

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

HIGHWAY BRIDGE PROGRAM

TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)

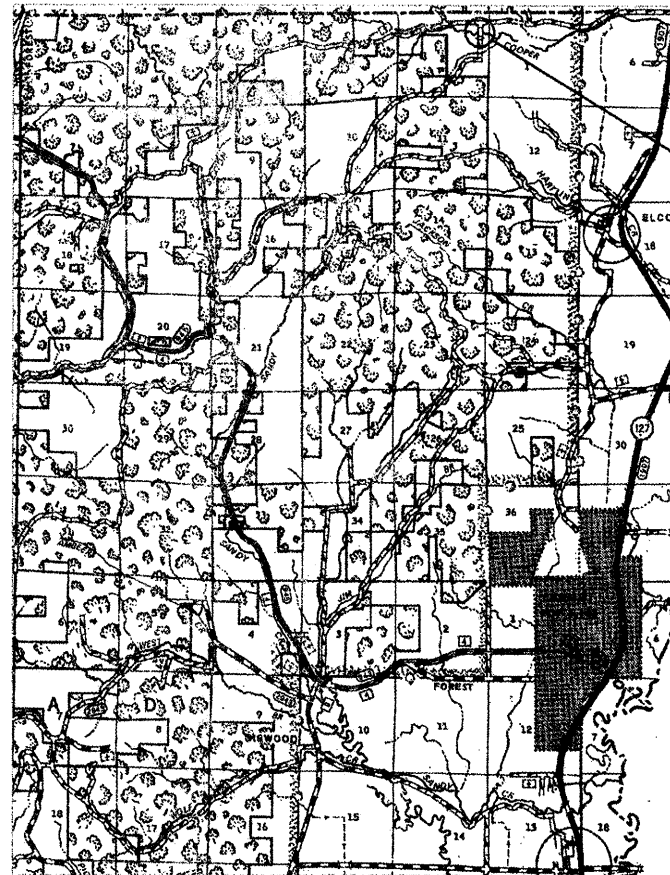
SECTION 09-01162-00-BR

PROJECT NO. BROS-0003(099)

JOB NO. C-99-537-10

COOPER CREEK

ALEXANDER COUNTY

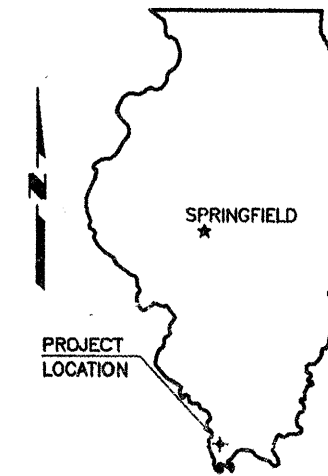


LOCATION MAP

SCALE: 1" = 2 MILES

NET LENGTH OF IMPROVEMENT = 485.00 FT. = 0.0919 MILES

| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|----------------------------|----------------|-----------|--------------------|-----------|
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 1 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |



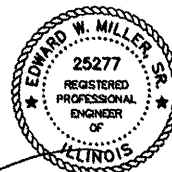
INDEX OF SHEETS

- COVER SHEET
 - PLAN AND PROFILE
 - GENERAL PLAN AND ELEVATION
 - 21" X 48" PPC DECK BEAM
 - 21" X 48" PPC DECK BEAM DETAILS
 - ABUTMENT
 - STEEL RAILING, TYPE S-1
 - NAME PLATES
 - PILING DETAILS
 - CROSS SECTIONS
- STANDARDS 00001-05 STANDARD SYMBOLS, ABBREVIATIONS AND PATTERNS
28001-05 TEMPORARY EROSION CONTROL SYSTEMS
635006-03 REFLECTOR AND TERMINAL MARKER PLACEMENT
701901-01 TRAFFIC CONTROL DEVICES
BLR 21-8 TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES

SUMMARY OF QUANTITIES

| CODE NO. | PAY ITEM | UNIT | TOTAL |
|-------------|-----------------------------------------------------|-------|-------|
| 20100110 | TREE REMOVAL (6 TO 15 UNITS DIAMETER) | UNIT | 40 |
| 20100210 | TREE REMOVAL (OVER 15 UNITS DIAMETER) | UNIT | 52 |
| 20200100 | EARTH EXCAVATION | CU YD | 322 |
| 20300100 | CHANNEL EXCAVATION | CU YD | 41 |
| * 25001000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.3 |
| 25100630 | EROSION CONTROL BLANKET | SQ YD | 316 |
| 28100809 | STONE DUMPED RIPRAP, CLASS A5 | TON | 147 |
| 40200800 | AGGREGATE SURFACE COURSE, TYPE B | TON | 262 |
| 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| 50200100 | STRUCTURE EXCAVATION | CU YD | 79 |
| 50300225 | CONCRETE STRUCTURES | CU YD | 16.8 |
| 50300280 | CONCRETE ENCASEMENT | CU YD | 2.7 |
| 50400405 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH) | SQ FT | 1,210 |
| 50800105 | REINFORCEMENT BARS | POUND | 2,252 |
| Δ 50900205 | STEEL RAILING, TYPE S1 | FOOT | 104 |
| 51201400 | FURNISHING STEEL PILES HP10X42 | FOOT | 272 |
| 51202305 | DRIVING PILES | FOOT | 272 |
| 51500100 | NAME PLATES | EACH | 1 |
| 67100100 | MOBILIZATION | L SUM | 1 |
| *Δ 78201000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 4 |
| * XX001874 | PERMANENT DITCH CHECKS | EACH | 1 |

* SEE SPECIAL PROVISIONS Δ SPECIALITY ITEMS



04-07-10

Edward W. Miller

Edward W. Miller
PROFESSIONAL ENGINEER
#062-025277
EXPIRES NOV. 30, 2011

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

CONTRACT NO. 99424



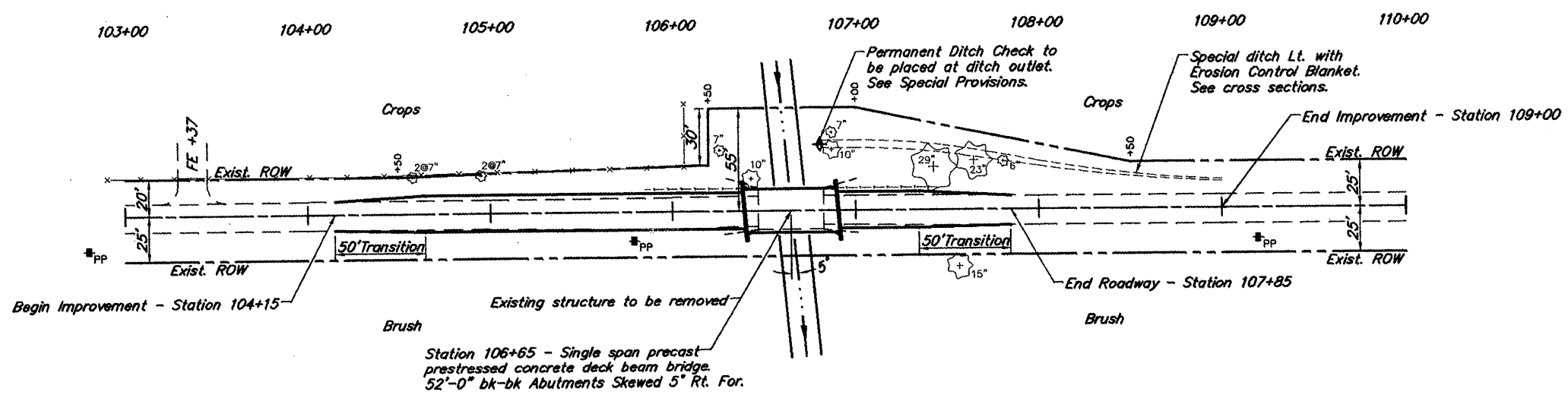
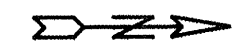
CLASSIFICATION : LOCAL ROAD (RURAL)
ADT : 25
DESIGN SPEED : 30 MPH

| | |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| ILLINOIS DEPARTMENT OF TRANSPORTATION | |
| Approved | APRIL 14, 2010 <i>W. Denny</i> Alexander County Engineer |
| Passed | April 26, 2010 <i>Demi W. Hiller</i> District 9 Engineer of Local Roads and Streets |
| Releasing for Bid Based on Limited Review | <i>Ky C. Kami</i> May 4, 2010 Deputy Director of Highways, Region 5 Engineer Illinois Department of Transportation |

