY DEPARTMENT



SCALE: 5H:5V
 SHEET NO. OF SHEETS STA. 9+00.00 TO STA. 9+50.00

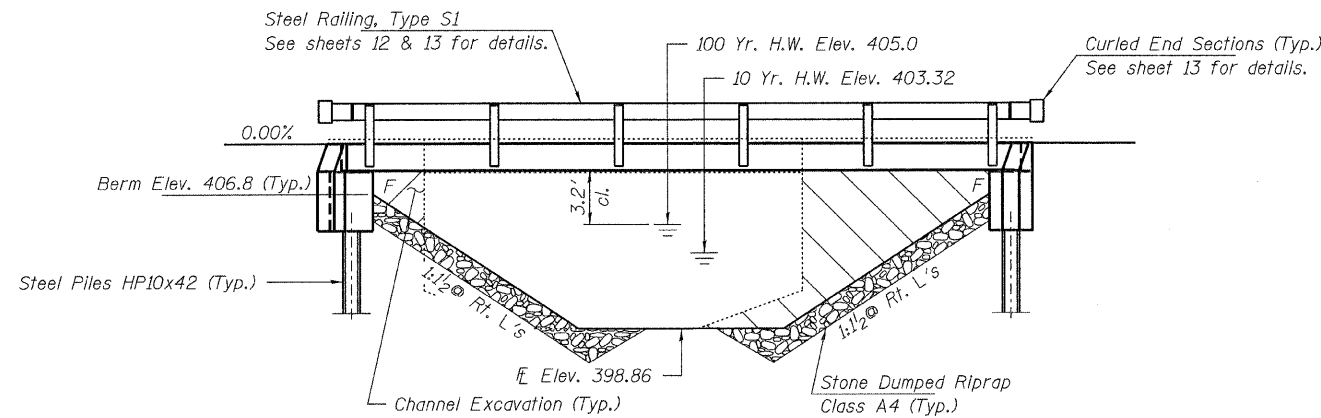
STATION CROSS SECTIONS
 TIMOTHY LANE

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	5
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO. [ILLINOIS] FED. AID PROJECT BROS-0058061				

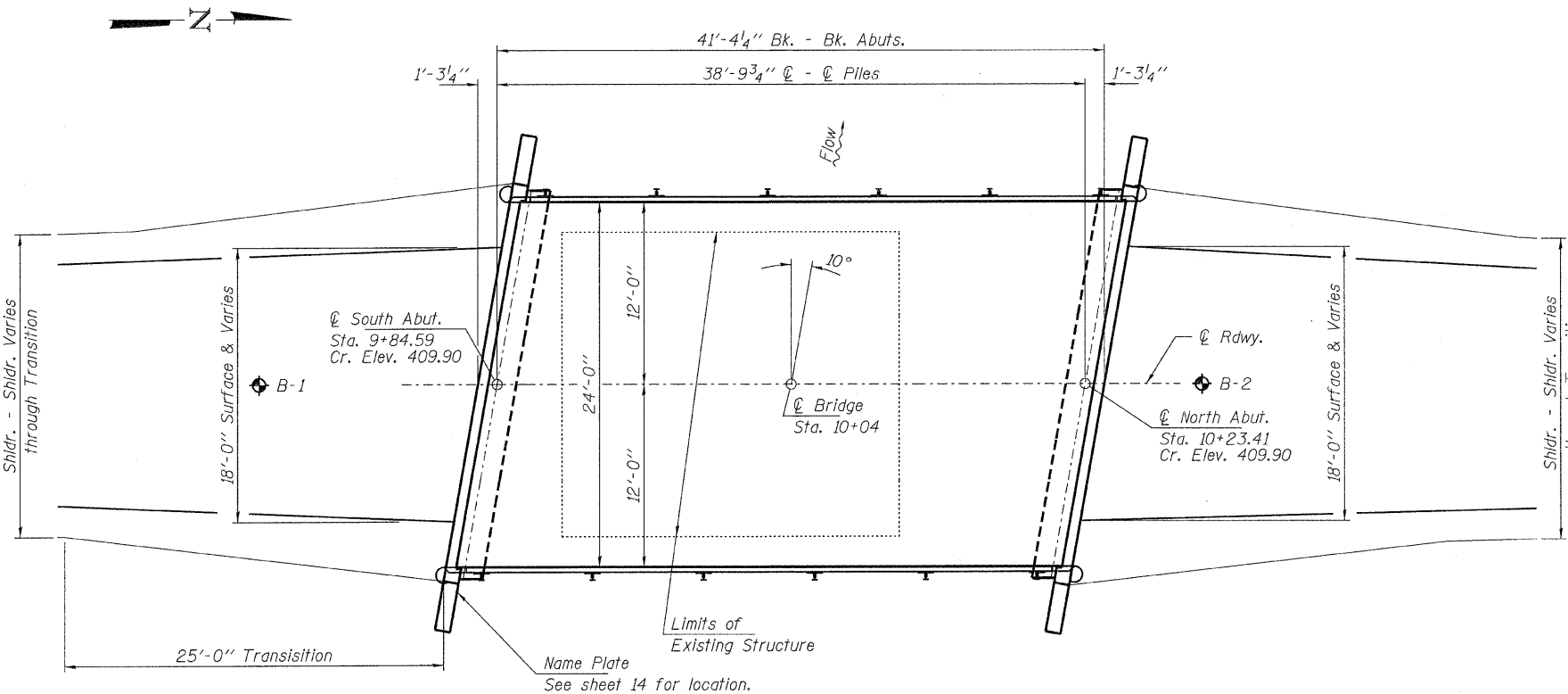
BENCHMARK: BM#1 - PK Nail in 10" Ash Tree. 39.0' Rt., Sta. 7+89, Elev. 410.10

EXISTING STRUCTURE NO. 028-3125: Sta. 10+00 - Single span cast in place concrete bridge with concrete curbs on closed concrete abutments and wingwalls. 20.25' fc.-fc. abuts., 20.00' fc.-fc. curbs. Structure closed to traffic.

No Salvage



ELEVATION



PLAN

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.)

LOADING HL - 93

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 3
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.325 g
Design Spectral Acceleration at 0.2 sec. (SDS) = 0.767 g
Soil Site Class = D

WATERWAY INFORMATION

Drainage Area = 3.92 Sq. Mi.		Existing Low Grade Elev. 408.4 @ Sta. 11+00		Proposed Low Grade Elev. 408.4 @ Sta. 11+00					
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Prop.	Natural H.W.E.	Head - Ft. Exist.	Prop.	Headwater El. Exist.	Prop.
Design	10	587	77.05	82.90	403.3	-	-	-	-
Base	100	1170	111.07	129.60	405.0	0.0	0.0	-	405.0
Max. Calc.	500								

GENERAL NOTES

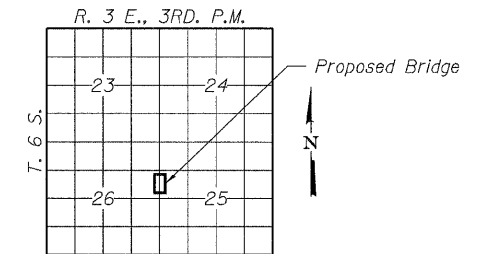
Layout of the slope protection system may be varied to suit ground conditions in the field as directed by the Engineer. Reinforcement bars shall conform to the requirements of ASTM A 706 Gr 60 (IL Modified). See Special Provisions. Excavation required to construct the Abutments shall be included in the 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.

BUILT 2010 BY
FRANKLIN COUNTY
SEC. 08-02136-00-BR
BENTON ROAD DISTRICT
STR. NO. 028-3406
LOADING HL-93

NAME PLATE
See Std. 515001

INDEX OF STRUCTURE SHEETS

- 8. General Plan & Elevation
- 9. Riprap Details
- 10. Superstructure
- 11-12. Superstructure Details
- 13. Steel Railing, Type S-1
- 14. Abutments
- 15. HP Pile Details
- 16. Borings



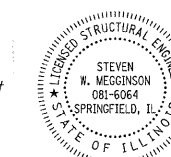
LOCATION SKETCH

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			120
Stone Dumped Riprap, Class A4	Ton			335
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		21.8	21.8
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	960		960
Reinforcement Bars	Pound		2,330	2,330
Steel Railing, Type S1	Foot	78		78
Furnishing Steel Piles HP10x42	Foot		300	300
Driving Piles	Foot		300	300
Name Plates	Each		1	1

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 2/7/2011
ILLINOIS STRUCTURAL NO. 081-6064



