

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS  
PLANS FOR PROPOSED  
FEDERAL-AID B.R.R.P. PROGRAM  
CRAWFORD COUNTY  
SECTION 05-04118-00-BR  
LICKING ROAD DISTRICT  
STRUCTURE NO. 017-3425  
PROJECT NO. BROS-033(45)  
JOB NO. C-97-056-06  
TR 86

**INDEX OF SHEETS**

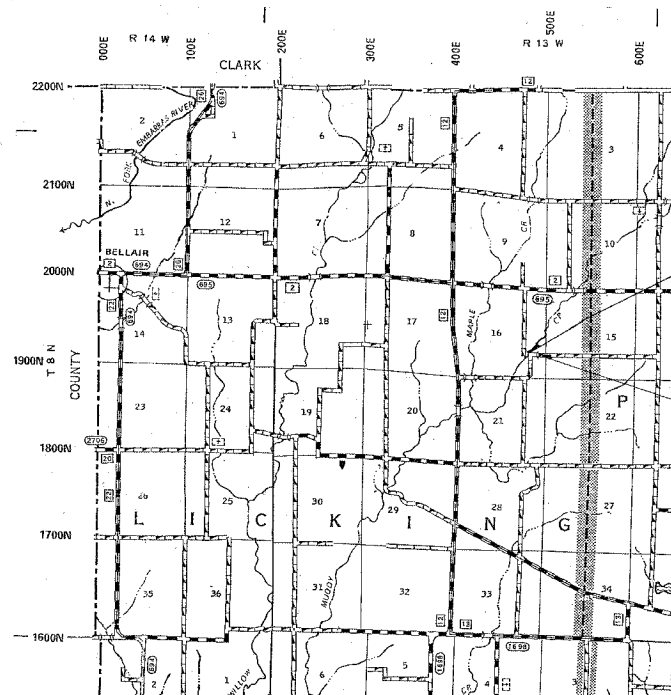
- 1 COVER SHEET
- 2 PLAN & PROFILE
- 3-10 BRIDGE PLANS

STANDARDS: 280001-02 - TEMPORARY EROSION CONTROL SYSTEMS  
702001-06 - TRAFFIC CONTROL DEVICES  
BLR 21-6 - TRAFFIC CONTROL  
BLR 22-4 - TRAFFIC CONTROL

SCALES

PLAN 1 INCH = 50 FEET  
PROFILE HORZ. 1 INCH = 50 FEET  
PROFILE VERT. 1 INCH = 10 FEET

SUMMARY OF QUANTITIES			X080-2A
QUANTITY	UNIT	ITEM	CODE NO.
163	CU YD	CHANNEL EXCAVATION	20300100
110	TON	STONE DUMPED RIPRAP, CLASS A4	28100807
1	EACH	REMOVAL OF EXISTING STRUCTURES	50100100
36.2	CU YD	CONCRETE STRUCTURES	50300225
2100	SQ FT	PRECAST PRESTRESSED CONCRETE DECK BEAMS (17" DEPTH)	50400305
4260	POUND	REINFORCEMENT BARS	50800105
150	FOOT	STEEL RAILING, TYPE S1	50900205
540	FOOT	FURNISHING STEEL PILES HP 10X42	51201400
540	FOOT	DRIVING STEEL PILES	51202700
2	BACH	TEST PILE STEEL HP 10X42	51203400
10.9	CU YD	CONCRETE ENCASEMENT	51204315
1	EACH	NAME PLATES	51500100
1	L SUM	MOBILIZATION	67100100
1	L SUM	TRAFFIC CONTROL AND PROTECTION	70101700



SECTION 05-04118-00-BR  
BEGINS STA. 4+98.75

STA. 5+37-STANDARD BRIDGE DESIGN  
PROPOSED PRECAST PRESTRESSED CONC.  
DECK BEAM BRIDGE, 3 SPANS @ 25' EACH  
28' RDWY, SKEW=0°  
PROPOSED STR. NO. 017-3425  
EXISTING STR. NO. 017-3416

SECTION 05-04118-00-BR  
ENDS STA. 5+75.25

FUNCTIONAL CLASS: RURAL LOCAL ROAD  
ADT = 50  
DESIGN SPEED = 30 MPH

LOCATION MAP

APPROXIMATE SCALE: 1 INCH = 1 MILE  
NET LENGTH = 76.50 FT. = 0.014 MILES

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

CONTRACT NO. 95466

PROFESSIONAL DESIGN FIRM #184-000832

*Michael*  
ILLINOIS REGISTERED PROFESSIONAL ENGINEER # 31350  
LICENSE EXPIRES DECEMBER 30, 2007  
2/21/2006

APPROVED February 23, 2006

*Justin R. Hill*  
LOCAL AGENCY REPRESENTATIVE

PASSED 3/22, 2006

*Maureen E. Keel*  
DISTRICT SEVEN ENGINEER  
OF LOCAL ROADS & STREETS

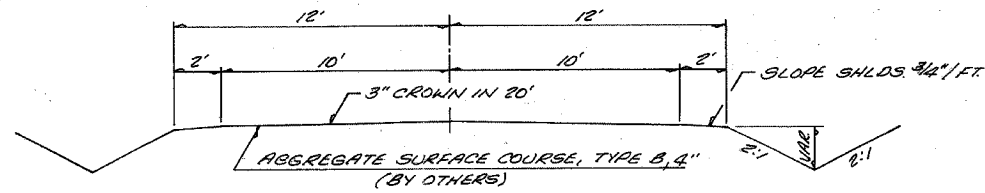
RELEASING FOR BID BASED ON LIMITED REVIEW

3/22, 2006

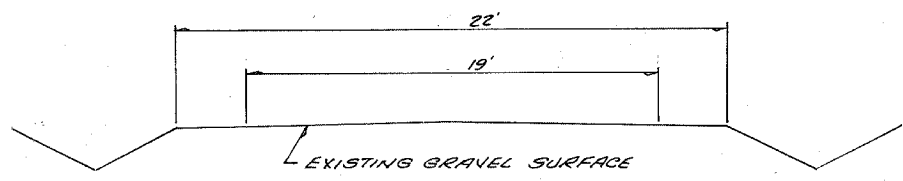
*Christina M. Reed*  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FOUR ENGINEER  
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-04118-00-BR	CRAWFORD	10	2	
STA.	TO STA.	BY STA.		
1100	8124.10			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

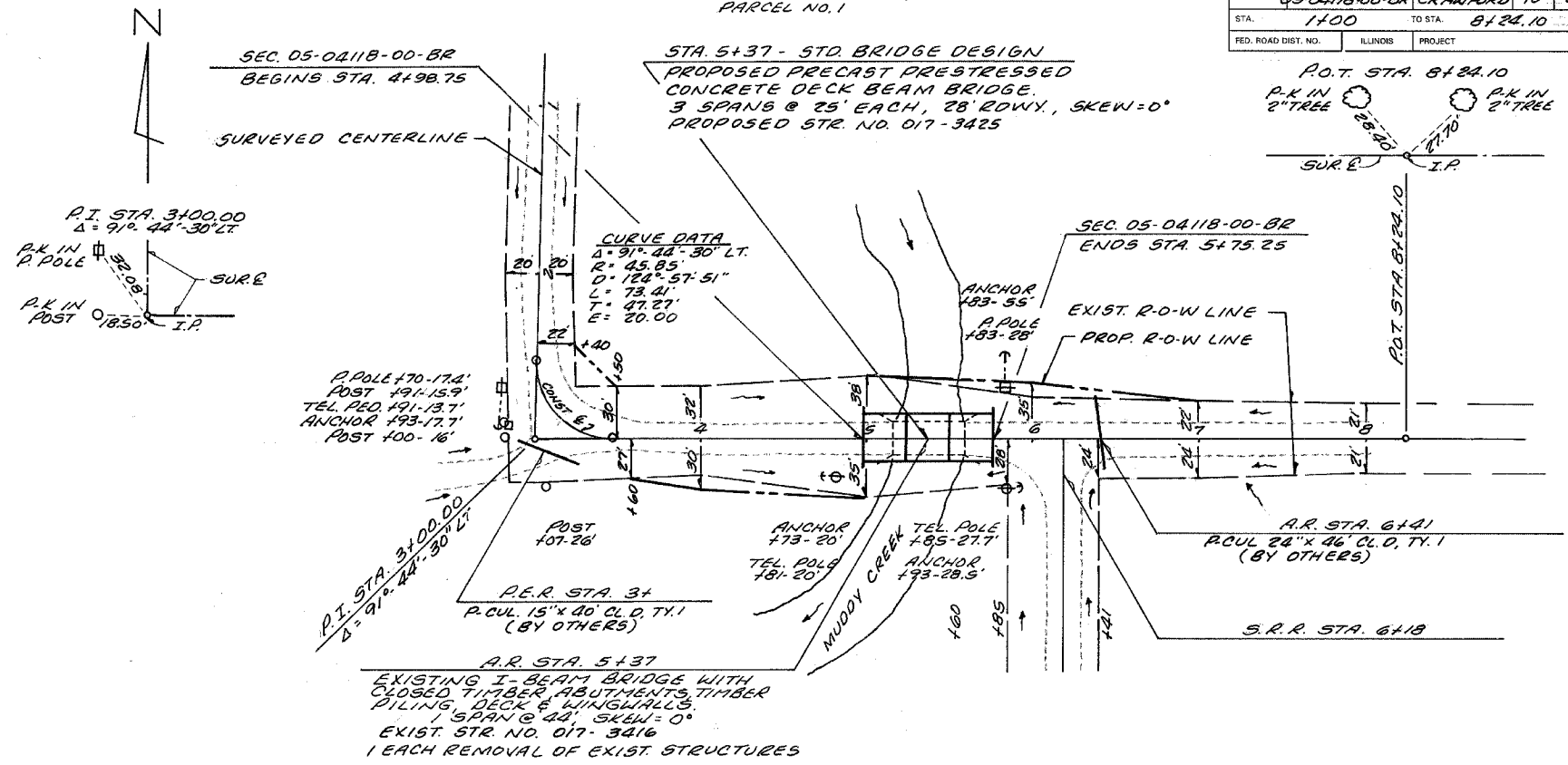
STERLE B. LINGAFELTER, ETUX.  
PARCEL NO. 1



TYPICAL SECTION OF PROPOSED IMPROVEMENT  
(BY OTHERS)



DETAIL OF EXISTING ROADWAY



EXISTING I-BEAM BRIDGE WITH  
CLOSED TIMBER ABUTMENTS, TIMBER  
PILING, DECK & WINGWALLS.  
1 SPAN @ 44' SKEW=0°  
EXIST. STR. NO. 017-3416  
1 EACH REMOVAL OF EXIST. STRUCTURES

