

Origination Form
Proposed Revisions to a Standard Plans Index

Originator:	Turley, Joshua	Index Number:	455-030
Date:	5/15/2025	Sheet Number(s):	Sheet 1
E-mail:	Joshua.Turley@dot.state.fl.us	Index Title:	30" SQUARE PRESTRESSED CONCRETE PILE

Summary of the changes:

Sheet 1: Changed pitch spacing for the spiral ties; Changed SECTION D-D note "See unplanned reinforced CIP pile splice or non-drivable unplanned reinforced precast pile splice detail".

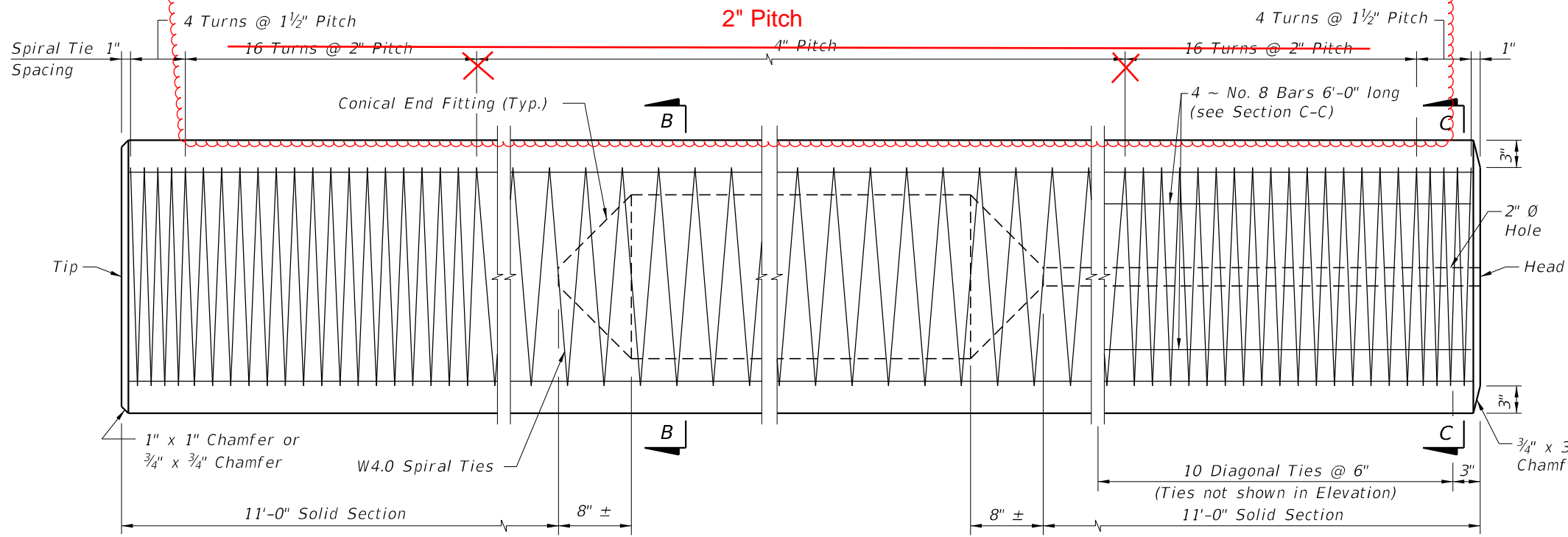
Commentary/Background:

Vertical cracking has been observed in hollow core prestressed concrete piles, including 30-in. voided square HMC and conventional piles, and 60-in. hollow cylindrical piles, during installation and service. To address cracks frequently occur within the 4" stirrup pitch zone, a reduction in stirrup pitch to 2" is proposed to help mitigate cracking in these areas.

Other Affected Documents/Offices	Person Contacted	Affected (Yes/No)
Other Standard Plans		No
FDOT Design Manual		No
Standard Specifications		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No