Expires 11-30-2012

GENERAL PLAN & ELEVATION
STRUCTURE NO. 028-3406

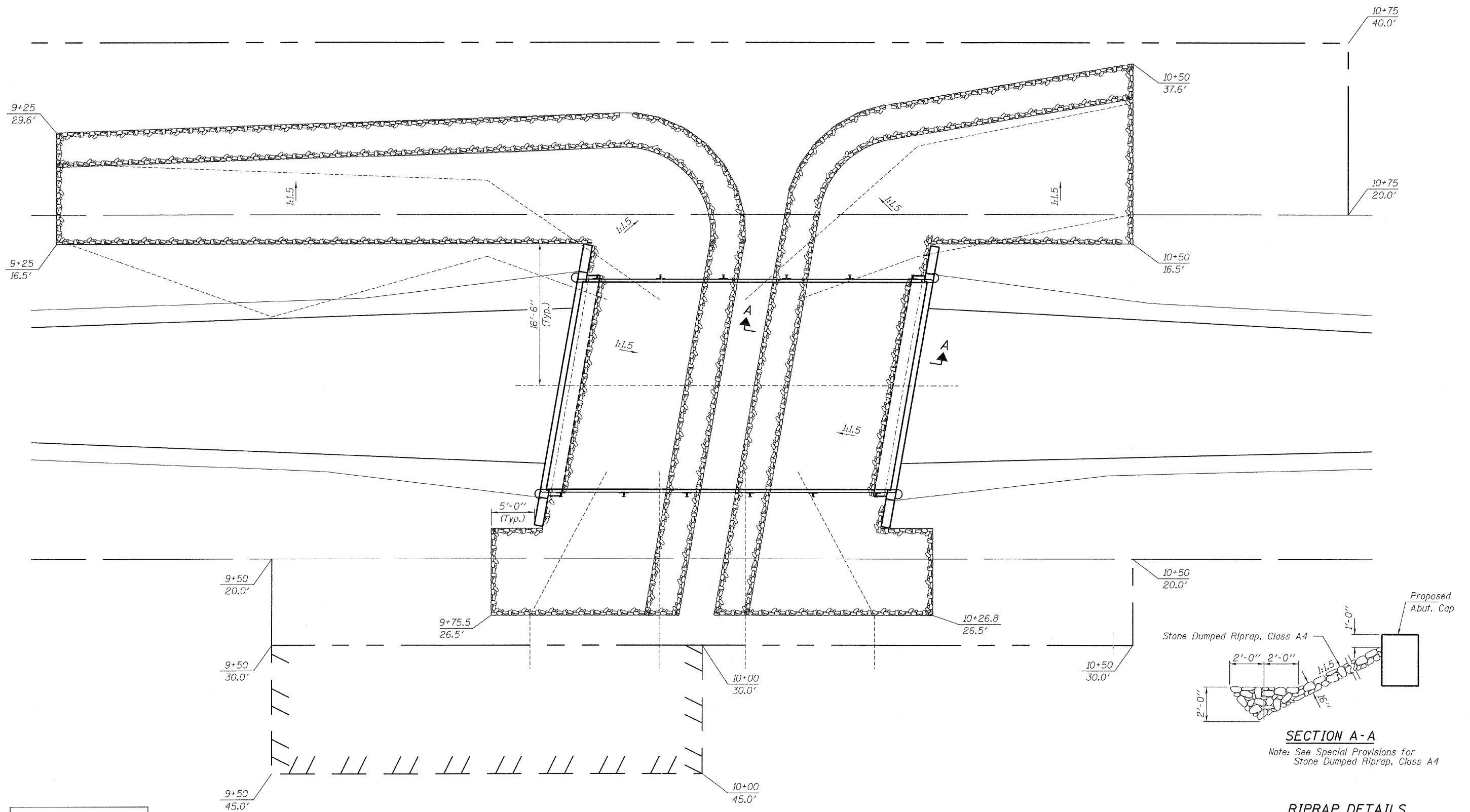
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

HAMPTON, LENZINI AND RENWICK, INC.
CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
3085 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
217.548.3400 www.hlrengineering.com

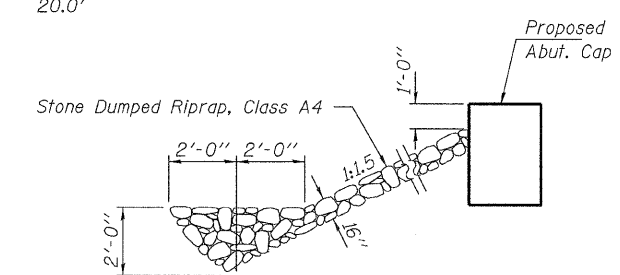
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ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	8
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
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PLAN



SECTION A-A
 Note: See Special Provisions for Stone Dumped Riprap, Class A4

RIPRAP DETAILS
 STRUCTURE NO. 028-3406

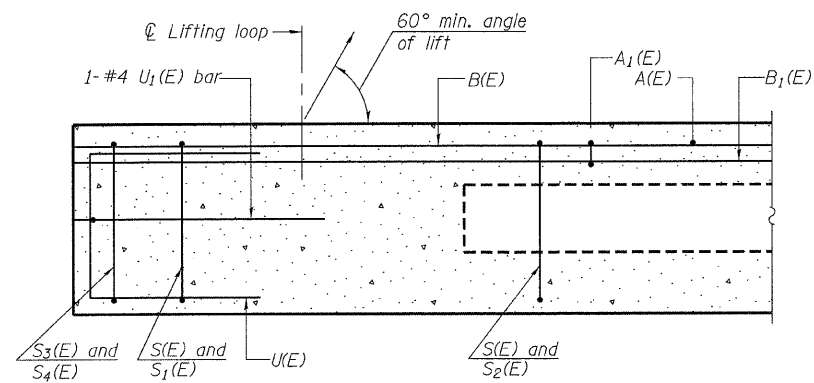
DESIGNED - A.S.L.
CHECKED - S.W.M.
DRAWN - D.A.B.
CHECKED - S.W.M.

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 3085 STEVENSON DRIVE, SUITE 201
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184.00069
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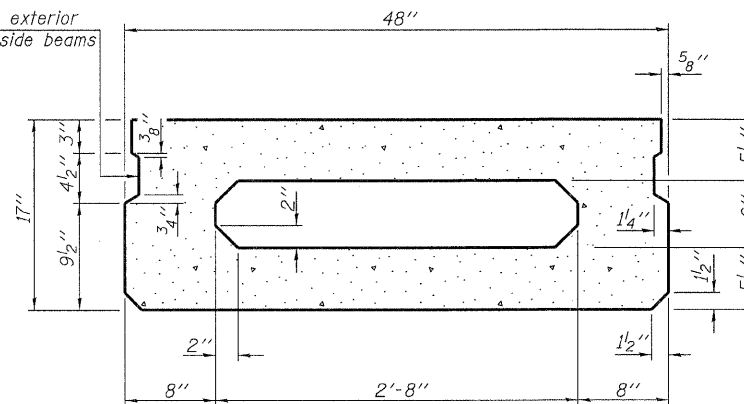
PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	9
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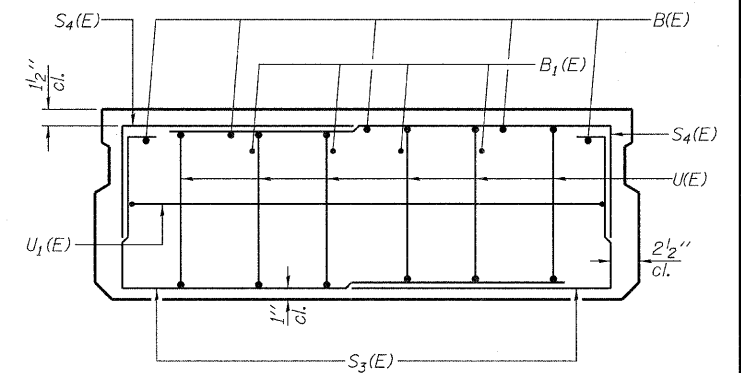


SECTION C-C

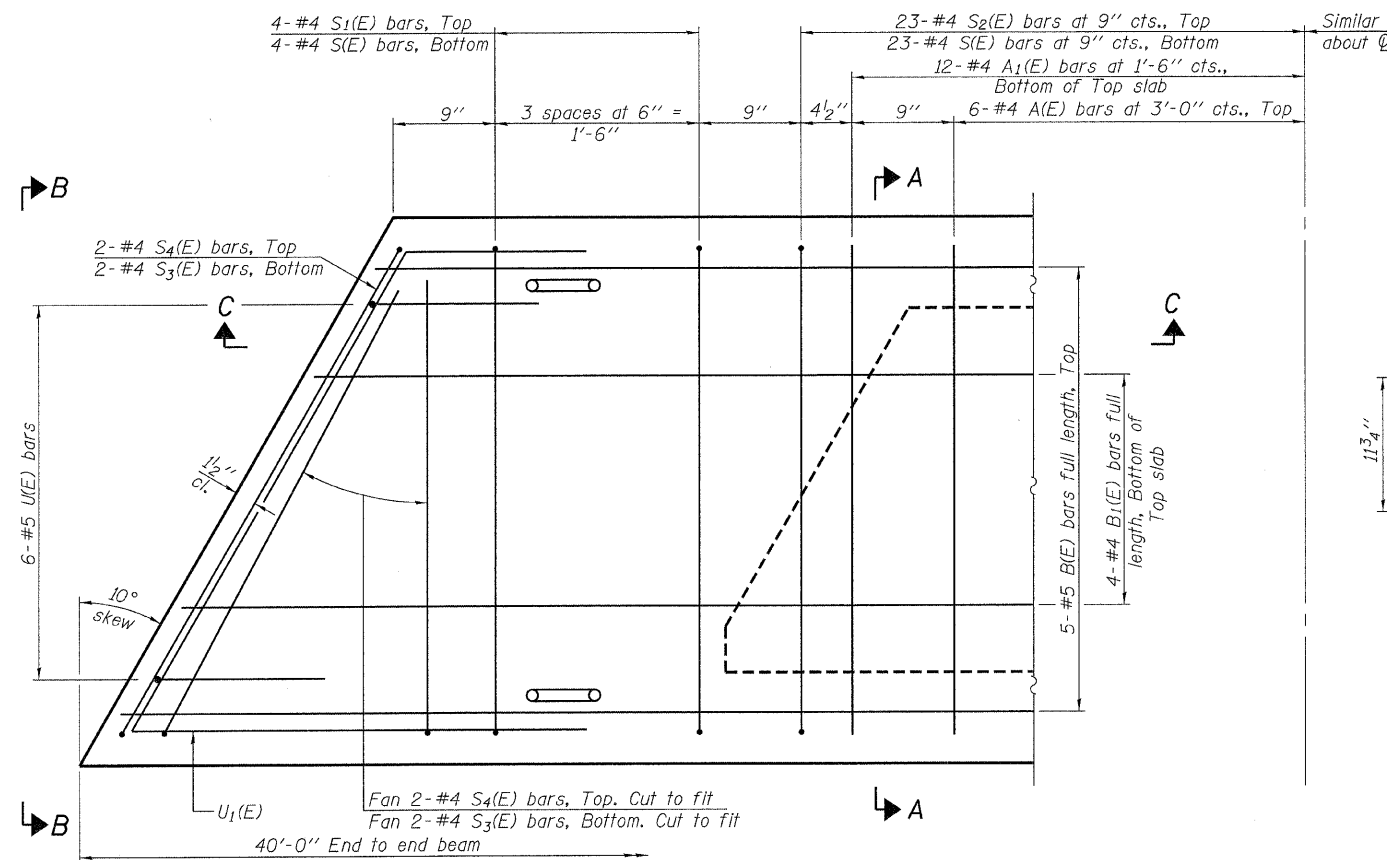
Omit key on exterior face of outside beams