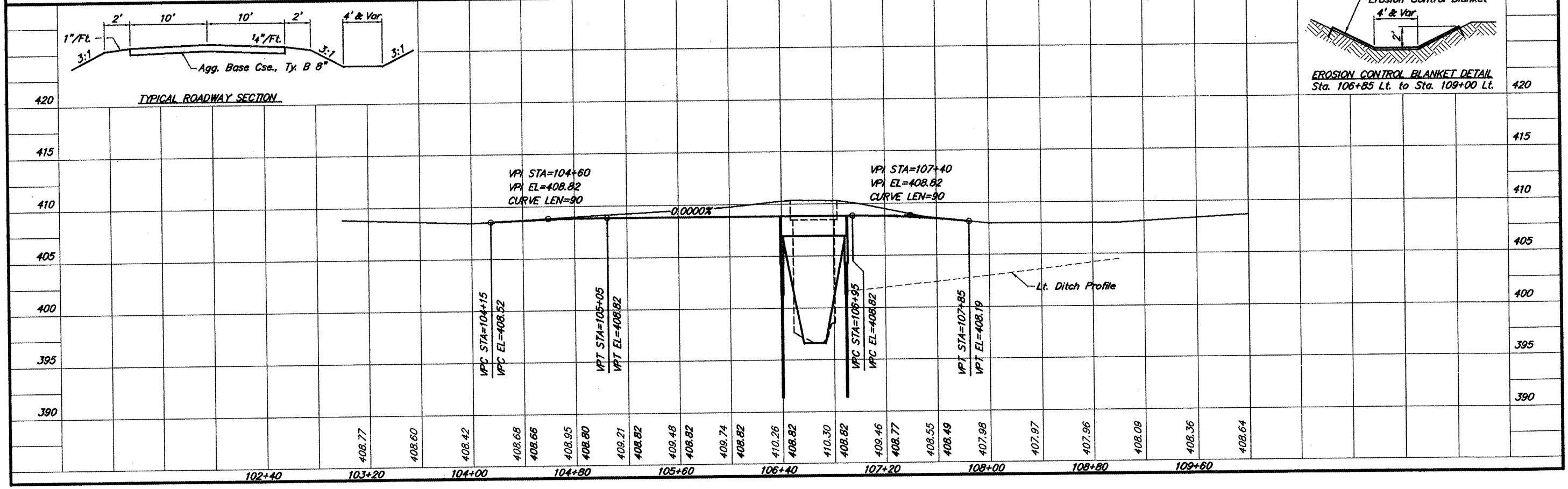
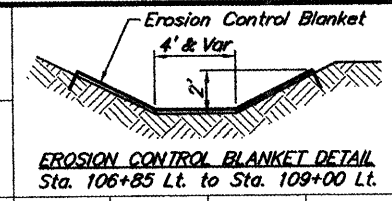
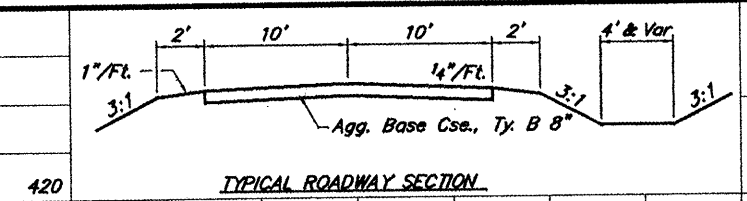
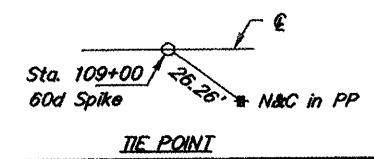
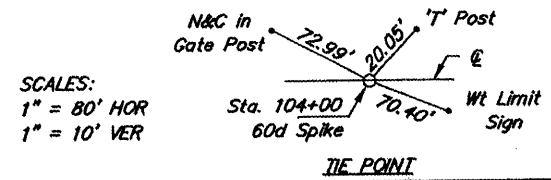
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|----------------------------|----------------|-----------|--------------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 2 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |

B.M. - RR Spike in PP
 16' Rt. Sta. 105+79
 Assumed Elev. 410.00

Existing Structure - Precast concrete deck beams on closed timber abutments with concrete caps. 22.7' W x 35.74' L.

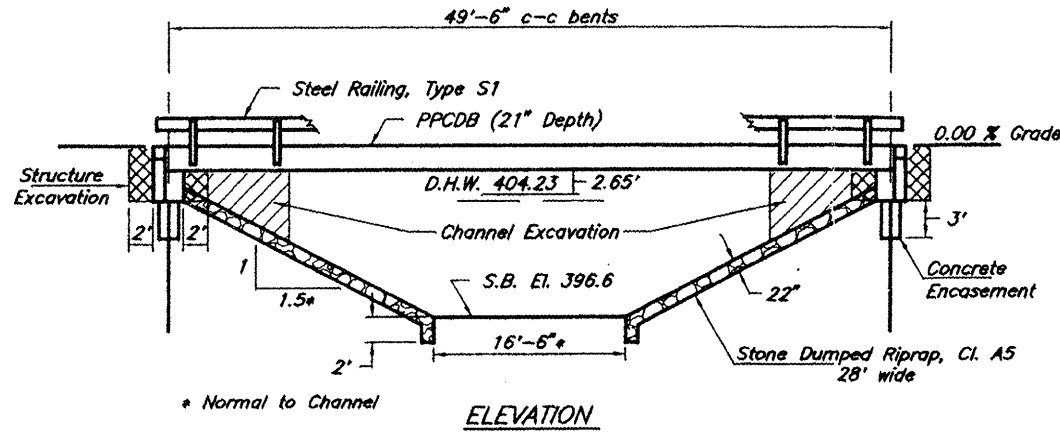


| Station | Offset | Units | |
|---------|---------|-------|-----|
| | | 6-15 | >15 |
| 106+26 | 33' Lt. | 7 | |
| 106+43 | 18' Lt. | 10 | |
| 106+87 | 33' Lt. | 10 | |
| 106+87 | 42' Lt. | 7 | |
| 107+43 | 23' Lt. | | 29 |
| 107+65 | 27' Lt. | | 23 |
| 107+81 | 26' Lt. | 6 | |
| Totals | | 40 | 52 |



B.M. - RR Spike in Power Pole
16' Rt. of Station 105+79
Assumed Elev. 410.00

| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------------------------------------------|----------------|-----------|--------------|-----------|
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 3 |
| PROJECT NO. BR05-0003(099) CONTRACT NO. 99424 | | | | |



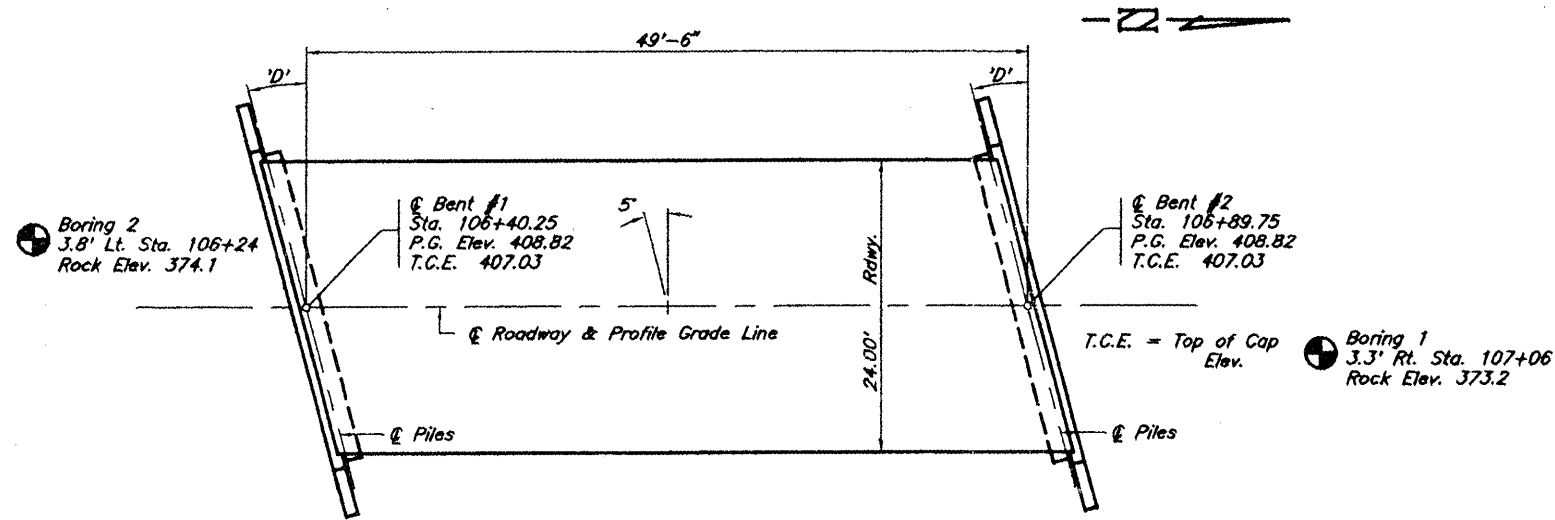
Existing Structure - Precast concrete deck beams on closed timber pile bent abutments with concrete caps. 22.7' W x 35.74' L

GENERAL NOTES

- Steel H piles shall meet AASHTO M270 Grade 50 specifications.
- See special provisions for boring logs.
- 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. | | Total |
|--------------------------------|----------|-------|-------|--------|-------|
| | | | Piers | Abuts. | |
| Channel Excavation | Cu. Yds. | | | 41 | 41 |
| Stone Dumped Riprap, Cl. A5 | Tons | | | 147 | 147 |
| Removal of Existing Structures | Each | 1 | | | 1 |
| Structure Excavation | Cu. Yds. | | | 79 | 79 |
| Concrete Structures | Cu. Yds. | | | 16.8 | 16.8 |
| Concrete Encasement | Cu. Yds. | | | 2.7 | 2.7 |
| P.P. Conc. Dk. Bm. 21" Dp. | Sq. Ft. | 1,210 | | | 1,210 |
| Reinforcement Bars | Pound | | | 2,252 | 2,252 |
| Steel Railing, Type S1 | Foot | | | 104 | 104 |
| Furnishing Steel Piles HP10X42 | Foot | | | 272 | 272 |
| Driving Piles | Foot | | | 272 | 272 |
| Name Plates | Each | | | 1 | 1 |



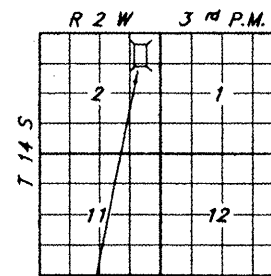
PLAN

Skew Angle "D" = 5' Right Forward

COOPER CREEK
SEC. 09-01162-00-BR BUILT 20
COUNTY UNIT ROAD DISTRICT
ALEXANDER COUNTY
LOADING HL-93
STR. NO. 002-3108

LETTERING FOR NAME PLATE

Locate Name Plate at Southeast Corner of Bridge (See Sheet 8)

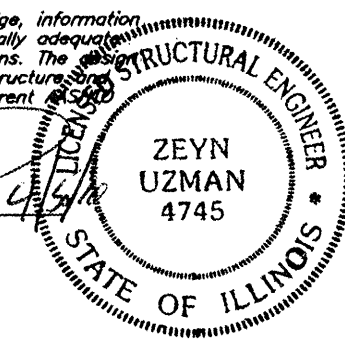


PROPOSED BRIDGE

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 type of structure and comply with the requirements of the current AASHTO LRFD Specifications.

