

| ROUTE              | SECTION        | COUNTY   | TOTAL SHEETS          | SHEET NO. |
|--------------------|----------------|----------|-----------------------|-----------|
| T.R. 214           | 05-01127-00-BR | JASPER   | 14                    | 1         |
| CONTRACT NO. 95451 |                | ILLINOIS | PROJECT BROS-079(131) |           |

STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION  
DIVISION OF HIGHWAYS

Joint Utility Locating Information for Excavators  
JULIE 1-800-892-0123

PLANS FOR PROPOSED  
BRIDGE REPLACEMENT & REHABILITATION PROGRAM

SECTION 05-01127-00-BR JASPER COUNTY

PROJECT BROS-079(131)

JOB NO. C-97-028-06

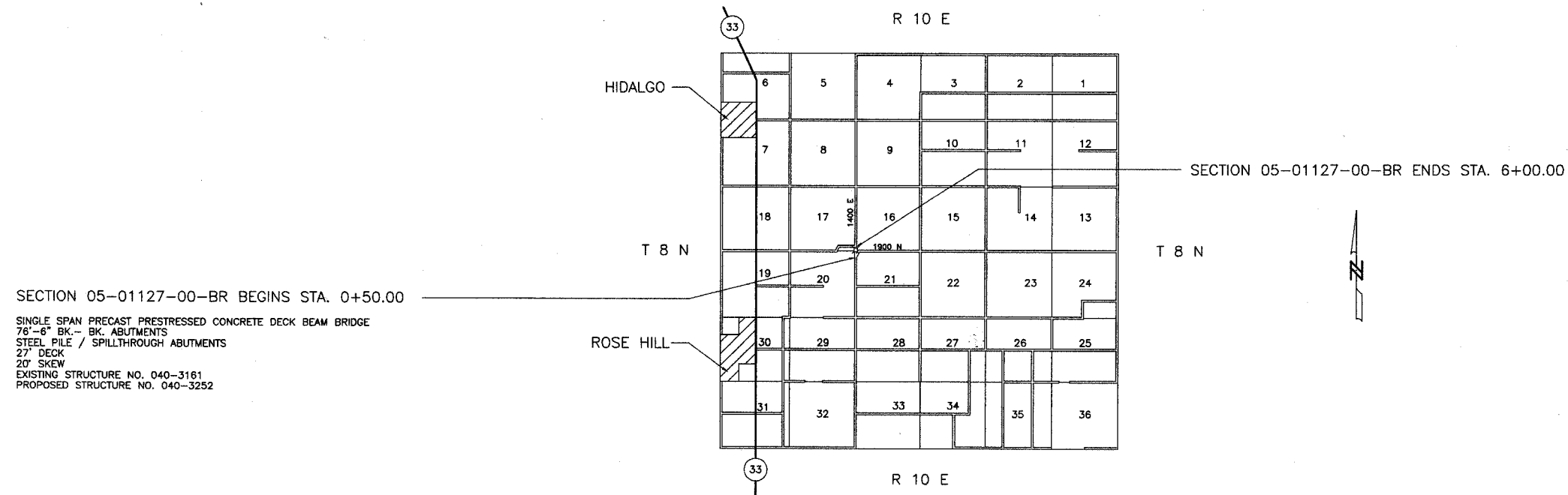
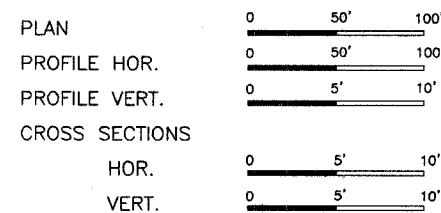
T.R. 214

INDEX OF SHEETS

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| STANDARD 280001-02 |  |
| STANDARD 702001-05 |  |
| STANDARD BLR 21-6  |  |
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SINGLE SPAN PRECAST PRESTRESSED CONCRETE DECK BEAM BRIDGE  
76'-6" BK.-BK. ABUTMENTS  
STEEL PILE / SPILLTHROUGH ABUTMENTS  
27' DECK  
20' SKEW  
EXISTING STRUCTURE NO. 040-3161  
PROPOSED STRUCTURE NO. 040-3252

FUNCTIONAL CLASSIFICATION - LOCAL ROAD  
ADT = 75  
DESIGN SPEED = 30 MPH

CONTRACT NO. 95451

NET LENGTH SECTION 05-01127-00-BR = 550.00 Ft. = 0.104 Mi.

*Roger A. Charleston*  
Ill. Reg. Prof. Eng. # 29195  
11/14/05  
Lic. Expires 11/30/06

CHARLESTON ENGINEERING, INC.  
105 N. KITCHELL  
P.O. BOX 397  
OLNEY, ILLINOIS 62450  
PH. 618-392-0736



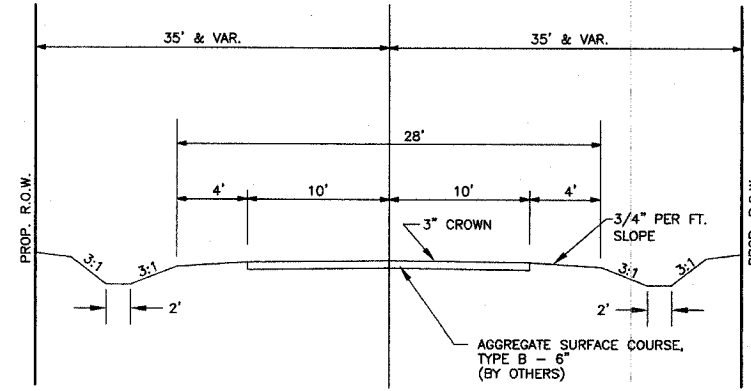
APPROVED 11-10 2005  
*Roger A. Charleston*  
COUNTY ENGINEER

PASSED 12/23 2005  
*Manuel Kasel*  
DISTRICT SEVEN ENGINEER OF  
LOCAL ROADS AND STREETS

Releasing For  
Bid Based on  
Limited Review  
12/23 2005  
*Christina M. Reed*  
DEPUTY DIRECTOR OF HIGHWAYS  
REGION FOUR ENGINEER

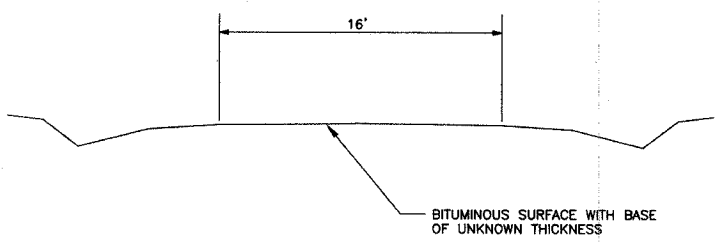
STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION

| ROUTE              | SECTION        | COUNTY   | TOTAL SHEETS          | SHEET NO. |
|--------------------|----------------|----------|-----------------------|-----------|
| T.R. 214           | 05-01127-00-BR | JASPER   | 14                    | 2         |
| CONTRACT NO. 95451 |                | ILLINOIS | PROJECT BROS-079(131) |           |



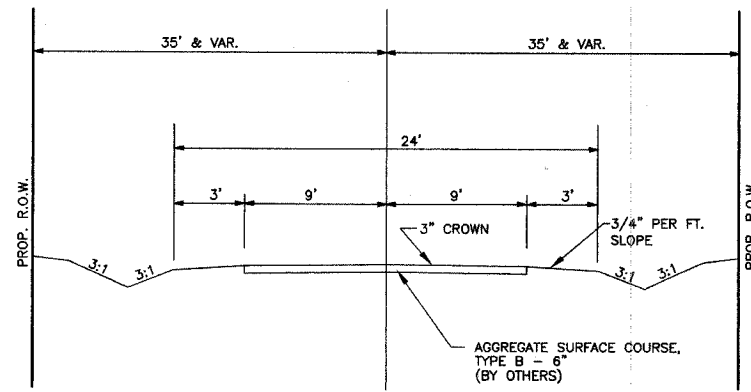
TYPICAL SECTION - MAIN ROAD

PROPOSED



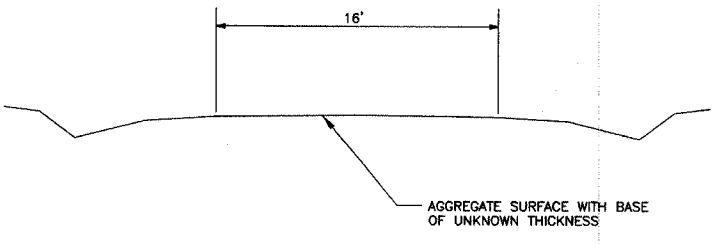
TYPICAL SECTION - MAIN ROAD

EXISTING



TYPICAL SECTION - SIDE ROAD A

PROPOSED



TYPICAL SECTION - SIDE ROAD A

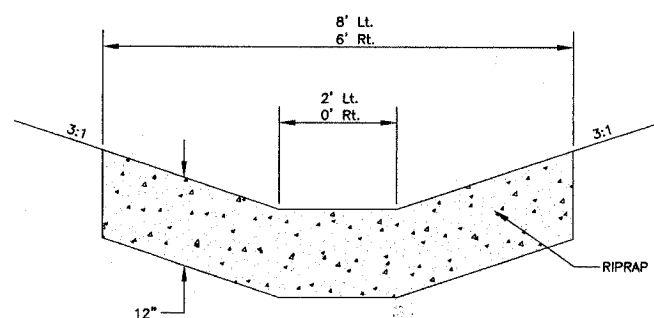
EXISTING

DESIGN DATA

LOCAL ROAD  
ADT = 75

GENERAL NOTES

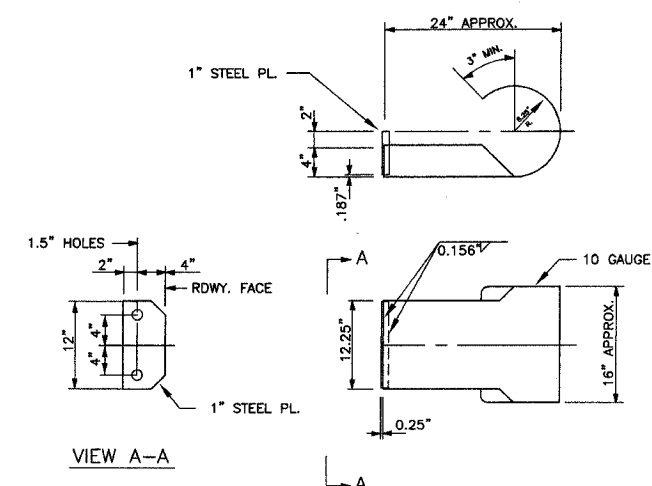
- SEEDING: THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF SECTION 250 OF THE STANDARD SPECIFICATIONS AND SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR SEEDING CLASS 2 (SPECIAL).
    - SPRING SEEDING SHALL EXTEND FROM JANUARY 1 TO JUNE 30
    - FALL SEEDING SHALL EXTEND FROM JULY 1 TO DECEMBER 31
  - FERTILIZER NUTRIENTS SHALL BE APPLIED AT THE RATE OF 100 LB/ACRE
  - MULCHING SHALL BE DONE IN ACCORDANCE WITH ARTICLE 251 OF THE STANDARD SPECIFICATIONS AND SHALL BE DONE BY METHOD 2, PROCEDURE 2 AT THE RATE OF 2 TONS PER ACRE.
2. NO PAYMENT FOR OVERHAUL WILL BE MADE ON THIS SECTION.



