
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

(Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: December 29, 2022

Originator: Joshua Turley

Phone: (850) 414-4475

Email: joshua.turley@dot.state.fl.us

Standard Plans:

Index Number: 455-031

Sheet Number (s): 1 of 1

Index Title: 30" SQUARE PRESTRESSED CONCRETE PILE -
HIGH MOMENT CAPACITY

Summary of the changes:

Sheet 1: Changed the location of the dowels; Deleted part of note 2 not allowing for corrugated galvanized metal pipe forms.

Commentary / Background:

The location of drilled holes for the #10 dowels that are epoxied into the voided end for the splice connection are extremely close to the face of the void and will spall during drilling (1-3/4" drill bit).

These dowel bars should be moved further inside the pile wall, but the only place to avoid other reinforcing is inside the corner of the strand pattern (see the blue circle in the markup below). This would reduce the total number of dowel bars possible from 8 to 4, but this should be OK since almost all the moment capacity comes from the collar reinforcing (36~ #8 bars on the perimeter) recognized these extend lapped 10-feet either side of the splice joint while the #10 dowel bars only extend 4-feet and are temporary restraint and alignment while the exterior collar is constructed. -- Steve Nolan

For the metal pipe forms it was decided that the forms would create a corrosion risk and reduce the possible lifespan of the pile. Therefore, this allowance was removed.

**Other Affected Offices / Documents: (Provide name of person contacted)**

- | Yes | No | |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FDOT Design Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard Specifications – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Approved Product List – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Maintenance – |

Origination Package Includes: (Submit package to Rick Jenkins)

