
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index

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

Contact Information:

Date: October 21, 2021
Originator: Joshua Turley
Phone: (850) 414-4475
Email: joshua.turley@dot.state.fl.us

Standard Plans:

Index Number: 455-400
Sheet Number (s): 1
Index Title: Precast Concrete Sheet Pile Wall
(Conventional)

Summary of the changes:

Changed Class V (Special) concrete to Class V.

Commentary / Background:**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:

(Email or hand deliver package to Rick Jenkins)

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

Implementation:

<input type="checkbox"/>	Design Bulletin (Interim)
<input type="checkbox"/>	DCE Memo
<input checked="" 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

SHEET PILE DESIGN CRITERIA AND NOTES

DESCRIPTION:

This Index includes details for five types of piles with two thicknesses. Types "B1", "B2", "C1" and "C2" piles (corner piles) are of reinforced concrete construction, and Type "A" is of prestressed concrete construction. The piles shall be manufactured, cured and installed in accordance with the requirements of the contract documents.

MATERIALS: (for materials not listed refer to the Specifications)

CONCRETE

Class:

V (Special) for slightly and moderately aggressive environments
 V (Special) with Highly Reactive Pozzolans for extremely aggressive environments

Unit weight:

150 pcf

Modulus of Elasticity:

Based on the use of Florida limerock concrete

REINFORCING STEEL

ASTM A615 Grade 60

PRESTRESSING STEEL

ASTM A416 Grade 270 (Low-Relaxation Strand)

DESIGN PARAMETERS:

Type "A"

Concrete Compressive Strength at release of prestressing: 4000 psi minimum

Uniform compression after prestressing losses: 1000 psi minimum

Pick-up, Storage and Transportation:

0.0 psi tension with 1.5 times pile self weight

Types "B1", "B2", "C1" & "C2"

Pick-up, Storage and Transportation: Minimum compressive strength $f'_{ci} \geq 4000$ psi required.

ENVIRONMENT:

The pile designs are applicable to all Environments.

PLASTIC FILTER FABRIC:

The plastic filter fabric shall extend to the bottom of the "X" dimension.

PILE PICK-UP AND HANDLING:

Type "A"

Pick-up of pile may be either a single point pick-up or a two point pick-up as shown below.

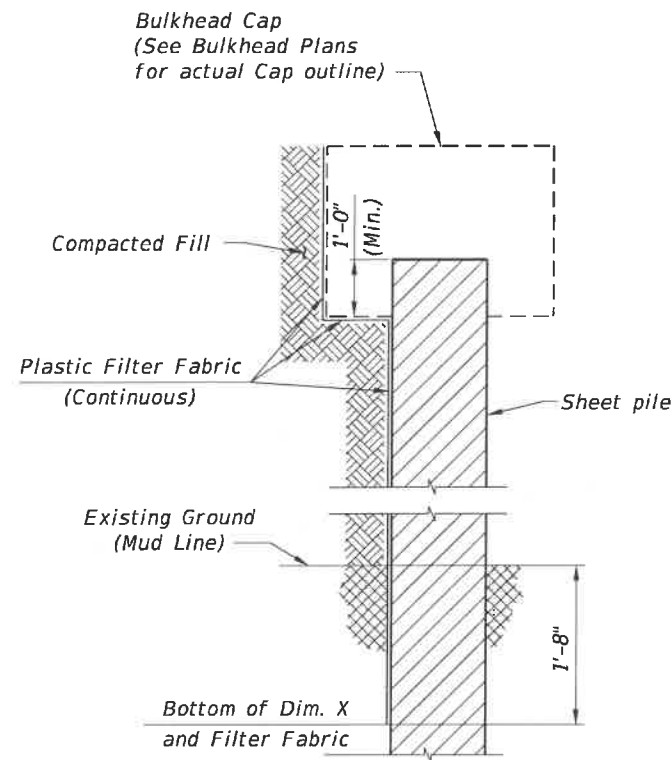
Types "B1", "B2", "C1" & "C2"

Two point pick-up for lifting out of forms & two point support for storage & transportation.