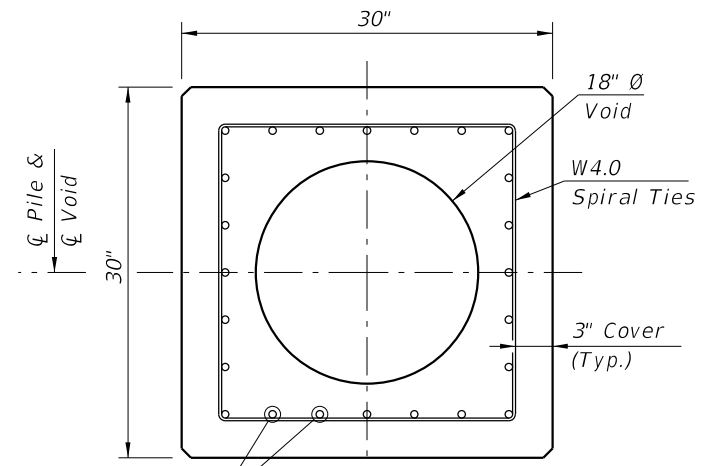
Implementation

["FY-Standard Plans (Next Release)"]



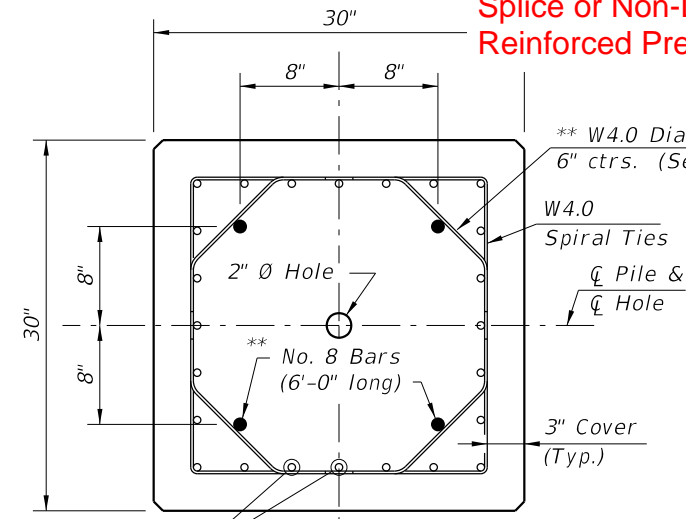
ELEVATION

CHANGED:
 See Unplanned Reinforced CIP Pile Splice or Non-Drivable Unplanned Reinforced Precast Pile Splice Detail



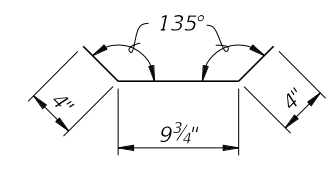
SECTION B-B

(See Pile Splice Reinforcement Details)



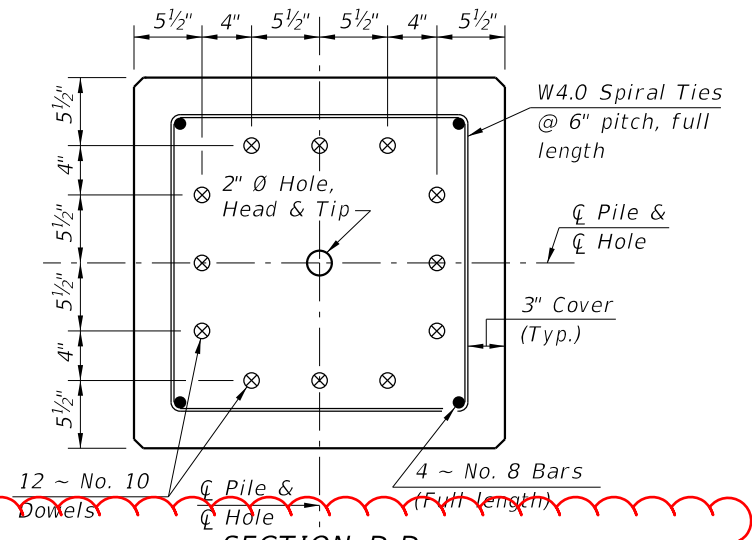
SECTION C-C

(See Pile Splice Reinforcement Details)



