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## ORIGINATION FORM

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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: 548-020

Sheet Number (s): 1

Index Title: MSE Retaining Wall Systems (Permanent)

**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)

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Contact the Roadway Design Office for assistance in completing this form

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**NOTES**

**DESIGN CRITERIA:**

- Design is based on the assumption that the material contained within the reinforced soil volume, methods of construction and quality of prefabricated materials are in accordance with Specification Section 548 and Chapter 3 of the FDOT Structures Design Guidelines.

**SOIL PARAMETERS:**

- See Wall Control Drawings for soil characteristics of foundation material to be used in the design of the wall system.
- The Contractor will provide soil design parameters for backfill material based on the actual soil characteristics utilized at the site.

**MATERIALS:**

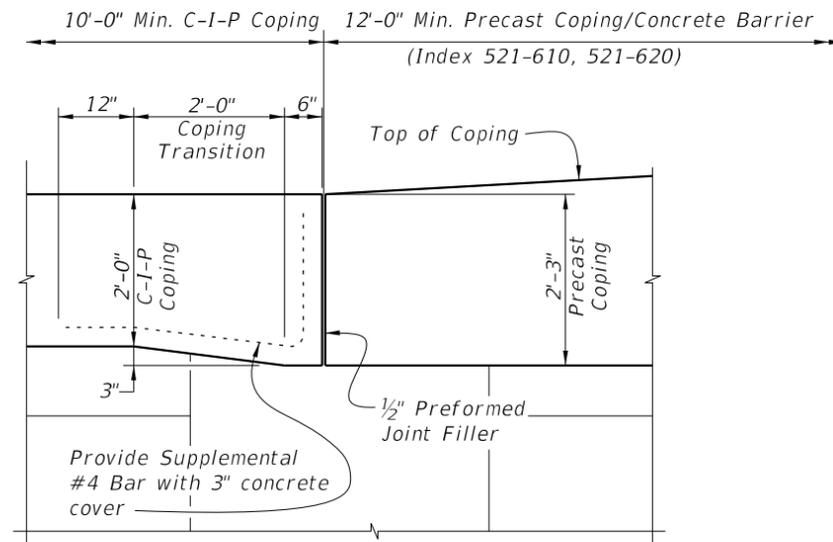
- See Specification Section 548 for material requirements.

