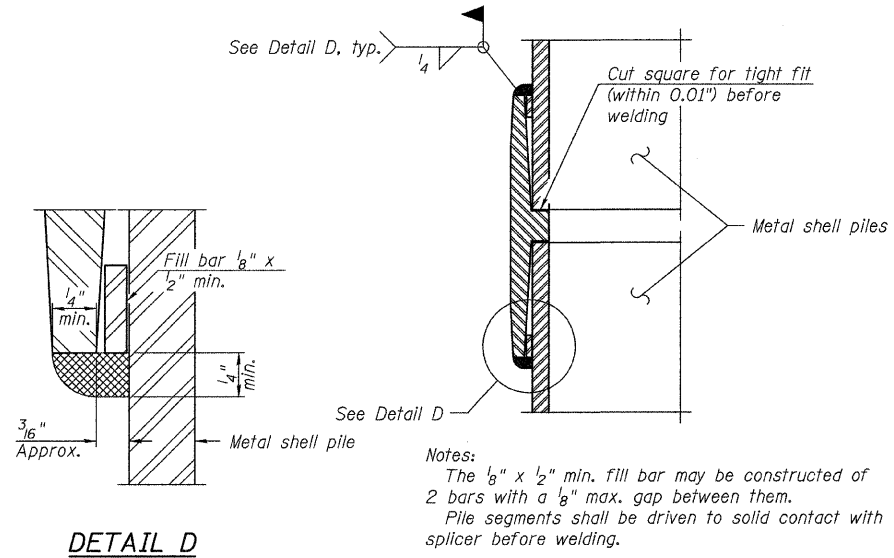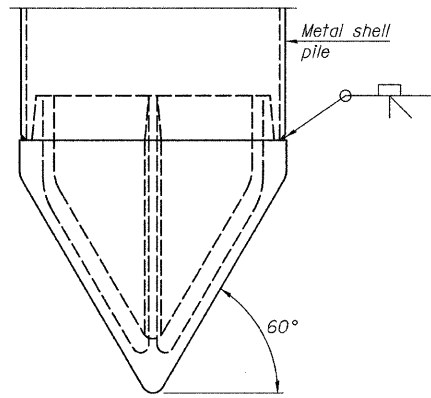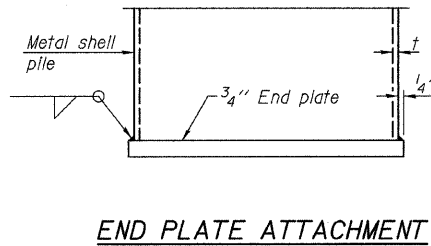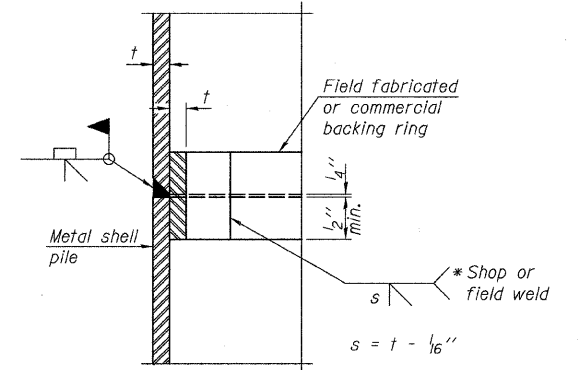**Notes:** Driving and bearing ends of pipe shall be cut square. The thickness of the shells shall be 0.25 inches for 12" piles and 0.312 inches for 14" piles with a tolerance of 5%. The shells shall be according to Article 1006.05(a) of the Standard Specifications, and shall be ASTM A252 Grade 3.
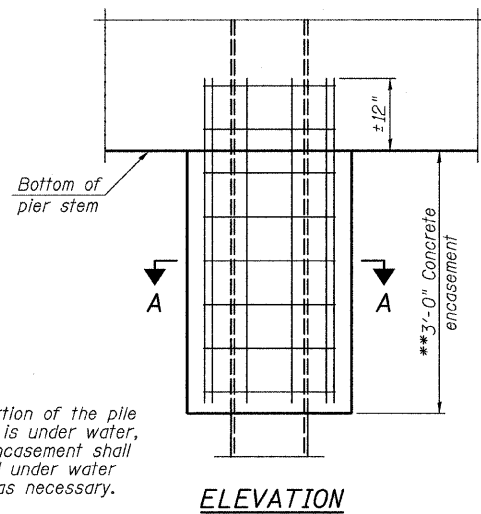
Steel Pipe

