

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED
FEDERAL-AID B.R.R. PROGRAM
JASPER COUNTY
SECTION 05-05117-00-BR
STRUCTURE NO. 040-3251
PROJECT NO. BROS-079(130)
JOB NO. C-97-002-06
TR 302

INDEX OF SHEETS

- 1 COVER SHEET
- 2 PLAN & PROFILE
- 3 CROSS SECTIONS
- 4-10 BRIDGE PLANS

STANDARDS: 280001-03 - EROSION CONTROL
(SEE PROPOSAL) 702001-06 - TRAFFIC
BLR 21-6 - TRAFFIC
BLR 22-4 - TRAFFIC

QUANTITY	UNIT	ITEM	X081-2A CODE NO.
791	CU YD	EARTH EXCAVATION	20200100
80	CU YD	CHANNEL EXCAVATION	20300100
673	CU YD	FURNISHED EXCAVATION	20400800
0.9	ACRE	SEEDING, CLASS 2 (SPECIAL)	25001000
3	EACH	TEMPORARY DITCH CHECKS	28000300
70	FOOT	PERIMETER EROSION BARRIER	28000400
125	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
40	TON	STONE RIPRAP DITCH	28102600
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
22.2	CU YD	CONCRETE STRUCTURES	50300225
1680	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	50400505
2680	POUND	REINFORCEMENT BARS	50800105
120	FOOT	STEEL RAILING, TYPE S1	50900205
270	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
270	FOOT	DRIVING PILES	51202305
1	EACH	TEST PILE STEEL HP 10X42	51203400
2.6	CU YD	CONCRETE ENCASMENT	50300280
1	EACH	NAME PLATES	51500100
40	FOOT	PIPE CULVERTS, CLASS D, TYPE 1 15"	542D0220
1	L SUM	MOBILIZATION	67100100
1	L SUM	TRAFFIC CONTROL AND PROTECTION	70101700

FUNCTIONAL CLASS: RURAL LOCAL ROAD
ADT = 50

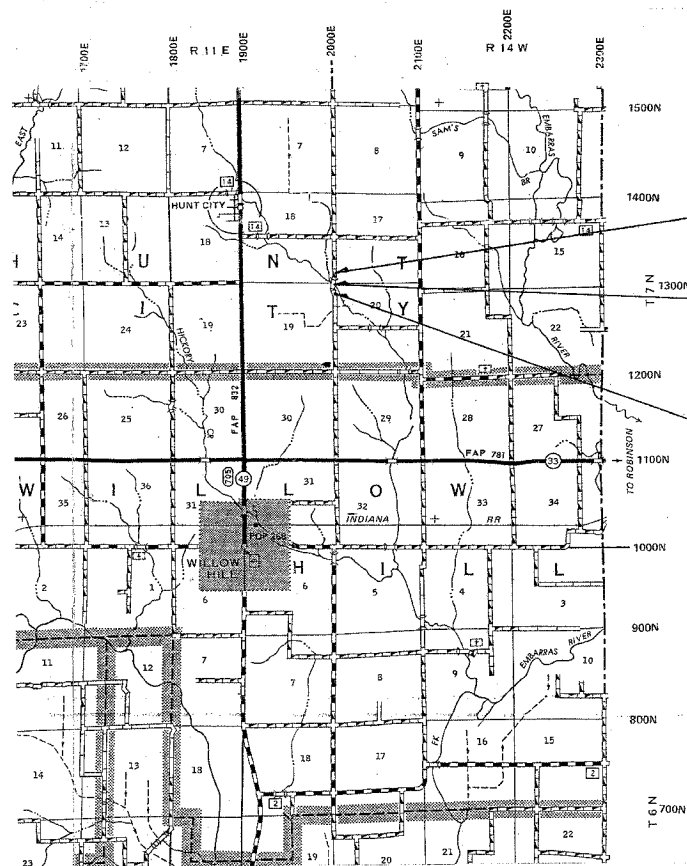
CONTRACT NO. 95444

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

PROFESSIONAL DESIGN FIRM #184-000832

SCALES

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



LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE
NET LENGTH = 1000 FT. = 0.189 MILES

SECTION 05-05117-00-BR
ENDS STA. 18+00

STA. 14+14 - STANDARD BRIDGE DESIGN
PROPOSED PRECAST PRESTRESSED CONC.
DECK BEAM BRIDGE, 1 SPAN @ 60'
28' RDWY., SKEW = 15' L.F.
PROPOSED STR. NO. 040-3251
EXISTING STR. NO. 040-3118

SECTION 05-05117-00-BR
BEGINS STA. 8+00

APPROVED 2-13, 2006

Richard A. Patten
LOCAL AGENCY REPRESENTATIVE

PASSED 11/16, 2006

Murray Kestel
DISTRICT SEVEN ENGINEER
OF LOCAL ROADS & STREETS

RELEASING FOR BID BASED ON LIMITED REVIEW

11/16, 2006

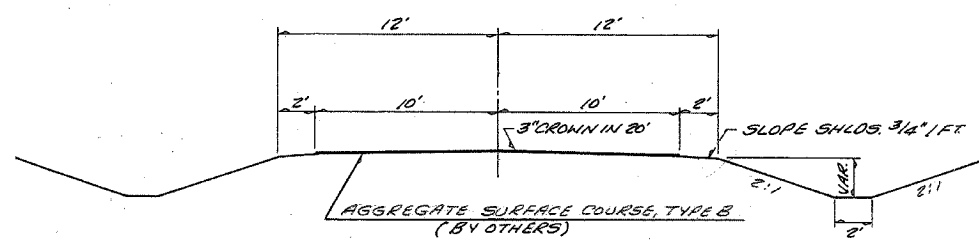
Christie M. Reed
DEPUTY DIRECTOR OF HIGHWAYS
REGION FOUR ENGINEER
STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

Michael R. [Signature]
ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 31350
LICENSE EXPIRES 12/31/2007

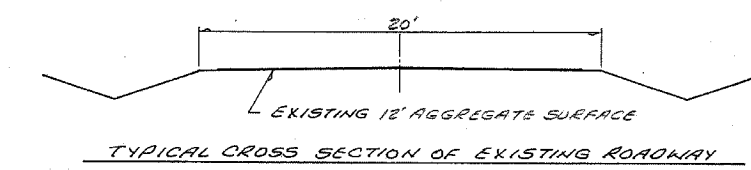
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-0517-00-BR	JASPER	10	2	
STA.	TO STA.	PROJECT		
8+00	19+00	BR05-079(130)		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

R.J. BERGBOWER, INC.

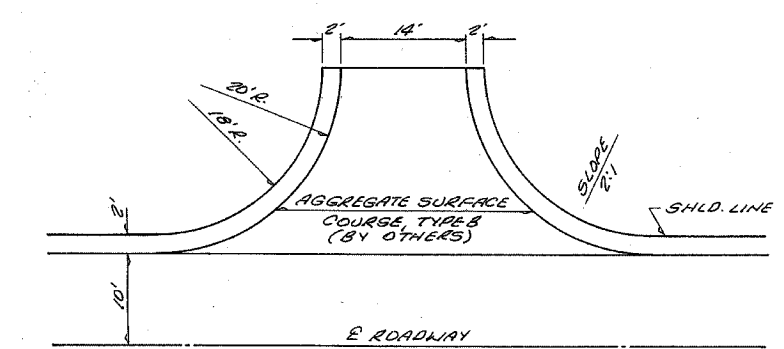
THOMAS V. HEADY, ETAL.



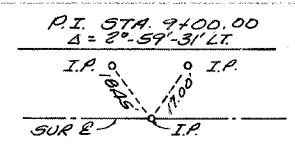
TYPICAL CROSS SECTION OF PROPOSED IMPROVEMENT



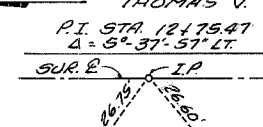
TYPICAL CROSS SECTION OF EXISTING ROADWAY



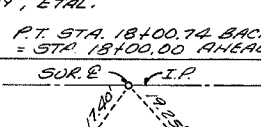
DETAIL OF FIELD ENTRANCES



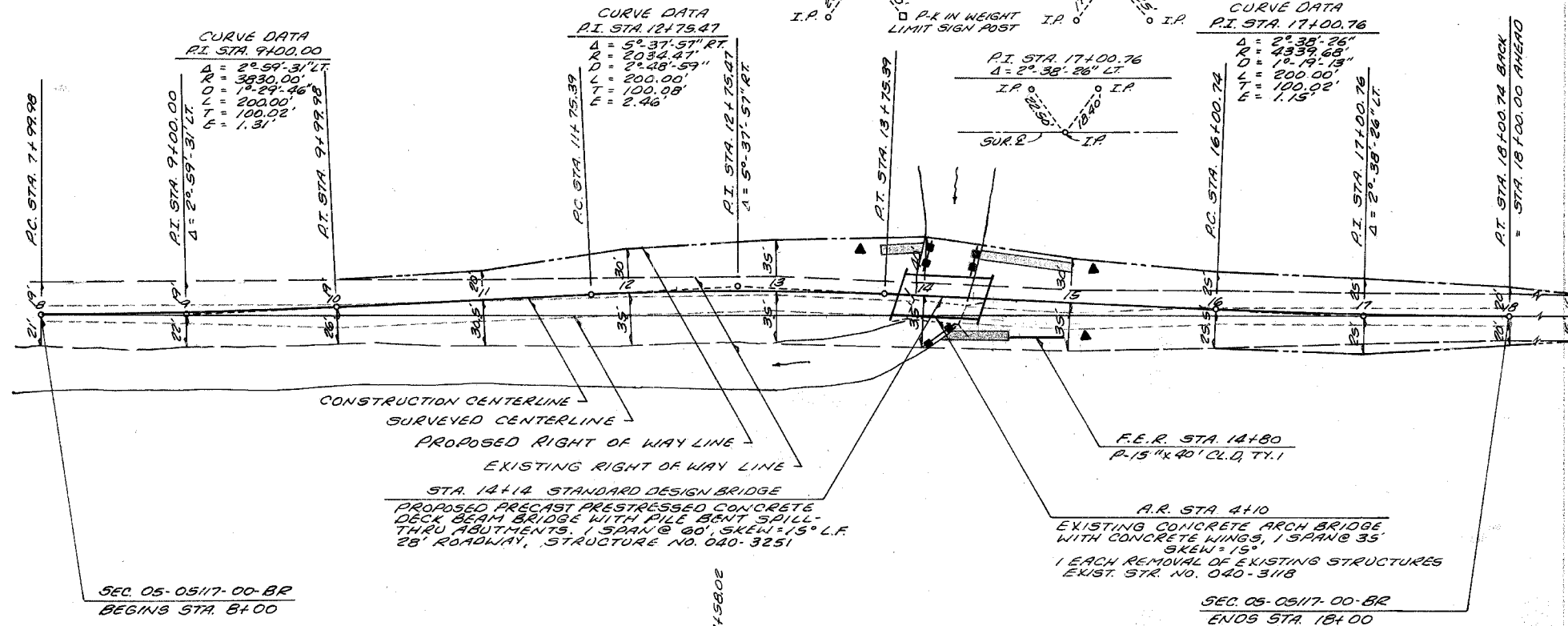
CURVE DATA
PI STA 9+00.00
Δ = 2° 59' 31" LT
R = 3830.00'
L = 129.24'



CURVE DATA
PI STA 12+75.47
Δ = 5° 37' 57" LT
R = 2034.27'
L = 200.00'



CURVE DATA
PI STA 17+00.76
Δ = 2° 38' 26" LT
R = 4339.68'
L = 100.02'



SEC. 05-0517-00-BR
BEGINS STA. 8+00

SEC. 05-0517-00-BR
ENDS STA. 18+00

SEEDING CLASS 2 (SPECIAL)
STA. 7+00 TO STA. 19+00 = 0.9 AC

EARTHWORK SCHEDULE	
EARTH EXCAVATION	= 791 C.Y.
EARTH EXCAVATION ADJUSTED 25%	= 593 C.Y.
CHANNEL EXCAVATION	= 80 C.Y.
CHANNEL EXCAVATION ADJUSTED 25%	= 60 C.Y.
EMBANKMENT	= 1326 C.Y.
FURNISHED EXCAVATION	= 673 C.Y.

