6-15-07 Letting, Item 260

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	1
PROJECT NO. BROS-151(16)		CONTRACT NO. 99210		

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

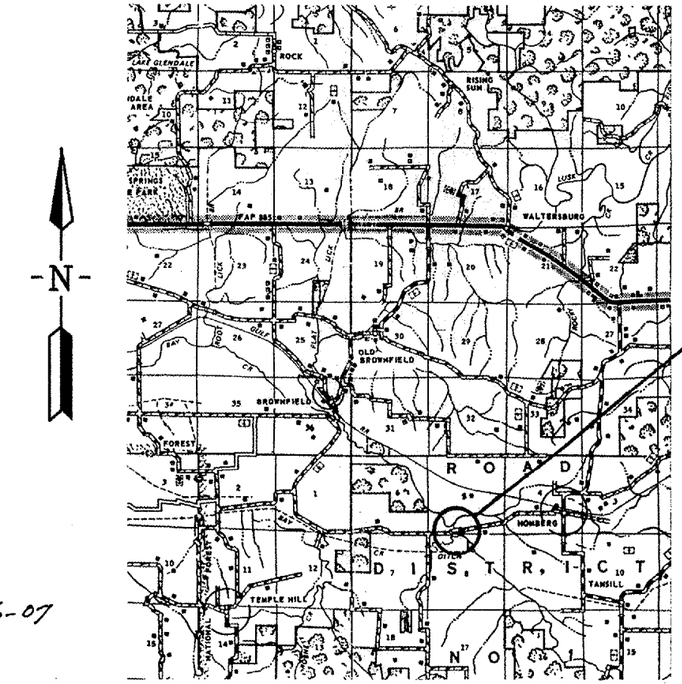
HIGHWAY BRIDGE PROGRAM

TOWNSHIP ROUTE 137 (HOMBERG ROAD)
ROAD DISTRICT NO. 1
SECTION 99-01146-00-BR
PROJECT NO. BROS-151(16)
BAY CREEK

POPE COUNTY

SUMMARY OF QUANTITIES

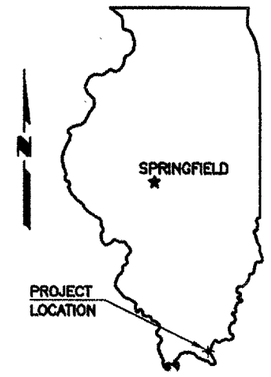
CODE NO.	PAY ITEM	UNIT	TOTAL
20200100	EARTH EXCAVATION	CU YD	53
20300100	CHANNEL EXCAVATION	CU YD	1,765
20400100	BORROW EXCAVATION	CU YD	540
25000200	SEEDING, CLASS 2	ACRE	0.5
25000400	NITROGEN FERTILIZER NUTRIENT	POUND	45
25000500	PHOSPHORUS FERTILIZER NUTRIENT	POUND	45
25000600	POTASSIUM FERTILIZER NUTRIENT	POUND	45
25000700	AGRICULTURAL GROUND LIMESTONE	TON	1
25100120	MULCH, METHOD 2	TON	1
28100807	STONE DUMPED RIPRAP, CLASS A4	TON	473
40200800	AGGREGATE SURFACE COURSE, TYPE B	TON	620
50100100	REMOVAL OF EXISTING STRUCTURES	EACH	1
50200100	STRUCTURE EXCAVATION	CU YD	21
50300225	CONCRETE STRUCTURES	CU YD	30.0
50300280	CONCRETE ENCSAEMENT	CU YD	15.5
50400405	PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH)	SQ FT	2396
50400505	PRECAST PRESTRESSED CONCRETE DECK BEAMS (27" DEPTH)	SQ FT	1534
50800105	REINFORCEMENT BARS	POUND	3266
50900205	STEEL RAILING, TYPE S1	FOOT	328
51201005	FURNISHING METAL PILE SHELLS 12"	FOOT	1413
51202305	DRIVING PILES	FOOT	1413
51203200	TEST PILE METAL SHELLS	EACH	1
51500100	NAME PLATES	EACH	1
67100100	MOBILIZATION	L SUM	1



PROPOSED IMPROVEMENT

LOCATION MAP
SCALE: 1" = 2 MILES

NET LENGTH OF IMPROVEMENT = 765.00 FT. = 0.1449 MILES



INDEX OF SHEETS

CLASSIFICATION : LOCAL ROAD
ADT : 100
DESIGN SPEED : 30 MPH

JOINT UTILITY LOCATION INFORMATION FOR EXCAVATION
J.U.L.I.E. 1-800-892-0123
CONTACT 48 HOURS BEFORE EXCAVATING

CONTRACT NO. 99210

E. MILLER ENGINEERING, INC.
CONSULTING ENGINEERS
HARRISBURG, ILLINOIS

EDWARD W. MILLER, SR. 25277 REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS

03-26-07

Edward W. Miller
PROFESSIONAL ENGINEER
#062-025277
EXPIRES NOV. 30, 2007

POPE COUNTY

Approved 3/28/07
W. Ricia Zigler
Pope County Engineer

Passed 4/2/07
Dean W. Hillebrand
District 9 Engineer of Local Roads and Streets

Releasing for Bid Based on Limited Review 4-2-07
Mary C. Lemmi
Deputy Director of Highways, Region 5 Engineer

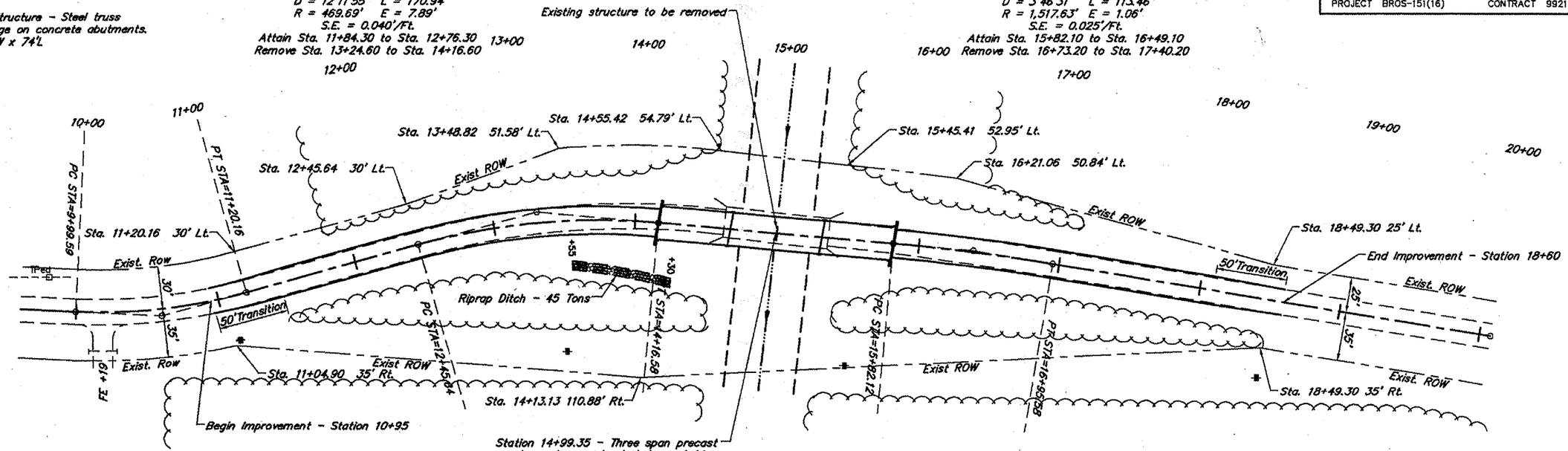
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	2
PROJECT	BROS-151(16)	CONTRACT	99210	

B.M. – Top of backwall on NW corner of east abutment. Elev. 341.20

Existing Structure – Steel truss bridge on concrete abutments. 24'W x 74'L

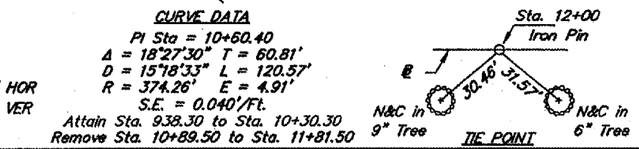
CURVE DATA
PI Sta = 13+32.06
Δ = 20°51'10" T = 86.43'
D = 12°11'55" L = 170.94'
R = 469.69' E = 7.89'
S.E. = 0.040'/Ft.
Attain Sta. 11+84.30 to Sta. 12+76.30
Remove Sta. 13+24.60 to Sta. 14+16.60