STONE RIPRAP DITCH DETAIL

LT. STA. 0+50 TO 2+50  
RT. STA. 0+50 TO 2+30

| SUMMARY OF QUANTITIES |   |        | X081-2A  |
|-----------------------|---|--------|----------|
| CODE NO.              | ITEM  | UNIT   | QUANTITY |
| 20200100              | EARTH EXCAVATION                                    | CU YD  | 190      |
| 20300100              | CHANNEL EXCAVATION                                  | CU YD  | 220      |
| 20400800              | FURNISHED EXCAVATION                                | CU YD  | 875      |
| 25001000              | SEEDING, CLASS 2 (SPECIAL)                          | ACRE   | 0.60     |
| 28000300              | TEMPORARY DITCH CHECKS                              | EACH   | 6        |
| 28000900              | FENCE (EROSION CONTROL)                             | FOOT   | 250      |
| 28100807              | STONE DUMPED RIPRAP, CLASS A4                       | TON    | 150      |
| 28102600              | STONE RIPRAP DITCH                                  | TON    | 150      |
| 35101400              | AGGREGATE BASE COURSE, TYPE B                       | TON    | 60       |
| 50100100              | REMOVAL OF EXISTING STRUCTURES                      | EACH   | 1        |
| 50300225              | CONCRETE STRUCTURES                                 | CU YD  | 22.6     |
| 50400605              | PRECAST PRESTRESSED CONCRETE DECK BEAMS (33" DEPTH) | SQ FT  | 2025     |
| 50800105              | REINFORCEMENT BARS                                  | POUND  | 2700     |
| 50900205              | STEEL RAILING, TYPE S1                              | FOOT   | 150      |
| 51201600              | FURNISHING STEEL PILES HP 12X53                     | FOOT   | 405      |
| 51202700              | DRIVING STEEL PILES                                 | FOOT   | 405      |
| 51203600              | TEST PILE STEEL HP 12X53                            | EACH   | 1        |
| 51204315              | CONCRETE ENCASEMENT                                 | CU YD  | 3.4      |
| 51500100              | NAME PLATES   | EACH   | 1        |
| 67100100              | MOBILIZATION  | L. SUM | 1        |

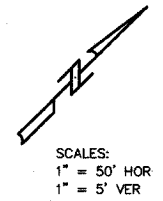


CURLED END SECTION DETAILS

4 REQUIRED - COST INCIDENTAL TO  
STEEL RAILING, TYPE S-1"

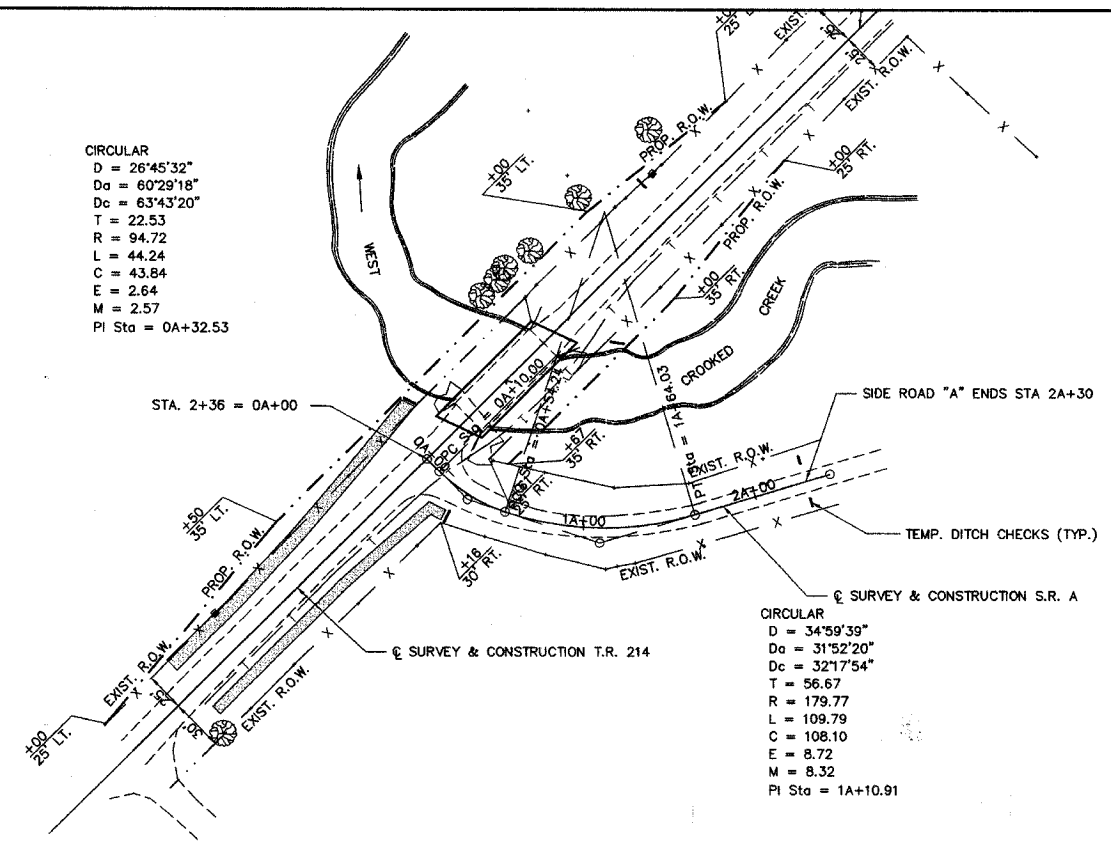


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| T.R. 214           | 05-01127-00-BR | JASPER   | 14                    | 4         |
| CONTRACT NO. 95451 |                | ILLINOIS | PROJECT BROS-079(131) |           |

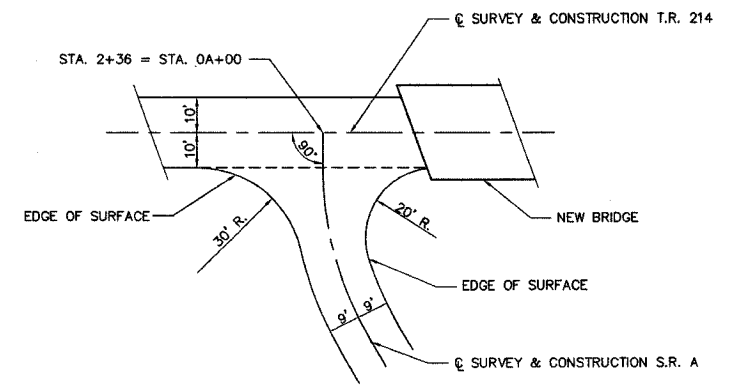


SCALES:  
1" = 50' HOR  
1" = 5' VER

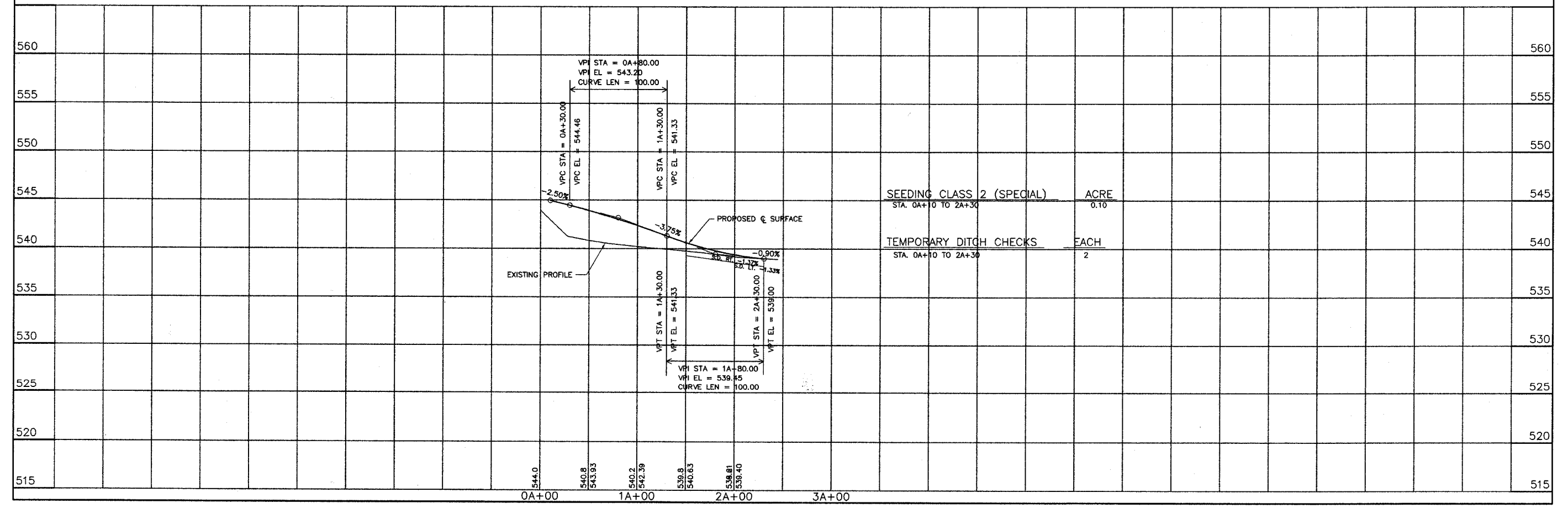
CIRCULAR  
D = 26°45'32"  
Da = 60°29'18"  
Dc = 63°43'20"  
T = 22.53  
R = 94.72  
L = 44.24  
C = 43.84  
E = 2.64  
M = 2.57  
PI Sta = 0A+32.53



CIRCULAR  
D = 34°59'39"  
Da = 31°52'20"  
Dc = 32°17'54"  
T = 56.67  
R = 179.77  
L = 109.79  
C = 108.10  
E = 8.72  
M = 8.32  
PI Sta = 1A+10.91



INTERSECTION DETAIL



| ROUTE              | SECTION        | COUNTY   | TOTAL SHEETS          | SHEET NO. |
|--------------------|----------------|----------|-----------------------|-----------|
| T.R. 214           | 05-01127-00-BR | JASPER   | 14                    | 5         |
| CONTRACT NO. 95451 |                | ILLINOIS | PROJECT BROS-079(131) |           |

Construction Permits - The requirements of the Division of Water Resources have been fulfilled with Statewide Permit No. 2.

**GENERAL NOTES**

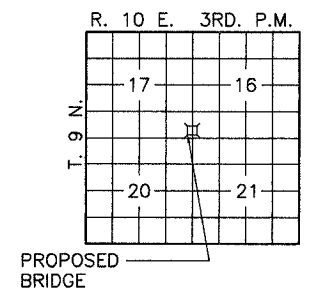
- See Special Provisions for boring logs.
- Channel Excavation: This material shall be excavated as shown within the limits of the proposed bridge then tapered to the existing channel at the Roadway R.O.W. It is estimated that 50% of the Channel Excavation will be suitable for use in the embankment. Unsuitable material shall be disposed of by the Contractor.
- The Contractor shall drive 1 test pile as specified in Bent #2 before ordering the remaining piles.

**TOTAL BILL OF MATERIAL**

| Item  | Unit    | Super | Sub.  |        | Total |
|---|---------|-------|-------|--------|-------|
|   |         |       | Piers | Abuts. |       |
| Removal of Existing Structures                      | Each    |       |       |        | 1     |
| Concrete Structures                                 | Cu.Yds. |       |       | 22.6   | 22.6  |
| Precast Prestressed Concrete Deck Beams (33" Depth) | Sq.Ft.  | 2025  |       |        | 2025  |
| Steel Railing, Type S-1                             | Foot    | 150   |       |        | 150   |
| Reinforcement Bars                                  | Pound   |       |       | 2700   | 2700  |
| Furnishing Steel Piles HP 12 X 53                   | Foot    |       |       | 405    | 405   |
| Driving Steel Piles                                 | Foot    |       |       | 405    | 405   |
| Test Pile Steel HP 12 X 53                          | Each    |       |       | 1      | 1     |
| Name Plates   | Each    |       |       | 1      | 1     |
| Concrete Encasement                                 | Cu.Yds. |       |       | 3.4    | 3.4   |
| Aggregate Base Course, Type B                       | Tons    |       |       | 60     | 60    |
| Stone Dumped Riprap, Class A-4                      | Tons    |       |       | 150    | 150   |
| Channel Excavation                                  | Cu.Yds. |       |       | 220    | 220   |
| Fence (Erosion Control)                             | Foot    |       |       | 250    | 250   |

**INDEX OF SHEETS**

- GENERAL PLAN & ELEVATION
- STANDARD CS-2733-75R
- STANDARD CB-2733-36
- STANDARD CA-2733-20
- STANDARD CR-TS1
- STANDARD CN
- STANDARD CX-1



**LOCATION SKETCH**

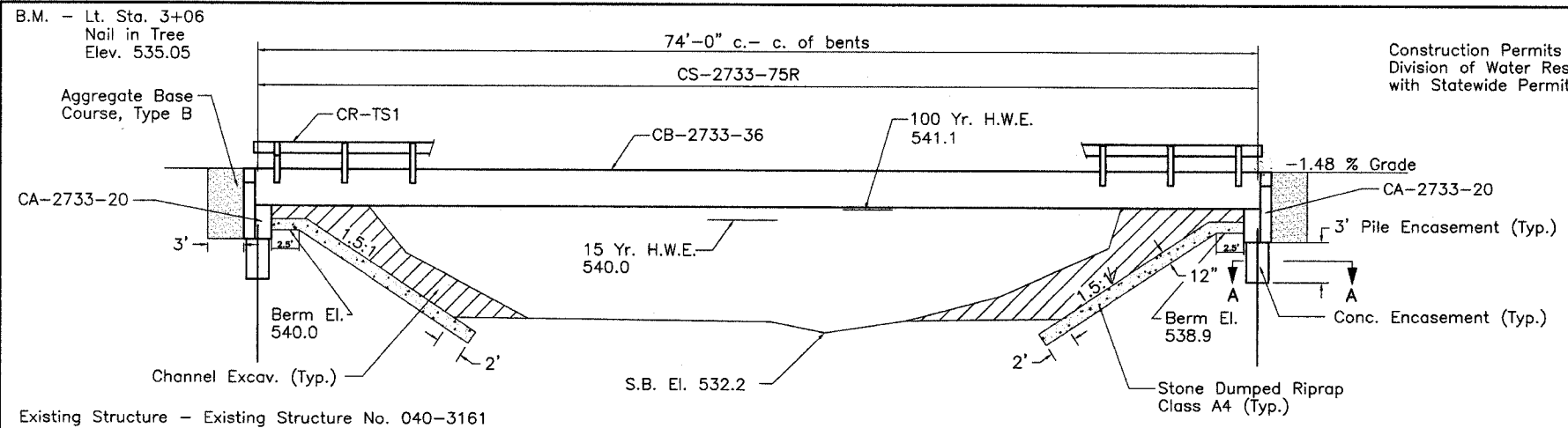
STATION 3+00.00  
WEST CROOKED CREEK  
SEC. 05-01127-00-BR BUILT 200  
JASPER COUNTY  
PROJECT BROS-079(131)  
LOADING HS20  
STR. NO. 040-3252

