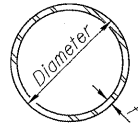
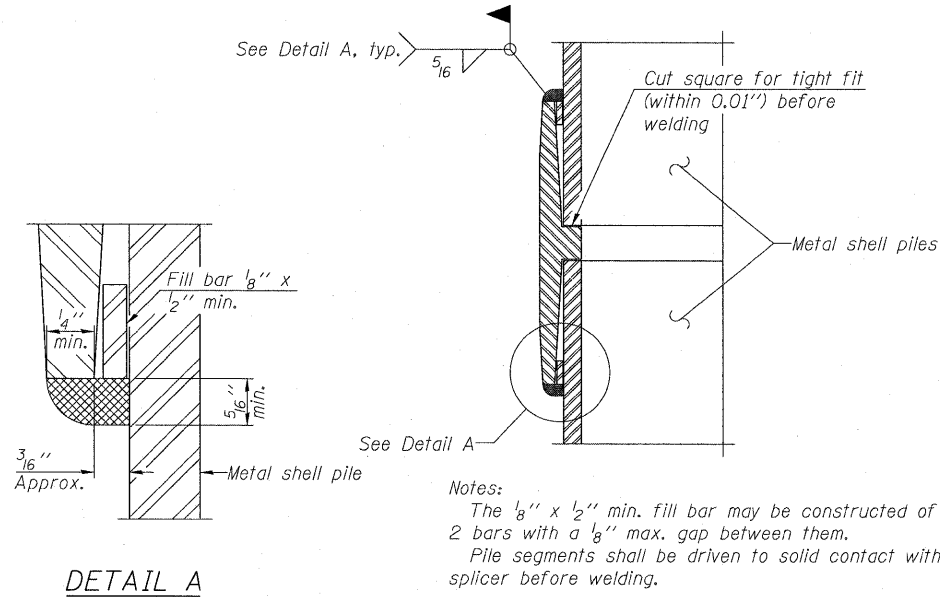


STATE OF ILLINOIS  
DEPARTMENT OF TRANSPORTATION



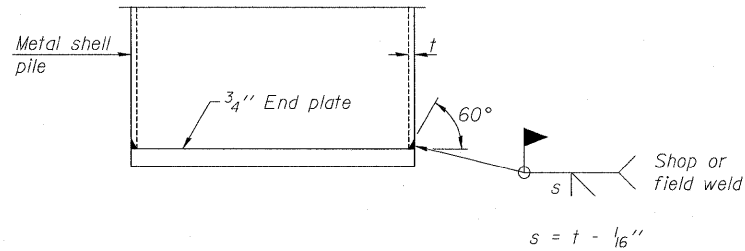
METAL SHELL PILE TABLE

| Designation and outside diameter | Wall thickness t | Weight per Foot (Lbs./ft.) | Inside volume (yd. <sup>3</sup> /ft.) |
|----------------------------------|------------------|----------------------------|---------------------------------------|
| PP12                             | 0.179"           | 22.60                      | 0.0274                                |
| PP12                             | 0.250"           | 31.37                      | 0.0267                                |
| PP14                             | 0.250"           | 36.71                      | 0.0368                                |
| PP14                             | 0.312"           | 45.61                      | 0.0361                                |

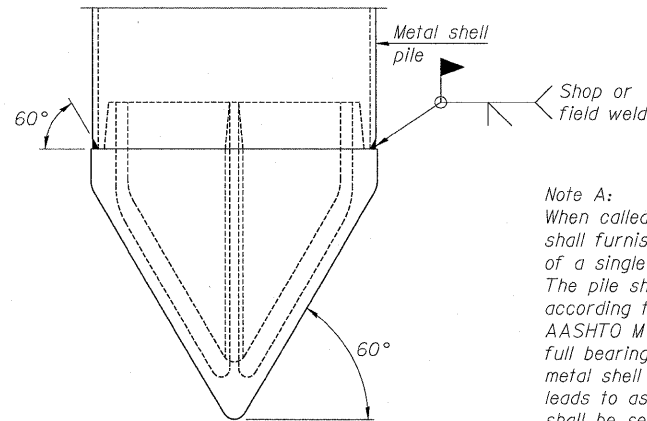


DETAIL A

WELDED COMMERCIAL SPLICE



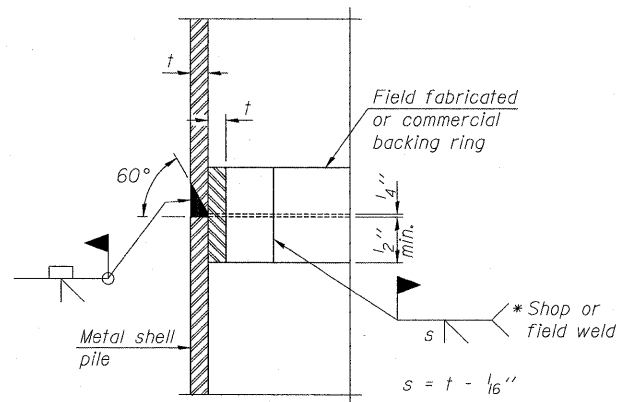
END PLATE ATTACHMENT



METAL SHELL PILE SHOE ATTACHMENT

(See Note A)