CURVE DATA
PI Sta = 16+38.88
Δ = 4°17'01" T = 56.76'
D = 3°46'31" L = 113.46'
R = 1,517.63' E = 1.06'
S.E. = 0.025'/Ft.
Attain Sta. 15+82.10 to Sta. 16+49.10
Remove Sta. 16+73.20 to Sta. 17+40.20

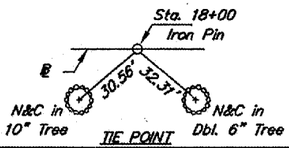


CURVE DATA
PI Sta = 10+60.40
Δ = 18°27'30" T = 60.81'
D = 15°18'33" L = 120.57'
R = 374.26' E = 4.91'
S.E. = 0.040'/Ft.
Attain Sta. 9+38.30 to Sta. 10+30.30
Remove Sta. 10+89.50 to Sta. 11+81.50

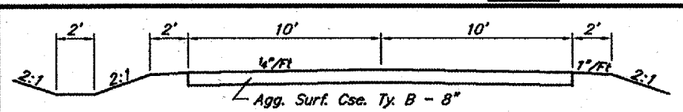
SCALES:
1" = 80' HOR
1" = 10' VER



Note: Any tree removal necessary to construct this project will not be paid for seperately but will be included in the cost of the contract.

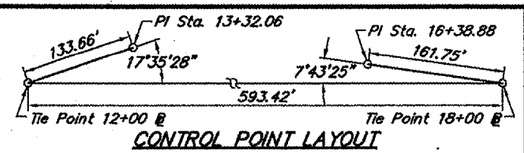


Embankment	1,559 CY	Embankment	799 CY
Earth Excavation	43 CY	Earth Excavation	10 CY
Channel Excavation	853 CY	Channel Excavation	912 CY
Borrow Excavation	663 CY	Excess Excavation	123 CY

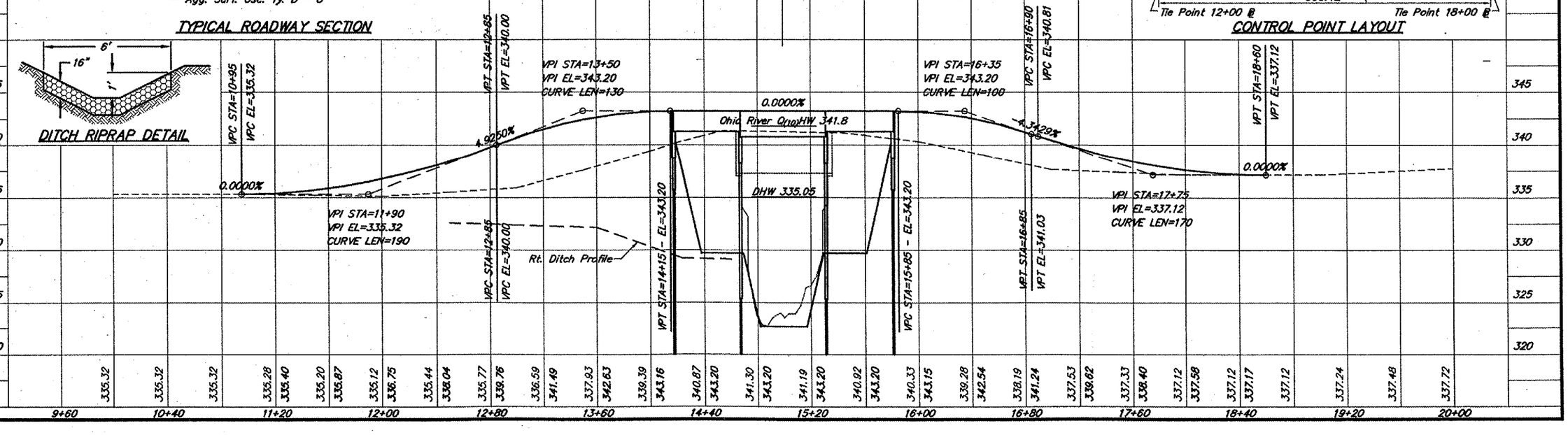


TYPICAL ROADWAY SECTION

DITCH RIPRAP DETAIL

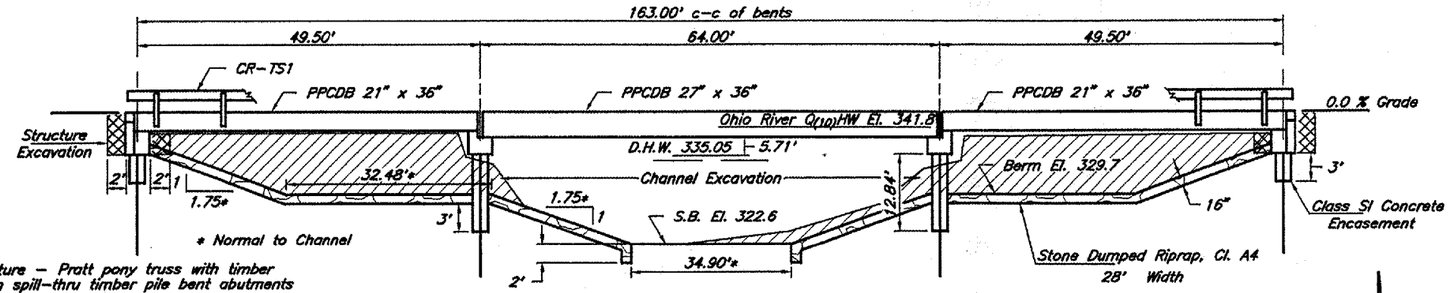


CONTROL POINT LAYOUT



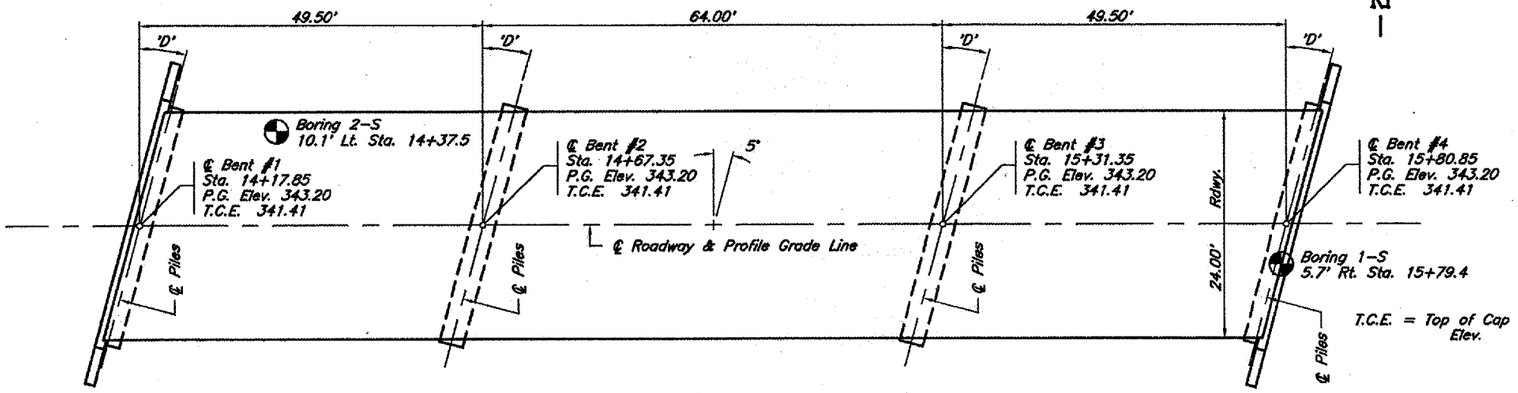
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	3
PROJECT NO. BROS-151(16)	CONTRACT NO. 99210			

B.M. – Top of backwall on northwest corner of east abutment. Elev. 341.20 (Approx. USGS)



Existing Structure – Pratt pony truss with timber deck on spill-thru timber pile bent abutments with concrete caps. 21.9'W x 75.0'L.

ELEVATION



PLAN

Skew Angle "D" = 5° Left Forward

N

GENERAL NOTES

1. Metal Shell piles shall meet ASTM A 252 Grade 3 specifications.
2. Test Piles shall be driven to 110% of the Nominal Required Bearing indicated in the pile data.
3. The Contractor shall drive one test pile, as specified, in a permanent location as directed by the Engineer before ordering the remaining piles.
4. See special provisions for boring logs.
5. A Corrosion inhibitor, as covered in the Standard Specifications, shall be used in the precast prestressed concrete deck beams.

