

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
SURFACE TRANSPORTATION PROGRAM - BRIDGE
JASPER COUNTY
SECTION 14-04125-00-BR
TR 85 OVER MINT CREEK
PROPOSED STRUCTURE NO. 040-3271
PROJECT NO. BROS-0079(153)
JOB NO. C-97-048-15

INDEX OF SHEETS

- 1 COVER SHEET
- 2 PLAN & PROFILE
- 3-4 CROSS SECTIONS
- 5-11 BRIDGE PLANS
- 12 BORINGS

- STANDARDS:
- 280001-07 - TEMP. EROSION CONTROL
 - 515001-03 - NAME PLATE
 - 630301-06 - SHLD. WIDENING FOR T1 TERM. SEC.
 - 701901-05 - TRAFFIC
 - BLR 21-9 - TRAFFIC
 - BLR 27-1 - TRAF. BAR. TERM. T5A
 - 725001 - OBJ. AND TERM. MARKERS

SCALES

- PLAN 1 INCH = 50 FEET
- PROFILE HORZ. 1 INCH = 50 FEET
- PROFILE VERT. 1 INCH = 10 FEET
- CROSS SECT. 1 INCH = 5 FEET

SUMMARY OF QUANTITIES

QUANTITY	UNIT	ITEM	CODE NO.
64	TON	AGGREGATE DITCH (SPECIAL)	X2830495
1	L SUM	TRAFFIC CONTROL AND PROTECTION, (SPECIAL)	X7010216
8	UNIT	TREE REMOVAL (6 TO 15 UNITS DIAMETER)	20100110
24	UNIT	TREE REMOVAL (OVER 15 UNITS DIAMETER)	20100210
357	CU YD	EARTH EXCAVATION	20200100
115	CU YD	CHANNEL EXCAVATION	20300100
100	TON	POROUS GRANULAR EMBANKMENT	20700110
60	FOOT	PERIMETER EROSION BARRIER	28000400
180	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
334	TON	AGGREGATE BASE COURSE, TYPE B	35101400
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
26.8	CU YD	CONCRETE STRUCTURES	50300225
1419	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	50400405
2840	POUND	REINFORCEMENT BARS, EPOXY COATED	50800205
104	FOOT	STEEL RAILING, TYPE S1	50900205*
120	FOOT	FURNISHING STEEL PILES HP10X42	51201400
120	FOOT	DRIVING PILES	51202305
1	EACH	NAME PLATES	51500100
112	SQ FT	CONCRETE SEALER	58700300
2	EACH	TRAFFIC BARRIER TERMINAL, TYPE 5A	*63100075
2	EACH	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	*63100167
1	L SUM	MOBILIZATION	67100100
4	EACH	TERMINAL MARKER - DIRECT APPLIED	78201000*

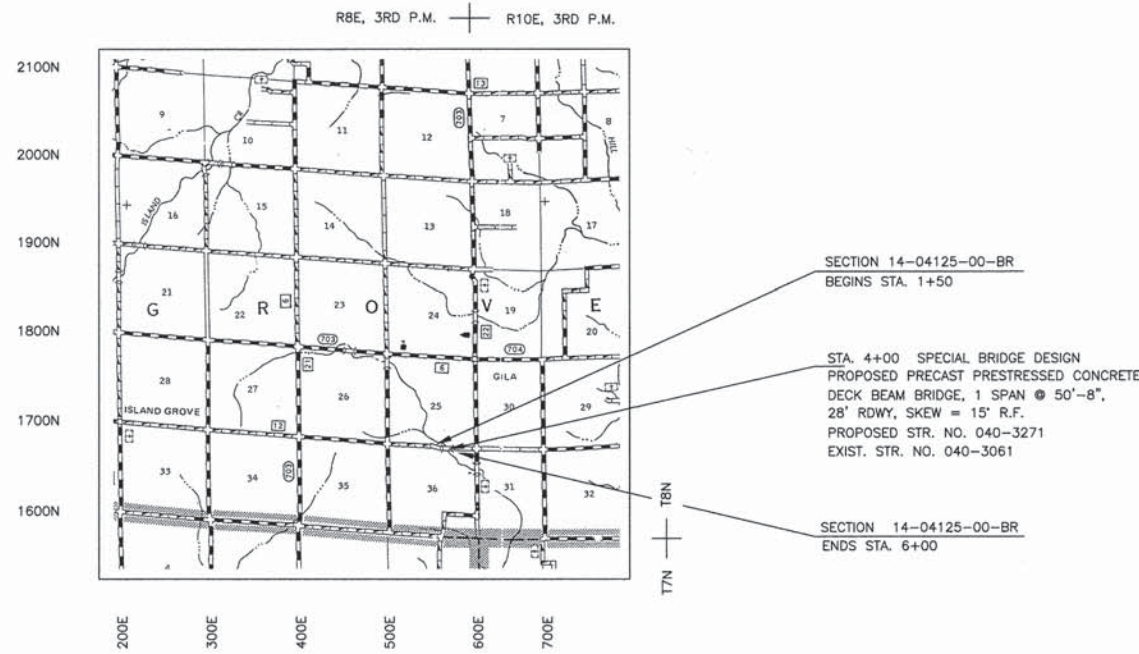
*SPECIALTY ITEM

FUNCTIONAL CLASS: RURAL LOCAL ROAD
ADT = 100
DESIGN SPEED = 30 MPH

TOLL FREE JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS (J.U.L.I.E.)
TELEPHONE NO. 1-800-892-0123

LOCATION MAP

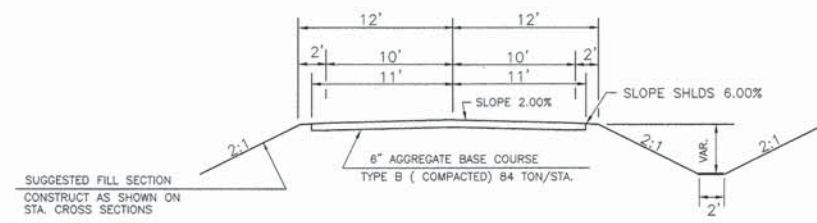
APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH = 450.00 FT. = 0.085 MILES



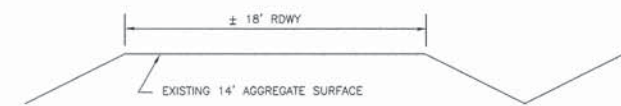
John A. Stone
ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 55012
LICENSE EXPIRES NOVEMBER 30, 2017
PROFESSIONAL DESIGN FIRM #184-000832

JASPER COUNTY HIGHWAY DEPARTMENT
APPROVED: <i>January 26, 2016</i> <i>Richard A. Patterson</i> LOCAL AGENCY, COUNTY ENGINEER
PASSED: <i>2-17, 16</i> <i>Maurice Kartl</i> DISTRICT SEVEN ENGINEER OF LOCAL ROADS & STREETS
RELEASING FOR BID BASED ON LIMITED REVIEW <i>2/18, 2016</i> <i>[Signature]</i> REGION FOUR ENGINEER

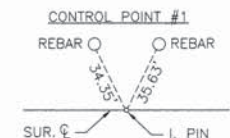
SECTION	14-04125-00-BR	TOTAL SHEETS	2	SHEET NO.	12
COUNTY	JASPER				
ROAD DIST.	GROVE				
	STA. 0+00	TO STA. 8+00			



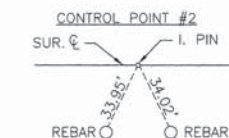
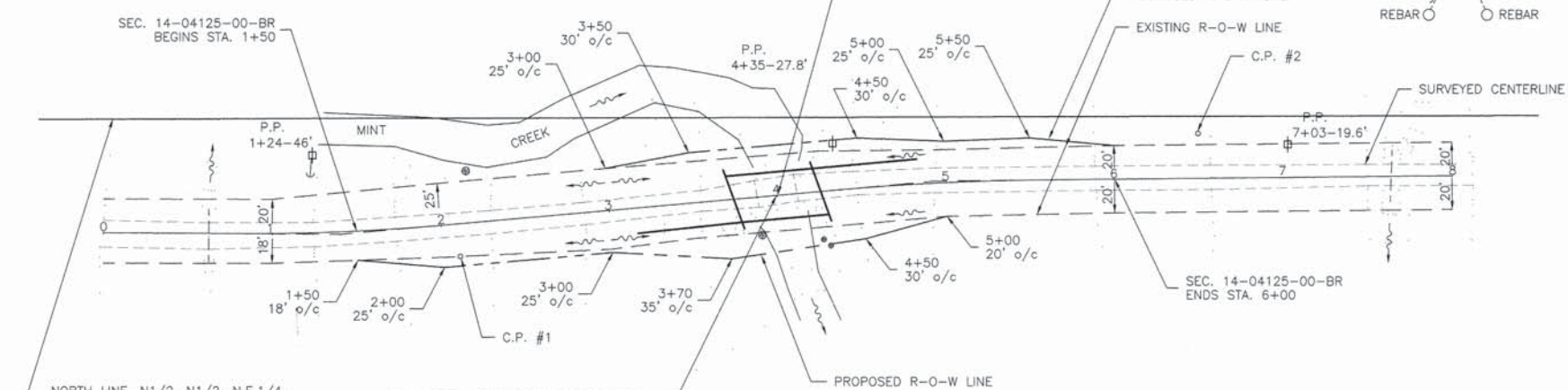
TYPICAL CROSS SECTION OF PROPOSED IMPROVEMENT



TYPICAL CROSS SECTION OF EXISTING ROADWAY



DANIEL AND MARY MEINHART



NOTE: WHEN THE PLANS OR SPECIAL PROVISIONS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE CRAWFORD COUNTY HIGHWAY DEPARTMENT AS TO THE LOCATION OF SUCH UTILITIES AND IS ONLY INCLUDED FOR THE CONVENIENCE OF THE BIDDER.

SCALES:
1" = 50' HOR
1" = 10' VER

CURVE DATA
P.I. STA. 1+40.84
Δ = 04°37'33" LT.
T = 60.00'
R = 1238.59'
L = 119.91'
E = 1.45'
NO S.E.

CURVE DATA
P.I. STA. 4+94.06
Δ = 03°46'17" RT.
T = 60.00'
R = 1519.18'
L = 119.94'
E = 1.18'
NO S.E.

TRAFFIC BARRIER TERMINALS, TYPE 1, SPECIAL (TANGENT)
N.E. CORNER OF BRIDGE = 1 EACH
S.W. CORNER OF BRIDGE = 1 EACH
TOTAL = 2 EACH

TRAFFIC BARRIER TERMINALS, TYPE 5A
N.E. CORNER OF BRIDGE = 1 EACH
S.W. CORNER OF BRIDGE = 1 EACH
TOTAL = 2 EACH

AGGREGATE BASE COURSE, TYPE B 6"
STA. 1+50 TO STA. 3+74 = 188 TONS
STA. 4+26 TO STA. 6+00 = 146 TONS
TOTAL = 334 TONS

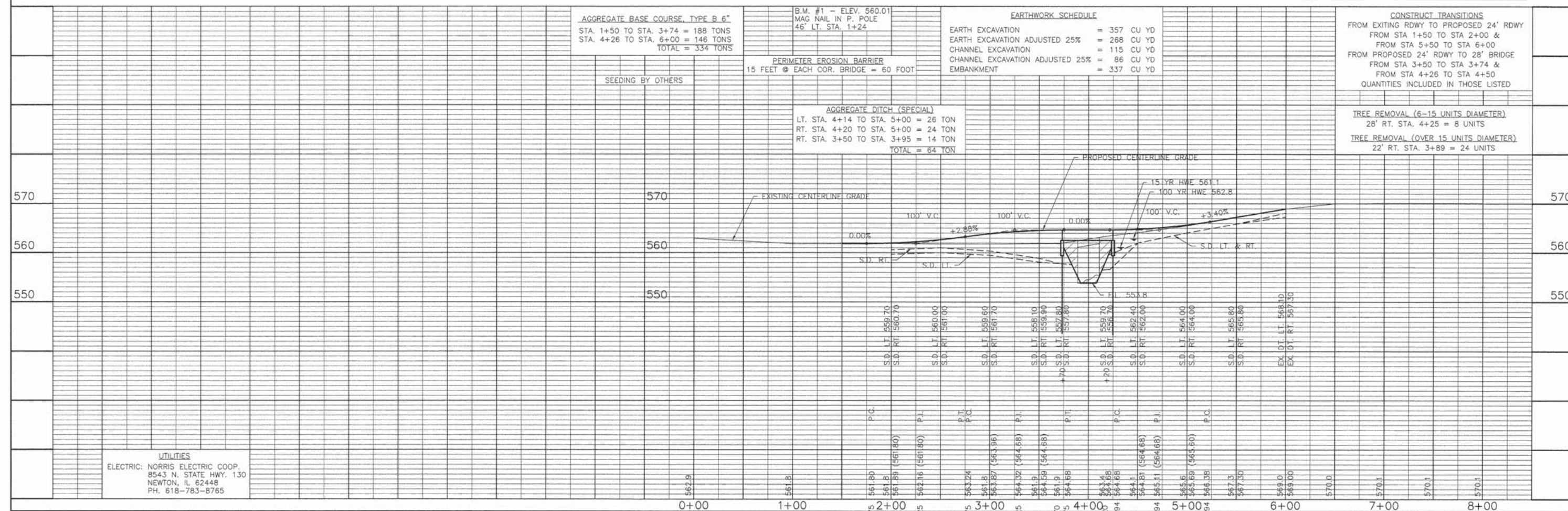
B.M. #1 - ELEV. 560.01
MAG NAIL IN P. POLE
46' LT. STA. 1+24