**LETTERING FOR NAME PLATE**

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

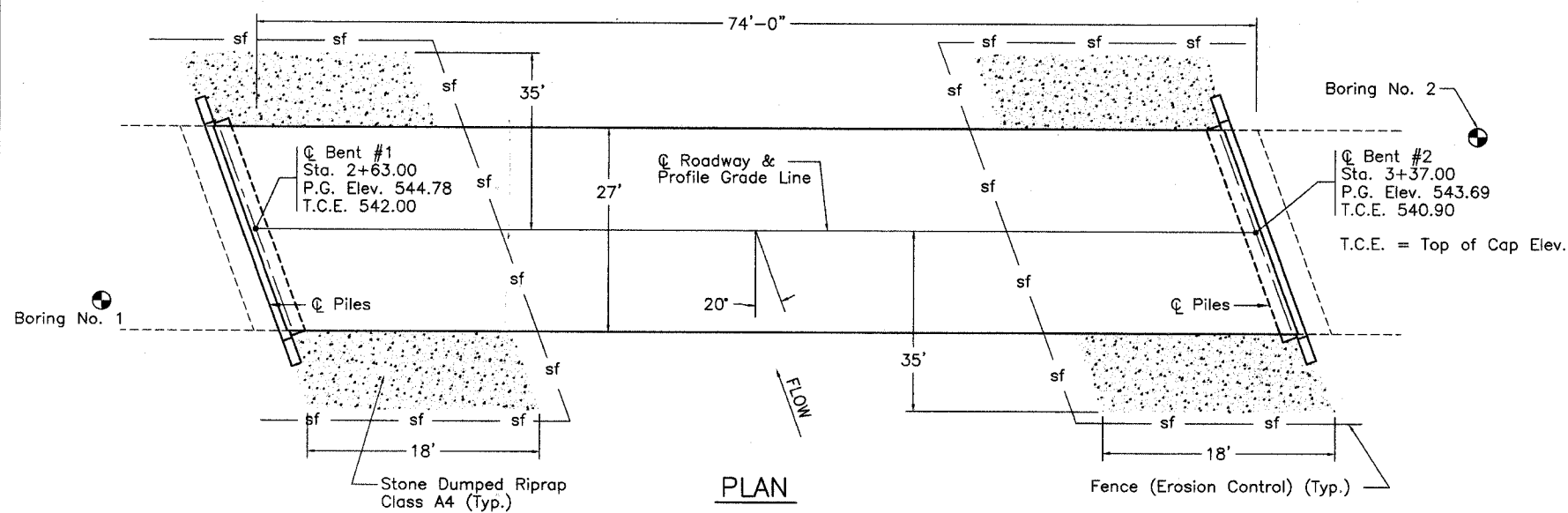
*Handwritten signature and date: 10-22-05*

GENERAL PLAN & ELEVATION  
T.R. ROUTE 214  
OVER WEST CROOKED CREEK  
SECTION 05-01127-00-BR  
JASPER COUNTY  
STATION 3+00.00



**ELEVATION**

Existing Structure - Existing Structure No. 040-3161  
Two Span Concrete Beam Bridge  
60' Bk. - Bk. Abuts.  
Spillthrough Concrete Abutments  
Timber Pier W/ Conc. cap  
22' Concrete Deck

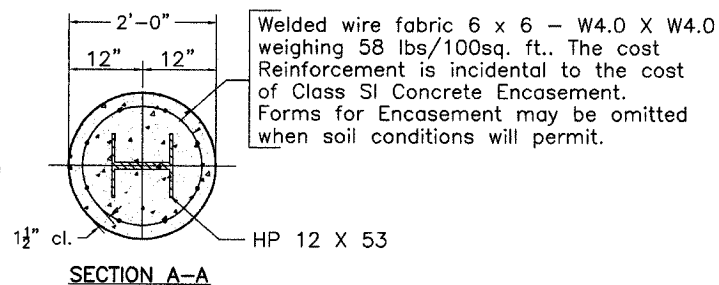


**PLAN**

Salvage - Any material deemed salvageable by the Engineer shall be stockpiled on the R.O.W. and shall become the property of the Crooked Creek Road District Commissioner. The Contractor shall dispose of all remaining material.

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

|                  |                                    |
|------------------|------------------------------------|
| Type             | HP 12 X 53                         |
| Capacity         | Refusal                            |
| Estimated Length | 45'                                |
| Number Required  | 10 Includes 1 Test Pile In Bent #2 |



**DESIGN SPECIFICATIONS**

2002 AASHTO Standard Specifications - 17th ed.

**LOADING HS20-44**

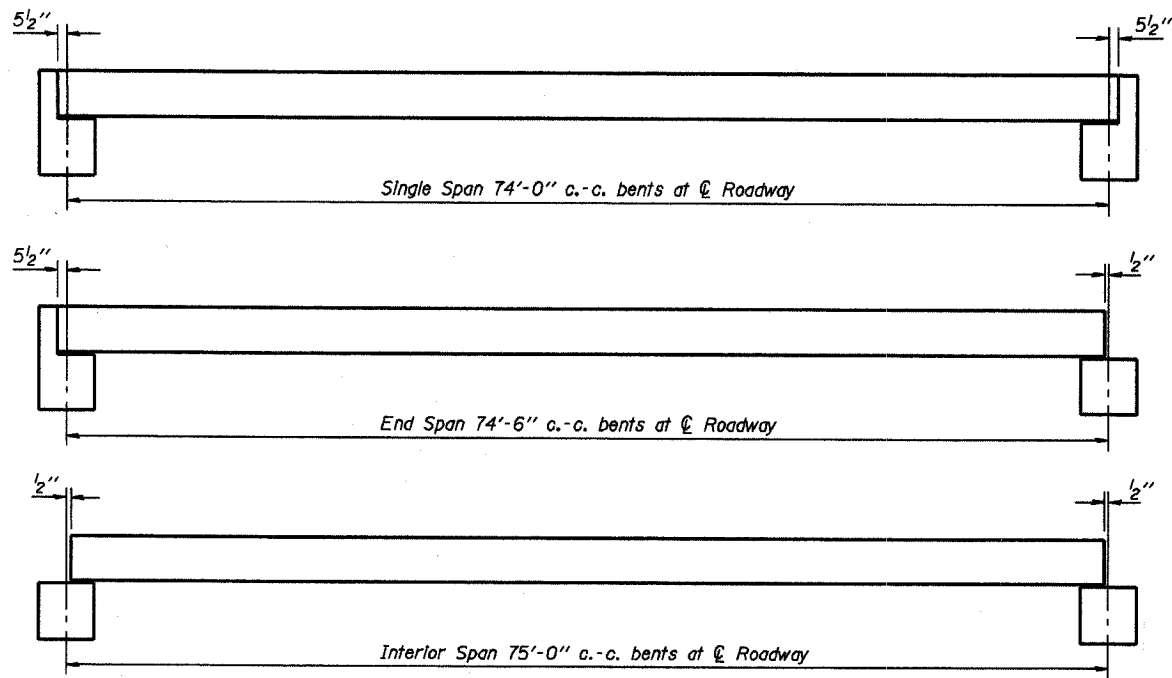
Allow 25#/sq. ft. for future wearing surface

**SEISMIC DATA**

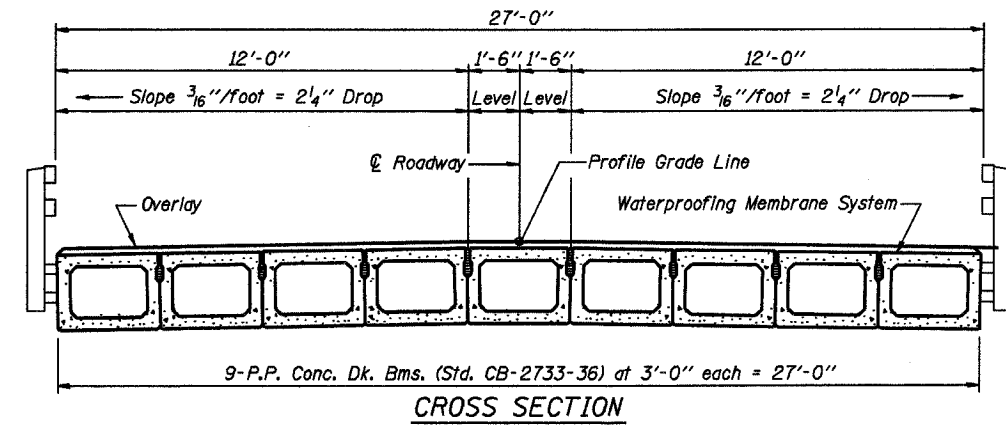
Seismic Performance Category (SPC) = A  
Bedrock Acceleration Coefficient (A) = 7.5% g  
Site Coefficient (S) =

**WATERWAY INFORMATION**

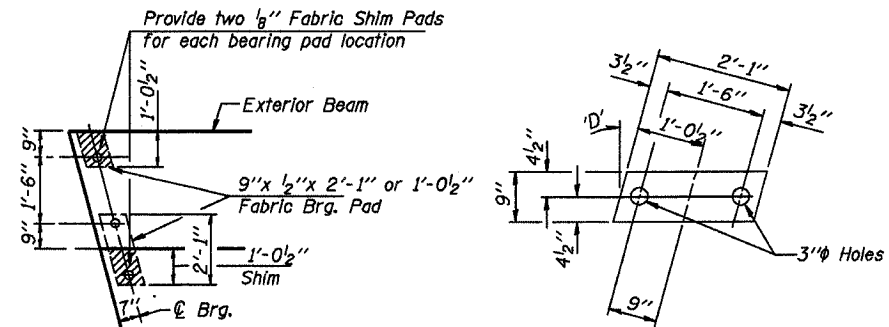
| Drainage Area = 11.1 Sq. Mi. |           | Low Grade Elev. = 540.8 @ Sta. 5+50 |                         |             |           |                         |
|------------------------------|-----------|-------------------------------------|-------------------------|-------------|-----------|-------------------------|
| Flood                        | Freq. Yr. | Q ft <sup>3</sup> /s                | Opening ft <sup>2</sup> | Nat. H.W.E. | Head - ft | Headwater               |
| Design                       | 15        | 1435                                | 308                     | 389         | 540.0     | 0.02 0.01 540.02 540.01 |
| Base                         | 100       | 2260                                | 368                     | 476         | 541.1     | 0.06 0.00 541.16 541.10 |
| Overtopping                  |           |                                     |                         |             |           |                         |
| Max. Calc.                   | 500       |                                     |                         |             |           |                         |



