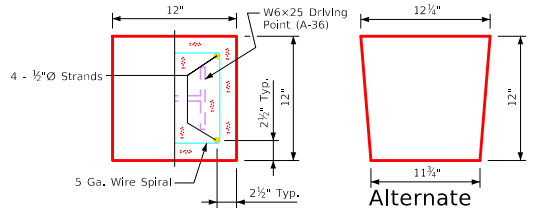
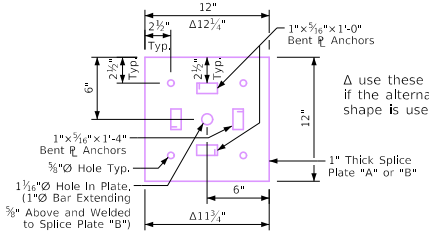


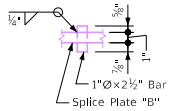
Top of Pile
(Splice Plate Not Shown)

Alternate Pile Shape

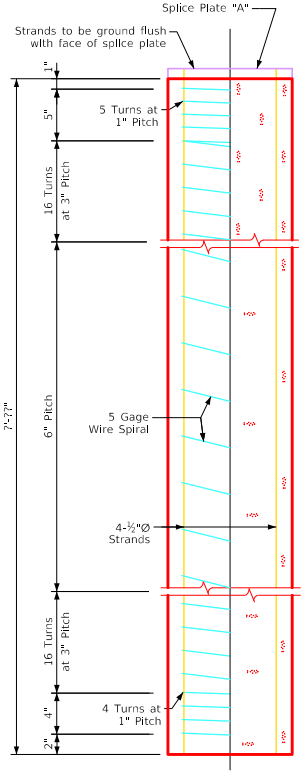


Δ use these dimensions if the alternate pile shape is used.

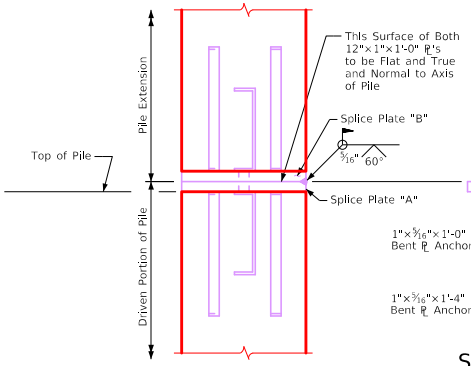
Anchor Side Of Splice Plate



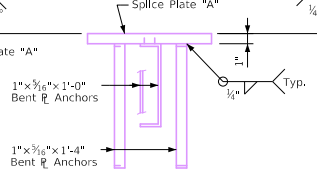
1"Ø Bar Detail



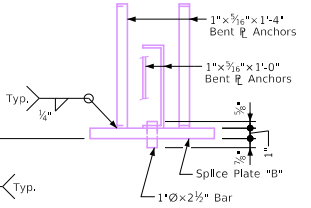
Prestressed Concrete Foundation Pile



Prestressed Concrete Foundation Pile Splice Detail

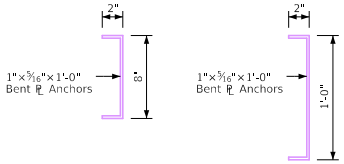


Splice Plate "A" Detail
Weight of Splice Plate "A" = 45.1 lbs.

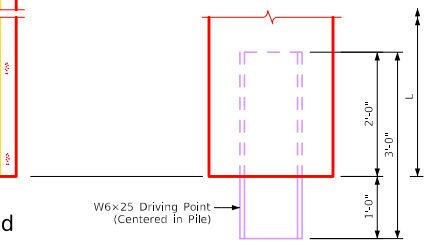


Splice Plate "B" Detail
Weight of Splice Plate "B" = 45.6 lbs.

Note:
splice plate "A" and "B" are the same except for 1"Ø×2½" bar welded in center hole of splice plate "B".



Anchor Details



Steel Driving Points
Weight Of Driving Point = 75 lbs.
(Use Only if Specified on Plans)

General Notes:

The 12" prestressed concrete foundation pile shall be used in pier footings and stub abutment footings only.

Except as noted elsewhere, material, construction, driving, and extensions shall be in accordance with Standard Specifications of the Iowa D.O.T. and current Supplemental Specifications and Special Provisions when applicable.