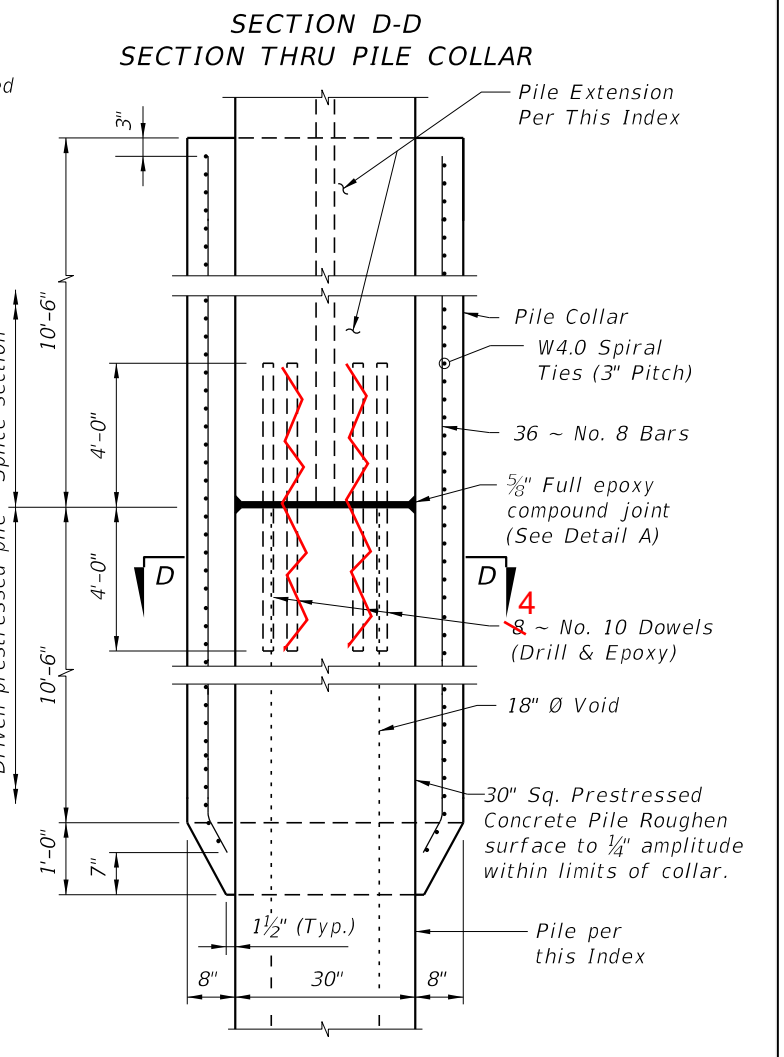
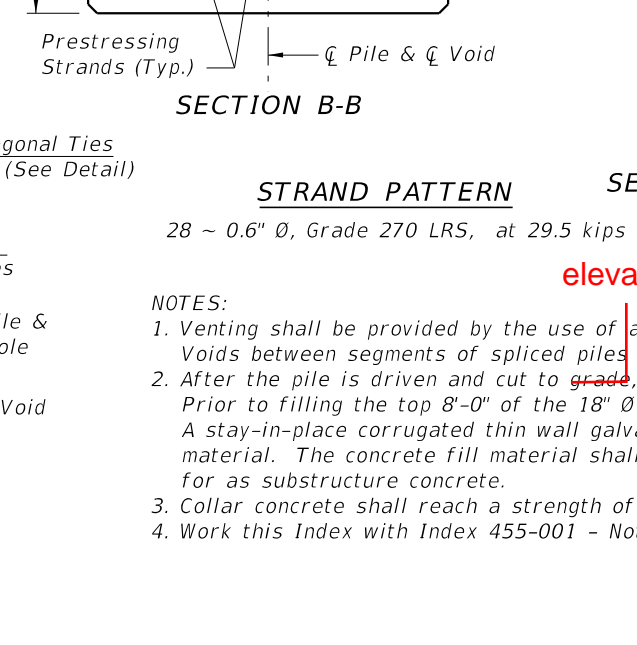
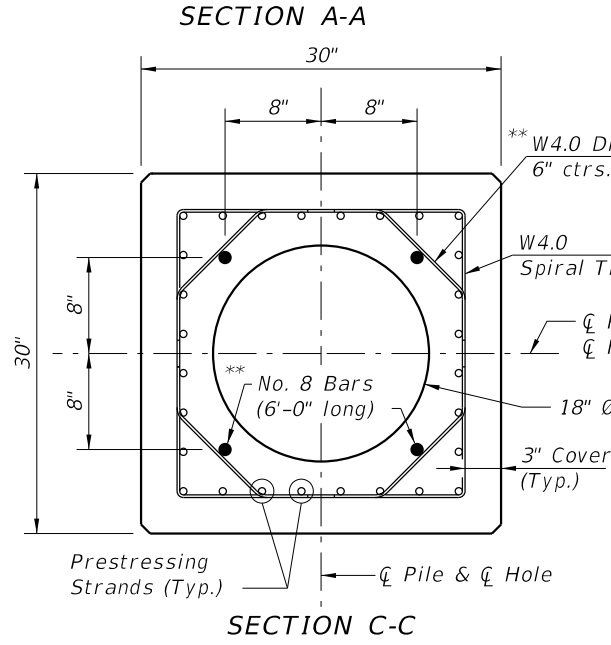
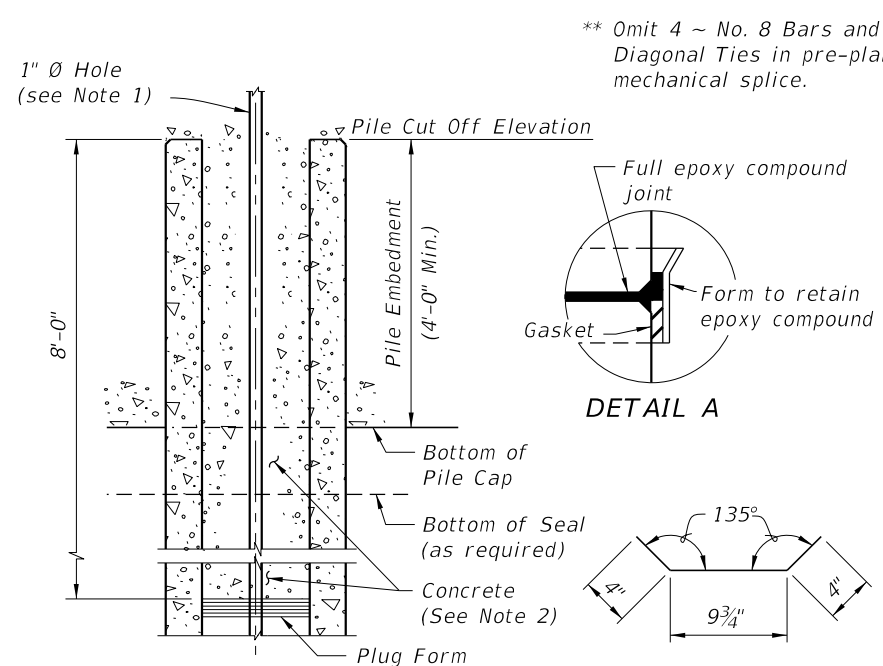
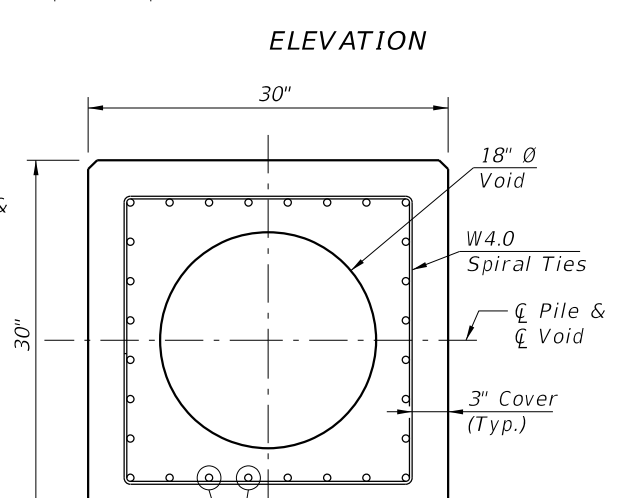