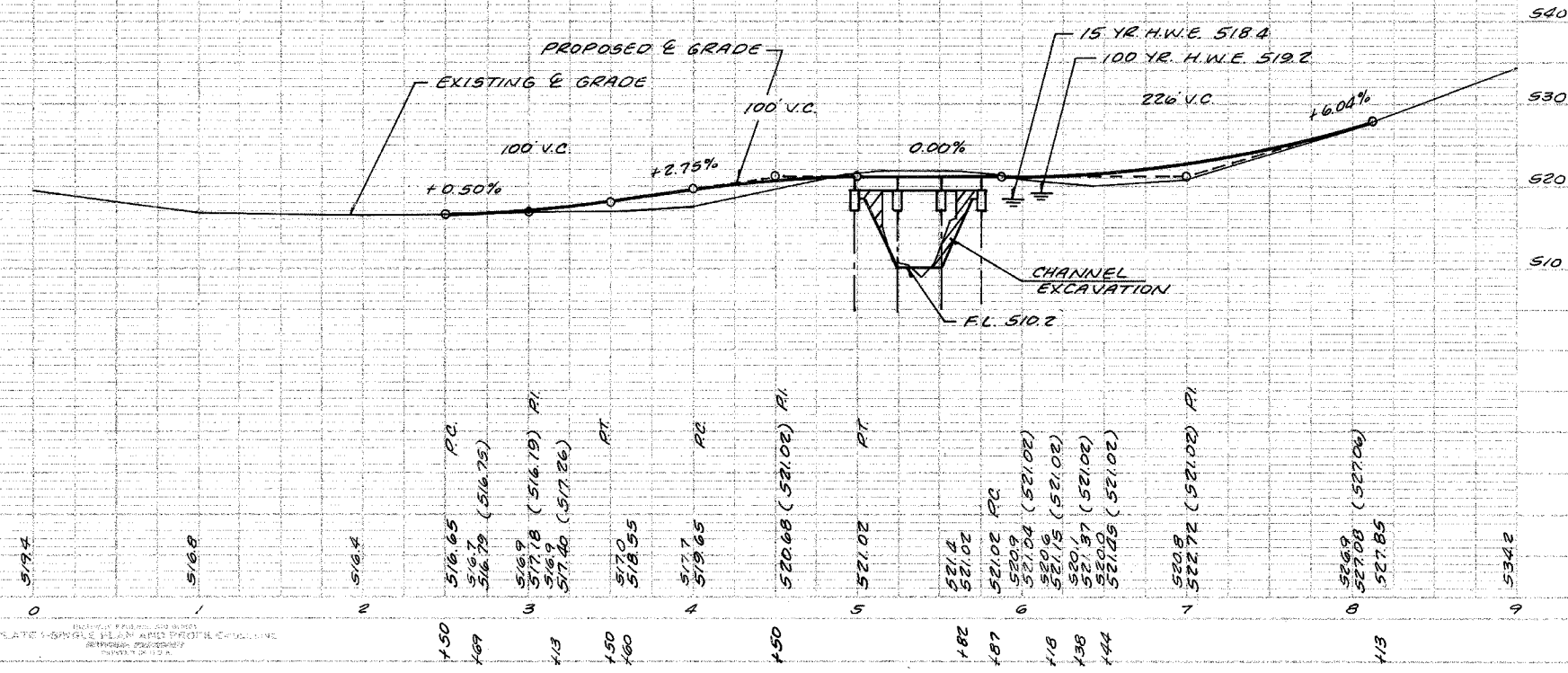
RICHARD A. WECK & MARTHA J. WECK  
PARCEL NO. 2

SEEDING TO BE DONE  
BY OTHERS

B.M. #1 ELEV. 516.87  
P.K. IN POWER POLE  
17.4' RT. STA. 2+70

CHANNEL EXCAVATION = 163 C.Y.

**UTILITIES**  
**ELECTRIC:** NORRIS ELECTRIC COOP  
8543N STATE HWY. 130  
NEWTON, IL 62448  
PH. 618-783-8765  
**TELEPHONE:** VERIZON  
225 E CHESTNUT ST.  
OLNEY, IL 62450  
PH. 618-395-6189



DATE	DESCRIPTION

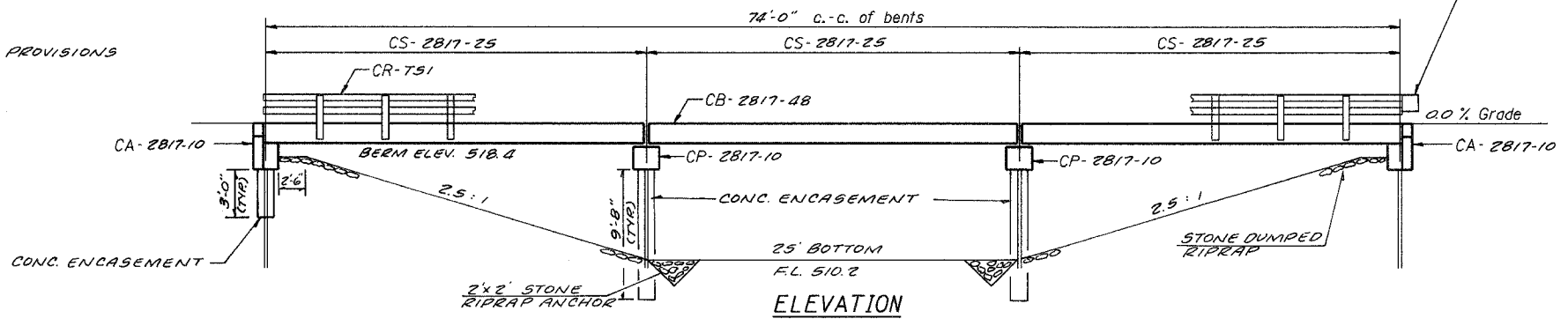
DATE	DESCRIPTION

ROUTE NO.	SECTION	COUNTY	SHEET	TOTAL SHEETS
*	CRAWFORD	10	3	

\* SEC. 05-04118-00-BR

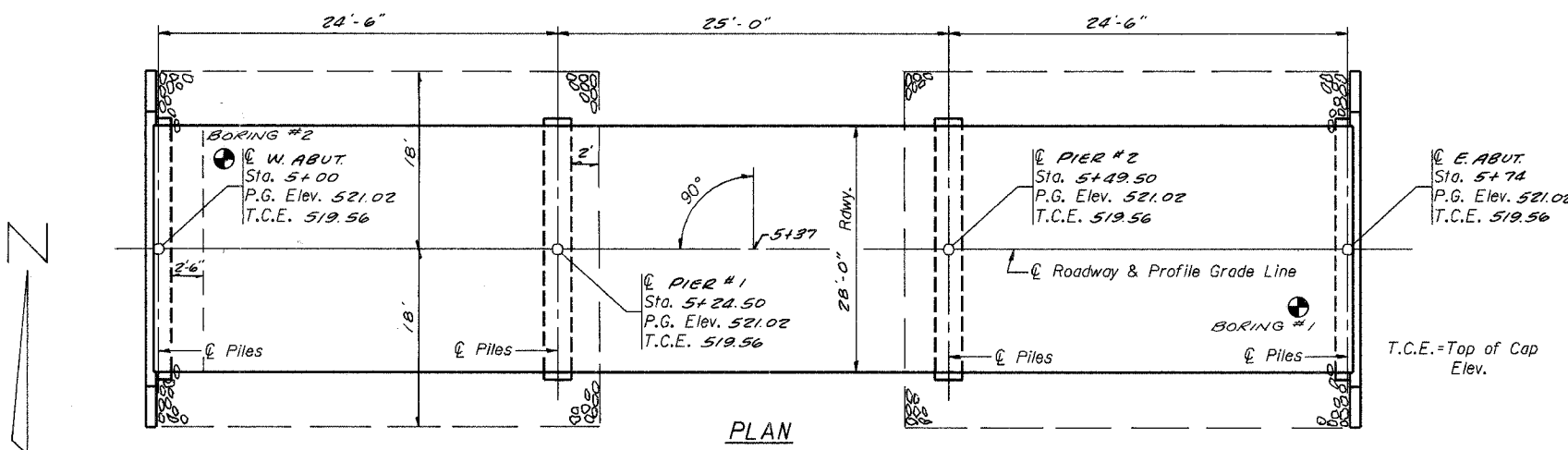
B.M. - SEE PLAN-PROFILE  
Existing Structure - SEE PLAN-PROFILE

Salvage - SEE SPEC. PROVISIONS



**GENERAL NOTES**

1. The Contractor shall drive 2 test piles, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
2. See Special Provisions for boring logs.
3. 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.		17.2	19.0	36.2
Precast Prestressed Concrete Deck Beams (17" Depth)	Sq. Ft.	2100			2100
Steel Bridge Rail, Type SM	Foot				
Steel Railing, Type S-1	Foot	150			150
Reinforcement Bars	Pound		1760	2500	4260
Furnishing STEEL PILES HP 10x42	Foot		270	270	540
Driving STEEL PILES	Foot		270	270	540
Test Piles STEEL HP 10x42	Each		1	1	2
Name Plates	Each			1	1
Concrete Encasement	Cu. Yd.		8.3	2.6	10.9
Portland Cement Mortar Fairing Course	Foot				
STONE DUMPED RIPRAP CLASS A4	TON				110

**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-PIERS)**

Type STEEL HP 10x42  
Capacity 45 Tons  
Estimated Length 30 Feet  
Number Required 10 (Includes 1 Test Pile located in PIER #2)

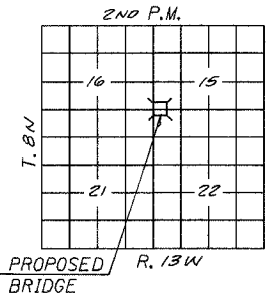
**PILE DATA (2-ABUTS.)**

Type STEEL HP 10x42  
Capacity 45 Tons  
Estimated Length 30 Feet  
Number Required 10 (Includes 1 Test Pile located in W. ABUT.)

STATION 5+37  
MUDDY CREEK  
SEC. 05-04118-00-BR BUILT 20  
ROAD DIST.  
CRAWFORD COUNTY  
LOADING HS20  
STR. NO. 017-3425

**LETTERING FOR NAME PLATE**

Locate Name Plate at S.W. Corner of Bridge (See Std. CN)



**LOCATION SKETCH**

**WATERWAY INFORMATION**

Drainage Area = 9.78 SQ. MI. Low Grade Elev. = 516.4 @ Sta. 2+00

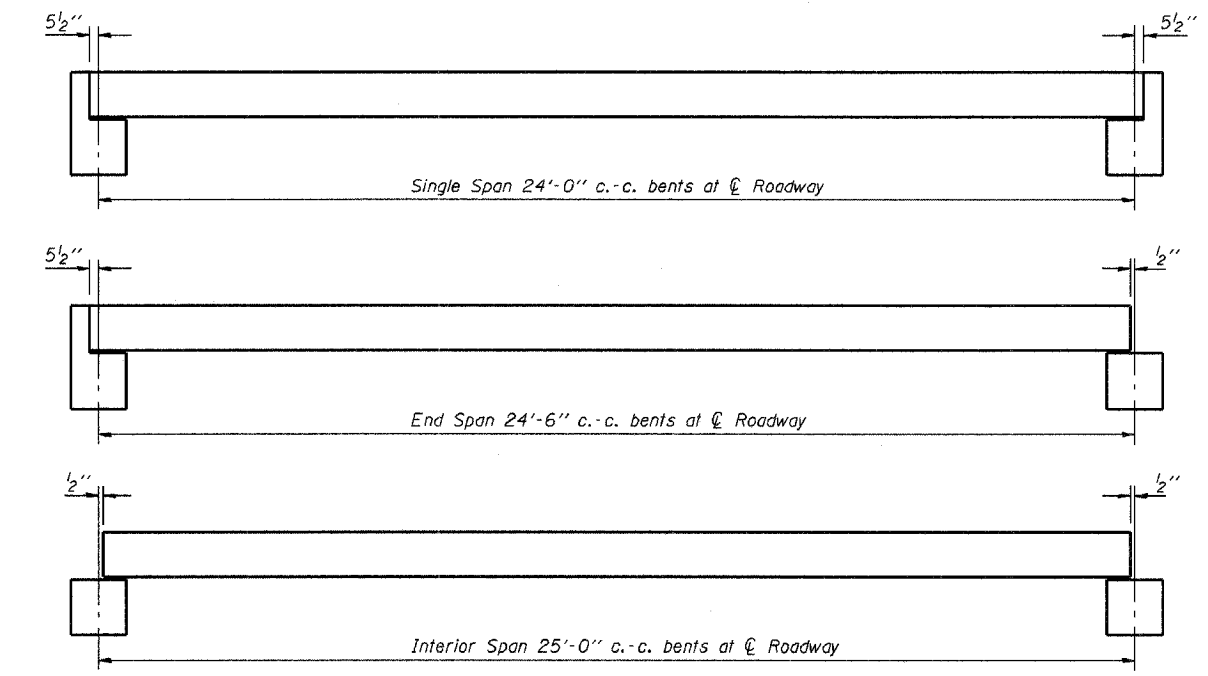
Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft.		Nat. H.W.E.	Head - Ft.		Headwater El.		APPROACH OPENING SQ. FT.	
			Exist.	PROP.		Exist.	PROP.	EXIST	PROP		
Design	15	1474	302	375	518.4	0	0	518.4	518.4	251	127
Base	100	2327	337	432	519.2	0	0	519.2	519.2	536	353
Overtopping											
Max. Calc.	500										