Zeyn Uzman
Zeyn B. Uzman
S.E. #81-4745
Expires Nov. 30, 2010



PILE DATA (2-ABUTS.)

Type & Size : HP10X42
Nominal Required Bearing : 335 kips
Factored Resistance Available : Refusal
Estimated Length : 34 Feet
Number Required : 8

DESIGN SPECIFICATIONS

2007 AASHTO LRFD Bridge Design Specifications and all applicable interims.

LOADING HL-93

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

SEISMIC DATA

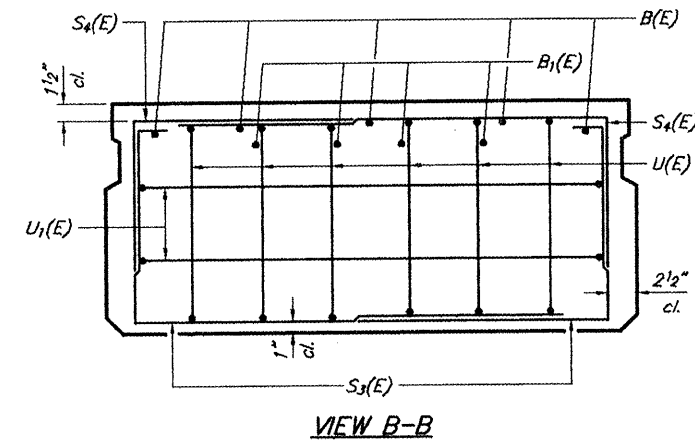
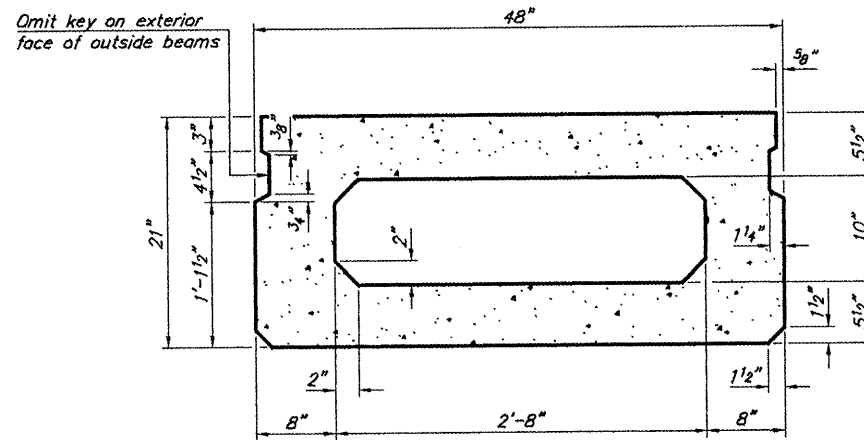
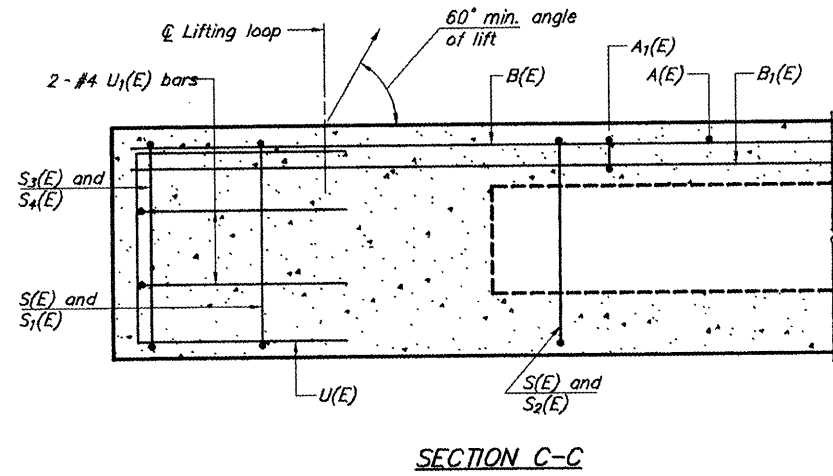
Soil Site Class = D
Design Spectral Acceleration at 0.2 sec. (S_{DS}) = 1.327
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.591
Seismic Performance Zone (SPZ) = 4

WATERWAY INFORMATION

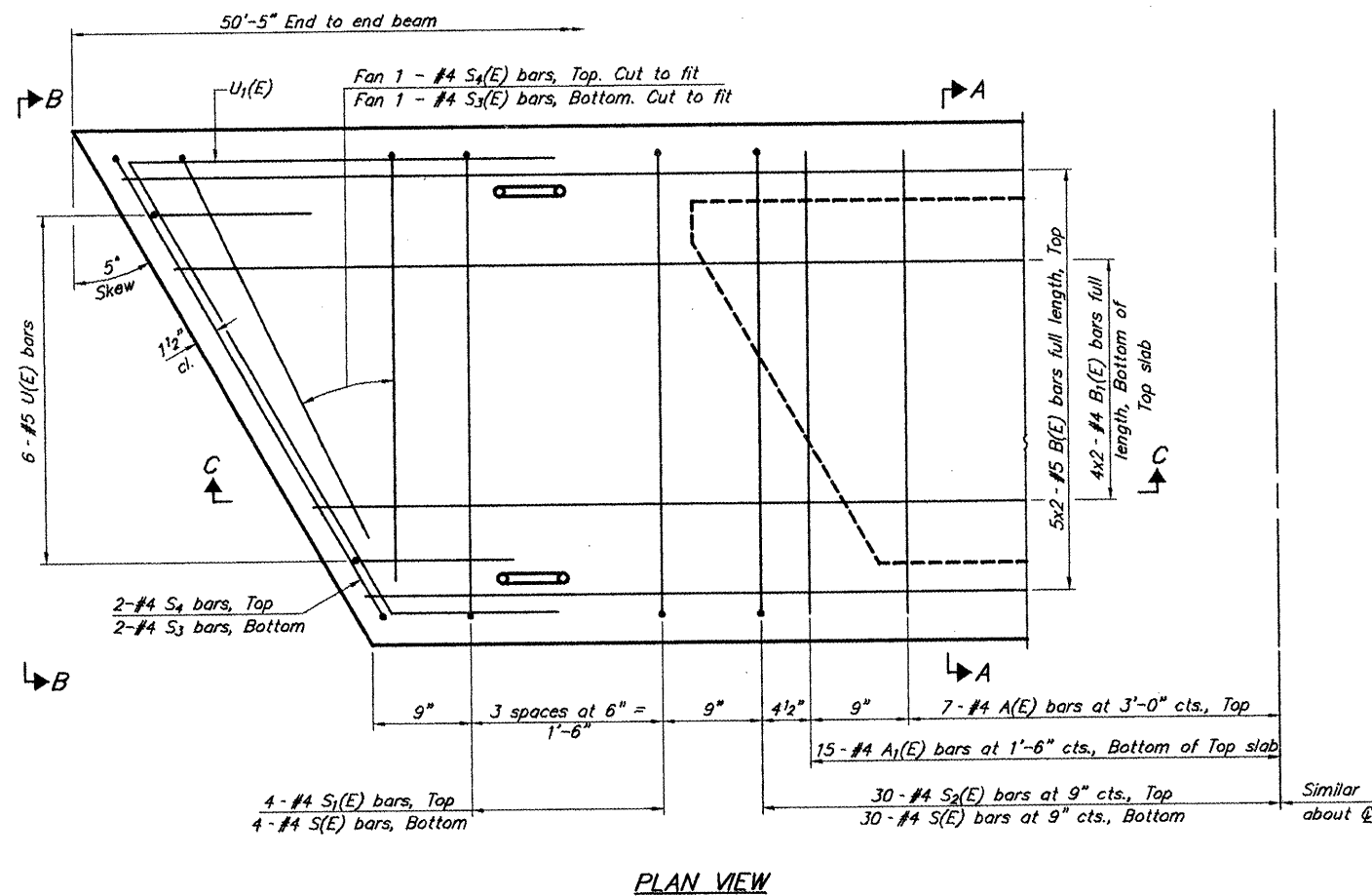
| | | Drainage Area = 2.27 Sq. Mi. | | Low Grade Elev. = 407.95 | | At Sta. 109+00 | |
|-------------|-----------|------------------------------|------------------------------|--------------------------|-----------------------|----------------------------|--|
| Flood | Freq. Yr. | Q C.F.S. | Opening Sq. Ft. Exist. Prop. | Natural H.W.E. | Head-Ft. Exist. Prop. | Headwater El. Exist. Prop. | |
| Design | 15 | 1,750 | 225.6 213.5 | 404.23 | 0.00 0.00 | 404.23 404.23 | |
| Base | 100 | 2,820 | 274.2 274.2 | 405.75 | 0.00 0.07 | 405.75 405.82 | |
| Overtopping | ±425 | 3,748 | 307.5 | 406.79 | 1.16 | 407.95 | |
| Max. Calc. | 500 | 3,850 | | 406.88 | | 407.52 | |

GENERAL PLAN & ELEVATION
TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
COOPER CREEK
SECTION 09-01162-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3108

| | | | | |
|-----------------------------------------------|----------------|-----------|--------------|----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO |
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 4 |
| PROJECT NO. BR05-0003(099) CONTRACT NO. 99424 | | | | |