CONSTRUCT TRANSITION
FROM EXIST. RDWY. TO PROP. 24' RDWY.
STA. 7+00 TO STA. 8+00
STA. 18+00 TO STA. 19+00

FROM PROP. 24' RDWY. TO PROP. 28' RDWY.
STA. 13+34 TO STA. 13+89
STA. 14+14 TO STA. 14+94

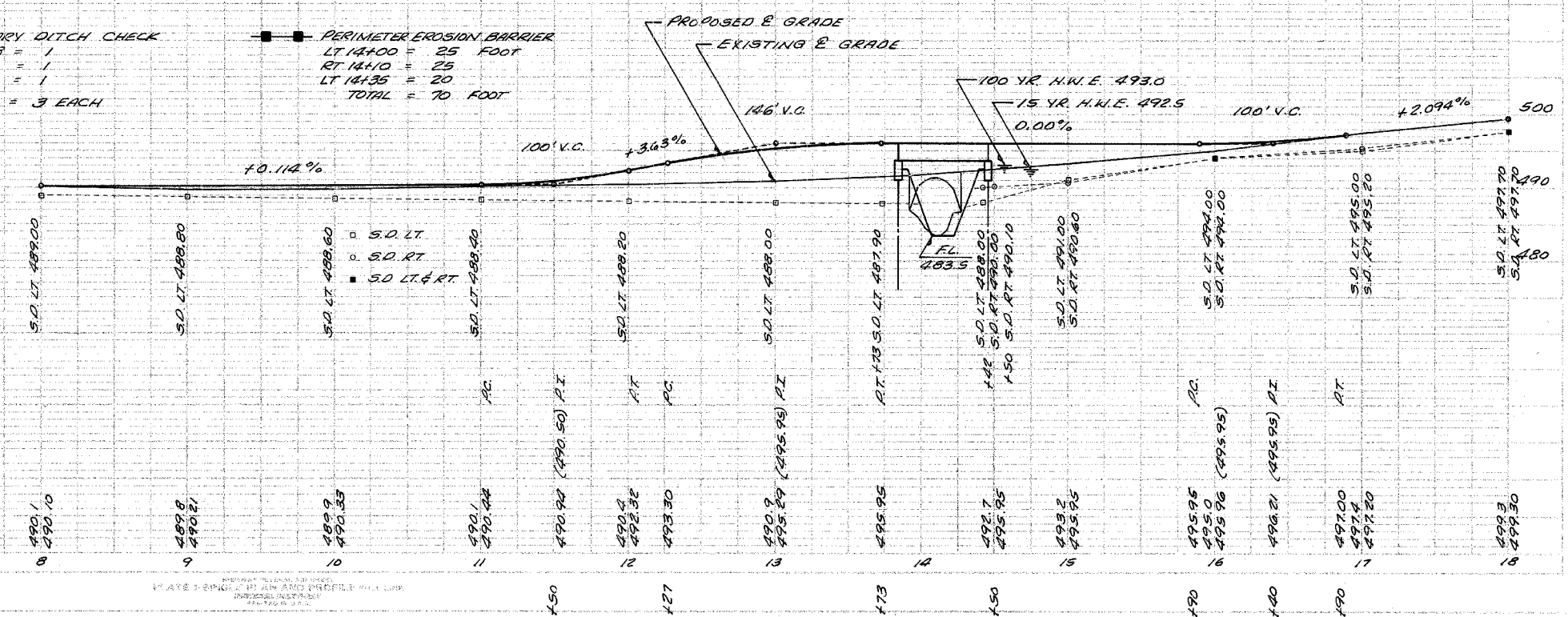
EARTHWORK QUANTITIES INCLUDED
IN THOSE LISTED

B.M. #1 ELEV. 491.8
P.O.K. IN 14" COTTONWOOD
1 60' LT. STA. 14+00

STONE RIPRAP DITCH
RT. STA. 14+16 TO STA. 14+60 = 13 TON
LT. STA. 14+35 TO STA. 15+00 = 19 TON
LT. STA. 13+70 TO STA. 13+95 = 8 TON
TOTAL = 40 TON

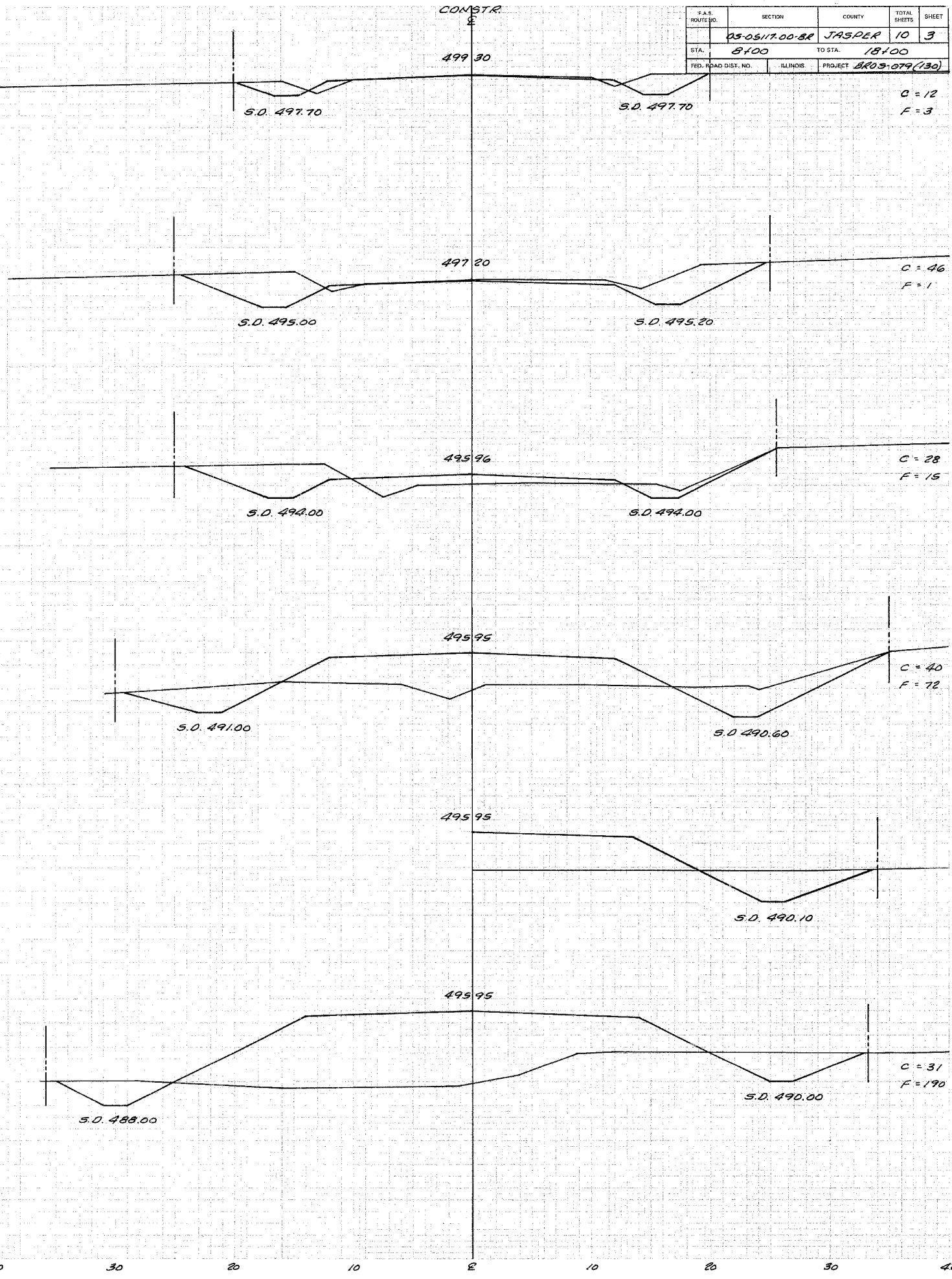
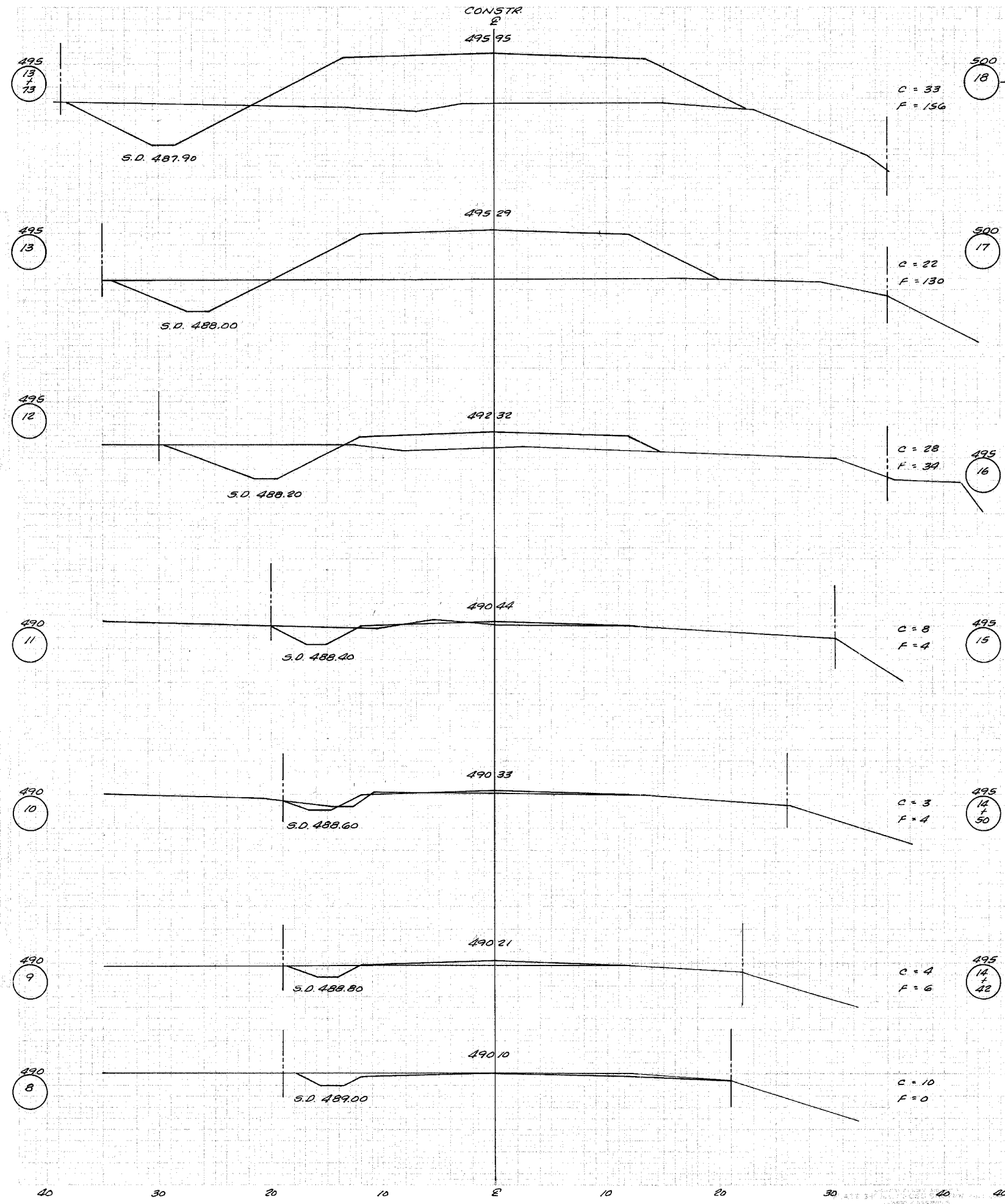
▲ TEMPORARY DITCH CHECK
LT 13+58 = 1
LT 13+13 = 1
RT 15+13 = 1
TOTAL = 3 EACH

