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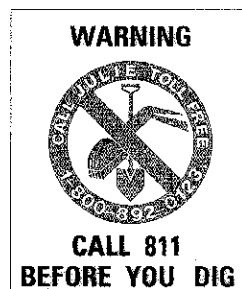
**HIGHWAY STANDARDS**

000001-06	STANDARD SYMBOLS, ABBREVIATIONS & PATTERNS (8 SHEETS)
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B.L.R. 21-9	TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS
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**SUMMARY OF QUANTITIES**

QUANTITY	UNIT	ITEM	CODE NO.
158.00	UNIT	TREE REMOVAL (6 TO 18 INCHES DIAMETER)	20100110
122.00	UNIT	TREE REMOVAL (OVER 18 INCHES DIAMETER)	20100210
0.10	ACRE	TREE REMOVAL ACRES	20100500
703.00	CU YD	EARTH EXCAVATION	20200100
163.00	CU YD	CHANNEL EXCAVATION	20300100
448.00	CU YD	FURNISHED EXCAVATION	20400800
28.00	FOOT	TEMPORARY DITCH CHECKS	28000305
420.00	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
300.00	TON	AGGREGATE SURFACE COURSE, TYPE B	40200800
1.00	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
22.00	CU YD	CONCRETE STRUCTURES	50300225
2.80	CU YD	CONCRETE ENCASEMENT	50300280
1320.00	SC FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	50400405
2420.00	POUND	REINFORCEMENT BARS	50500105
109.00	FOOT	STEEL RAILINGS, TYPE S1	50900205
400.00	FOOT	FURNISHING STEEL PILES HP10X42	51201400
400.00	FOOT	DRIVING PILES	51202305
1.00	EACH	NAME PLATES	51500100
40.00	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 18"	54200220
1.00	E. SLUM	MORTILIZATION	61100100
0.80	ACRE	SEEDING, CLASS 2 (SPECIAL)	X2501000
133.00	TON	STONE LIMED DITCH	Z0068900

△ SPECIFIC ITEMS



DESIGN DESIGNATION:  
 DESIGN SPEED: 30 MPH  
 HIGHWAY CLASS - LOCAL ROAD  
 EXISTING STRUCTURE NO.: 024-3033  
 PROPOSED STRUCTURE NO.: 024-3142  
 CURRENT A.B.T. - 50  
 CONTRACT NO. 95683

STATE OF ILLINOIS

DEPARTMENT OF TRANSPORTATION

**PLANS FOR PROPOSED  
 FEDERAL AID - H.B.P. PROJECT**

T.R. 62 EDWARDS COUNTY SECTION 10-02118-00-BR

PROJECT NO. BROS-047(037) JOB NO. C-97-078-12

CONTRACT #95683 JOHNSON CREEK

F.P.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
62	10-02118-00-BR	EDWARDS	13	1

FED. ROAD DIST. NO. 7 ILLINOIS  
 PROJECT # BROS-047(037)  
 EDW 03 # 1000.000

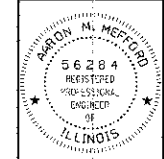
FED. AID PROJECT  
 CONTRACT # 35683  
 JOHNSON CREEK

323 W. 3RD ST.  
 P.O. BOX 180  
 MT. CARMEL, IL 62863  
 PHONE: (618)-262-8651  
 FAX: (618)-263-3927

405 W. STATE ST  
 SUITE 1  
 PRINCETON, IN 47670  
 PHONE: (812)-386-7811  
 FAX: (812)-385-2812

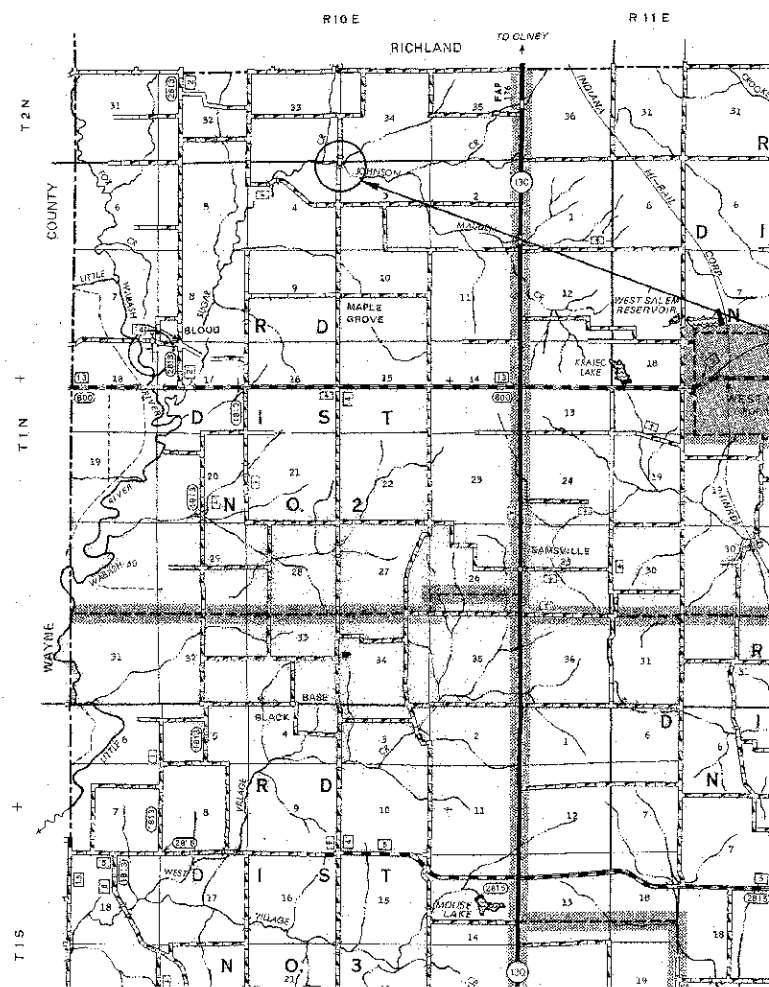
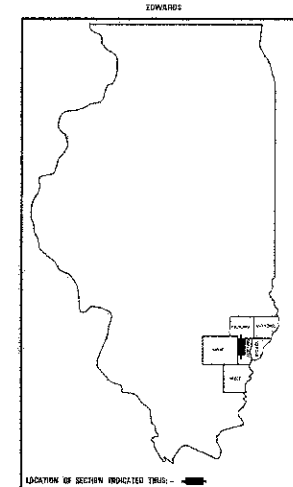


PROFESSIONAL DESIGN FIRM  
 LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION  
 104-00867  
 (62-082435) (35-002769)



AARON M. MEFFORD  
 NAME  
 SIGNATURE  
 DATE 3-1-13  
 11-30-13 EXPIRES

JOHNSON CREEK  
 TOWNSHIP ROUTE 62  
 EDWARDS COUNTY, ILLINOIS

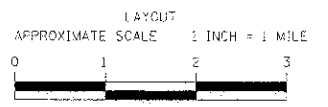


PLAN	1" = 50'	
PROFILE	1" = 50'	
PROFILE VERT.	1" = 5'	

SECTION 10-02118-00-BR  
 BEGINS STATION 2+45

STATION 5+00, STRUCTURE NO. 024-3142  
 A 55' LONG SINGLE SPAN PRECAST  
 PRESTRESSED CONCRETE DECK BEAM BRIDGE  
 (21" DEPTH, 24" ROADWAY, 0° SKEN.

SECTION 10-02118-00-BR  
 ENDS STATION 7+60



GROSS LENGTH	515.00 FT	0.098 MILES
OMISSIONS	0.00 FT	0.000 MILES
NET LENGTH	515.00 FT	0.098 MILES

APPROVED Marcus OI 20 13  
 COUNTY ENGINEER

PASSED March 3 20 13  
Marcus OI  
 DISTRICT SEVEN ENGINEER OF  
 LOCAL ROADS & STREETS

Releasing For  
 Bid Based on  
 Limited Review March 3 20 13  
Kevin L. Dickel  
 DEPUTY DIRECTOR OF HIGHWAYS,  
 REGION FOUR ENGINEER

STATE OF ILLINOIS  
 DEPARTMENT OF TRANSPORTATION

SHEET TITLE:  
 TITLE SHEET

SCALE: 1" = 50'

BY: AMM

DATE: 3/1/13

REV: 0000

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.

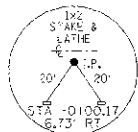
THE WORK INVOLVED ON THIS SECTION CONSISTS OF THE REMOVAL OF THE EXISTING STRUCTURE, THE CONSTRUCTION OF A 55' LONG SINGLE SPAN PRECAST/PRESTRESSED CONCRETE DECK BEAM BRIDGE, EARTH APPROACHES, AGGREGATE SURFACE COURSE AND OTHER MISCELLANEOUS ITEMS NECESSARY TO COMPLETE THIS SECTION.

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

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

THE TREES THAT ARE TO BE REMOVED WILL BE STOCK PILED ON THE ROW AND SHALL BECOME THE PROPERTY OF THE COUNTY OR OTHERWISE AS DIRECTED BY THE ENGINEER.

NOTE: CONSTRUCTION TRANSITIONS  
STA. 2+45 TO STA. 3+00  
STA. 7+00 TO STA. 7+60  
ALL QUANTITIES ARE INCLUDED IN THE PROPOSAL



CURVE #1  
P.I. STA= 3+47.40  
ΔI= 11.828726"  
B= 446.29'  
R= 1200'  
T= 88.96'  
L= 177.59'  
E= 3.29'  
M= NONE  
T.P.= NONE  
S.C. RENE= NONE  
P.C. STA= 2+58.44  
P.T. STA= 4+36.33

CURVE #2  
P.I. STA= 7+21.61  
ΔI= 11.91941"  
B= 446.29'  
R= 1200'  
T= 87.90'  
L= 196.35'  
E= 3.95'  
M= NONE  
T.P.= NONE  
S.C. RENE= NONE  
P.C. STA= 6+23.71  
P.T. STA= 8+19.06

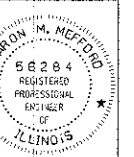
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
G2	10-02118-00-BR	EDWARDS	13	2
FED. ROAD DIST. NO. 7 ILLINOIS				
PROJECT # BR05-047031				
CONTRACT # 95583				
LEC JOB # HDL018ED				

323 W. 3RD ST.  
P.O. BOX 160  
MT. CARMEL, IL  
62883  
PHONE:  
(618)-262-8651  
FAX:  
(618)-263-3327

405 W. STATE ST  
SUITE 1  
PRINCETON, IN  
47370  
PHONE:  
(812)-386-7011  
FAX:  
(812)-386-2812



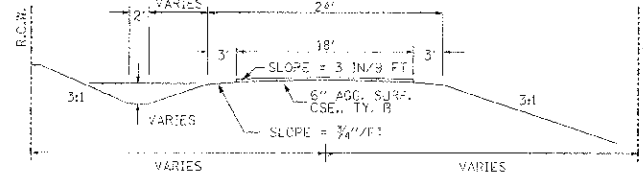
PROFESSIONAL DESIGN FIRM  
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION  
184-000887  
(82-032435)/(35-002769)



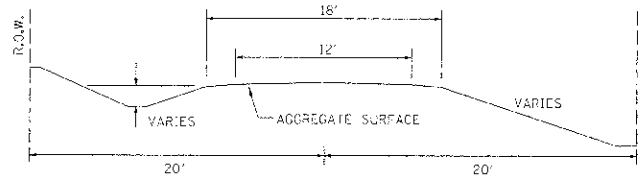
AARON M. MEFFORD  
NAME  
Signature  
3-7-12  
DATE  
11-30-13  
EXPIRES

JOHNSON CREEK  
TOWNSHIP ROUTE 62  
EDWARDS COUNTY, ILLINOIS

**TYPICAL CROSS SECTION PROPOSED**



**TYPICAL CROSS SECTION EXISTING**



NOTE: CONSTRUCT STONE LINED DITCH

NOTE: CONSTRUCT SPECIAL DITCH

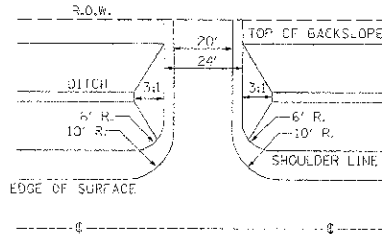
STA 2+45 TO STA 2+70 LT & RT (0.62 TON/LIN FT)  
STA 4+50 TO STA 4+82 LT (0.62 TON/LIN FT)  
STA 4+50 TO STA 4+78 RT (0.62 TON/LIN FT)  
STA 5+22 TO STA 5+50 LT (0.62 TON/LIN FT)  
STA 5+22 TO STA 5+50 RT (0.62 TON/LIN FT)  
STA 7+35 TO STA 7+60 LT & RT (0.62 TON/LIN FT)  
133 TON STONE LINED DITCH ALLOWED IN PROPOSAL.

STA 2+45 TO STA 4+02 LT  
STA 2+45 TO STA 4+78 RT  
STA 5+22 TO STA 7+60 LT  
STA 5+22 TO STA 7+60 RT

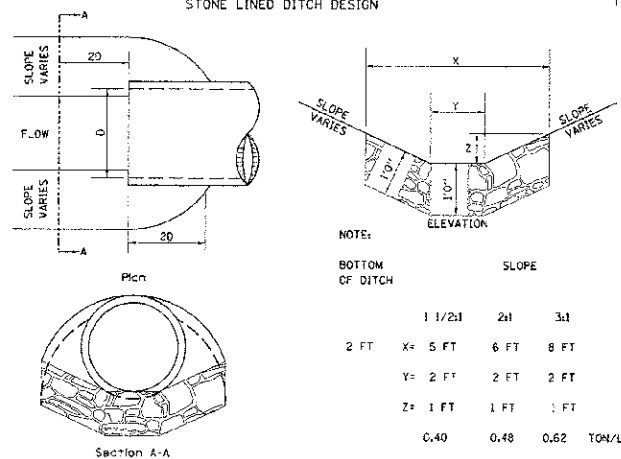
**TREE REMOVAL SCHEDULE**

SEE STONE LINED DITCH DETAIL.