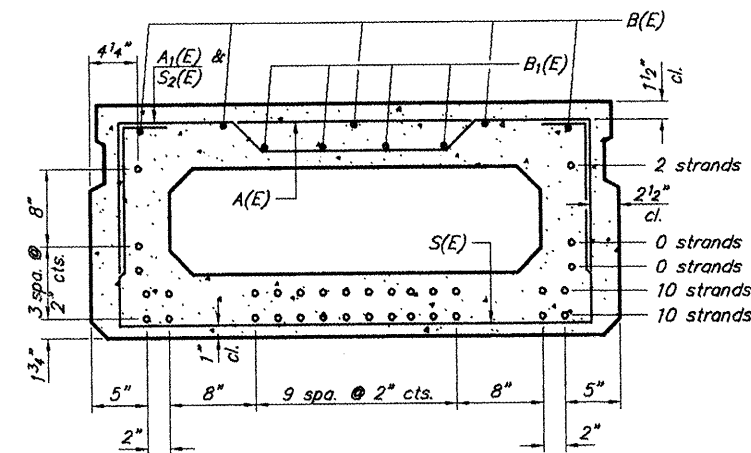


SECTION A-A
(Showing dimensions)



PLAN VIEW

Note: Spacing of S(E) and S2(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION A-A
(Showing reinforcement and permissible strand locations)

Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

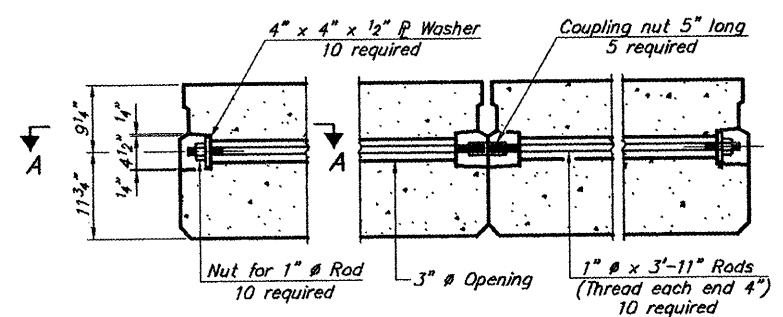
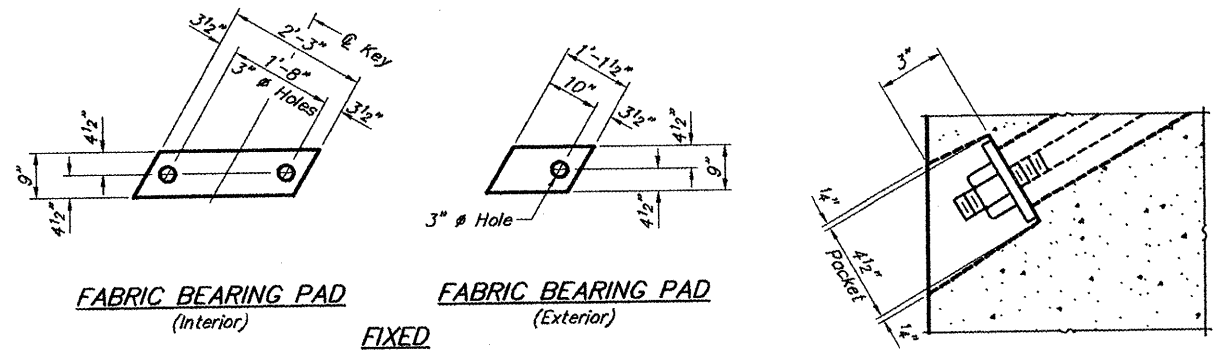
BAR LIST
ONE BEAM ONLY
(For information only)

| Bar | No. | Size | Length | Shape |
|-------|-----|------|---------|-------|
| A(E) | 14 | #4 | 3'-7" | — |
| A1(E) | 30 | #4 | 3'-10" | — |
| B(E) | 10 | #5 | 26'-1" | — |
| B1(E) | 8 | #4 | 25'-10" | — |
| S(E) | 68 | #4 | 7'-5" | □ |
| S1(E) | 8 | #4 | 5'-11" | □ |
| S2(E) | 60 | #4 | 6'-2" | □ |
| S3(E) | 6 | #4 | 4'-7" | □ |
| S4(E) | 6 | #4 | 3'-10" | □ |
| U(E) | 12 | #5 | 4'-0" | □ |
| U1(E) | 4 | #4 | 6'-4" | □ |

Bar Laps #4 bars = 1'-8"
#5 bars = 2'-2"

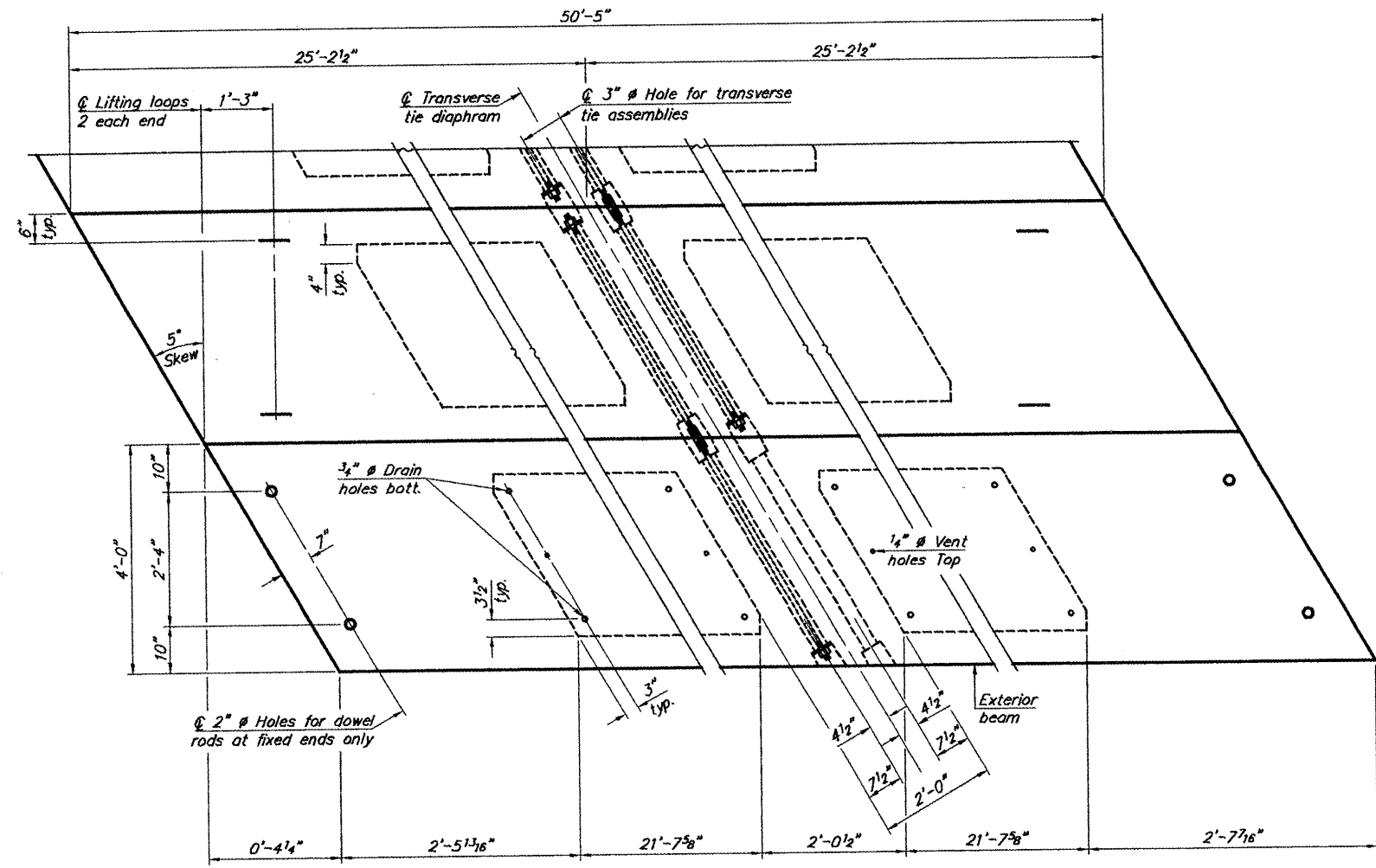
21" X 48" PPC DECK BEAM
TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
COOPER CREEK
SECTION 09-01162-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3108

| | | | | |
|----------------------------|----------------|-----------|--------------------|----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO |
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 5 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |