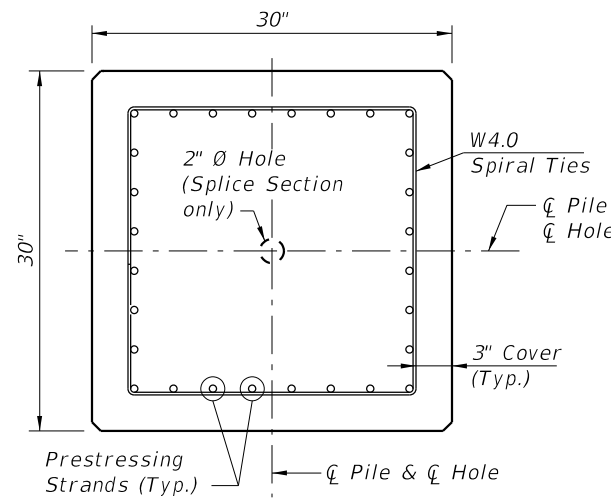
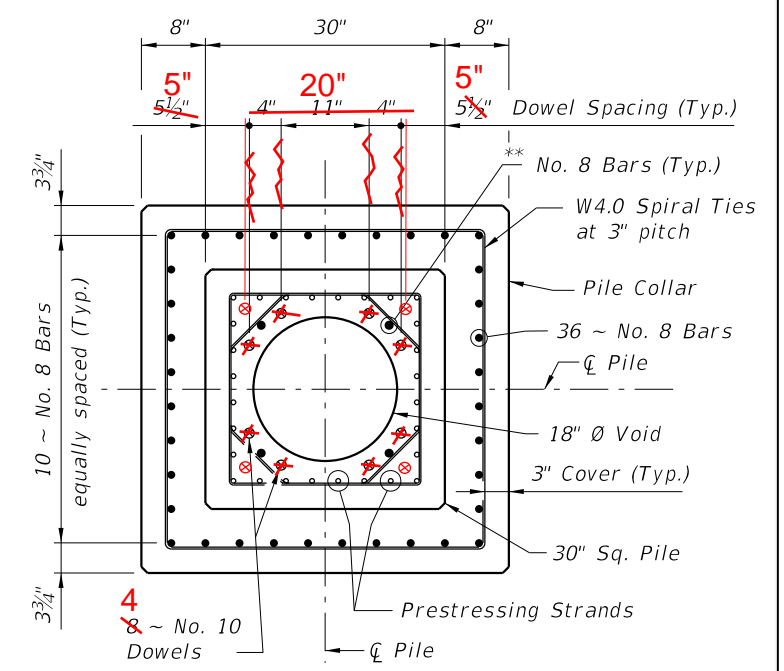
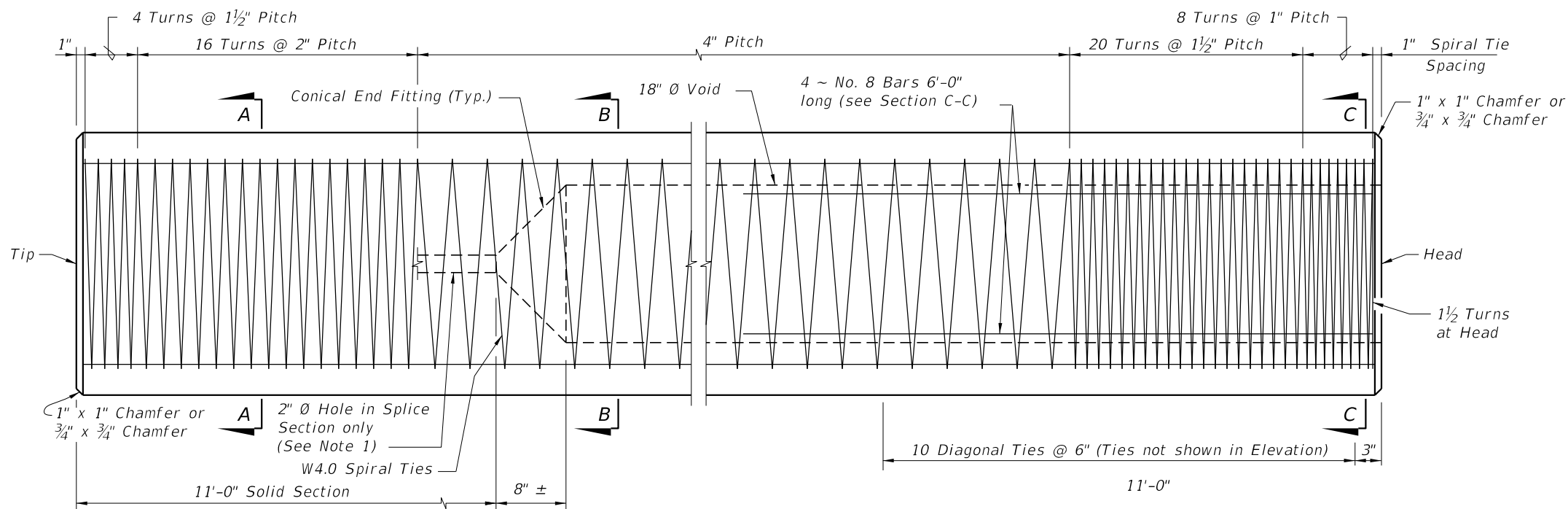
- | Yes | N/A | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input type="checkbox"/> | Revised or Proposed Standard Plan Instruction (SPI) |
| <input type="checkbox"/> | <input type="checkbox"/> | Other Support Documents |