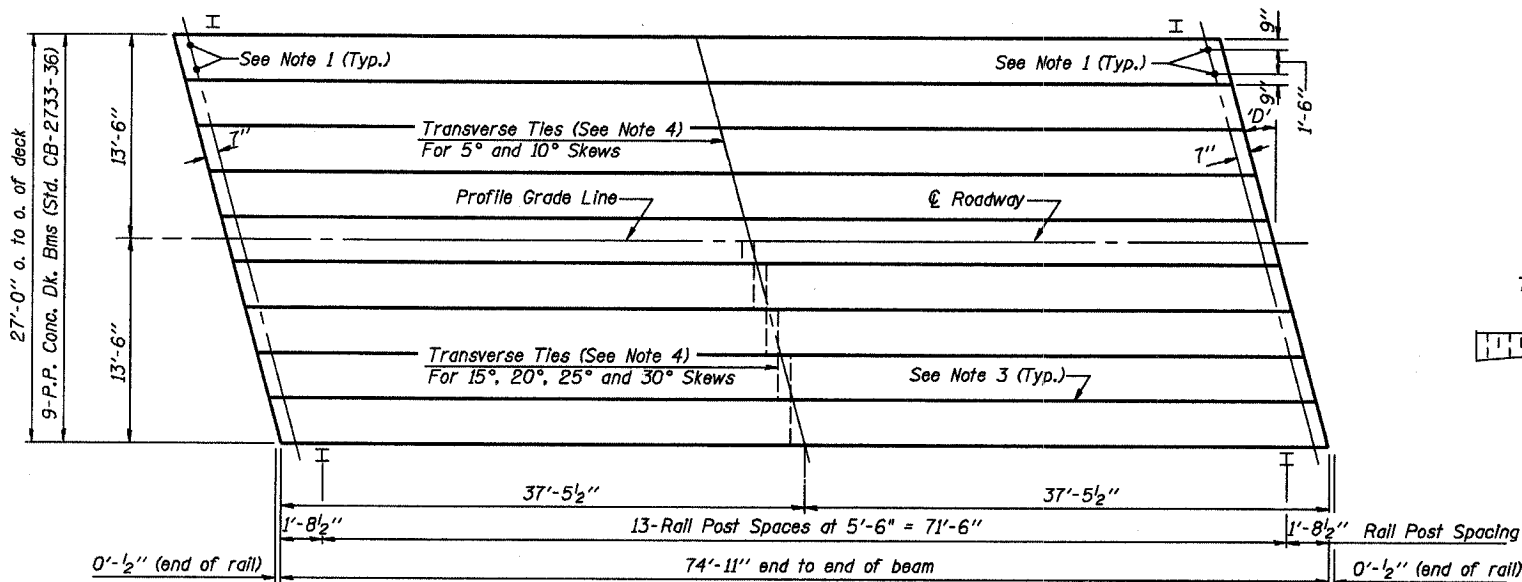
TYPICAL ELEVATIONS



CROSS SECTION

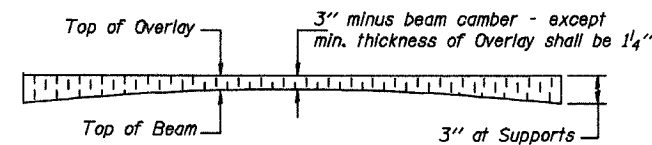


1/2" FABRIC BRG. PAD DETAILS



PLAN

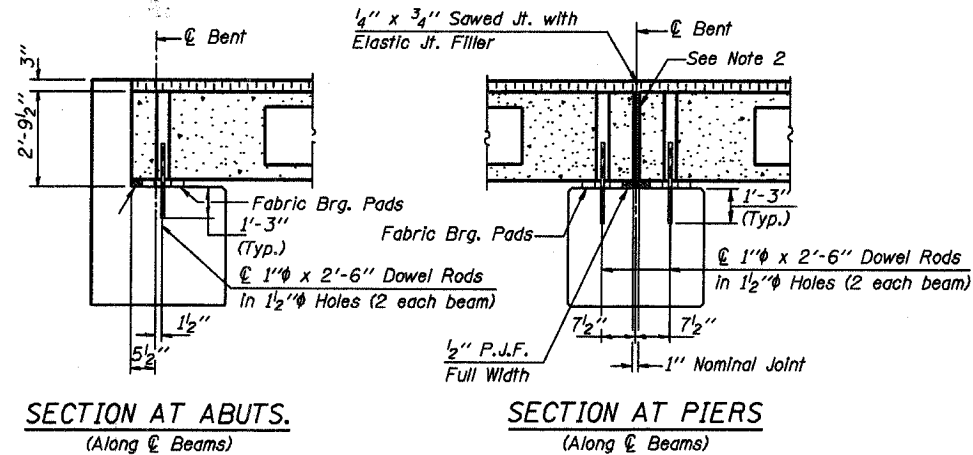
('D' = Designated Skew Angle)



PROFILE OF OVERLAY

DIMENSIONS 'A' AND 'B'

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



SECTION AT ABUTS.  
(Along <math>\text{C.R.}</math> Beams)

SECTION AT PIERS  
(Along <math>\text{C.R.}</math> 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 <math>\text{C.R.}</math> Pler shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.
4. The 1"  $\phi$  rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar outside shall be filled with grout after transverse tie assembly is in place.

QUANTITIES FOR ONE SPAN

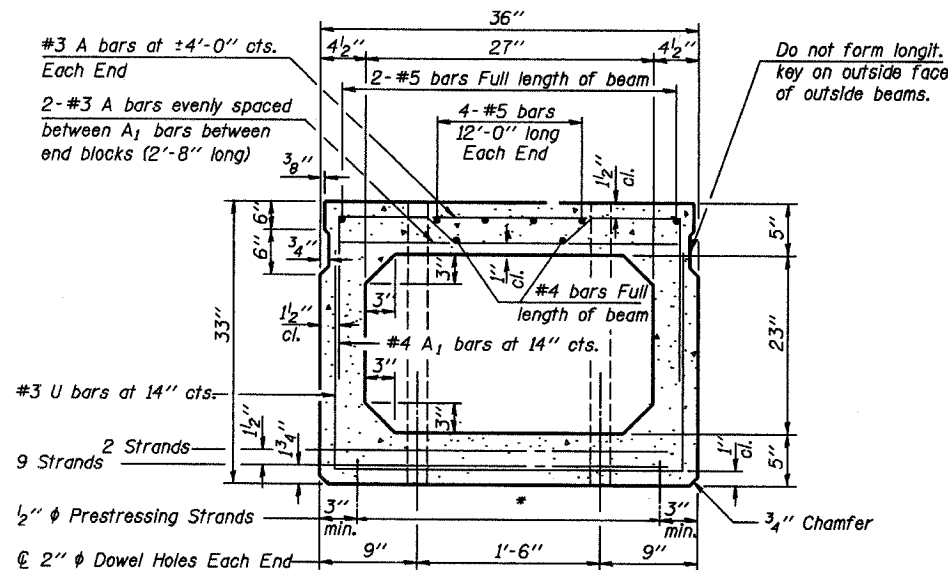
|                               |               |
|-------------------------------|---------------|
| P.P. Conc. Dk. Bm. 33" Dp.    | 2025 Sq. Ft.  |
| Steel Railing                 | 150 Ft.       |
| Waterproofing Membrane System | 2250 Sq. Yds. |
| Portland Cement Mortar        | 600 Ft.       |
| Fairing Course                |               |

Note: Quantity of overlay for one span = 26.4 Tons

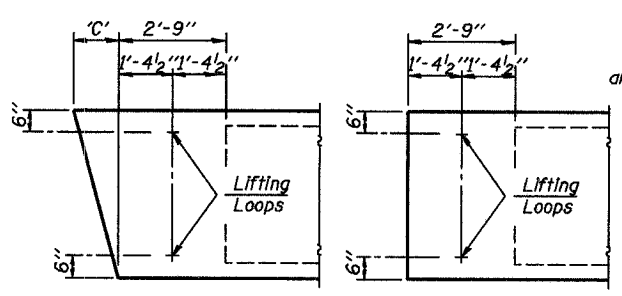
P.P.C. DECK BEAM  
SUPERSTRUCTURE

|                      |          |          |       |
|----------------------|----------|----------|-------|
| 27' RDWY.            | 33" BMS. | 75' SPAN | RIGHT |
| STANDARD CS-2733-75R |          |          |       |

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

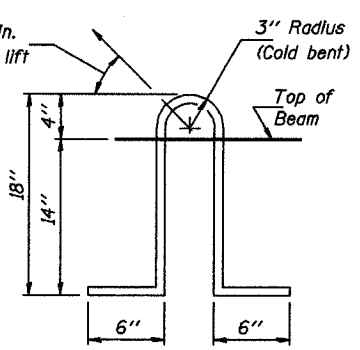


**CROSS SECTION**  
(60' SPAN)



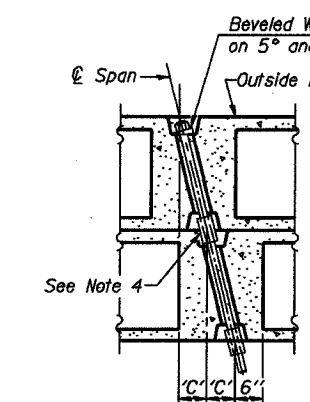
**END BLOCK DETAILS**

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

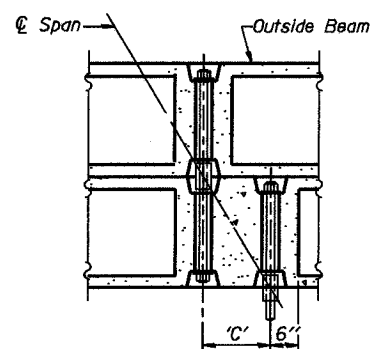


**LIFTING LOOP DETAIL**

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



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



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

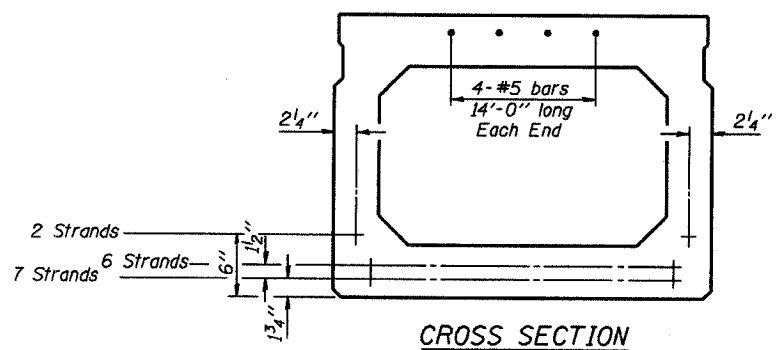
**DIMENSION 'C'**

| Skew Angle 'D'         | 0° | 5°    | 10°   | 15°   | 20°    | 25°    | 30°    |
|------------------------|----|-------|-------|-------|--------|--------|--------|
| Dimension 'C' (Inches) | 0  | 3 3/8 | 6 3/8 | 9 5/8 | 13 1/8 | 16 3/4 | 20 3/4 |

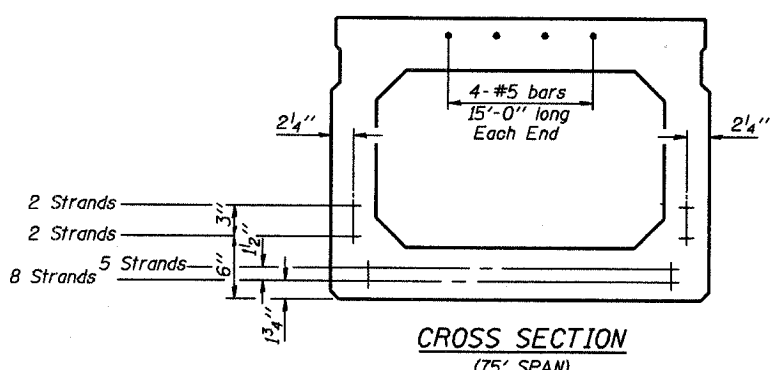
**\* TRANSVERSE STRAND PLACEMENT GUIDELINES**

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 1/2".

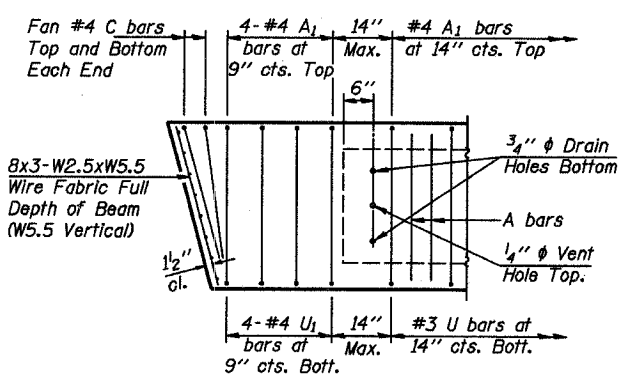
Vertical placement of strands shall not be adjusted to satisfy the above guidelines.



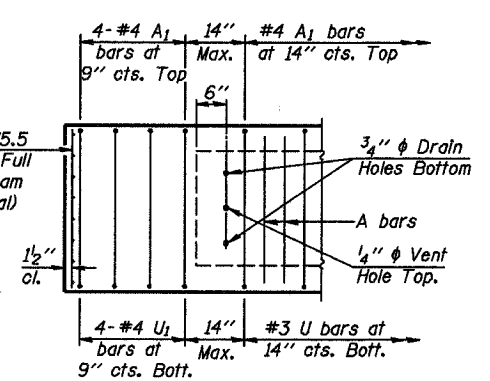
**CROSS SECTION**  
(70' SPAN)



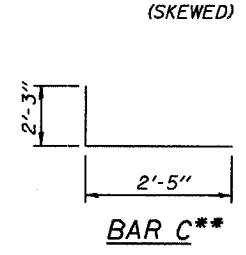
**CROSS SECTION**  
(75' SPAN)



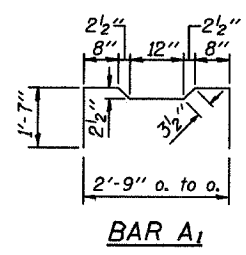
**END REINFORCEMENT**  
(SKEWED)



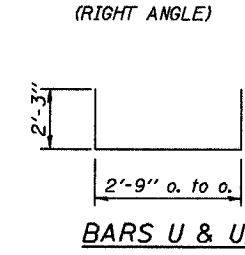
**END REINFORCEMENT**  
(RIGHT ANGLE)



**BAR C\*\***



**BAR A1**



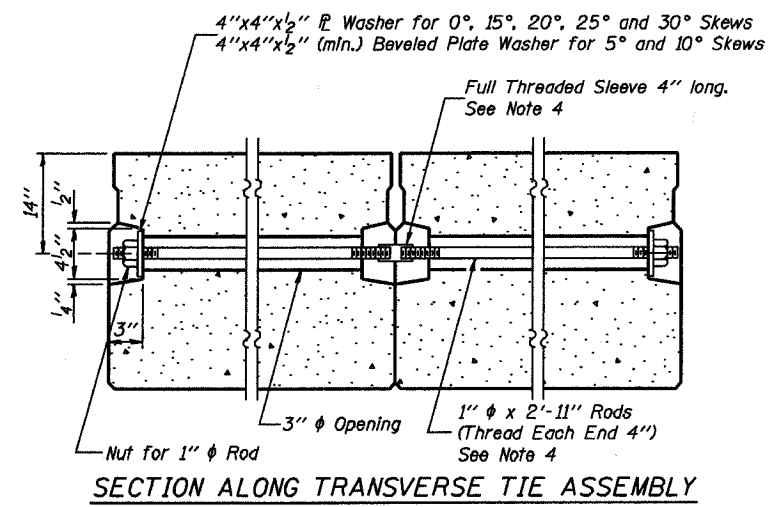
**BARS U & U1**

**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" φ Strand)
- f'si = 201,960 p.s.i. (1/2" φ Strand)
- fy = 60,000 p.s.i.