**INDEX OF SHEETS**

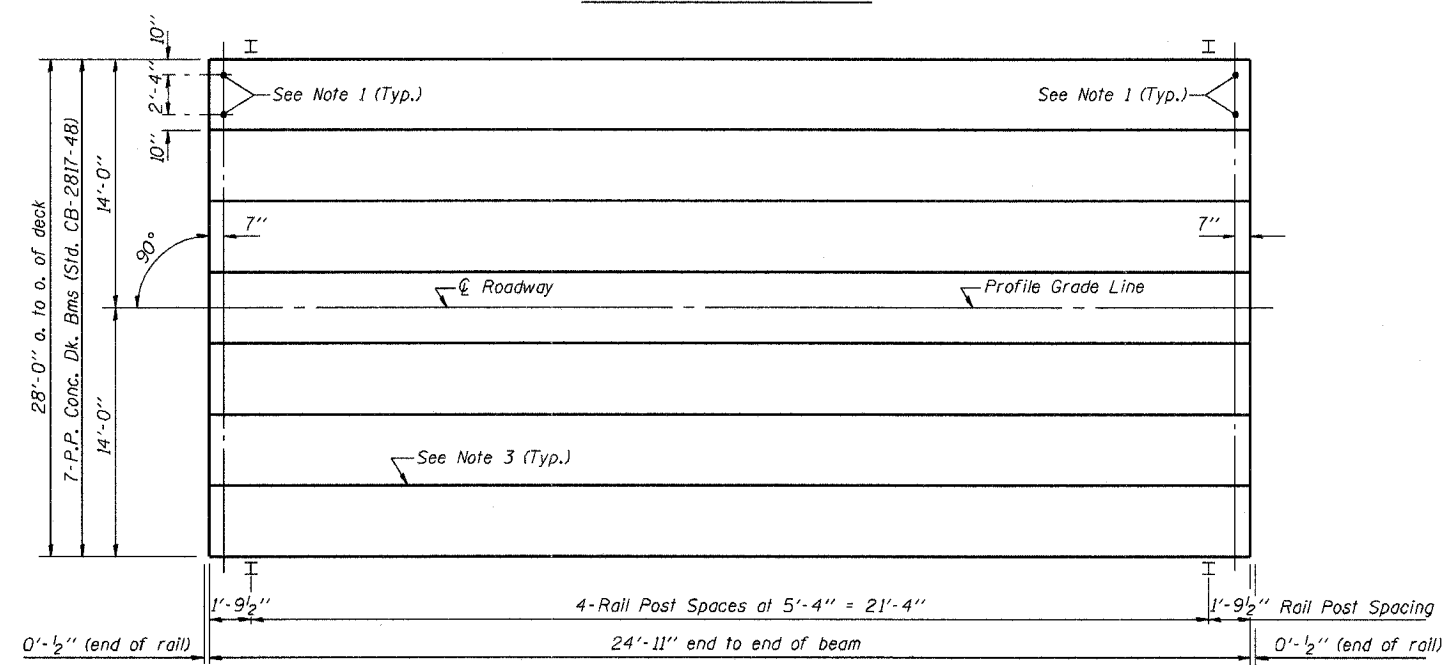
1. General Plan & Elevation
2. Standard CS-2817-25
3. Standard CB-2817-48
4. Standard CA-2817-10
5. Standard CP-2817-10
6. Standard CR-751
7. Standard CN
8. Standard CX-1
9. Standard

**GENERAL PLAN & ELEVATION**  
TR ROUTE 86  
OVER MUDDY CREEK  
SECTION 05-04118-00-BR  
CRAWFORD COUNTY  
STATION 5+37

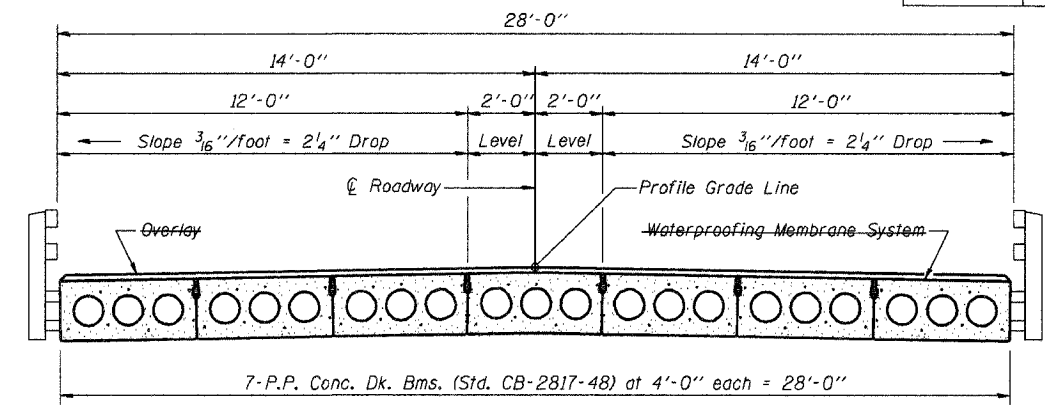
ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-04118-00-BR	CRAWFORD	10	2	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



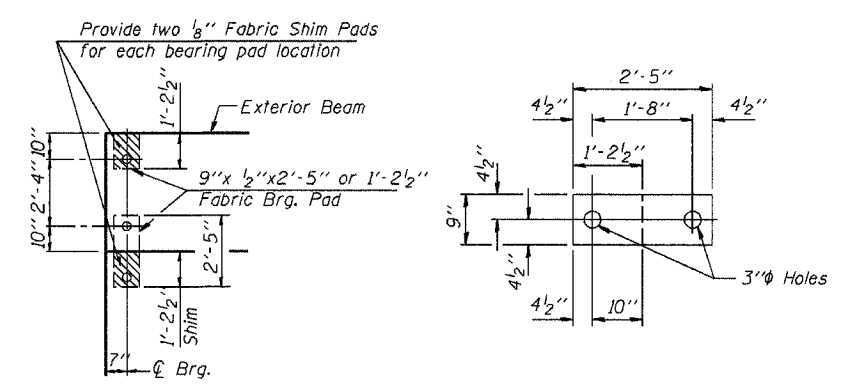
TYPICAL ELEVATIONS



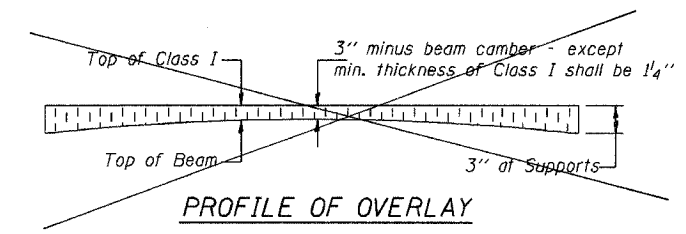
PLAN



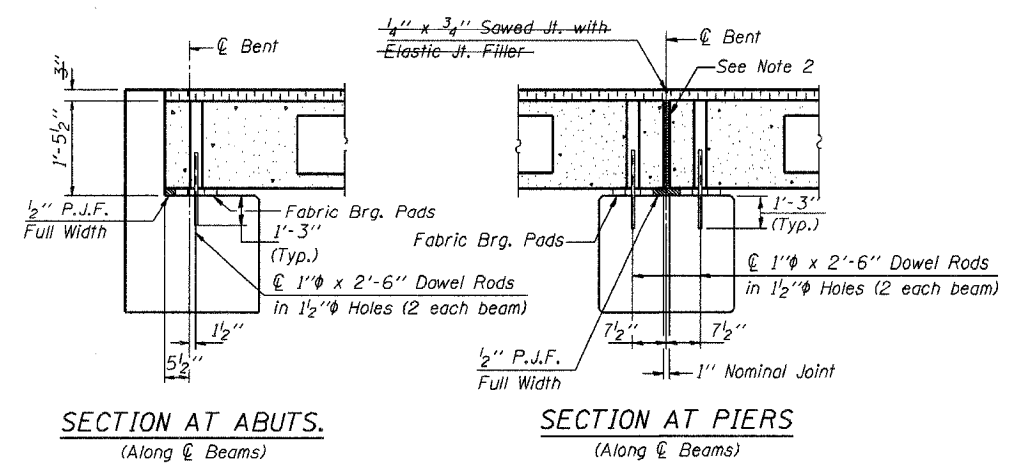
CROSS SECTION



1/2" FABRIC BRG. PAD DETAILS



PROFILE OF OVERLAY



SECTION AT ABUTS.  
(Along centerline of Beams)

SECTION AT PIERS  
(Along centerline of 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 of Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted with non-shrink grout.

QUANTITIES FOR ONE SPAN

P.P. Conc. Dk. Bm. 17" Dp.	700 Sq. Ft.
Steel Railing	50 Ft.
Waterproofing Membrane System	77.8 Sq. Yds.
Portland Cement Mortar	-150 Ft.
Fairing Course	-150 Ft.