TOTAL BILL OF MATERIAL

Item	Unit	Super	Sub. Piers	Sub. Abuts.	Total
Removal of Existing Structures	Each				1
Concrete Structures	Cu. Yds.		13.2	16.8	30.0
P.P. Conc. Dk. Bm. 21" Dp.	Sq. Ft.	2396			2396
P.P. Conc. Dk. Bm. 27" Dp.	Sq. Ft.	1534			1534
Steel Railing, Type S1	Foot	328			328
Reinforcement Bars	Pound		1426	1840	3266
Furnishing Metal Pile Shells 12"	Foot		865	548	1413
Driving and Filling Shells	Foot		865	548	1413
Test Pile Metal Shells	Each		1		1
Concrete Encasement	Cu. Yds.		13.4	2.1	15.5
Name Plates	Each			1	1
Channel Excavation	Cu. Yds.				1765
Stone Dumped Riprap, Class A4	Tons				428
Structure Excavation	Cu. Yds.				21

PILE DATA (2-PIERS)

Type & Size : Metal Shell – 12"ø x 0.179" walls
Nominal Required Bearing : 252 kips
Allowable Resistance Available : 84 kips
Estimated Length : 70 Feet Bent #2, 89 Feet Bent #3
Number Required : 12 (Includes 1 Test Pile located in Bent #3)

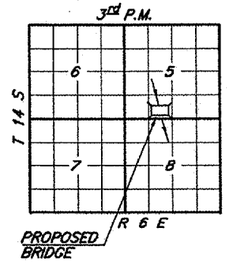
PILE DATA (2-ABUTS.)

Type & Size : Metal Shell – 12"ø x 0.179" walls
Nominal Required Bearing : 216 kips
Allowable Resistance Available : 72 kips
Estimated Length : 56 Feet Bent #1, 81 Feet Bent #4
Number Required : 8

BAY CREEK
SEC. 99-01146-00-BR BUILT 20___
ROAD DISTRICT NO. 1
POPE COUNTY
LOADING HS20
STR. NO. 076-3092

LETTERING FOR NAME PLATE

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



LOCATION SKETCH

"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 Standard Specifications for Highway Bridges'."

Zeyn B. Uzman
S.E. #81-4745
Expires Nov. 30, 2008
3/10/08

LICENSED STRUCTURAL ENGINEER
ZEYN UZMAN 4745
STATE OF ILLINOIS

DESIGN SPECIFICATIONS

2003 AASHTO Standard Specifications – 17 th ed.

LOADING HS20-44

Allow 25#/sq. ft. for future wearing surface

SEISMIC DATA

Seismic Performance Category (SPC) = B
Bedrock Acceleration Coefficient (A) = 13.0%
Site Coefficient (S) = 1.5

WATERWAY INFORMATION

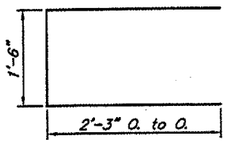
Drainage Area = 215.06 Sq. Mi. Low Grade Elev. = 335.32 At Sta. 10+00

Flood	Freq. Yr.	Q C.F.S.	Opening Sq. Ft. Exist.	Opening Sq. Ft. Prop.	Natural H.W.E.	Head-Ft. Exist.	Head-Ft. Prop.	Headwater El. Exist.	Headwater El. Prop.
Design	15	9,725	581.0*	1,052.0	335.05	1.18	0.32	336.23	335.37
Base	100	14,463	698.0*	1,312.5	336.85	0.15	0.89	337.00	337.74
Overtopping									
Max. Calc.	500								

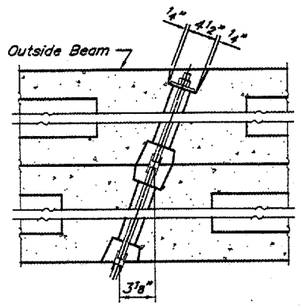
*Over road flow area – Exist. $Q_{(15)}$ 1,602.0 $Q_{(100)}$ 3,009.0

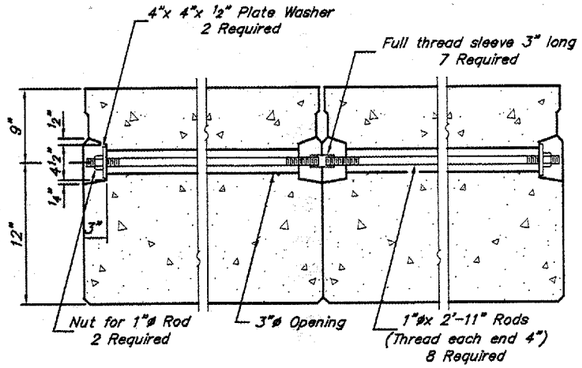
GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 137?
BAY CREEK
SECTION 99-01146-00-BR
POPE COUNTY
STATION 14+99.35

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	4
PROJECT NO. BROS-151(61)		CONTRACT NO. 99210		

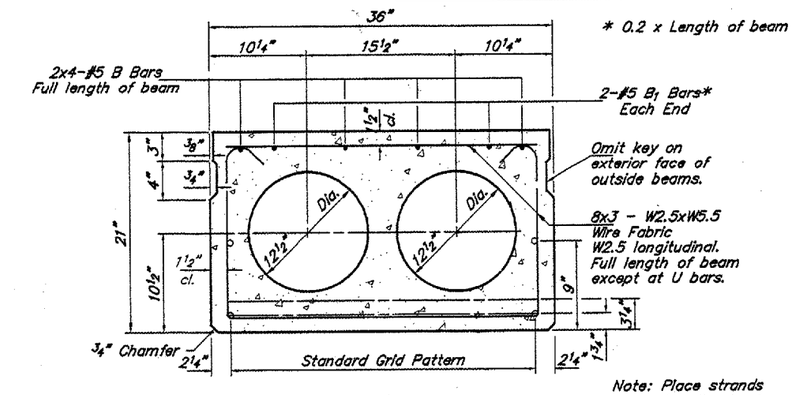


U BAR





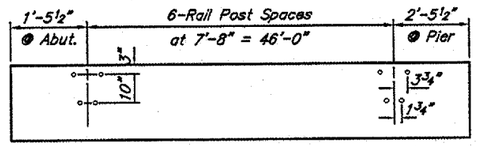
TYPICAL TRANSVERSE TIE ASSEMBLY



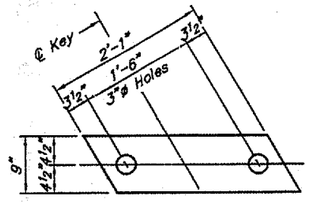
TYPICAL SECTION

17-½"ø Strands Each Strand Stressed to 28,900 lbs.
6-Strands 1¾" up, 9-Strands 3¼" up,
2-Strands 9" up.

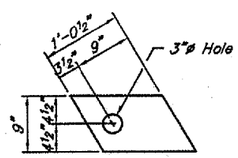
Note: Place strands symmetrically about ℄ of beam.



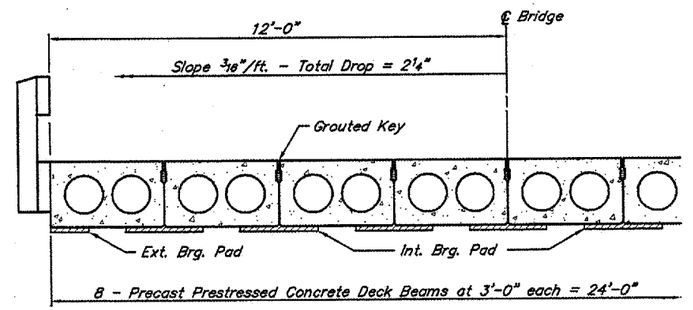
RAIL POST SPACING



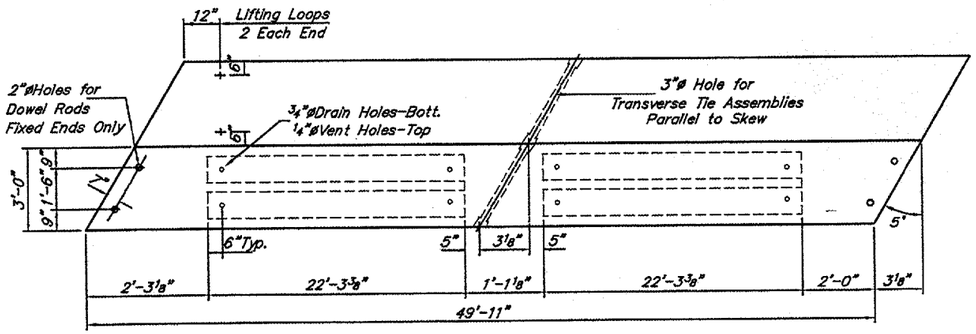
FABRIC BEARING PAD
(Interior)