■ PERIMETER EROSION BARRIER
LT 14+00 = 25 FOOT
RT 14+10 = 25
LT 14+35 = 20
TOTAL = 70 FOOT



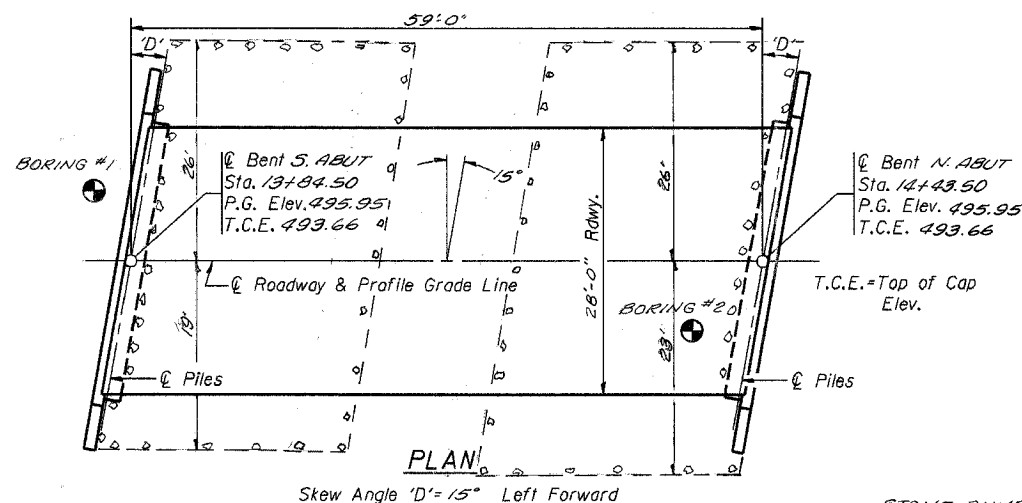
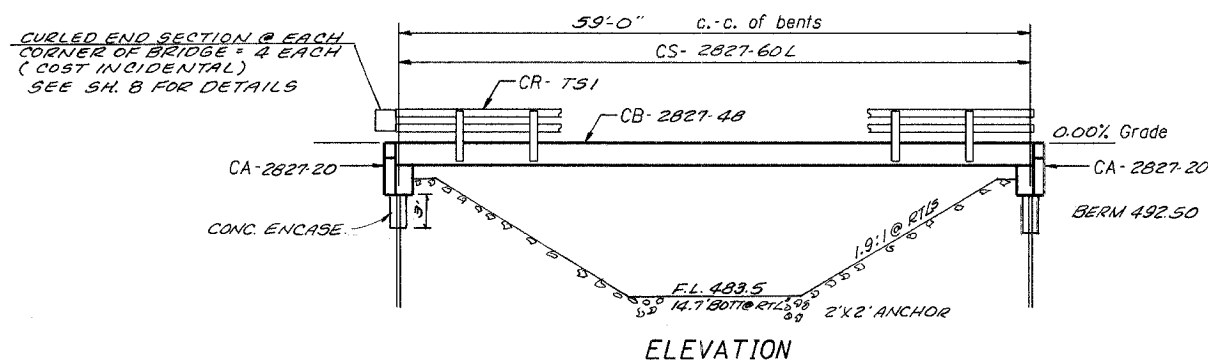
UTILITIES
NONE

STATE ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-06117.00-88	JASPER	10	3	
STA. 8100	TO STA. 18100			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT 8R05-079(130)		



ROUTE NO.	SECTION	COUNTY	SHEET NO.	TOTAL SHEETS
		JASPER	10	4
FED. ROAD DIST. NO. 7				
ILLINOIS FED. AID PROJECT: BR05-079 (130)				
SEC. 05-05117-00-BR				

-B.M.-
-Existing Structure-
-Salvage-



GENERAL NOTES

- The Contractor shall drive 1 test piles, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
- See Special Provisions for boring logs.
- A Corrosion inhibitor, as covered in the Special Provisions, shall be used in the concrete for precast prestressed concrete deck beams.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub.		Total
			Piers	Abuts.	
Removal of Existing Structures	Each				1
Bituminous Concrete Surface Course, Superpave	Ton				
Waterproofing Membrane System	Sq. Yd.				
Concrete Structures	Cu. Yd.			22.2	22.2
Precast Prestressed Concrete Deck Beams (27" Depth)	Sq. Ft.	1680			1680
Steel Bridge Rail, Type SM	-Foot-				
Steel Railing, Type S-1	Foot	120			120
Reinforcement Bars	Pound			2680	2680
Furnishing STEEL PILES HP 10X42	Foot			270	270
Driving PILES	Foot			270	270
Test Piles STEEL HP 10X42	Each			1	1
Name Plates	Each			1	1
Concrete Encasement	Cu. Yd.			2.6	2.6
Portland Cement Mortar Fairing Course	-Foot-				
STONE DUMPED RIPRAP CL AA	TON			125	125



STONE DUMPED RIPRAP
12" THICK
125 TON

DESIGN SPECIFICATIONS
2002 AASHTO Standard Specifications - 17th ed.

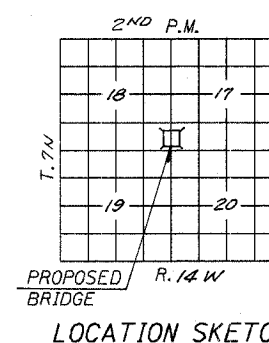
LOADING HS20-44
Allow 25#/sq. ft. for future wearing surface.

SEISMIC DATA
Seismic Performance Category (SPC) =
Bedrock Acceleration Coefficient (A) =
Site Coefficient (S) =

PILE DATA (2-ABUTS.)
Type STEEL HP 10X42
Capacity Tons REFUSAL
Estimated Length Feet 30'
Number Required 10 (Includes 1 Test Pile located in Bent #1) S. ABUT.

STATION 14+14
PROJECT NO. BR05-079(130)
SEC. 05-05117-00-BR BUILT 2007
JASPER COUNTY
LOADING HS20
STR. NO. 040-3251

LETTERING FOR NAME PLATE
Locate Name Plate at SOUTHEAST Corner of Bridge (See Std. CN)



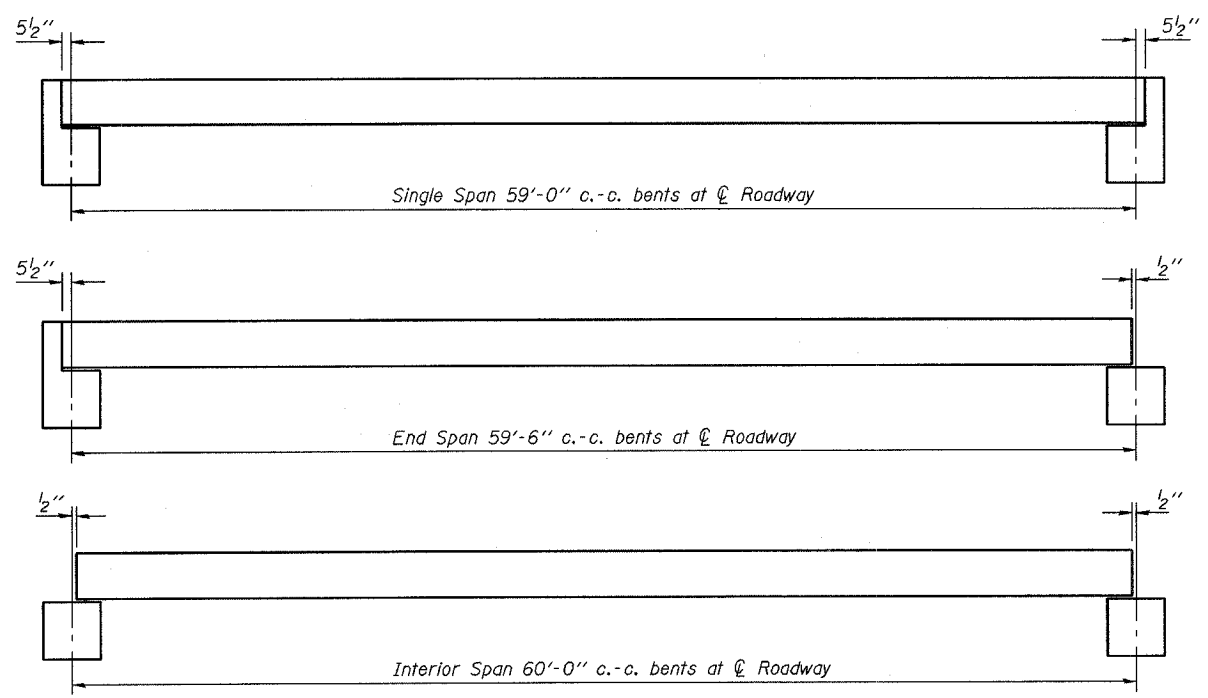
WATERWAY INFORMATION

Drainage Area = 7.67 SQ. MI. Low Grade Elev. = 490.1 @ Sta. 8+00										
Flood	Freq. Yr.	C.F.S.		Opening Sq. Ft.		Nat. Head - Ft.		Headwater El.		
		Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	Exist.	Prop.	
Design	15	1118	171	289	492.5		0.1	492.6	746	353
Base	100	1754	171	316	493.0		0.3	493.3	974	460
Overtopping										
Max. Calc.	500	2260			493.3		0.5	493.8		

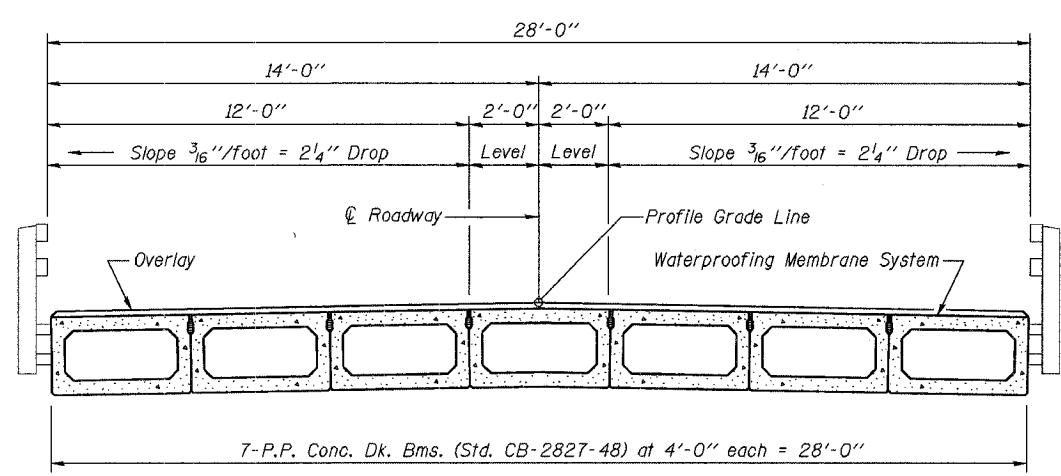
INDEX OF SHEETS

- General Plan & Elevation
- Standard CS-2827-60L
- Standard CB-2827-48
- Standard CA-2827-20
- Standard CE-751
- Standard CN
- Standard CX-1
- Standard
- Standard

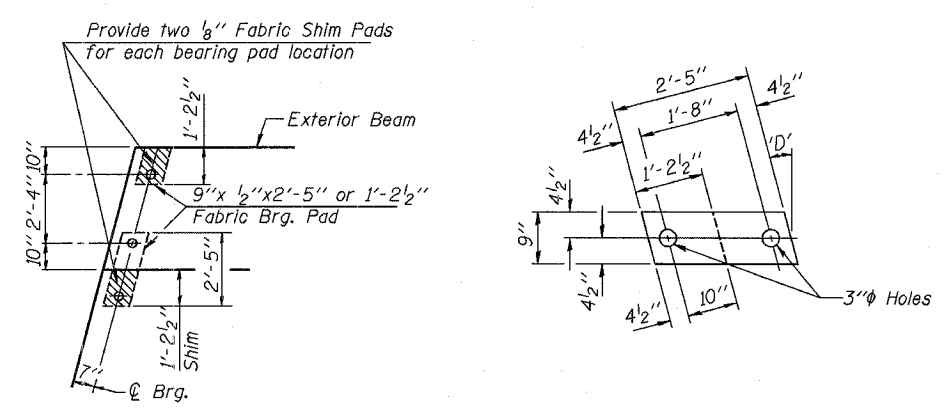
GENERAL PLAN & ELEVATION
OVER ROUTE 302
SECTION 05-05117-00-BR
JASPER COUNTY
STATION 14+14