Note: Quantity of overlay for one span = 12.8 Tons

P.P.C. DECK BEAM  
SUPERSTRUCTURE

28' RDWY.	17" BMS.	25' SPAN	0° SKEW
STANDARD CS-2817-25			

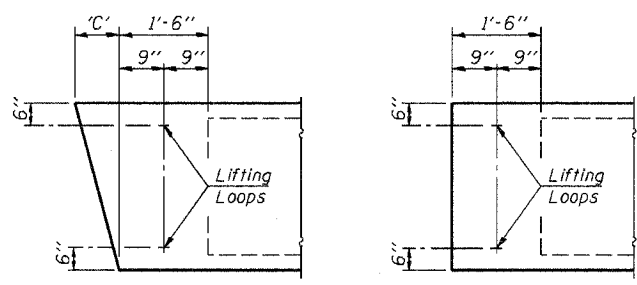
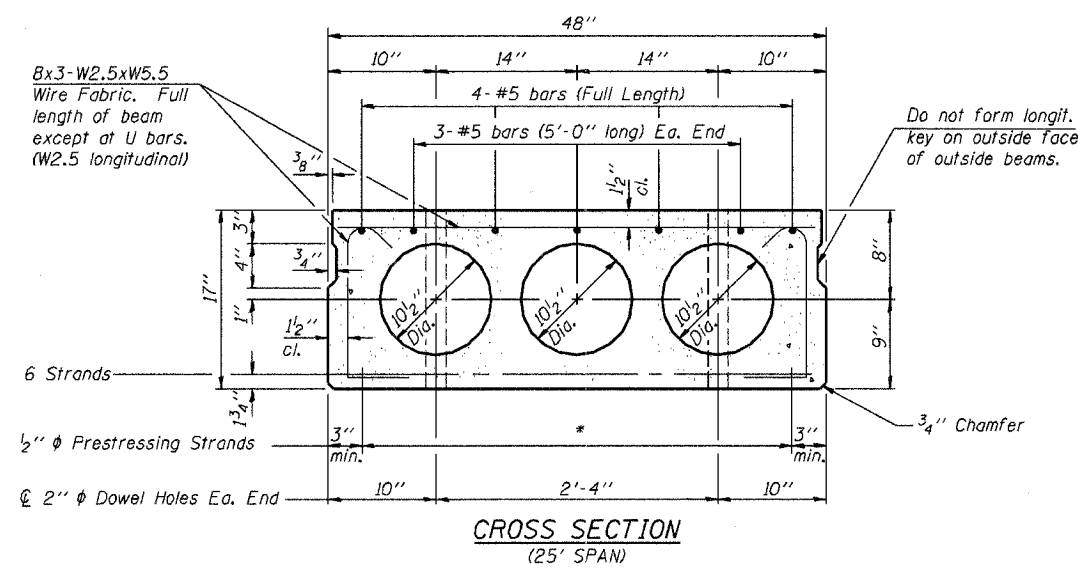
Illinois Department of Transportation

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

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

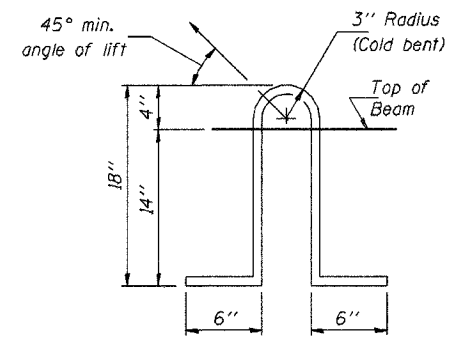
108E-1-1 (03/05)

F.A.R. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-04118-00-BE	CRAWFORD	10	5	
STA.		TO STA.		
FED. ROAD DIST. NO.		ILLINOIS	PROJECT	



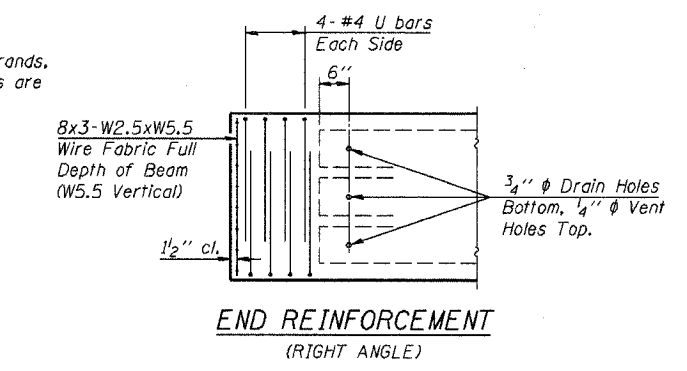
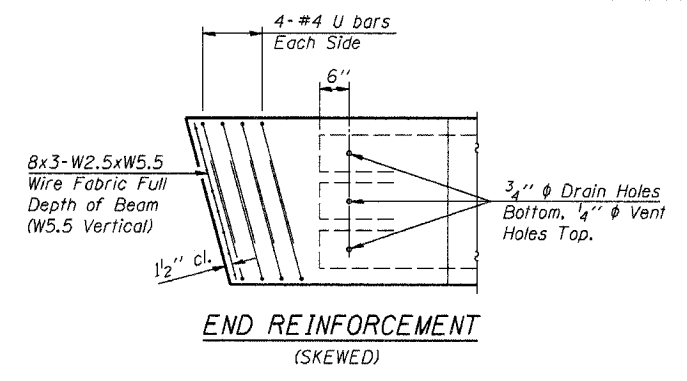
**END BLOCK DETAILS**

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 2, 1/2"  $\phi$ -270 ksi strands, as shown. Alternate approved lifting devices are also acceptable.



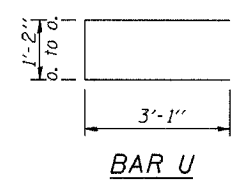
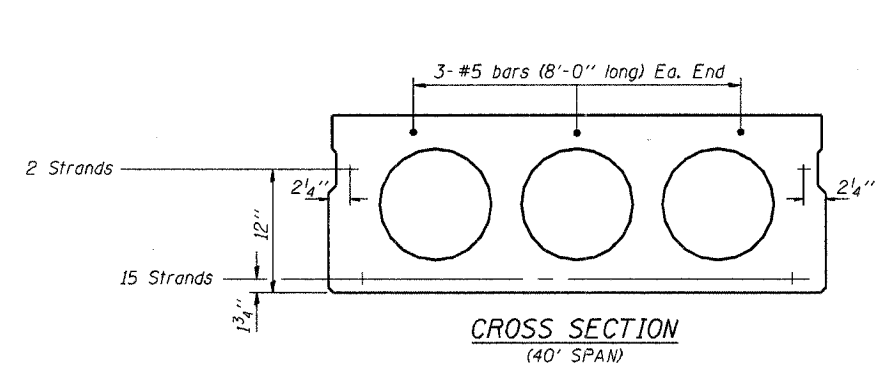
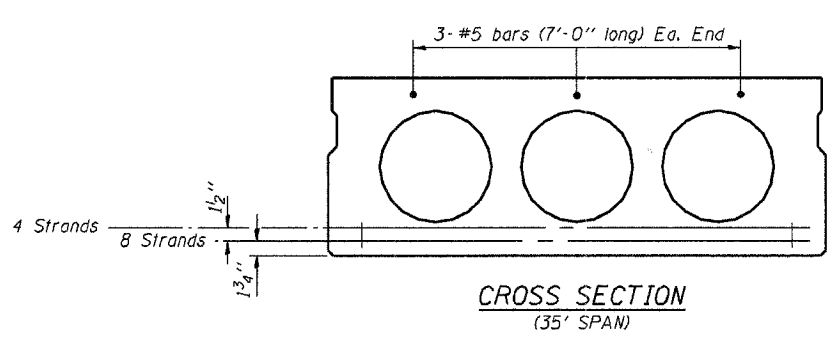
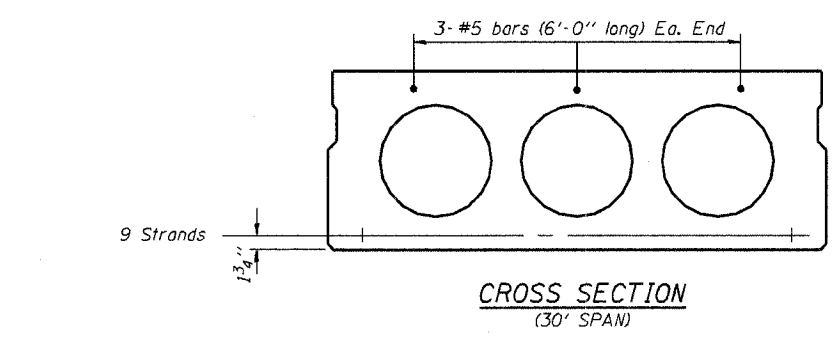
**DIMENSION 'C'**

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**

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

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



**MIN. BAR LAP**  
#5 bars = 1'-8"

**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"  $\phi$  Strand)
- $f_{si} = 201,960$  p.s.i. (1/2"  $\phi$  Strand)
- $f_y = 60,000$  p.s.i.

**NOTES**

1. Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270.
2. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 square inches.
3. Reinforcement bars shall conform to the requirements of AASHTO M-31 or M-322, Grade 60.
4. Rail Post anchor devices shall be cast into outside beam as elsewhere specified.
5. 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".
6. 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.