**FIELD ENTRANCE DETAIL**



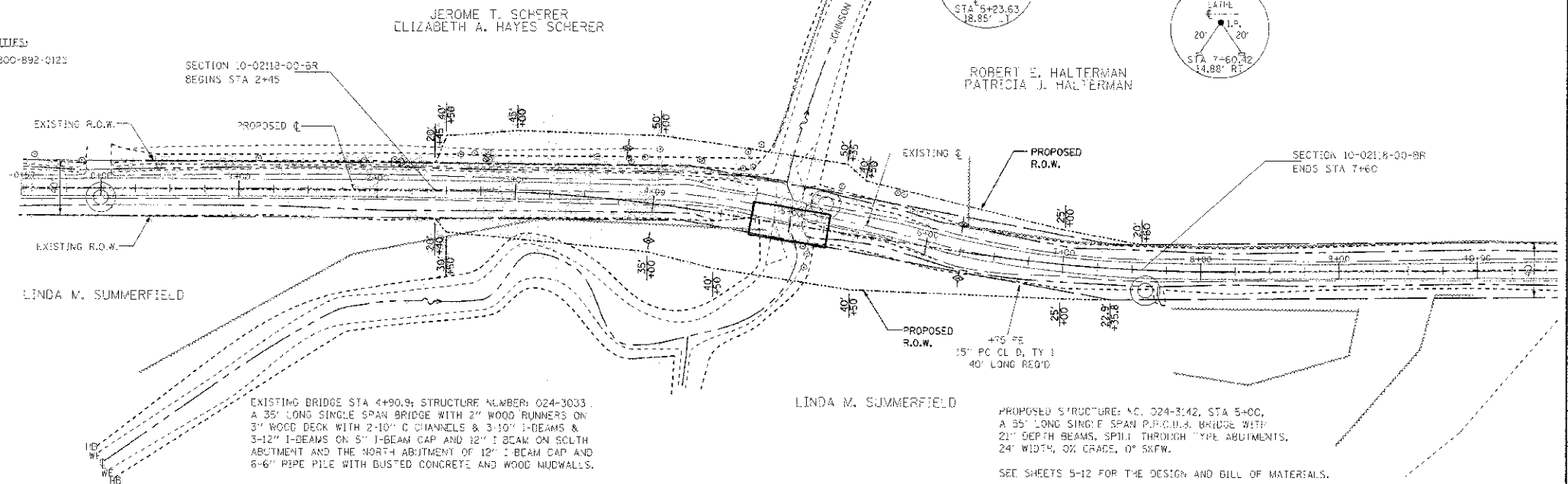
**STONE LINED DITCH DESIGN**



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

TON/LIN. FT

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



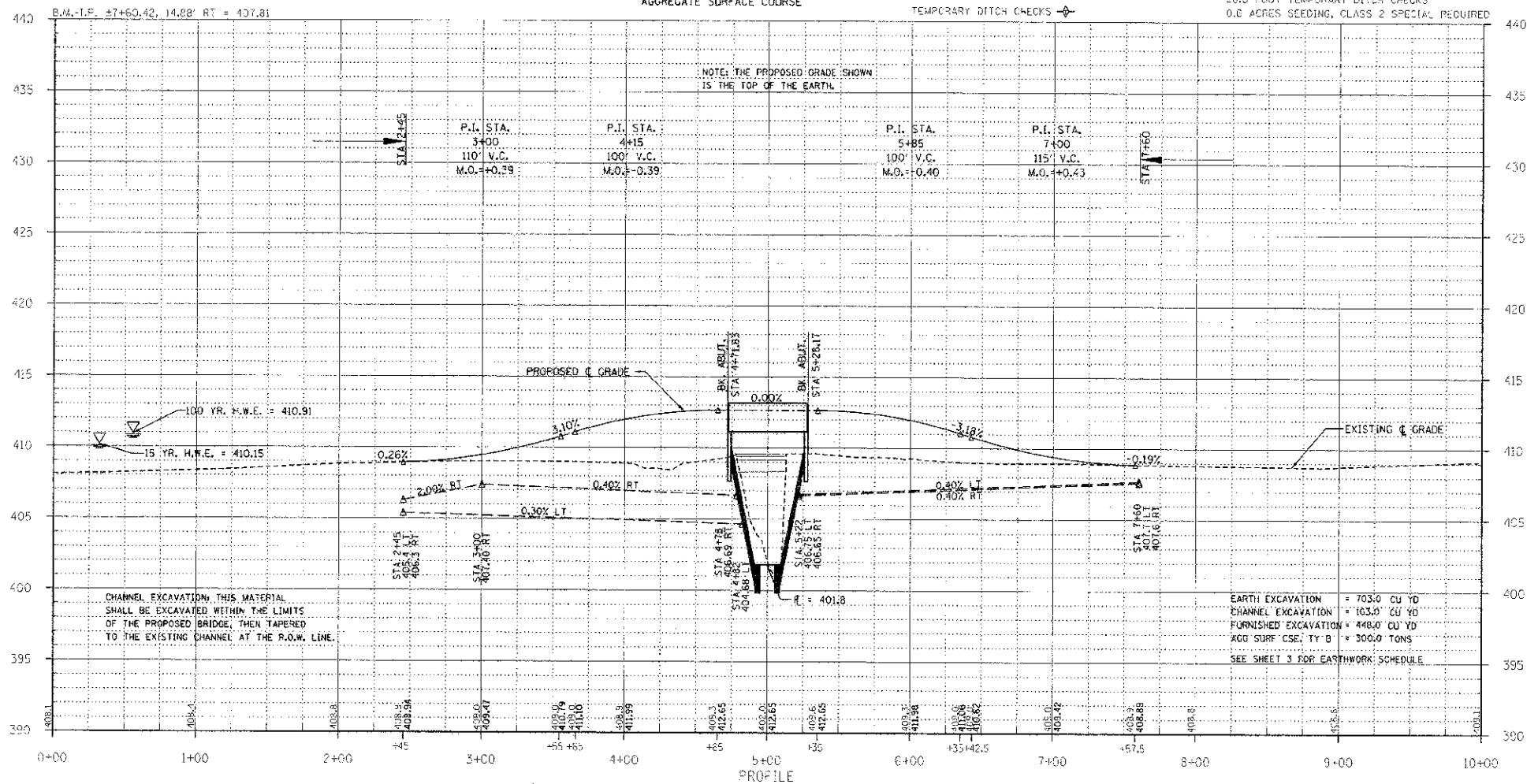
EXISTING BRIDGE STA 4+90.9; STRUCTURE NUMBER: 024-3033.  
A 35' LONG SINGLE SPAN BRIDGE WITH 2" WOOD RUNNERS ON 3" WOOD DECK WITH 2-18" C CHANNELS & 3-10" I-BEAMS & 3-12" I-BEAMS ON 5" I-BEAM CAP AND 32" I-BEAM ON SCLTH ABUTMENT AND THE NORTH ABUTMENT OF 12" I-BEAM CAP AND 6-6" PIPE PILE WITH BUSTED CONCRETE AND WOOD MIDWALLS.

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

NOTE: FILL NEXT TO BRIDGE TO BE AGGREGATE SURFACE COURSE

PROPOSED STRUCTURE: NO. 024-3142, STA 5+00, A 35' LONG SINGLE SPAN P.P.C.D.B. BRIDGE WITH 21" DEPTH BEAMS, SPIII THROUGH THE ABUTMENTS, 24" WIDTH, 0% GRADE, 0% SKFW.

SEE SHEETS 5-12 FOR THE DESIGN AND BILL OF MATERIALS.



SHEET TITLE:

PLAN & PROFILE

SCALE: VARS

BY: AMM

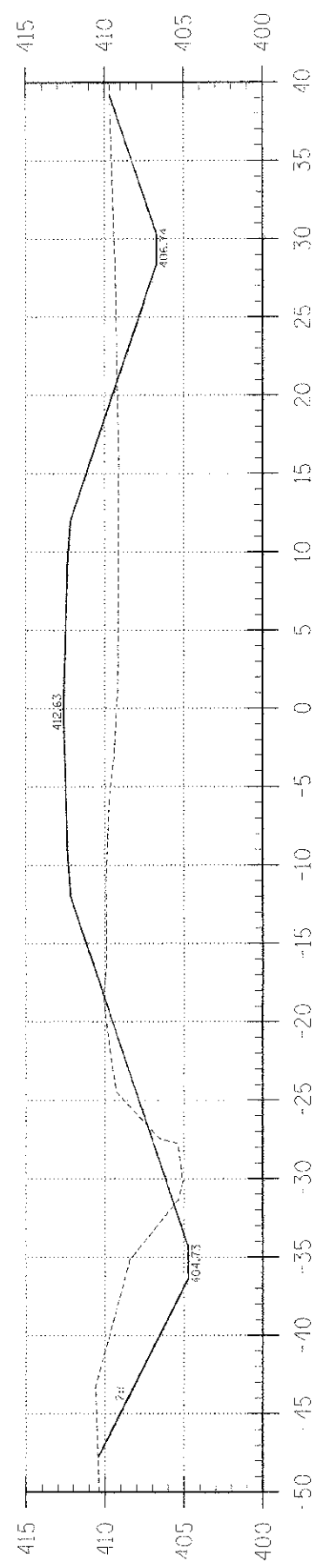
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REV: 3013

2 OF 13 SHEETS

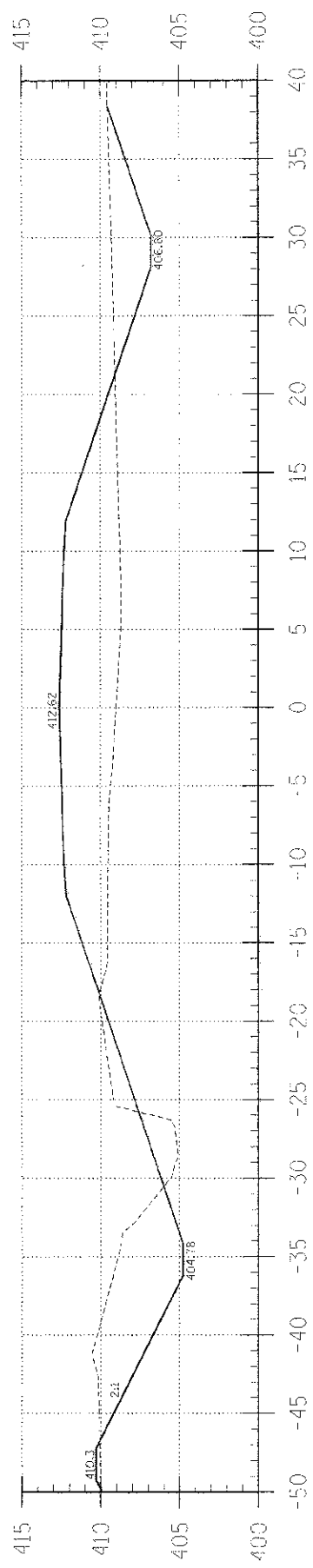
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2



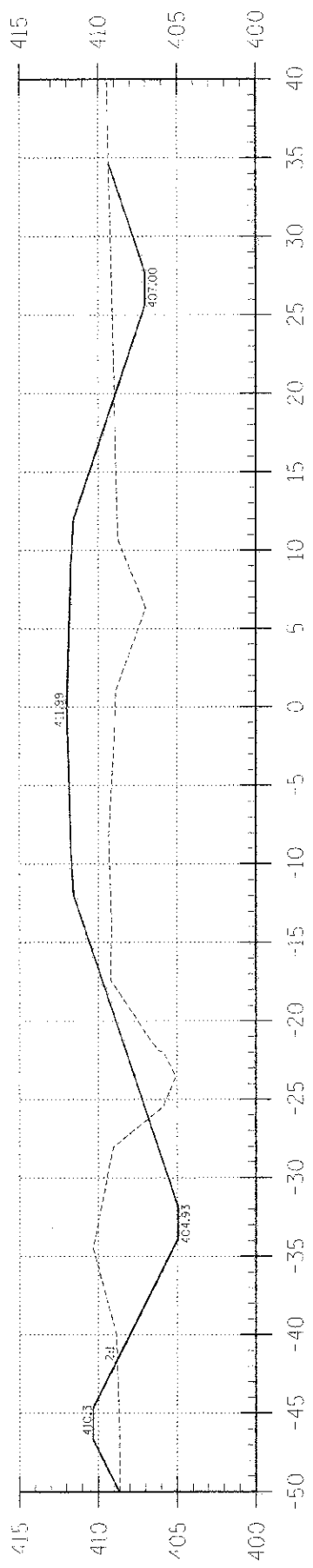
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4+65