EARTHWORK SCHEDULE
EARTH EXCAVATION = 357 CU YD
EARTH EXCAVATION ADJUSTED 25% = 268 CU YD
CHANNEL EXCAVATION = 115 CU YD
CHANNEL EXCAVATION ADJUSTED 25% = 86 CU YD
EMBANKMENT = 337 CU YD

CONSTRUCT TRANSITIONS
FROM EXISTING RDWY TO PROPOSED 24' RDWY
FROM STA 1+50 TO STA 2+00 &
FROM STA 5+50 TO STA 6+00
FROM PROPOSED 24' RDWY TO 28' BRIDGE
FROM STA 3+50 TO STA 3+74 &
FROM STA 4+26 TO STA 4+50
QUANTITIES INCLUDED IN THOSE LISTED

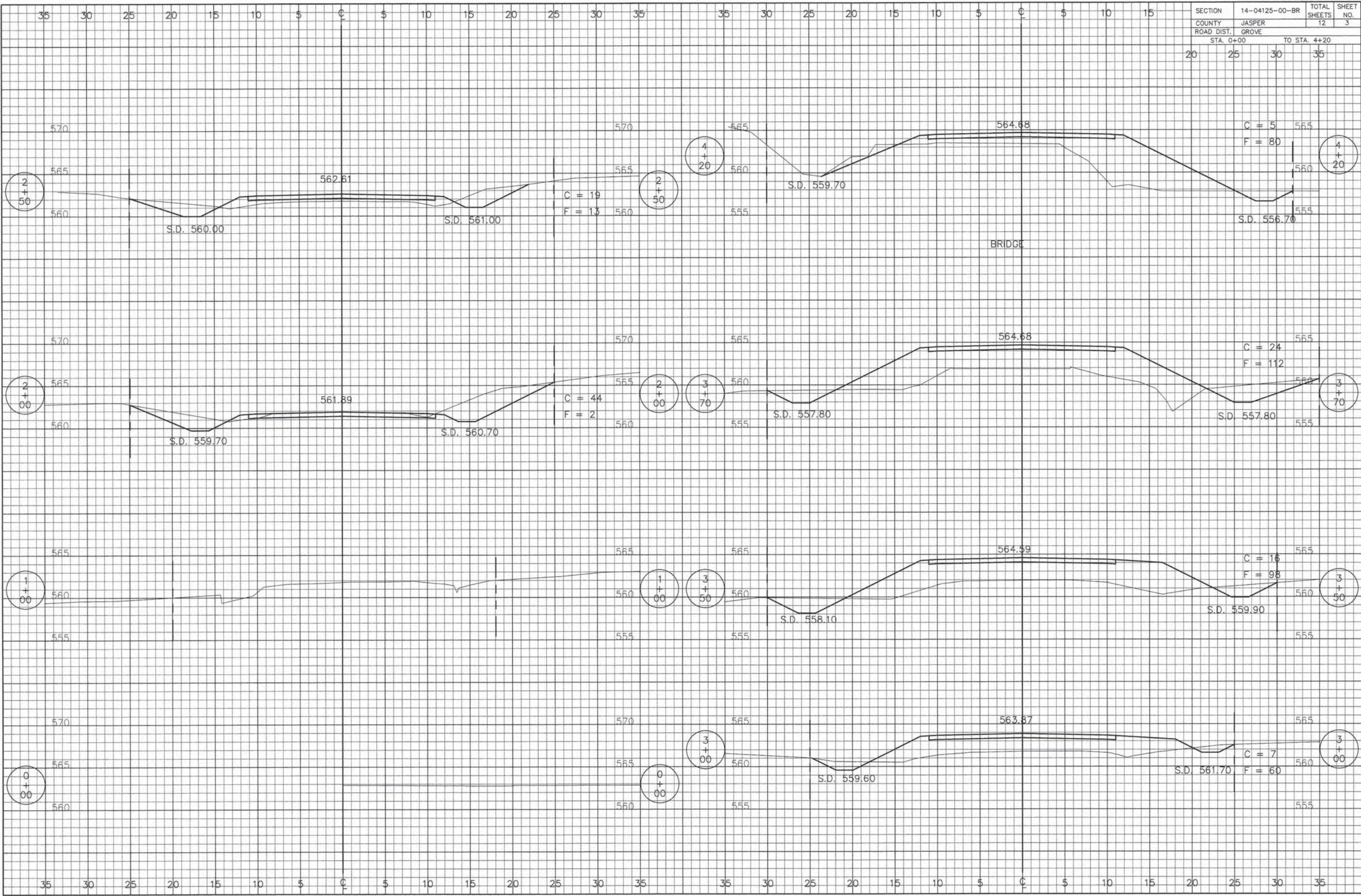
AGGREGATE DITCH (SPECIAL)
LT. STA. 4+14 TO STA. 5+00 = 26 TON
RT. STA. 4+20 TO STA. 5+00 = 24 TON
RT. STA. 3+50 TO STA. 3+95 = 14 TON
TOTAL = 64 TON

TREE REMOVAL (6-15 UNITS DIAMETER)
28' RT. STA. 4+25 = 8 UNITS
TREE REMOVAL (OVER 15 UNITS DIAMETER)
22' RT. STA. 3+89 = 24 UNITS

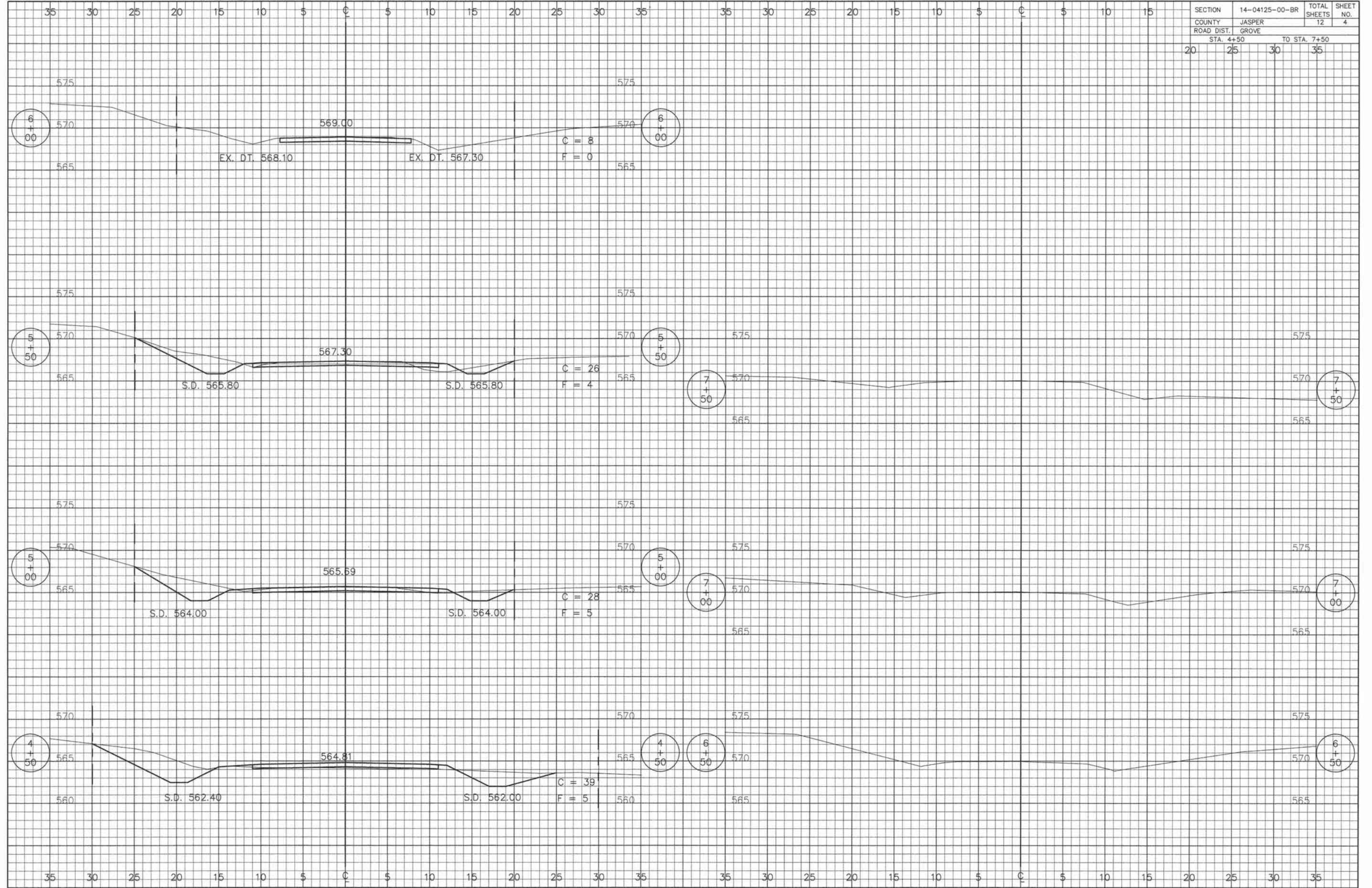


UTILITIES
ELECTRIC: NORRIS ELECTRIC COOP.
8543 N. STATE HWY. 130
NEWTON, IL 62448
PH. 618-783-8765

SECTION	14-04125-00-BR	TOTAL SHEETS	12	SHEET NO.	3
COUNTY	JASPER				
ROAD DIST.	GROVE				
STA. 0+00		TO STA. 4+20			
20	25	30	35		



SECTION	14-04125-00-BR	TOTAL SHEETS	12	SHEET NO.	4
COUNTY	JASPER				
ROAD DIST.	GROVE				
STA. 4+50		TO STA. 7+50			
20	25	30	35		



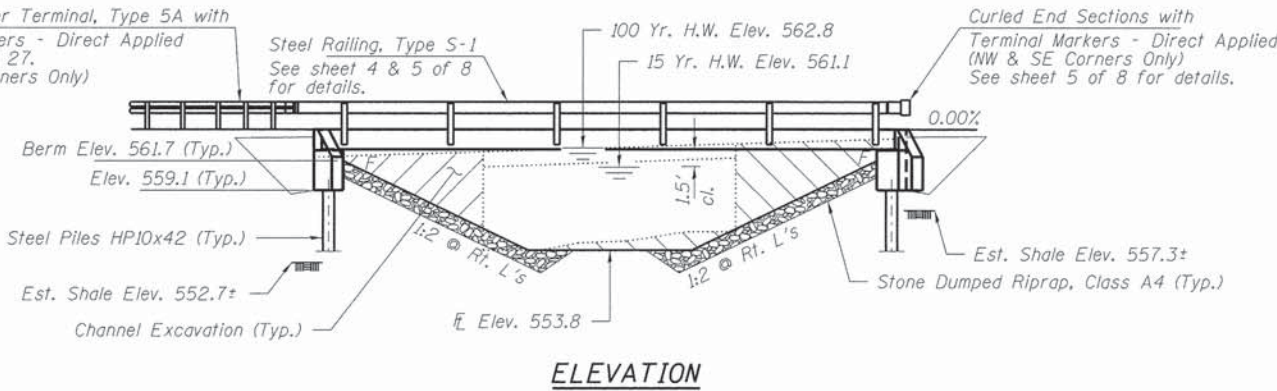
BENCHMARK: Mag Nail in power pole 46.0', Lt. Sta. 1+24, Elev. 560.01

EXISTING STRUCTURE : I-Beam bridge with closed concrete abutments and wings. 1 Span at 22.0', 16.0' o.-o. Roadway.