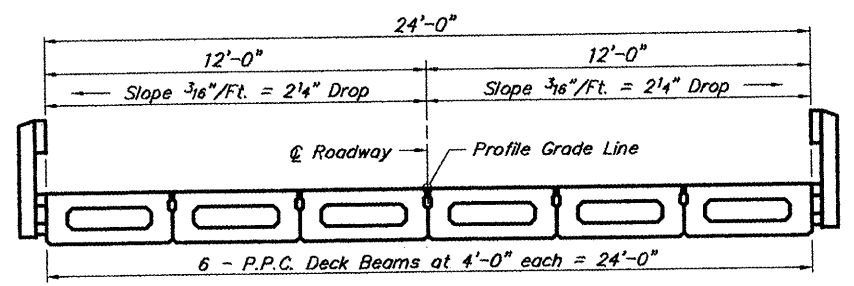
SECTION A-A

TYPICAL TRANSVERSE TIE ASSEMBLY



PLAN VIEW

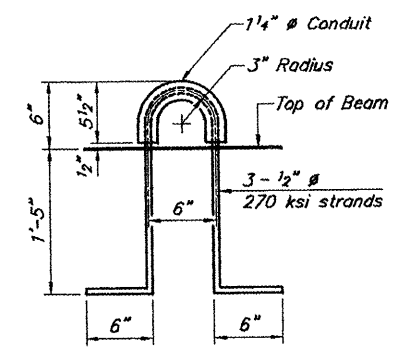
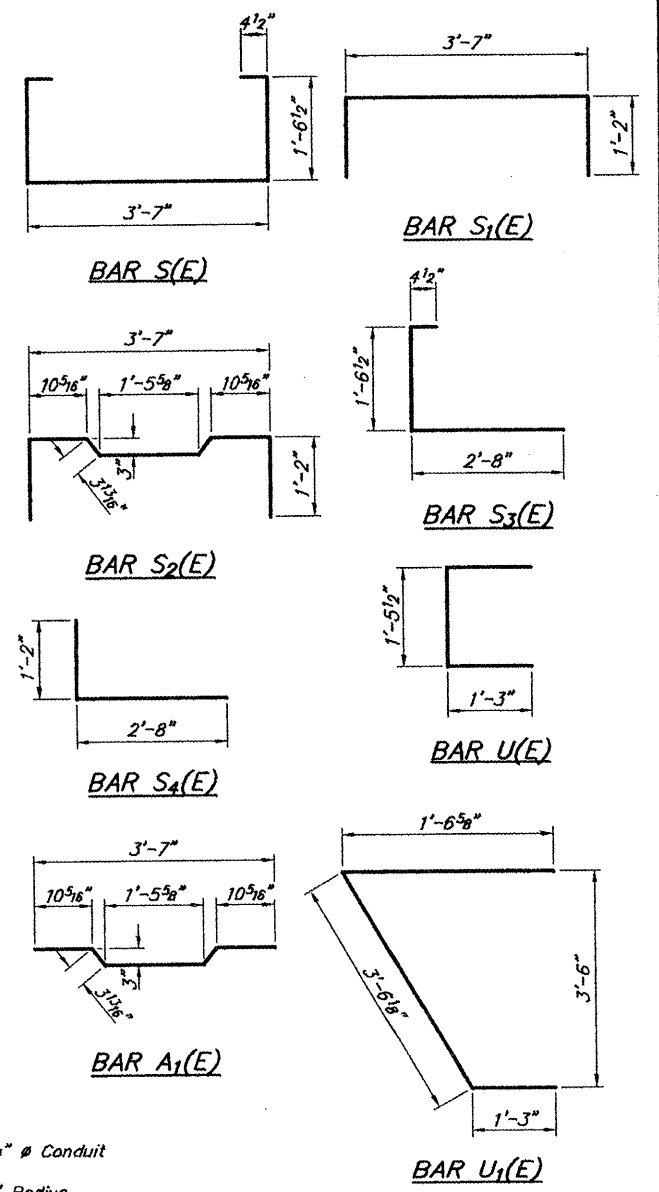
Note: Connect beams in pairs with the transverse tie configuration shown.



CROSS SECTION

NOTES

Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 1/2" and the nominal cross-sectional area shall be 0.153 sq. in. The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
 Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
 Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
 A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
 Corrosion inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
 Compressive strength of prestressed concrete, f_c, shall be 6000 psi.
 Compressive strength of prestressed concrete at release, f_{ci}, shall be 5000 psi.



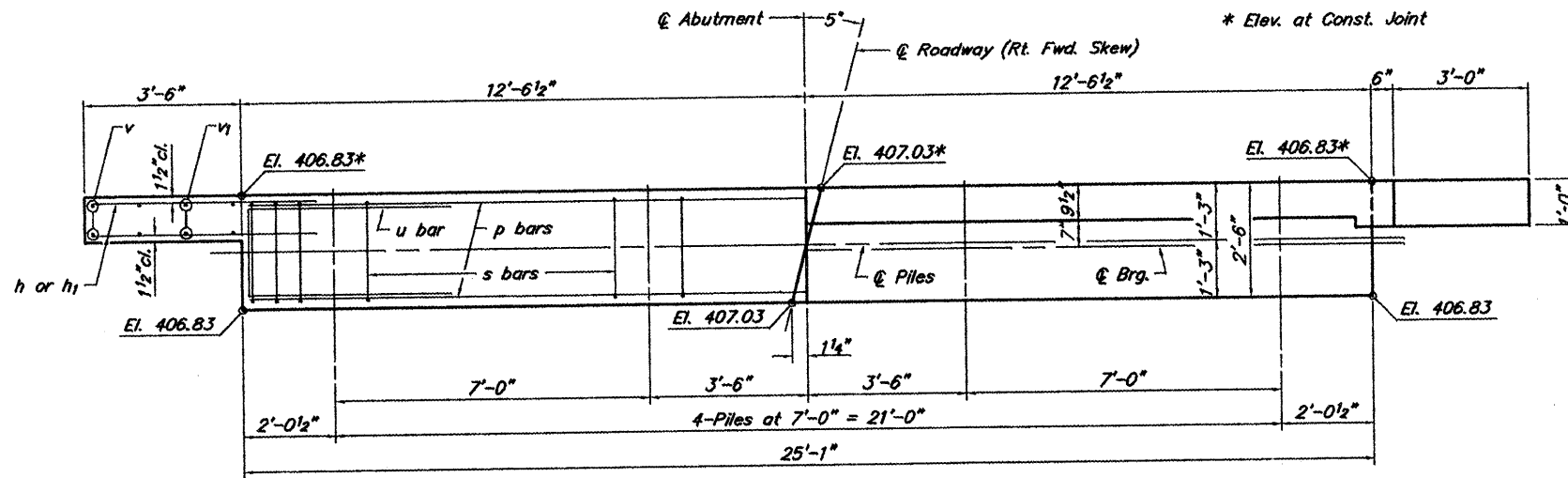
LIFTING LOOP DETAIL

BILL OF MATERIAL

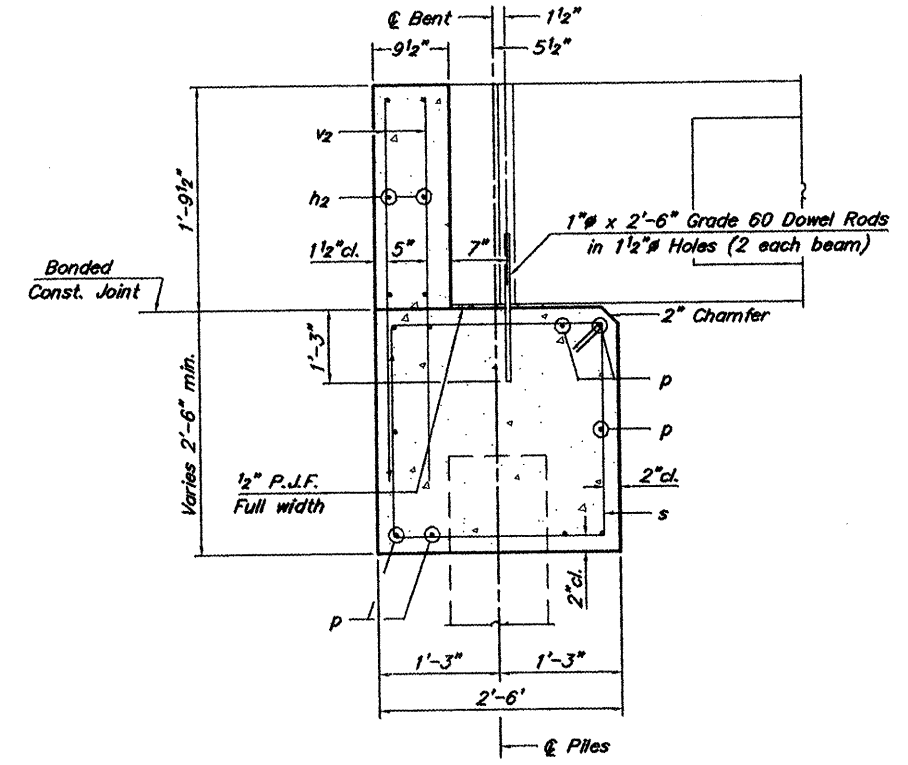
| | | |
|-------------------------------------------------|---------|-------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. | 1,210 |
|-------------------------------------------------|---------|-------|

21" X 48" PPC DECK BEAM DETAILS
 TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
 COOPER CREEK
 SECTION 09-01162-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3108

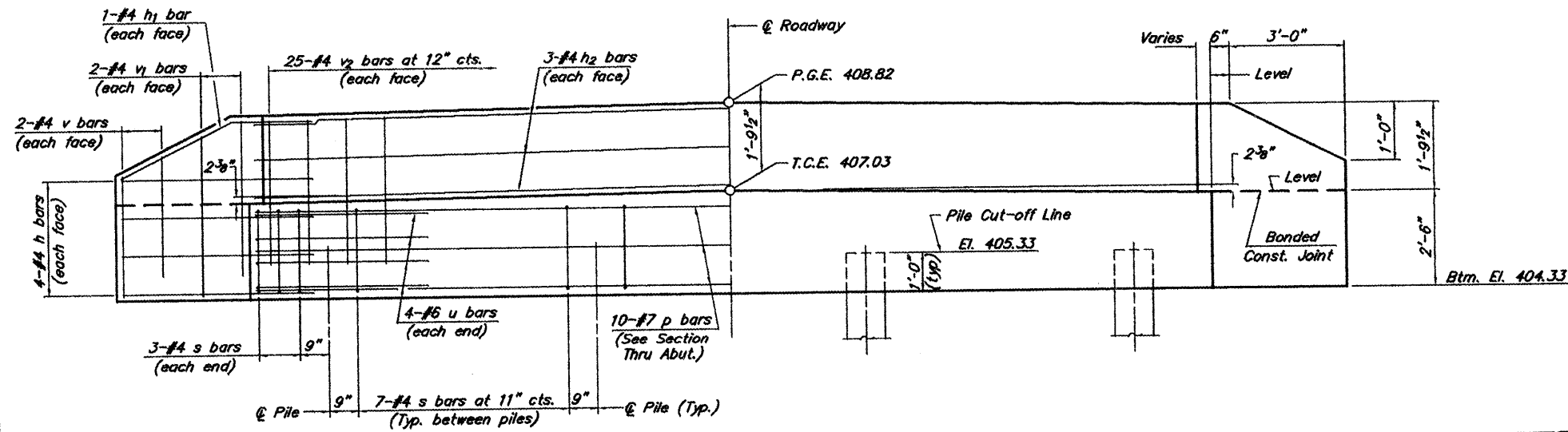
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|----------------------------|----------------|-----------|--------------------|----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO |
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 6 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |



PLAN



SECTION THRU ABUT.
(At Right Angles)



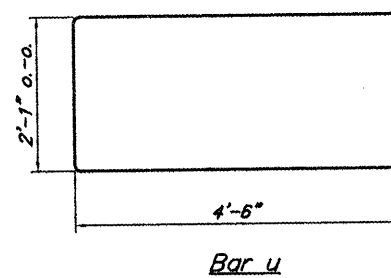
ELEVATION

NOTES

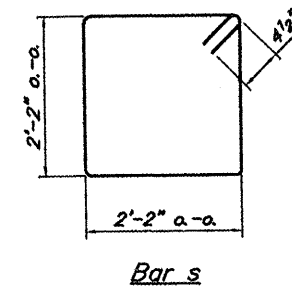
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to A.A.S.H.T.O. M-31, M-42 or M-53, Grade 60.