**MIN. BAR LAP**

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



**SECTION ALONG TRANSVERSE TIE ASSEMBLY**

**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. On 0°, 5° and 10° skew angles, alternate approved transverse tie rods of increased segmental length are acceptable.
5. Roll Post anchor devices shall be cast into outside beam as elsewhere specified.
6. 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".
7. Keyway surfaces shall be cleaned to remove form oil or other bond breaking material prior to shipment of the beams. Cleaning shall be done by sandblasting the keyway areas between the top of the beam and the bottom edge of the key.

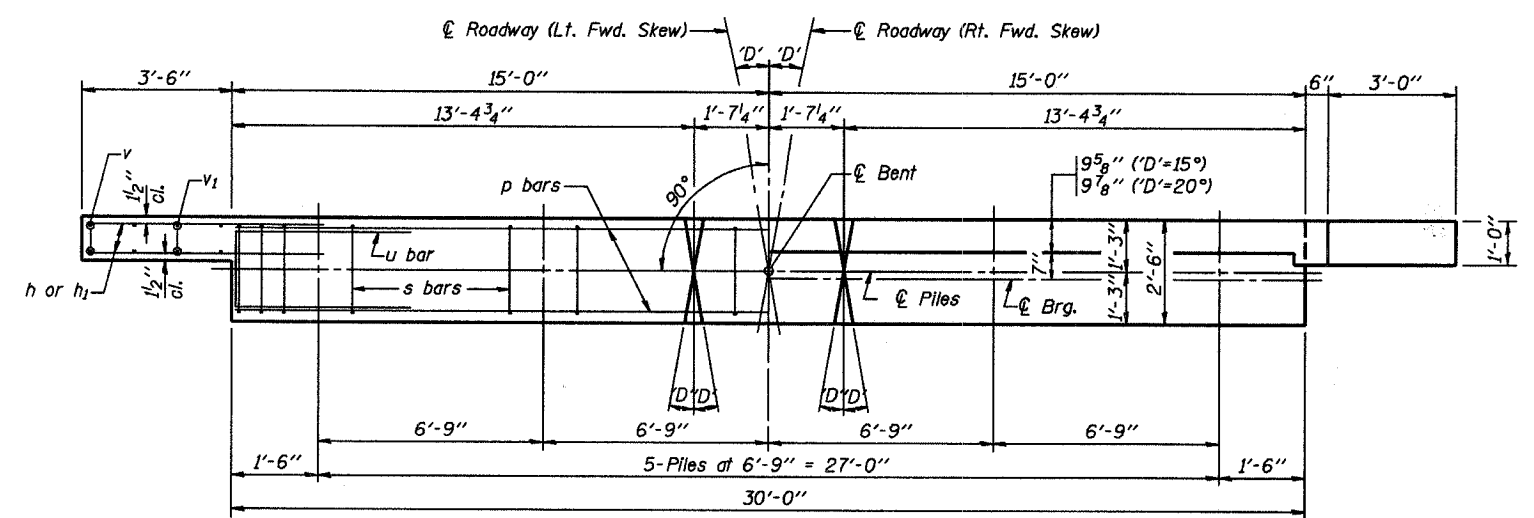
Illinois Department of Transportation  
 PASSED APRIL 4, 2005  
 Theresia N. ...  
 Engineer of Bridge Design  
 APPROVED APRIL 4, 2005  
 Ralph E. ...  
 Engineer of Bridges and Structures

**NOTE:**  
 The std. reinf. and dimensions shown on the 60' span cross section is typical for all spans, except as shown.

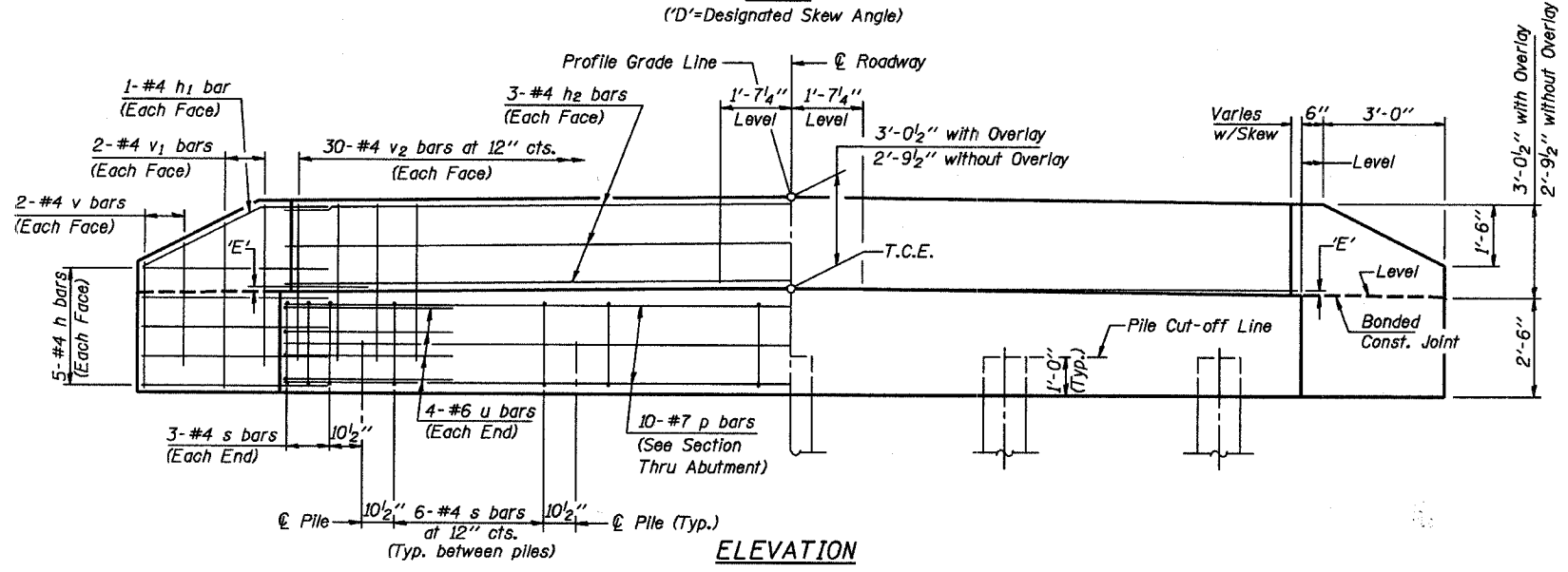
**\*\*NOTE:**  
 The following number of C bars shall be used:  
 Skew No.  
 5° and 10° — 1  
 15° and 20° — 2  
 25° and 30° — 3

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

|                     |                 |
|---------------------|-----------------|
| 27' ROADWAY         | 33" x 36" BEAMS |
| STANDARD CB-2733-36 |                 |



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



**ELEVATION**

**DIMENSION 'E'**

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

**NOTES**

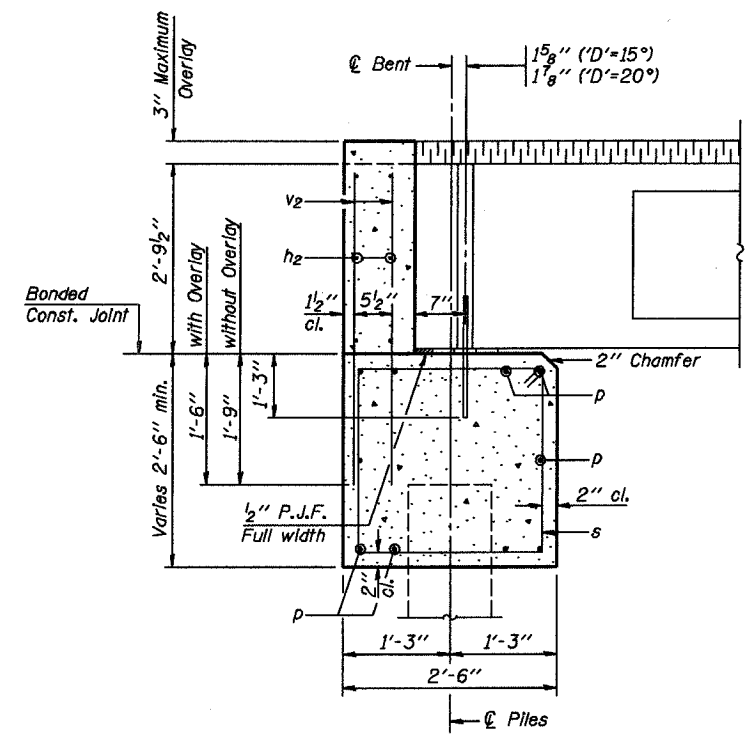
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.

**MAXIMUM PILE LOADS**

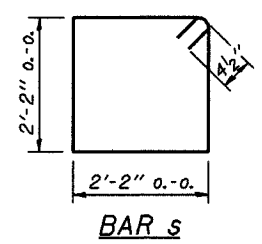
| SPAN | TONS |
|------|------|
| 60'  | 37   |
| 70'  | 40   |
| 75'  | 41   |

**DESIGN STRESSES**

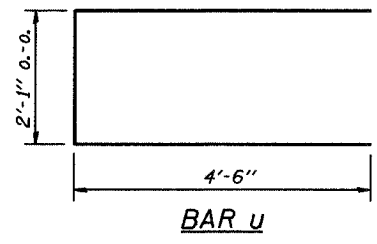
f'c = 3,500 psi  
fy = 60,000 psi



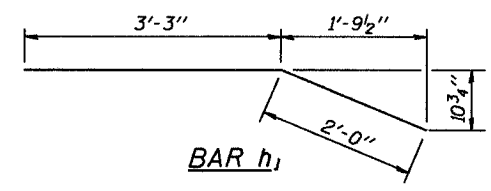
**SECTION THRU ABUTMENT**  
(At Right Angles)



**BAR s**



**BAR u**



**BAR h1**

**BILL OF MATERIAL FOR ONE ABUTMENT**

| Bar                 | No. | Size | Length        | Shape |
|---------------------|-----|------|---------------|-------|
| h                   | 20  | #4   | 5'-0"         | —     |
| h1                  | 4   | #4   | 5'-3"         | —     |
| h2                  | 6   | #4   | 29'-8"        | —     |
| p                   | 10  | #7   | 29'-8"        | —     |
| s                   | 30  | #4   | 9'-5"         | □     |
| u                   | 8   | #6   | 11'-1"        | ▭     |
| v                   | 8   | #4   | 3'-8"         | —     |
| v1                  | 8   | #4   | 4'-8"         | —     |
| v2                  | 60  | #4   | 4'-5"         | —     |
| Concrete Structures |     |      | 11.3 Cu. Yds. |       |
| Reinforcement Bars  |     |      | 1350 Lb.      |       |

| P.P.C. DECK BEAMS<br>PILE BENT ABUTMENT |          |                |
|---|----------|----------------|
| 27' RDWY.                               | 33" BMS. | 'D'=15° OR 20° |
| STANDARD CA-2733-20                     |          |                |

Illinois Department of Transportation

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

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



**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.

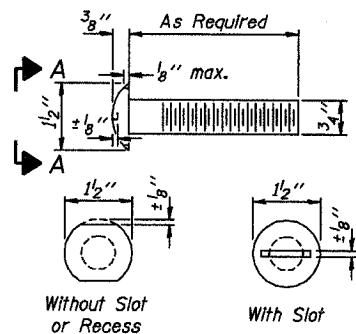
For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with STEEL RAILING, TYPE S-1.