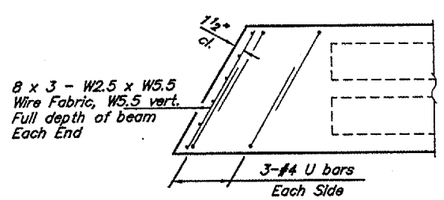
FABRIC BEARING PAD
(Exterior)



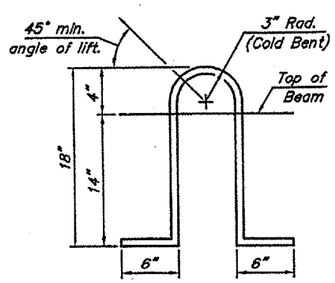
HALF CROSS SECTION



PLAN



END PLAN



LIFTING LOOP DETAIL

NOTES

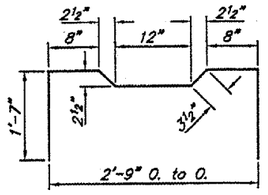
Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270.
The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Required release strength, f'ci, shall be 4,100 p.s.i.
An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.
Lifting loops shall be ⅝" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 33,000 lbs. or 2-½"ø-270 ksi strands, as shown.
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.
The 1"ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that recieve transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
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 a minimum of 24 hours prior to grouting the shear keys.
Nominal 1" joint at ℄ Pier shall be filled with non-shrink grout.
Rail Post Anchor Devices shall be cast into exterior face of outside beams as elsewhere specified.
Cost of reinforcement and accessories cast into the beam, of bearing pads, and of grouting longitudinal shear keys is incidental to Precast Prestressed Concrete Deck Beams.
When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. 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 min. of ¼".

BILL OF MATERIAL

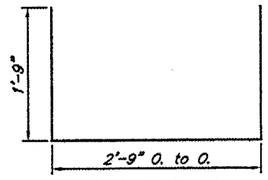
Bar	No.	Size	Length	Shape
B	8	#5	25'-11"	
B_1	2	#5	10'-0"	
U	12	#4	6'-0"	
Precast Prestressed Concrete Deck Beams			Sq. Ft.	2,396

DECK BEAMS 21" X 36"
BAY CREEK
SECTION 99-01146-00-BR
POPE COUNTY

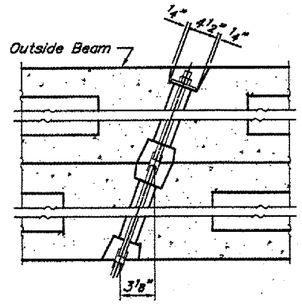
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	5
PROJECT NO. BROS-151(61)		CONTRACT NO. 99210		

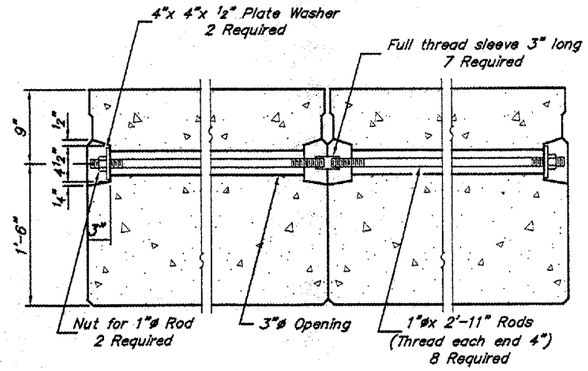


A1 BAR

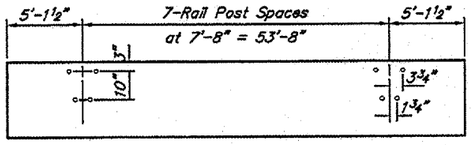


U & U1 BARS

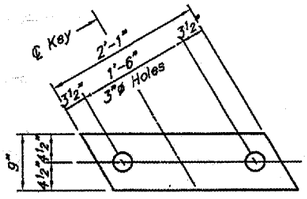




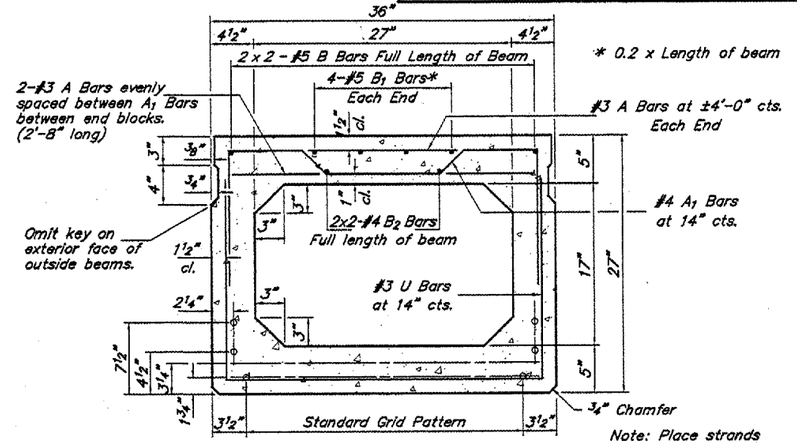
TYPICAL TRANSVERSE TIE ASSEMBLY



RAIL POST SPACING



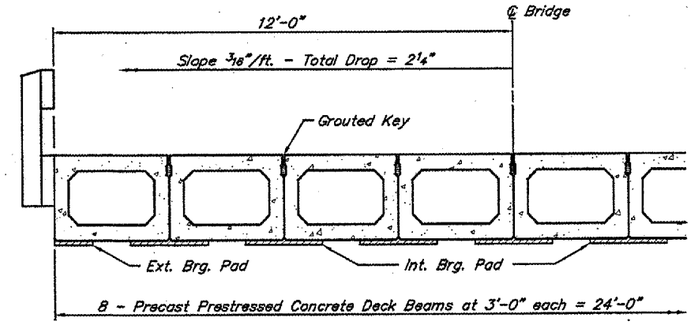
FABRIC BEARING PAD
(Interior)



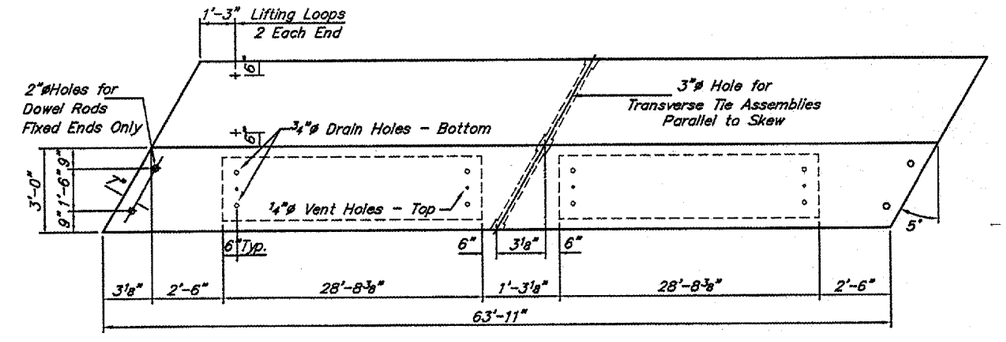
Note: Place strands symmetrically about ℄ of beam.

TYPICAL SECTION

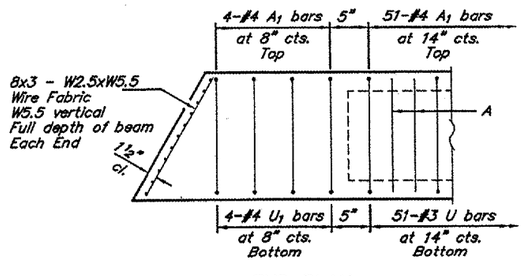
18-½"ø Strands Each Strand Stressed to 28,900 lbs.
6-Strands 1¾" up, 8-Strands 3¼" up,
2-Strands 4½" up, 2-Strands 7½" up.