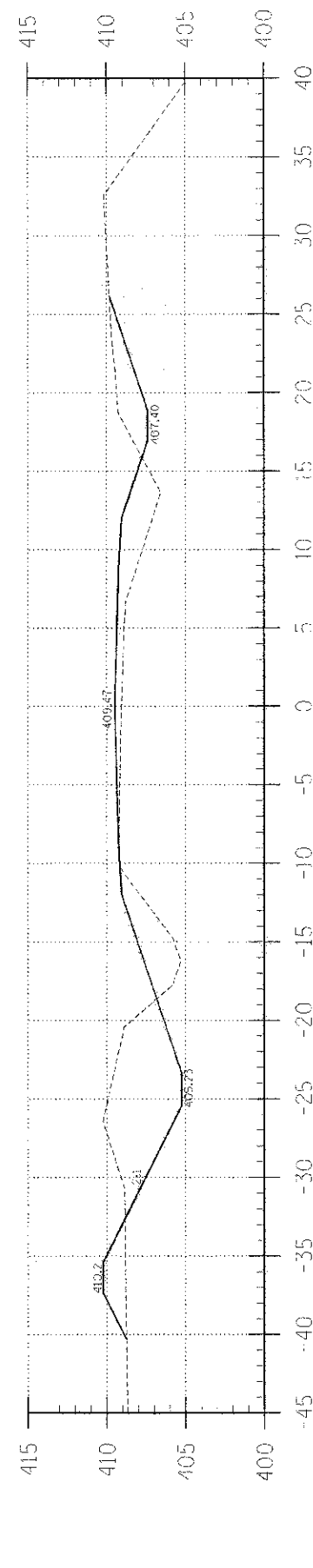
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4+50



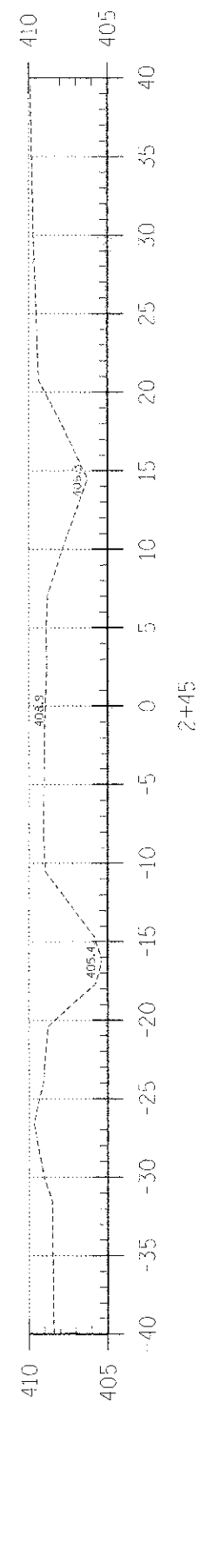
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4+00

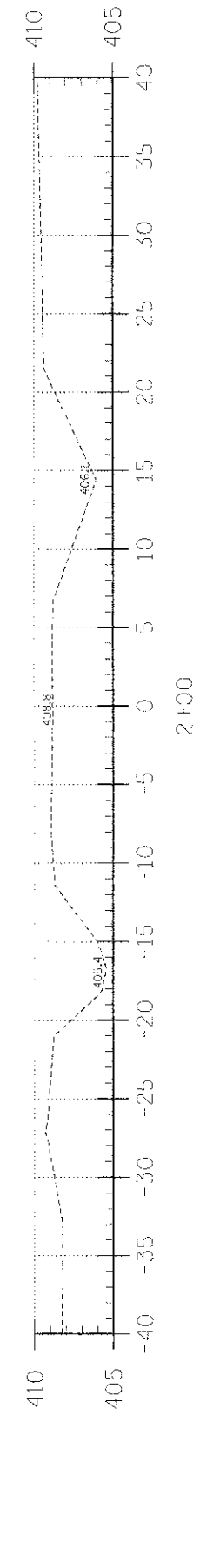


C = 49.3  
F = 36.5

3+00



2+45



2+00

EARTHWORK SCHEDULE

LOCATION	EARTH EXCAVATION CUBIC YARD	CHANNEL EXCAVATION CUBIC YARD	ESTIMATED UNSUITABLE MATERIAL CUBIC YARD	SUITABLE MATERIAL ADJUSTED FOR SHRINKAGE CUBIC YARD	EMBANKMENT CUBIC YARD	EARTHWORK BALANCE WASTE (+) OR SHORTAGE (-) CUBIC YARD
STA 0+00 TO 4+71.8	467.9	0.0	0.0	350.9	605.1	-254.2
STA 4+71.8 TO 5+28.2	0.0	163.4	81.7	61.2	0.0	+61.2
STA 5+28.2 TO 10+00	235.0	0.0	0.0	176.3	427.8	-251.5
1 FIELD ENTRANCE	0.0	0.0	0.0	0.0	3.7	-3.7
TOTAL	702.9	163.4	81.7	588.4	1032.9	-448.2

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
62	10-02-18-00-BR	EDWARDS	3	3

328 W. 3RD ST.  
P.O. BOX 160  
MT. CARMEL, IL  
62863  
PHONE: (618)-262-8661  
FAX: (618)-263-3327

405 W. STATE ST.  
SUITE 1  
PRINCETON, IN  
47670  
PHONE: (812) 388-7611  
FAX: (812) 385-2812

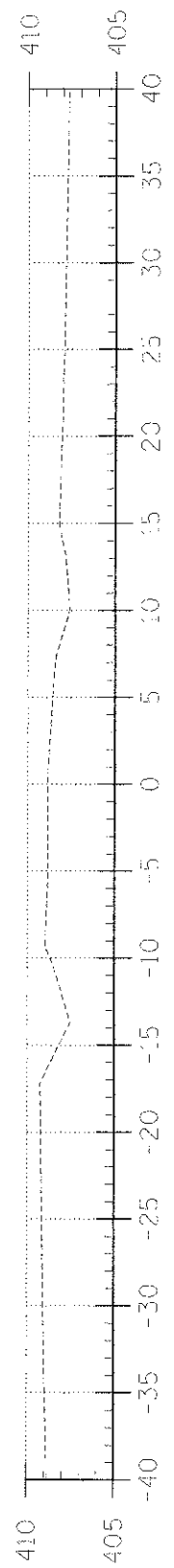
PROFESSIONAL DESIGN FIRM  
LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION  
184-00187/  
(62-032435)(05-002769)

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

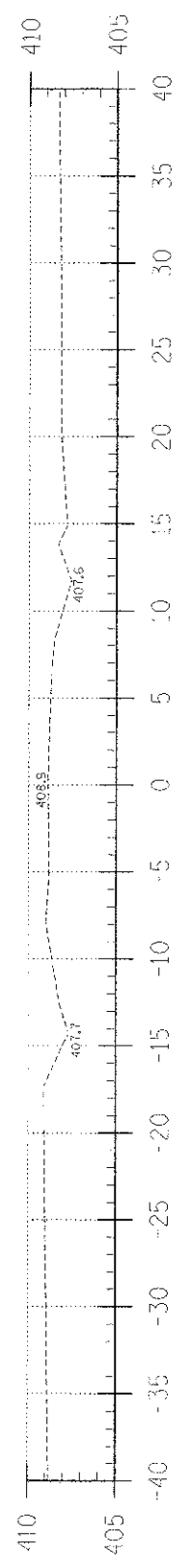
JOHNSON CREEK  
TOWNSHIP ROUTE 62  
EDWARDS COUNTY, ILLINOIS

SHEET TITLE:  
CROSS-SECTIONS  
SCALE: 1" = 5'  
BY: M/M  
DATE: 10/15  
REV: 3/13  
3 OF 13 SHEETS  
SHEET NO. 3

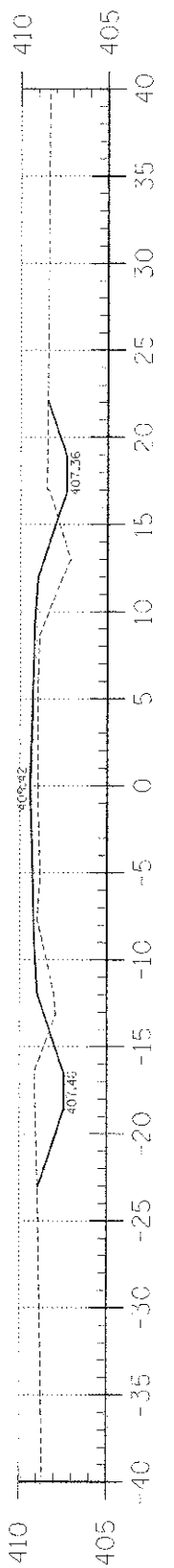




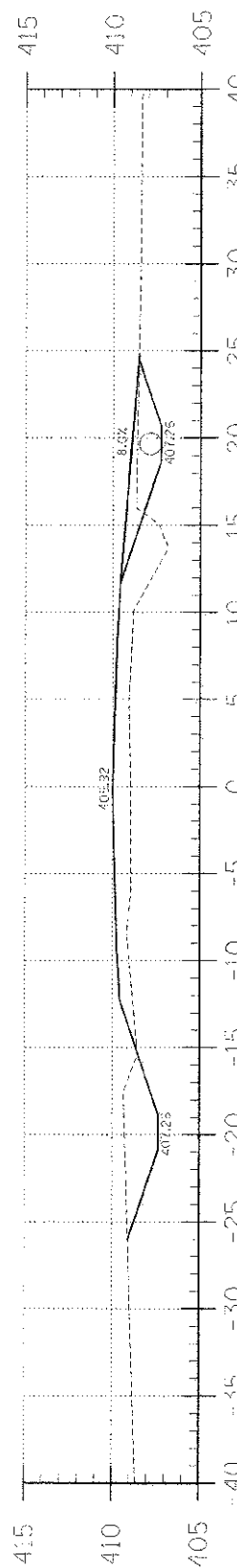
8+00



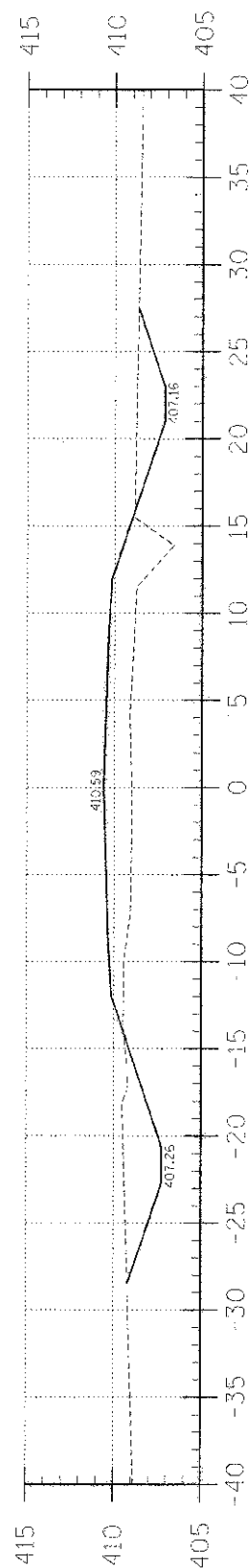
7+60



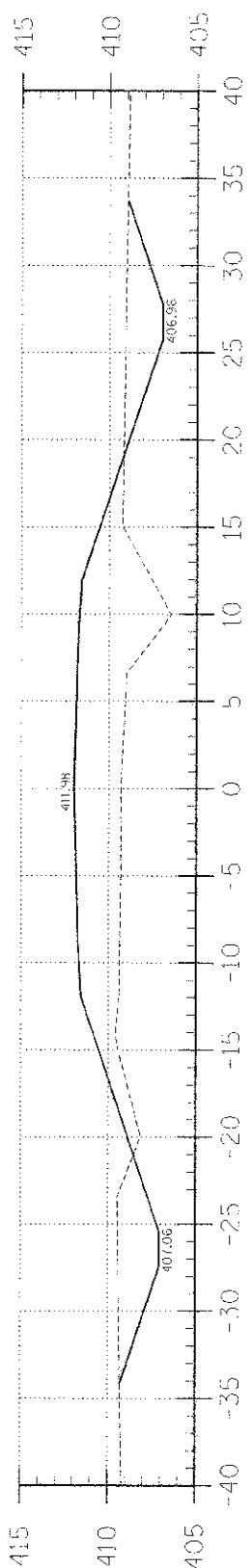
7+00



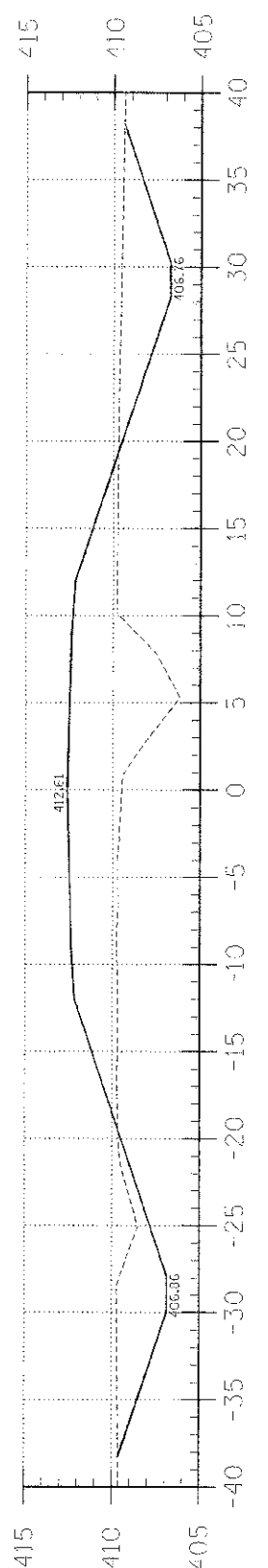
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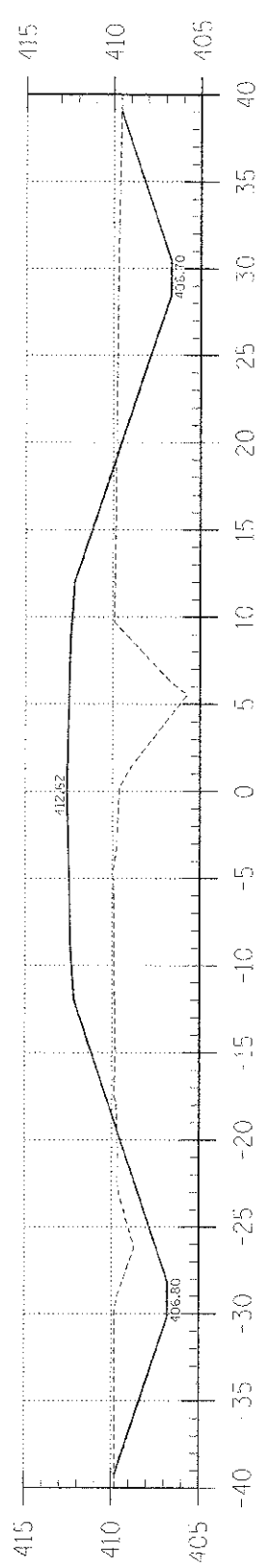
6+50