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

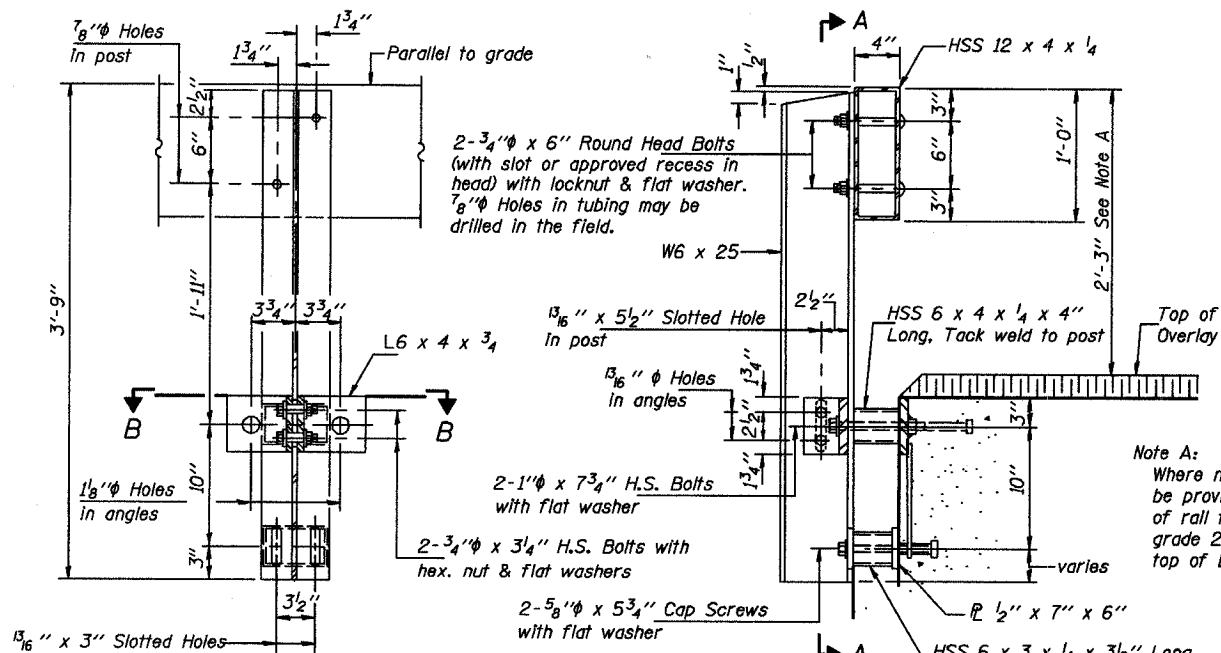
The 1/2" x 7" x 6" plates that come in contact with concrete shall either receive two coats of asphalt paint conforming to Section 1060.07 Type II, or 1/8" fabric bearing pads shall be placed between the plates and concrete.

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 (FK2) of the Standard Specifications. The 1" high strength bolts connecting the angles to the concrete shall be tightened to a snug fit and given an additional 1/8 turn. The 3/8" 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.

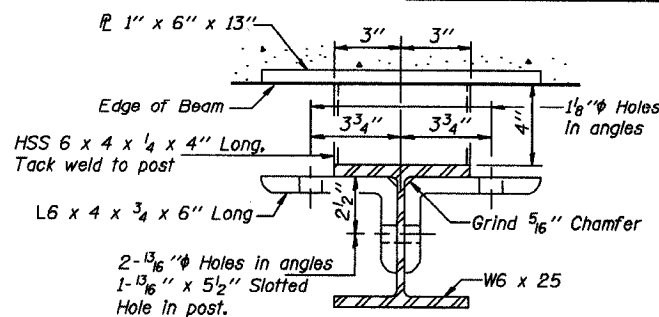


**VIEW A-A  
ROUND HEAD BOLT**

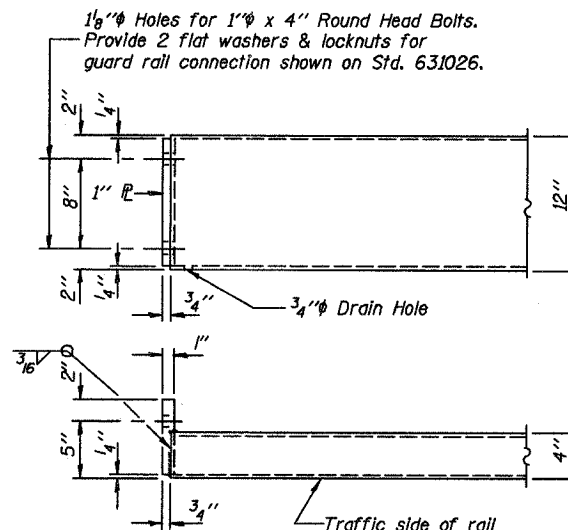


**SECTION A-A**

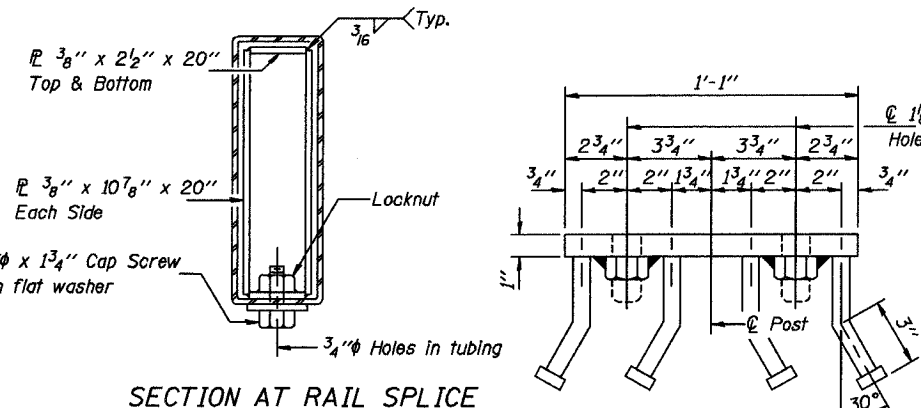
**SECTION AT RAIL POST**



**SECTION B-B**

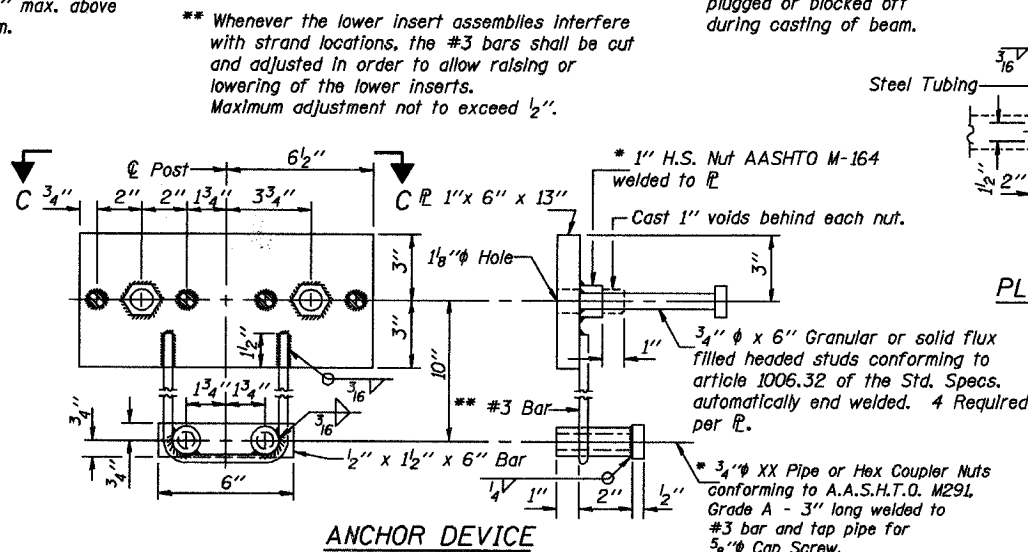


**END OF RAIL DETAILS**



**SECTION AT RAIL SPLICE**

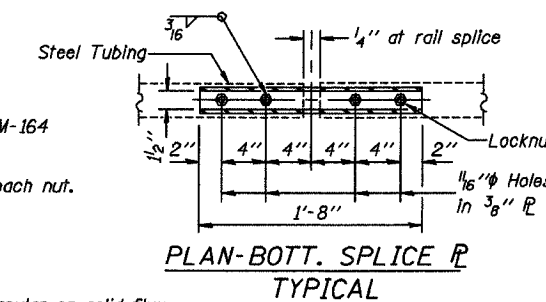
**VIEW C-C**



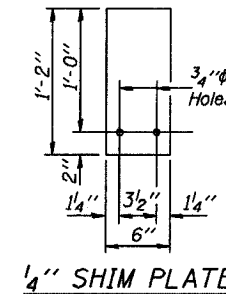
**ANCHOR DEVICE**

\* 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".



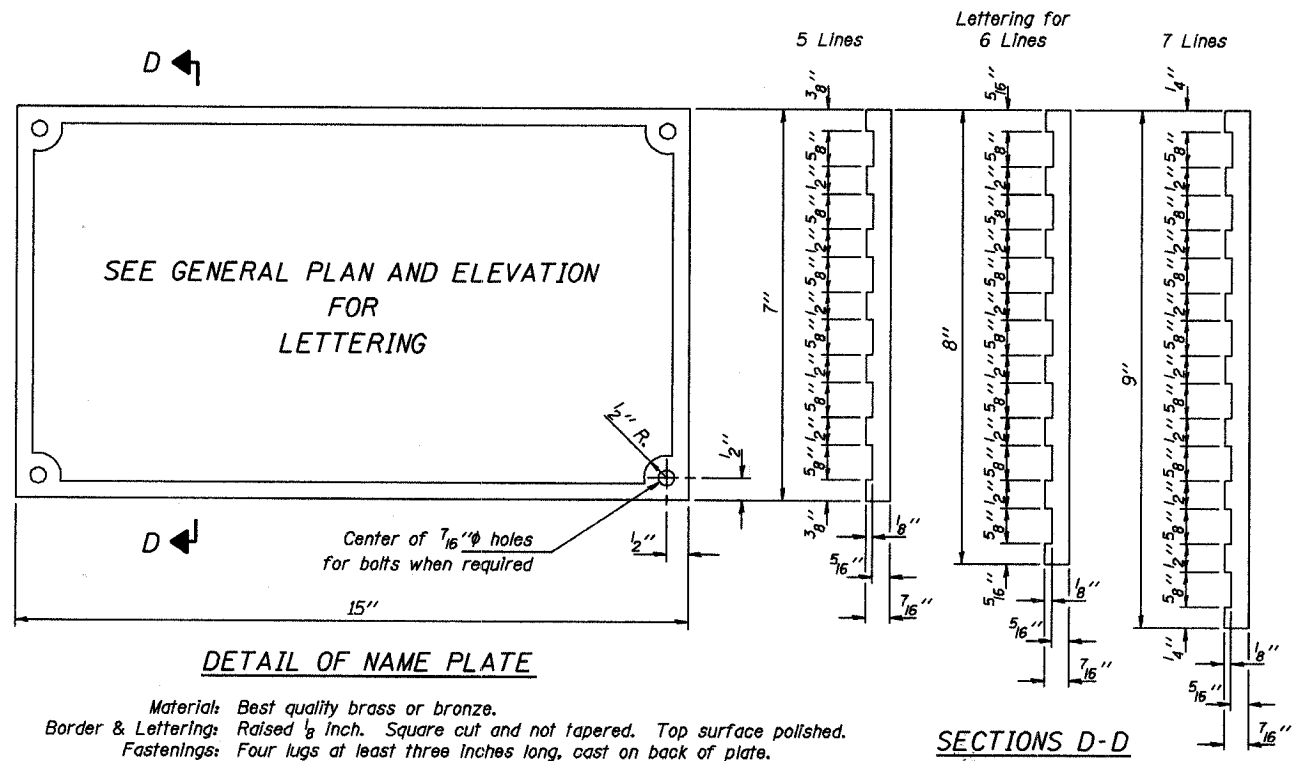
**PLAN-BOTT. SPLICE TYPICAL**



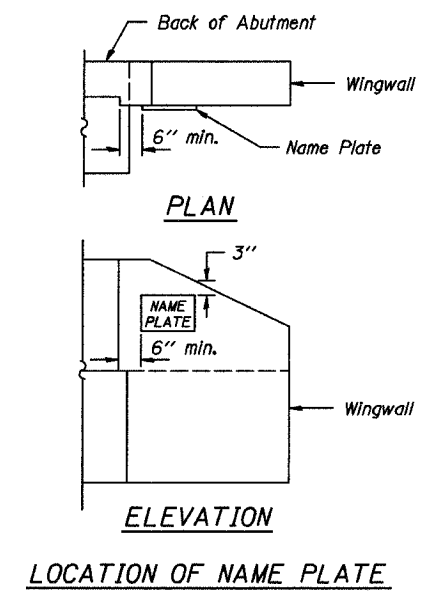
**1/4 SHIM PLATE**

Illinois Department of Transportation  
 PASSED APRIL 4, 2005  
 Thomas J. [Signature]  
 Engineer of Bridge Design  
 APPROVED APRIL 4, 2005  
 Ralph E. [Signature]  
 Engineer of Bridges and Structures

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

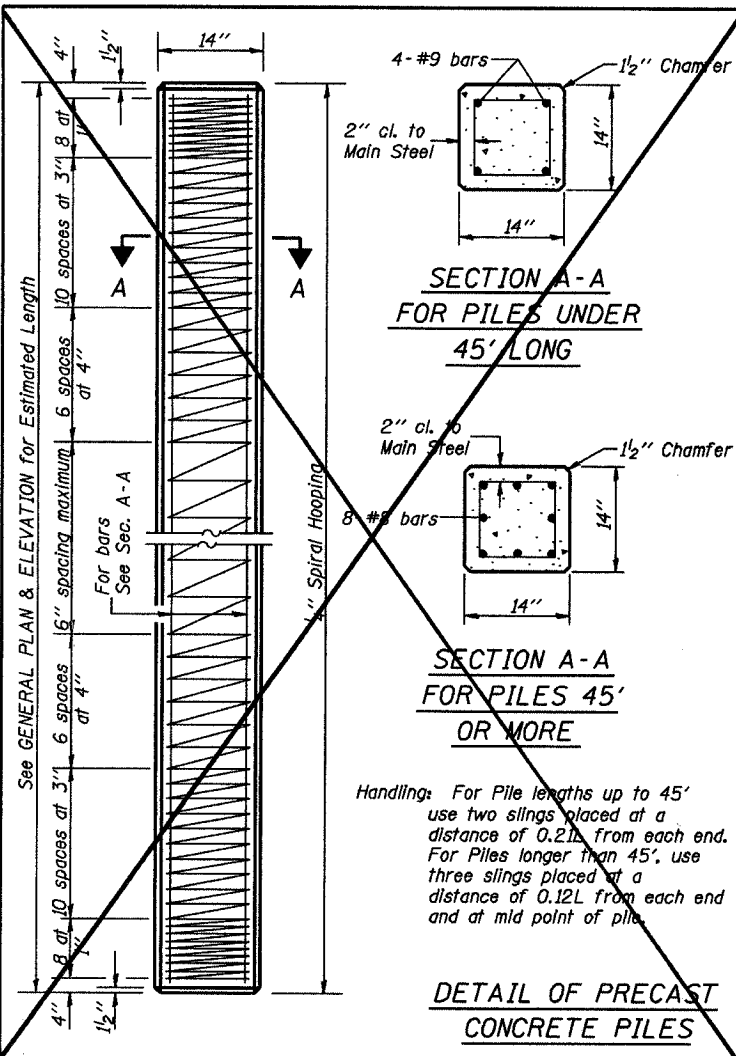


Material: Best quality brass or bronze.  
 Border & Lettering: Raised  $\frac{1}{8}$  inch. Square cut and not tapered. Top surface polished.  
 Fastenings: Four lugs at least three inches long, cast on back of plate.