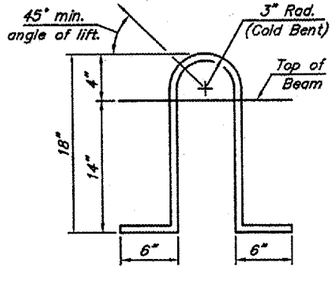
HALF CROSS SECTION



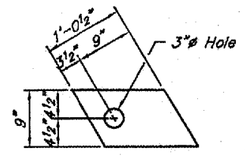
PLAN



END PLAN



LIFTING LOOP DETAIL



FABRIC BEARING PAD
(Exterior)

NOTES

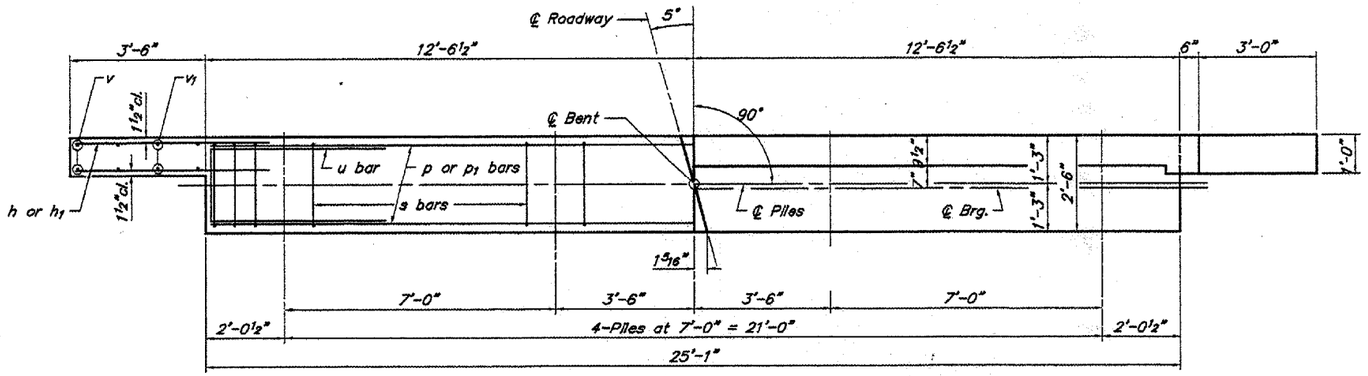
Reinforcement bars shall conform to AASHTO M-31, M-42 or M-53, Grade 60.
Prestressing steel shall be uncoated high strength, stress-relieved 7-wire strand, Grade 270.
The nominal diameter shall be ½" and the nominal cross-sectional area shall be 0.153 sq. in.
Required release strength, f'ci, shall be 4,100 p.s.i.
An equal substitution of the low-relaxation strands for the stress-relieved strands will be permitted.
Lifting loops shall be ¾" diameter, 6x25 class wire rope with fiber core and shall have a minimum ultimate tensile strength of 46,000 lbs. or 2-½"ø-270 ksi strands, as shown.
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.
The 1"ø rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that recieve transverse tie bar on outside shall be filled with grout after transverse tie assembly is in place.
The bearing seat surfaces shall be adjusted by shimming to assure firm and even bearing. Two ⅛" fabric adjusting shims of the dimensions of the Exterior Bearing Pad shall be provided for each bearing.
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 a minimum of 24 hours prior to grouting the shear keys.
Nominal 1" joint at ℄ Pier shall be filled with non-shrink grout.
Rail Post Anchor Devices shall be cast into exterior face of outside beams as elsewhere specified.
Cost of reinforcement and accessories cast into the beam, of bearing pads, and of grouting longitudinal shear keys is incidental to Precast Prestressed Concrete Deck Beams.
When Waterproofing Membrane System is specified, the top surface of the beams shall be finished in accordance with Article 504.06 of the Standard Specifications except that the surface shall not be roughened by brooming. 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 min. of ¼".

BILL OF MATERIAL

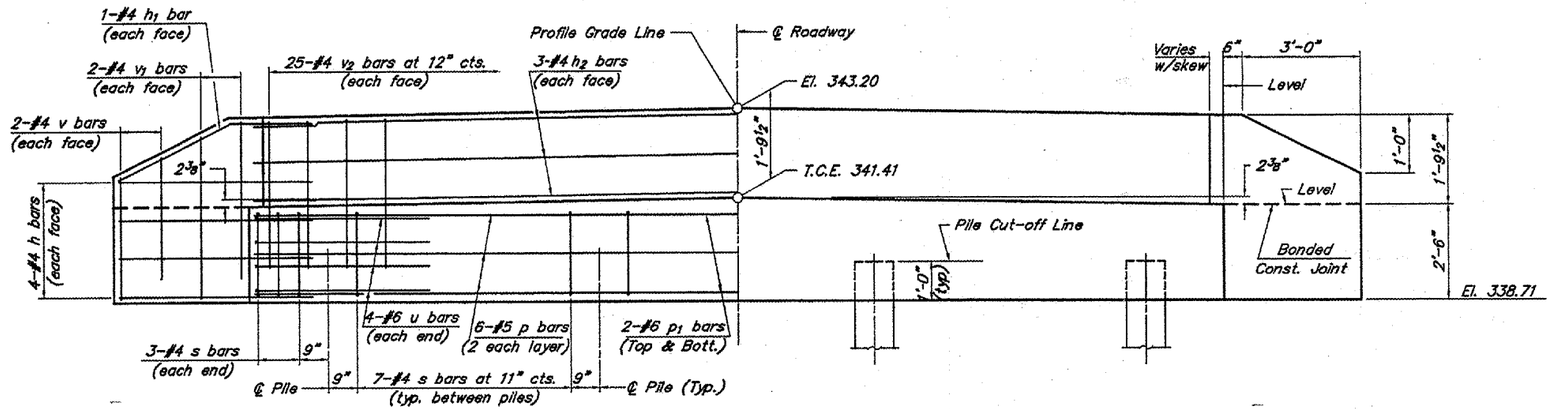
Bar	No.	Size	Length	Shape
A	108	#3	2'-8"	
A_1	59	#4	6'-1"	
B	4	#5	32'-11"	
B_1	8	#5	12'-10"	
B_1	4	#4	32'-11"	
U	51	#3	6'-3"	
U_1	8	#4	6'-3"	
Precast Prestressed Concrete Deck Beams			Sq. Ft.	1,534

DECK BEAMS 27" X 36"
BAY CREEK
SECTION 99-01146-00-BR
POPE COUNTY

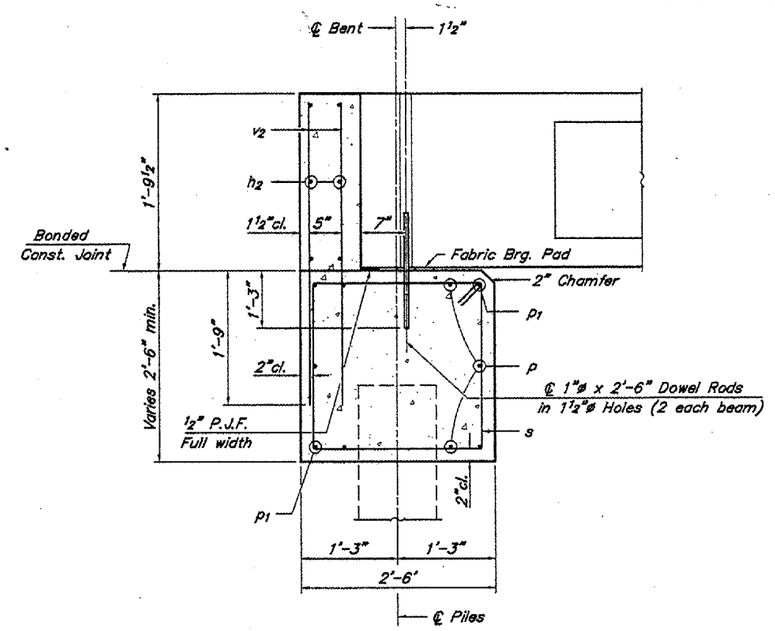
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	6
PROJECT NO. BROS-151(61)		CONTRACT NO. 99210		



PLAN



ELEVATION



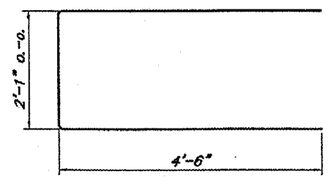
SECTION THRU ABUT.
(At Right Angles)

NOTES

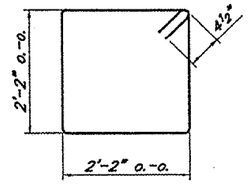
1. The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
2. Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

