
ORIGINATION FORM

Proposed Revisions to a Standard Plans Index (Please provide all information — Incomplete forms will be returned)

Contact Information:

Date: February 12, 2020

Originator: Cheryl Hudson

Phone: 414-5332

Email: cheryl.hudson@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:

Change Silica Fume, metakaolin or ultra-fine flyash to Highly Reactive Pozzolans

Commentary / Background:

Specification changed to fit silica fume, metakaolin and ultra-fine flyash under Highly Reactive Pozzolans

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 checked="" type="checkbox"/>	Proposed Standard Plan Instruction (SPI)
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Revised SPI
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Other Support Documents

Implementation:

- Design Bulletin (Interim)
- DCE Memo
- Program Mgmt. Bulletin
- FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

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 silica fume, metakaolin or ultrafine fly ash 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.

Highly Reactive Pozzolans

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.

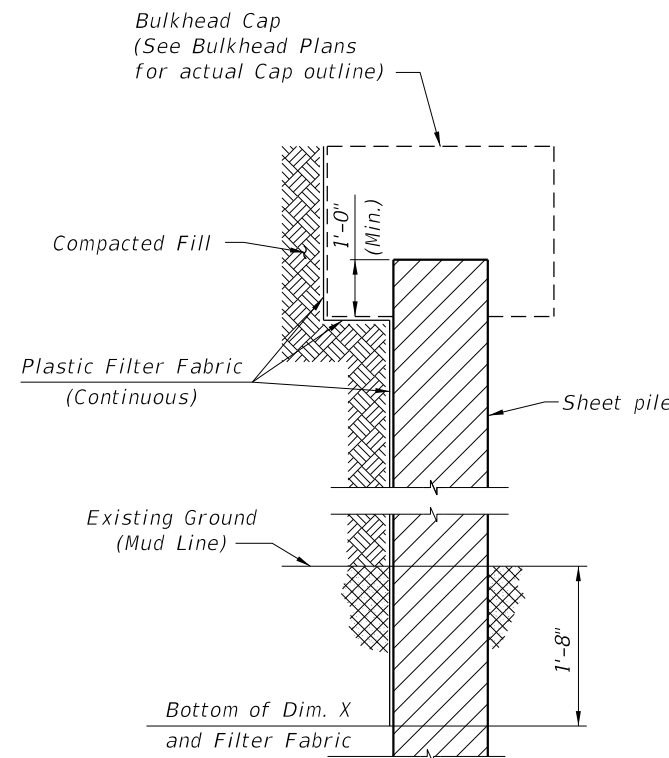
Types "B1", "B2", "C1" & "C2"

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:

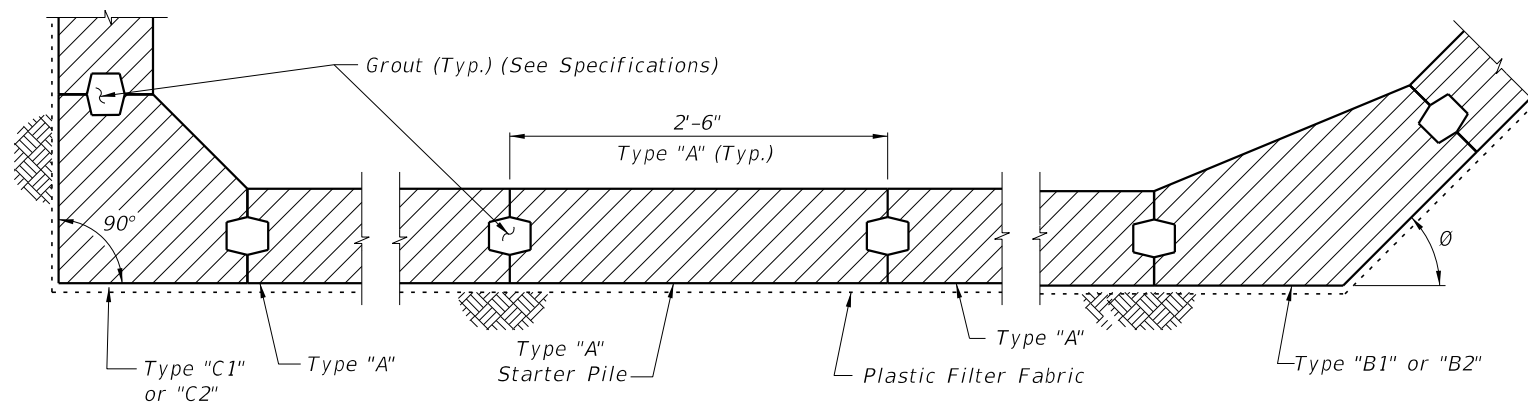
The 2'-6" Sheet Pile dimension is nominal. This dimension may be shortened by the Manufacturer up to 1/2" to allow for Sheet Pile fit-up in its final position. Minimum Sheet Pile width is 2'-5 1/2". No changes shall be made to the tongues or grooves.