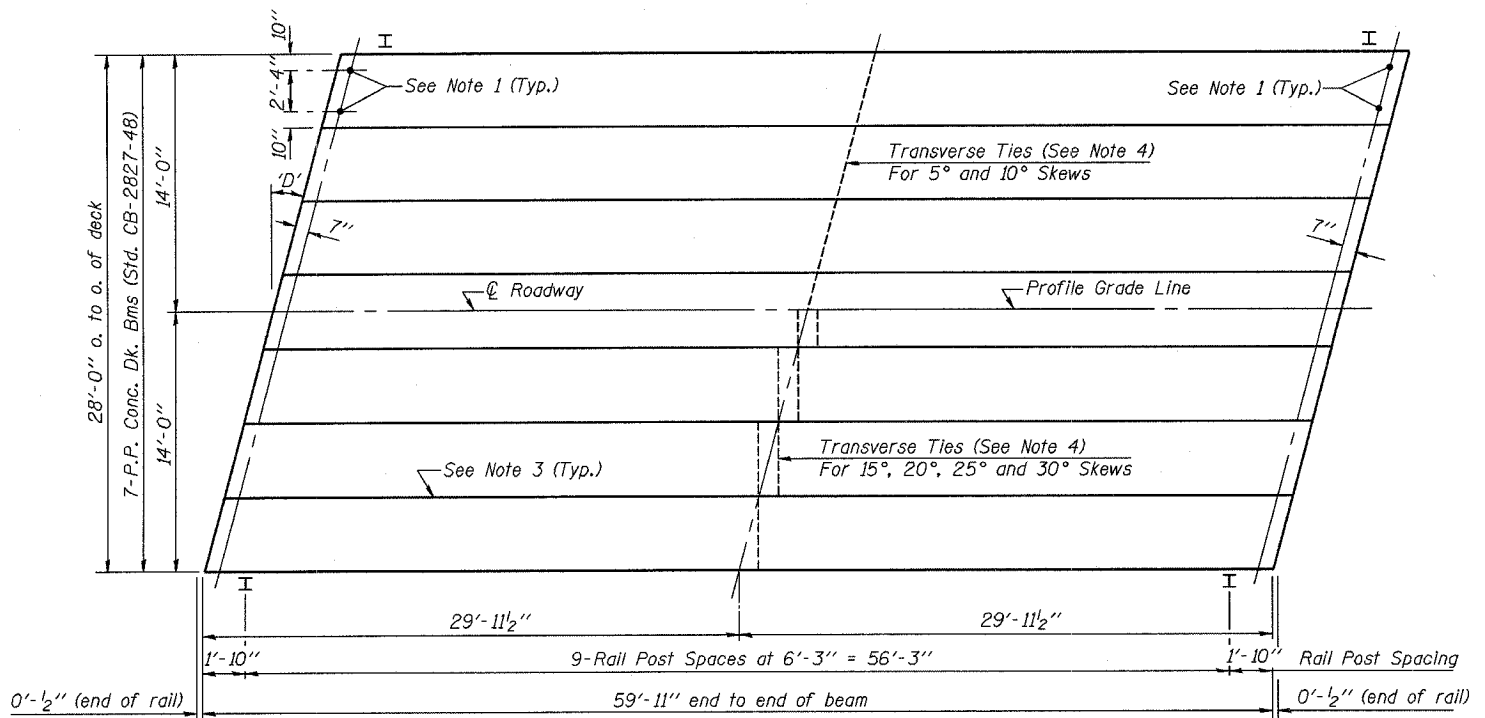
TYPICAL ELEVATIONS



CROSS SECTION

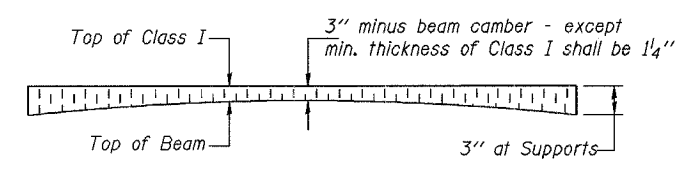


1/2" FABRIC BRG. PAD DETAILS



PLAN

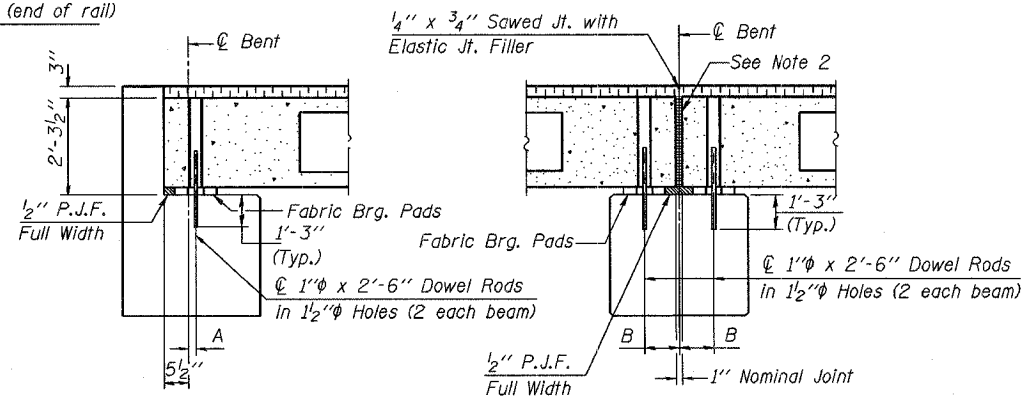
("D" = Designated Skew Angle)



PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

'D'	5°	10°	15°	20°	25°	30°
A	1 1/2"	1 5/8"	1 3/4"	1 7/8"	2 1/4"	2 5/8"
B	7 1/2"	7 5/8"	7 3/4"	8"	8 1/4"	8 5/8"



SECTION AT ABUTS.
(Along centerline Beams)

SECTION AT PIERS
(Along centerline Beams)

NOTES

1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
2. Nominal 1" joint at centerline Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.
4. The 1" diameter rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar outside shall be filled with grout after transverse tie assembly is in place.

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 27" Dp.	1680 Sq. Ft.
Steel Railing	120 Ft.
Waterproofing Membrane System	186.7 Sq. Yds.
Portland Cement Mortar - Fairing Course	360-Ft.

Note: Quantity of overlay for one span = 21.9 Tons

P.P.C. DECK BEAM SUPERSTRUCTURE			
28' RDWY.	27" BMS.	60' SPAN	LEFT
STANDARD CS-2827-60L			

Illinois Department of Transportation

PASSED APRIL 4, 2005

Thomas J. [Signature]

Engineer of Bridge Design

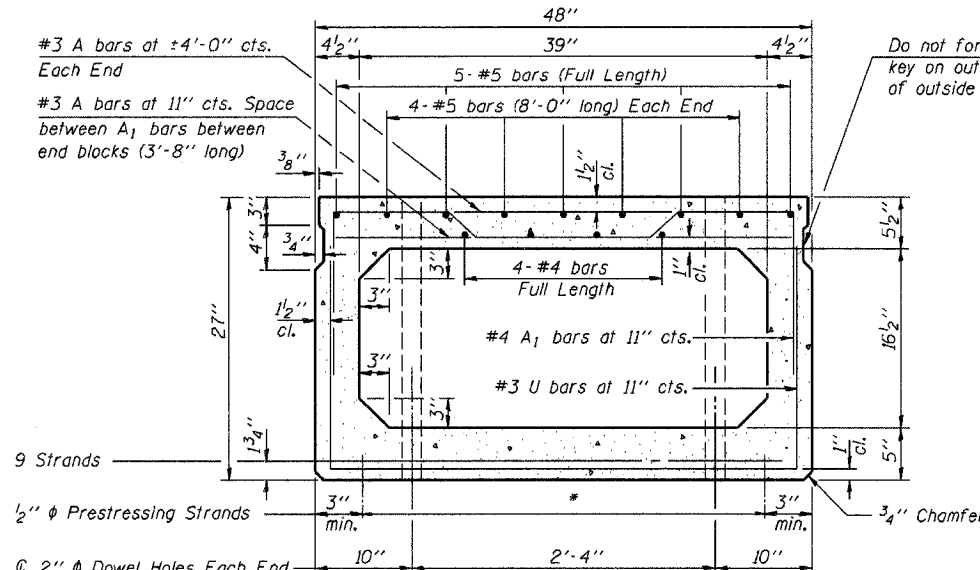
APPROVED APRIL 4, 2005

Ralph E. [Signature]

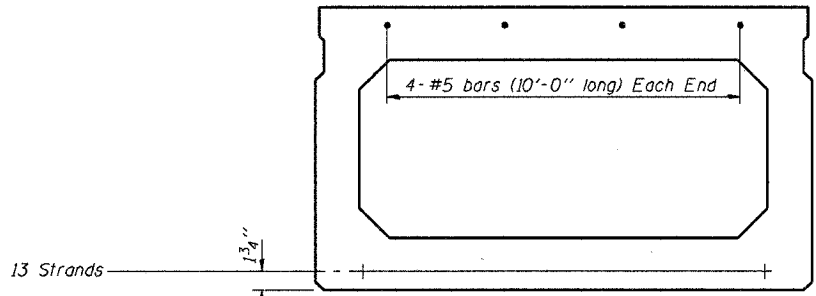
Engineer of Bridges and Structures

ISSUED 1-1-98/01

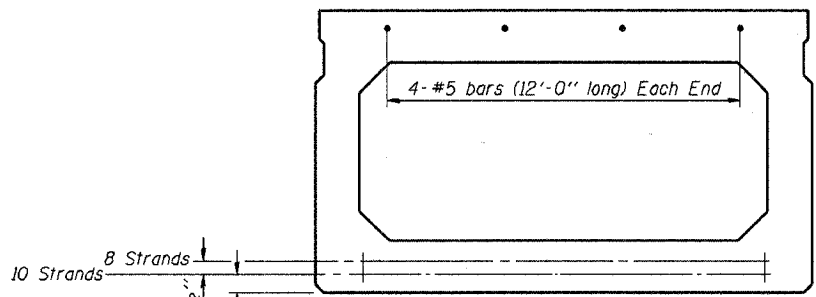
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-0517-00-AR	JASPER	10	6	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BR03-079(30)		



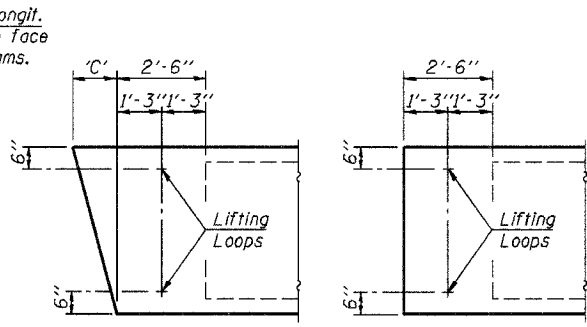
CROSS SECTION
(40' SPAN)



CROSS SECTION
(50' SPAN)

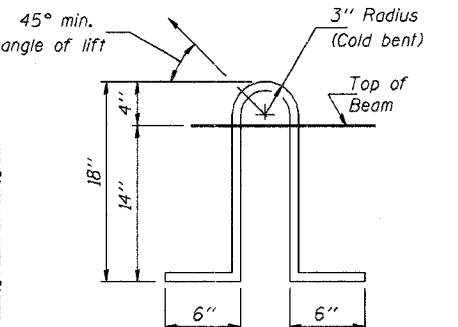


CROSS SECTION
(60' SPAN)



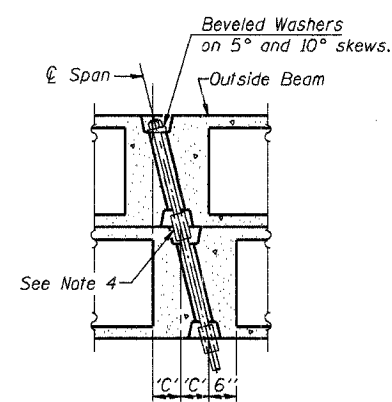
END BLOCK DETAILS

Each beam shall have four Lifting Loops, two at each end of beam cast in locations shown above. Loops shall be burned off after beams have been erected.