**NOTE**  
The std. reinf. and dimensions shown on the 25' span cross section is typical for all spans, except as shown.

Illinois Department of Transportation

PASSED APRIL 4, 2005

Theresa S. Romagosa  
Engineer of Bridge Design

APPROVED APRIL 4, 2005

Ralph E. Anderson  
Engineer of Bridges and Structures

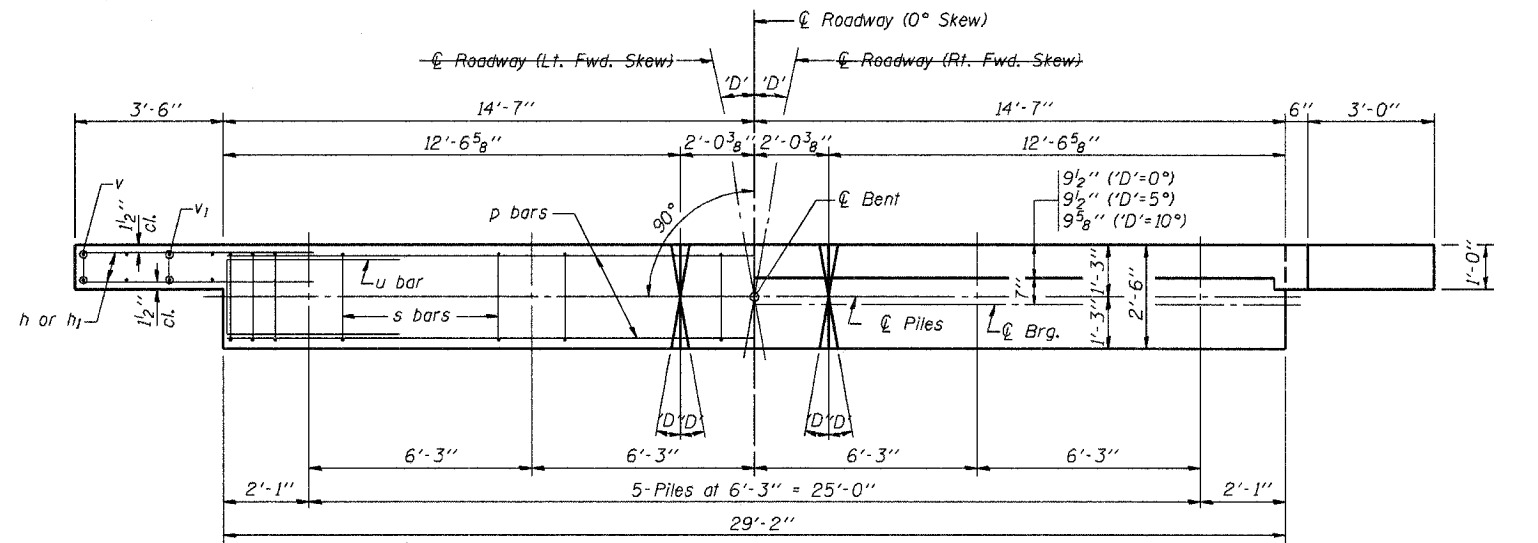
ISSUED 1-1-03/05

**P.P.C. DECK BEAM DETAILS**

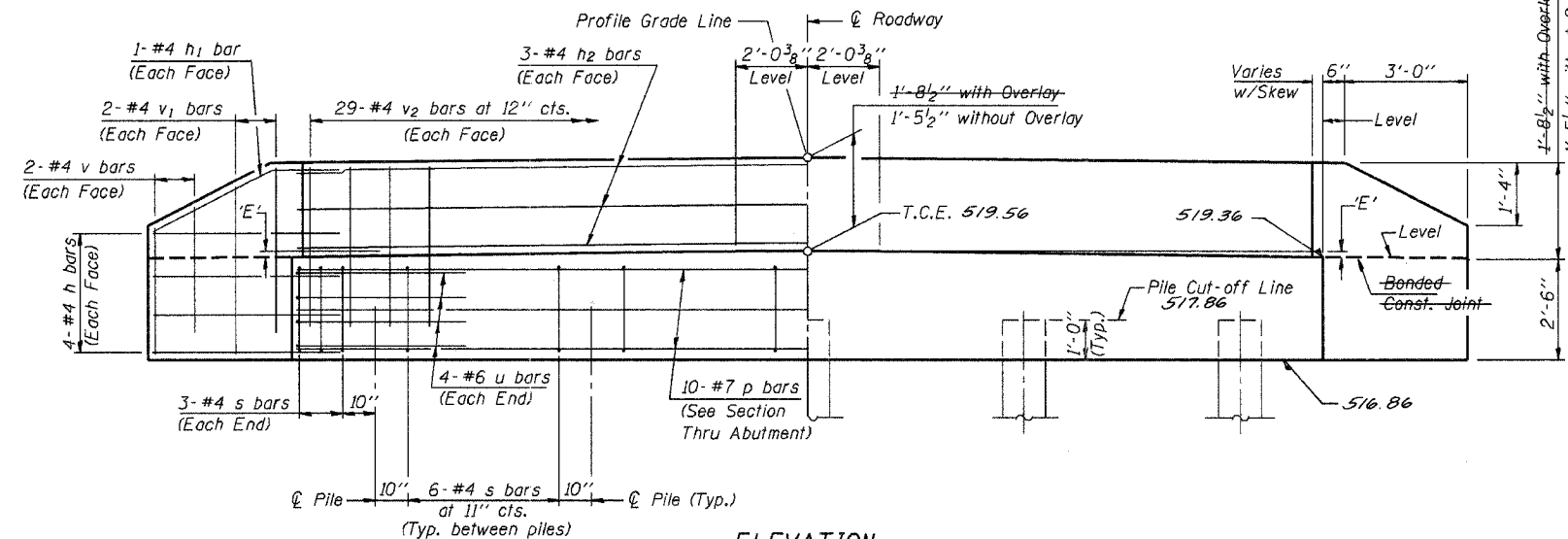
28' ROADWAY | 17" x 48" BEAMS

STANDARD CB-2817-48

F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
95-02118-00-B2	CRAWFORD	10	6	
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



PLAN  
(D=Designated Skew Angle)



ELEVATION

DIMENSION 'E'

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 3/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/2"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

NOTES

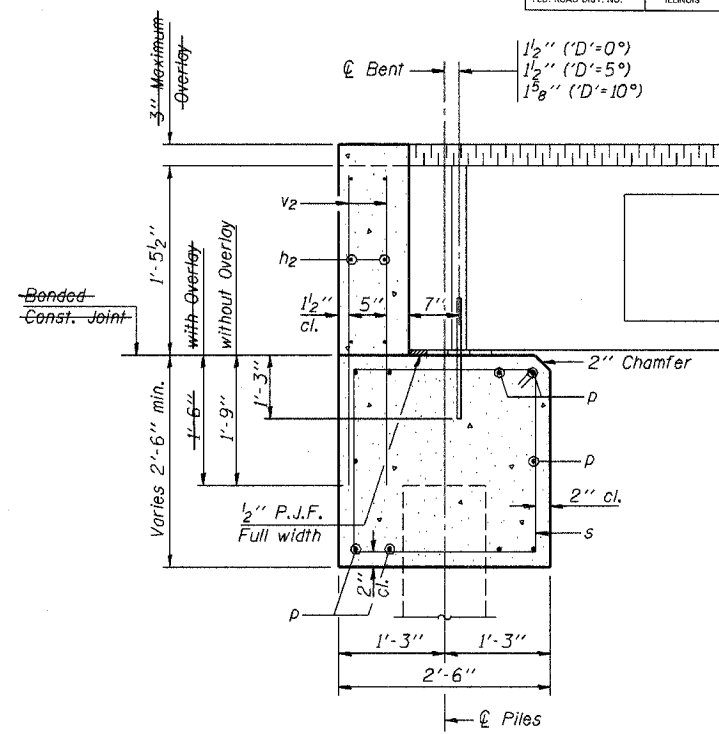
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

MAXIMUM PILE LOADS

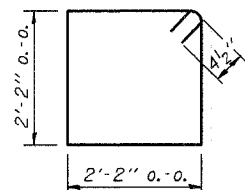
SPAN	TONS
25'	25
30'	25
35'	25
40'	27

DESIGN STRESSES

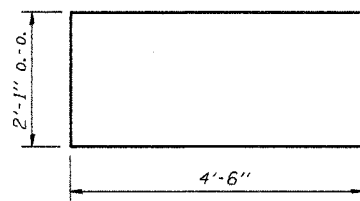
f'c = 3,500 psi  
fy = 60,000 psi



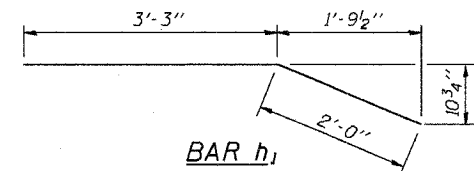
SECTION THRU ABUTMENT  
(At Right Angles)



BAR s



BAR u



BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	—
h1	4	#4	5'-3"	—
h2	6	#4	28'-10"	—
p	10	#7	28'-10"	—
s	30	#4	9'-5"	□
u	8	#6	11'-1"	□
v	8	#4	2'-6"	—
v1	8	#4	3'-5"	—
v2	58	#4	3'-1"	—
Concrete Structures			9.5 Cu. Yds.	
Reinforcement Bars			1250 Lb.	

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

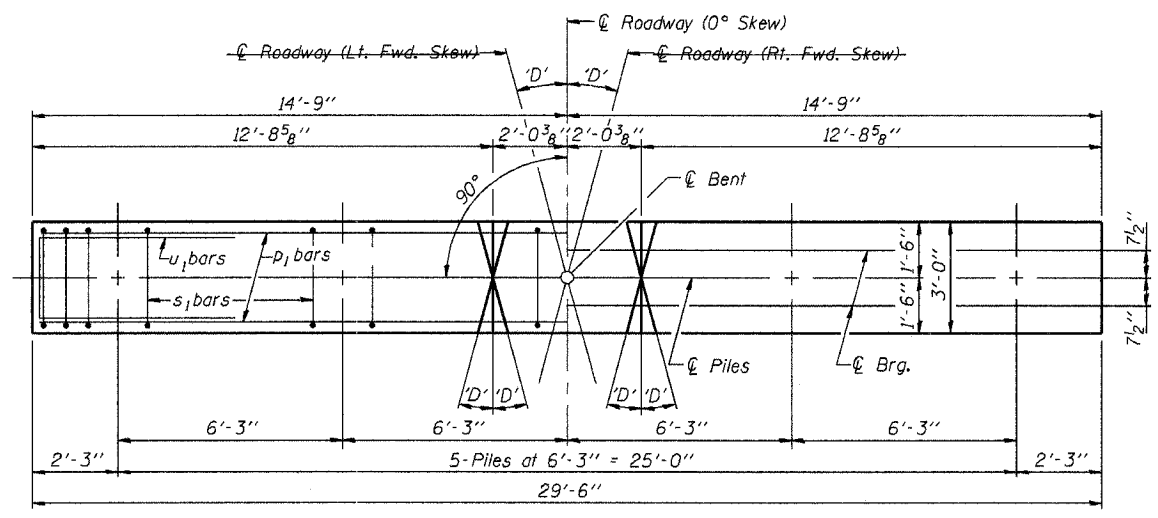
ISSUED 1-1-1981

P.P.C. DECK BEAMS  
PILE BENT ABUTMENT

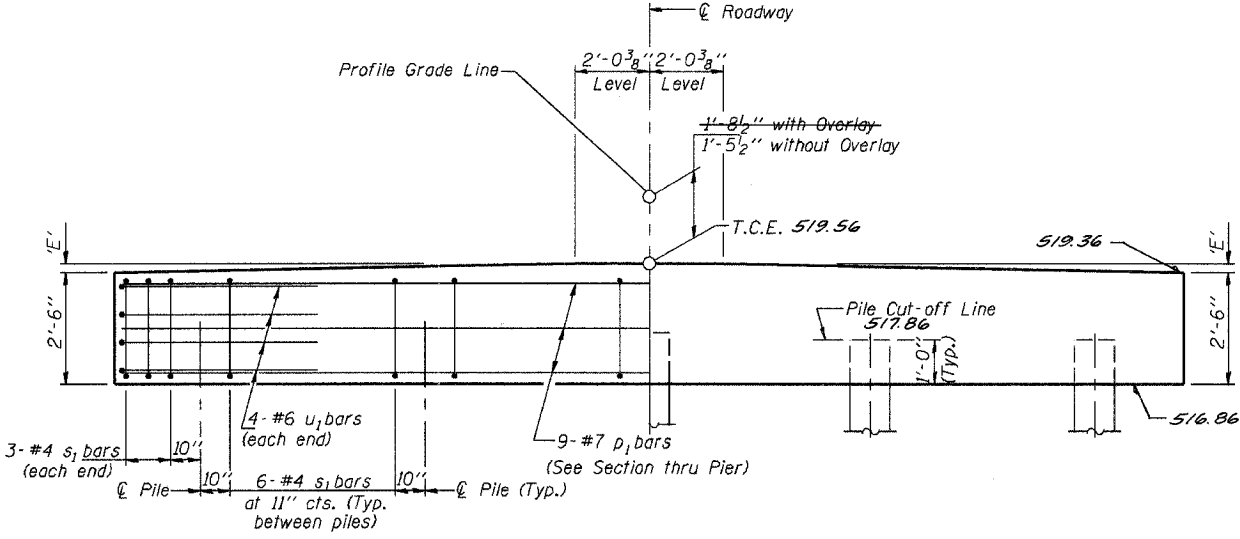
28' RDWY. | 17" BMS. | 'D'=0°, 5° OR 10°

STANDARD CA-2817-10

F.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-08118-00-BR	CRAWFORD	10	7	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



**PLAN**  
(D = Designated Skew Angle)



**ELEVATION**

**DIMENSION 'E'**

GRADE	'D'=0°		'D'=5°		'D'=10°	
	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END	UPGRADE END	DOWNGRADE END
0%	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"
Over 0% to 1%	2 3/8"	2 3/8"	2 1/4"	2 3/8"	2 3/8"	2 1/2"
Over 1% to 2%	2 3/8"	2 3/8"	2 1/8"	2 1/2"	1 7/8"	2 3/4"
Over 2% to 3%	2 3/8"	2 3/8"	2"	2 5/8"	1 5/8"	3"
Over 3% to 4%	2 3/8"	2 3/8"	1 7/8"	2 3/4"	1 3/8"	3 1/4"