SECTION A-A
(Showing dimensions)

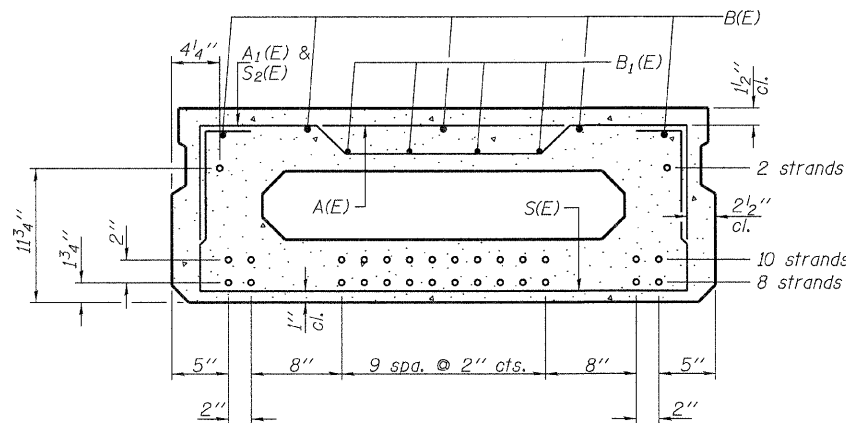


VIEW B-B



PLAN VIEW

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



SECTION A-A

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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	12	#4	3'-7"	—
A1(E)	24	#4	3'-10"	—
B(E)	5	#5	39'-8"	—
B1(E)	4	#4	39'-8"	—
S(E)	54	#4	6'-9"	┌
S1(E)	8	#4	5'-3"	┌
S2(E)	46	#4	5'-6"	┌
S3(E)	8	#4	4'-4"	┌
S4(E)	8	#4	3'-7"	┌
U(E)	12	#5	3'-8"	┌
U1(E)	2	#4	6'-8"	┌

Note: See sheet 11 of 12 for additional details and Bill of Material.

MINIMUM BAR LAP

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

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

PD-1748-L

11-1-09

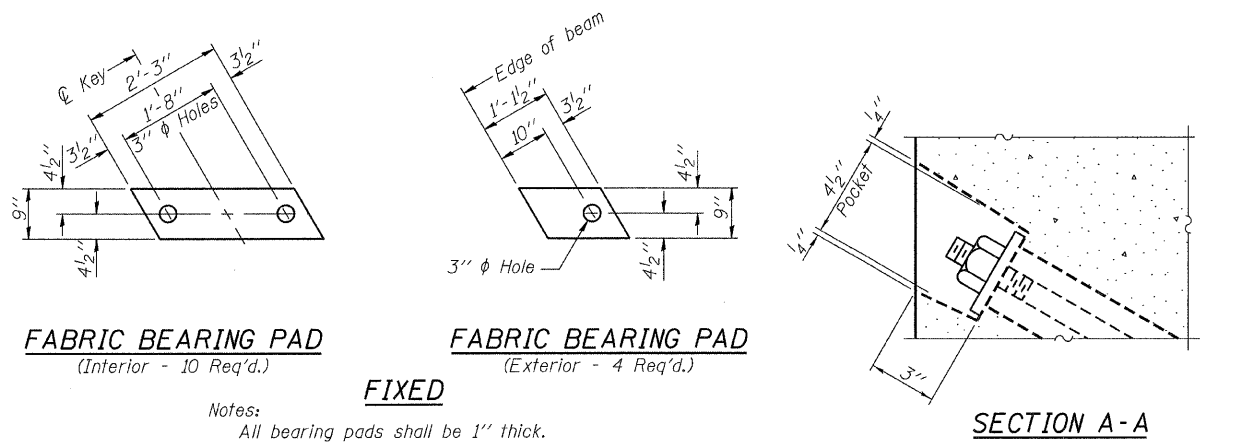
HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
 SPRINGFIELD, ILLINOIS 62703
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184.000989
 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

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272	08-02136-00-BR	FRANKLIN	16	10
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0055(061)		

SUPERSTRUCTURE
17" X 48" PPC DECK BEAM
STRUCTURE NO. 028-3406



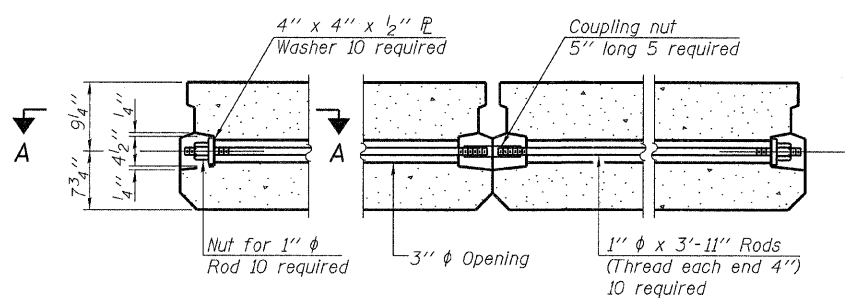
FABRIC BEARING PAD
(Interior - 10 Req'd.)

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

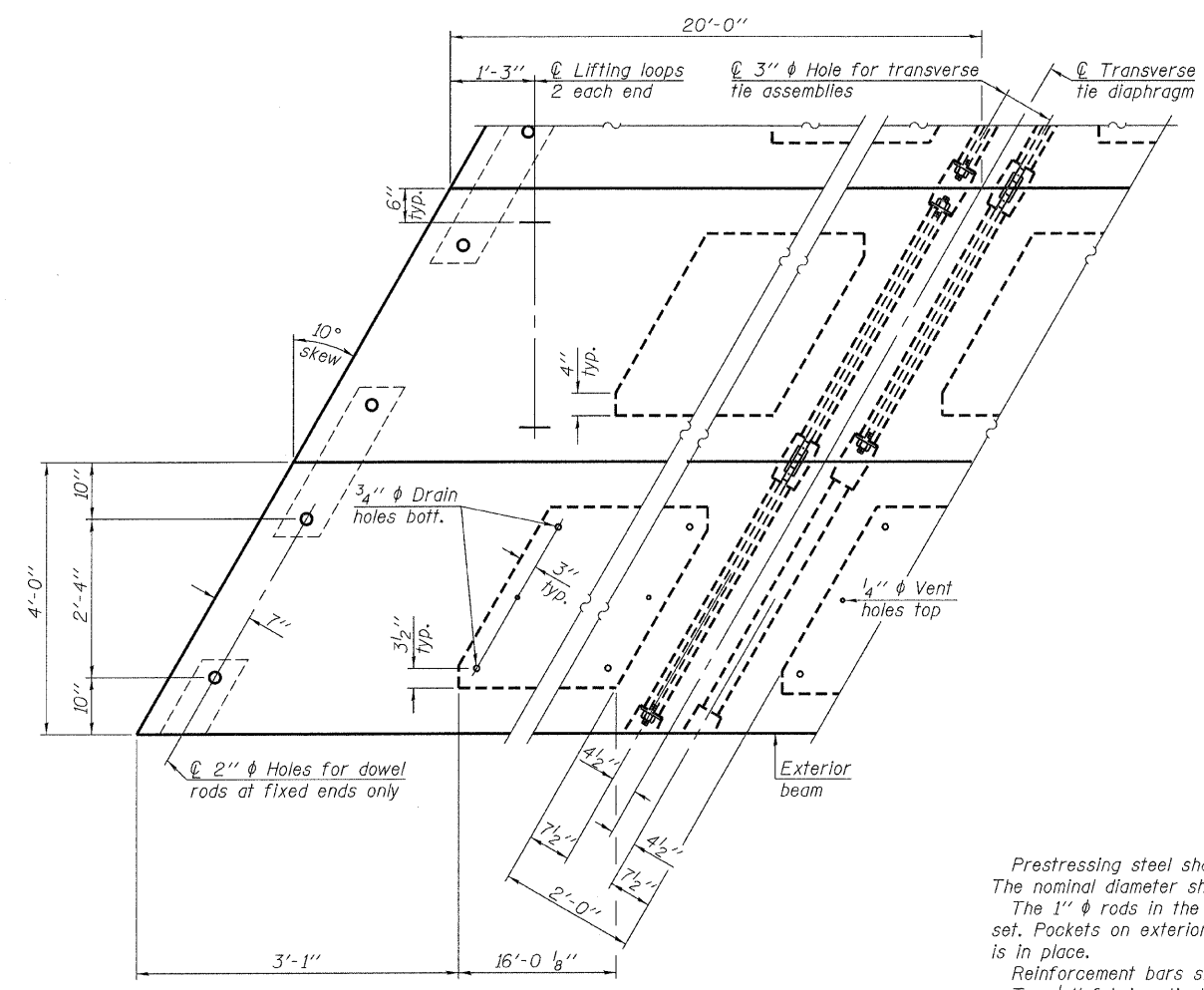
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.