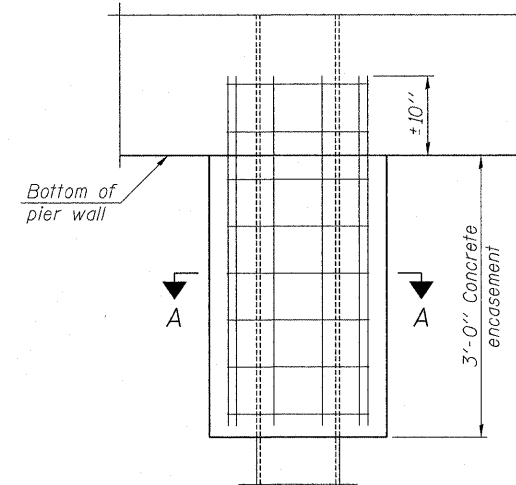
Note A:  
When called for on the plans, the Contractor shall furnish metal shell pile shoes consisting of a single piece conical pile point as shown. The pile shoes shall be cast in one piece steel according to either ASTM A 148 Grade 90-60 or AASHTO M 103 Grade 65-35 and shall provide full bearing over the full circumference of the metal shell pile. The pile shoe shall have tapered leads to assure proper alignment and fitting and shall be secured to the pile with a circumferential weld.



COMPLETE PENETRATION WELD SPLICE

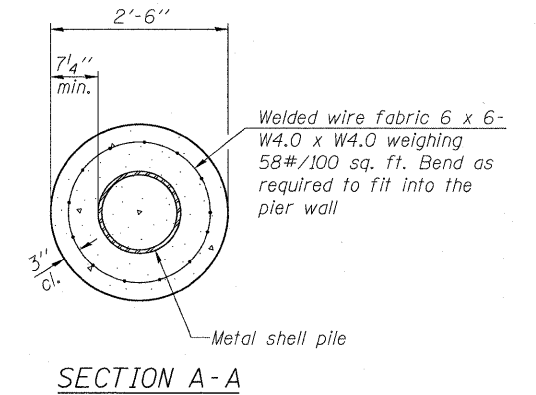
\* Field fabricated backing ring may be made from pile shell by removing segment to allow reducing circumference and vertically rejoin with partial joint penetration weld.

Note:  
The metal shell piles shall be according to ASTM A 252 Grade 3.



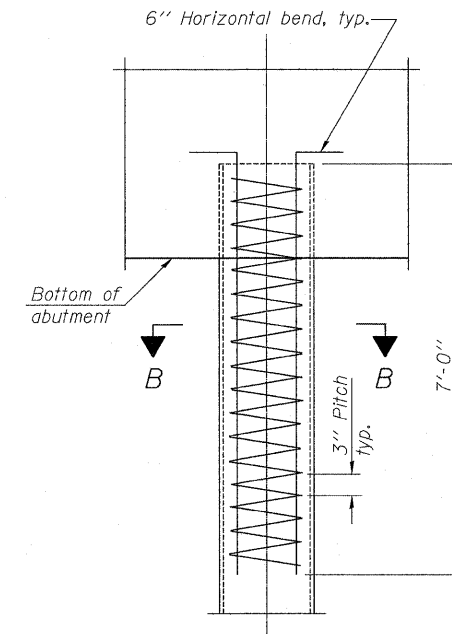
ELEVATION

CONCRETE ENCASEMENT AT PIERS



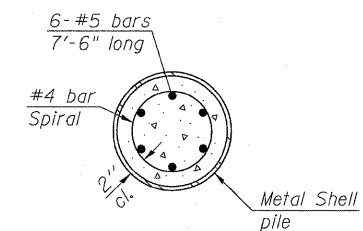
SECTION A-A

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



ELEVATION

METAL SHELL REINFORCEMENT AT ABUTMENTS



SECTION B-B

METAL SHELL PILE DETAILS  
STRUCTURE NO. 082-0377

ZROKA Engineering, P.C.  
4216 North Hermitage  
Chicago, IL 60613

|          |     |
|----------|-----|
| DESIGNED | LAS |
| CHECKED  | JLA |
| DRAWN    | SAW |
| CHECKED  | LAS |

3-31-2010

F-MS 11-1-09

|                           |             |          |                    |              |           |
|---------------------------|-------------|----------|--------------------|--------------|-----------|
| SHEET NO. 40<br>44 SHEETS | F.A.I. RTE. | SECTION  | COUNTY             | TOTAL SHEETS | SHEET NO. |
|                           | 64          | 82-1-2HB | ST. CLAIR          | 345          | 247       |
|                           |             |          | CONTRACT NO. 76C49 |              |           |
| ILLINOIS FED. AID PROJECT |             |          |                    |              |           |

Revised 4/15/2010