Implementation:

- | | |
|-------------------------------------|----------------------------------|
| <input type="checkbox"/> | Design Bulletin (Interim) |
| <input type="checkbox"/> | DCE Memo |
| <input type="checkbox"/> | Program Mgmt. Bulletin |
| <input checked="" type="checkbox"/> | FY-Standard Plans (Next Release) |

Contact the Roadway Design Office for assistance in completing this form

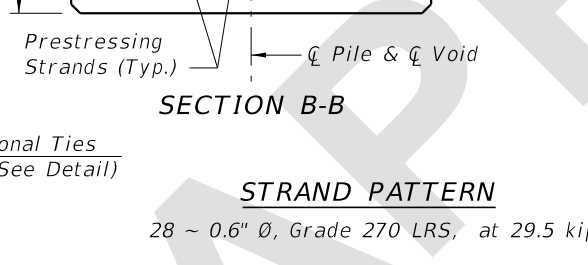
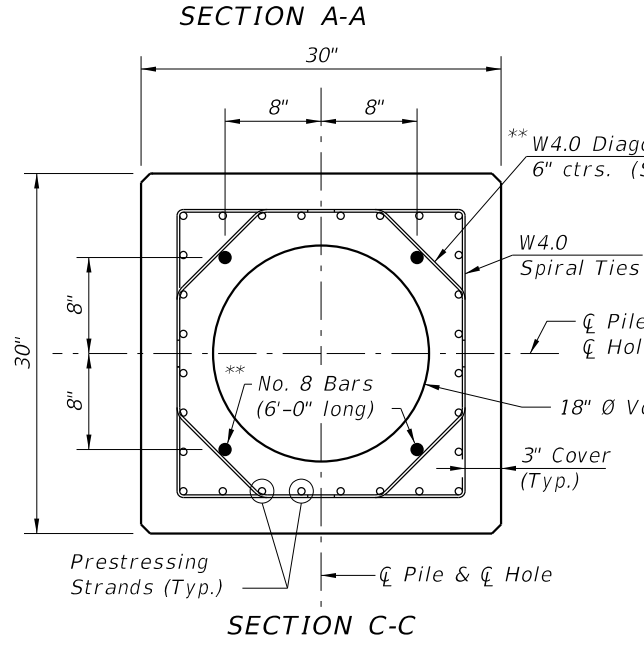
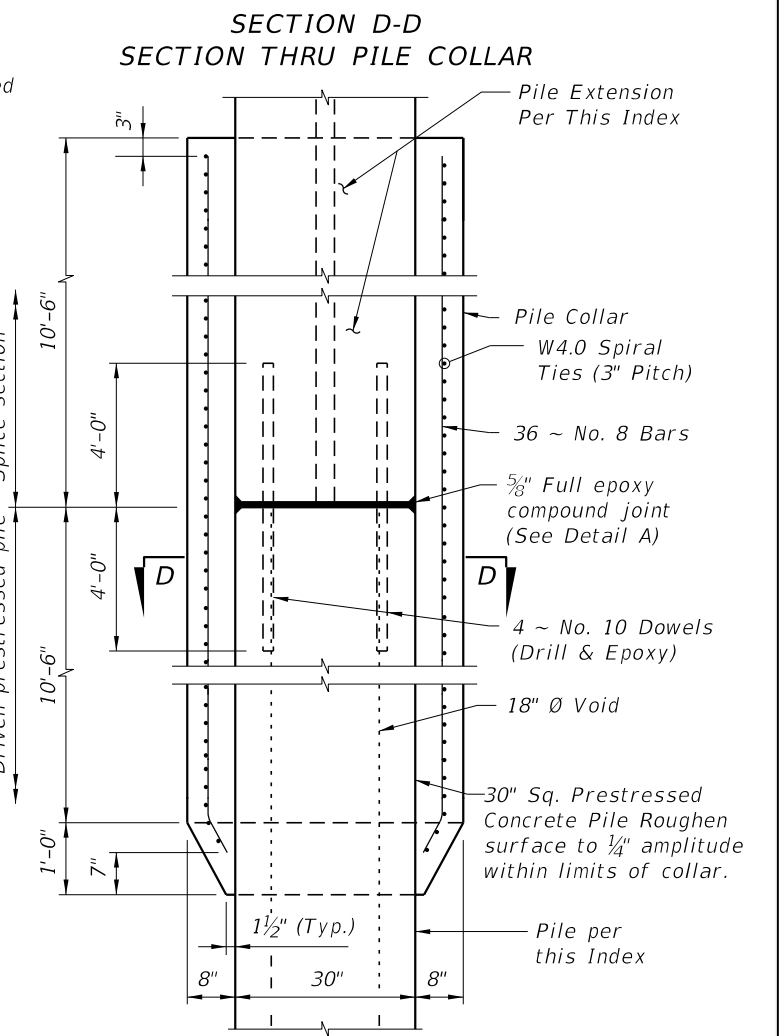