FIXED

SECTION A-A

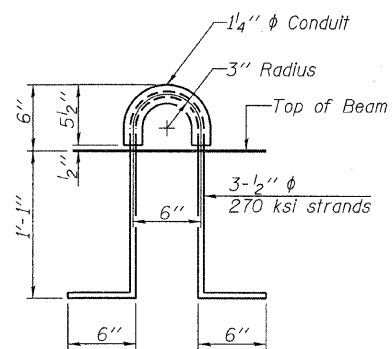


TYPICAL TRANSVERSE TIE ASSEMBLY

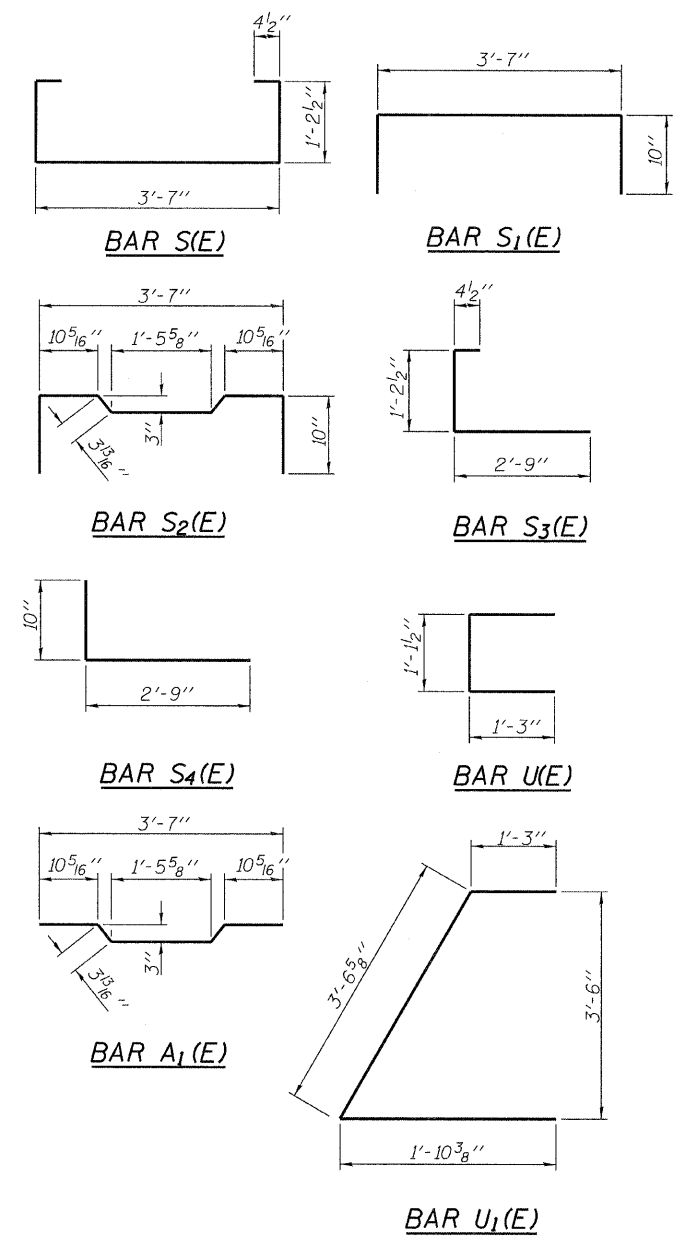


PLAN VIEW

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



LIFTING LOOP DETAIL



BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (17" depth)	Sq. Ft.	960
-------------------------------------------------	---------	-----

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" phi lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
All bars shall be epoxy coated.

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

PD-1748-LD 11-1-09

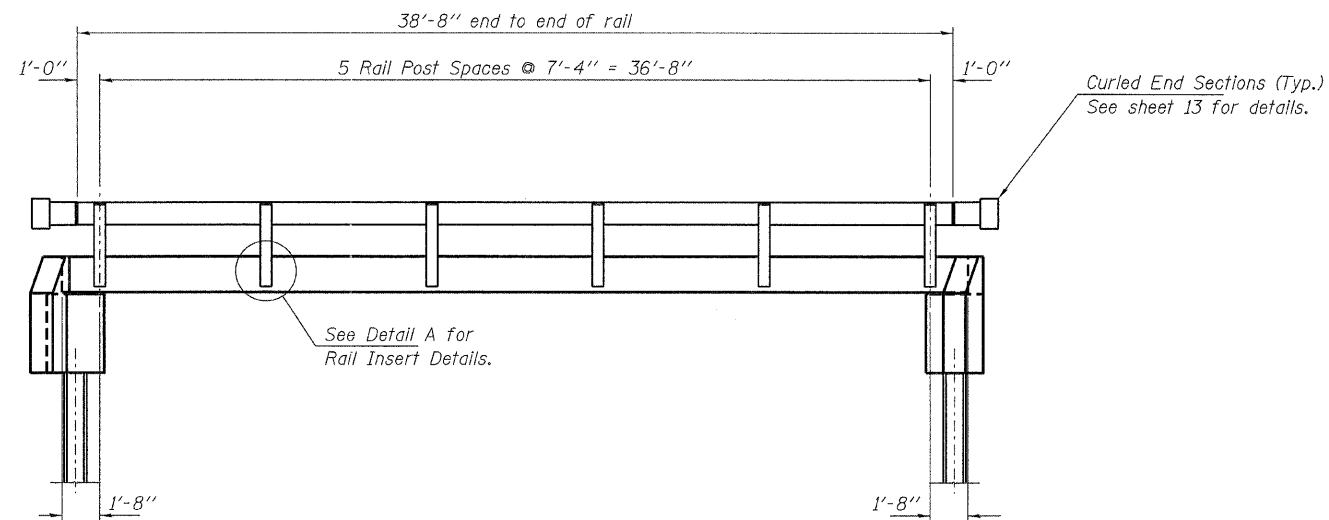
HAMPTON, LENZINI AND RENWICK, INC.
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3085 STEVENSON DRIVE, SUITE 201
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194.00969
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION

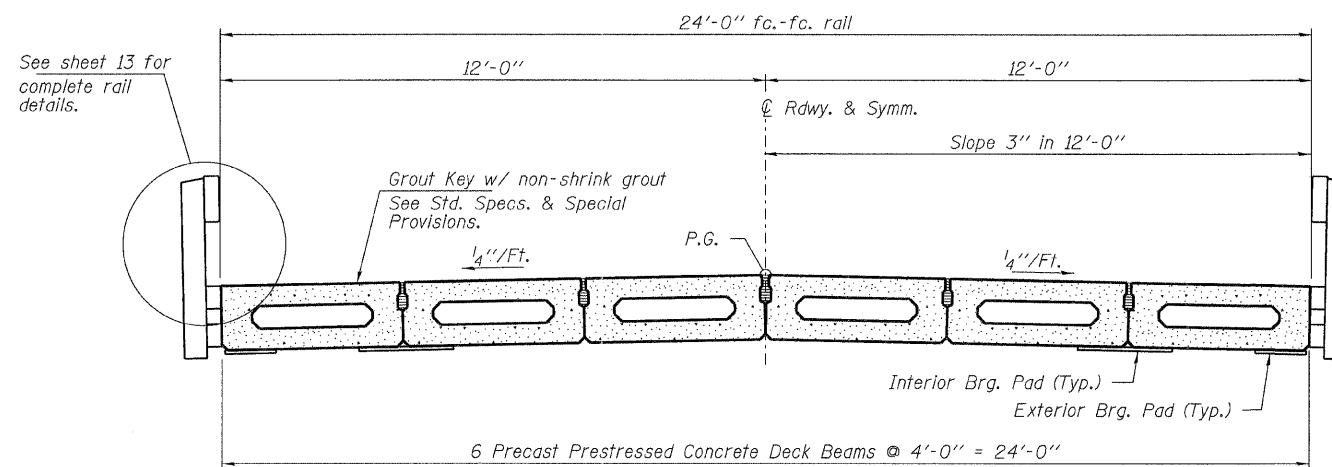
PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	11
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0055(061)		

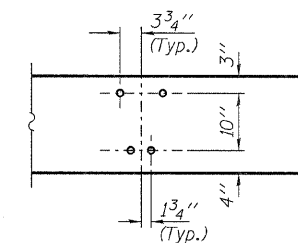
SUPERSTRUCTURE DETAILS
17" X 48" PPC DECK BEAM
STRUCTURE NO. 028-3406



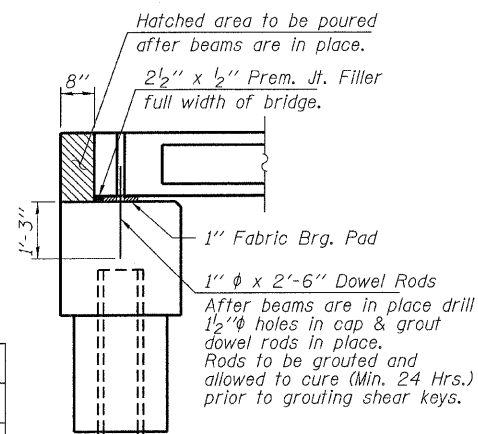
ELEVATION
Showing Rail Post Spaces
See sheet 13 for Railing Details.