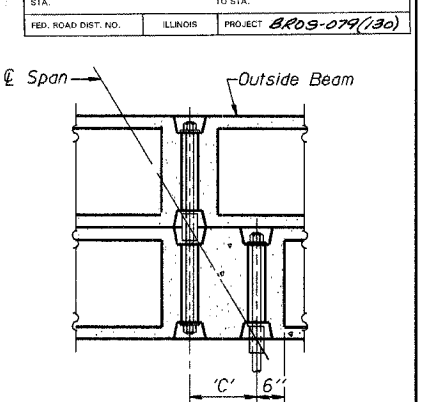


LIFTING LOOP DETAIL

Lifting loops shall be 3, 1/2 inch diameter 270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(D=0°, 5° and 10°)



PARTIAL PLAN TRANSVERSE TIE ASSEMBLY
(D=15°, 20°, 25° and 30°)

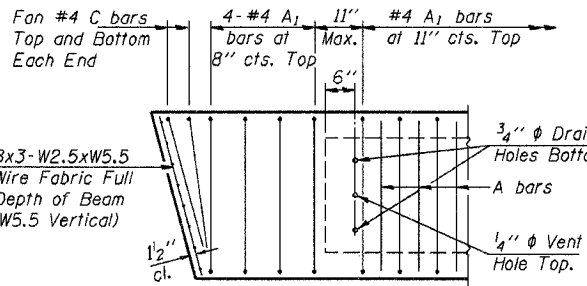
DIMENSION 'C'

Skew Angle 'D'	0°	5°	10°	15°	20°	25°	30°
Dimension 'C' (Inches)	0	4 1/4	8 1/2	12 7/8	17 1/2	22 3/8	27 3/4

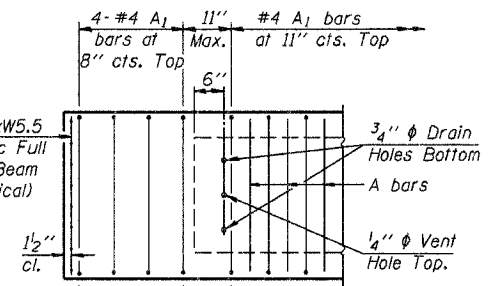
*** TRANSVERSE STRAND PLACEMENT GUIDELINES**

- Place strands symmetrically about centerline of beam.
- The minimum distance from center to center of strands in all directions shall be 2".
- The minimum clearance from strand to dowel hole shall be 1/2".
- The minimum clearance from strand to void shall be 1 1/2".

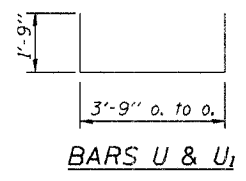
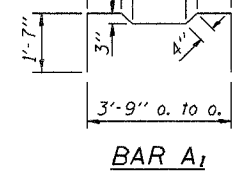
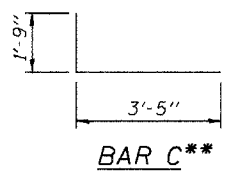
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



END REINFORCEMENT
(SKEWED)



END REINFORCEMENT
(RIGHT ANGLE)

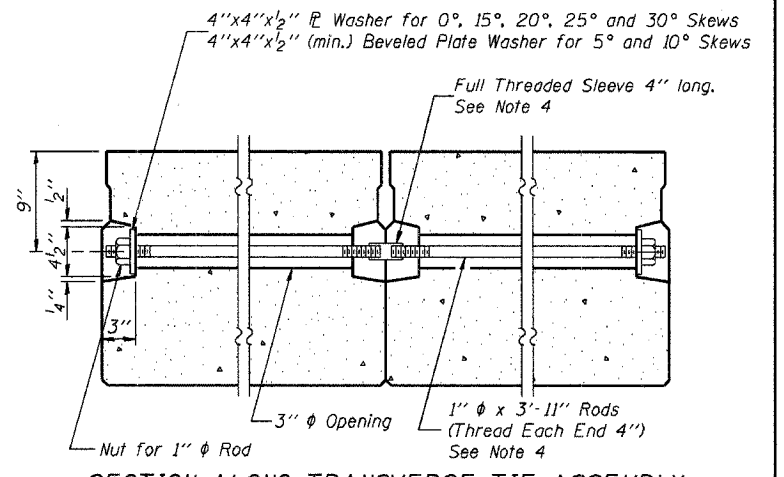


DESIGN STRESSES

- f_c = 5,000 p.s.i.
- f_{ci} = 4,000 p.s.i.
- f_s = 270,000 p.s.i. (1/2 inch diameter Strand)
- f_{si} = 201,960 p.s.i. (1/2 inch diameter Strand)
- f_y = 60,000 p.s.i.

MIN. BAR LAP

- #4 bars = 1'-4"
- #5 bars = 1'-8"



SECTION ALONG TRANSVERSE TIE ASSEMBLY
(REQUIRED FOR 50' & 60' SPANS ONLY)

NOTES

- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
- The nominal diameter shall be 1/2 inch and the nominal cross-sectional area shall be 0.153 square inches.
- Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
- On 0°, 5° and 10° skews, alternate approved transverse tie rods of increased segmental length are acceptable.
- Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
- When a Waterproofing Membrane System is specified, the top surface of the beams shall be screeded with a straightedge and finished with a hand float. The finished surface shall be free of depressions or high spots with sharp corners and the top edge of keys shall be rounded or chamfered a minimum of 1/4 inch.
- Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between the top of the beam and the bottom edge of the key.

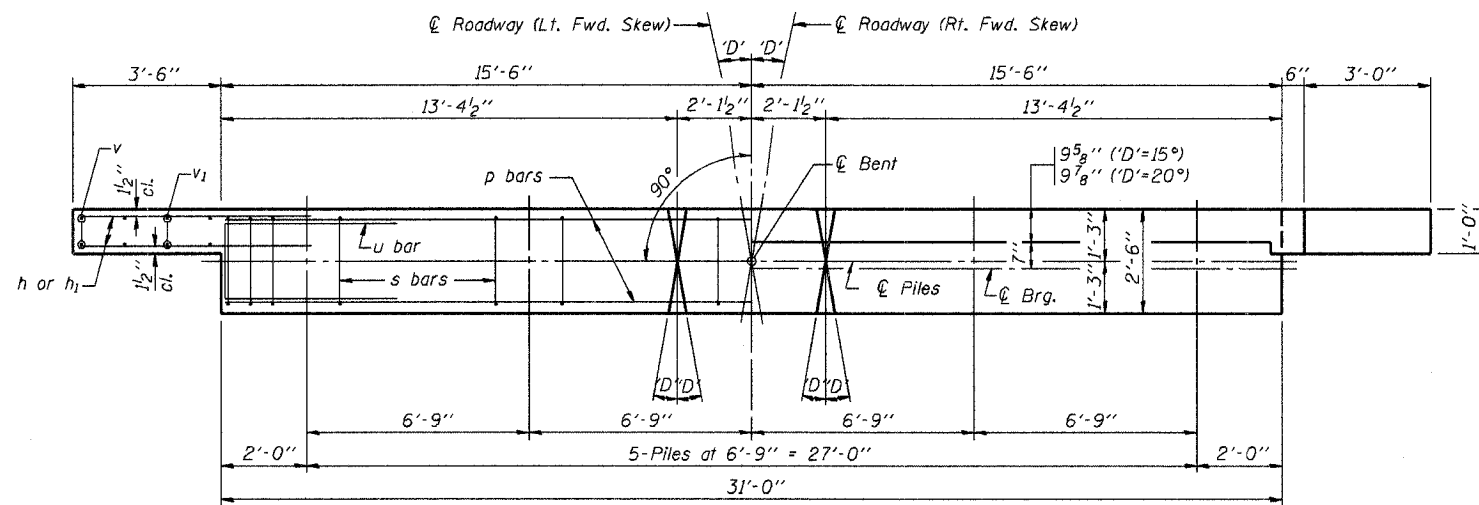
Illinois Department of Transportation
 PASSED APRIL 4, 2005
 Thomas S. Noma
 Engineer of Bridge Design
 APPROVED APRIL 4, 2005
 Ralph E. Anderson
 Engineer of Bridges and Structures

NOTE
 The std. reinf. and dimensions shown on the 40' span cross section is typical for all spans, except as shown.

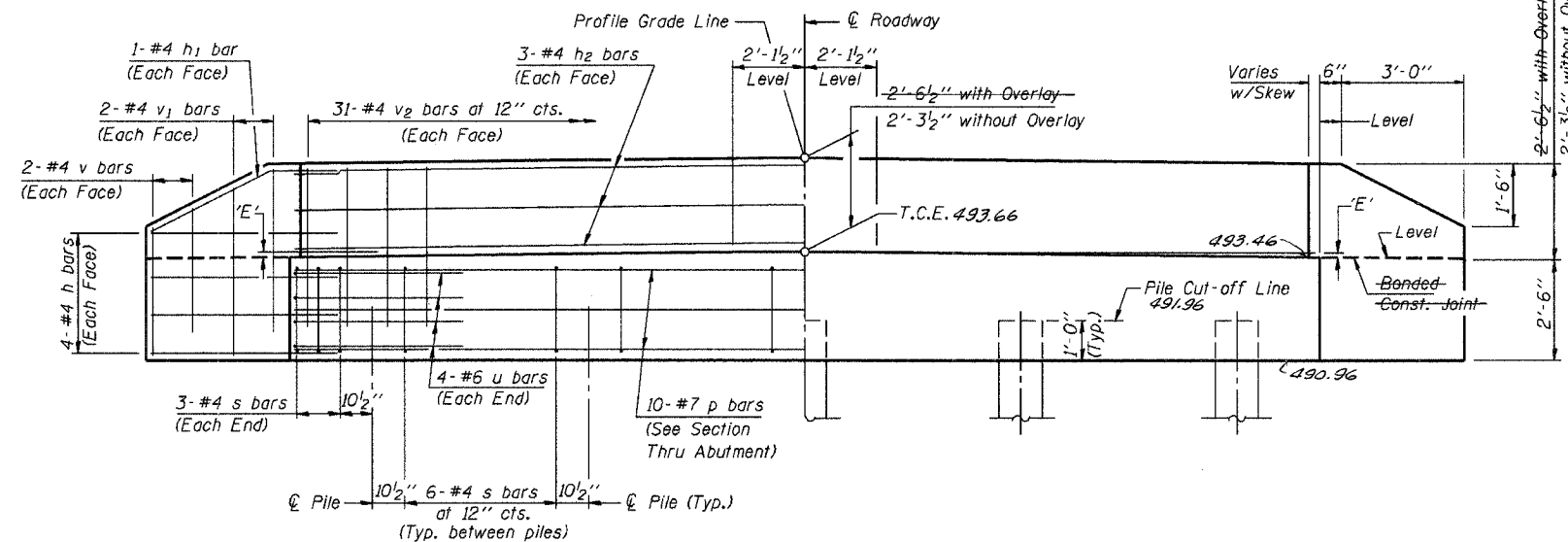
****NOTE:**
 The following number of C bars shall be used:
 Skew No.
 5° and 10° — 1
 15° and 20° — 2
 25° and 30° — 3

P.P.C. DECK BEAM DETAILS
 28' ROADWAY | 27" x 48" BEAMS
 STANDARD CB-2827-48

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-051/17-00-BA	JASPER	10	7	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BR05-079(13a)	



PLAN
("D"=Designated Skew Angle)



ELEVATION

DIMENSION 'E'

GRADE	'D'=15°		'D'=20°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 1/4"	2 5/8"	2 5/8"	2 5/8"
Over 1% to 2%	1 3/4"	3"	1 1/2"	3 1/2"
Over 2% to 3%	1 3/8"	3 1/2"	1"	3 3/4"
Over 3% to 4%	1"	3 7/8"	3/8"	4 1/4"

NOTES

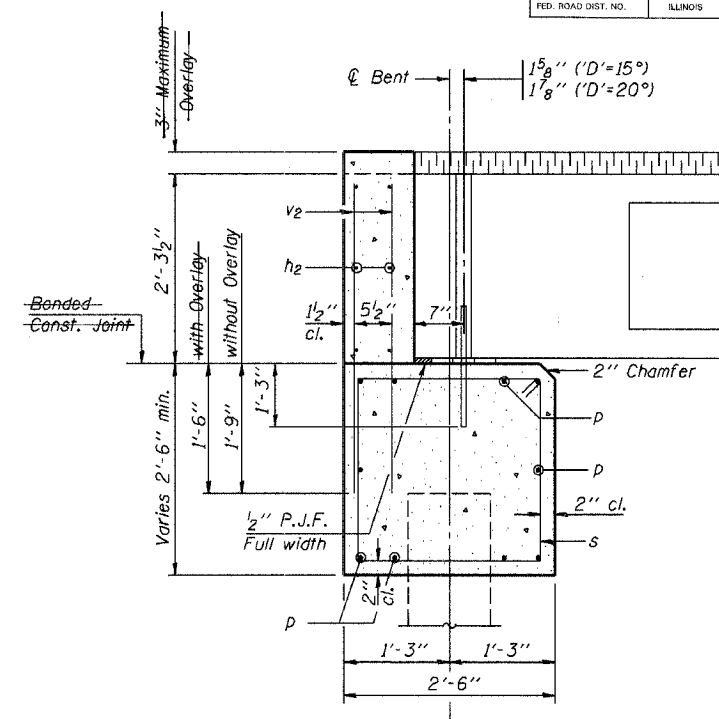
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

MAXIMUM PILE LOADS

SPAN	TONS
40'	29
50'	33
60'	37

DESIGN STRESSES

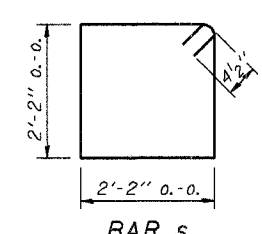
f'c = 3,500 psi
fy = 60,000 psi



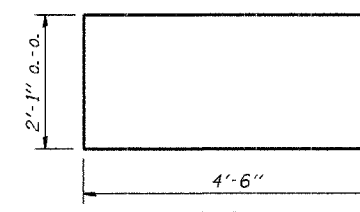
SECTION THRU ABUTMENT
(At Right Angles)

BILL OF MATERIAL FOR ONE ABUTMENT

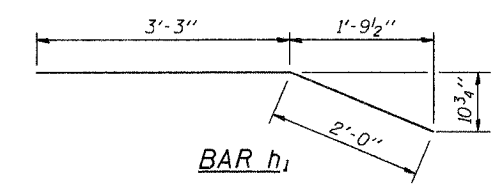
Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	30'-8"	—
p	10	#7	30'-8"	—
s	30	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	3'-2"	—
v1	8	#4	4'-2"	—
v2	62	#4	3'-11"	—
Concrete Structures				11.1 Cu. Yds.
Reinforcement Bars				1340 Lb.