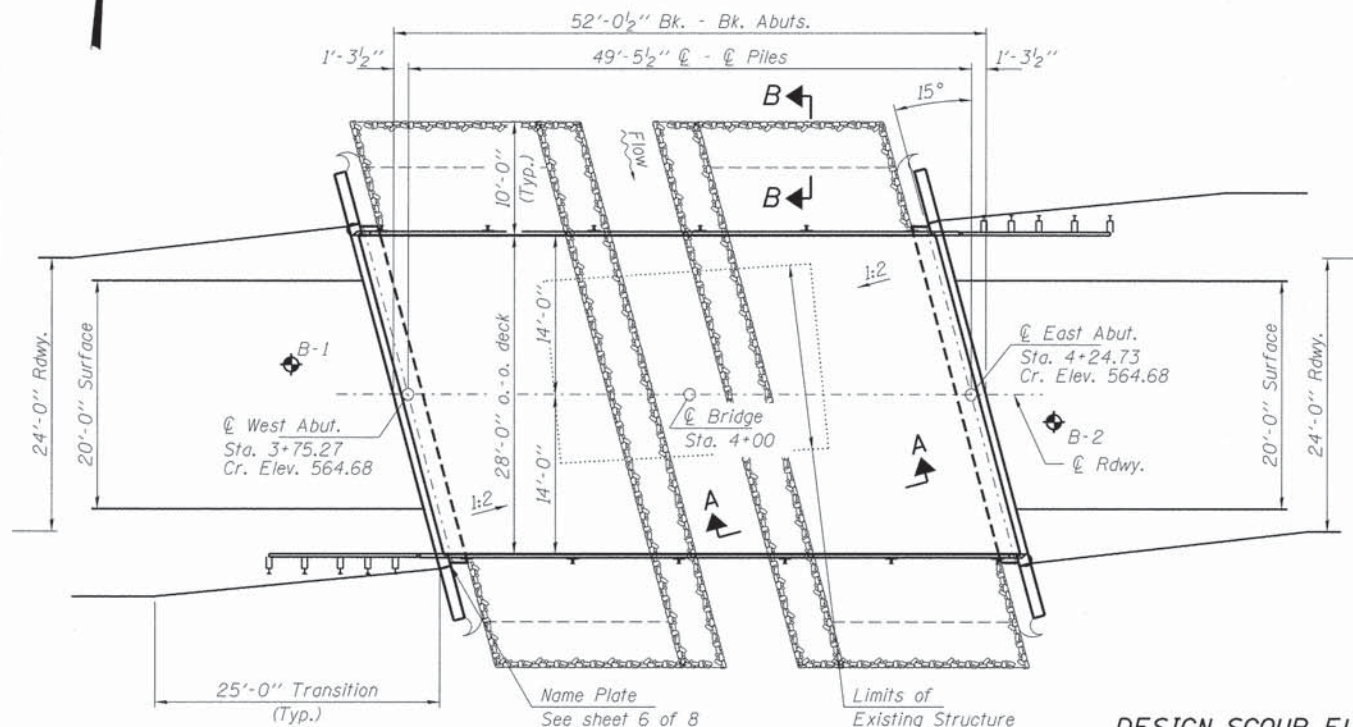
Structure closed to traffic during construction.

No Salvage

Traffic Barrier Terminal, Type 5A with Terminal Markers - Direct Applied See Std. BLR 27. (SW & NE Corners Only)



ELEVATION



PLAN

DESIGN SPECIFICATIONS

2014 AASHTO LRFD Bridge Design Specifications, 7th Edition with all Interims.

LOADING HL - 93

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

DESIGN STRESSES

FIELD UNITS

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

PRECAST PRESTRESSED UNITS

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

SEISMIC DATA

Seismic Performance Zone (SPZ) = 1
Design Spectral Acceleration at 1.0 sec. (SD1) = 0.149g
Design Spectral Acceleration at 0.2 sec. (SD5) = 0.365g
Soil Site Class = C

WATERWAY INFORMATION

Drainage Area = 3.76 Sq. Mi.		Existing Low Grade Elev. 561.8 @ Sta. 1+00		Proposed Low Grade Elev. 561.8 @ Sta. 1+00		
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	933	139 217	561.1		
Base	100	1560	151 268	562.8	0.1 0.5	562.9 563.3

DESIGN SCOUR ELEVATION TABLE

Event/Limit State	Design Scour Elevations (ft.)		Item
	W. Abut.	E. Abut.	
Q100	559.1	559.1	8
Q200	559.1	559.1	
Design	559.1	559.1	
Check	559.1	559.1	

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."

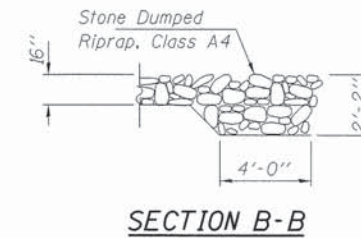
Steven W. McGinnis 01/07/2016
ILLINOIS STRUCTURAL ENGINEER NO. 081-6064



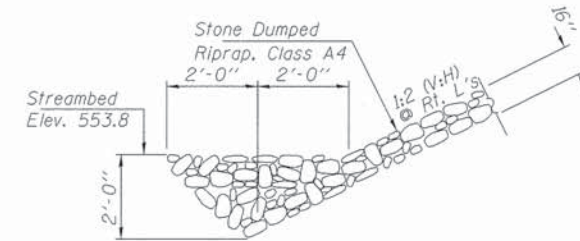
Expires 11-30-2016

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.
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.
Concrete sealer shall be applied to the designated areas of the abutments.



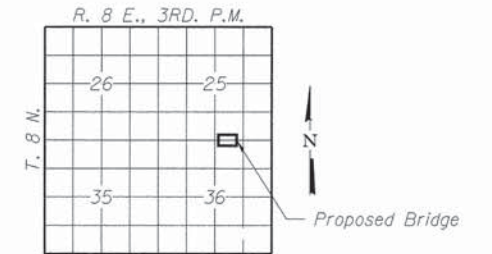
SECTION B-B



SECTION A-A

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. Borings



LOCATION SKETCH

MINT CREEK
BUILT 201_ BY
JASPER COUNTY
SEC. 14-04125-00-BR
GROVE ROAD DISTRICT
STR. NO. 040-3271
LOADING HL-93

NAME PLATE

See Std. 515001

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Channel Excavation	Cu. Yd.			115
Porous Granular Embankment	Ton			100
Stone Dumped Riprap, Class A4	Ton			180
Removal of Existing Structures	Each			1
Concrete Structures	Cu. Yd.		26.8	26.8
Precast Prestressed Concrete Deck Beams (21" Depth)	Sq. Ft.	1,419		1,419
Reinforcement Bars, Epoxy Coated	Pound		2,840	2,840
Steel Railing, Type S-1	Foot	104		104
Furnishing Steel Piles HP10x42	Foot		120	120
Driving Piles	Foot		120	120
Name Plates	Each		1	1
Concrete Sealer	Sq. Ft.		112	112
Terminal Marker - Direct Applied	Each	4		4

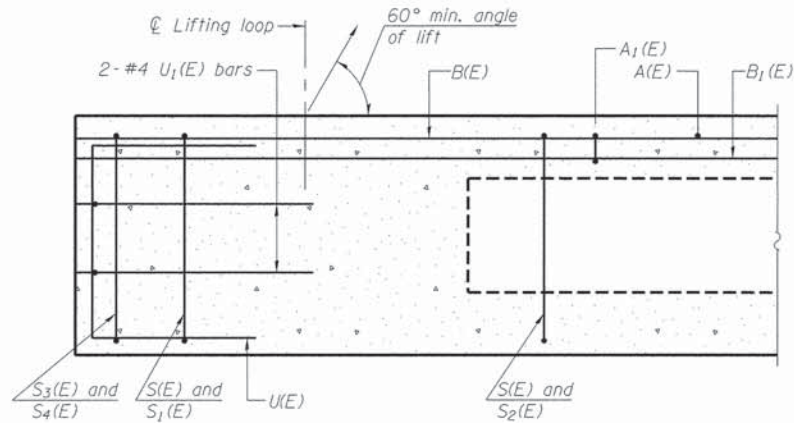
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HAMPTON, LENZINI AND RENWICK, INC. 3045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILR ILLINOIS PROFESSIONAL DESIGN FIRM L3 / PE / SE CORP. 184.000809	PLOT DATE = 1/7/2016	DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
JASPER COUNTY HIGHWAY DEPARTMENT

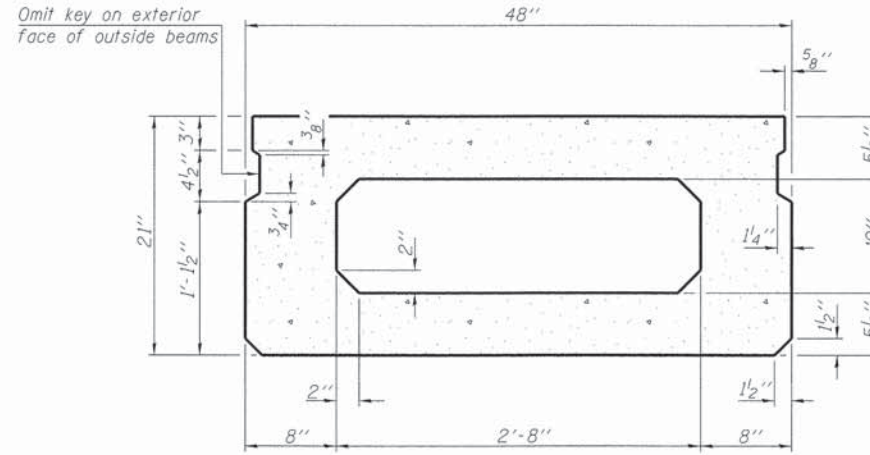
GENERAL PLAN & ELEVATION
STRUCTURE NO. 040-3271

SHEET NO. 1 OF 8 SHEETS

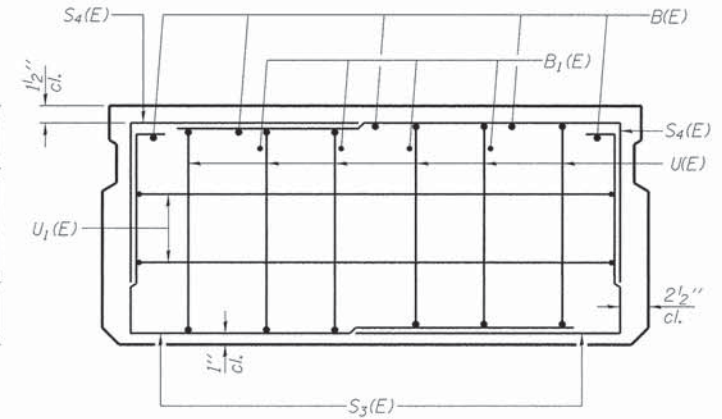
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
85	14-04125-00-BR	JASPER	12	5
GROVE ROAD DISTRICT			CONTRACT NO. 95776	
ILLINOIS			FED. AID PROJECT	