CROSS SECTION
See sheets 10 & 11 for Superstructure.



DETAIL A



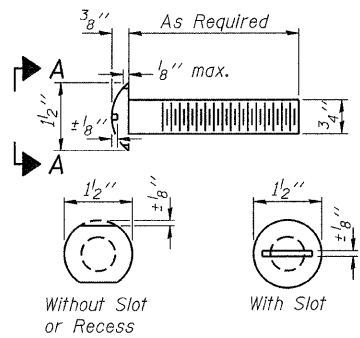
SECTION AT ABUTMENTS

© Rf. L's

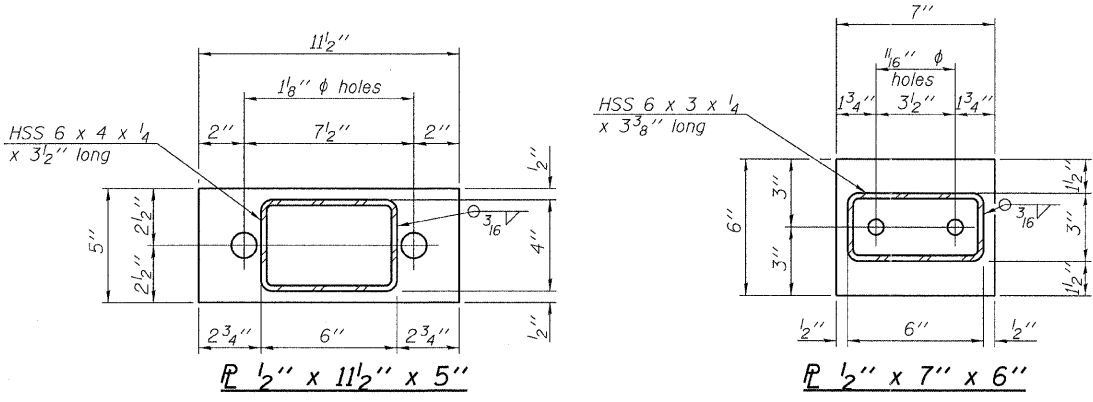
DESIGNED -	A.S.L.
CHECKED -	S.W.M.
DRAWN -	D.A.B.
CHECKED -	S.W.M.

SUPERSTRUCTURE DETAILS
STRUCTURE NO. 028-3406

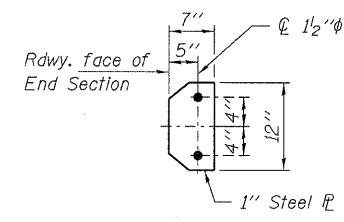
HAMPTON, LENZINI AND RENWICK, INC. <small>CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS</small> HLR <small>164.000889</small> <small>ILLINOIS PROFESSIONAL DESIGN FIRM L5 / PE / SE CORPORATION</small>	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
	272	08-02136-00-BR	FRANKLIN	16	12
PROJECT NUMBER: 09.0150.130	DATE: 02/07/11		BENTON ROAD DISTRICT		
FED. ROAD DIST. NO.			ILLINOIS FED. AID PROJECT BR05-0055(061)		
			CONTRACT NO. 99426		



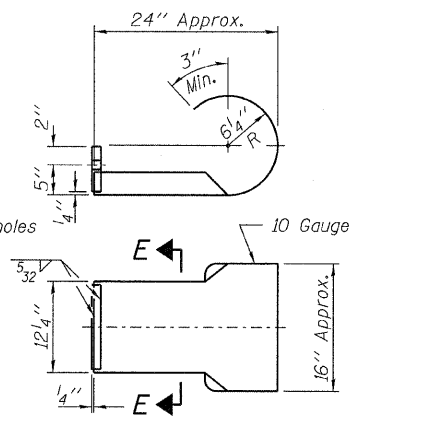
**VIEW A-A
ROUND HEAD BOLT**



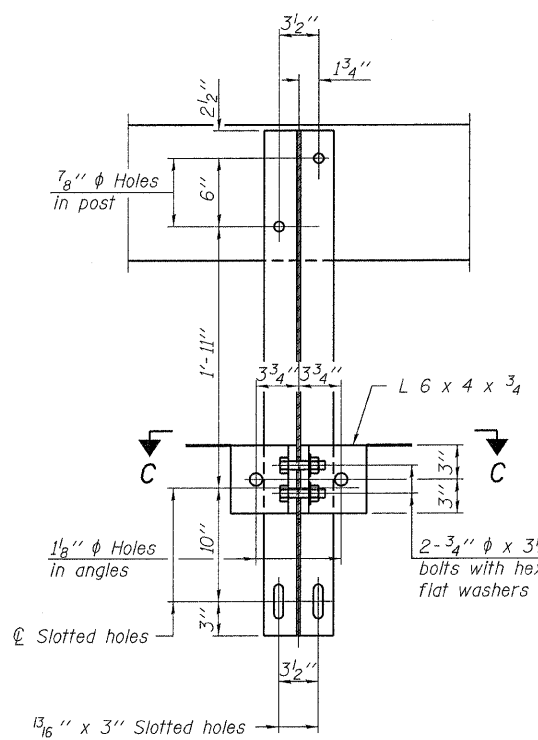
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