6+00



5+50



5+35

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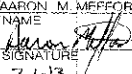
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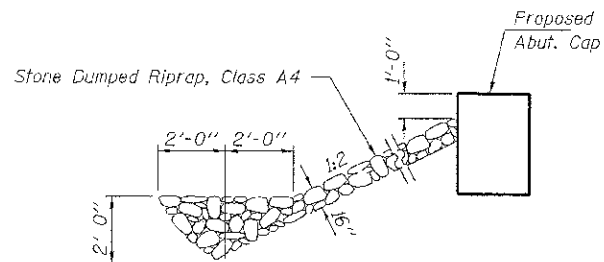
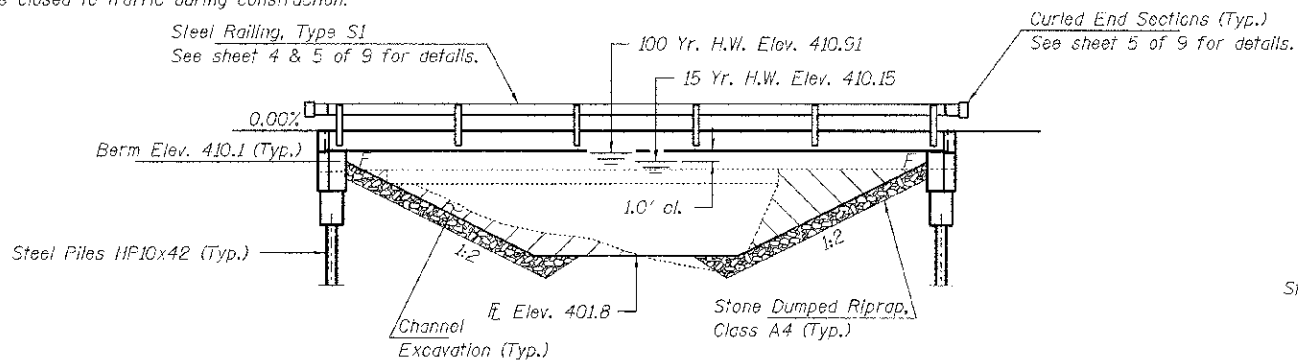
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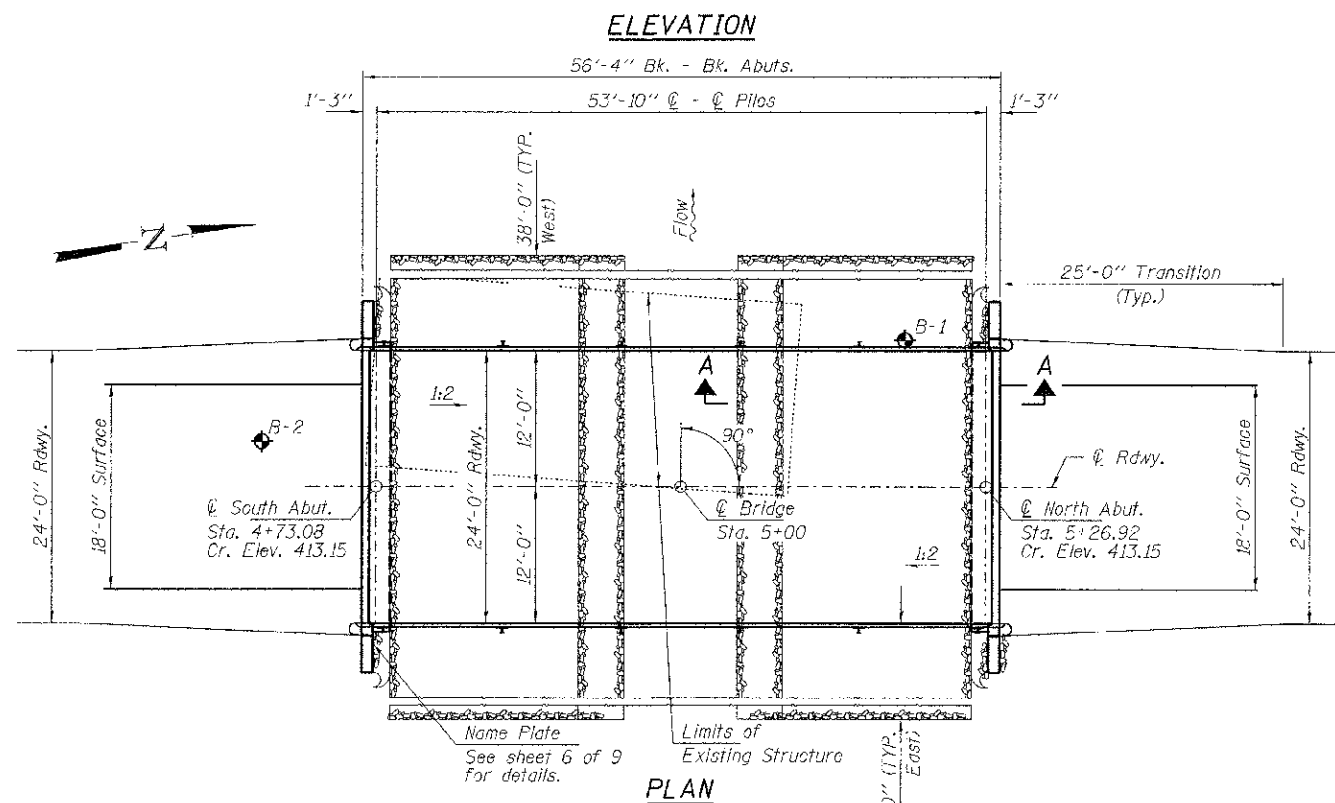
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	323 W. 3RD ST. P.O. BOX 160 NAT. CARNIEL, IL 62263 PHONE: (618)-262-8651 FAX: (618)-263-3327	
62	10-02118-00-BR	EDWARDS	13	4		
FED. ADMS DIST. NO. 7		ILLINOIS	JOHNSON CREEK			405 W. STATE ST. SUITE 1 PRINCETON, IN 47670 PHONE: (812)-386-7611 FAX: (812)-385-2812
PROJECT • SRCS 041031		CONTRACT • 9583				
LIC. NO. • 00010022					<b>LAMAC</b> ENGINEERING CO.	
PROFESSIONAL DESIGN FIRM LAND SURVEY & PROFESSIONAL ENGINEERING CORPORATION 184-000667 (62-032435)(35-002769)						
AARON M. MEFFORD NAME  SIGNATURE 3-1-13 DATE 11-30-13 EXPIRES					56284 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS	
JOHNSON CREEK TOWNSHIP ROUTE 62 EDWARDS COUNTY, ILLINOIS						
SHEET TITLE:					CROSS-SECTIONS	
SCALE: 1" = 5'						
BY: AMM					4 OF 13 SHEETS	
DATE: 1993						
REV: 3/13					SHEET NO. 4	

**BENCHMARK:**

EXISTING STRUCTURE NO. 024-3033: A 35' long single span bridge with 2" wood runners on 3" wood deck with 2-10" C-Channels, 3-10" I-Beams and 3-12" I-Beams on 5" I-Beam cap and 12" I-Beam on South Abutment and the North Abutment of 12" I-Beam cap and 6-6" pipe pile with husted concrete and wood mudwalls. Structure closed to traffic during construction.



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

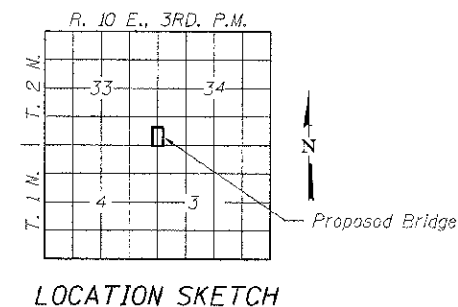


**GENERAL NOTES**

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

**INDEX OF STRUCTURE SHEETS**

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



**NAME PLATE**  
BUILT 2011 BY EDWARDS COUNTY  
SEC. 10-02118-00-BR  
ROAD DISTRICT #2  
STR. NO. 024-3142  
LOADING HL-93  
See Std. 515001

**DESIGN STRESSES**

**FIELD UNITS**

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

**PRECAST PRESTRESSED UNITS**

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

**LOADING HL-93**

Design Specifications: 2012 AASHTO LRFD  
50#/Sq. Ft. included in dead load for future wearing surface.

**SEISMIC DATA**

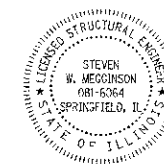
Seismic Performance Zone (SPZ) = 2  
Design Spectral Acceleration at 1.0 sec. (S<sub>D1</sub>) = 0.259g  
Design Spectral Acceleration at 0.2 sec. (S<sub>D5</sub>) = 0.620g  
Soil Site Class = D

**WATERWAY INFORMATION**

		Existing Low Grade Elev.		Proposed Low Grade Elev.		Sta.	
Drainage Area = 11.6 Sq. Mi.							
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist. Prop.	Natural H.W.E. Exist. Prop.	Head - Ft. Exist. Prop.	Headwater El. Exist. Prop.	
Design	15	3067	163 289	410.15	-	-	-
Base	100	5290	163 328	410.91	0.17 0.52	411.08 411.43	
Max. Calc.	500	-	-	-	-	-	-

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

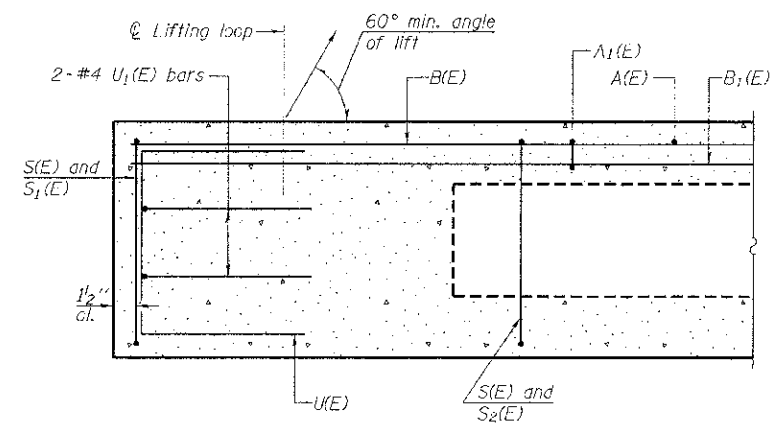


Expires 11-30-2012

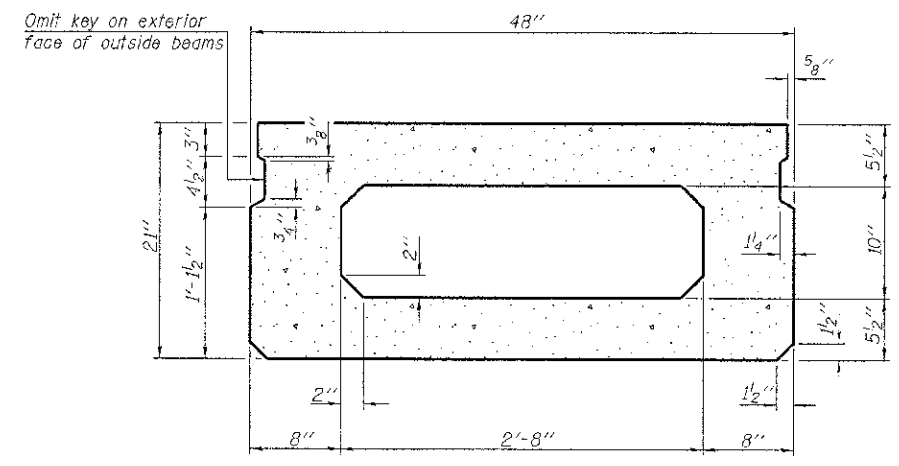
**TOTAL BILL OF MATERIAL**

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			163
Stone Dumped Riprap, Class A4	Ton			420
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		22.0	22.0
Concrete Encasement	Cu. Yd.		2.8	2.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,320		1,320
Reinforcement Bars	Pound		2,420	2,420
Steel Railing, Type S1	Foot	109		109
Furnishing Steel Piles HP10x42	Foot		400	400
Driving Piles	Foot		400	400
Name Plates	Each		1	1

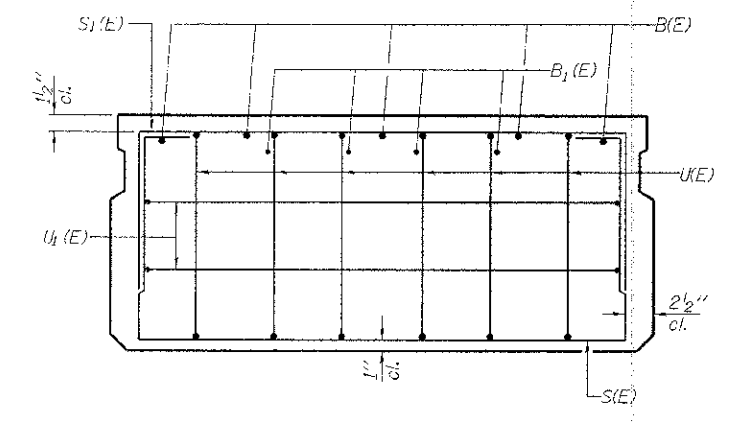
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HAMPTON, LENZINI AND RENWICK, INC.	FLD1 SCALE =	CHECKED - S.W.M.	REVISED -			52	10-02118-00-BR	EDWARDS	13	5
3000 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLD1 DATE = 10/2/2012	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2		CONTRACT NO. 95683		
ILLINOIS PROFESSIONAL DESIGN FIRM 15 / FE / BE / CC / CP / SE / PE / GE / O&M / 181.000009		CHECKED - S.W.M.	REVISED -			ILLINOIS		FED. AID PROJECT BROS-047037D		
						SHEET NO. 1 OF 9 SHEETS				