BAR s



BAR u



BAR h1

Illinois Department of Transportation

PASSED APRIL 4, 2005
Theresa S. Nemaqalaki
Engineer of Bridge Design

APPROVED APRIL 4, 2005
Ralph E. Anderson
Engineer of Bridges and Structures

180-1-1 03/2005

P.P.C. DECK BEAMS
PILE BENT ABUTMENT

28' RDWY.	27" BMS.	'D'=15° OR 20°
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STANDARD CA-2827-20

SECTION	COUNTY	TOTAL SHEETS	SHEET
05-0517-00-BR JASPER		10	8
STA.	TO STA.		
FED. ROAD DIST. NO.	ILLINOIS PROJECT	SR05-079(130)	

NOTES

Hollow structural steel tubing shall conform to the requirements of ASTM designation A500 Grade B Structural Steel Tubing and shall meet the longitudinal CVN requirements of 15 ft.-lbs. at 0° F.

All other steel shapes and plates shall conform to the requirements of AASHTO M 270 Grade 36 except posts and angles shall conform to AASHTO M 270 Grade 50.

Bolts, cap screws, and nuts shall conform to the requirement of ASTM designation A307 except for high strength bolts, nuts and washers noted which shall conform to AASHTO M 164.

All bolts, nuts, cap screws, washers and lock washers shall be galvanized according to AASHTO M 232.

All posts, railing, rail splices, anchor devices and angles shall be galvanized after shop fabrication according to AASHTO M-111 and ASTM A 385. Galvanized rail shall not be painted.

Railing shall be according to Section 509 of the Standard Specifications, except as noted, and will be paid for at the contract unit price per foot for STEEL RAILING, TYPE S-1.

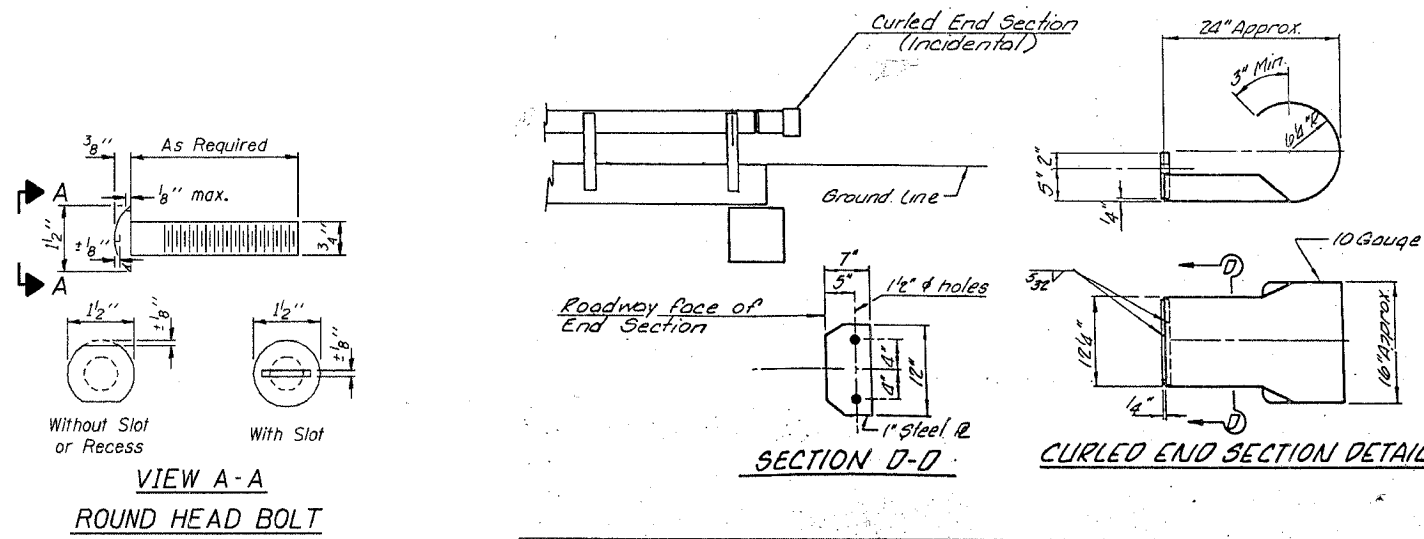
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

All field drilled holes shall be coated with an approved zinc rich paint before erection.

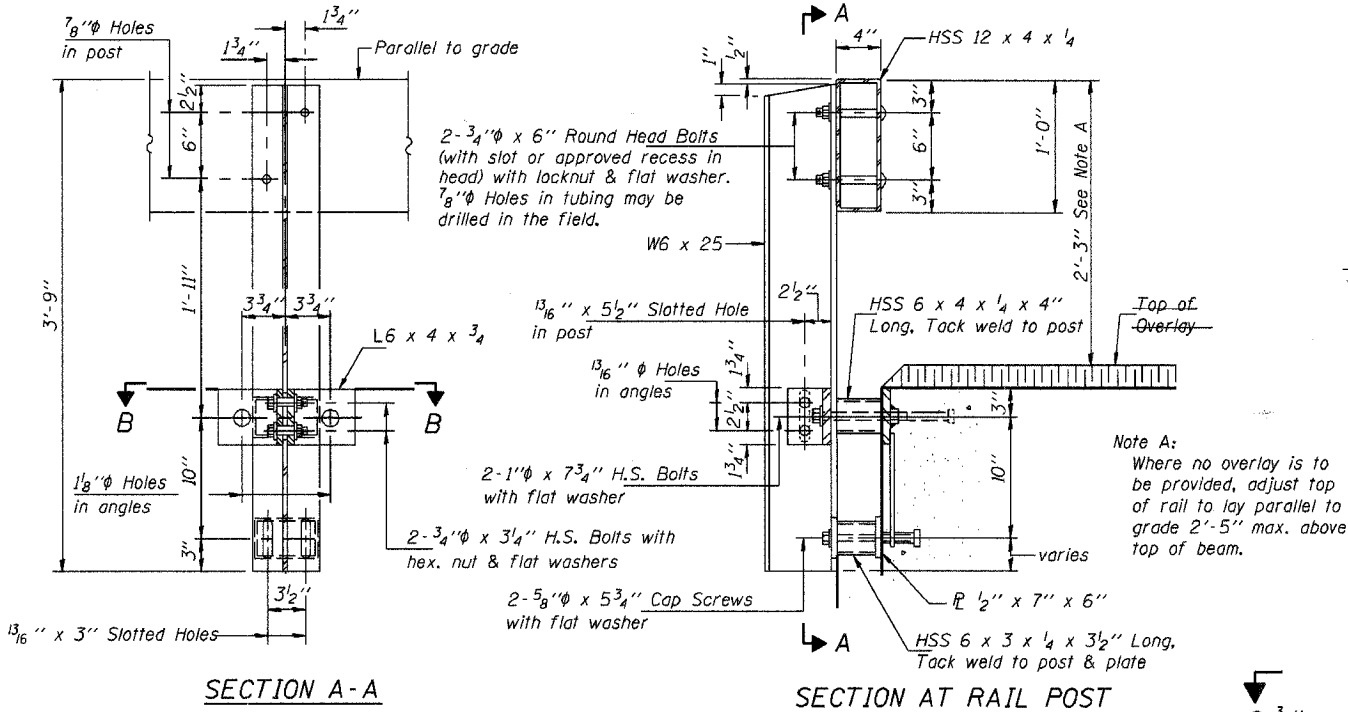
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

The 3/4" high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04 (f)(2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

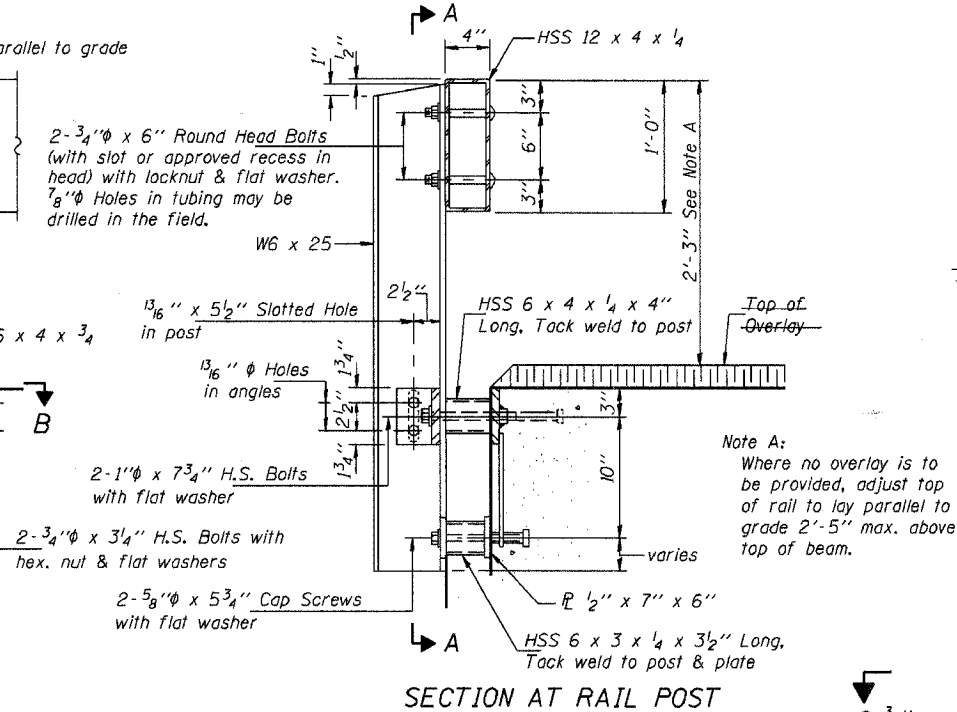
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6" or less.