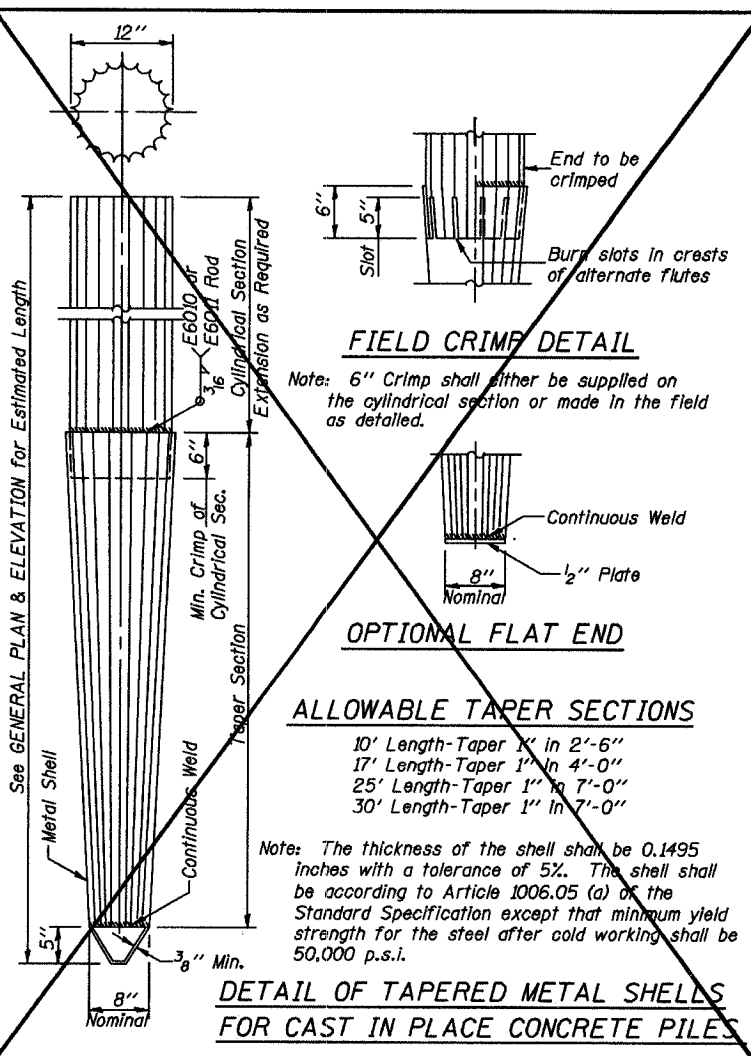
|   |  |
|---|--|
| Illinois Department of Transportation   |  |
| PASSED APRIL 4, 2005<br><i>Thomas J. Knapik</i><br>Engineer of Bridge Design            |  |
| APPROVED APRIL 4, 2005<br><i>Ralph E. Carlson</i><br>Engineer of Bridges and Structures |  |
| ISSUED 7-1-05   |  |

|             |
|-------------|
| NAME PLATE  |
| STANDARD CN |

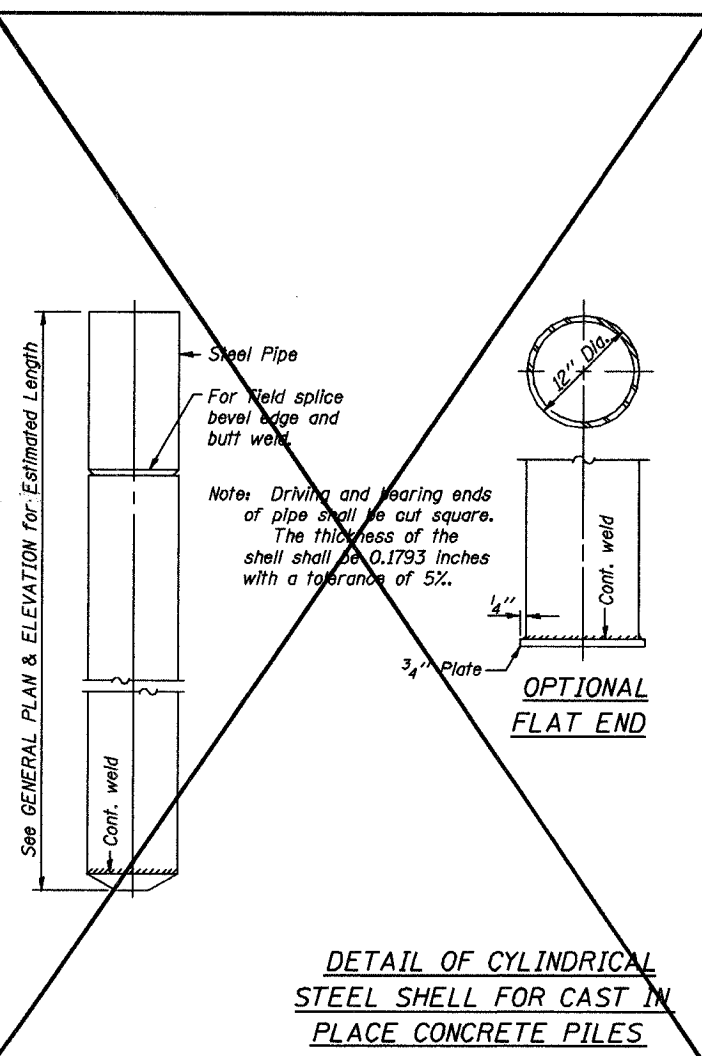


**DETAIL OF PRECAST CONCRETE PILES**

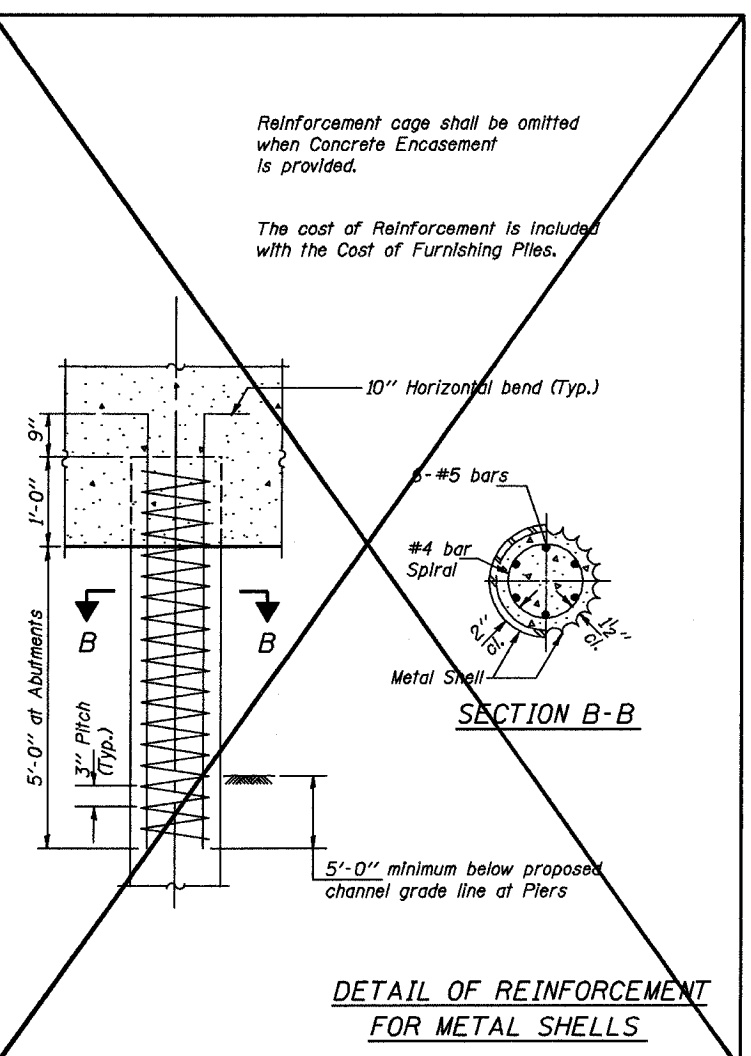
Handling: For Pile lengths up to 45' use two slings placed at a distance of 0.21L from each end. For Piles longer than 45', use three slings placed at a distance of 0.12L from each end and at mid point of pile.



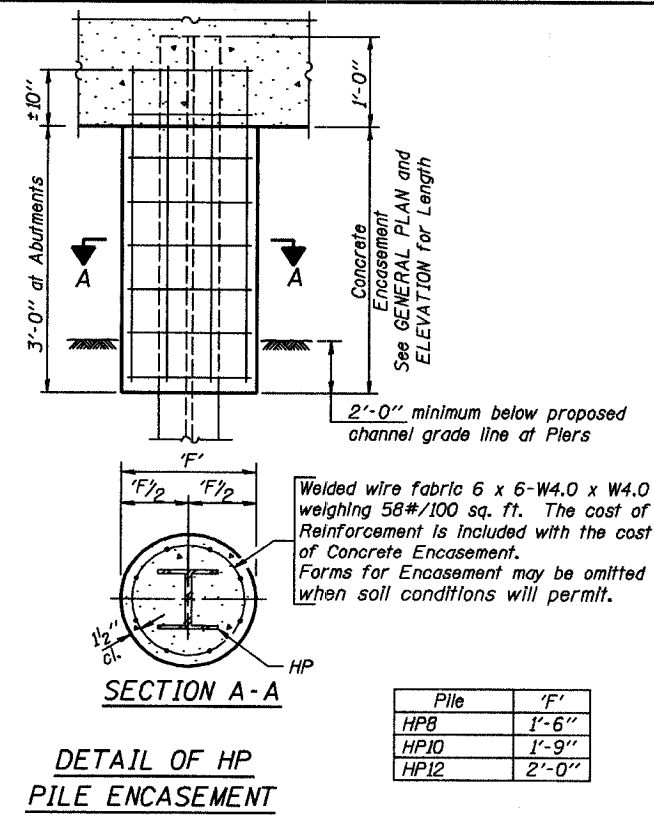
**DETAIL OF TAPERED METAL SHELLS FOR CAST IN PLACE CONCRETE PILES**



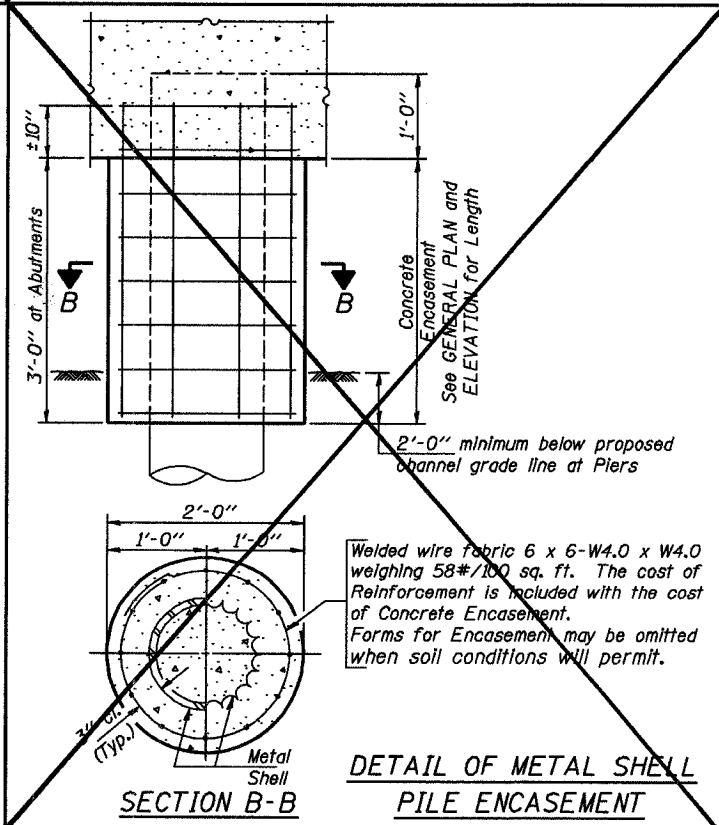
**DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES**