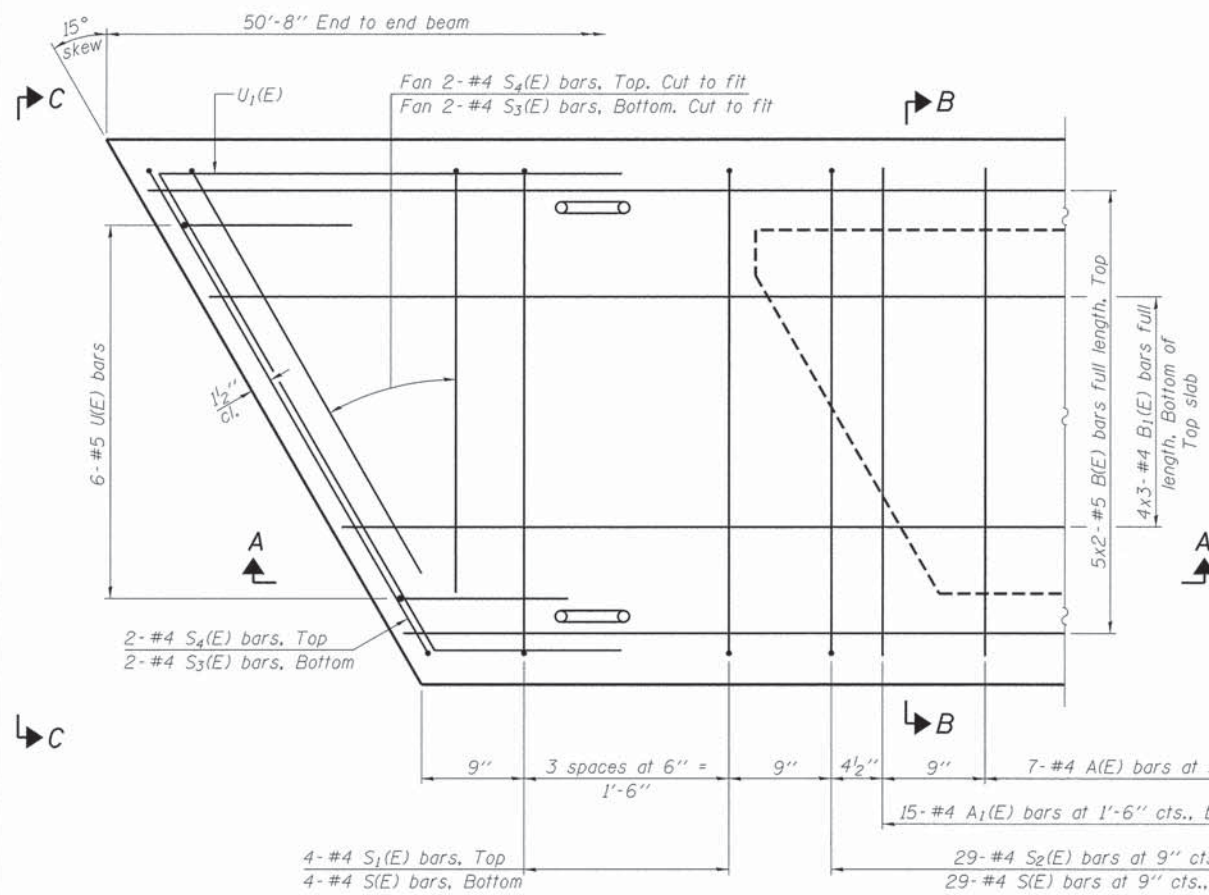
SECTION A-A



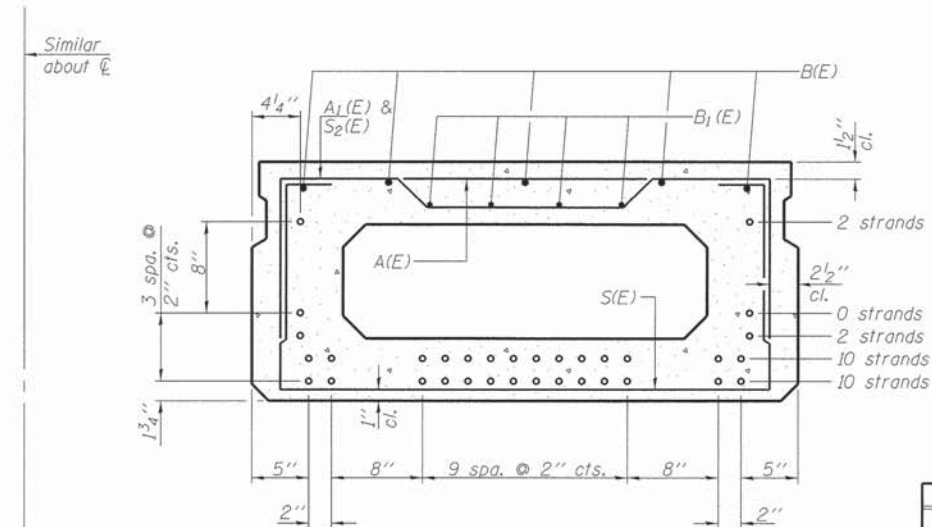
SECTION B-B
(Showing dimensions)



VIEW C-C



PLAN VIEW



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

BAR LIST
ONE BEAM ONLY
(For information only)

Bar	No.	Size	Length	Shape
A(E)	15	#4	3'-7"	—
A1(E)	30	#4	3'-10"	—
B(E)	10	#5	26'-6"	—
B1(E)	12	#4	18'-1"	—
S(E)	67	#4	7'-5"	U
S1(E)	8	#4	5'-11"	U
S2(E)	59	#4	6'-2"	U
S3(E)	8	#4	4'-10"	U
S4(E)	8	#4	4'-1"	U
U(E)	12	#5	4'-0"	U
U1(E)	4	#4	7'-1"	U

Note: See sheet 3 of 8 for additional details and Bill of Material.

MINIMUM BAR LAP

#4 bar = 1'-11"
#5 bar = 2'-6"

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.

PD-2148-R

6-8-15

FILE NAME = 150149-sht-bridge.dgn
HAMPSON, LENZINI AND RENWICK, INC.
2005 STEVENSON DRIVE, SUITE 201
SPRINGFIELD, ILLINOIS 62703
ILLINOIS PROFESSIONAL DESIGN FIRM
L3/P/E/S/DC CORP. 184.00999

USER NAME =
DESIGNED - L.A.P.
CHECKED - S.W.M.
DRAWN - R.D.H.
CHECKED - S.W.M.
PLOT SCALE =
PLOT DATE = 1/7/2016

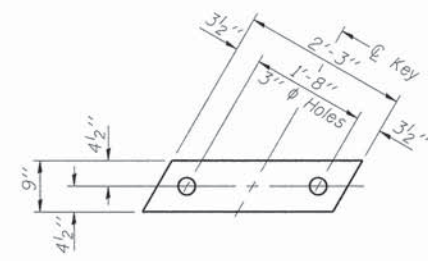
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CHECKED - S.W.M.
DRAWN - R.D.H.
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REVISOR -
REVISOR -
REVISOR -
REVISOR -

STATE OF ILLINOIS
JASPER COUNTY HIGHWAY DEPARTMENT

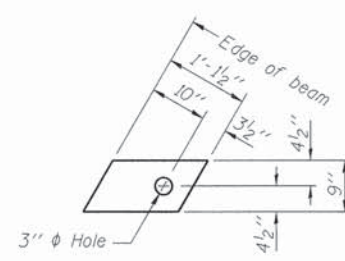
21" x 48" PPC DECK BEAM
STRUCTURE NO. 040-3271

SHEET NO. 2 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
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GROVE ROAD DISTRICT			CONTRACT NO. 95776	
ILLINOIS			FED. AID PROJECT	

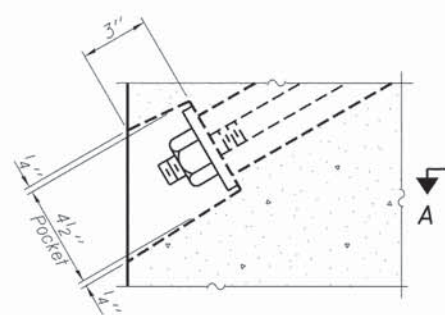


FABRIC BEARING PAD
(Interior - 12 Req'd.)

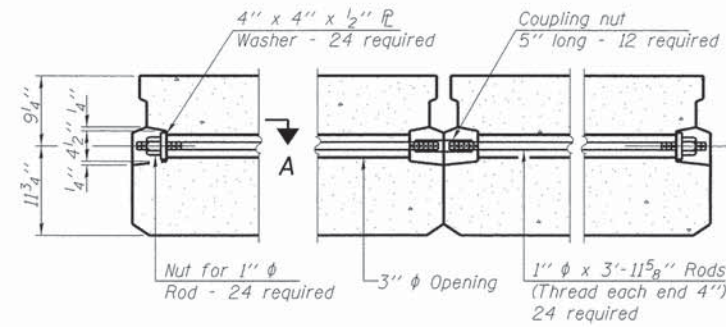


FABRIC BEARING PAD
(Exterior - 4 Req'd.)

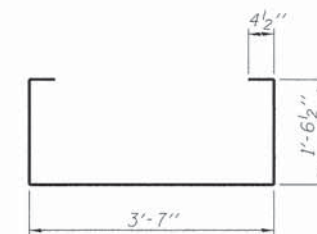
Notes:
All bearing pads shall be 1" thick.
Omit holes when using expansion bearings.
Expansion bearing pad shall be bonded to the substructure.
16'-10⁵/₈"



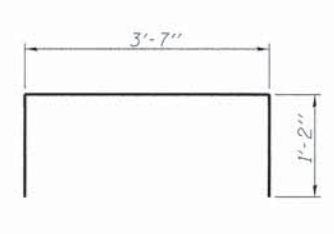
SECTION A-A



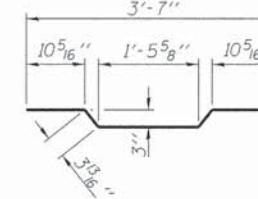
TYPICAL TRANSVERSE TIE ASSEMBLY



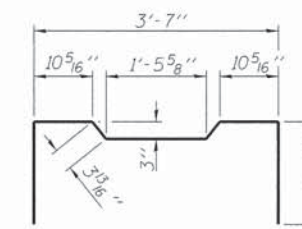
BAR S(E)



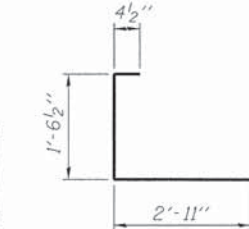
BAR S1(E)



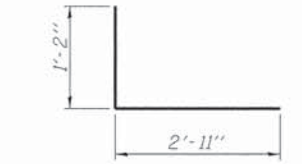
BAR A1(E)



BAR S2(E)



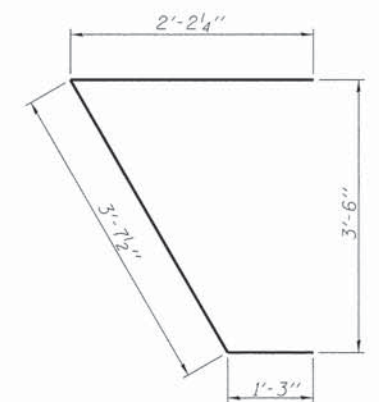
BAR S3(E)



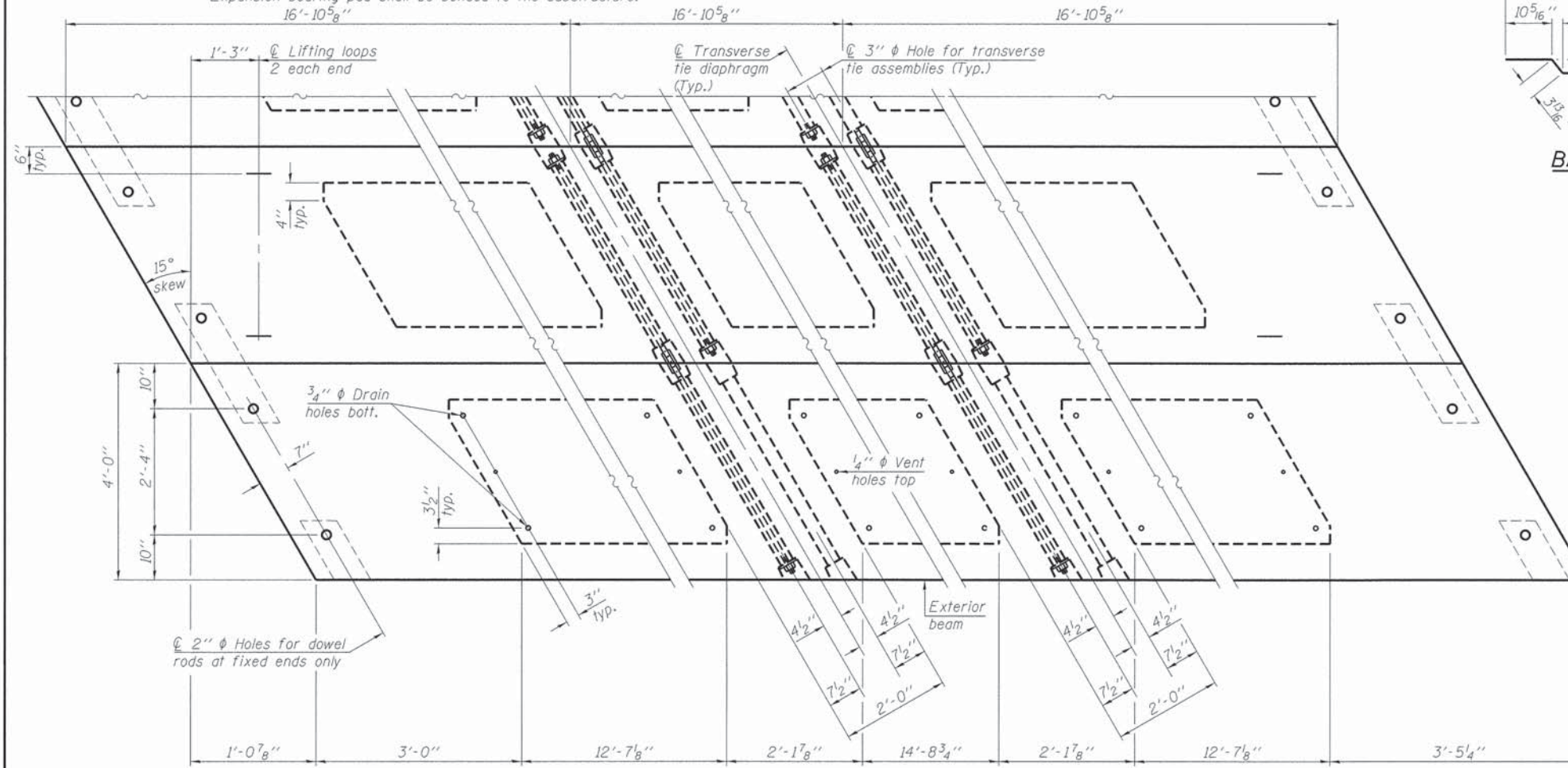
BAR S4(E)