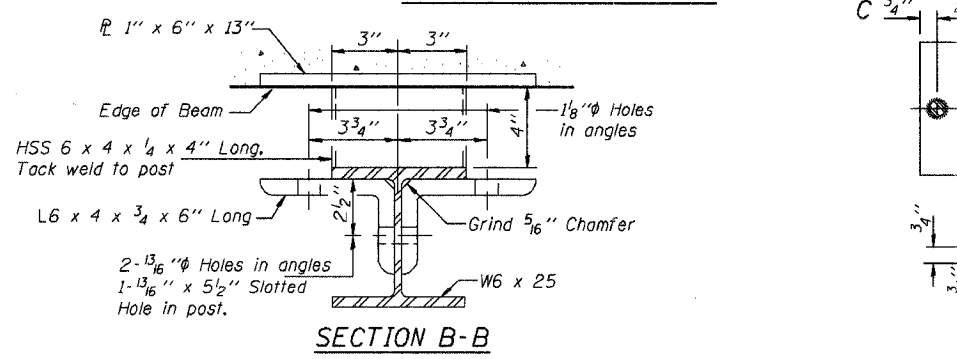
**VIEW A-A
ROUND HEAD BOLT**



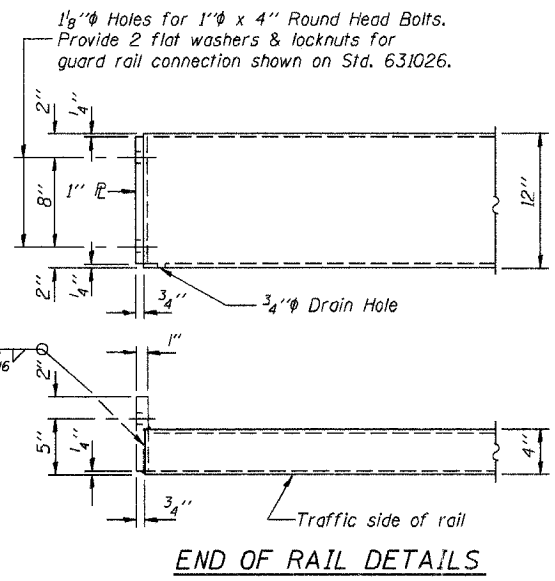
SECTION A-A



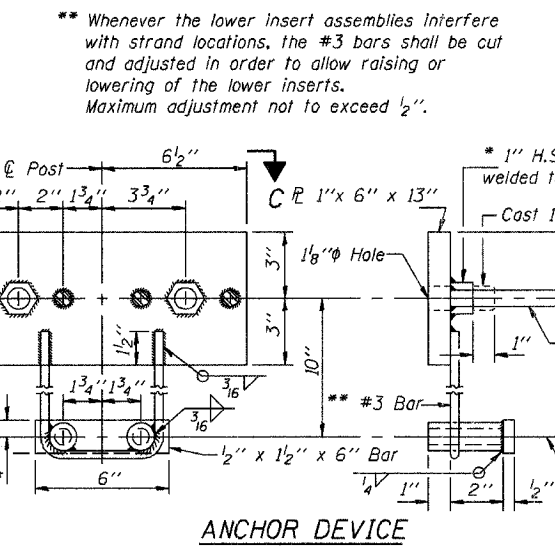
SECTION AT RAIL POST



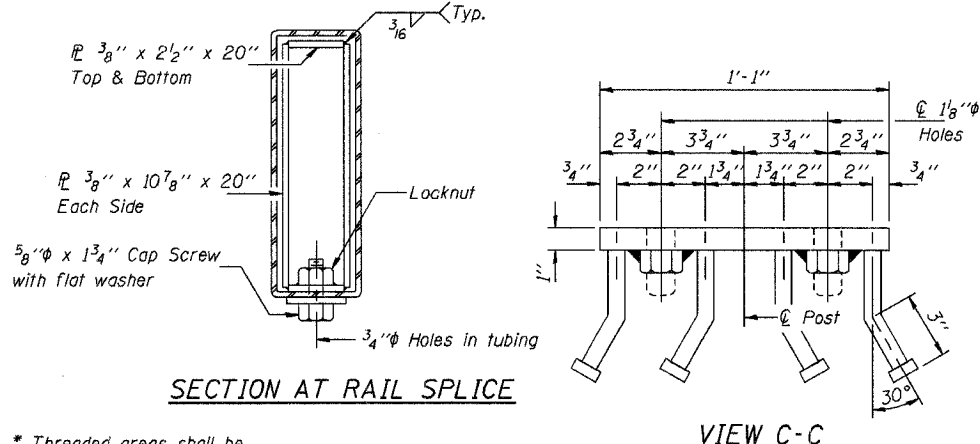
SECTION B-B



END OF RAIL DETAILS

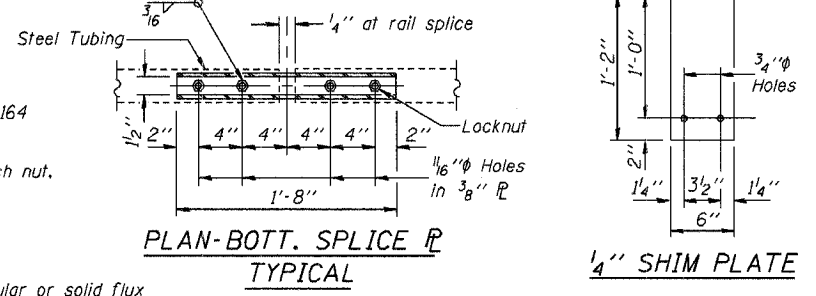


ANCHOR DEVICE

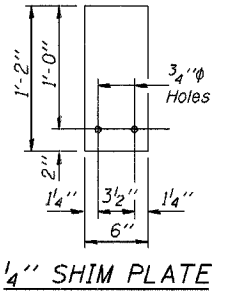


SECTION AT RAIL SPLICE

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



PLAN-BOTT. SPLICE & TYPICAL



1/4" SHIM PLATE

Illinois Department of Transportation

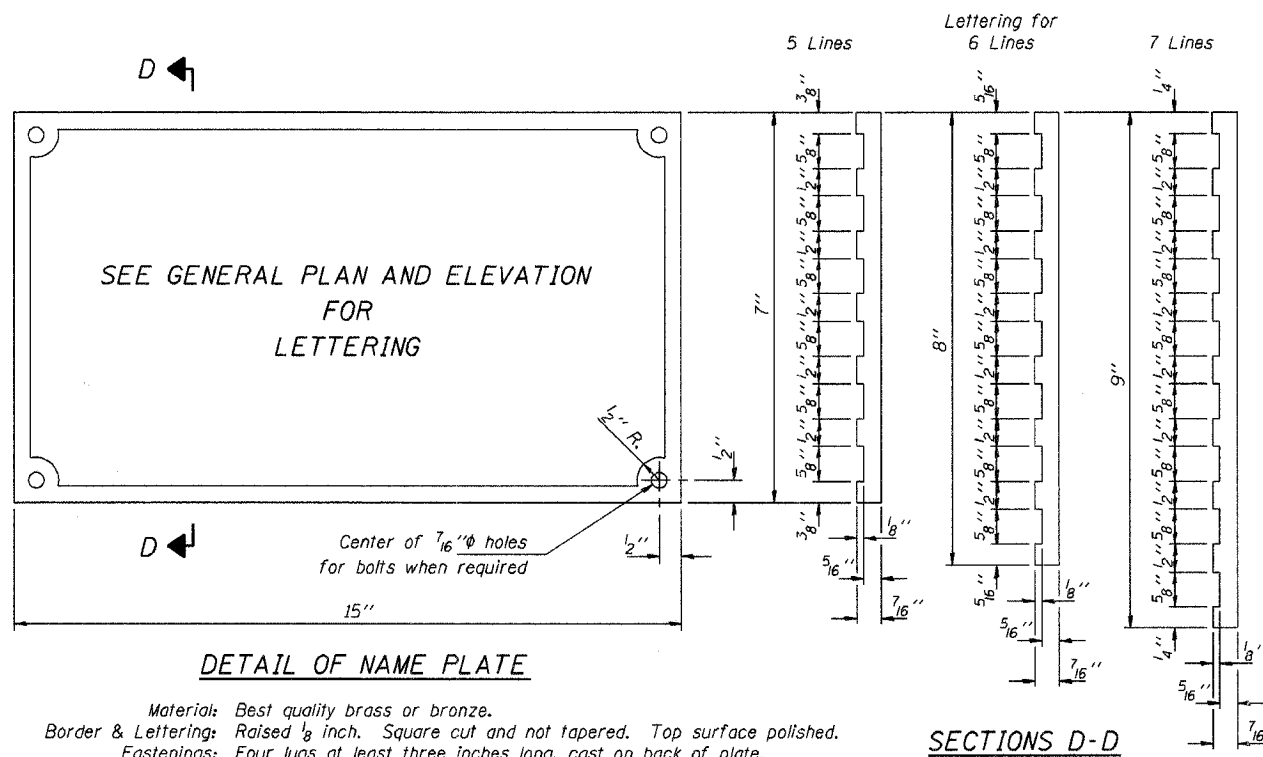
PASSED APRIL 4, 2005
 Thomas S. Romagnolo
 Engineer of Bridge Design

APPROVED APRIL 4, 2005
 Ralph E. Anderson
 Engineer of Bridges and Structures

STEEL RAILING, TYPE S-1

STANDARD CR-TSI

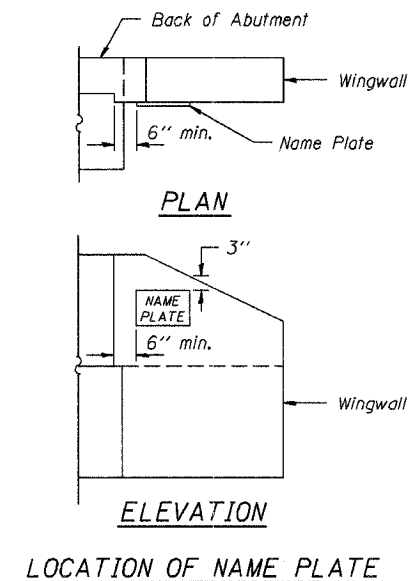
F. & S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
	05-05/17-00-BA	JASPER	10	9
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT BR05-079 (130)		



DETAIL OF NAME PLATE

Material: Best quality brass or bronze.
 Border & Lettering: Raised $\frac{1}{8}$ inch. Square cut and not tapered. Top surface polished.
 Fastenings: Four lugs at least three inches long, cast on back of plate.