SECTION THRU BULKHEAD

(Showing Plastic Filter Fabric)

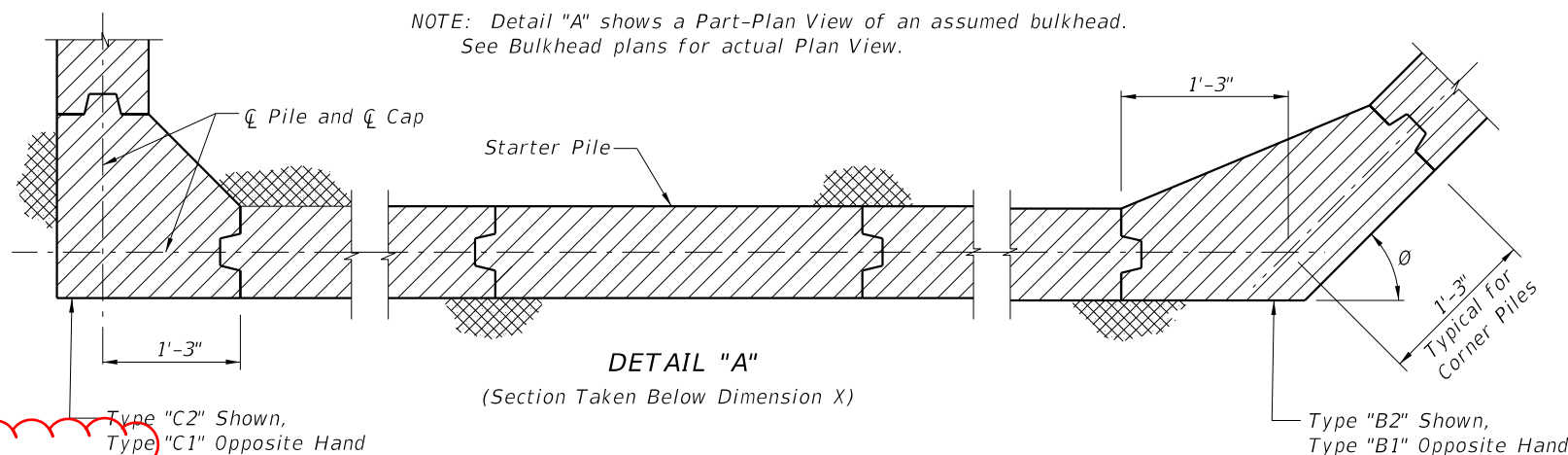
CROSS REFERENCES:
 For Dimensions L and X see Sheet Pile Wall Data Table in Structures Plans.



DETAIL "A"

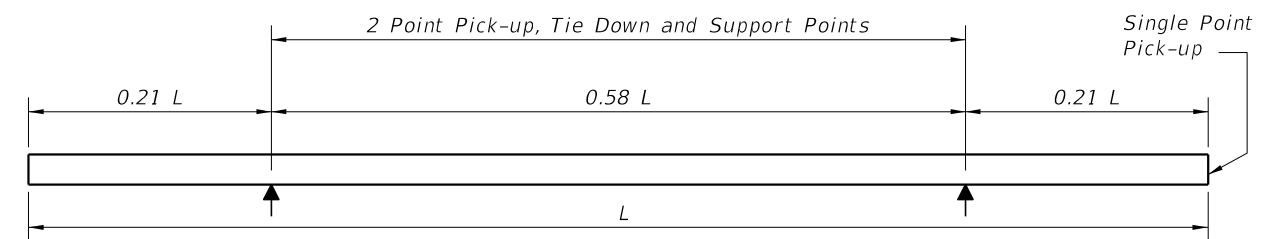
(Cap and Anchoring System Not Shown)
 (Section Taken Above Dimension X)