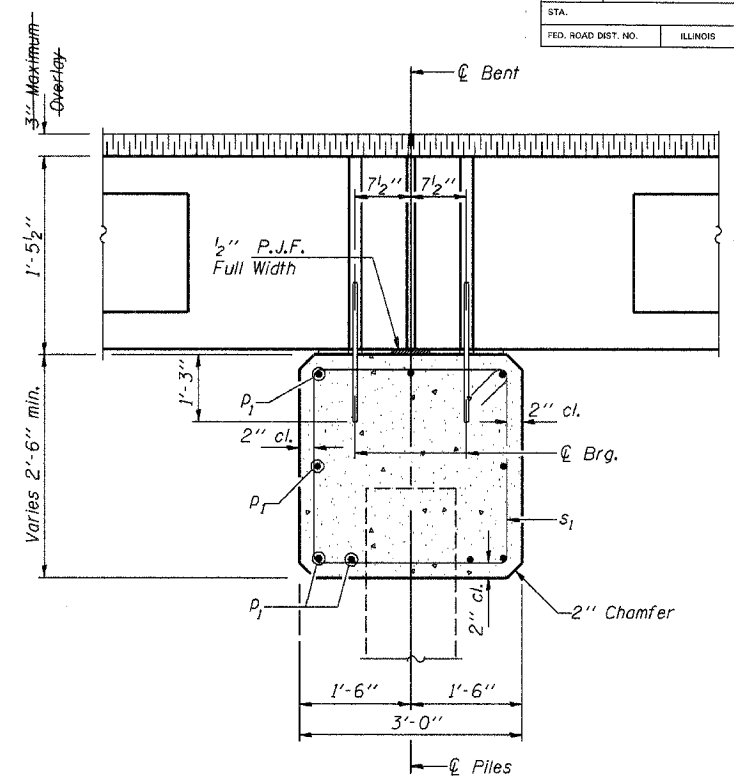
**MAXIMUM PILE LOADS**

SPAN	TONS
25'	30
30'	33
35'	36
40'	40

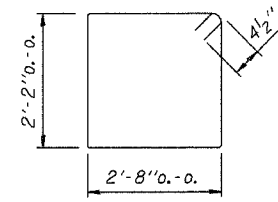
Longer of Either Span Supported by Pier.

**DESIGN STRESSES**

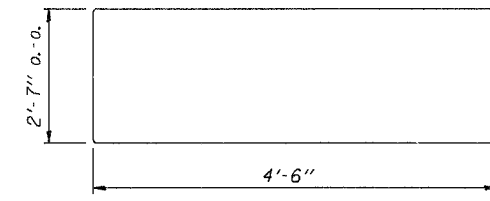
f'c = 3,500 psi  
fy = 60,000 psi



**SECTION THRU PIER**  
(At Right Angles)



**BAR s1**



**BAR u1**

**BILL OF MATERIAL FOR ONE PIER**

Bar	No.	Size	Length	Shape
p1	9	#7	29'-2"	—
s1	30	#4	10'-5"	□
u1	8	#6	11'-7"	▭
Concrete Structures			8.6	Cu. Yds.
Reinforcement Bars			880	Lb.

**NOTE**

Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.

**P.P.C. DECK BEAMS PILE BENT PIER**

28' RDWY.	17" BMS.	'D'=0°, 5° OR 10°
STANDARD CP-2817-10		

Illinois Department of Transportation

PASSED APRIL 4, 2005  
*Thomas S. [Signature]*  
 Engineer of Bridge Design

APPROVED APRIL 4, 2005  
*Ralph E. [Signature]*  
 Engineer of Bridges and Structures

1061-1-1 07/05/51

**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.

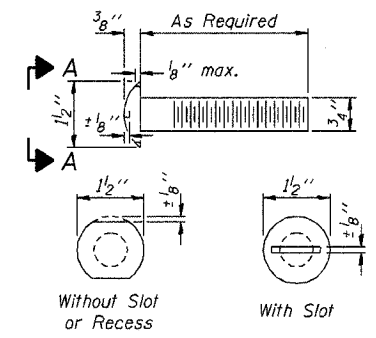
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

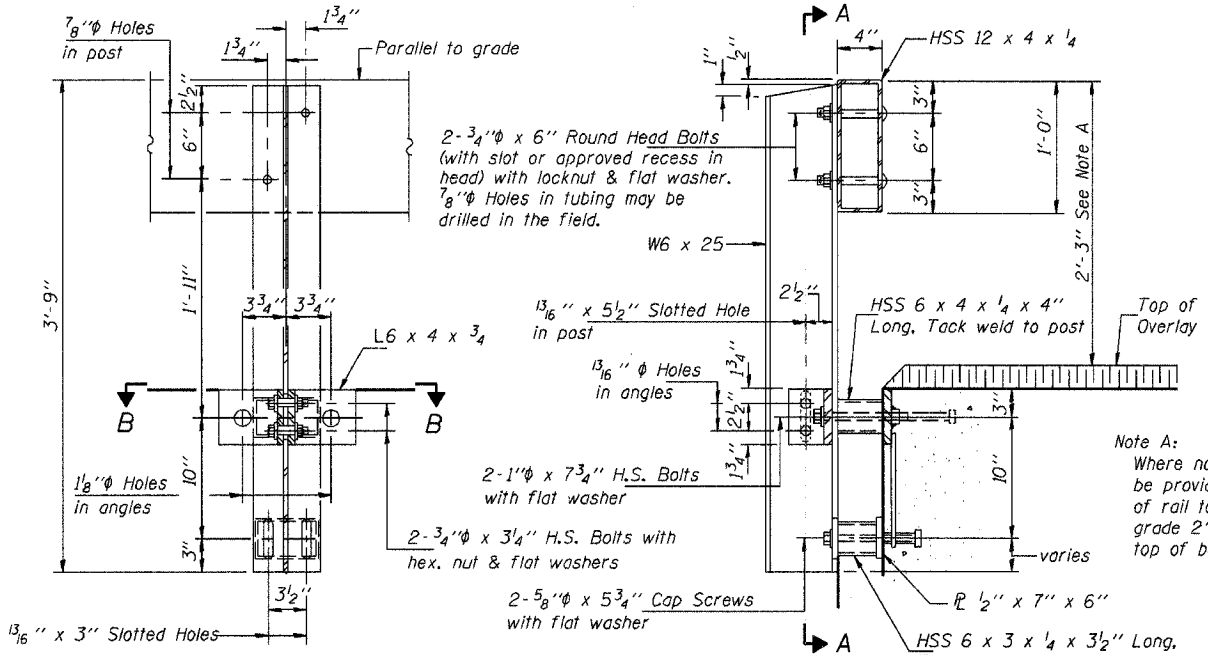
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

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 (FX2) 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 1/2 turn. The 5/8" cap screws in bottom of posts shall be tightened to a snug fit only.

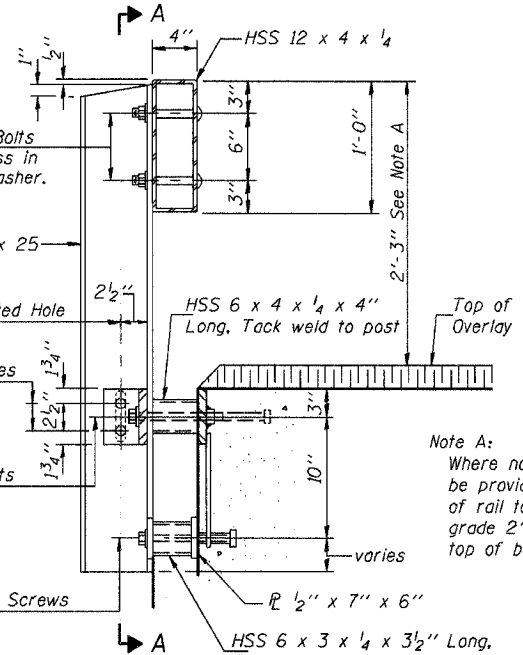
The maximum allowable rail post spacing shall be 10'-6". The rail post spacing shown elsewhere in the plans is based on the allowable spacing for another type of rail. When this type of rail is used, the number of posts may be decreased and the post spacing increased to provide equal post spaces of 10'-6"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