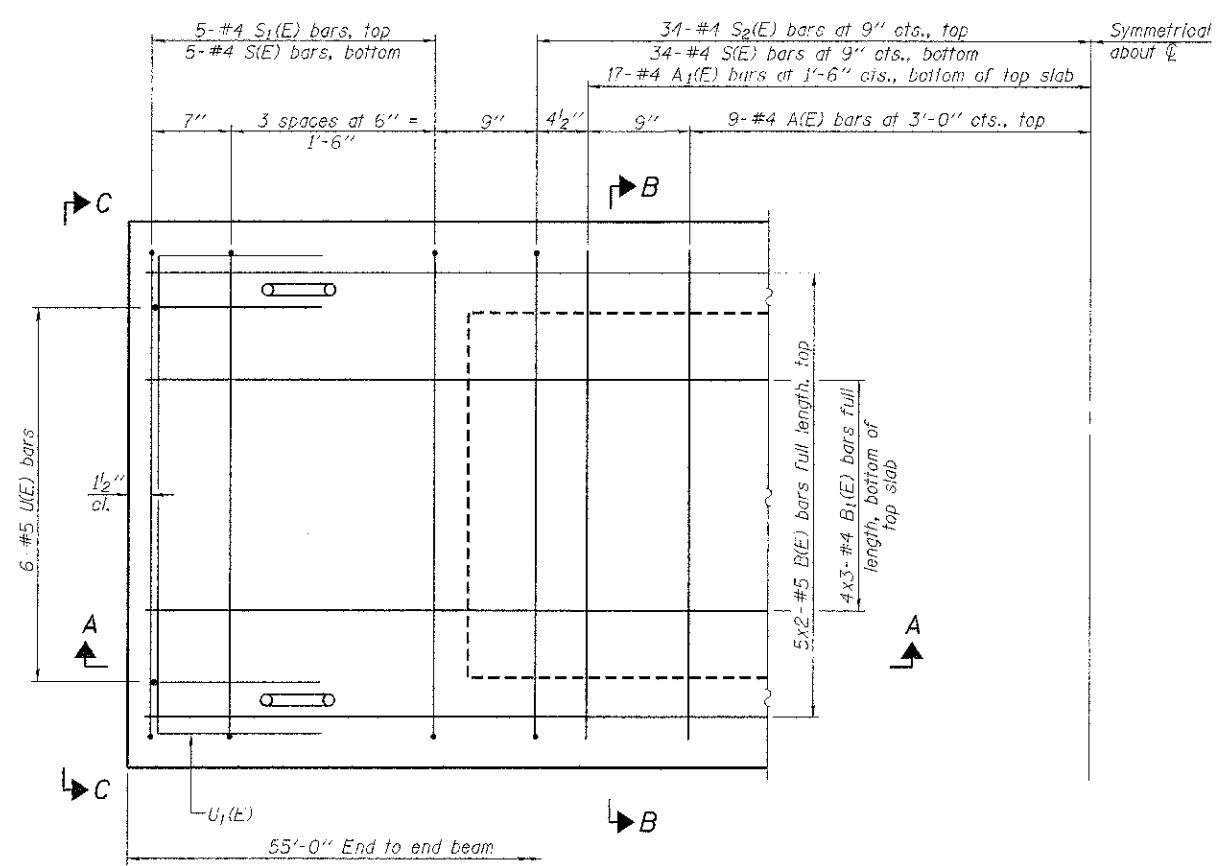
SECTION A-A



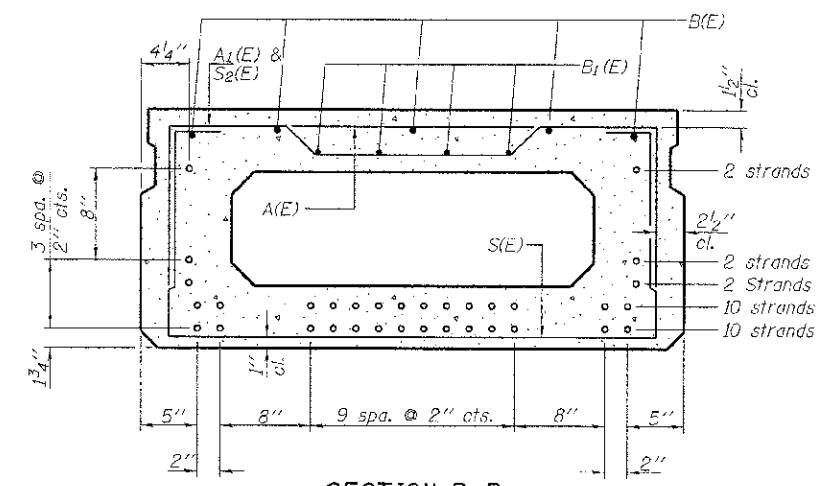
SECTION B-B  
(Showing dimensions)



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)	18	#4	3'-7"	—
A1(E)	34	#4	3'-10"	—
B(E)	10	#5	28'-8"	—
B1(E)	12	#4	19'-7"	—
S(E)	78	#4	7'-5"	□
S1(E)	10	#4	5'-11"	□
S2(E)	68	#4	6'-2"	□
U(E)	12	#5	4'-0"	□
U1(E)	4	#4	6'-0"	□

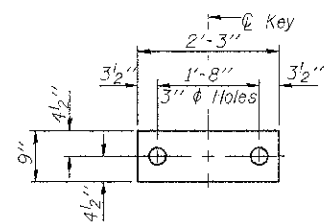
Note: See sheets 3 and 4 of 9 for additional details and Bill of Material.

Note:  
Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.  
Bars indicated thus 5x2-#5 etc. Indicates 5 lines of bars with 2 lengths per line.

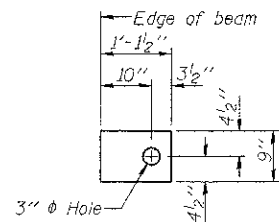
MINIMUM BAR LAP  
#4 bar = 2'-0"  
#5 bar = 2'-6"

PD-2148-0 7-1-10

FILE NAME = 102369-rtt-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -	<b>STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT</b>	<b>21" x 48" PPC DECK BEAM STRUCTURE NO. 024-3142</b>	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
HAMPTON, LENZINI AND RENWICK, INC. 1005 STEVENSON DRIVE, SUITE 201 BENIGNO, ILLINOIS 62014	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			62	10-02118-00-BR	EDWARDS	13	6	
ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE COMP. 104-00389	PLOT DATE = 10/2/2012	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2	CONTRACT NO. 95683				
		CHECKED - S.W.M.	REVISED -			SHEET NO. 2 OF 9 SHEETS					



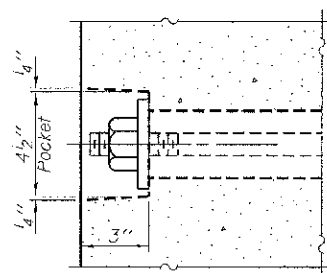
**FABRIC BEARING PAD**  
(Interior - 10 Req'd.)



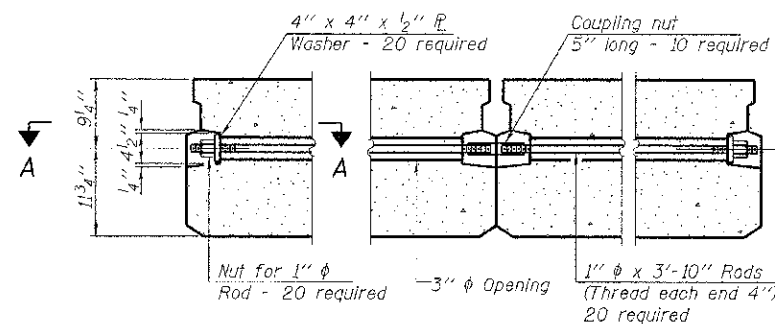
**FABRIC BEARING PAD**  
(Exterior - 4 Req'd.)

**FIXED**

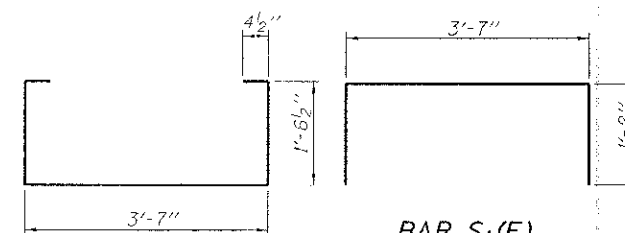
Notes:  
All bearing pads shall be 1" thick.  
Omit holes when using expansion bearings.  
Expansion bearing pad shall be bonded to the substructure.



