

SHEET NO. 72
86 SHEETS

Diagram illustrating the cross-section of a metal shell pile. The pile has an outer diameter of 2'-6" and a minimum thickness of 7 1/4". The reinforcement consists of welded wire fabric 6 x 6- W4.0 x W4.0 weighing 58#/100 sq. ft. The fabric is bent as required to fit into the pier wall. The metal shell pile is shown with a 3" cl. (clearance) from the pier wall.

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

Bottom of pier wall

$\pm 10''$

A

A

3'-0" Concrete encasement

ELEVATION

Diagram illustrating a vertical pile with a horizontal bend. The pile is shown with a 6" horizontal bend, typ. (typical). The pile is reinforced with a spiral reinforcement, with a 3" pitch, typ. (typical). The pile is shown with a bottom of abutment and a vertical dimension of 7'-0". The pile is shown with a horizontal dimension of 6" and a vertical dimension of 7'-0". The pile is shown with a horizontal bend and a spiral reinforcement.

METAL SHELL REINFORCEMENT AT ABUTMENTS

6-#5 bars
7'-6" long

#4 bar
Spiral

2" cl.

Metal Shell
pile

A cross-sectional diagram of a pile cap. It shows a central rectangular section labeled "Metal shell" with a width of $\frac{3}{4}$ " and a height of $\frac{1}{4}$ ". This central section is flanked by two vertical sections labeled "End plate" with a thickness of t . The entire assembly is supported by a base. A dimension line indicates the total width of the end plates is $\frac{1}{4}$ ".

A diagram of a metal shell pile. The pile has a cylindrical upper section and a conical lower section. The conical section is defined by a 60° angle from the vertical. A dashed line indicates the internal structure or a different layer of the shell. A label 'Metal shell pile' points to the upper cylindrical part. A small detail view shows a cross-section of the shell material.

(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.*

* 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.

METAL SHELL PILE DETAILS
F.A.P. 614 (IL 78) OVER SANGAMON RIVER
PUBLIC WATERS
CASS & MASON COUNTIES
SECTION 144 (B-1)
STA. 913+26.00
STRUCTURE NUMBER 009-0510

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