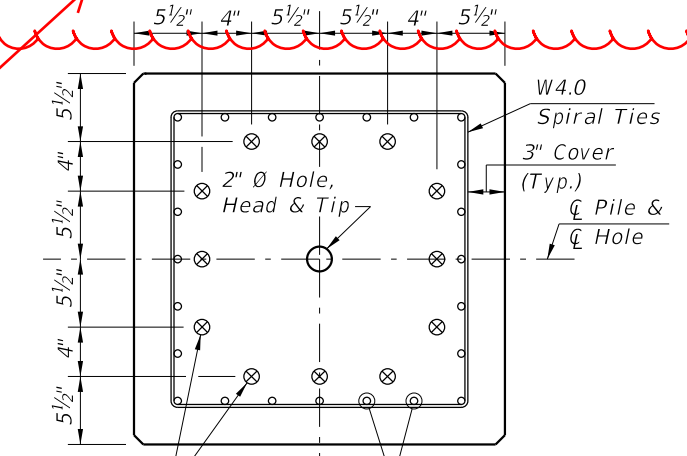
W4.0 DIAGONAL TIE DETAIL

** Omit 4 ~ No. 8 Bars and Diagonal Ties in pre-planned mechanical splice.



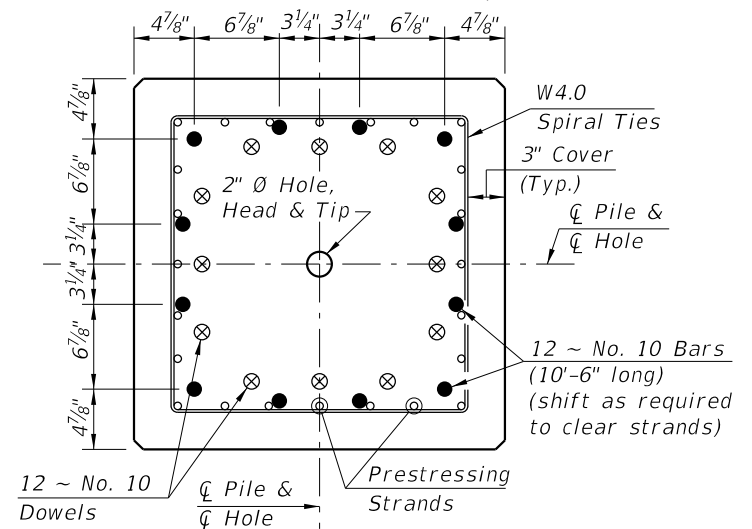
SECTION D-D

(See Nondrivable Unforeseen Reinforced Precast Pile Splice Detail)



SECTION E-E

(See Drivable Prestressed Precast Pile Splice Detail)



SECTION F-F

(See Drivable Preplanned Pile Splice Detail)

PILE SPLICE DETAILS

ALTERNATE STRAND PATTERNS

- 20 ~ 0.6" Ø, Grade 270 LRS, at 41 kips
- 24 ~ 1/2" Ø (Special), Grade 270 LRS, at 34 kips
- 28 ~ 1/2" Ø, Grade 270 LRS, at 29 kips

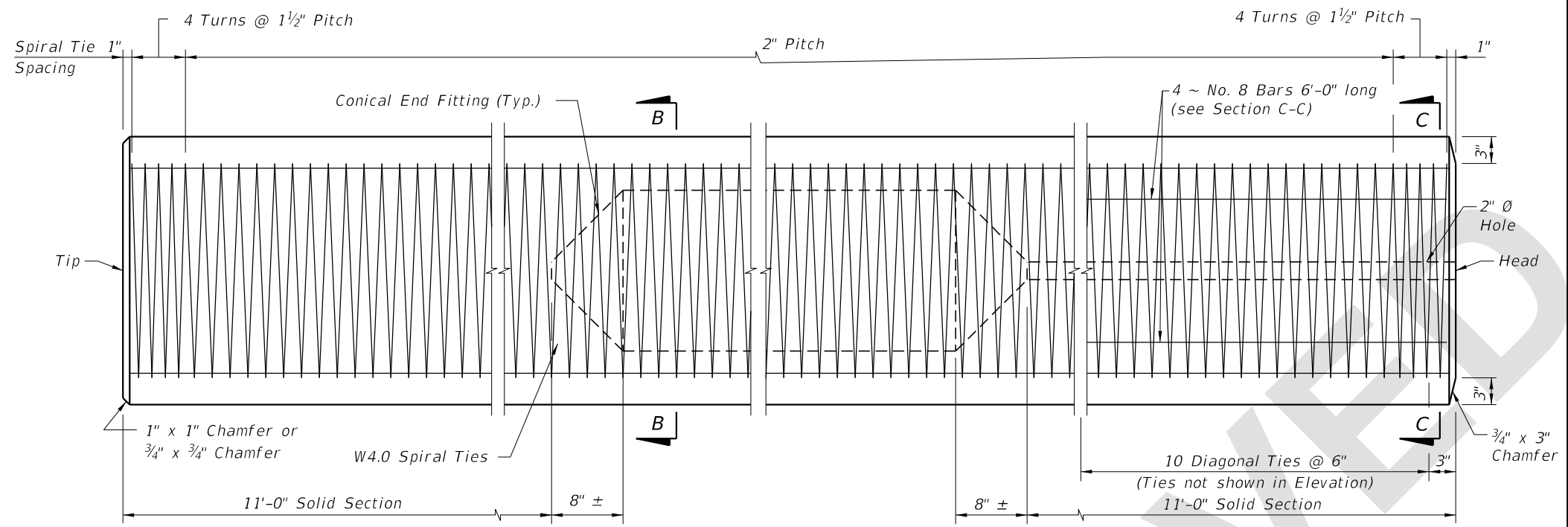
NOTES:

1. 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).
2. Any of the given Alternate Strand Patterns may be utilized. The strands shall be located as follows: Place one strand at each corner and place the remaining strands equally spaced between the corner strands. The total strand pattern shall be concentric with the nominal concrete section of the pile.
3. CONTRACTOR OPTION: The 30" pile may be cast SOLID by omitting the 18" Ø void and the 2" Ø vent hole. In this event, the Contractor shall submit calculations for approval and a proposed strand configuration that provide net prestressing after losses equal to 1000 psi. Alternate configurations for the Diagonal Ties, to maintain the position of the 4 ~ No. 8 Bars, may be approved by the Engineer.
4. Work this Index with Index 455-001 - Notes and Details for Square Prestressed Concrete Piles and Index 455-002 - Square Prestressed Concrete Pile Splices.

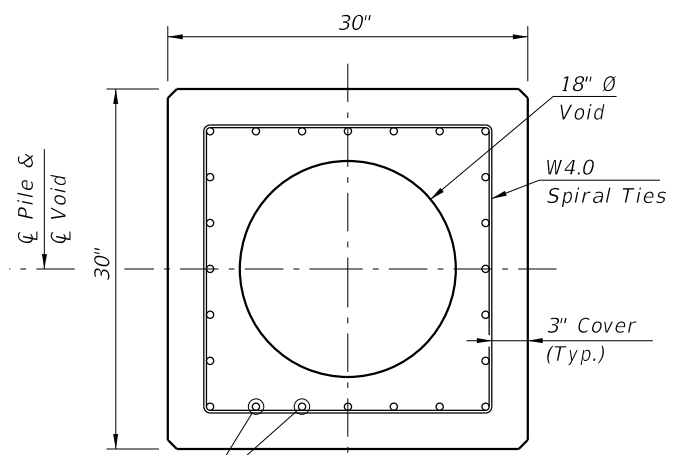
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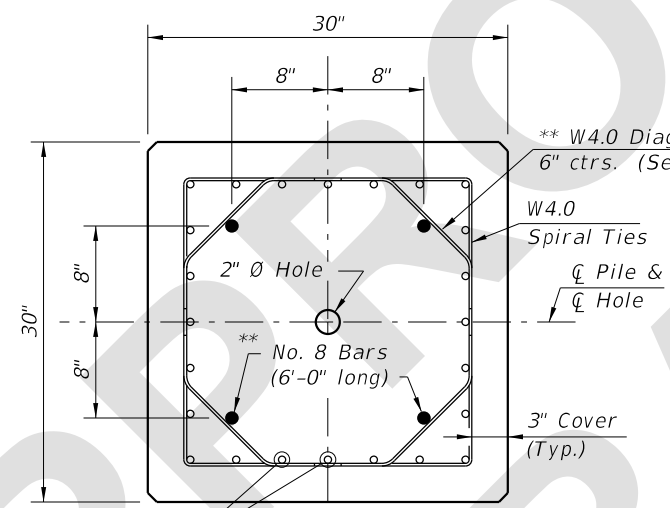
LAST REVISION 11/01/22 05/01/25	REVISION	DESCRIPTION:		FY 2025-26 STANDARD PLANS	30" SQUARE PRESTRESSED CONCRETE PILE	INDEX 455-030	SHEET 1 of 1
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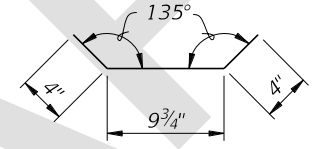
ELEVATION



SECTION B-B
(See Pile Splice Reinforcement Details)



SECTION C-C
(See Pile Splice Reinforcement Details)