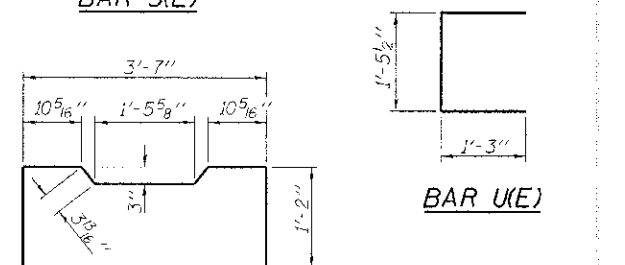
**SECTION A-A**



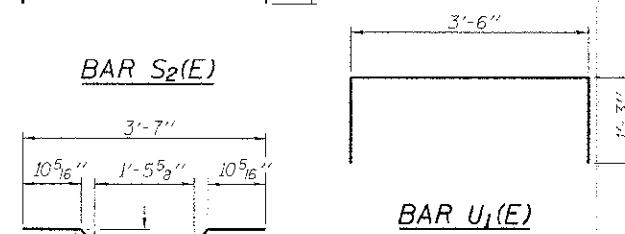
**TYPICAL TRANSVERSE TIE ASSEMBLY**



**BAR S(E)**



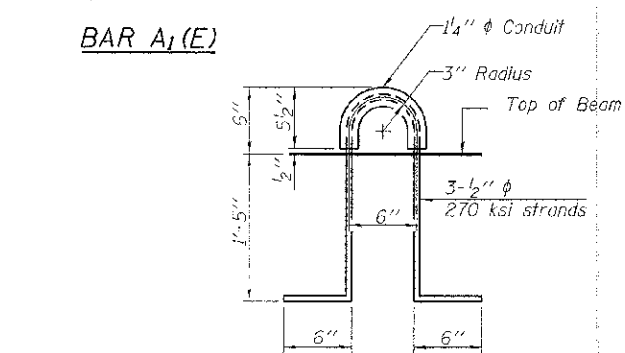
**BAR U(E)**



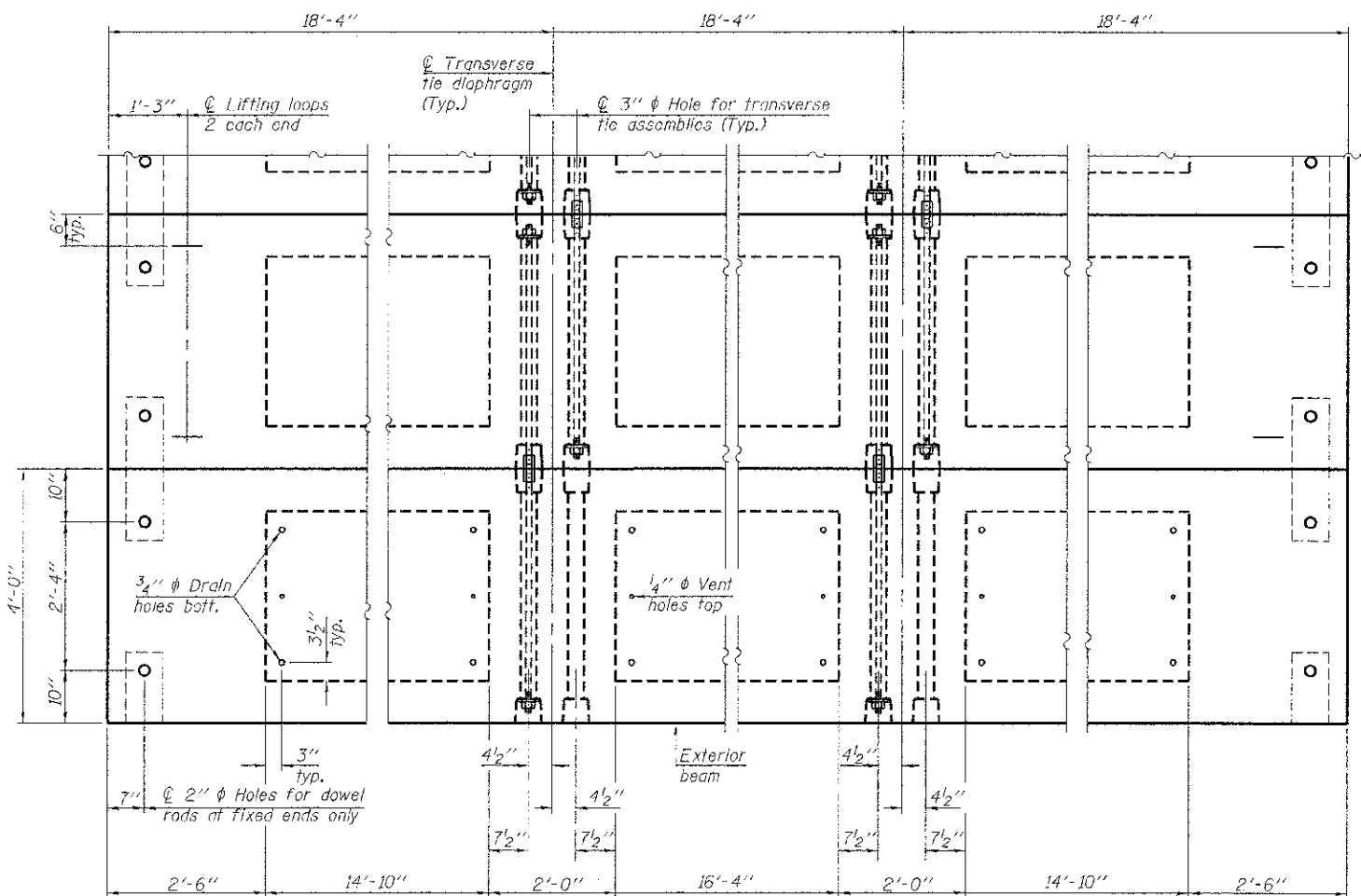
**BAR S2(E)**



**BAR U1(E)**



**LIFTING LOOP DETAIL**



**PLAN VIEW**

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

**NOTES**

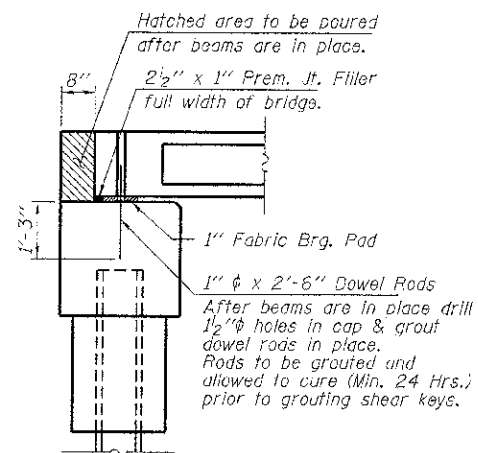
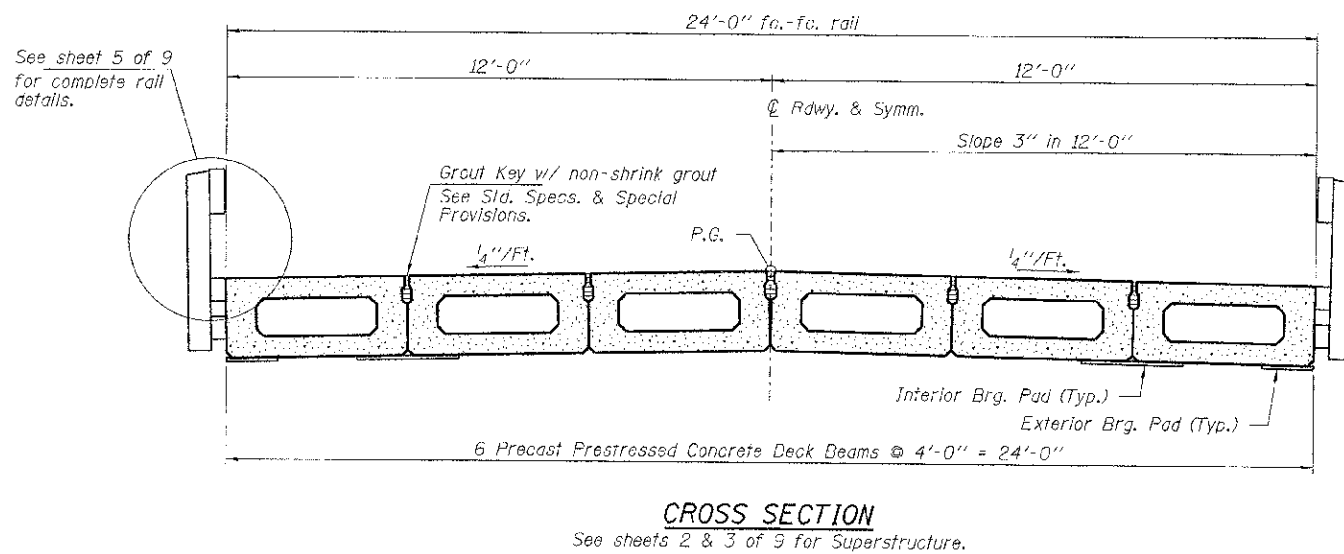
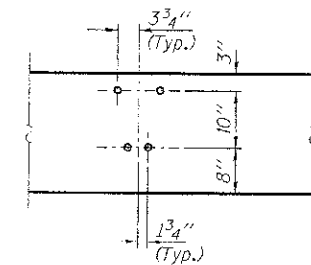
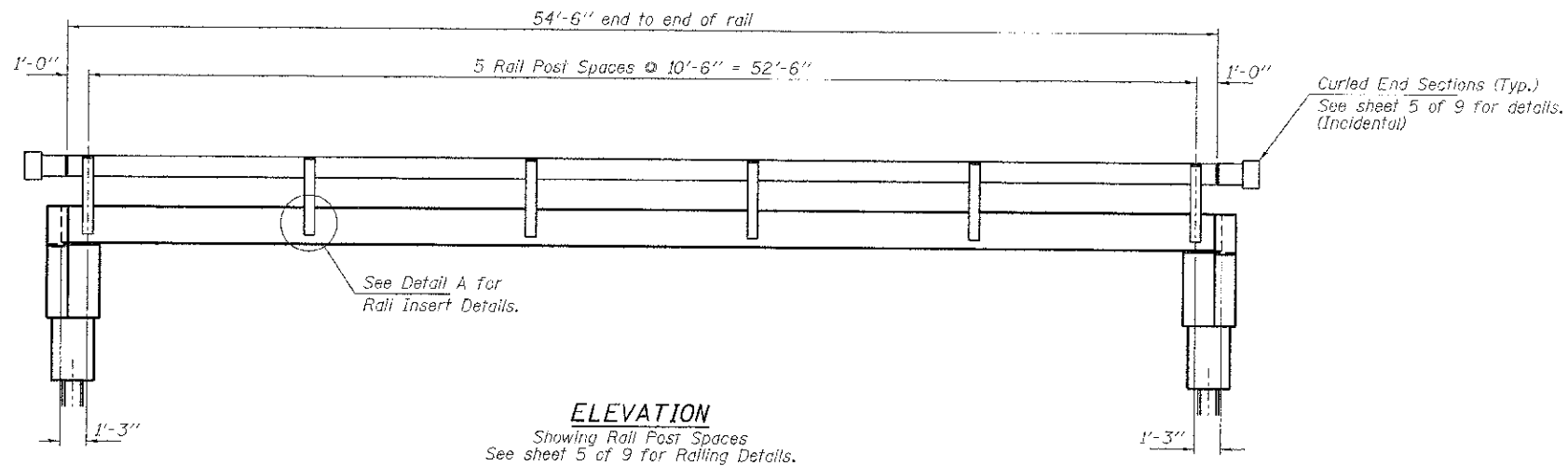
Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.  
Reinforcement bars shall conform to ASTM A 705, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.  
A minimum 2 1/2" diameter lifting pin shall be used to engage the lifting loops during handling.  
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.  
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.  
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.  
All reinforcement shall be epoxy coated.

**BILL OF MATERIAL**

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,320
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PD-2148-OD 7-1-10

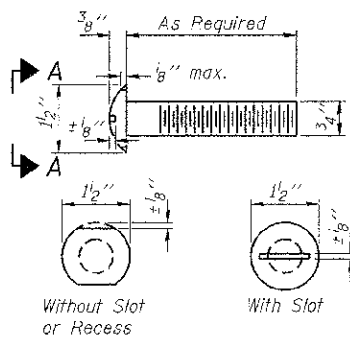
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HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -			G2	10-0211B-00-BR	EDWARDS	13	7
3303 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, IL 62761-6718	PLOT SCALE =	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2	CONTRACT NO. 95683			
ILLINOIS PROFESSIONAL DESIGN FIRM L5/7/PE/REG. CO. # 184200200	PLOT DATE = 10/2/2012	CHECKED - S.W.M.	REVISED -			ILLINOIS FED. AID PROJECT BR05-0470371				



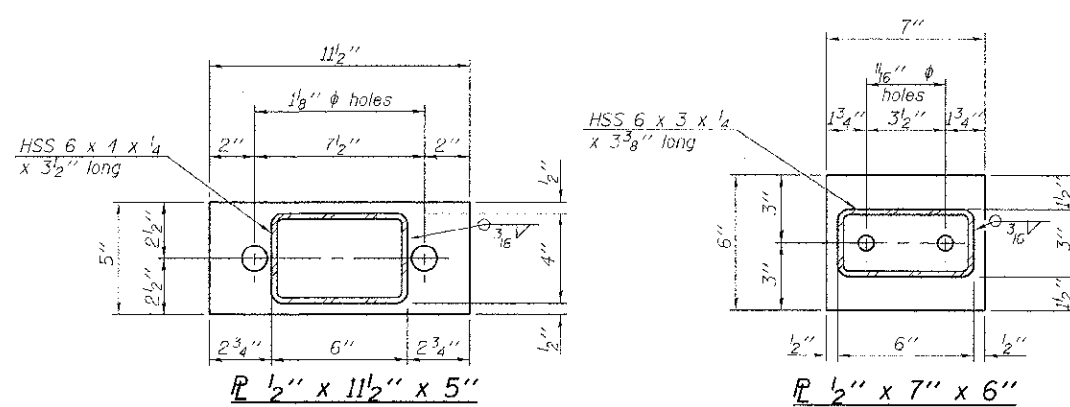
**SECTION AT ABUTMENTS**  
© Rt. L's

FILE NAME = 100369_sht-4_ridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -	<b>STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT</b>	<b>SUPERSTRUCTURE DETAILS STRUCTURE NO. 024-3142</b>	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.	
<b>HAMPTON, LENZINI AND RENWICK, INC.</b> 3301 RIFTON DRIVE SUITE 201 SPRINGFIELD, ILLINOIS 62702	P.O. SCALE =	CHECKED - S.W.M.	REVISED -			62	10-0218-00-BR	EDWARDS	13	8	
<b>H.A.R.</b> ILLINOIS PROFESSIONAL ENGINEERING FIRM 131 FIFTH STREET SUITE 100 SPRINGFIELD, ILLINOIS 62702	P.O. DATE = 10/2/2012	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2					
		CHECKED - S.W.M.	REVISED -			CONTRACT NO. 95683					
SHEET NO. 4 OF 9 SHEETS						ILLINOIS FED. AID PROJECT BROS-0470370					



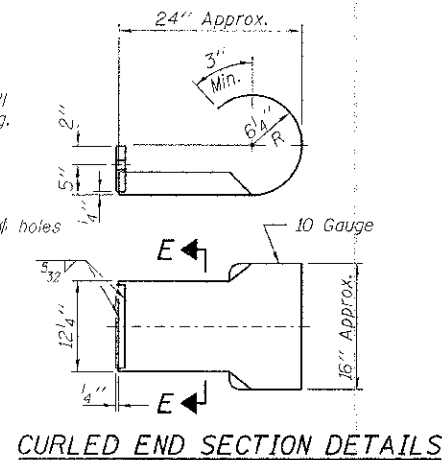
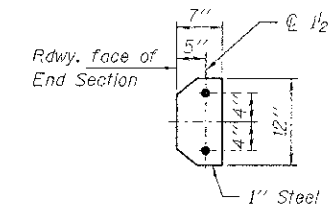


**VIEW A-A**  
ROUND HEAD BOLT

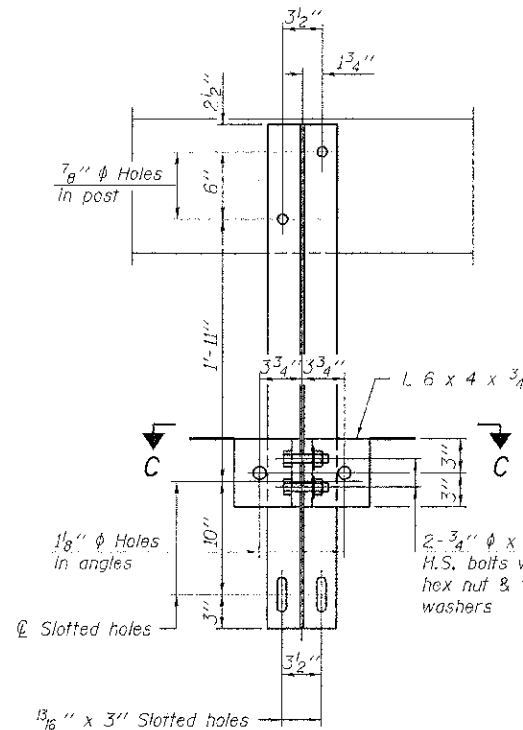


**SECTION B-B**  
SECTION AT RAILING POST

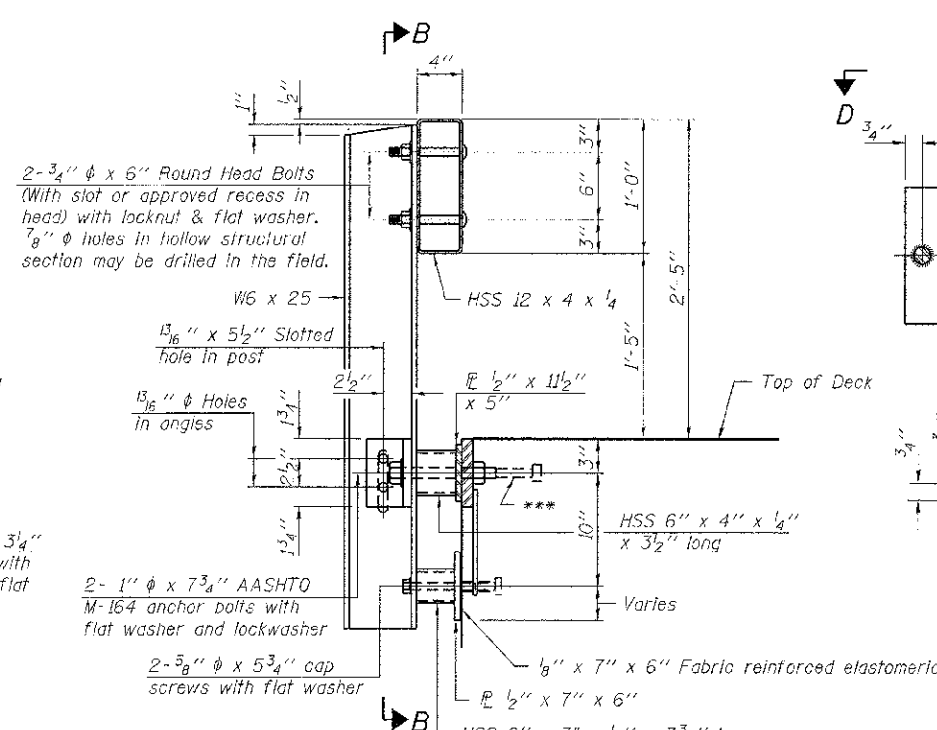
Note: Cost of curled end sections shall be included with the Steel Railing. (4 Required)