**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. |

Illinois Department of Transportation

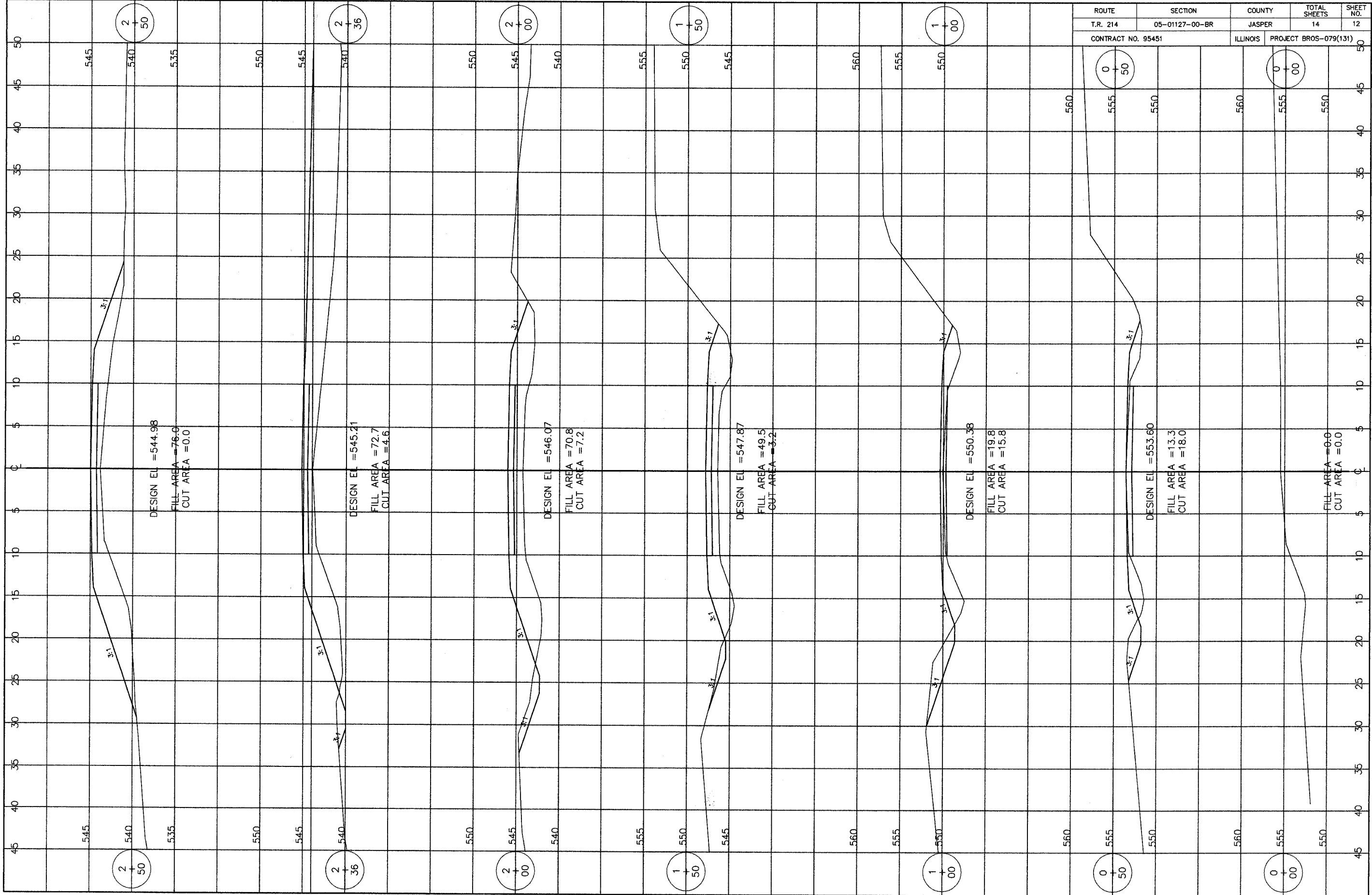
PASSED FEBRUARY 1, 2000  
Thomas Demagalki  
Engineer of Bridge Design

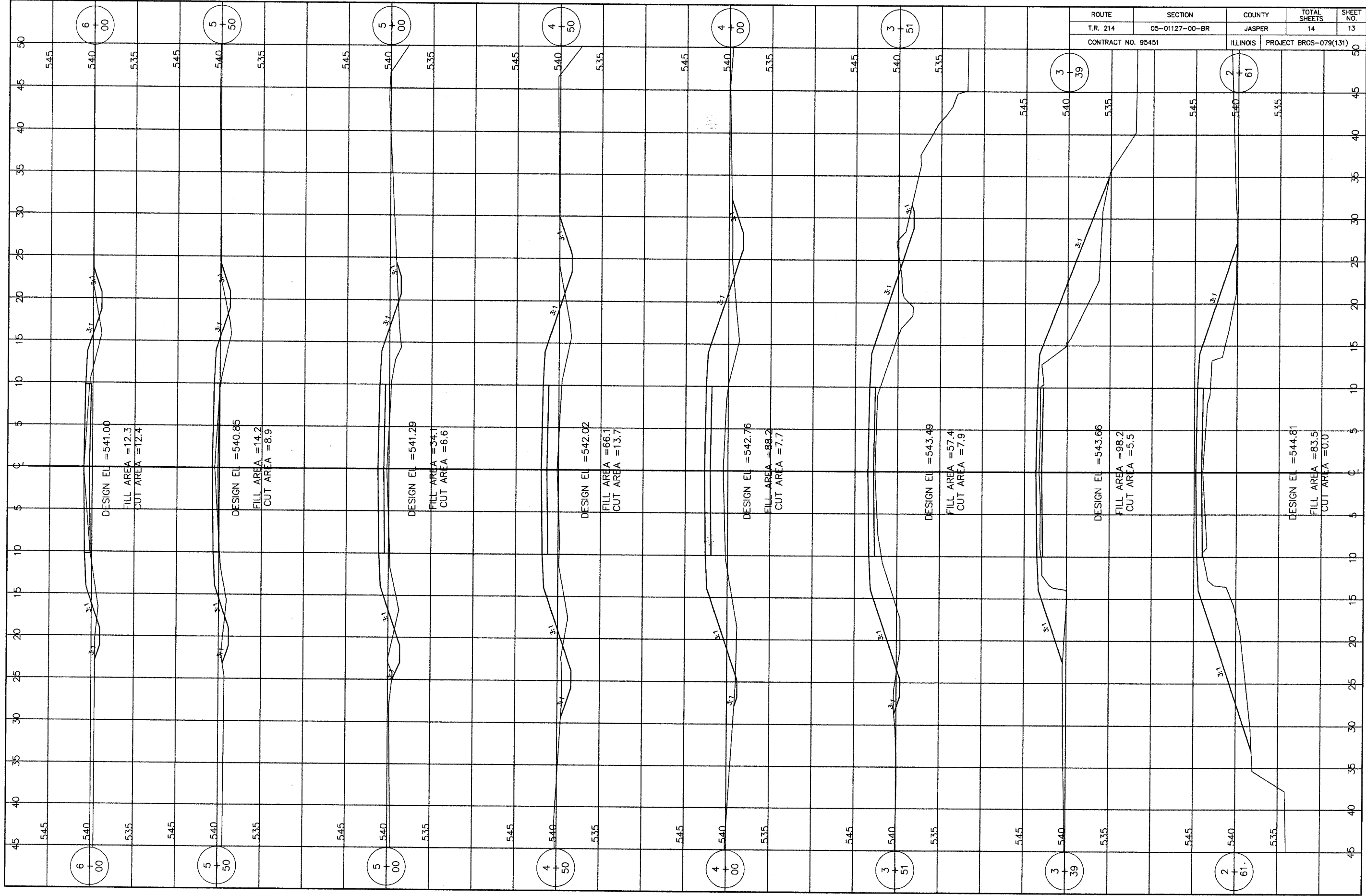
APPROVED FEBRUARY 1, 2000  
Ralph E. Anderson  
Engineer of Bridges and Structures

188-H GBS/S

**PILE DETAILS**

STANDARD CX-1

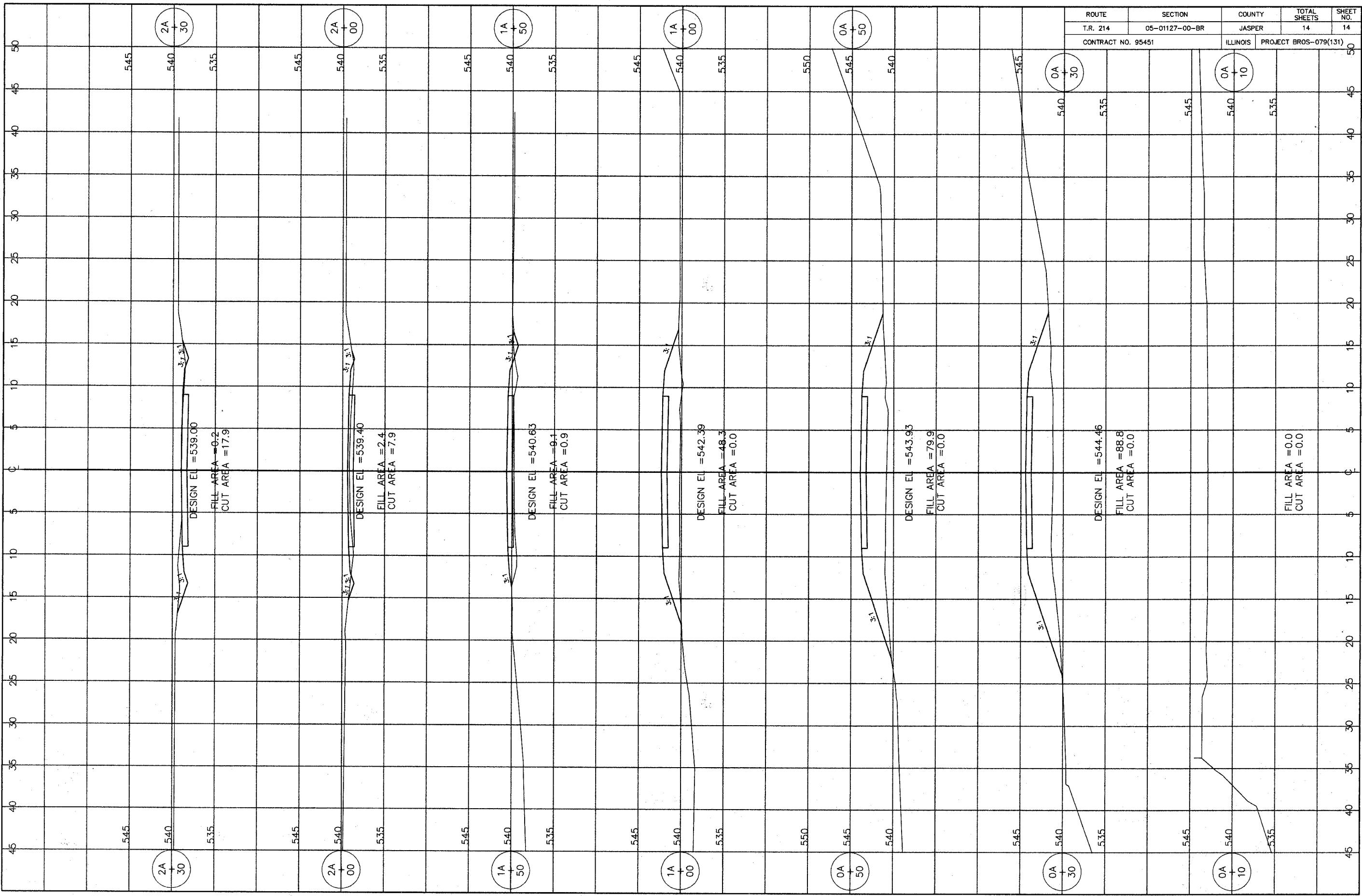




|                    |                |          |                       |           |
|--------------------|----------------|----------|-----------------------|-----------|
| ROUTE              | SECTION        | COUNTY   | TOTAL SHEETS          | SHEET NO. |
| T.R. 214           | 05-01127-00-BR | JASPER   | 14                    | 13        |
| CONTRACT NO. 95451 |                | ILLINOIS | PROJECT BROS-079(131) |           |

2

2



|                    |                |          |                       |           |
|--------------------|----------------|----------|-----------------------|-----------|
| ROUTE              | SECTION        | COUNTY   | TOTAL SHEETS          | SHEET NO. |
| T.R. 214           | 05-01127-00-BR | JASPER   | 14                    | 14        |
| CONTRACT NO. 95451 |                | ILLINOIS | PROJECT BROS-079(131) |           |