W4.0 DIAGONAL TIE DETAIL

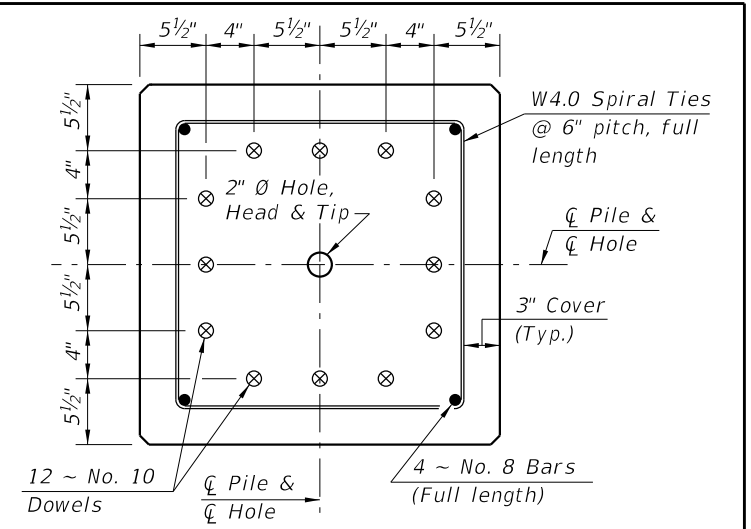
** Omit 4 ~ No. 8 Bars and Diagonal Ties in pre-planned mechanical splice.

ALTERNATE STRAND PATTERNS

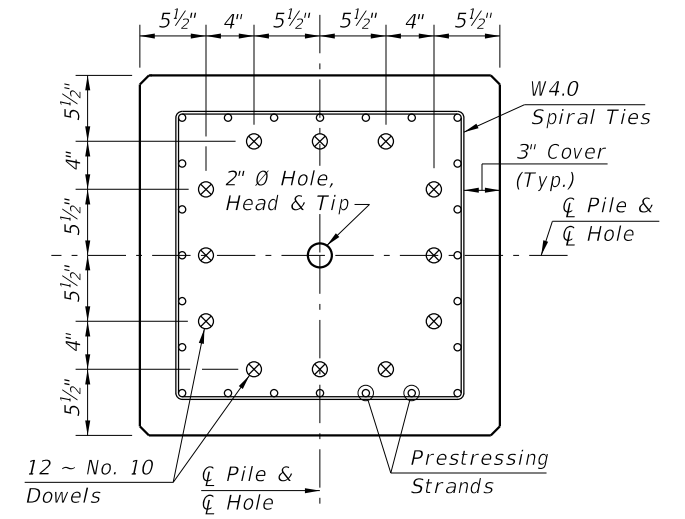
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NOTES:

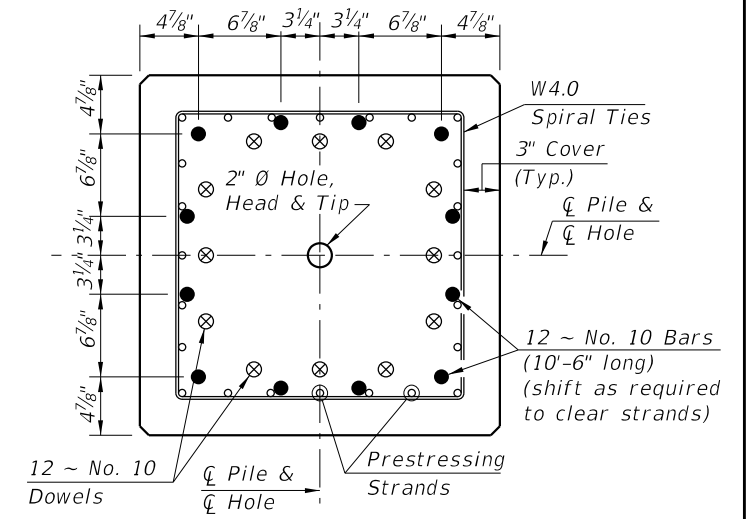
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- Work this Index with Index 455-001 - Notes and Details for Square Prestressed Concrete Piles and Index 455-002 - Square Prestressed Concrete Pile Splices.



SECTION D-D
(See Unplanned Reinforced CIP Pile Splice or Non-Drivable Unplanned Reinforced Precast Pile Splice Detail)



SECTION E-E
(See Drivable Prestressed Precast Pile Splice Detail)



SECTION F-F
(See Drivable Preplanned Pile Splice Detail)

PILE SPLICE DETAILS

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LAST REVISION 11/01/25	REVISION	DESCRIPTION:		FY 2026-27 STANDARD PLANS	30" SQUARE PRESTRESSED CONCRETE PILE	INDEX 455-030	SHEET 1 of 1
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