DESIGN STRESSES

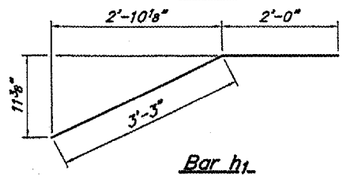
fc' = 3,500 psi
fy = 60,000 psi



Bar u



Bar s



Bar h1

BAR LIST FOR ONE ABUTMENT

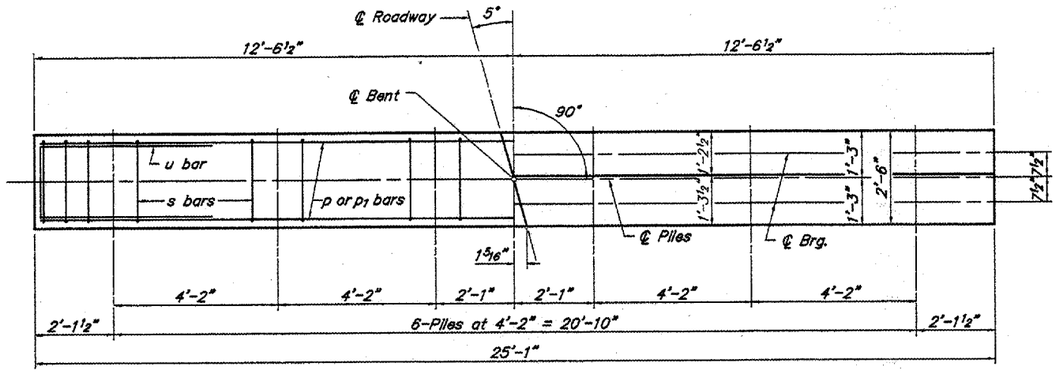
Bar	No.	Size	Length	Shape
h	16	#4	5'-0"	
h1	4	#4	5'-3"	
h2	6	#4	24'-9"	
p	6	#5	24'-9"	
p1	4	#6	24'-9"	
s	27	#4	9'-5"	
u	8	#6	11'-1"	
v	8	#4	2'-8"	
v1	8	#4	3'-8"	
v2	50	#4	3'-11"	

QUANTITIES FOR ONE ABUTMENT

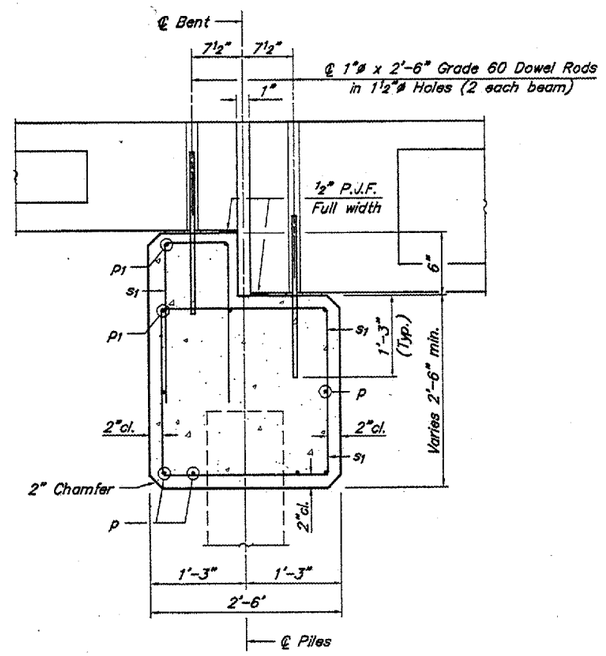
Concrete Structures	8.4	Cu. Yds.
Reinforcement Bars	920	Lbs.

ABUTMENTS
BAY CREEK
SECTION 99-01146-00-BR
POPE COUNTY

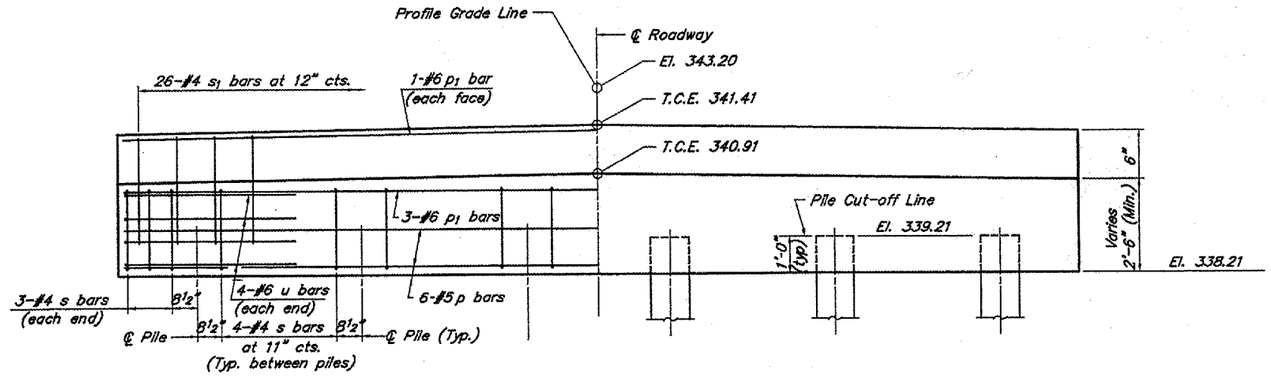
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	7
PROJECT NO. BROS-151(61)		CONTRACT NO. 99210		



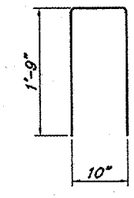
PLAN



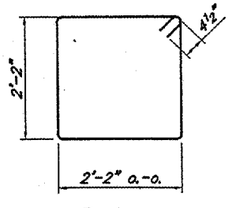
SECTION THRU ABUT.
(At Right Angles)



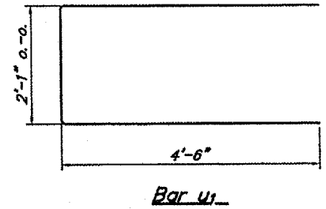
ELEVATION



Bar s2



Bar s1



Bar u1

BILL OF MATERIALS FOR ONE PIER

Bar	No.	Size	Length	Shape
p	6	#5	24'-9"	
p1	5	#6	24'-9"	
s	26	#4	9'-5"	
s1	26	#4	4'-4"	
u	8	#6	11'-1"	
Concrete Structures			6.6	Cu. Yds.
Reinforcement Bars			713	Lbs.

NOTES

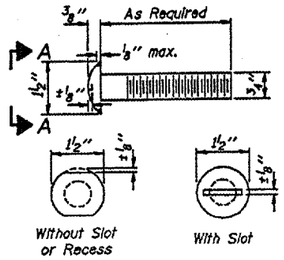
1. Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.
2. Nominal 1¾" joint at ℄ Pier shall be filled with non-shrink grout to top.

DESIGN STRESSES

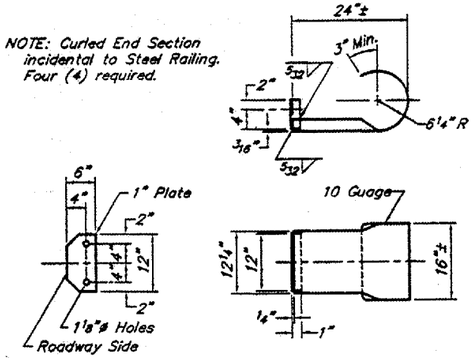
f'c = 3,500 psi
fy = 60,000 psi

PIERS
BAY CREEK
SECTION 99-01146-00-BR
POPE COUNTY

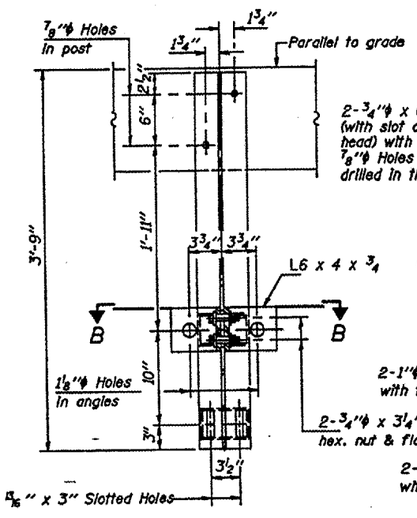
ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	8
PROJECT NO. BROS-151(16)		CONTRACT NO. 99210		