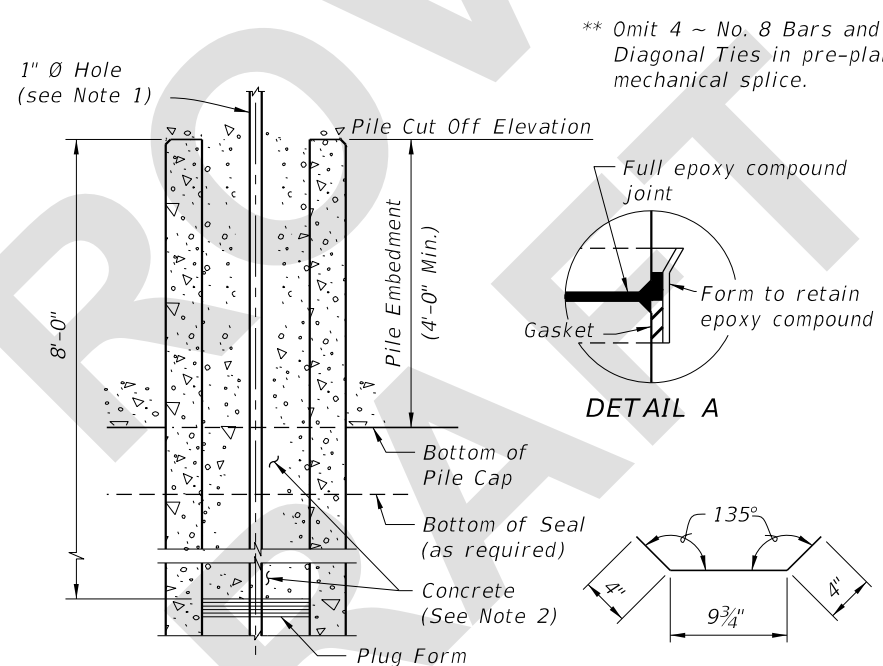
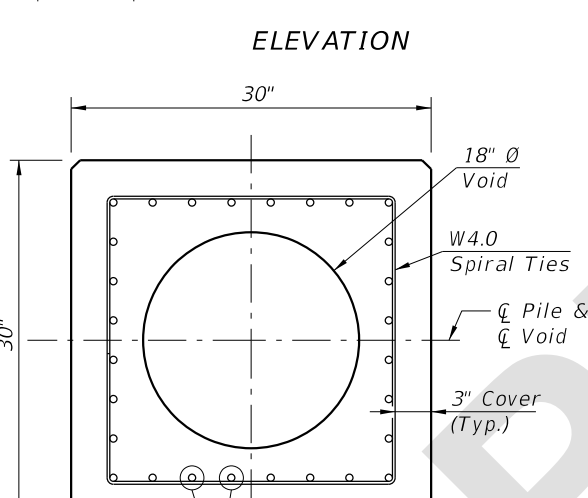
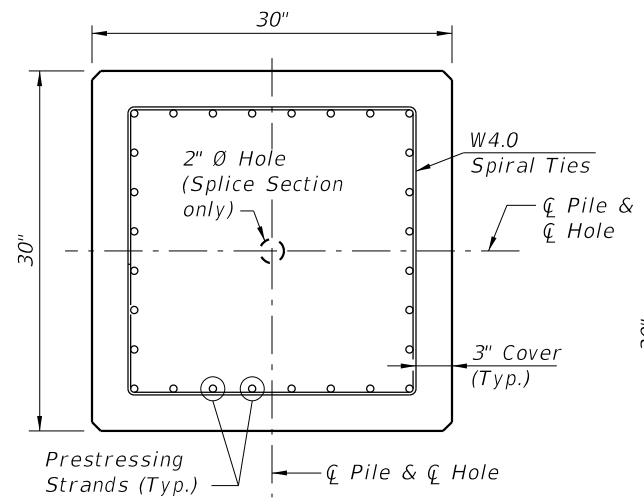
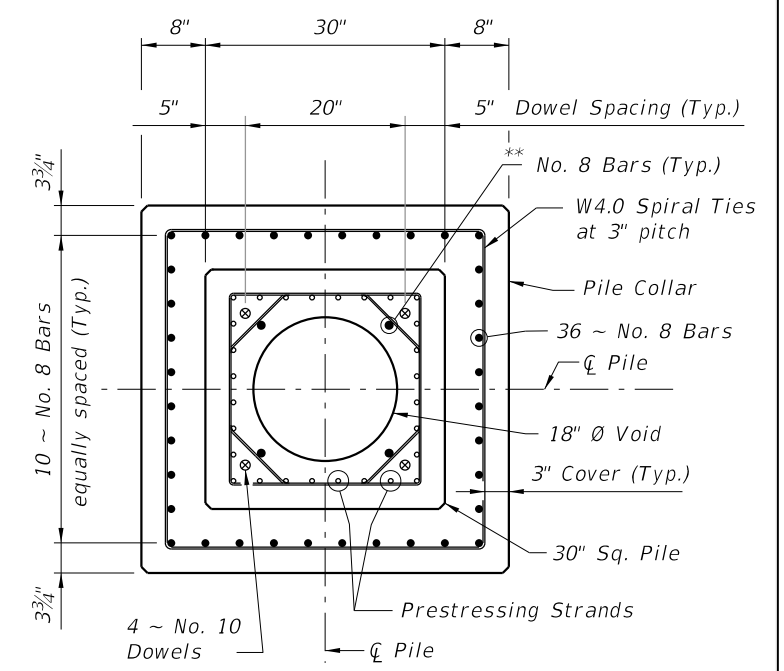
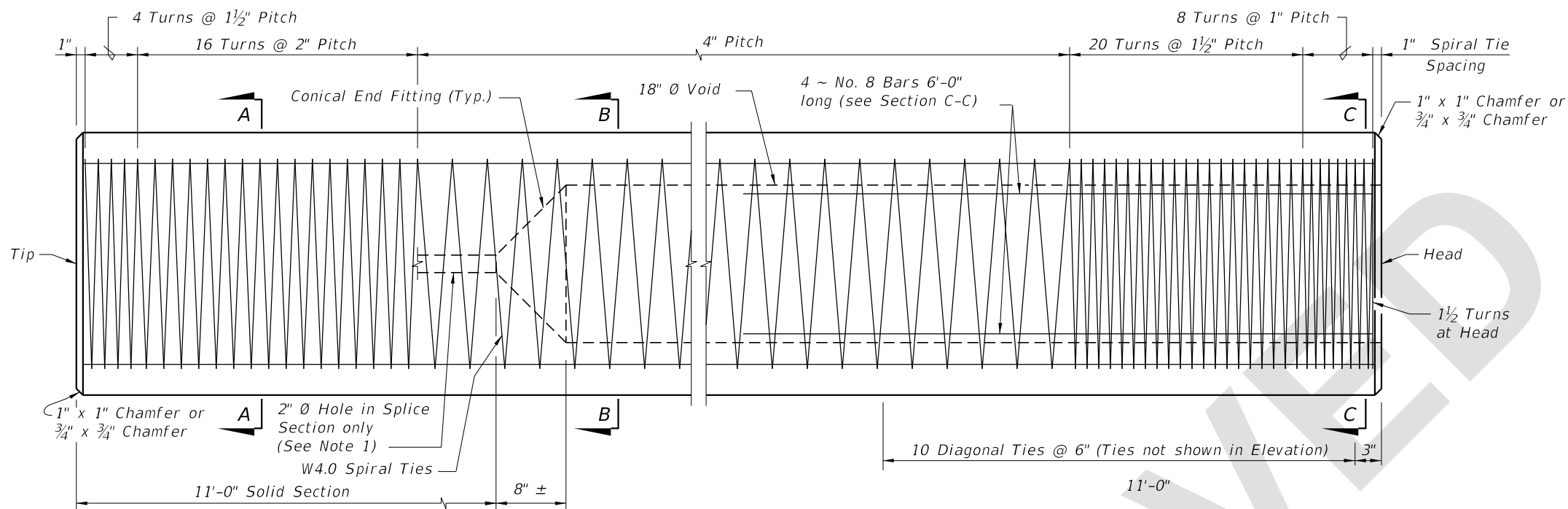
Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us