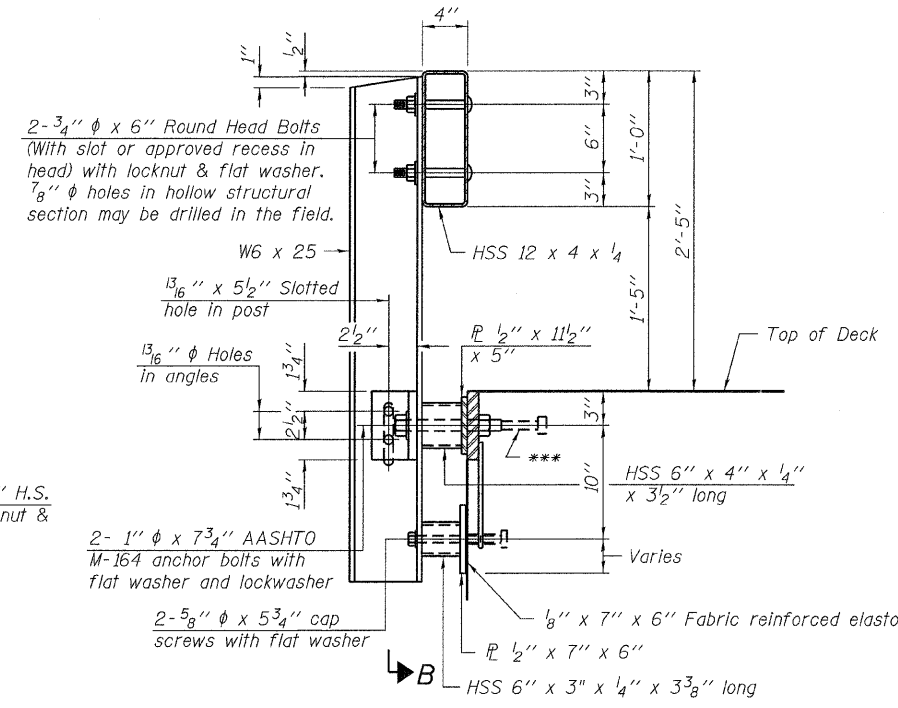
SECTION E-E



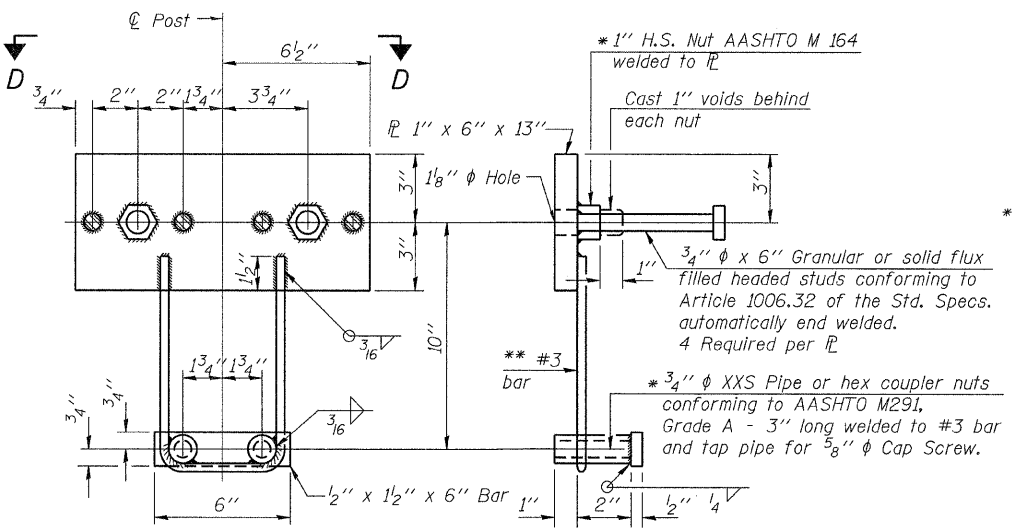
CURLED END SECTION DETAILS



SECTION B-B

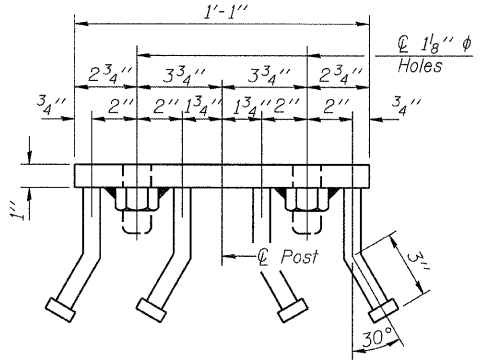


SECTION AT RAILING POST

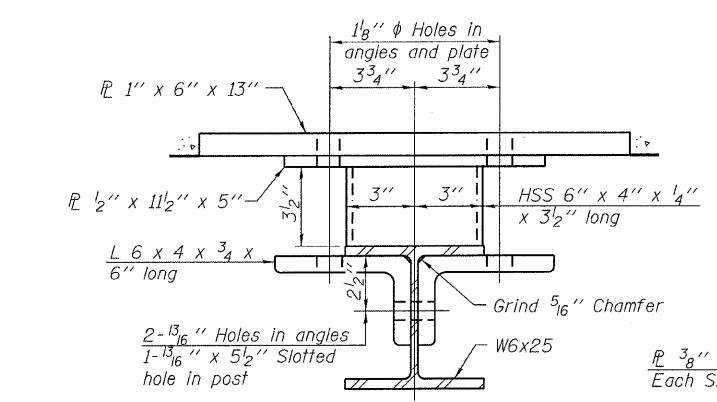


ANCHOR DEVICE

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.

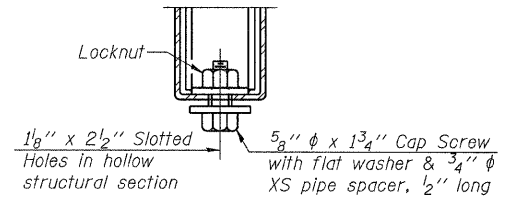


VIEW D-D

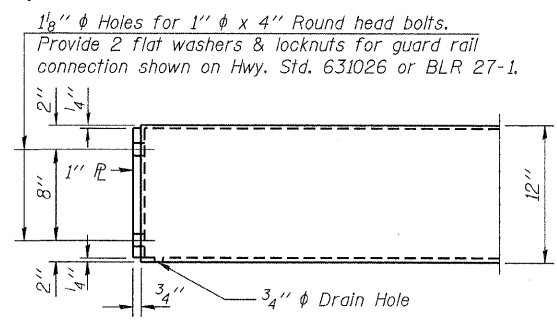


SECTION C-C

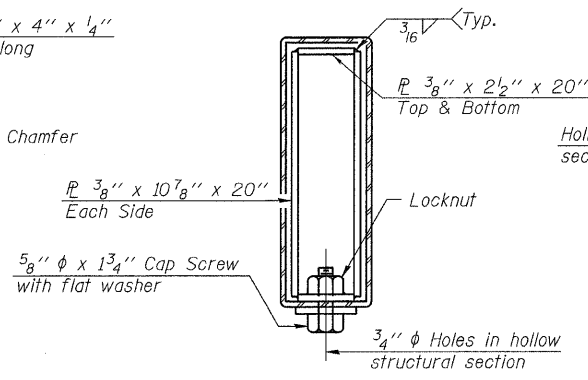
** Whenever the lower insert assemblies interfere with strand locations, the #3 bars shall be cut and adjusted in order to allow raising or lowering of the lower inserts. Maximum adjustment not to exceed 1/2 inch.



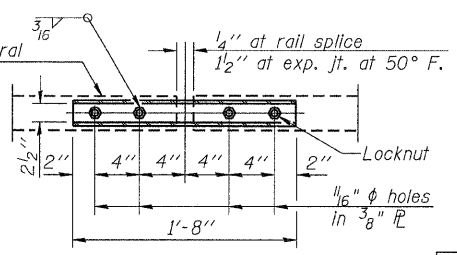
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



END OF RAIL DETAILS



SECTIONS AT RAIL SPLICE



**PLAN-BOTT. SPLICE R
TYPICAL**

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	78

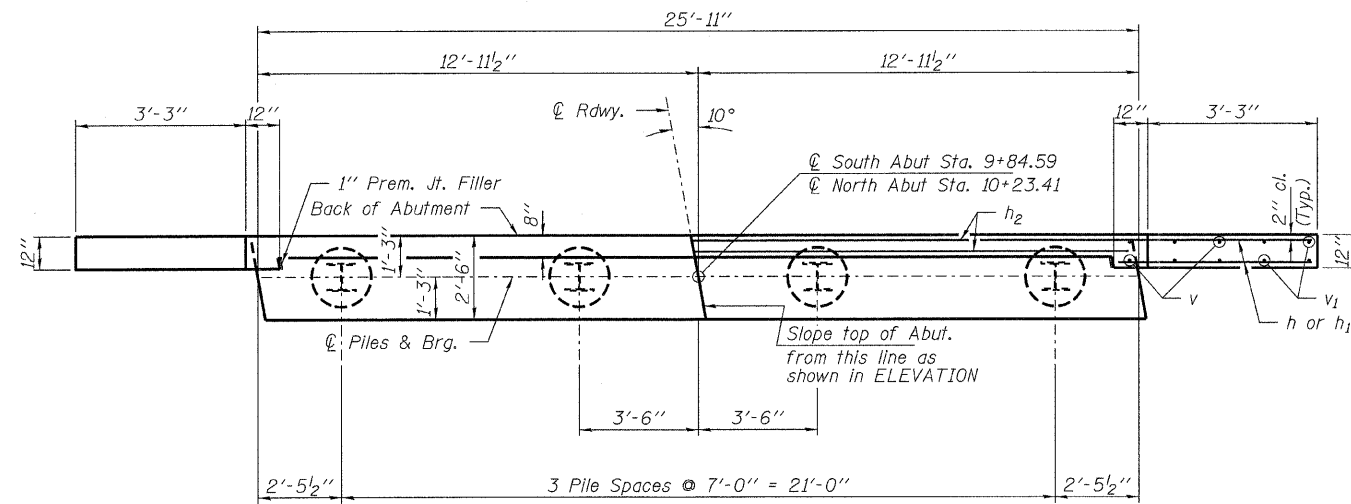
**STEEL RAILING, TYPE S-1
STRUCTURE NO. 028-3406**

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

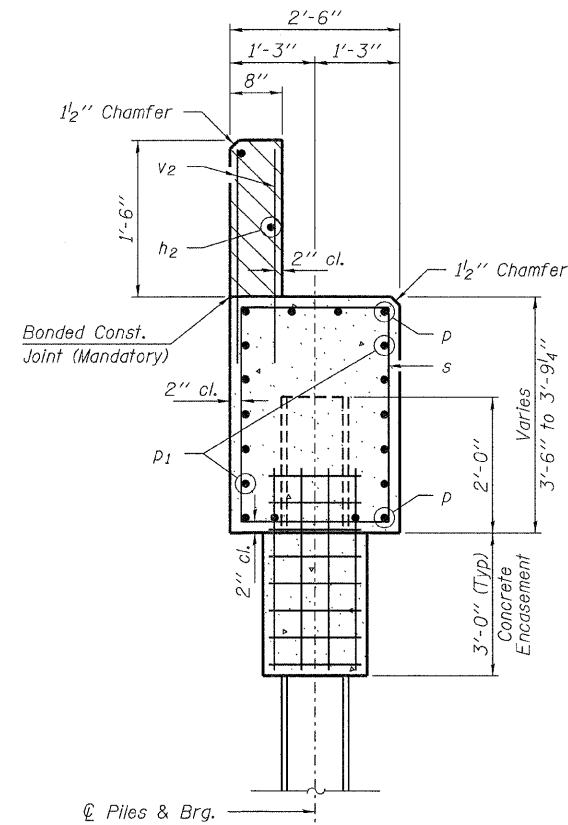
R-23A 11-1-09 (10'-9" Maximum Post Spacing)

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3085 STEVENSON DRIVE, SUITE 201
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217.546.3400 www.hlrengineering.com
194.000959
ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	13
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0055(061)		