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

10:13:38 AM

10/14/2019

20

LAST REVISION 11/01/17

DESCRIPTION:



FY 2020-21
 STANDARD PLANS

PRECAST CONCRETE SHEET PILE WALL
 (CONVENTIONAL)

NOTES AND DETAILS

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)
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 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

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 Type "A"
 Concrete Compressive Strength at release of prestressing: 4000 psi minimum
 Uniform compression after prestressing losses: 1000 psi minimum
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 Types "B1", "B2", "C1" & "C2"
 Pick-up, Storage and Transportation: Minimum compressive strength $f'_{ci} \geq 4000$ psi required.

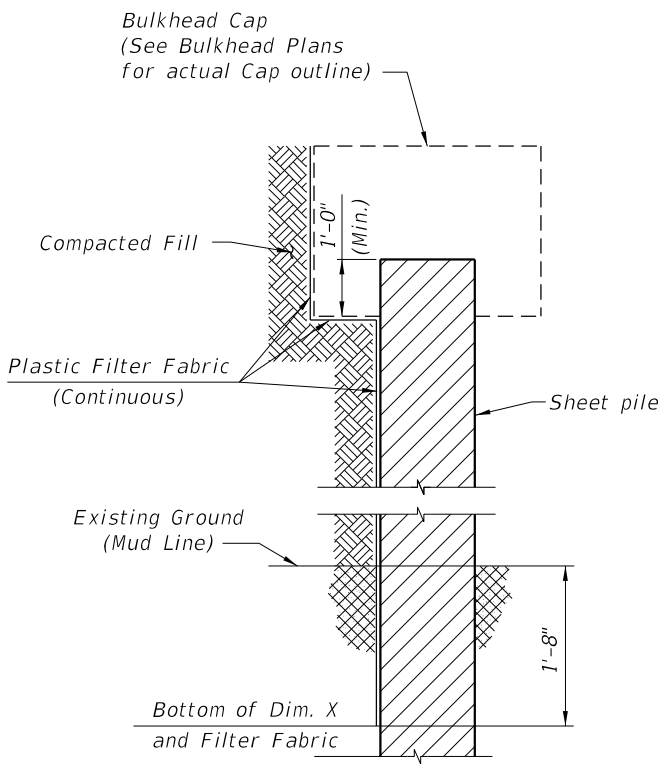
ENVIRONMENT:
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PLASTIC FILTER FABRIC:
 The plastic filter fabric shall extend to the bottom of the "X" dimension.

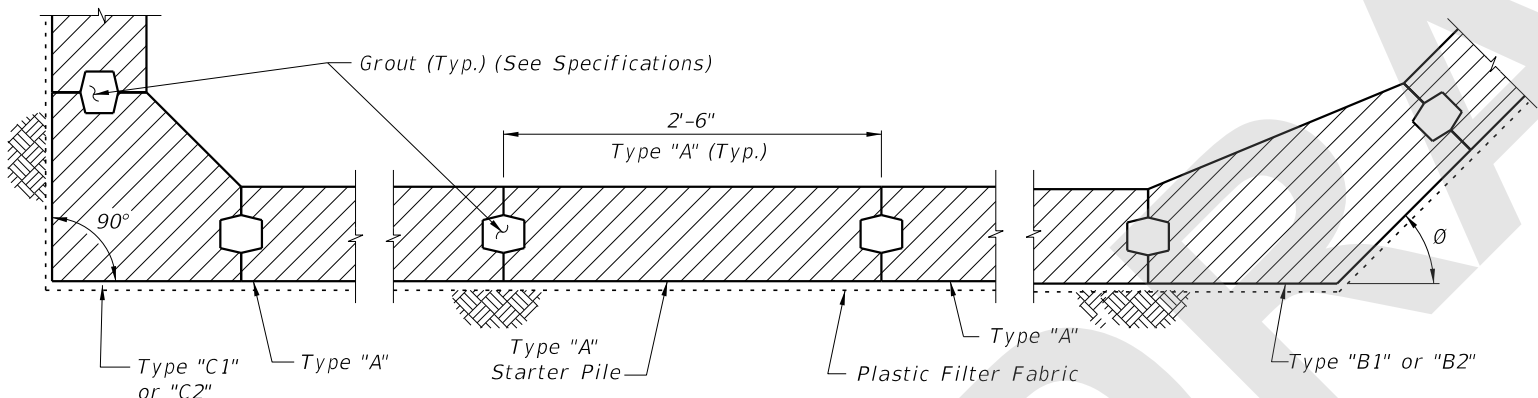
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CROSS REFERENCES:
 For Dimensions L and X see Sheet Pile Wall Data Table in Structures Plans.