BAR U(E)



BAR U1(E)

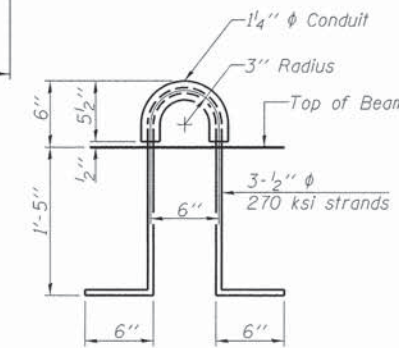


PLAN VIEW

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" φ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions). Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
A minimum 2 1/2" φ lifting pin shall be used to engage the lifting loops during handling.
Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.
Reinforcement bars designated (E) shall be epoxy coated.



LIFTING LOOP DETAIL

BILL OF MATERIAL

Precast Prestressed Conc. Deck Bms. (21" depth)	Sq. Ft.	1,419
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PD-2148-RD

7-1-10

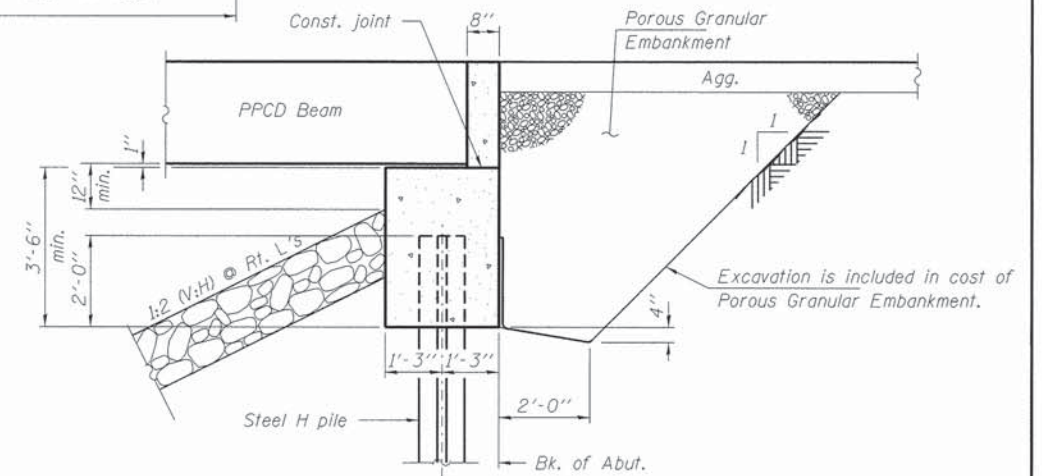
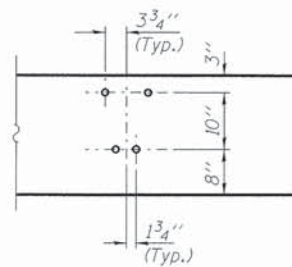
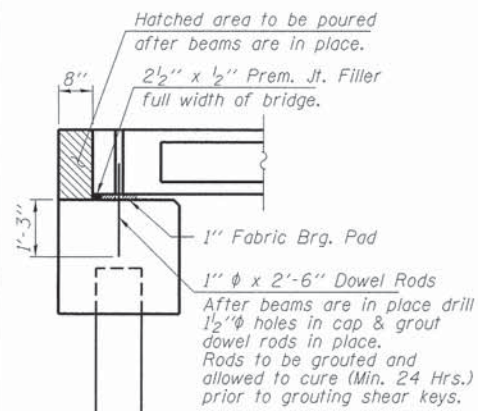
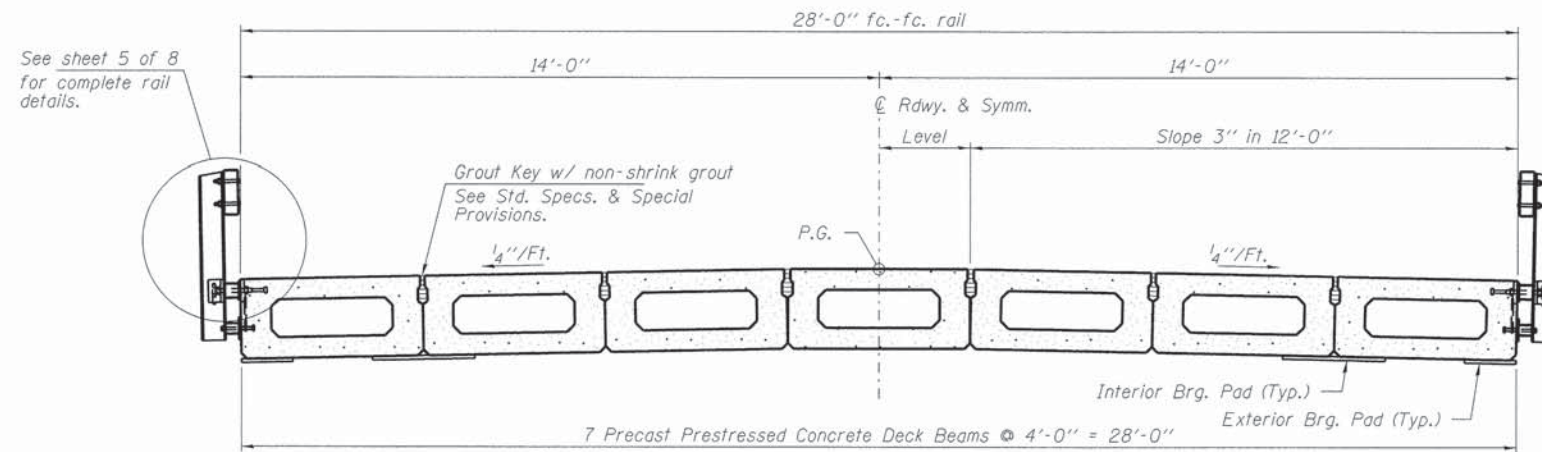
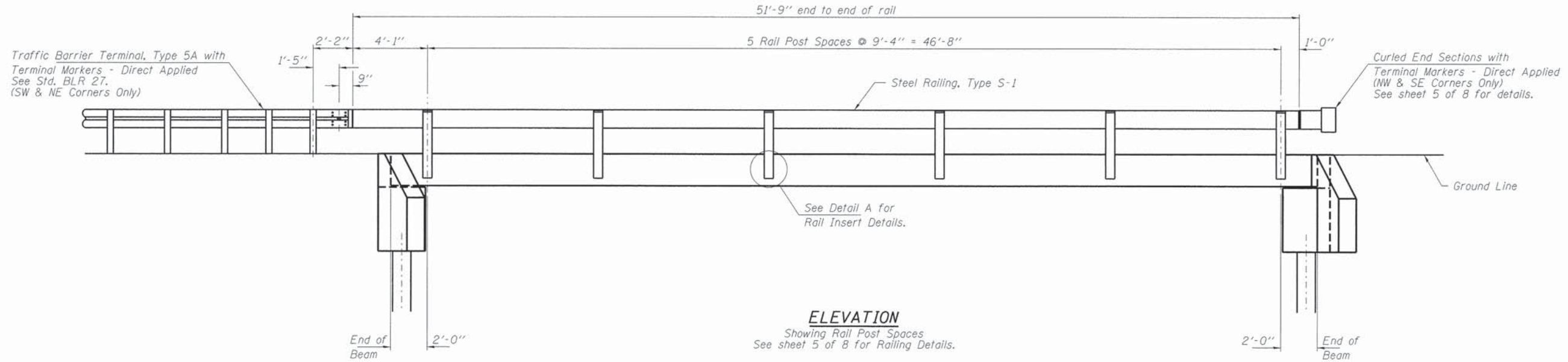
FILE NAME = 158149-sht-br-bridge.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.		CHECKED - S.W.M.	REVISED -
2095 STEVENSON DRIVE, SUITE 201		DRAWN - R.D.H.	REVISED -
SPRINGFIELD, ILLINOIS 62703		CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM			
LSI P.E. & SE CORP. 184-000959			

STATE OF ILLINOIS
JASPER COUNTY HIGHWAY DEPARTMENT

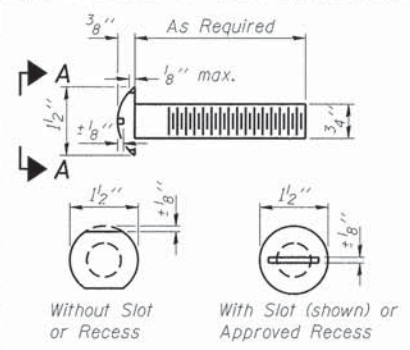
21" x 48" PPC DECK BEAM DETAILS
STRUCTURE NO. 040-3271

SHEET NO. 3 OF 8 SHEETS

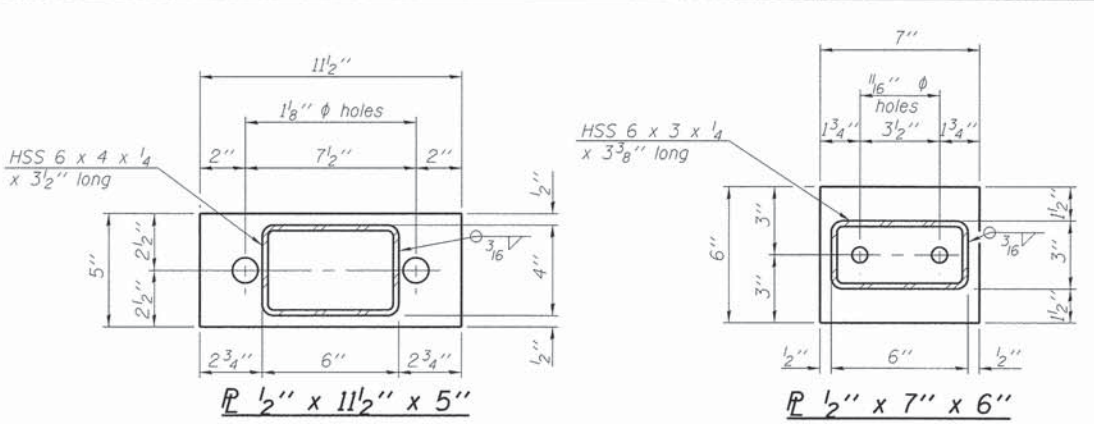
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
85	14-04125-00-BR	JASPER	12	7
GROVE ROAD DISTRICT			CONTRACT NO. 95776	
ILLINOIS			FED. AID PROJECT	