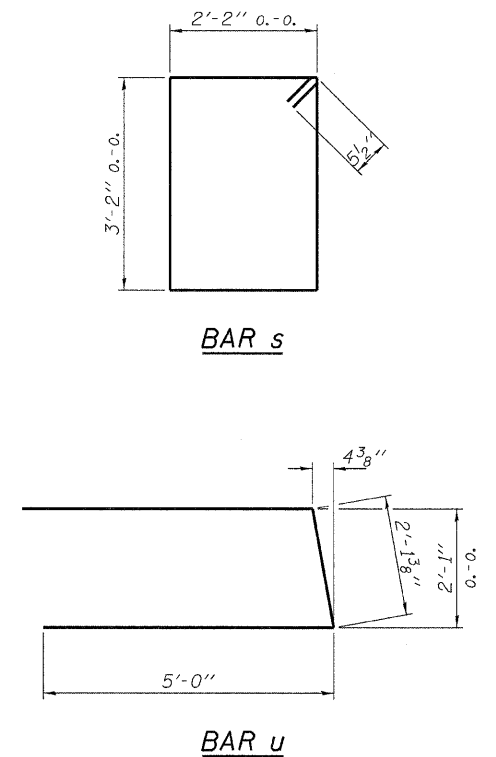


PLAN



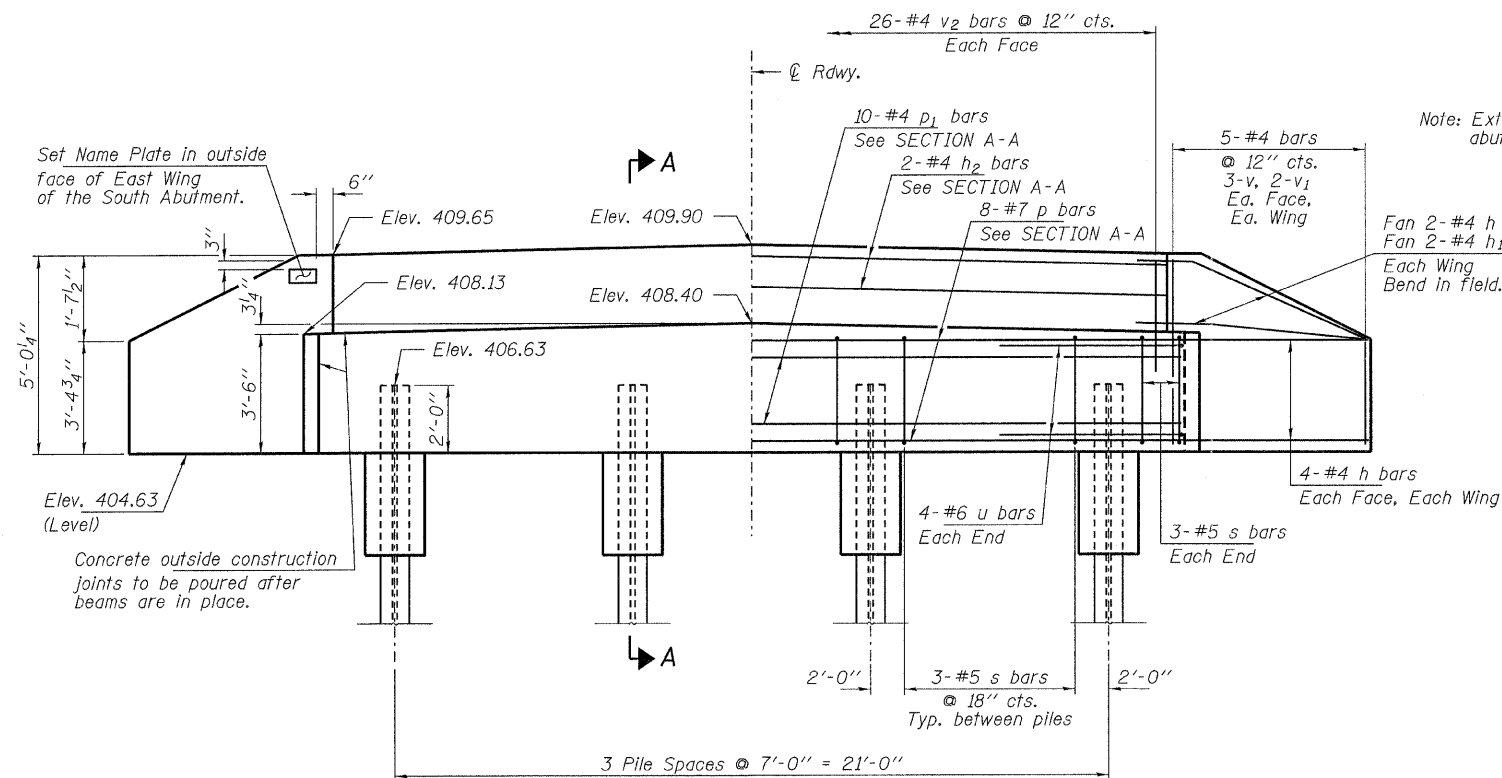
SECTION A-A

Hatched area to be poured after beams are in place.



BAR s

BAR u



ELEVATION

Note: Extend h bars into abutment cap.

PILE DATA

Type Steel HP10x42
 No. Req'd. (2 Abuts.) 8
 Allowable Resistance Available 167 Kips/Pile
 Nominal Req'd Bearing 335 Kips/Pile
 Est. Length 35 Ft/Pile - South Abut.
 40 Ft/Pile - North Abut.

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

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	30	#5	11'-7"	□
u	16	#6	12'-2"	—
v	24	#4	4'-2"	—
v ₁	16	#4	3'-2"	—
v ₂	104	#4	2'-4"	—
Concrete Structures			Cu. Yd.	21.8
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,330
Steel Piles HP10x42			Foot	300
Name Plates			Each	1

ABUTMENTS
 STRUCTURE NO. 028-3406

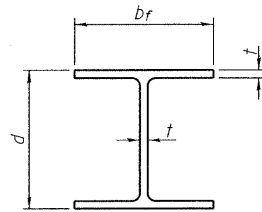
DESIGNED	A.S.L.
CHECKED	S.W.M.
DRAWN	D.A.B.
CHECKED	S.W.M.

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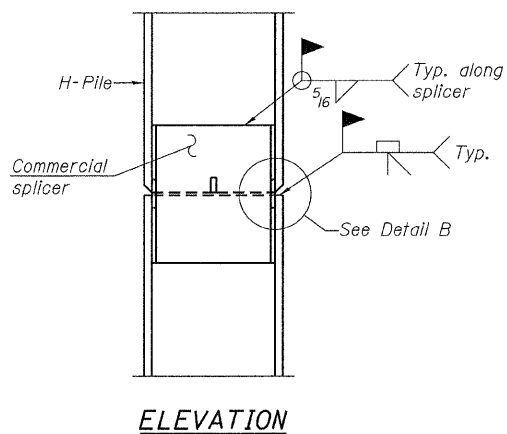
PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	14
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0055(061)		

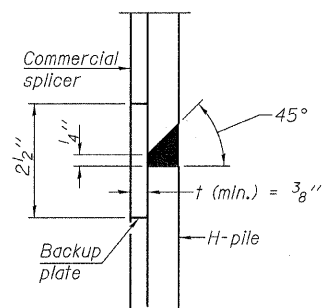


STEEL PILE TABLE

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

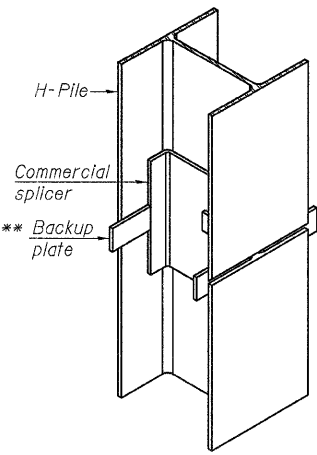


ELEVATION

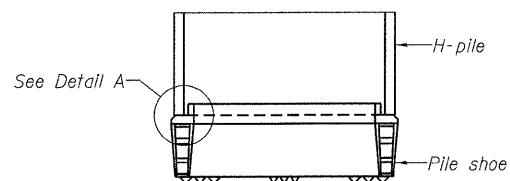


DETAIL "B"

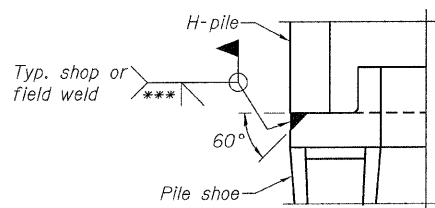
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

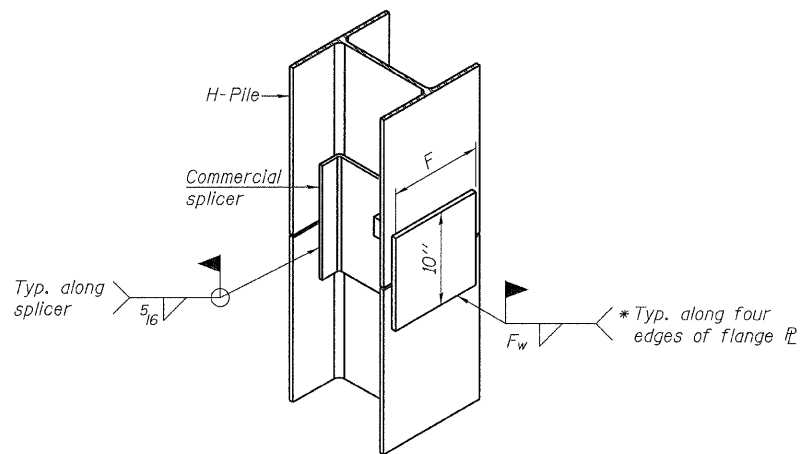


ELEVATION



DETAIL A

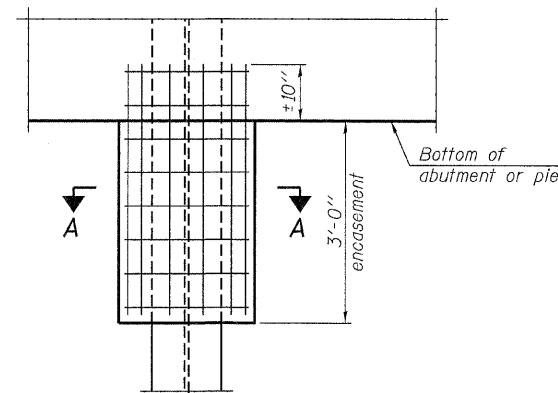
H-PILE SHOE ATTACHMENT



ISOMETRIC VIEW

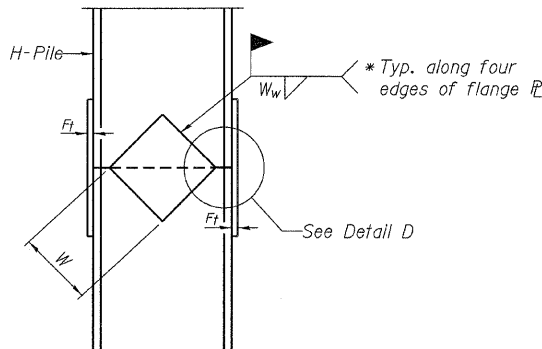
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).