Single point pick-up for installation only.

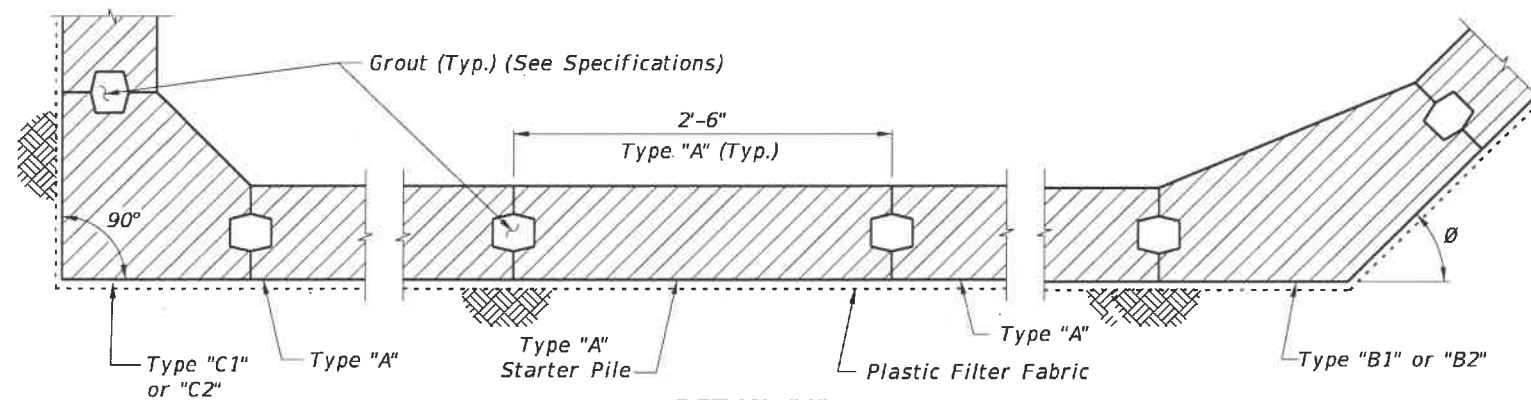
PILE FIT-UP:

The 2'-6" Sheet Pile dimension is nominal. This dimension may be shortened by the Manufacturer up to 1/2" to allow for Sheet Pile fit-up in its final position. Minimum Sheet Pile width is 2'-5 1/2". No changes shall be made to the tongues or grooves.



SECTION THRU BULKHEAD
(Showing Plastic Filter Fabric)

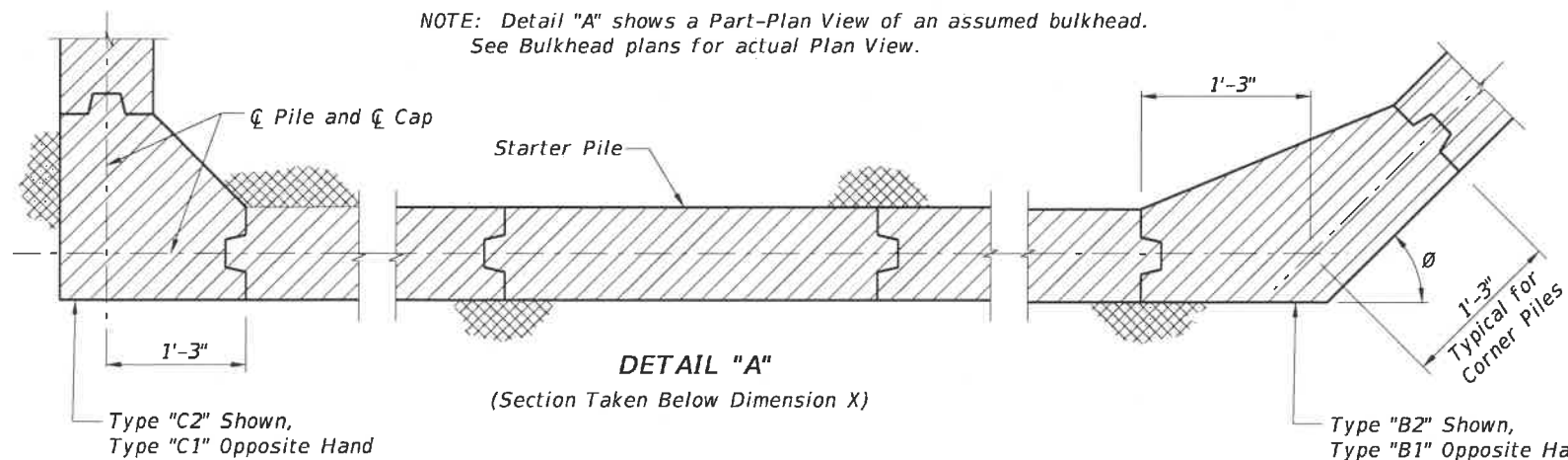
CROSS REFERENCES:
 For Dimensions L and X see Sheet Pile Wall Data Table in Structures Plans.