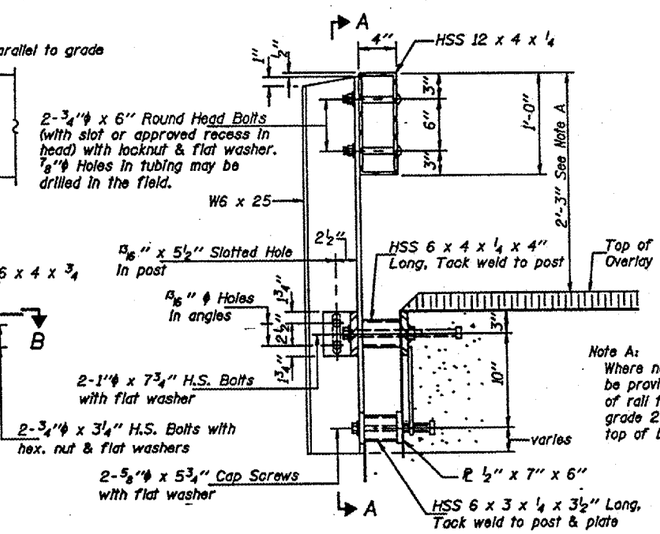
VIEW A-A
ROUND HEAD BOLT



CURLED END SECTION DETAILS

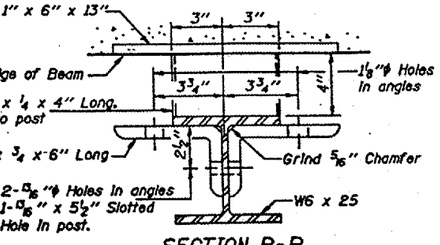


SECTION A-A



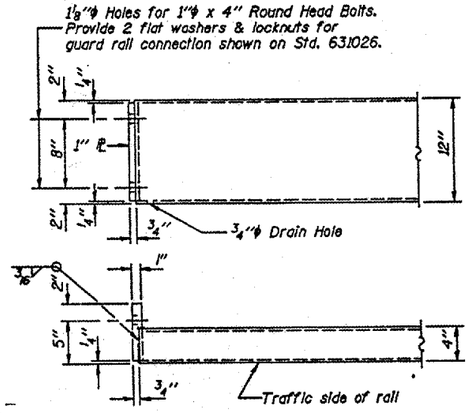
SECTION AT RAIL POST

Note A:
Where no overlay is to be provided, adjust top of rail to lay parallel to grade 2'-5" max. above top of beam.



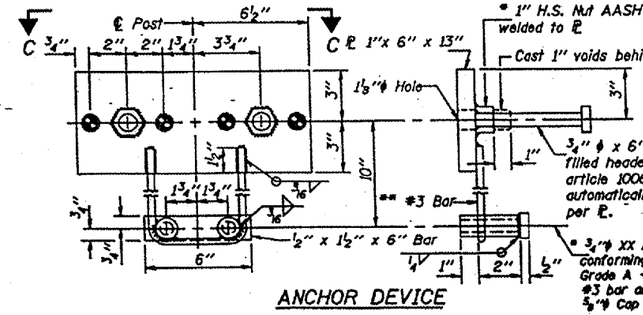
SECTION B-B

1 1/8"ø Holes for 1"ø x 4" Round Head Bolts. Provide 2 flat washers & locknuts for guard rail connection shown on Std. 631026.



END OF RAIL DETAILS

** 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".



ANCHOR DEVICE

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.

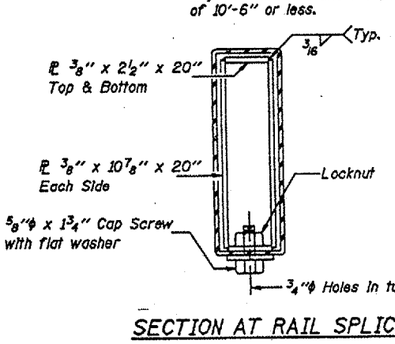
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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.

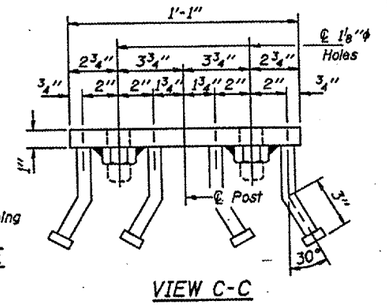
The 3/4"ø high strength bolts used to connect the 6 x 4 x 3/4 angles to the post shall be tightened according to Article 505.04 (fX2) of the Standard Specifications. The 1"ø high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 5/8"ø 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.

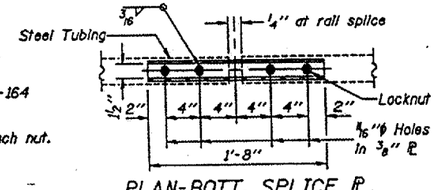


SECTION AT RAIL SPLICE

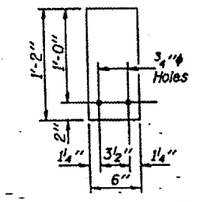
* Threaded areas shall be plugged or blocked off during casting of beam.



VIEW C-C



PLAN-BOTT. SPLICE PL
TYPICAL



1/4" SHIM PLATE

Illinois Department of Transportation

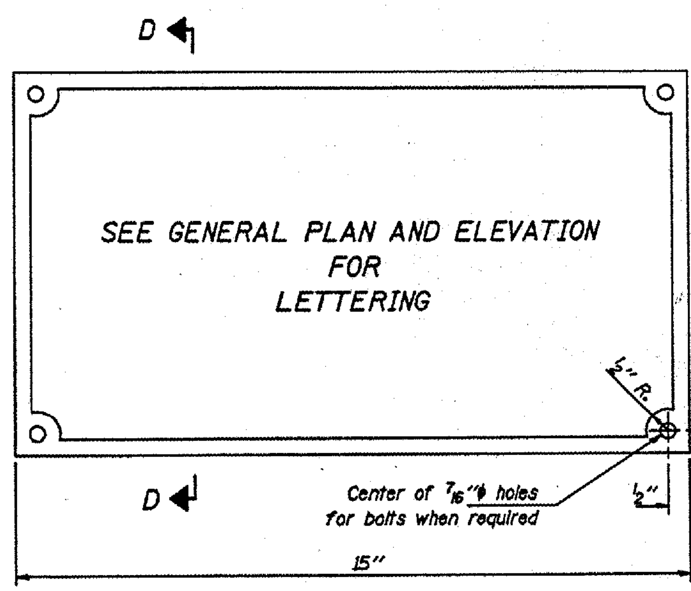
PASSED APRIL 4, 2005
Thomas J. Domagalski
Engineer of Bridge Design

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

ISSUED 1-1-04

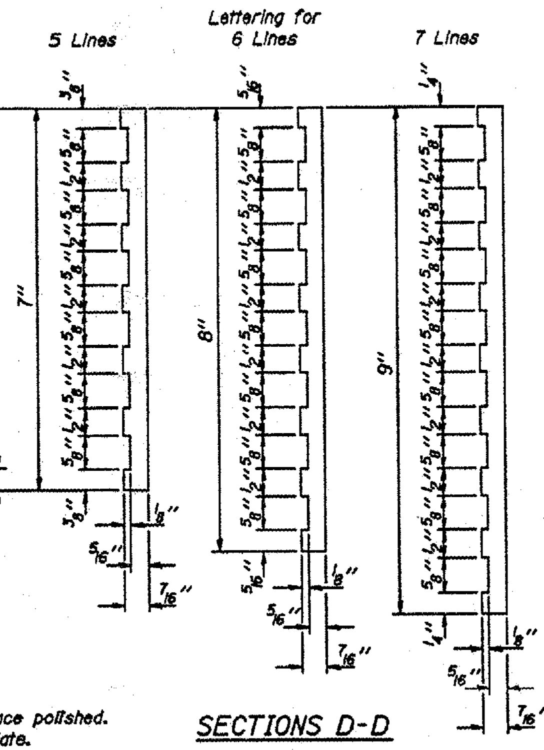
STEEL RAILING, TYPE S-1
STANDARD CR-TS1

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01146-00-BR	POPE	11	9
PROJECT NO. BROS-151(16)		CONTRACT NO. 99210		