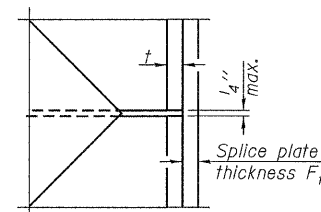


ELEVATION

PILE ENCASEMENT

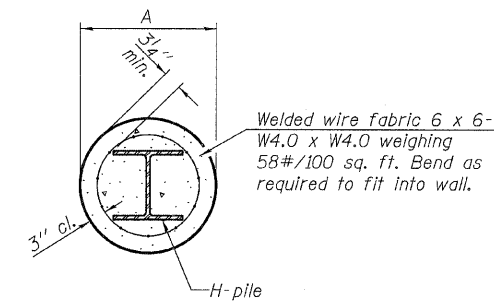


ELEVATION



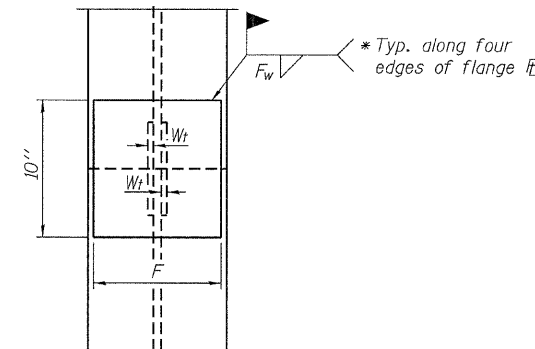
DETAIL D

WELDED PLATE FIELD SPLICE



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

SECTION A-A



END VIEW

Designation	F	F _t	F _w	W	W _t	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"	11/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

**HP PILE DETAILS
STRUCTURE NO. 028-3406**

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

F-HP 11-1-09

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184.007656
 ILLINOIS PROFESSIONAL DESIGN FIRM L.S. / P.E. / S.E. CORPORATION

PROJECT NUMBER: 09.0150.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	15
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0055(061)		

ILLINOIS DEPARTMENT OF TRANSPORTATION District Nine Materials				Bridge Foundation Boring Log			
Route: T.R. 272 (Timothy Lane) Over Little Bessie Creek				Sheet 1 of 2			
Structure Number: 028-3125				Date: 05/07/2002			
Section: Franklin				Bored By: Bryan Keller			
Location: N Hanaford				Checked By: Rob Graeff			
Boring No 1-S	D	B		Surf Wat Elev: 88.9	D	B	
Station 20' S of S Abut	E	L		Ground Water Elevation	E	L	
Offset CL	P	O	Qu	when Drilling 82.9	P	O	Qu
Ground Surface (410.0) 99.9 Ft	T	W	W%	At Completion 83.9	T	W	W%
	H			At: Hrs:	H		
Multi A-1 over Cinders						WH	
(408.0) 97.9				(383.0) 72.9		1 1.2B 52	
Medium, moist, brown, Silt Loam A-4		2		Medium, very moist, grey, Clay A7-6		WH	
		2	0.6B 18			1 0.9B 28	
(405.5) 95.4				(380.5) 70.4		1	
Loose, dry, brown, broken bricks	5.0	3		Stiff, very moist, grey, Clay A7-6	30.0	WH	
		3				1 1.1B 21	
		5		(378.0) 67.9		1	
(403.0) 92.9				Medium, very moist, grey, Clay Loam A-6 with some Gravel		1	
Stiff, moist, grey, Silt Loam A-4 with some Gravel		1				5 0.7B 16	
		5	1.3S 17	(375.5) 65.4		7	
(400.5) 90.4				Hard, dry, grey, Clay Shale	35.0	3	
Stiff, moist, grey mottled brown, Silt Loam A-4	10.0	1				100/10"	
		7	1.1S 15				
		7					
(398.0) 87.9							
Soft, very moist, brown, Sandy Clay A-4		1					
		3	0.3B 17				
		3					
	15.0	1		Hard, dry, grey, Clay Shale	40.0	100/9"	
		1		(369.5) 59.4			
		4	22				
(393.0) 82.9				Bottom of hole = 40.5 ft			
Very loose, wet, brown mottled grey, Silty Sand with Silty Clay Seams		1		Free water observed at 17.0 ft.			
		1		Elevation referenced to center of Existing Structure; Assumed Elevation = 100.0 ft. = 410.0±			
		1		To convert "N" values to "N60" values multiply by 1.25.			
73% Sand; 17% Silt; 10% Clay (390.5) 80.4							
Medium, very moist, grey, Clay A7-6	20.0	WH			45.0		
		1	0.7S 32				
		2					
(388.0) 77.9							
Stiff, very moist, grey, Clay A7-6		WR					
		2	1.4B 26				
		1					
	25.0				50.0		

N-Std Pentr Test: 2" OD Sampler, 140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

BORING 1

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

ILLINOIS DEPARTMENT OF TRANSPORTATION District Nine Materials				Bridge Foundation Boring Log			
Route: T.R. 272 (Timothy Lane) Over Little Bessie Creek				Sheet 1 of 1			
Structure Number: 028-3125				Date: 05/07/2002			
Section: Franklin				Bored By: Bryan Keller			
Location: N Hanaford				Checked By: Rob Graeff			
Boring No 2-S	D	B		Surf Wat Elev: 88.8	D	B	
Station 20' N of N Abut	E	L		Ground Water Elevation	E	L	
Offset CL	P	O	Qu	when Drilling 85.3	P	O	Qu
Ground Surface (410.0) 99.8 Ft	T	W	W%	At Completion 74.8	T	W	W%
	H			At: Hrs:	H		
Multi A-1						1 1.5B 21	
(409.0) 98.8				(382.8) 72.8		1	
Loose, dry, dark grey, Cinders		4		Soft, very moist, grey, Silty Clay A-6		WH 0.4S 21	
		6				WH	
		4		(380.5) 70.3		1	
(405.5) 95.3				Medium, very moist, grey, Silty Clay to Clay A7-6		1 0.9B 20	
Stiff, damp to moist, grey, Silty Clay Loam A-6 with Cinders	5.0	3				1	
		13	1.2B 16	(378.0) 67.8			
		11					
(403.0) 92.8				Stiff, very moist, grey, Silty Clay A-6		2	
Medium, moist, grey, Silt Loam A-4		1				1 1.1B 18	
		2	0.7 18	(375.0) 64.8		2	
		3				1	
(400.5) 90.3				Hard, dry, grey, weathered Clay Shale	35.0	13	
Stiff, moist, brown mottled grey, Silt Loam to Silty Clay Loam A-4	10.0	1				42	
		5	1.5P 14				
		6					
(397.8) 87.8				Hard, dry, grey, Clay Shale		5	
Medium, very moist, brown, Sandy Clay A-4		1		(372.0) 61.8		100/10"	
		3	0.7B 19				
		3					
(395.5) 85.3				Bottom of hole = 38.0 ft.			
Very loose, wet, brown, Fine Silty Sand with Silty Clay Layers	15.0	WH		Free water observed at 14.5 ft.			
		2		Elevation referenced to center of Existing Structure; Assumed Elevation = 100.0 ft. = 410.0±			
		2	26	To convert "N" values to "N60" values multiply by 1.25.			
(393.0) 82.8							
Medium, very moist, brown, Silty Clay A-6		WH					
		1	0.6B 26				
		WH					
(390.5) 80.3							
Stiff, moist, brown mottled grey, Clay to Silty Clay A7-6	20.0	1			45.0		
		2	1.1S 30				
		1					
(388.0) 77.8							
Stiff, very moist, grey, Clay A7-6		WH					
		1	1.1S 27				
		1					
(385.5) 75.3							
	25.0	WH			50.0		

N-Std Pentr Test: 2" OD Sampler, 140# Hammer, 30" Fall (Type Fail. B-Bulge S-Shear E-Estimated P-Penetrometer)

BORING 2

**BORINGS
STRUCTURE NO. 028-3406**

HAMPTON, LENZINI AND RENWICK, INC.
 CIVIL ENGINEERS - STRUCTURAL ENGINEERS - LAND SURVEYORS
 3085 STEVENSON DRIVE, SUITE 201
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 ILLINOIS PROFESSIONAL DESIGN FIRM LS / PE / SE CORPORATION
 PROJECT NUMBER: 09.0160.130 DATE: 02/07/11

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
272	08-02136-00-BR	FRANKLIN	16	16
BENTON ROAD DISTRICT		CONTRACT NO. 99426		
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT BROS-0055(061)		