SECTIONS D-D



LOCATION OF NAME PLATE

Illinois Department of Transportation

PASSED APRIL 4, 2005
Thomas S. Romagosa
 Engineer of Bridge Design

APPROVED APRIL 4, 2005
Ralph E. Anderson
 Engineer of Bridges and Structures

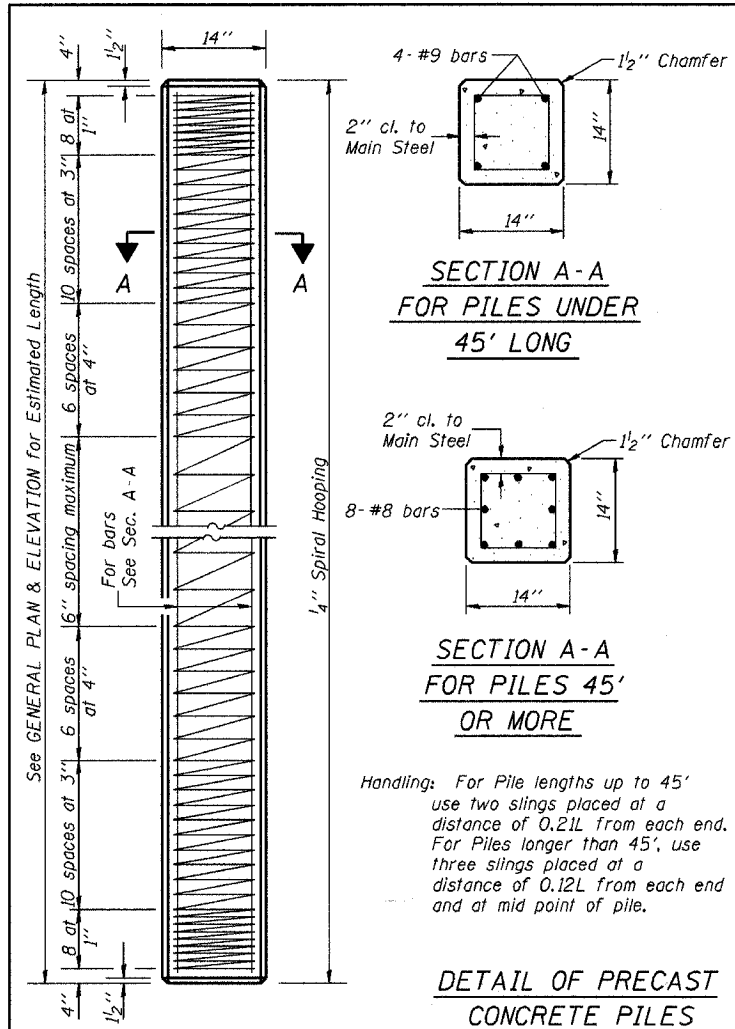
ISSUED 7-1-995

NAME PLATE
STANDARD CN

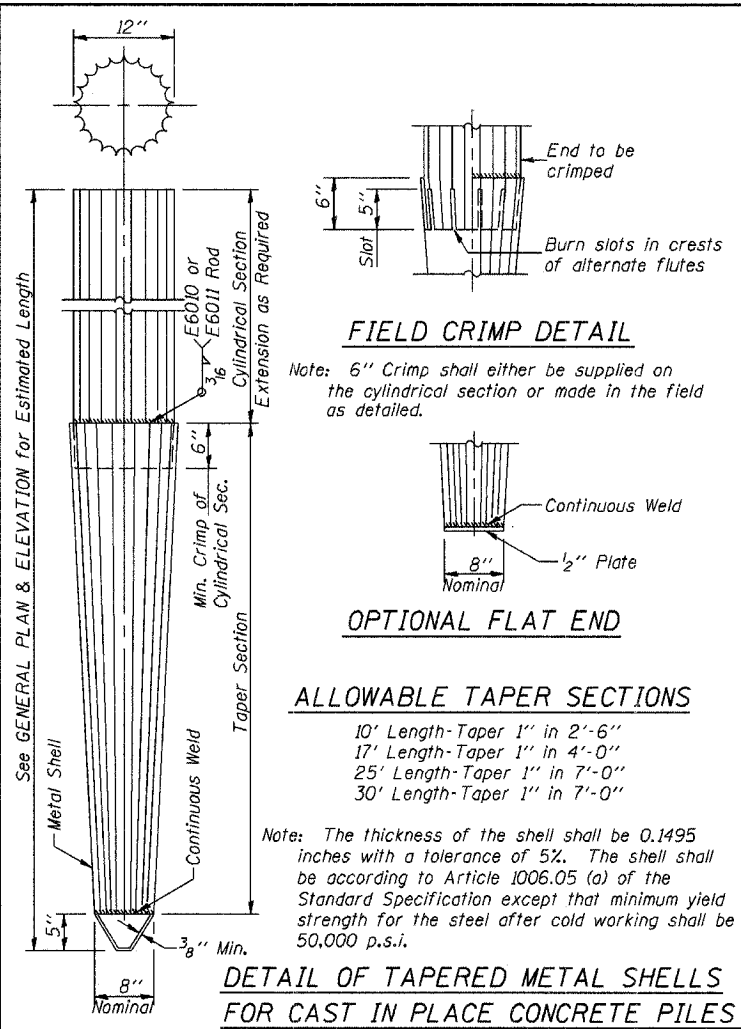
FILE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
ROUTE NO.	05-0517-00-8A	JASPER	10	10
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT	BR05-079 (130)	

Reinforcement cage shall be omitted when Concrete Encasement is provided.

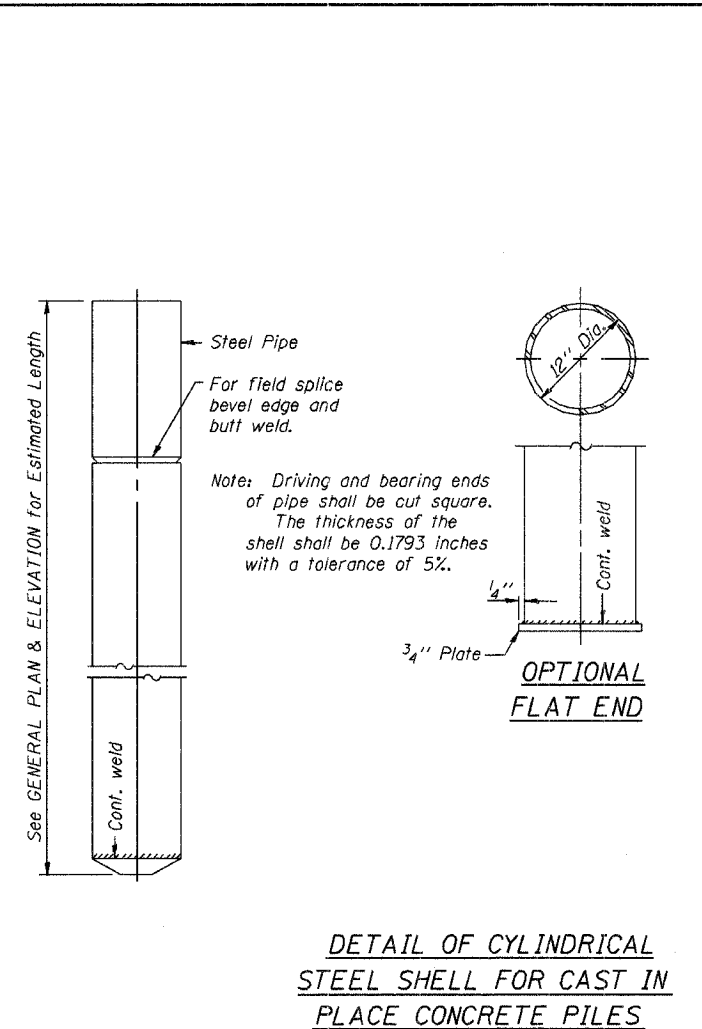
The cost of Reinforcement is included with the Cost of Furnishing Piles.



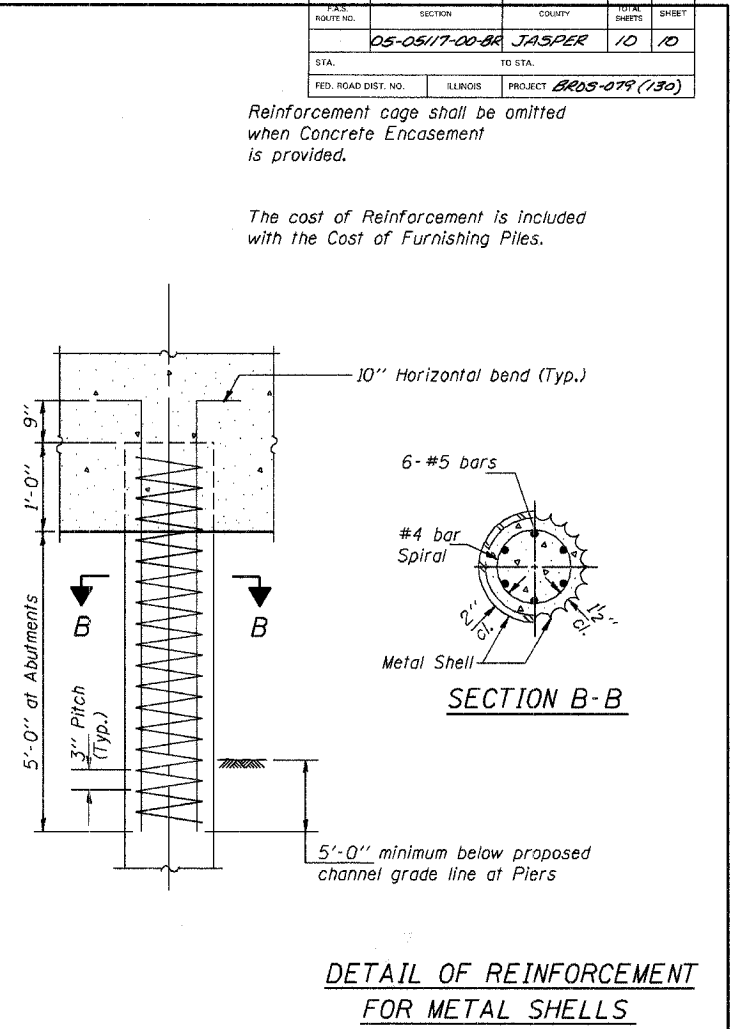
DETAIL OF PRECAST CONCRETE PILES



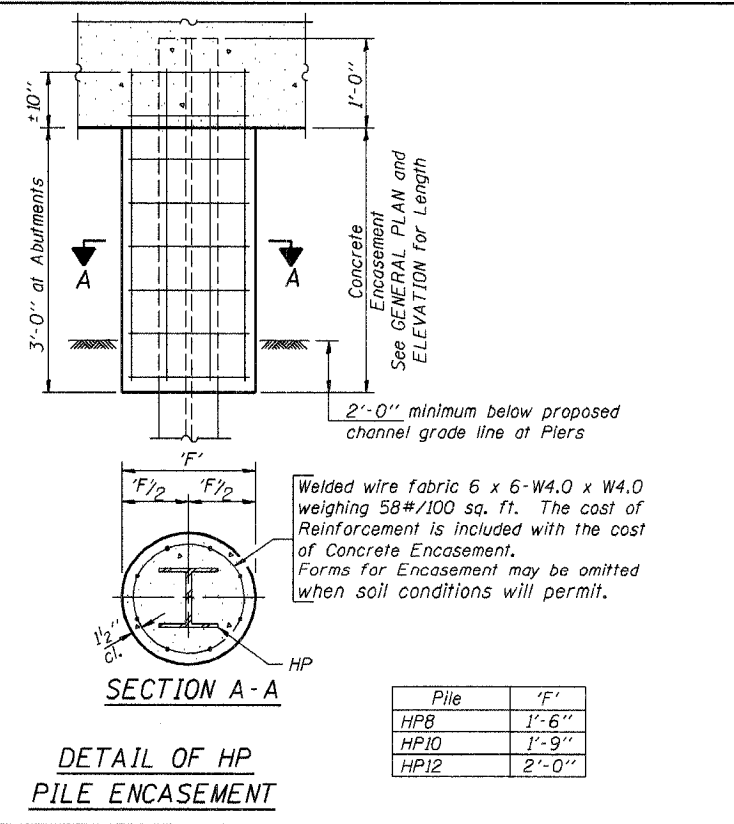
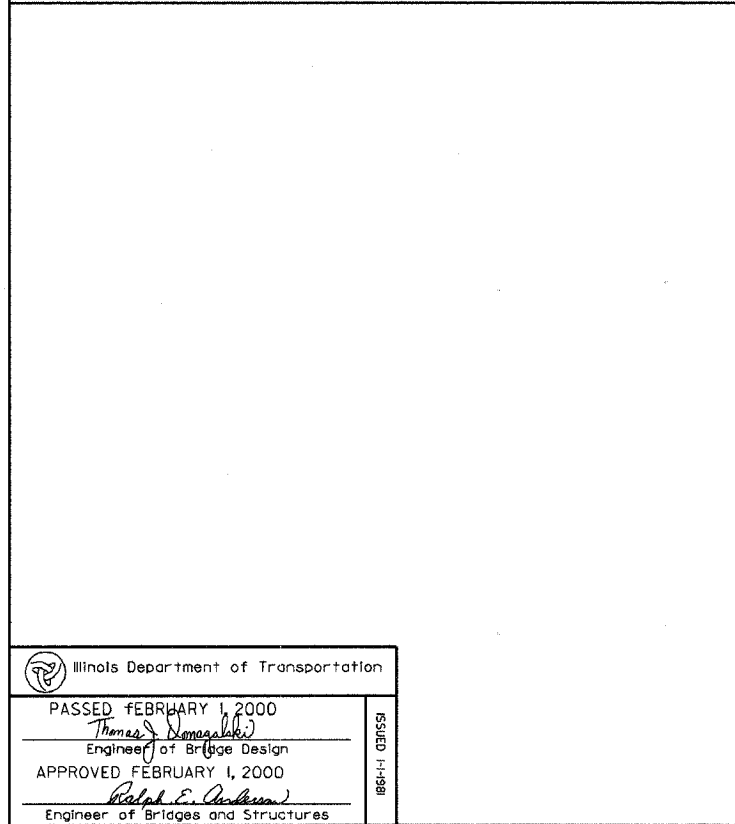
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF REINFORCEMENT FOR METAL SHELLS



QUANTITIES/FT. OF ENCASEMENT (STEEL PILES)

Pile Size	Item	Quantity
HP8	Concrete Encasement	0.063 C.Y.
HP10	Concrete Encasement	0.086 C.Y.
HP12	Concrete Encasement	0.112 C.Y.

(METAL SHELL PILES)

Pile Size	Item	Quantity
12" Dia.	Concrete Encasement	0.087 C.Y.

Illinois Department of Transportation
 PASSED FEBRUARY 1, 2000
 Thomas J. Nomaalaki
 Engineer of Bridge Design
 APPROVED FEBRUARY 1, 2000
 Ralph E. Anderson
 Engineer of Bridges and Structures

PILE DETAILS
STANDARD CX-1