DETAIL "A"

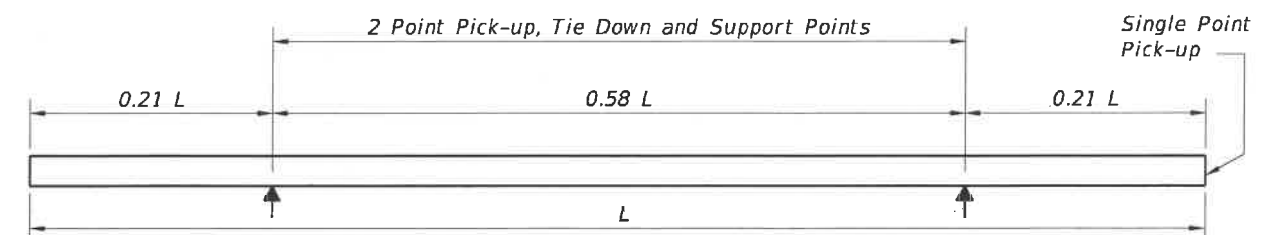
(Cap and Anchoring System Not Shown)
 (Section Taken Above Dimension X)

NOTE: Detail "A" shows a Part-Plan View of an assumed bulkhead. See Bulkhead plans for actual Plan View.



DETAIL "A"

(Section Taken Below Dimension X)



PILE STORAGE AND TRANSPORTATION SUPPORT DETAILS

NOTES AND DETAILS

10/12/2020 7:26:39 AM

LAST REVISION	DESCRIPTION:
11/01/22	11/01/22

FDOT
 FY 2021-22
 STANDARD PLANS

PRECAST CONCRETE SHEET PILE WALL (CONVENTIONAL)

INDEX	SHEET
455-400	1 of 4

SHEET PILE DESIGN CRITERIA AND NOTES

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MATERIALS: (for materials not listed refer to the Specifications)

CONCRETE

Class: V for slightly and moderately aggressive environments
 V with Highly Reactive Pozzolans for extremely aggressive environments
 Unit weight: 150 pcf
 Modulus of Elasticity: Based on the use of Florida limerock concrete

REINFORCING STEEL

ASTM A615 Grade 60

PRESTRESSING STEEL

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DESIGN PARAMETERS:

Type "A"
 Concrete Compressive Strength at release of prestressing: 4000 psi minimum
 Uniform compression after prestressing losses: 1000 psi minimum
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The plastic filter fabric shall extend to the bottom of the "X" dimension.