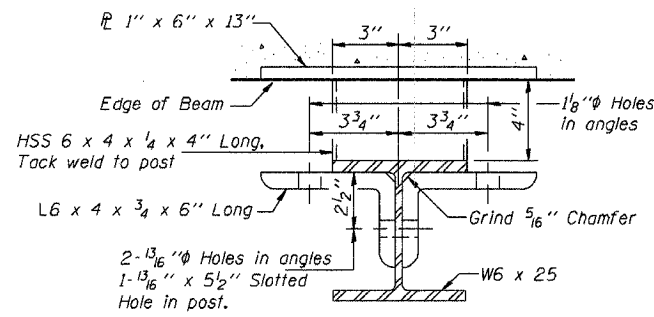
**VIEW A-A  
ROUND HEAD BOLT**



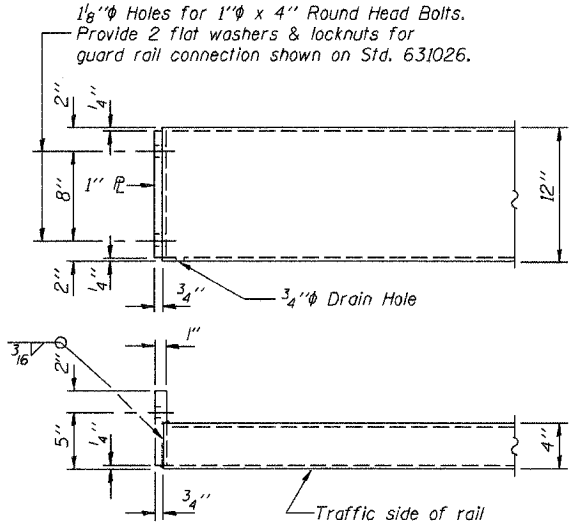
**SECTION A-A**



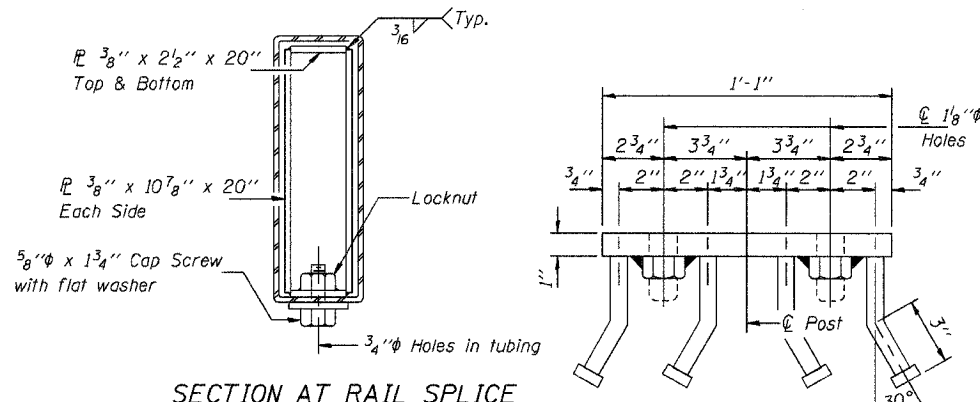
**SECTION AT RAIL POST**



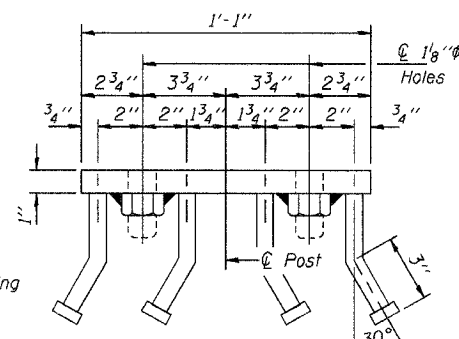
**SECTION B-B**



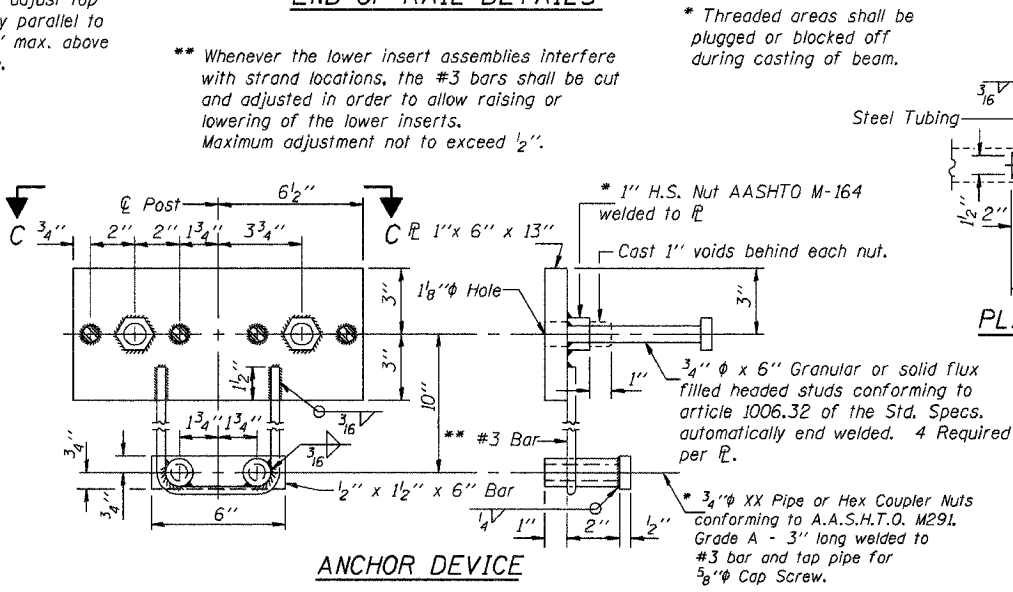
**END OF RAIL DETAILS**



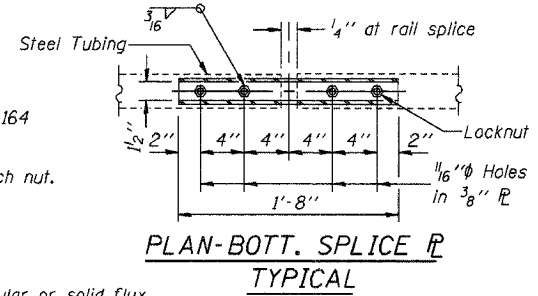
**SECTION AT RAIL SPLICE**



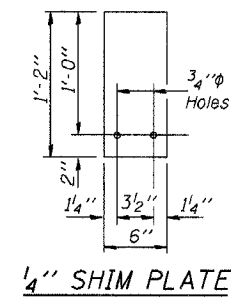
**VIEW C-C**



**ANCHOR DEVICE**



**PLAN-BOTT. SPLICE R  
TYPICAL**



**1/4\"/> SHIM PLATE**

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

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

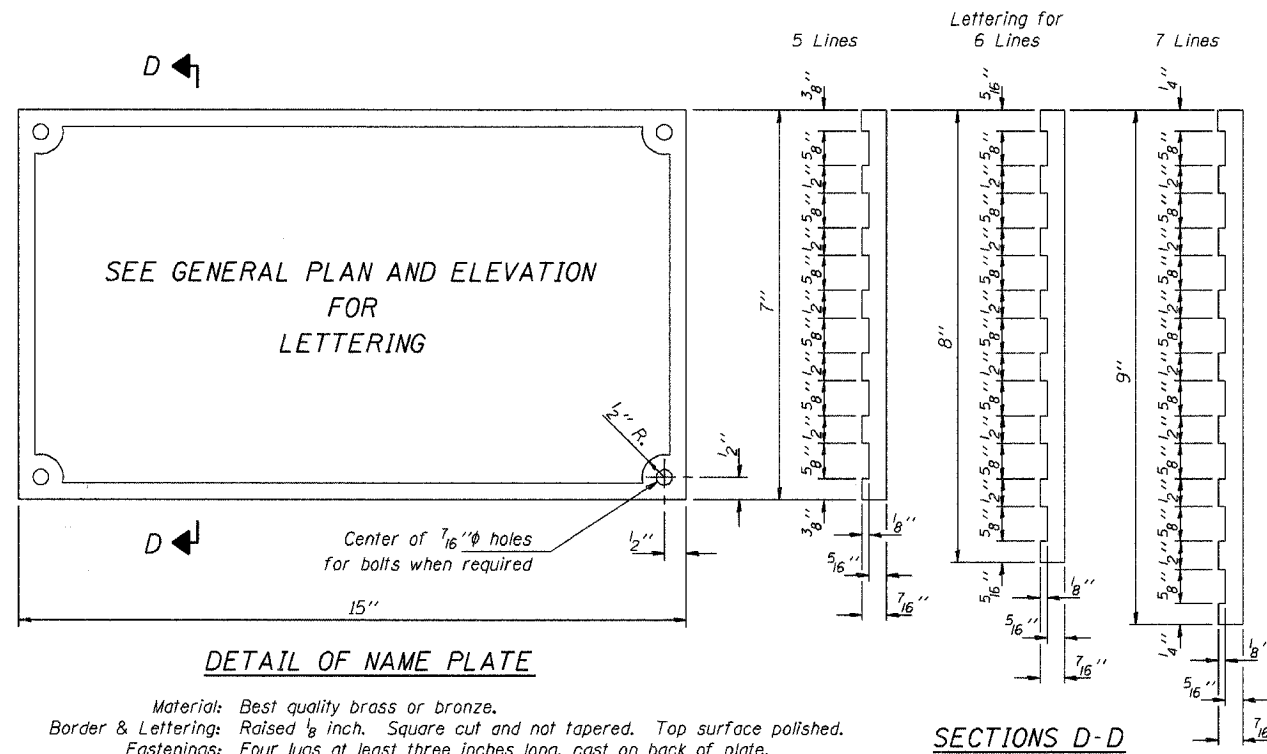
\* 1" H.S. Nut AASHTO M-164 welded to R.  
 Cast 1" voids behind each nut.  
 1/8" hole  
 3/4" x 6" Granular or solid flux filled headed studs conforming to article 1006.32 of the Std. Specs. automatically end welded. 4 Required per R.  
 3/4" XX Pipe or Hex Coupler Nuts conforming to A.A.S.H.T.O. M291. Grade A - 3" long welded to #3 bar and tap pipe for 5/8" Cap Screw.

Illinois Department of Transportation  
 PASSED APRIL 4, 2005  
 Thomas S. [Signature]  
 Engineer of Bridge Design  
 APPROVED APRIL 4, 2005  
 Ralph E. [Signature]  
 Engineer of Bridges and Structures  
 1861-1-1 03/05/01

**STEEL RAILING, TYPE S-1  
STANDARD CR-TS1**



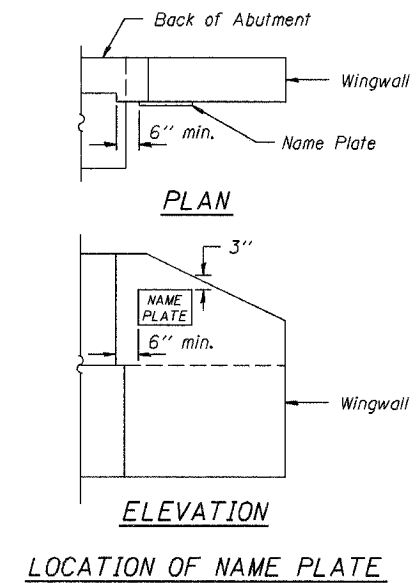
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
05-04118-00-B2	CRAWFORD	10	9	
STA.		TO STA.		
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		