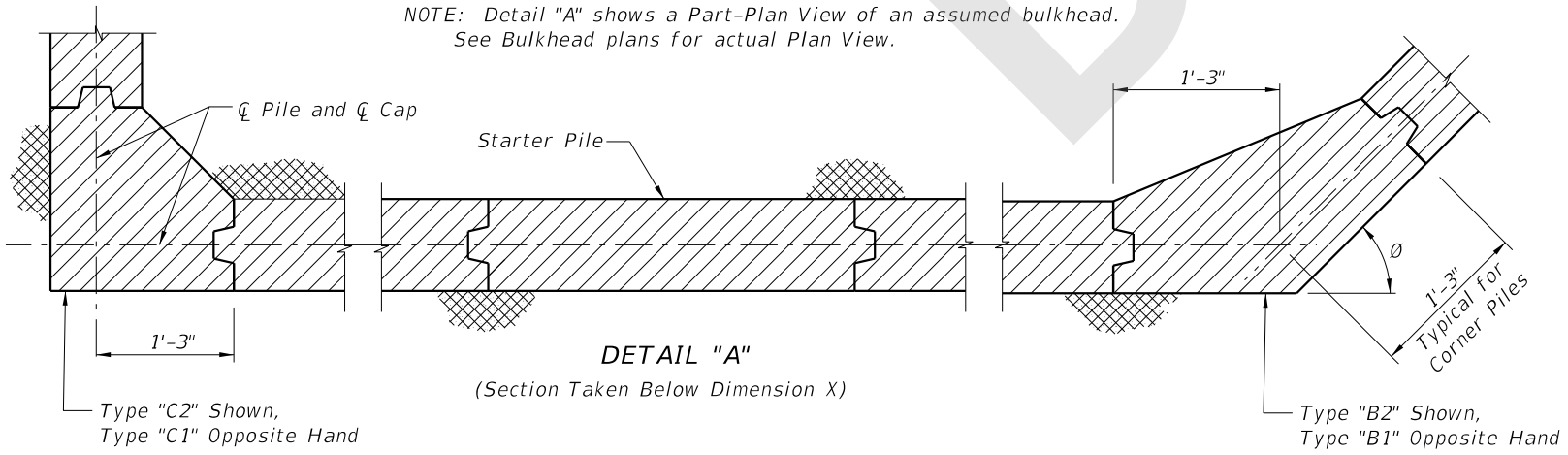


SECTION THRU BULKHEAD
 (Showing Plastic Filter Fabric)

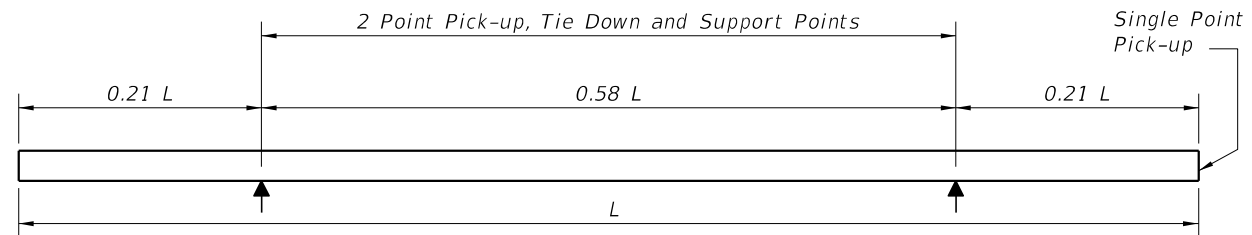


DETAIL "A"
 (Cap and Anchoring System Not Shown)
 (Section Taken Above Dimension X)

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

LAST REVISION 11/01/20	REVISION	DESCRIPTION:	 FY 2021-22 STANDARD PLANS	PRECAST CONCRETE SHEET PILE WALL (CONVENTIONAL)	INDEX 455-400	SHEET 1 of 4
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