- NOTES:**
- Venting shall be provided by the use of a 1" Ø PVC conduit through a substructure cap or column. Voids between segments of spliced piles shall be connected by 2" Ø hole(s).
 - After the pile is driven and cut to grade, the top 8'-0" of the 18" Ø Void shall be filled with concrete. Prior to filling the top 8'-0" of the 18" Ø Void with concrete, strip the cardboard form material from the void. A stay-in-place corrugated thin wall galvanized pipe may be used to form the void in lieu of the cardboard form material. The concrete fill material shall be of the same type and strength as called for in the pile cap and paid for as substructure concrete.
 - Collar concrete shall reach a strength of 6,000 psi before pile driving is resumed.
 - Work this Index with Index 455-001 - Notes and Details for Square Prestressed Concrete Piles.


8:08:13 AM
7/19/2022

LAST REVISION 11/01/22	DESCRIPTION:	FDOT FY 2023-24 STANDARD PLANS	30" SQUARE PRESTRESSED CONCRETE PILE - HIGH MOMENT CAPACITY	INDEX 455-031	SHEET 1 of 1
---------------------------	--------------	--------------------------------------	--	------------------	-----------------



- NOTES:
- Venting shall be provided by the use of a 1" Ø PVC conduit through a substructure cap or column. Voids between segments of spliced piles shall be connected by 2" Ø hole(s).
 - After the pile is driven and cut to elevation, the top 8'-0" of the 18" Ø Void shall be filled with concrete. Prior to filling the top 8'-0" of the 18" Ø Void with concrete, strip the cardboard form material from the void. The concrete fill material shall be of the same type and strength as called for in the pile cap and paid for as substructure concrete.
 - Collar concrete shall reach a strength of 6,000 psi before pile driving is resumed.
 - Work this Index with Index 455-001 - Notes and Details for Square Prestressed Concrete Piles.

1:47:21 PM
6/27/2023

LAST REVISION 11/01/23	DESCRIPTION:		FY 2024-25 STANDARD PLANS	30" SQUARE PRESTRESSED CONCRETE PILE - HIGH MOMENT CAPACITY	INDEX 455-031	SHEET 1 of 1
---------------------------	--------------	---	------------------------------	--	------------------	-----------------