Bearing value shown is for friction type bearing. Bearing value shall be as specified on the plans.

Driving point, if called for on the plans, shall be as detailed. Cost of all driving points is to be included in the price bid per lineal foot for piling.

The splicing of the piles shall be in accordance with Article 2501.03, P, of the Standard Specifications.

All piles, except pile extensions if required, shall have splice plate "A" installed on top end of pile to facilitate splicing of piles as necessary.

Heads of prestressed piles shall be normal to axis of pile.

All prestressing strands are to be ½"Ø 270k Grade. The total initial prestressing force is to be 118 kips for normal curing or 122 kips for artificial curing.

Wire spiral shall conform to ASTM A1064 Grade 70.

Pile Splice Notes:

All piles are required to have a pile splice plate "A" installed in the upper end of the pile to facilitate pile extension in the event the plan length piles are not adequate. Pile splicers shall be as detailed on this sheet.

The maximum length (L) of an individual section of pile shall be 55 feet. When piles longer than 55 feet are required on the plans, pile splicers shall be used to fasten pile sections together to provide the required plan length. One pile splice only will be allowed in the plan length of piles 56 to 110 feet. Pile sections shall be welded together at splices after first section of pile is driven.

Cost of structural steel required for splice plates shall be considered Incidental to price bid for Prestressed Concrete Piling - 12 inch.

Specifications:

Design: AASHTO LRFD 7th Edition, Series of 2014.
Construction: Iowa Department of Transportation Standard Specifications, current series, plus current Supplemental Specifications and Special Provisions.

Design Stresses:

Design stresses for the following materials are in accordance with The AASHTO LRFD Bridge Design Specifications 7th Edition, Series of 2014.

Concrete in accordance with Section 5, f'c = 5,000 psi.

Prestressing steel in accordance with AASHTO LRFD Section 5, f's = 270,000 psi.

Structural steel in accordance with AASHTO LRFD Section 6. ASTM A709 Grade 36.

Note:
The top portions of the prestressed concrete foundation piles that are to be encased in concrete shall be roughened, after piles have been driven, by sandblasting or other approved methods to provide suitable bond between the pile and footing in accordance with Article 2403.03, I, of the Standard Specifications. Cost of this work is to be included in the price bid for Prestressed Concrete Piling - 12 inch.

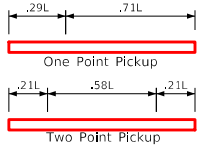
12" Prestressed Concrete Foundation Pile Material Components

Item	Unit	L=40'	One Foot Increment
Concrete	c.y.	1.48	0.037
5 Gage Wire Spiral	lb.	32	0.62
Prestressing Steel	lb.	84	2.08

Approved By: _____
Bridge Engineer

Pile Data

Max. Length 1 pt. Pick-up	ft.	40
Max. Length 2 pt. Pick-up	ft.	55
f'c	psi	5000
Nominal Resistance Pn	kips	200



Pile Handling Diagram

Latest Revision Date: 11-2023

12" Prestr. Conc. Foundation Piles

FILE NO.	ENGLISH	DESIGN TEAM		12" Prestressed Concrete Foundation Pile	Standard Sheet 1046	COUNTY	PROJECT NUMBER	SHEET NUMBER	

3:47:19 PM 11/15/2023 bkloss pw:\\NTPwInt1.dot.lnt.lan:PWMaln\Documents\Highway\Bridge\Standards\Bridges\MIscellaneousBridges.dgn

Revised 10-2016: Updated Specifications Design: AASHTO LRFD 7th ED, Series of 2014 (was series of 1992). Changed Design Stresses (was AASHTO Standard Specifications For Highway Bridges, Series of 1992, Concrete in accordance with Section 9, f'c = 5,000 PSI. Prestressing steel in accordance with Section 9, f's = 270,000 PSI. Structural steel in accordance with Section 10, ASTM A36). Added Pile Data "Nominal Resistance" (was max. bearing value 50T). Changed prestressing force is to 118 (was 116) kips for normal curing.
Revised 10-2021: Updated spiral requirements to ASTM A1054 Grade 70 (WAS ASTM A82).
This Sheet Redrawn 11-29-1990.
MiscellaneousBridges.dgn - 1046 - This Sheet Re-Issued 11-2023. Sheet Format Update.