**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

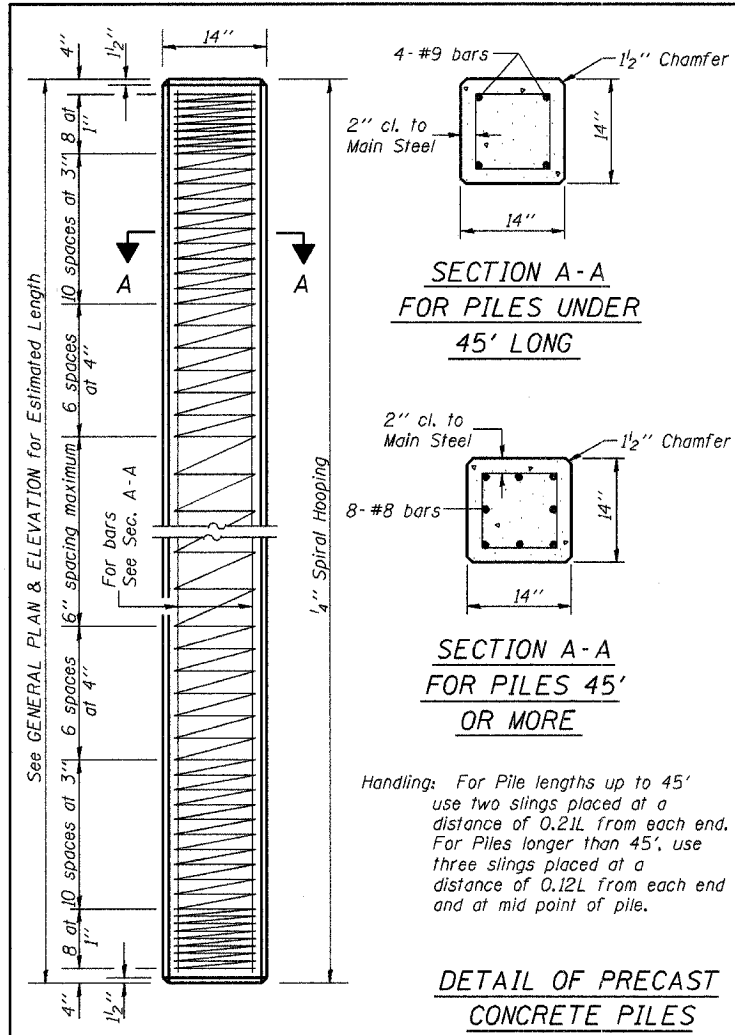
ISSUED 7-1-1995

NAME PLATE
STANDARD CN

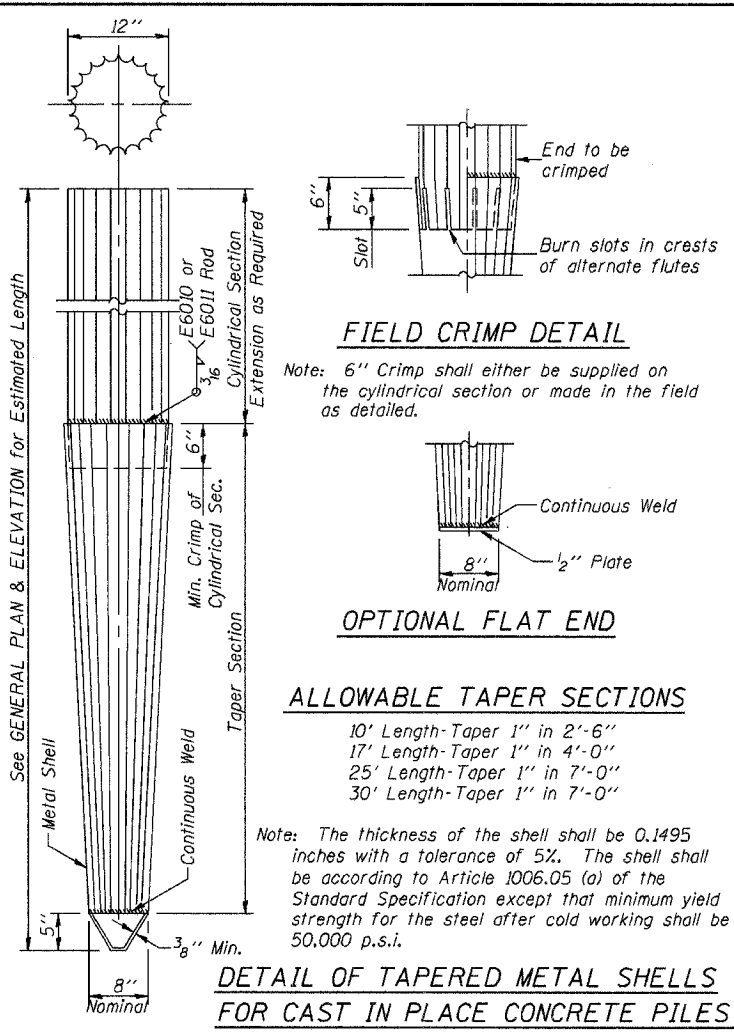
F.A.S. ROUTE NO.	SECTION	COUNTY	TOTAL SHEETS	SHEET
95-04118-00-BE	CRAWFORD	10	10	
STA.	TO STA.			
FED. ROAD DIST. NO.	ILLINOIS	PROJECT		

Reinforcement cage shall be omitted when Concrete Encasement is provided.

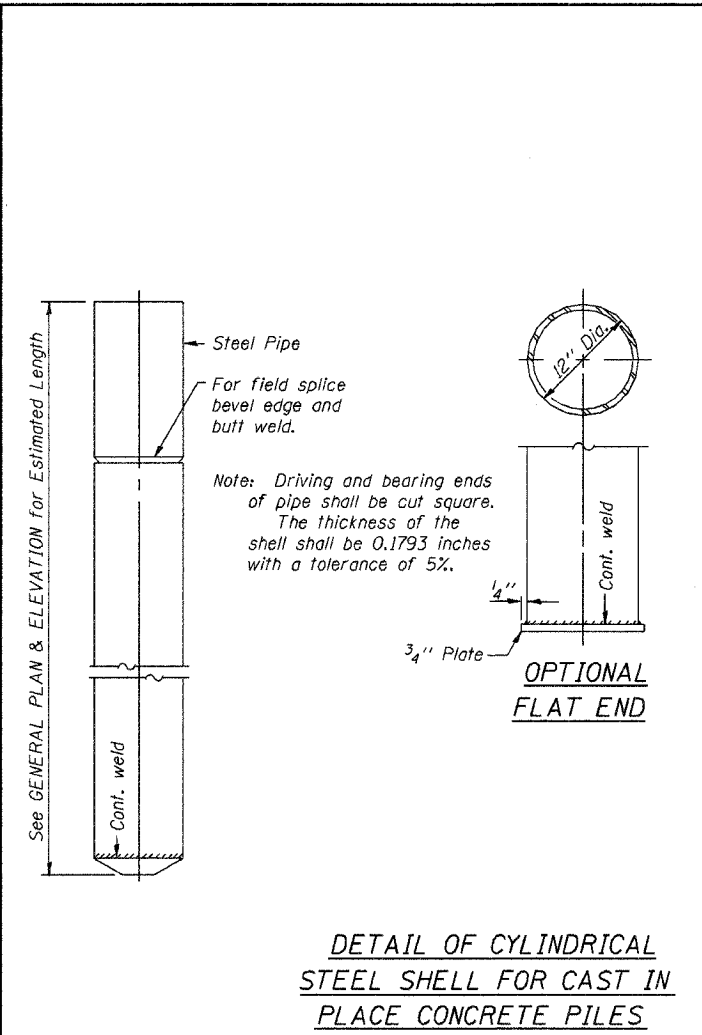
The cost of Reinforcement is included with the Cost of Furnishing Piles.



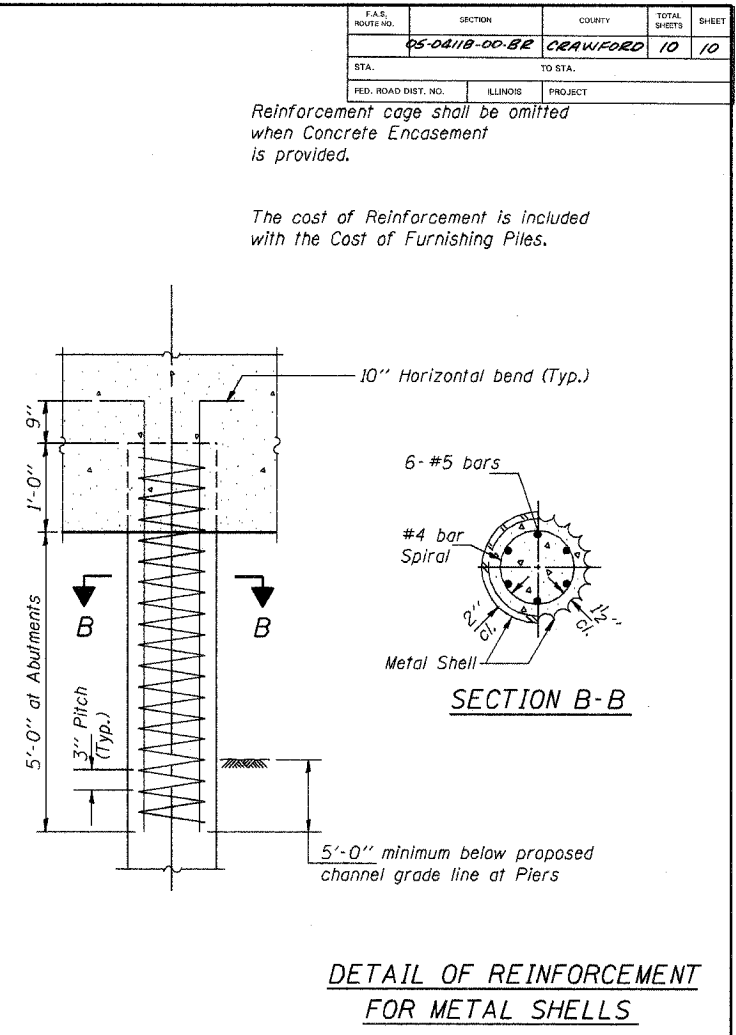
DETAIL OF PRECAST CONCRETE PILES



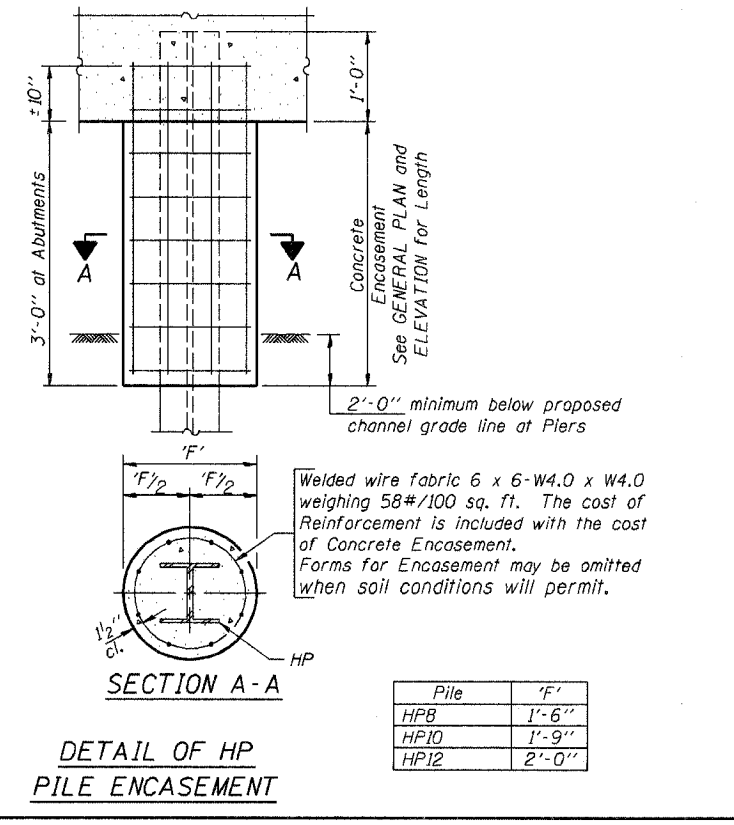
DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



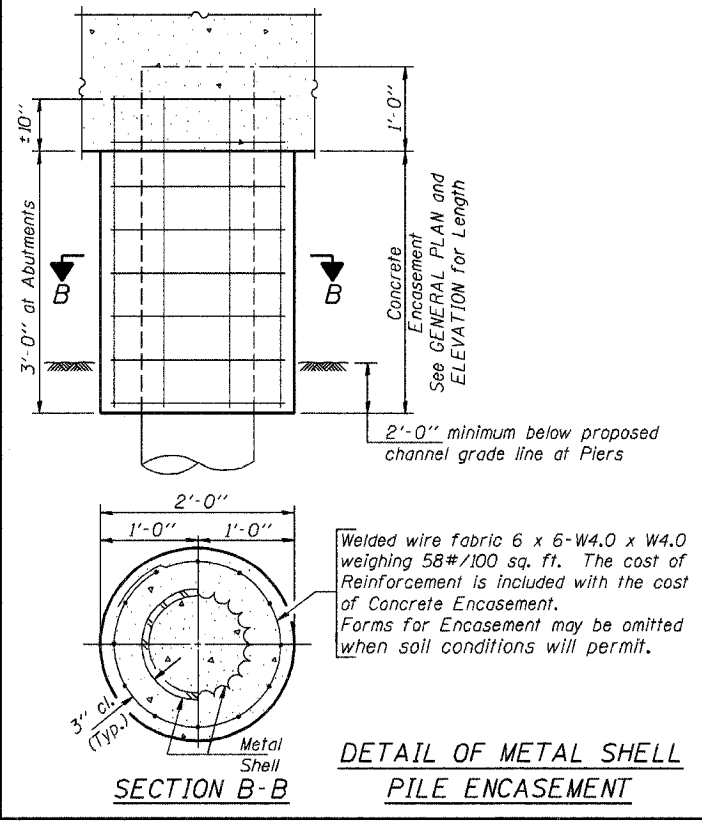
DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES



DETAIL OF REINFORCEMENT FOR METAL SHELLS



DETAIL OF HP PILE ENCASEMENT



DETAIL OF METAL SHELL PILE ENCASEMENT

**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.

**PILE DETAILS**

**STANDARD CX-1**

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000

Thomas J. Demagala  
Engineer of Bridge Design

APPROVED FEBRUARY 1, 2000

Ralph E. Anderson  
Engineer of Bridges and Structures

188-F-1 03/95