DESIGN STRESSES

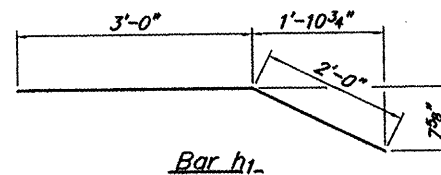
$f_c = 3,500 \text{ psi}$
 $f_y = 60,000 \text{ psi}$



Bar u



Bar s



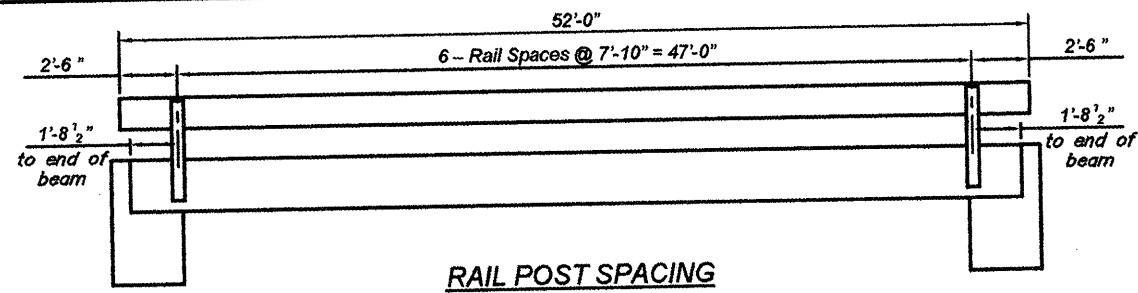
Bar h1

BILL OF MATERIAL
FOR ONE ABUTMENT

| Bar | No. | Size | Length | Shape |
|---------------------|-----|------|--------|----------|
| h | 16 | #4 | 5'-0" | — |
| h1 | 4 | #4 | 5'-0" | — |
| h2 | 6 | #4 | 24'-9" | — |
| p | 10 | #7 | 24'-9" | — |
| s | 27 | #4 | 9'-5" | □ |
| u | 8 | #6 | 11'-1" | □ |
| v | 8 | #4 | 3'-2" | — |
| v1 | 8 | #4 | 3'-10" | — |
| v2 | 50 | #4 | 3'-5" | — |
| Concrete Structures | | | 8.4 | Cu. Yds. |
| Reinforcement Bars | | | 1,126 | Lbs. |

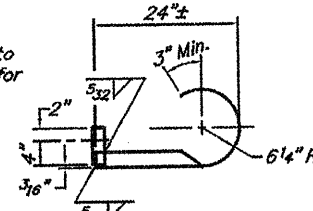
ABUTMENT
TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
COOPER CREEK
SECTION 09-01162-00-BR
ALEXANDER COUNTY
STRUCTURE NO. 002-3108

| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|----------------------------|----------------|-----------|--------------------|-----------|
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 7 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |

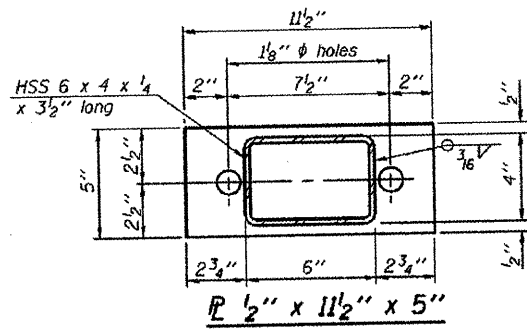


RAIL POST SPACING

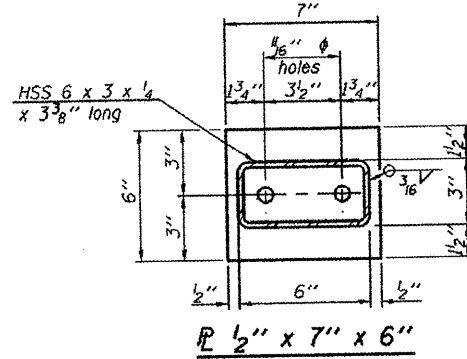
NOTE: Curled End Section to be included in the cost for Steel Railing, Type S1 Four (4) required.