FILE NAME = 158149-sht-bridge.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -	STATE OF ILLINOIS JASPER COUNTY HIGHWAY DEPARTMENT	SUPERSTRUCTURE DETAILS STRUCTURE NO. 040-3271	T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
HAMPTON, LENZINI AND RENWICK, INC. 2045 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703 ILLINOIS PROFESSIONAL DESIGN FIRM L3 / P.E. / S.E. CORP. 184-000959	PLOT SCALE =	CHECKED - S.W.M.	REVISED -			85	14-04125-00-BR	JASPER	12	8
PLOT DATE = 1/7/2016		DRAWN - R.D.H.	REVISED -			GROVE ROAD DISTRICT	CONTRACT NO. 95776			
		CHECKED - S.W.M.	REVISED -			ILLINOIS		FED. AID PROJECT		
SHEET NO. 4 OF 8 SHEETS										

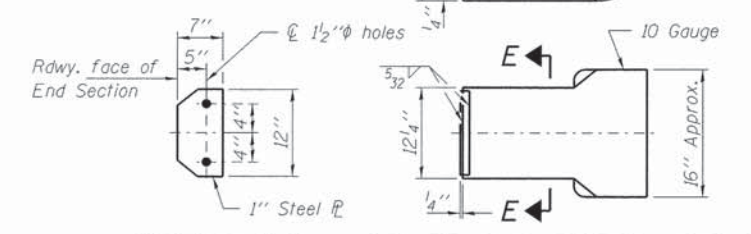


**VIEW A-A
ROUND HEAD BOLT**



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

Note: Cost of curled end sections shall be included with the Steel Railing. (2 Required)

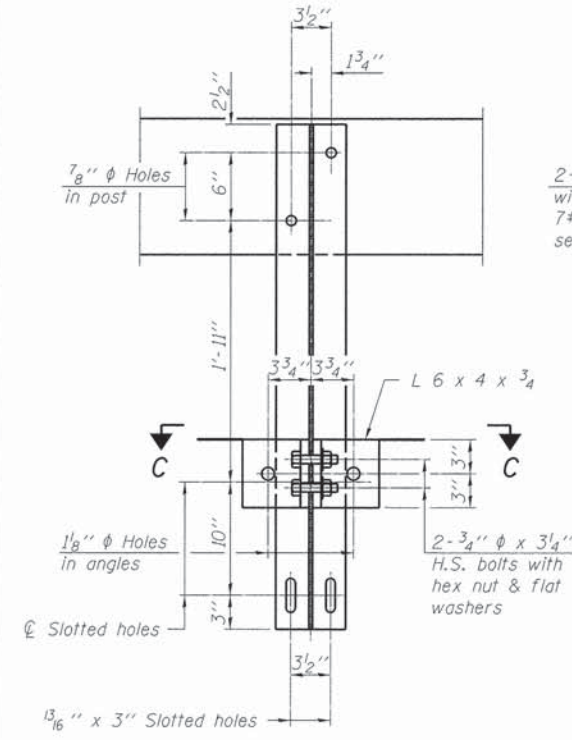


**SECTION E-E
CURLLED END SECTION DETAILS**

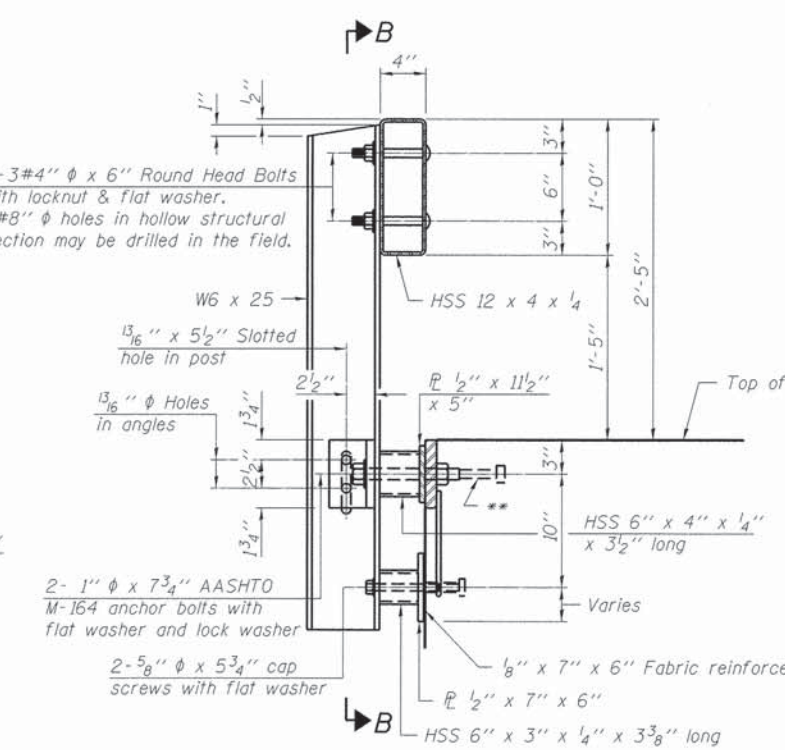
SPLICE DIMENSIONS

T	D	A	B	C	E
≤ 4"	2 1/2"	1'-8"	2"	4"	2 1/2"
> 4" ≤ 6 1/2"	3 3/4"	2'-0"	2 1/2"	5 1/2"	3 1/2"
> 6 1/2" ≤ 9"	5"	2'-4"	3 1/2"	6 1/2"	9"
> 9" ≤ 13"	7"	2'-10"	4 1/2"	8 1/2"	11"
Rail Splice	1/4"	1'-8"	2"	4"	

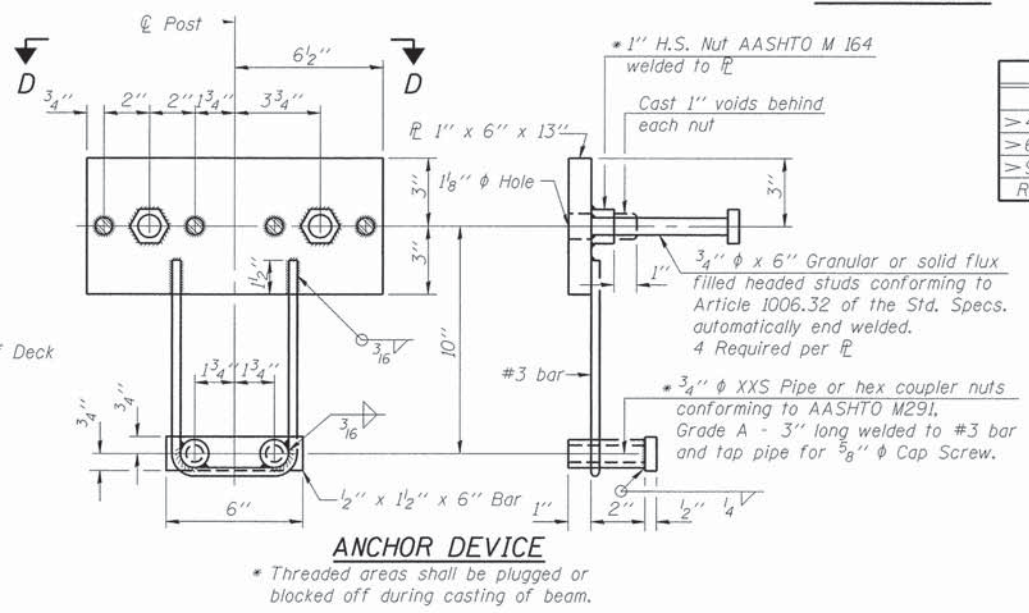
T = Total movement at expansion joint as shown on the design plans.



SECTION B-B

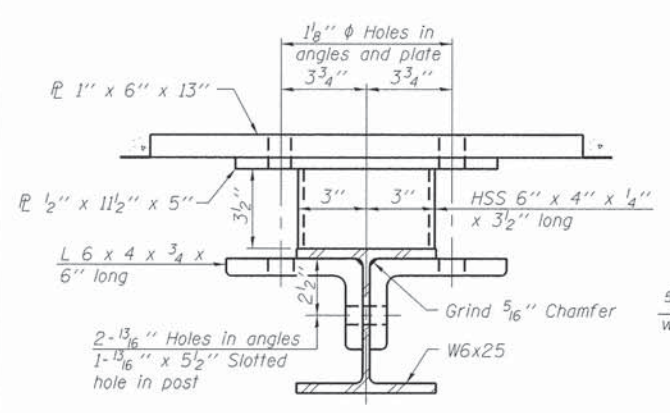


SECTION AT RAILING POST

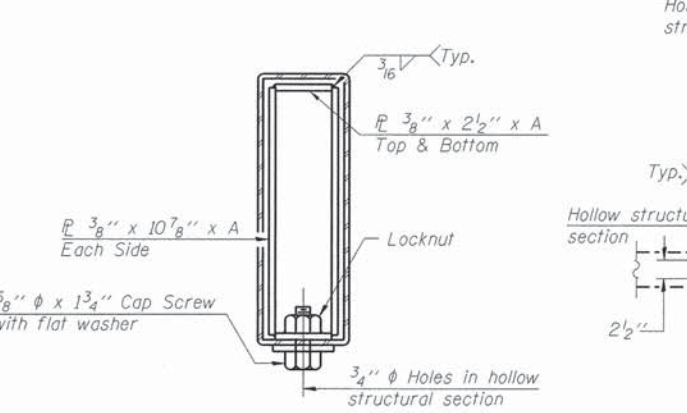


ANCHOR DEVICE

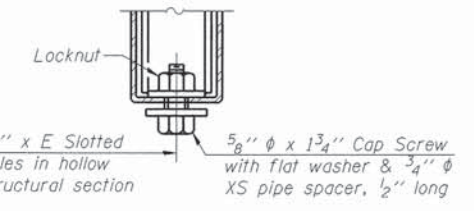
* Threaded areas shall be plugged or blocked off during casting of beam.



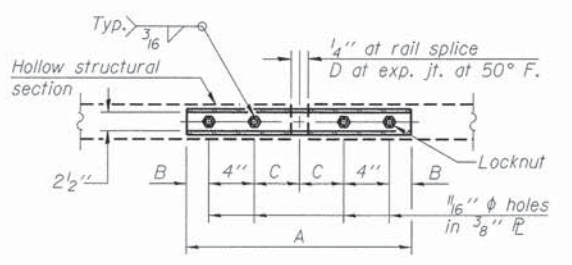
SECTION C-C



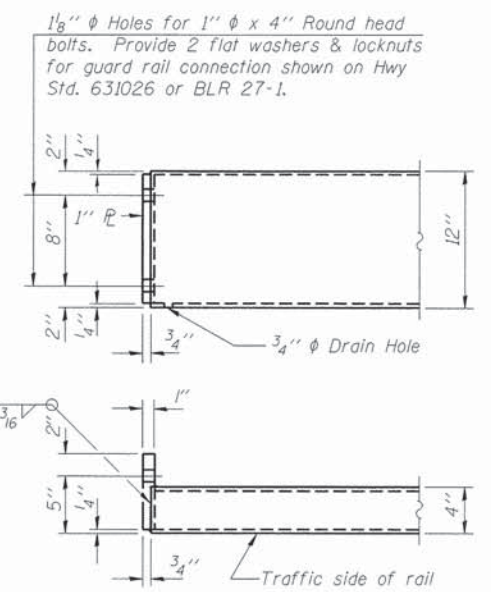
SECTIONS AT RAIL SPLICE



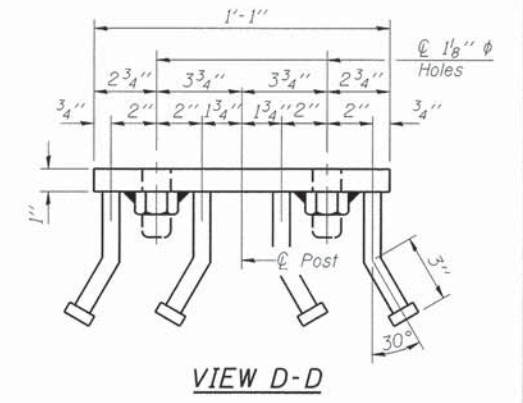
**RAIL SPLICE CONNECTION
AT EXPANSION JT.**