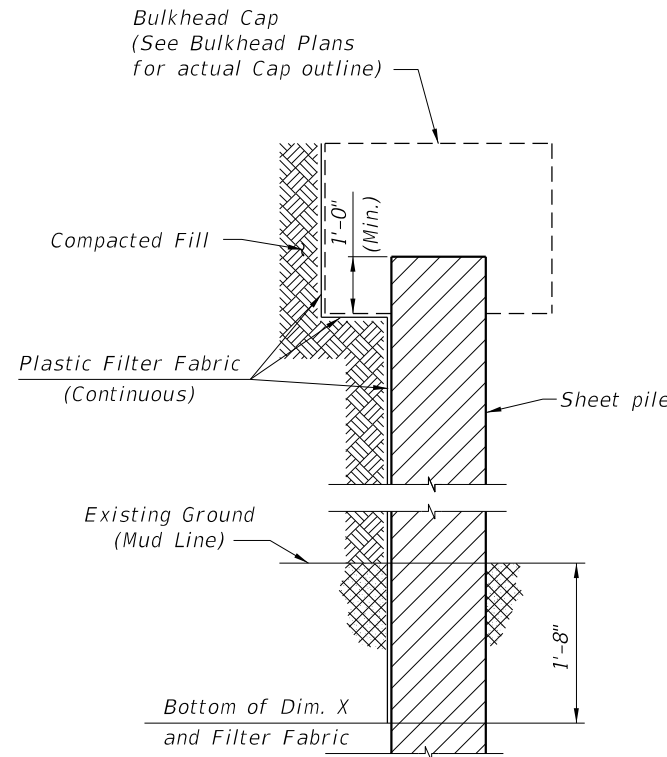
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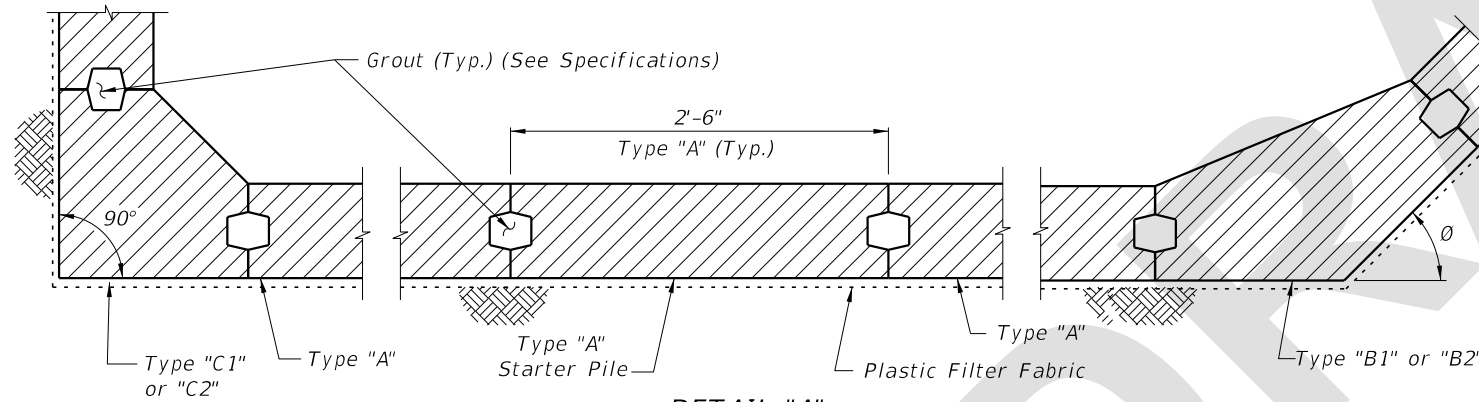
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CROSS REFERENCES:
 For Dimensions L and X see Sheet Pile Wall Data Table in Structures Plans.

