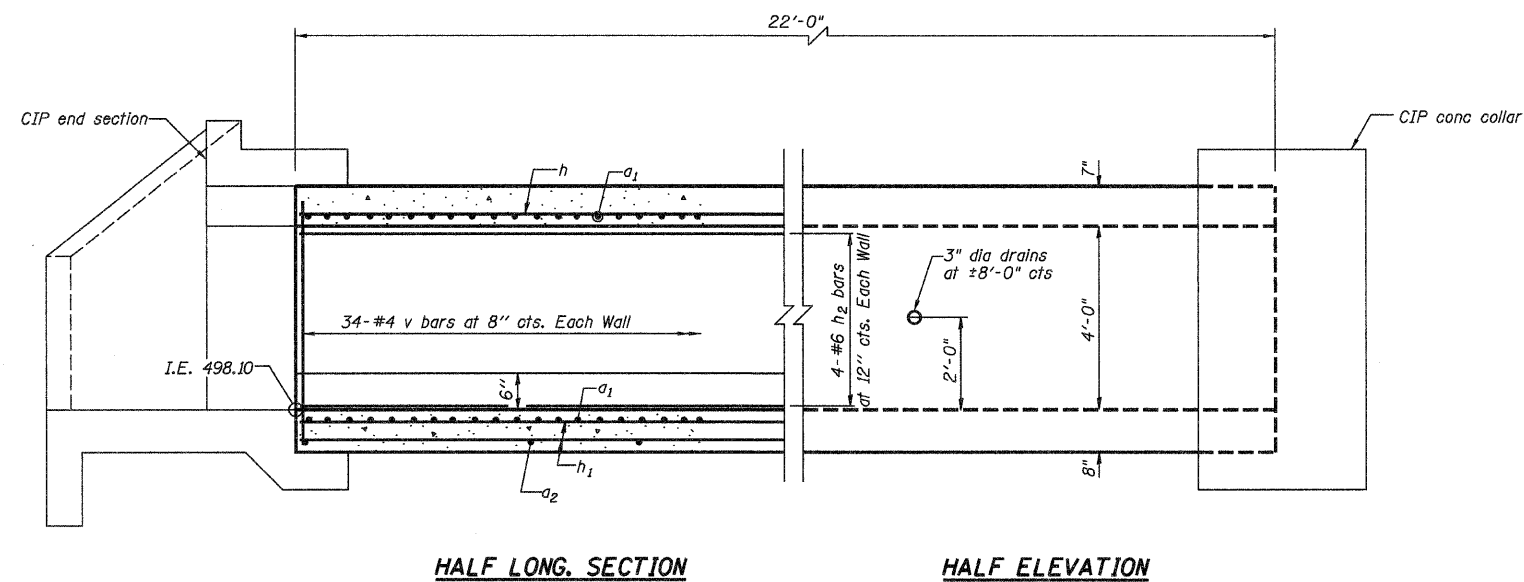


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



HALF LONG SECTION

HALF ELEVATION

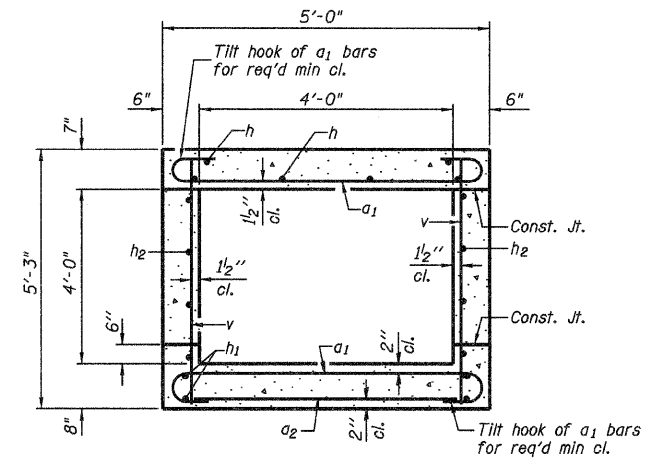
**DESIGN SPECIFICATIONS**  
2002 AASHTO 17th Edition

**DESIGN STRESSES**  
 $f_y = 60,000 \text{ psi}$   
 $f'_c = 3,500 \text{ psi}$

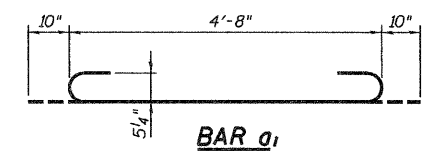
**LOADING HS 20-44**  
Allow 50 lb/sq. ft. for future wearing surface.

**INDEX OF SHEETS**

- 1 UPSTREAM 4'x4' BOX CULVERT EXTENSION
- 2 UPSTREAM 4'x4' END SECTION DETAILS
- 3 UPSTREAM 4'x4' SETTLEMENT COLLAR DETAILS