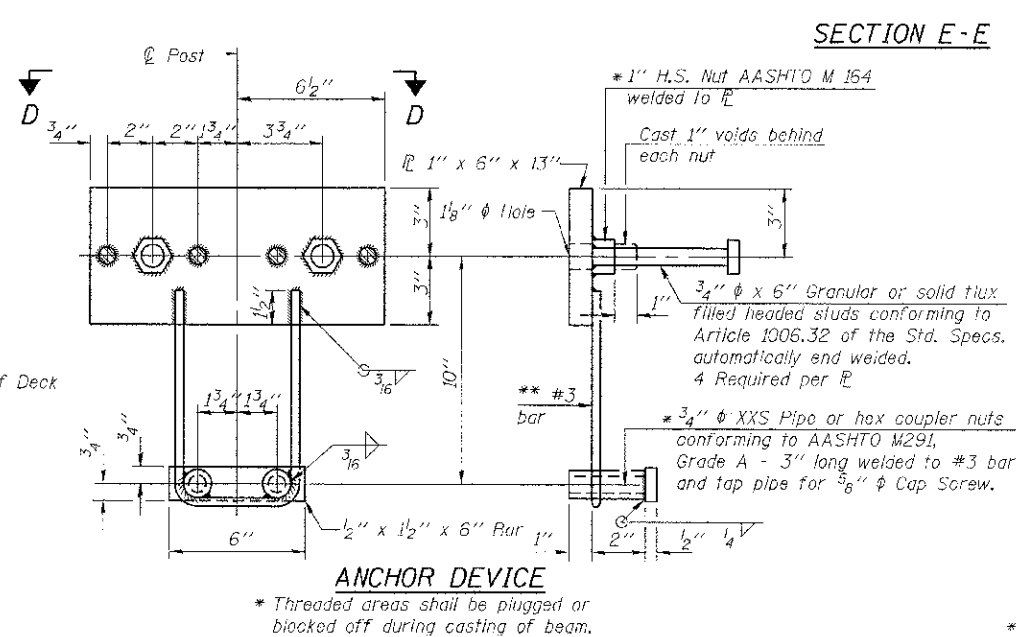
**SECTION E-E**  
**SECTION E-E** CURLED END SECTION DETAILS



**SECTION C-C**  
SECTION AT RAILING POST

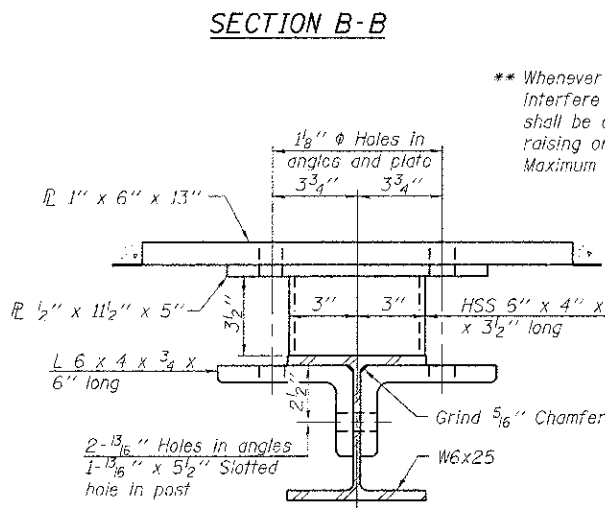


**SECTION AT RAILING POST**

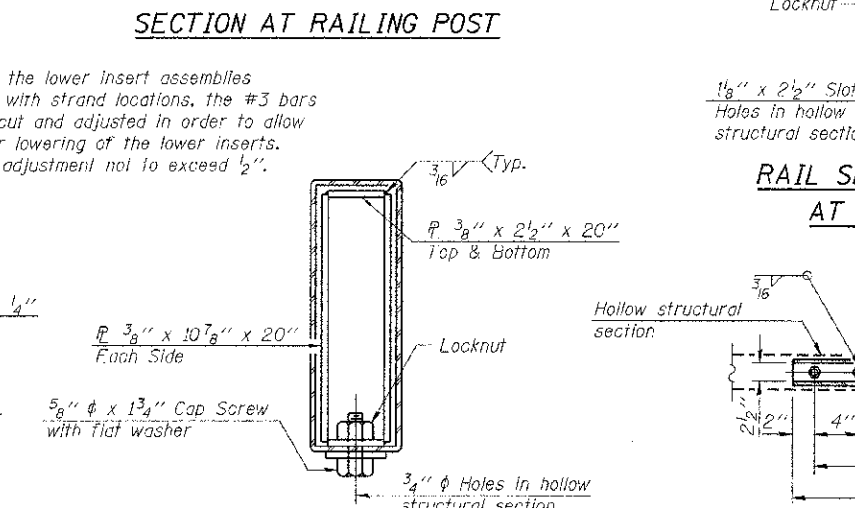


**ANCHOR DEVICE**

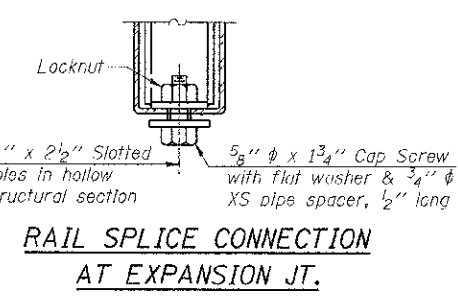
Notes:  
All field drilled holes shall be coated with an approved zinc rich paint before erection.  
For multi-span bridges, sufficient 1/4" x 6" x 1" 2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.  
All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.  
\*\*\* The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.



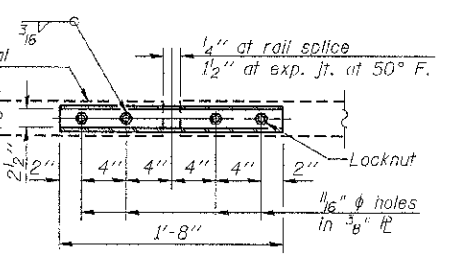
**SECTION C-C**  
SECTION AT RAILING POST



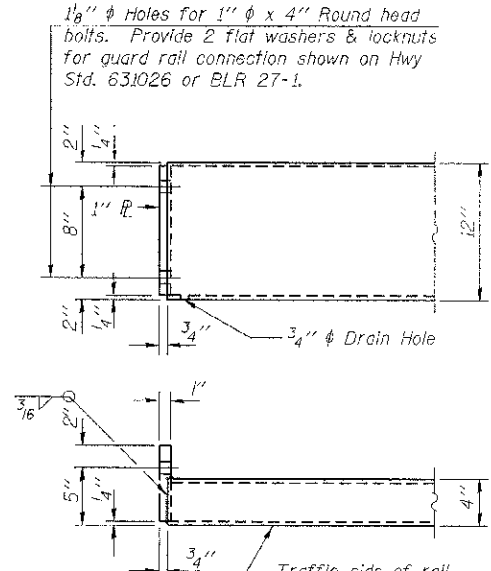
**SECTIONS AT RAIL SPLICE**



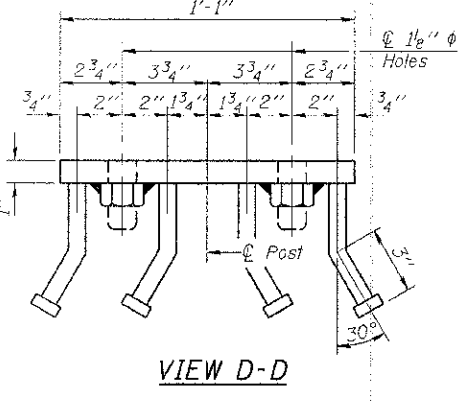
**RAIL SPLICE CONNECTION AT EXPANSION JT.**



**PLAN-BOTT. SPLICE R TYPICAL**



**END OF RAIL DETAILS**



**VIEW D-D**  
SECTION AT RAILING POST

**BILL OF MATERIAL**

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	109

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

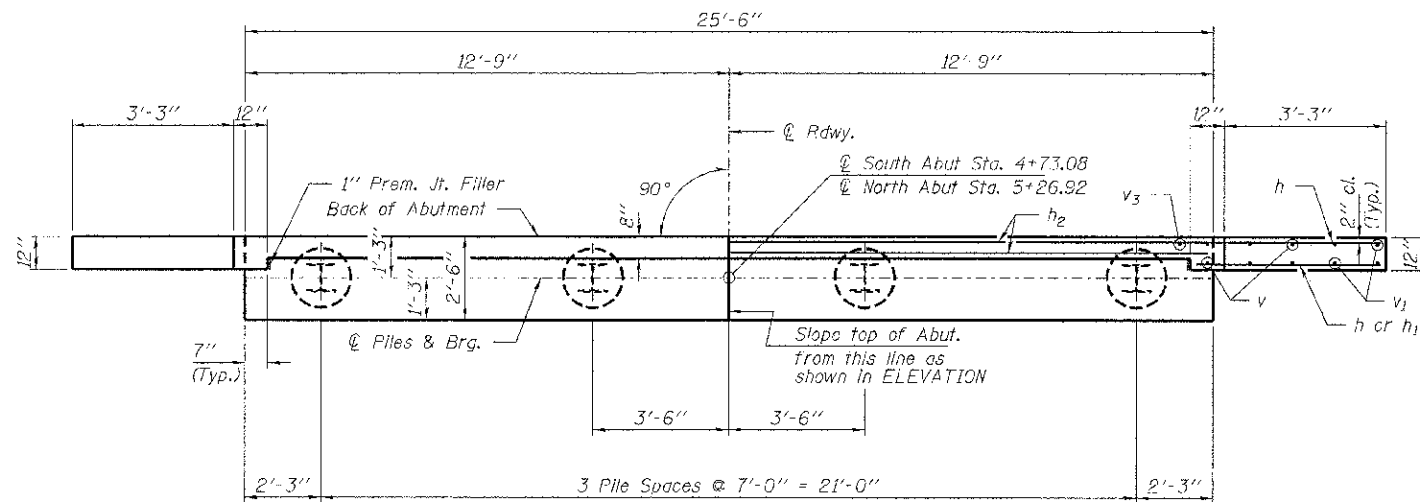
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USER NAME =  
DESIGNED - D.W.T.  
CHECKED - S.W.M.  
DRAWN - D.A.B.  
CHECKED - S.W.M.  
PLOT SCALE =  
PLOT DATE = 10/2/2012

DESIGNED - D.W.T.  
CHECKED - S.W.M.  
DRAWN - D.A.B.  
CHECKED - S.W.M.  
PLOT SCALE =  
PLOT DATE = 10/2/2012

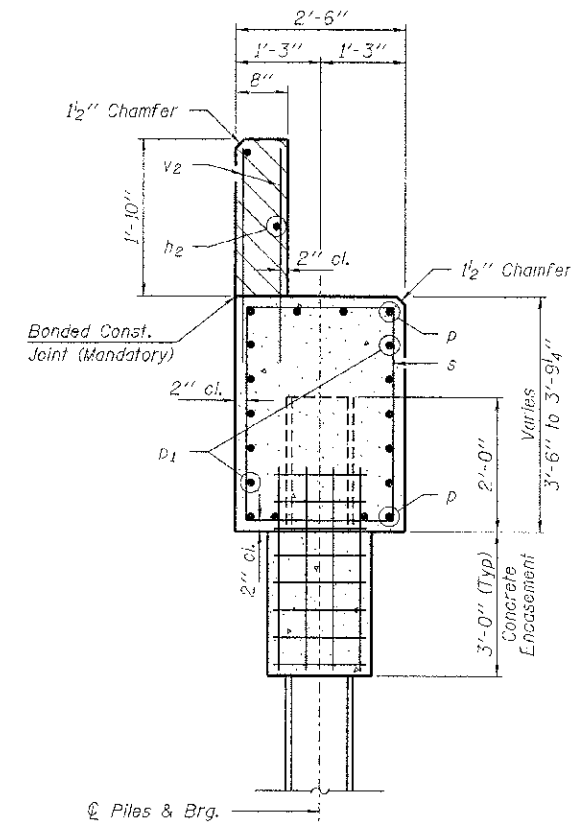
STATE OF ILLINOIS  
EDWARDS COUNTY HIGHWAY DEPARTMENT

STEEL RAILING, TYPE S-1  
STRUCTURE NO. 024-3142  
SHEET NO. 5 OF 9 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
G2	10-C2110-00-BR	EDWARDS	13	9
ROAD DISTRICT #2			CONTRACT NO. 95683	
ILLINOIS FED. AID PROJECT BROS-047037				