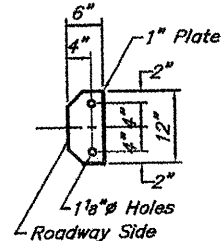
CURLLED END SECTION DETAILS



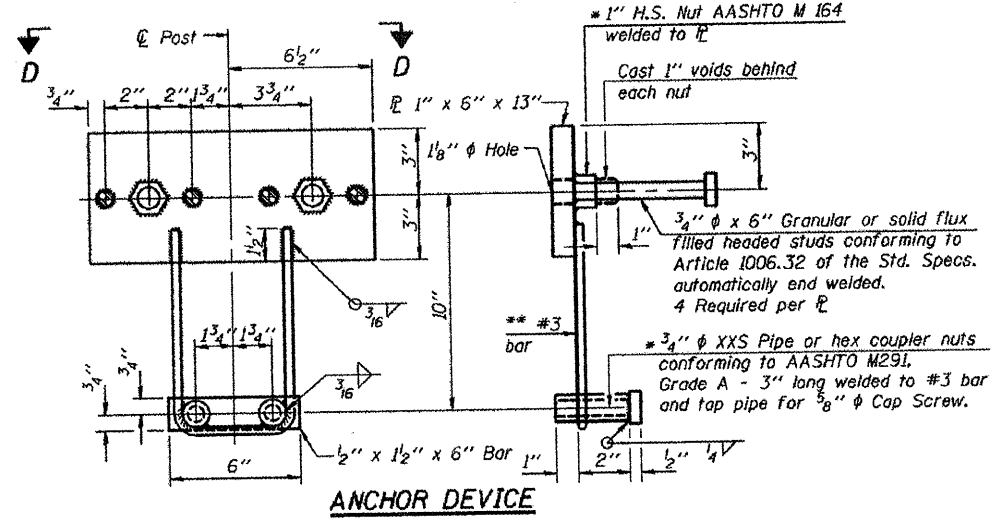
RAIL POST SPACING



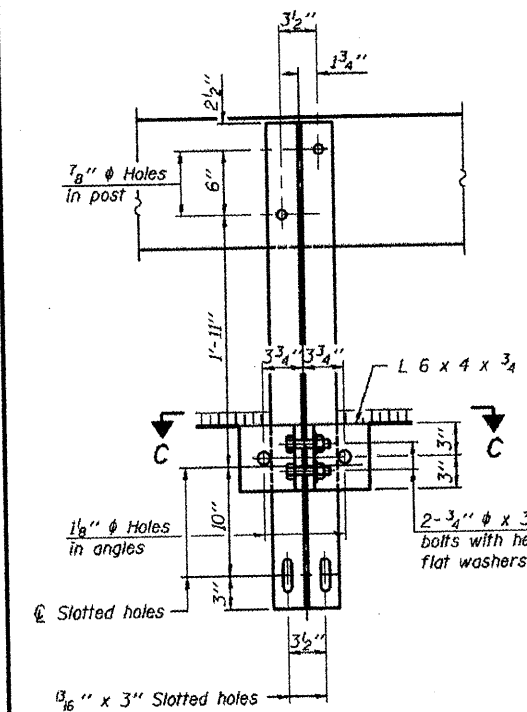
RAIL POST SPACING



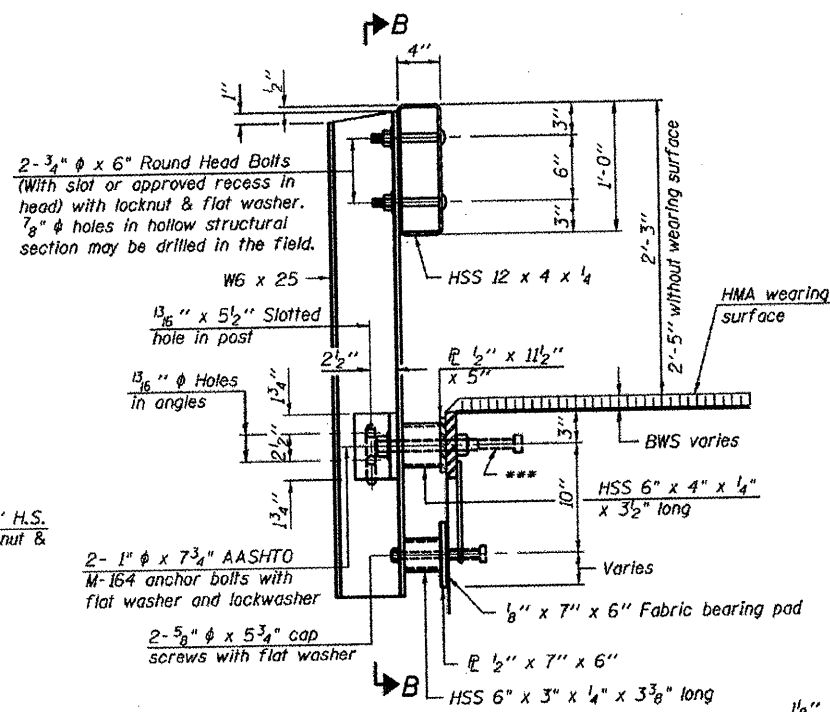
CURLLED END SECTION DETAILS



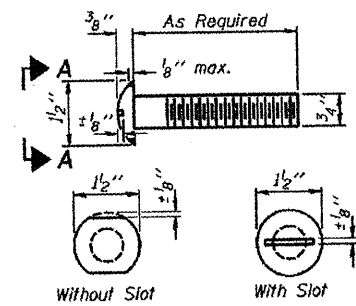
ANCHOR DEVICE



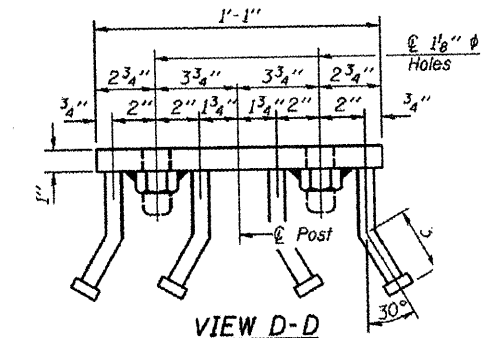
SECTION B-B



SECTION AT RAILING POST



VIEW A-A ROUND HEAD BOLT

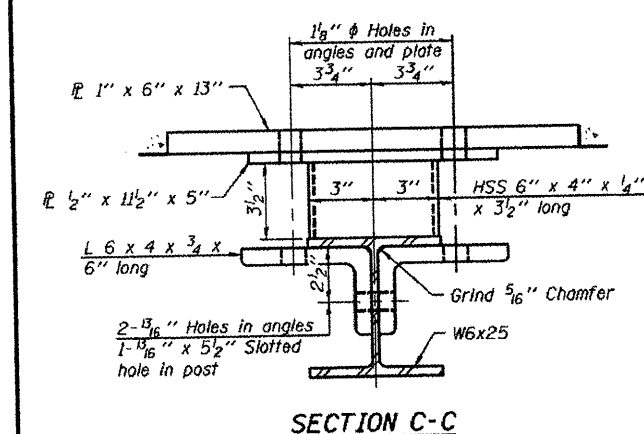


VIEW D-D

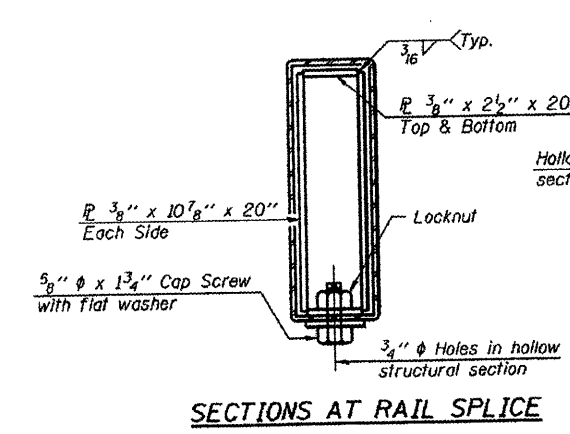
Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 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".
 *** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.
 10'-9" Maximum Post Spacing

BILL OF MATERIAL

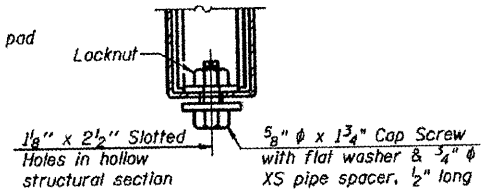
| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 104 |



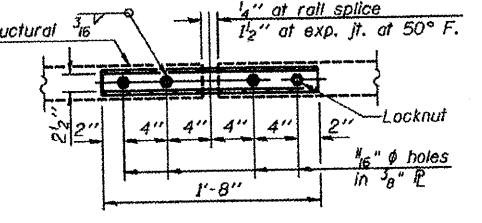
SECTION C-C



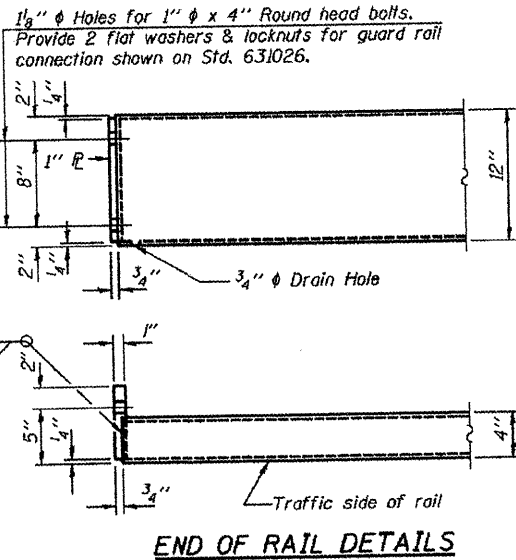
SECTIONS AT RAIL SPLICE



RAIL SPLICE CONNECTION AT EXPANSION JT.



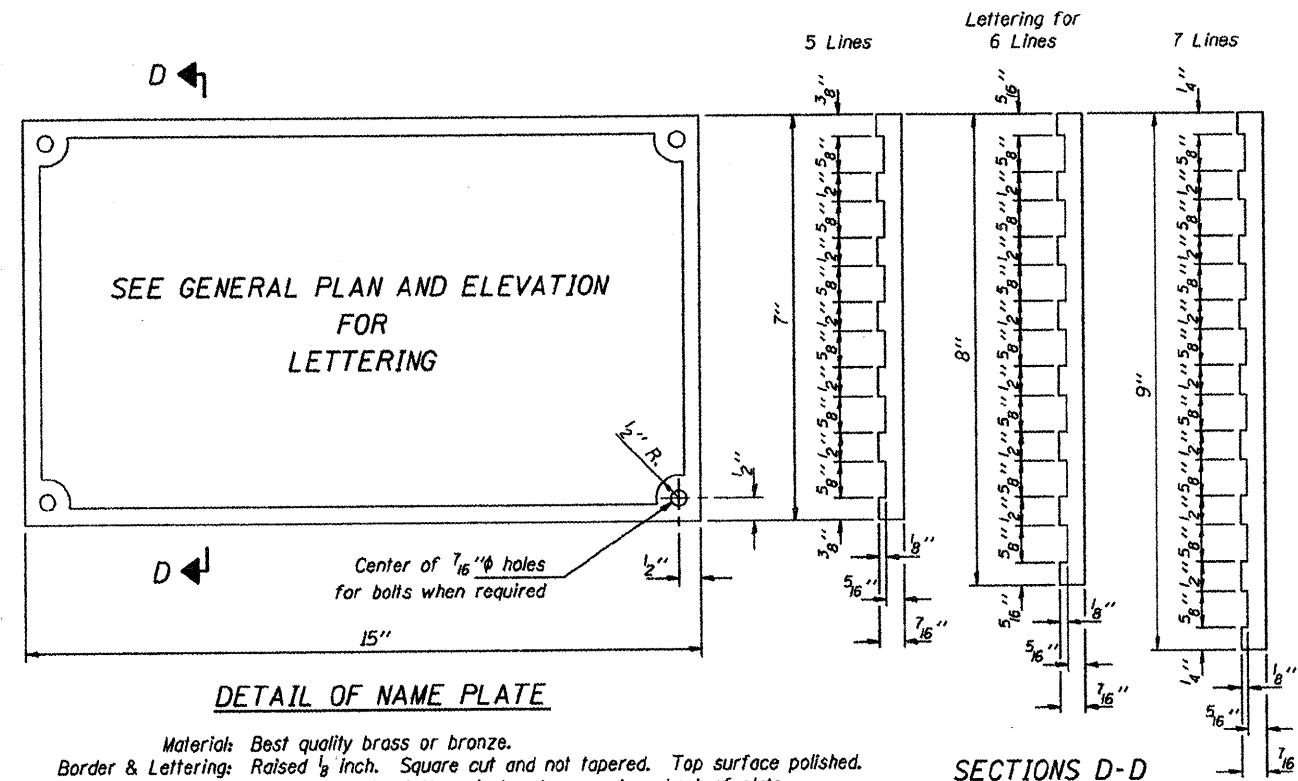
PLAN-BOTT. SPLICE TYPICAL



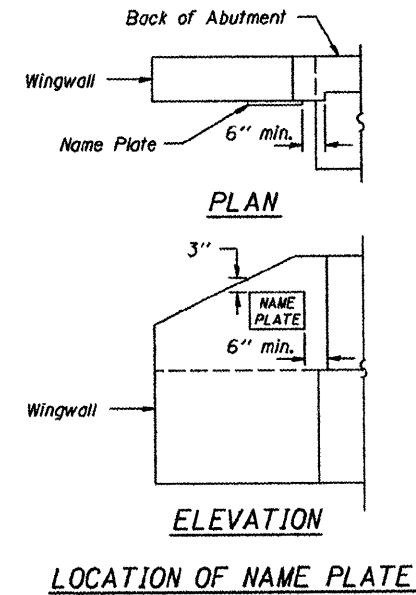
END OF RAIL DETAILS

STEEL RAILING, TYPE S-1
 TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
 COOPER CREEK
 SECTION 09-01162-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3108

| | | | | |
|----------------------------|----------------|-----------|--------------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 8 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |

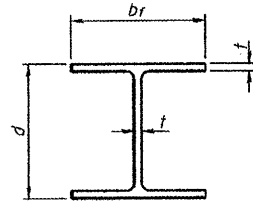


Material: Best quality brass or bronze.
 Border & Lettering: Raised $\frac{1}{8}$ inch. Square cut and not tapered. Top surface polished.
 Fastenings: Four lugs at least three inches long, cast on back of plate.