SECTION THRU BARREL



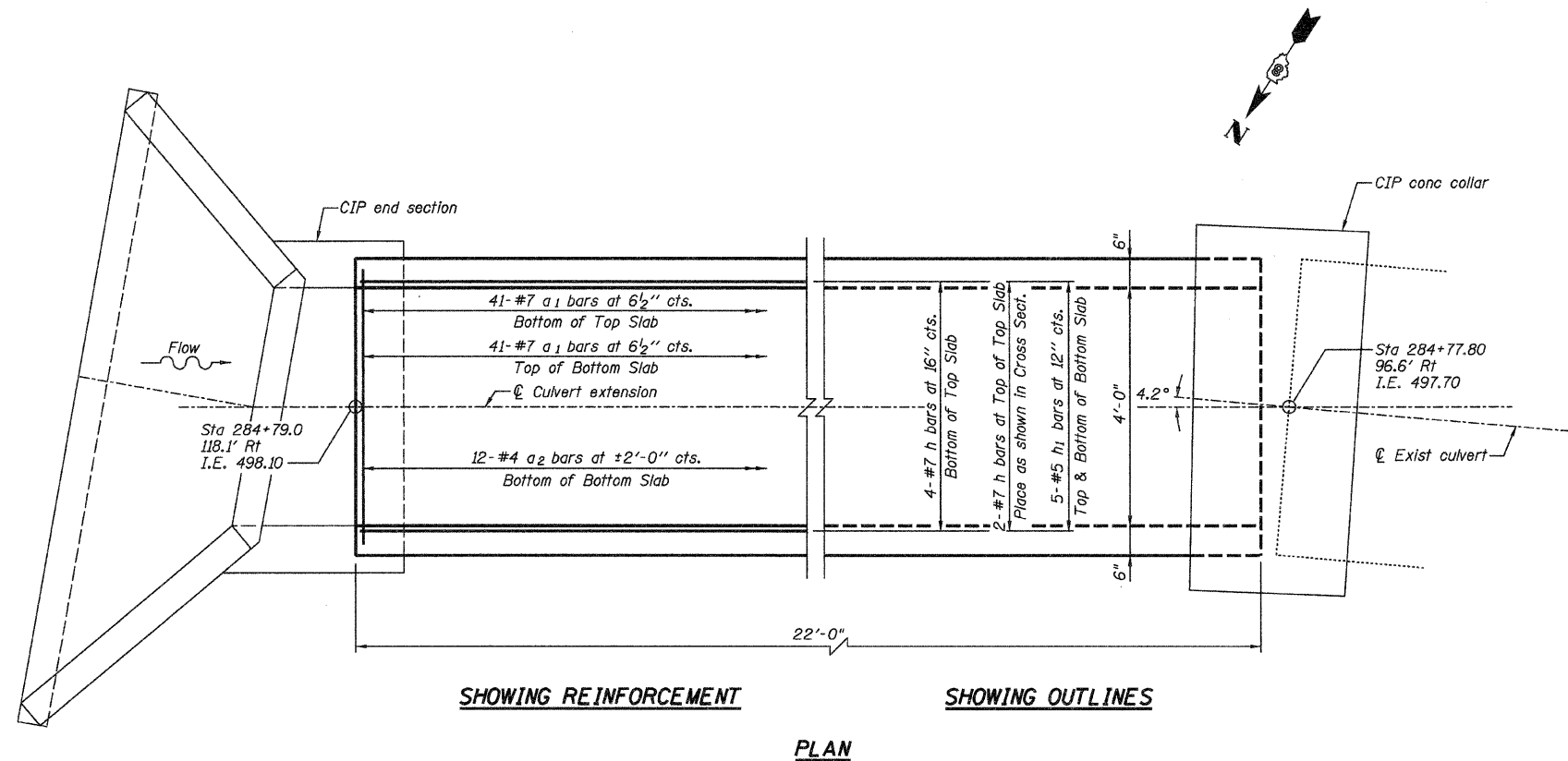
BAR a1

**BILL OF MATERIAL**

| Bar                   | No. | Size | Length | Shape       |
|-----------------------|-----|------|--------|-------------|
| a1                    | 82  | #7   | 6'-4"  |             |
| a2                    | 12  | #4   | 4'-8"  |             |
| h                     | 6   | #7   | 2'-8"  |             |
| h1                    | 10  | #5   | 2'-8"  |             |
| h2                    | 8   | #6   | 2'-8"  |             |
| v                     | 68  | #4   | 4'-11" |             |
| Concrete Box Culverts |     |      |        | Cu. Yd. 8.4 |
| Reinforcement Bars    |     |      |        | Pound 2040  |

**NOTES**

Reinforcement Bars shall conform to the requirements of ASTM A706 Gr 60 (IL Modified) See Special Provisions.  
Bars indicated thus 12 x 4-#5 etc. indicates 12 lines of bars with 4 lengths per line.  
All construction joints shall be bonded.



SHOWING REINFORCEMENT

SHOWING OUTLINES

PLAN

|            |        |
|------------|--------|
| DESIGNED - | JMB    |
| CHECKED -  | YES    |
| DRAWN -    | R KING |
| CHECKED -  | YES    |

HOMER L.  
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184-001397

JEREMY BUENING  
081-006896  
JEREMY BUENING, PE, SE  
Date 3-3-10  
Exp 11-20-10

|                            |                       |                           |                    |                     |                  |
|----------------------------|-----------------------|---------------------------|--------------------|---------------------|------------------|
| SHEET NO. 1<br>OF 3 SHEETS | F.A.P. RTE.<br>310    | SECTION<br>60-16-1-1B     | COUNTY<br>MADISON  | TOTAL SHEETS<br>481 | SHEET NO.<br>161 |
|                            | FAP ROUTE 310 (US 67) |                           | CONTRACT NO. 76318 |                     |                  |
| FED. ROAD DIST. NO.        |                       | ILLINOIS FED. AID PROJECT |                    |                     |                  |

STATION 284+79.00 RT  
UPSTREAM 4'x4'  
BOX CULVERT EXTENSION  
FAP ROUTE 310 (US 67)  
SECTION 60-16-1-1B  
MADISON COUNTY