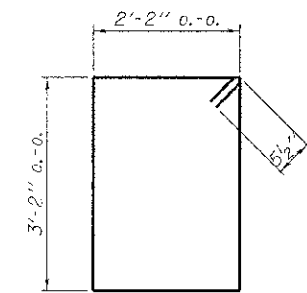


PLAN

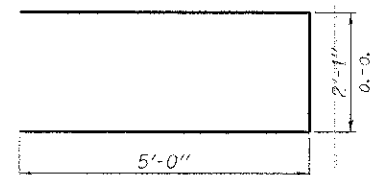


SECTION A-A

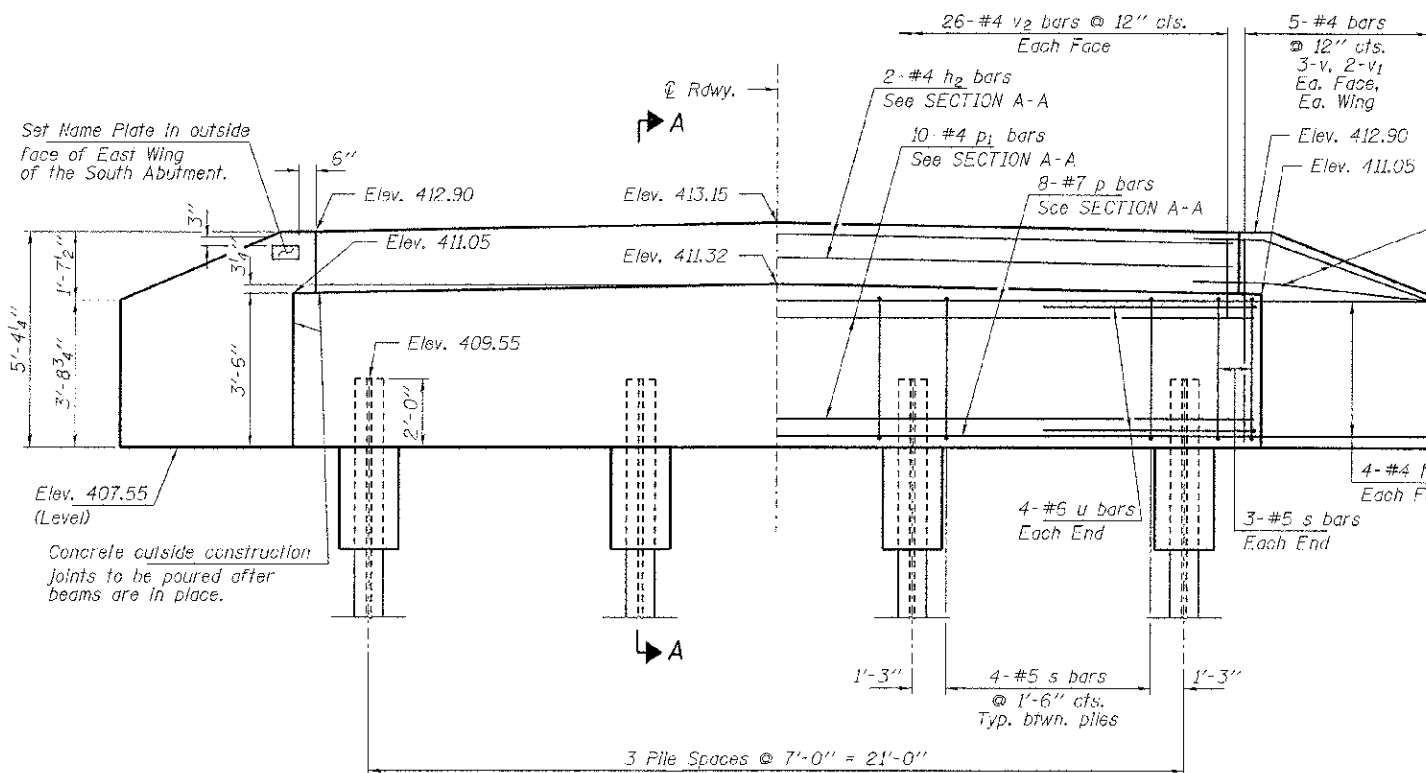
Hatched area to be poured after beams are in place.



BAR s



BAR u



ELEVATION

Note: Extend h bars into abutment cap.

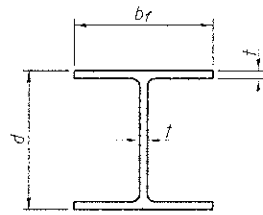
For 2-#4 h bars (B.F.)  
For 2-#4 h1 bars (F.F.)  
Each Wing  
Bend in field.

PILE DATA

Type..... Steel HPI0x42  
No. Req'd. (2 Abuts.)..... 8  
Factored Resistance Available (RF)..... 184 Kips/Pile  
Nominal Required Bearing (RN)..... 335 Kips/Pile  
Est. Length..... 50 Ft/Pile

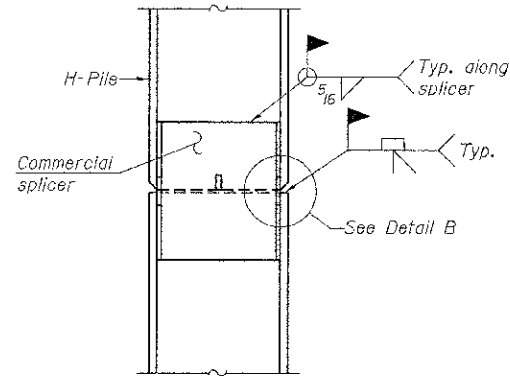
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h	40	#4	5'-6"	—
h1	8	#4	4'-0"	—
h2	4	#4	25'-2"	—
p	16	#7	25'-2"	—
p1	20	#4	25'-2"	—
s	36	#5	11'-7"	□
u	16	#6	12'-1"	—
v	24	#4	4'-6"	—
v1	16	#4	3'-6"	—
v2	104	#4	2'-8"	—
Concrete Structures			Cu. Yd.	22.0
Concrete Encasement			Cu. Yd.	2.8
Reinforcement Bars			Pound	2,420
Steel Piles HPI0x42			Foot	400
Name Plates			Each	1

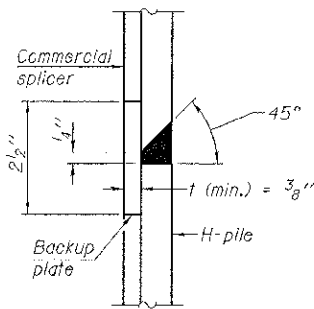


**STEEL PILE TABLE**

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"	9/16"	24"
x42	9 3/4"	10 1/8"	7/16"	24"
HP 8x36	8"	8 1/8"	7/16"	18"

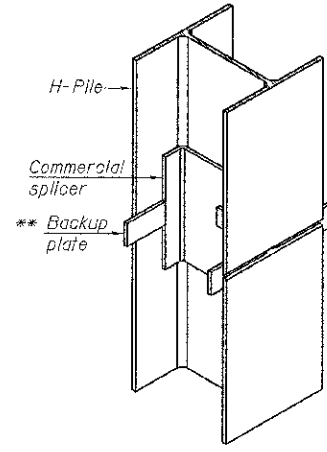


**ELEVATION**

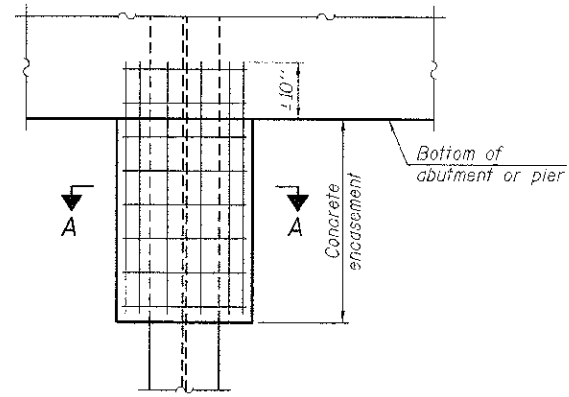


**DETAIL "B"**

**WELDED COMMERCIAL SPLICE**

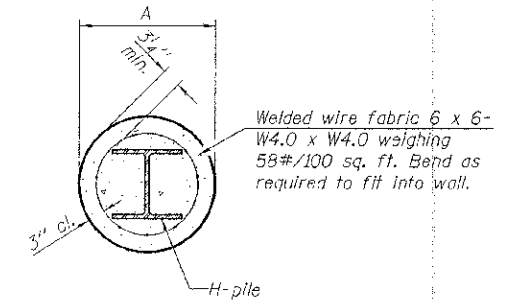


**ISOMETRIC VIEW**



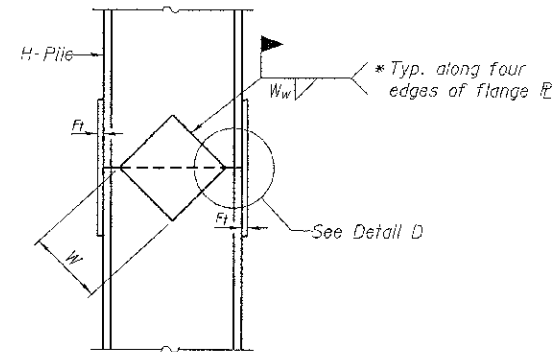
**ELEVATION**

**PILE ENCASEMENT**

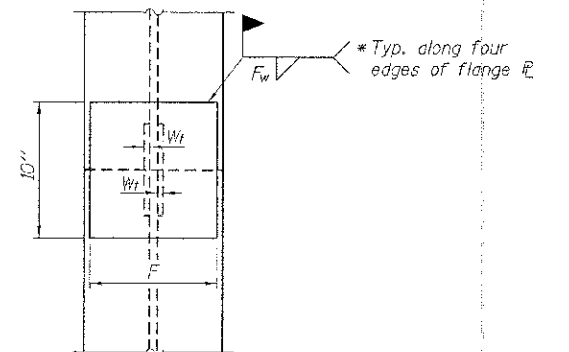


**SECTION A-A**

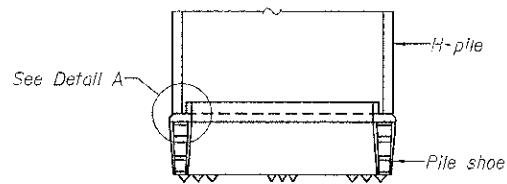
Note:  
Forms for encasement may be omitted when soil conditions permit.



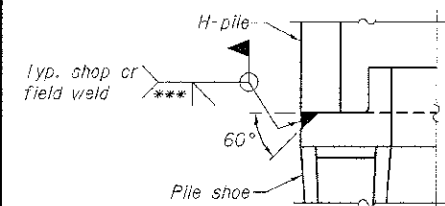
**ELEVATION**



**END VIEW**

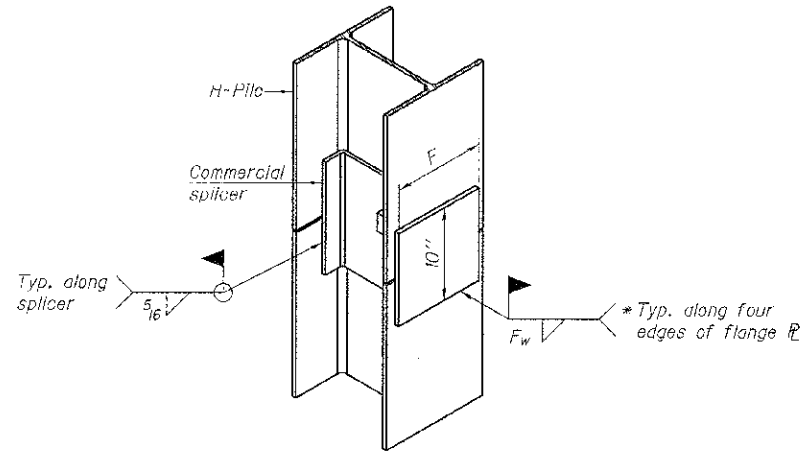


**ELEVATION**

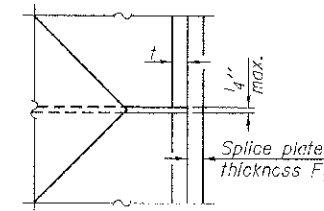


**DETAIL A**

**H-PILE SHOE ATTACHMENT**



**ISOMETRIC 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 1/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5 1/8"	1/2"
x89	12 1/2"	3/4"	11/16"	7 3/4"	5 1/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5 1/8"	1/2"
HP 12x84	10"	7/8"	11/16"	6 1/2"	5 1/8"	1/2"
x74	10"	7/8"	11/16"	6 1/2"	5 1/8"	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"	3/8"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

**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

7-1-10

FILE NAME = 100369-ah-bridge.dgn	USER NAME =	DESIGNED - D.W.T.	REVISED -	<b>STATE OF ILLINOIS EDWARDS COUNTY HIGHWAY DEPARTMENT</b>	<b>HP PILE DETAILS STRUCTURE NO. 024-3142</b>	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 1000 S. FARMER DRIVE, SUITE 207 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			62	10-02118-00-BR	EDWARDS	13	11
ILLINOIS PROFESSIONAL DESIGN FIRM 10/16/75 SE CD-11 4830050	PLOT DATE = 12/2/2012	DRAWN - D.A.B.	REVISED -			ROAD DISTRICT #2		CONTRACT NO. 95683		
		CHECKED - S.W.M.	REVISED -			SHEET NO. 7 OF 9 SHEETS		ILLINOIS FED. AID PROJECT BR05-041037		