NAME PLATES
 TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
 COOPER CREEK
 SECTION 09-01162-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3108

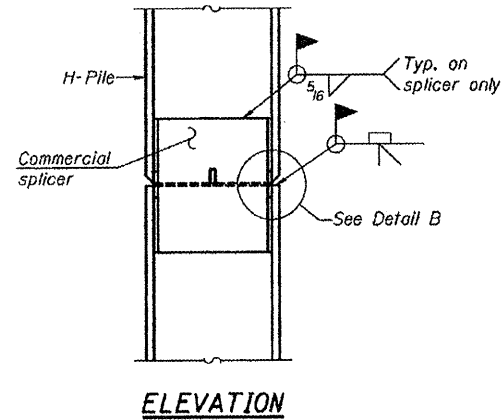
| | | | | |
|----------------------------|----------------|-----------|--------------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| TR 112 | 09-01162-00-BR | ALEXANDER | 10 | 9 |
| PROJECT NO. BROS-0003(099) | | | CONTRACT NO. 99424 | |



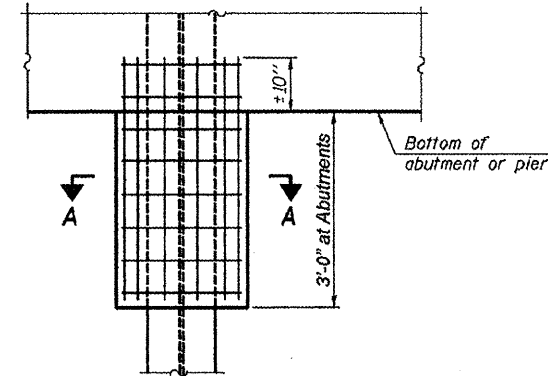
STEEL PILE TABLE

| Designation | Depth d | Flange width br | Web and Flange thickness t | Encasement diameter A | Encasement Quantity/Ft. C.Y. |
|-------------|---------|-----------------|----------------------------|-----------------------|------------------------------|
| HP 14x117 | 14 1/4" | 14 7/8" | 13/16" | 30" | 0.173 |
| x102 | 14" | 14 3/4" | 1/16" | 30" | 0.174 |
| x89 | 13 7/8" | 14 3/4" | 5/8" | 30" | 0.175 |
| x73 | 13 5/8" | 14 5/8" | 1/2" | 30" | 0.176 |
| HP 12x84 | 12 1/4" | 12 1/4" | 1/16" | 24" | 0.110 |
| x74 | 12 1/8" | 12 1/4" | 5/8" | 24" | 0.111 |
| x63 | 12" | 12 1/8" | 1/2" | 24" | 0.112 |
| x53 | 11 3/4" | 12" | 7/16" | 24" | 0.112 |
| HP 10x57 | 10" | 10 1/4" | 9/16" | 24" | 0.112 |
| x42 | 9 3/4" | 10 1/8" | 7/16" | 24" | 0.113 |
| HP 8x36 | 8" | 8 1/8" | 7/16" | 18" | 0.063 |

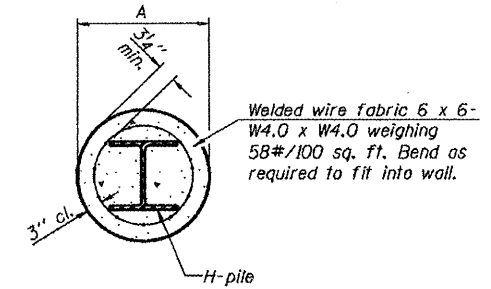
Note: The steel H-piles shall be according to AASHTO M270 Grade 50.



ELEVATION



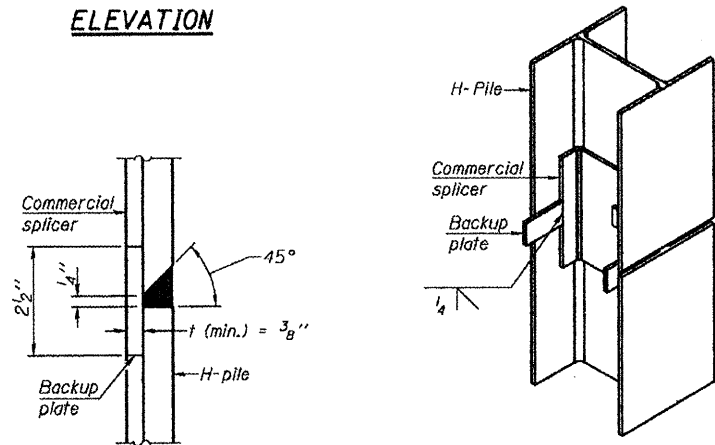
ELEVATION



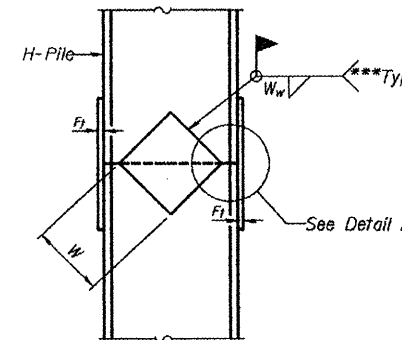
SECTION A-A

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

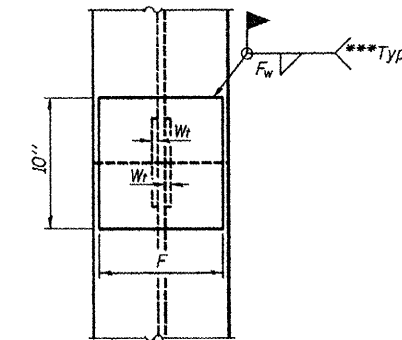
PILE ENCASEMENT



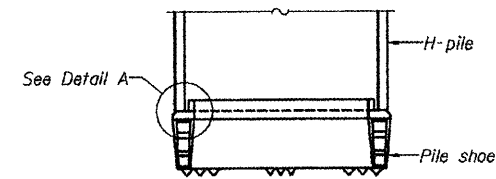
ISOMETRIC VIEW



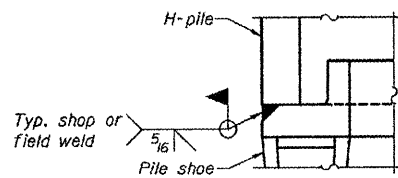
ELEVATION



END VIEW

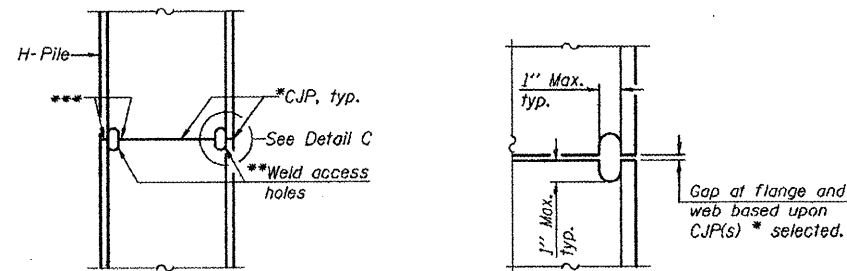


ELEVATION

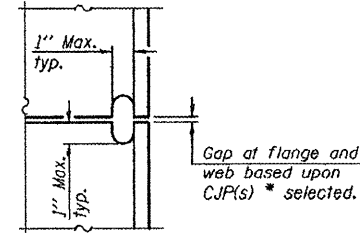


DETAIL A

H-PILE SHOE ATTACHMENT

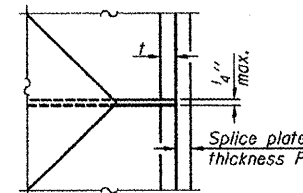


ELEVATION



DETAIL C

COMPLETE PENETRATION WELD SPLICE



DETAIL D

WELDED PLATE FIELD SPLICE

| Designation | F | F _t | F _w | W | W _t | W _w |
|-------------|---------|----------------|----------------|--------|----------------|----------------|
| HP 14x117 | 12 1/2" | 1" | 7/8" | 7 3/4" | 5 1/8" | 1/2" |
| x102 | 12 1/2" | 7/8" | 3/4" | 7 3/4" | 5 1/8" | 1/2" |
| x89 | 12 1/2" | 3/4" | 1/16" | 7 3/4" | 5 1/8" | 1/2" |
| x73 | 12 1/2" | 5/8" | 9/16" | 7 3/4" | 5 1/8" | 1/2" |
| HP 12x84 | 10" | 7/8" | 1/16" | 6 1/2" | 5 1/8" | 1/2" |
| x74 | 10" | 7/8" | 1/16" | 6 1/2" | 5 1/8" | 1/2" |
| x63 | 10" | 5/8" | 1/2" | 6 1/2" | 5 1/8" | 3/8" |
| x53 | 10" | 5/8" | 1/2" | 6 1/2" | 5 1/8" | 3/8" |
| HP 10x57 | 8" | 3/4" | 9/16" | 5 1/4" | 5 1/8" | 3/8" |
| x42 | 8" | 5/8" | 9/16" | 5 1/4" | 5 1/8" | 3/8" |
| HP 8x36 | 7" | 5/8" | 7/16" | 4 1/4" | 5 1/8" | 3/8" |

*Use joint conforming to Figure 3.4 in AWS D1.1, Structure Welding Code - Steel.

**Preparation per Fig. 5.2 in AWS D1.1, Structure Welding Code - Steel.

***Interrupt welds 1/4" from end of each pile.

PILING DETAILS
 TOWNSHIP ROUTE 112 (WHITNEY HOLLOW ROAD)
 COOPER CREEK
 SECTION 09-01162-00-BR
 ALEXANDER COUNTY
 STRUCTURE NO. 002-3108