**PLAN-BOTT. SPLICE
TYPICAL**



END OF RAIL DETAILS



VIEW D-D

BILL OF MATERIAL

Item	Unit	Quantity
Steel Railing, Type S-1	Foot	104

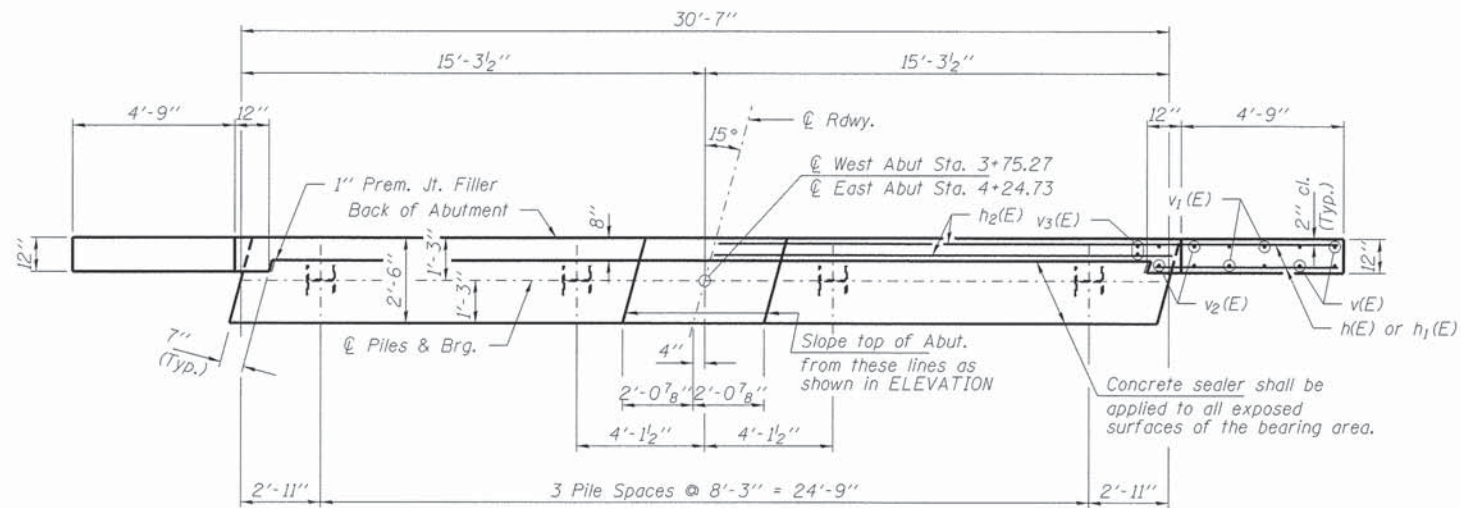
R-23A 1-12-15 (10'-9" Maximum Post Spacing)

FILE NAME = 158149-sht-br1dgn.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC.	305 STEVENSON DRIVE, SUITE 201	CHECKED - S.W.M.	REVISED -
SPRINGFIELD, ILLINOIS 62791	ILLINOIS PROFESSIONAL DESIGN FIRM	DRAWN - R.D.H.	REVISED -
131 PE / SE CORP. 184 00000		CHECKED - S.W.M.	REVISED -

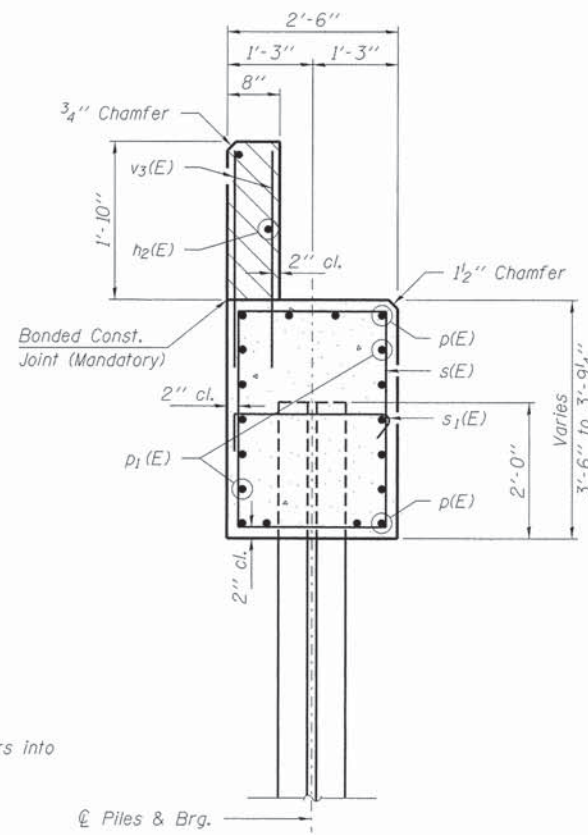
**STATE OF ILLINOIS
JASPER COUNTY HIGHWAY DEPARTMENT**

**STEEL RAILING, TYPE S-1
STRUCTURE NO. 040-3271**
SHEET NO. 5 OF 8 SHEETS

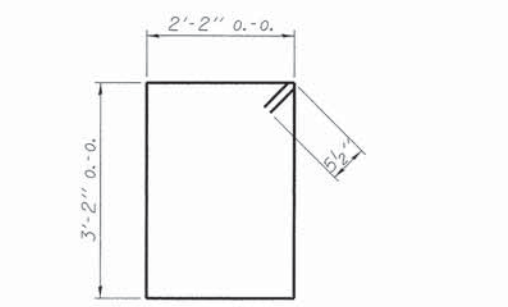
T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
85	14-04125-00-BR	JASPER	12	9
GROVE ROAD DISTRICT			CONTRACT NO. 95776	
ILLINOIS			FED. AID PROJECT	



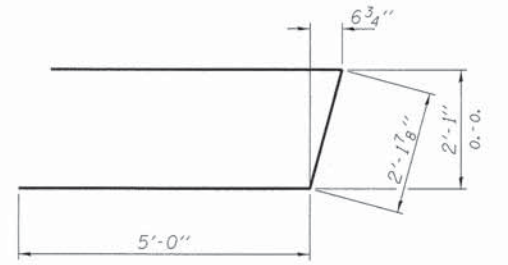
PLAN



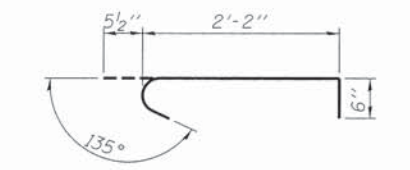
SECTION A-A



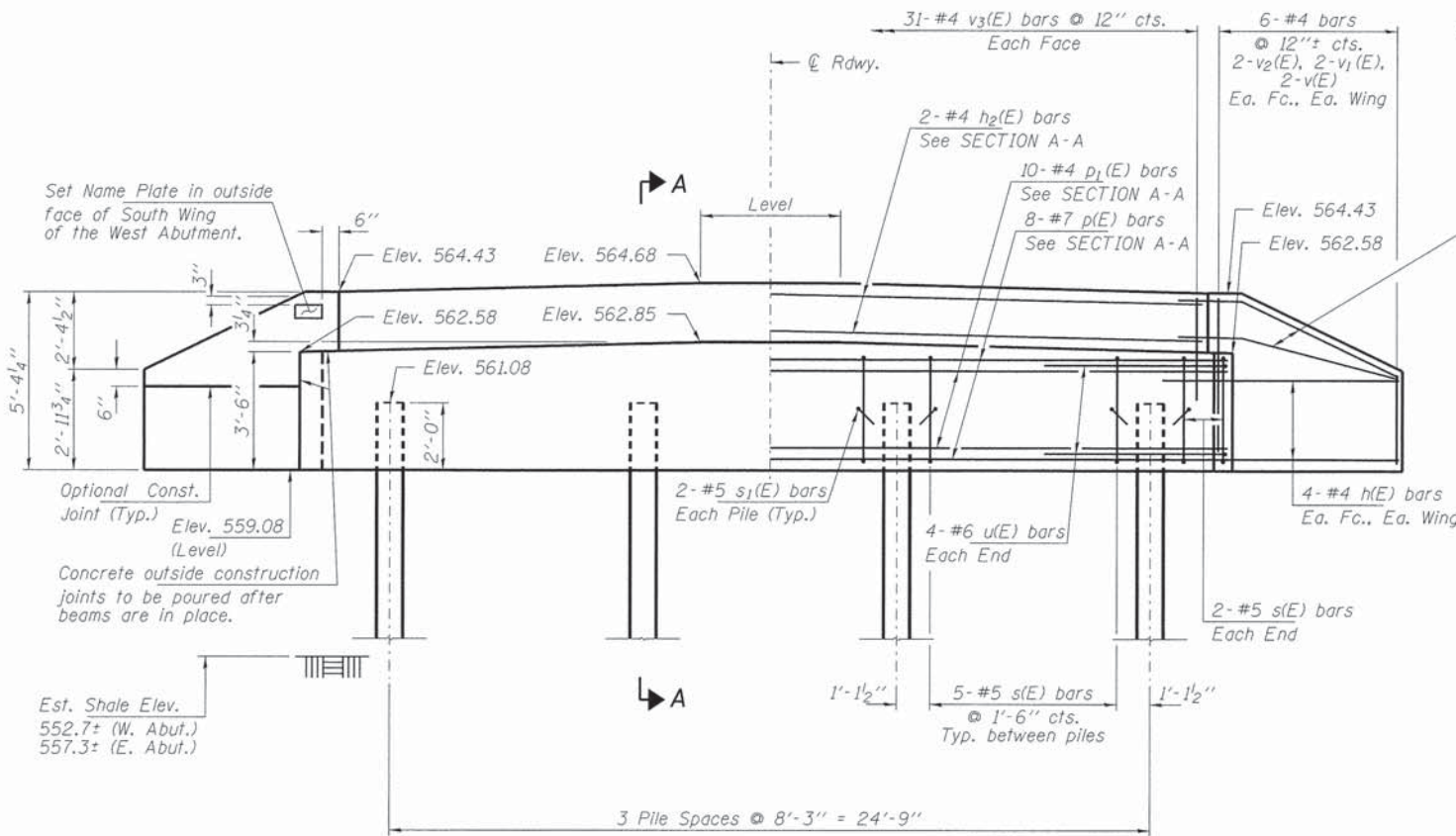
BAR s(E)



BAR u(E)



BAR s1(E)



ELEVATION

Note: Extend h(E) bars into abutment cap.

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

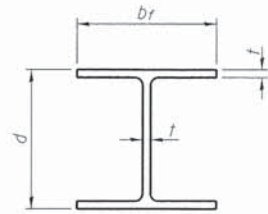
PILE DATA

Type ----- Steel HP10x42
No. Req'd. (2 Abuts.) ----- 8
Factored Resistance Available (RF) ----- 184 Kips/Pile
Nominal Required Bearing (Rn) ----- 335 Kips/Pile
Est. Length ----- 15 Ft/Pile

Notes Each pile shall be driven a minimum tip Elev. of 547.7 (W. Abut.) 552.3 (E. Abut.) Cost included with driving piles.
Contractor shall precure hole to elevation of 554.0. See Special Provisions.

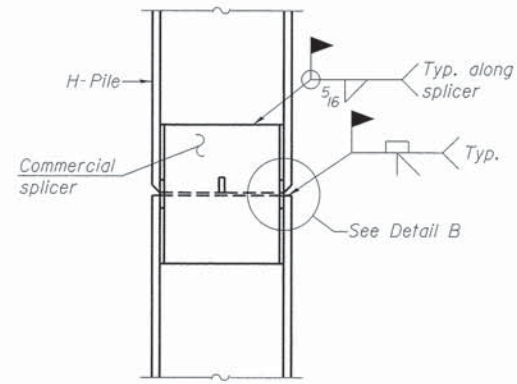
BILL OF MATERIAL - 2 ABUTS.