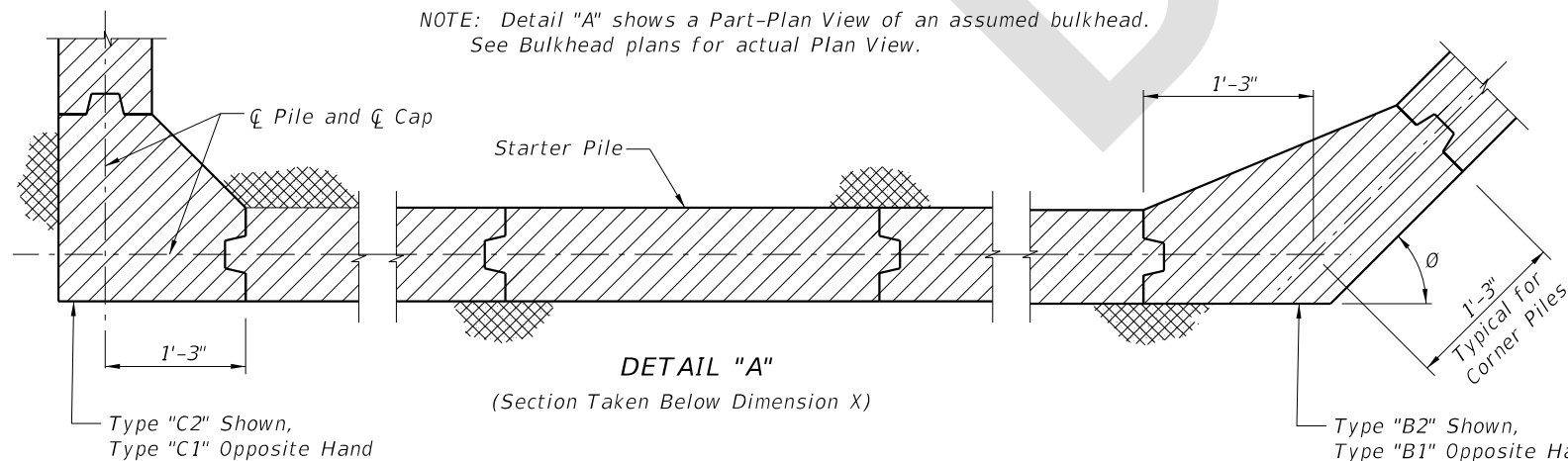


SECTION THRU BULKHEAD
 (Showing Plastic Filter Fabric)

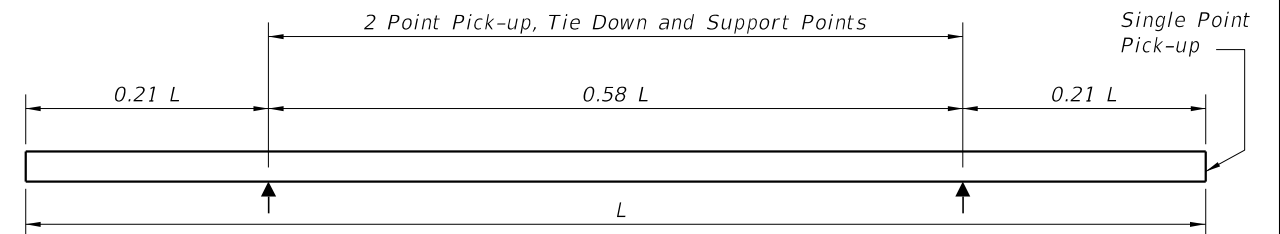


DETAIL "A"
 (Cap and Anchoring System Not Shown)
 (Section Taken Above Dimension X)

NOTE: Detail "A" shows a Part-Plan View of an assumed bulkhead. See Bulkhead plans for actual Plan View.




DETAIL "A"
 (Section Taken Below Dimension X)



PILE STORAGE AND TRANSPORTATION SUPPORT DETAILS

NOTES AND DETAILS

1:50:41 PM
 7/22/2022

LAST REVISION 11/01/22	REVISION	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	PRECAST CONCRETE SHEET PILE WALL (CONVENTIONAL)	INDEX 455-400	SHEET 1 of 4
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