See Splice Details

*** 12" Dia. at Abuts.
14" Dia. at Piers

Length (L)

Cont. weld

Cont. weld

***

$\frac{3}{4}$" Plate

$\frac{1}{4}$"

OPTIONAL FLAT END

DETAIL OF CYLINDRICAL STEEL SHELL FOR CAST IN PLACE CONCRETE PILES

Metal shell pile

$\frac{3}{16}$" Approx.

60°
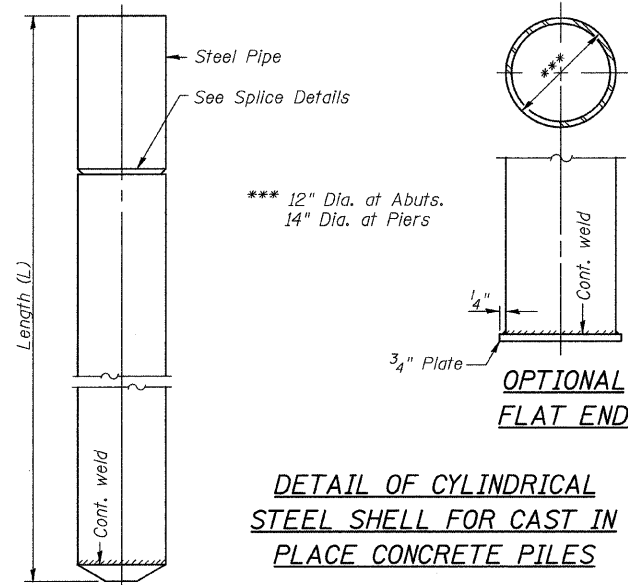
METAL SHELL PILE SHOE ATTACHMENT
(See Note E)

Note E:
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.

See Detail D. typ. $\frac{1}{4}$

Cut square for tight fit (within 0.01") before welding

Metal shell piles

$\frac{1}{4}$ min.

Fill bar $\frac{1}{8}$" x $\frac{1}{2}$" min.

$\frac{1}{4}$ min.

See Detail D

Metal shell pile

DETAIL D

Notes:
The $\frac{1}{8}$" x $\frac{1}{2}$" min. fill bar may be constructed of 2 bars with a $\frac{1}{8}$" max. gap between them.
Pile segments shall be driven to solid contact with splicer before welding.

WELDED COMMERCIAL SPLICE

t

t

Field fabricated or commercial backing ring

$\frac{1}{2}$" min.

Metal shell pile

* Shop or field weld

s

s = t - $\frac{1}{16}$"