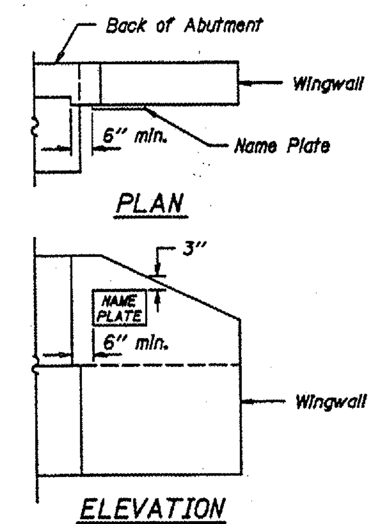


DETAIL OF NAME PLATE

Material: Best quality brass or bronze.
Border & Lettering: Raised 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

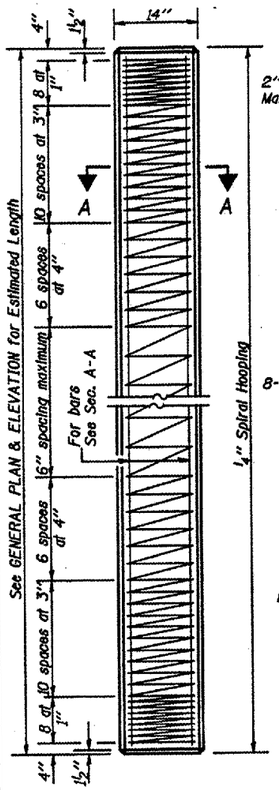


LOCATION OF NAME PLATE

Illinois Department of Transportation
PASSED APRIL 4, 2005
Engineer of Bridge Design
APPROVED APRIL 4, 2005
Engineer of Bridges and Structures

NAME PLATE
STANDARD CN

ROUTE	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
TR 137	99-01148-00-BR	POPE	11	10
PROJECT NO. BROS-151(16)		CONTRACT NO. 99210		

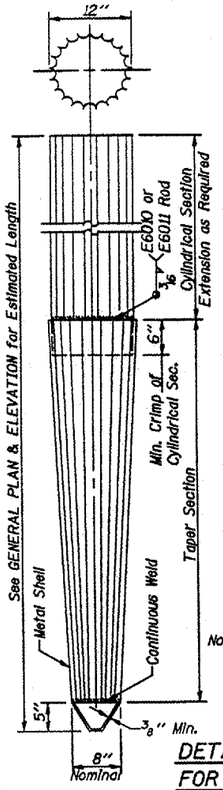


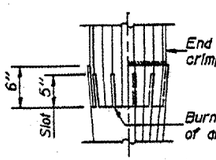
SECTION A-A
FOR PILES UNDER 45' LONG

SECTION A-A
FOR PILES 45' OR MORE

Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.

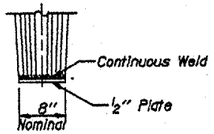
DETAIL OF PRECAST CONCRETE PILES





FIELD CRIMP DETAIL

Note: 6" Crimp shall either be supplied on the cylindrical section or made in the field as detailed.



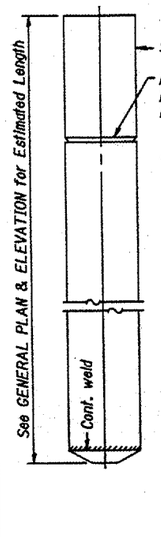
OPTIONAL FLAT END

ALLOWABLE TAPER SECTIONS

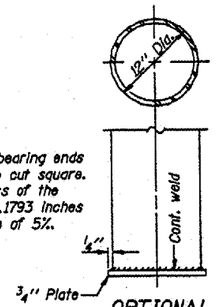
10' Length-Taper 1" in 2'-6"
17' Length-Taper 1" in 4'-0"
25' Length-Taper 1" in 7'-0"
30' Length-Taper 1" in 7'-0"

Note: The thickness of the shell shall be 0.1495 inches with a tolerance of 5%. The shell shall be according to Article 1006.05 (a) of the Standard Specification except that minimum yield strength for the steel after cold working shall be 50,000 p.s.i.

DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES



Note: Driving and bearing ends of pipe shall be cut square. The thickness of the shell shall be 0.1793 inches with a tolerance of 5%.

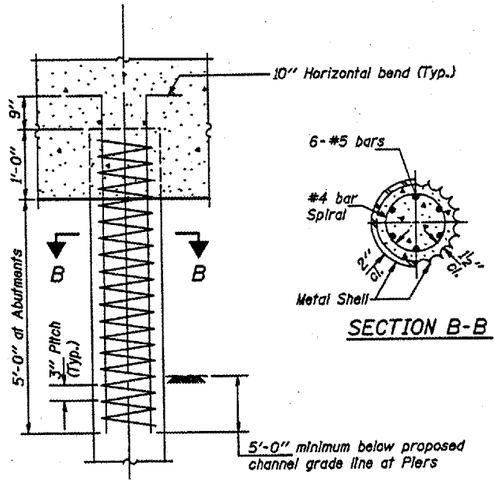


OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

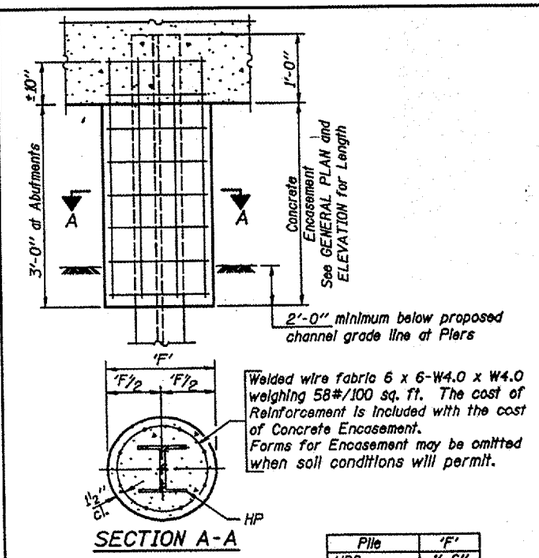
Reinforcement cage shall be omitted when Concrete Encasement is provided.

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



SECTION B-B

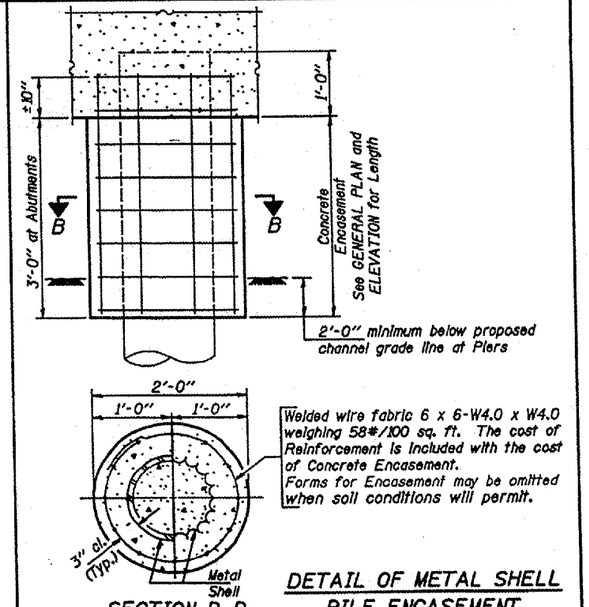
DETAIL OF REINFORCEMENT FOR METAL SHELLS



SECTION A-A

Pile	'F'
HP8	1'-6"
HP10	1'-9"
HP12	2'-0"

DETAIL OF HP PILE ENCASEMENT



SECTION B-B

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.

Illinois Department of Transportation

PASSED FEBRUARY 1, 2000
Engineer of Bridge Design
APPROVED FEBRUARY 1, 2000
Engineer of Bridges and Structures

BRS-1 (BRSS)

PILE DETAILS

STANDARD CX-1

Pope County Sheet 11 of 11
Section 99-01146-00-BR
TR 137 (Homberg Rd) over Bay Creek
Project BROS-151(16) Contract 99210

19+00
Exist ROW
End Improvement - Station 18+60
337.58
C - 2 F - 4
340.39
C - 0 F - 82
343.15
C - 4 F - 119
343.20
Channel Excavation - 580 SF
Berm El. 329.7
Stone Dumped Riprap
343.20
Channel Excavation - 628 SF
329.1
Berm El. 329.7
Stone Dumped Riprap
343.16
C - 21 F - 158
340.69
C - 5 F - 203
336.75
C - 0 F - 41
335.32
C - 12 F - 1
Begin Improvement - Station 10+95
Exist ROW
Riprap Ditch Sta 13+55 to Sta 14+30
330.3
332.4
18+00
17+00
16+00
15+45
14+55
14+00
13+00
12+00
11+00
10+00
3:1
2:1
4:1