BAR	NO.	SIZE	LENGTH	SHAPE
h(E)	40	#4	7'-0"	—
h1(E)	8	#4	5'-6"	—
h2(E)	4	#4	30'-3"	—
p(E)	16	#7	30'-3"	—
p1(E)	20	#4	30'-3"	—
s(E)	38	#5	11'-7"	□
s1(E)	16	#5	3'-2"	┌┐
u(E)	16	#6	12'-2"	—
v(E)	16	#4	2'-9"	—
v1(E)	16	#4	3'-10"	—
v2(E)	16	#4	4'-11"	—
v3(E)	124	#4	2'-8"	—
Concrete Structures		Cu. Yd.		26.8
Reinforcement Bars, Epoxy Coated		Pound		2,840
Steel Piles HP10x42		Foot		120
Driving Piles		Foot		120
Name Plates		Each		1
Concrete Sealer		Sq. Ft.		112

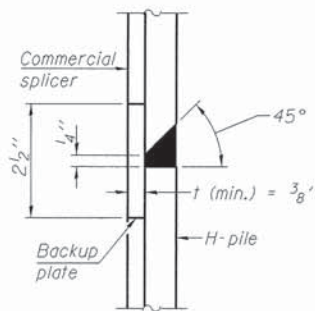


STEEL PILE TABLE

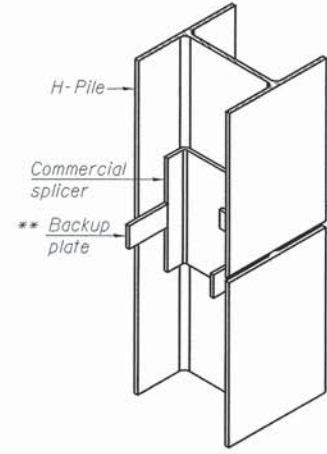
Designation	Depth d	Flange width br	Web and Flange thickness t	Encasement diameter A
HP 14x117	14 1/4"	14 7/8"	13/16"	30"
x102	14"	14 3/4"	1/16"	30"
x89	13 7/8"	14 3/4"	5/8"	30"
x73	13 5/8"	14 5/8"	1/2"	30"
HP 12x84	12 1/4"	12 1/4"	1/16"	24"
x74	12 1/8"	12 1/4"	5/8"	24"
x63	12"	12 1/8"	1/2"	24"
x53	11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

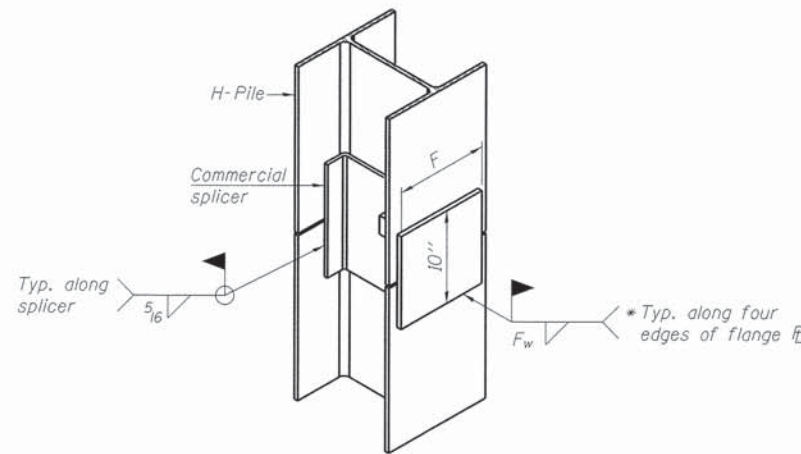


DETAIL "B"



ISOMETRIC VIEW

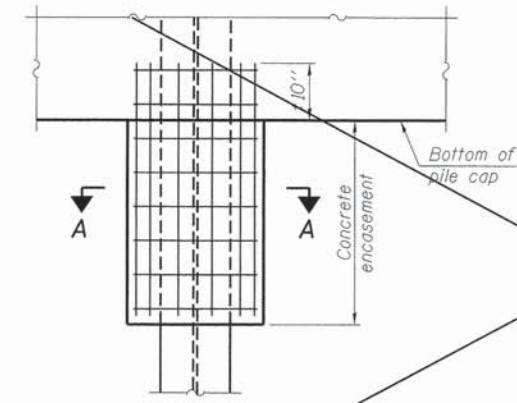
WELDED COMMERCIAL SPLICE



ISOMETRIC VIEW

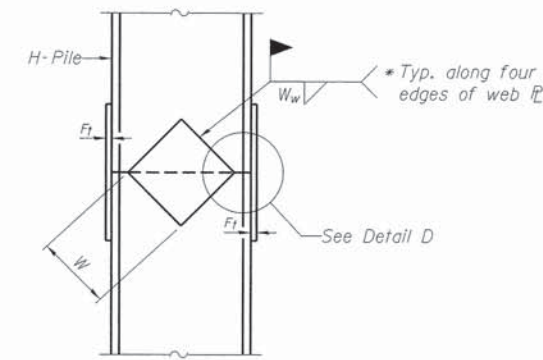
WELDED COMMERCIAL SPLICE ALTERNATE

- * 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.).

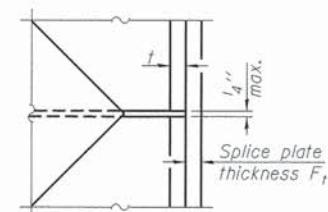


ELEVATION

PILE ENCASUREMENT
(Not Required at Abutments)

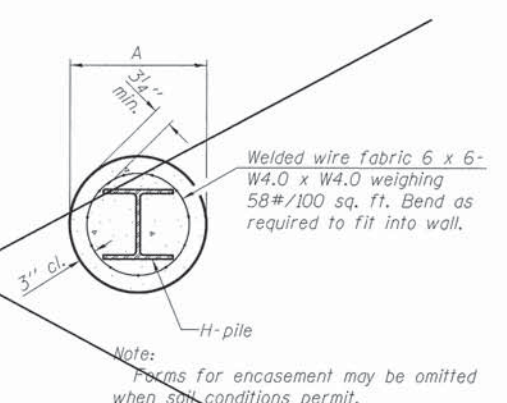


ELEVATION



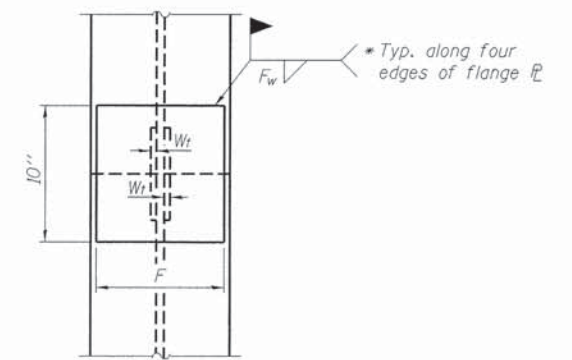
DETAIL D

WELDED PLATE FIELD SPLICE

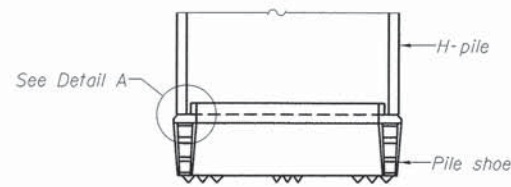


SECTION A-A

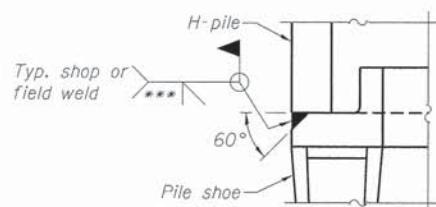
Note: Forms for encasement may be omitted when soil conditions permit.



END VIEW



ELEVATION



DETAIL A

H-PILE SHOE ATTACHMENT

Designation	F	Ft	Fw	W	Wt	Ww
HP 14x117	12 1/2"	1"	7/8"	7 3/4"	5/8"	1/2"
x102	12 1/2"	7/8"	3/4"	7 3/4"	5/8"	1/2"
x89	12 1/2"	3/4"	1/16"	7 3/4"	5/8"	1/2"
x73	12 1/2"	5/8"	9/16"	7 3/4"	5/8"	1/2"
HP 12x84	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x74	10"	7/8"	1/16"	6 1/2"	5/8"	1/2"
x63	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
x53	10"	5/8"	1/2"	6 1/2"	1/2"	3/8"
HP 10x57	8"	3/4"	9/16"	5 1/4"	1/2"	3/8"
x42	8"	5/8"	9/16"	5 1/4"	1/2"	3/8"
HP 8x36	7"	5/8"	7/16"	4 1/4"	1/2"	3/8"

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

F-HP

1-27-12

FILE NAME = 150149-sht-br-ridge.dgn	USER NAME =	DESIGNED - L.A.P.	REVISED -
HAMPTON, LENZINI AND RENWICK, INC. 3048 STEVENSON DRIVE, SUITE 201 SPRINGFIELD, ILLINOIS 62703	PLOT SCALE =	CHECKED - S.W.M.	REVISED -
ILLINOIS PROFESSIONAL DESIGN FIRM L2 / PE / SE CORP. 184.000959	PLOT DATE = 1/7/2015	DRAWN - R.D.H.	REVISED -
		CHECKED - S.W.M.	REVISED -

STATE OF ILLINOIS
JASPER COUNTY HIGHWAY DEPARTMENT

HP PILE DETAILS
STRUCTURE NO. 040-3271

SHEET NO. 7 OF 8 SHEETS

T.R.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
85	14-04125-00-BR	JASPER	12	11
GROVE ROAD DISTRICT			CONTRACT NO. 95776	
ILLINOIS			FED. AID PROJECT	

HOLCOMB FOUNDATION ENGINEERING INC. P.O. Box 88 618-529-5262 Carbondale, Il. 62903 618-457-8991 fax											
Bridge Foundation Boring Log											
Project: <u>H-15059</u> Bridge <u>TR85 over Mint Creek</u>				Date: <u>4/6/2015</u>							
Section: <u>14-04125-00-BR</u> Station <u>4+0</u>											
Structure: <u>040-3061</u>				Bored by: <u>B. Schwartz</u>							
County: <u>Jasper</u>				Checked By: <u>T. Holcomb</u>							
Boring No: <u>B1</u>		Station: <u>3+65</u>		Offset: <u>3' LT</u>		Surface Water Elev. _____		Ground Water Elev. _____		Upon Completion <u>Dry</u>	
Elevation		N		Qu tsf		w %		Elevation		N	
0								-25			
Ground Surface <u>561.2</u> 4" Crushed Stone Dark Brown Sandy CLAY (A-6)											
557.7				9		2.95		22			
Brown Mottled Gray Sandy CLAY (A-6)											
555.2		-5		5		0.28		26			
Gray Mottled Brown Weathered SHALE											
552.7		-23		23		2.78		13		-30	
Gray SHALE											
-10		100		/6"		-		9			
-35		100		/5"		-		9			
-15		100		/5"		-		8			
-40		100		/3"		-		5			
541.7		100		/3"		-		7			
End of Boring @ -19.5'											
N = Standard Penetration Test				Qu - Unconfined Compressive				B = Bulge Failure			
Blows per foot to drive 2" O.D.				Strength in tons/sq.ft.				S = Shear Failure			
Split Spoon Sampler 12" with				w - Water Content - percentage				E = Estimated Value			
a 140 lbs. hammer falling 30"				of oven dry weight-%				P = Penetrometer			

BORING-1

HOLCOMB FOUNDATION ENGINEERING INC. P.O. Box 88 618-529-5262 Carbondale, Il. 62903 618-457-8991 fax											
Bridge Foundation Boring Log											
Project: <u>H-15059</u> Bridge <u>TR85 over Mint Creek</u>				Date: <u>4/6/2015</u>							
Section: <u>14-04125-00-BR</u> Station <u>4+0</u>											
Structure: <u>040-3061</u>				Bored by: <u>B. Schwartz</u>							
County: <u>Jasper</u>				Checked By: <u>T. Holcomb</u>							
Boring No: <u>B2</u>		Station: <u>4+32</u>		Offset: <u>4' RT</u>		Surface Water Elev. _____		Ground Water Elev. _____		Upon Completion <u>Dry</u>	
Elevation		N		Qu tsf		w %		Elevation		N	
0								-25			
Ground Surface <u>563.3</u> 4" Crushed Stone Brown Weathered SHALE											
-25				20		2.38		16			
Gray SHALE											
557.3		-5		40		2.98		13			
-30		100		/3"		-		9			
-10		100		/3"		-		8			
-35		100		/2"		-		10			
-15		100		/6"		-		11			
-40		100		/5"		-		10			
543.8		100		/3"		-		7			
End of Boring @ -19.5'											
N = Standard Penetration Test				Qu - Unconfined Compressive				B = Bulge Failure			
Blows per foot to drive 2" O.D.				Strength in tons/sq.ft.				S = Shear Failure			
Split Spoon Sampler 12" with				w - Water Content - percentage				E = Estimated Value			
a 140 lbs. hammer falling 30"				of oven dry weight-%				P = Penetrometer			

BORING-2