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.
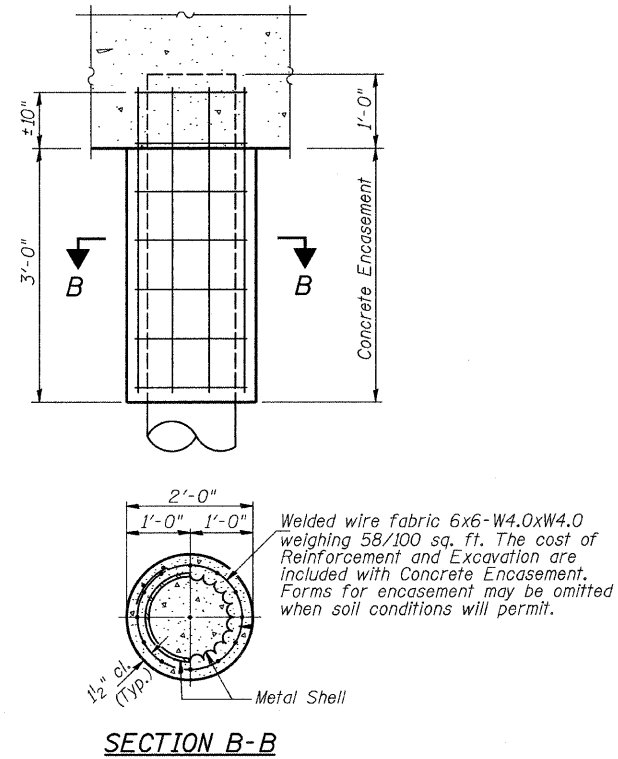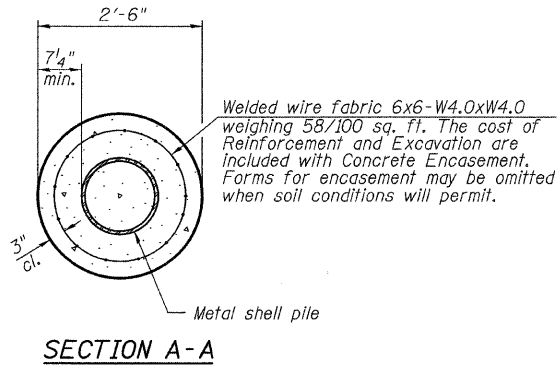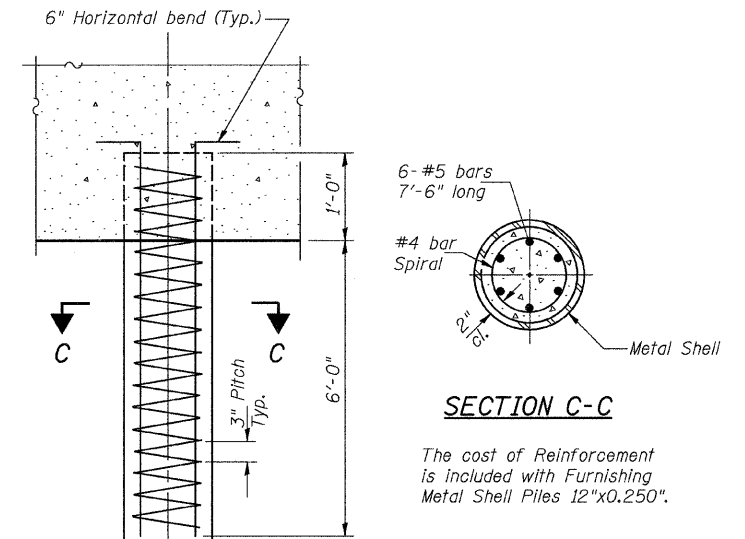

Metal shell pile

$\frac{3}{4}$" End plate

t

$\frac{1}{4}$"

END PLATE ATTACHMENT

Bottom of pier stem

± 12"

**3'-0" Concrete encasement

A   A

** If a portion of the pile encasement is under water, Concrete Encasement shall be tremmied under water into forms as necessary.

ELEVATION

DETAIL OF PROTECTION FOR METAL SHELLS AT PIERS

2'-6"

$7\frac{1}{4}$" min.

3" cl.

Welded wire fabric 6x6-W4.0xW4.0 weighing 58/100 sq. ft. The cost of Reinforcement and Excavation are included with Concrete Encasement. Forms for encasement may be omitted when soil conditions will permit.

Metal shell pile

SECTION A-A

± 10"

3'-0"

B   B

Concrete Encasement

1'-0"

2'-0"

1'-0"   1'-0"

$1\frac{1}{2}$" cl. (Typ.)

Welded wire fabric 6x6-W4.0xW4.0 weighing 58/100 sq. ft. The cost of Reinforcement and Excavation are included with Concrete Encasement. Forms for encasement may be omitted when soil conditions will permit.

Metal Shell

SECTION B-B

DETAIL OF METAL SHELL PILE ENCASEMENT AT ABUTMENTS

6" Horizontal bend (Typ.)

C   C

1'-0"

1'-0"

6'-0"

3" Pitch Typ.

6-#5 bars 7'-6" long

#4 bar Spiral

$\frac{1}{2}$" cl.

Metal Shell

SECTION C-C

The cost of Reinforcement is included with Furnishing Metal Shell Piles 12"x0.250".

DETAIL OF REINFORCEMENT FOR METAL SHELLS AT ABUTMENTS