**CONSTRUCTION:**

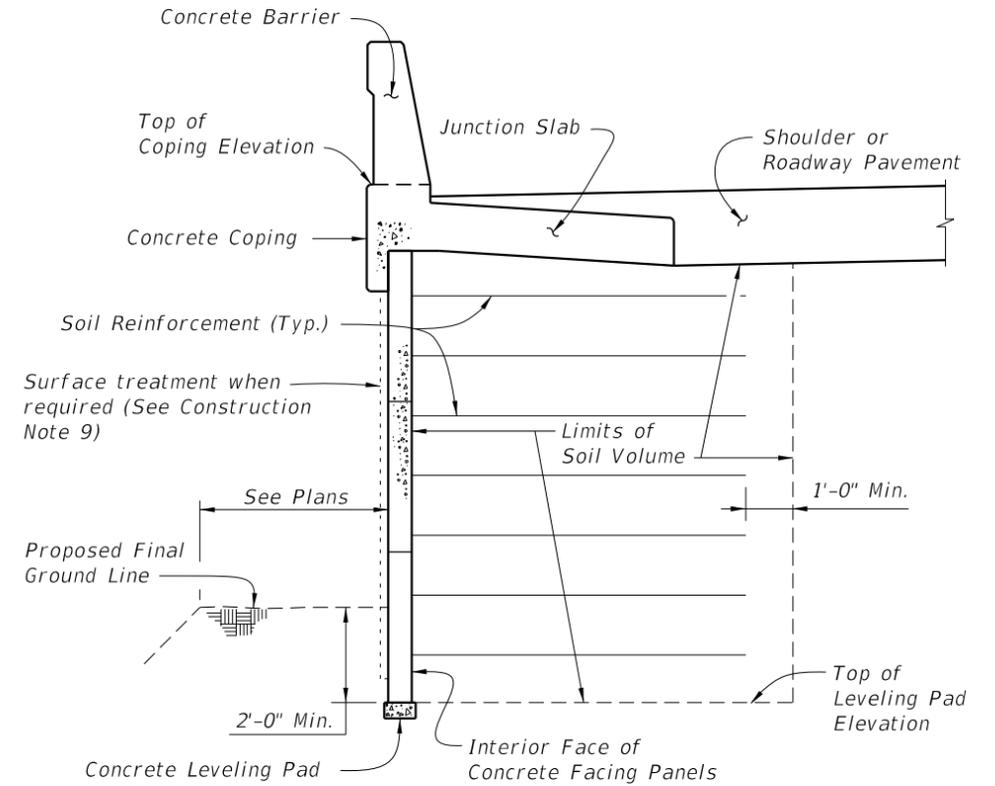
- Walls will be constructed in accordance with Specification Section 548 and the Wall Company's instructions.
- For location and alignment of retaining walls, see Wall Control Drawings.
- If required, locate manholes and drop inlets as shown on wall elevations.
- Refer to Wall Control Drawings of individual walls for minimum reinforcement strip/mesh length, factored bearing resistance's, minimum wall embedment and anticipated long term and differential settlements.
- The Contractor is responsible for controlling water during storm events as needed during construction.
- It is the Contractor's responsibility to determine the location of any guardrail posts behind retaining wall panels. Prior to placement of the top layer of soil reinforcement, individual reinforcing strips/mesh may be skewed (15° maximum) to avoid the post locations if authorized by the Engineer. No cutting of soil reinforcement is allowed unless shown on Shop Drawings and approved by the Engineer. Any damage done to the soil reinforcement due to installation of the guardrail will be repaired by the Contractor at the Contractor's expense. Repair method will be approved by the Engineer.
- If existing or future structures, pipes, foundations or guardrail posts within the reinforced soil volume interfere with the normal placement of soil reinforcement and specific directions have not been provided on the plans, the Contractor will notify the Engineer to determine what course of action shall be taken.
- The Contractor is responsible for gradually displacing upper layer(s) of soil reinforcement downward (15° maximum from horizontal) to avoid cutting soil reinforcement and conflicts with paving and subgrade preparation. The Contractor's attention is directed especially to situations where roadway superelevation and/or soil mixing are anticipated.
- For concrete facing panel surface treatment, see Wall Control Drawings. Extend surface treatment a minimum of 6" below final ground line.
- Drive piles located within the soil volume prior to construction of the retaining wall, unless a method to protect the structure, acceptable to both the Engineer and Wall Company, is proposed and approved in writing. The portion of piles or drilled shafts extensions within the soil volume will be wrapped with polyethylene sheeting in accordance with Specification Section 459.
- A structural extension of the connection of the retaining wall panel to soil reinforcement will be used whenever necessary to avoid cutting or excessive skewing (greater than 15°) of the soil reinforcement around obstructions (i.e., piles, pipes, manholes, drop inlets, etc.).
- Steps in leveling pads will occur at MSE Wall panel interfaces. Panels will not cantilever more than 2" past the end of the upper tier leveling pad.
- The top of the leveling pad or footing will be 2'-0" minimum below final ground line.
- Top of leveling pad elevations shown in the Wall Control Drawings are maximum elevations. The constructed leveling pad elevations may be deeper based on the panel layout shown in the shop drawings.
- The height of panels in the bottom course of MSE Walls must not be less than half the height of a standard panel.
- Work this Index with Index 521-600 thru 521-650.

**SHOP DRAWINGS:**

See Specification Section 548 for shop drawing requirements.



**ELEVATION VIEW OF COPING HEIGHT TRANSITION**



**TYPICAL MSE RETAINING WALL SECTION WITH A CONCRETE BARRIER (Showing Limits of the Reinforced Soil Volume)**

**FDOT MSE RETAINING WALL CLASSIFICATION TABLE**

Applicable FDOT Wall Type *	Durability Requirements (Carbon-Steel Reinforcing)			Durability Requirements (FRP Reinforcing)			Soil Reinforcement Type	Other Allowable FDOT Wall Types					
	Concrete Cover (in.)	Concrete Class for Panels	Pozzolan Additions? **	Concrete Cover (in.)	Concrete Class for Panels	Pozzolan Additions? **		2A	2B	2C	2D	2E	2F
Type 2A	2	II	No	1.5	II	No	Metal		✓	✓	✓	✓	✓
Type 2B	2	IV	No	1.5	IV	No	Metal			✓	✓	✓	✓
Type 2C	3	IV	No	1.5	IV	No	Metal				✓	✓	✓
Type 2D	3	IV	Yes	2	IV	No	Metal					✓	✓
Type 2E	3	IV	No	2	IV	No	Plastic						✓
Type 2F	3	IV	Yes	2	IV	No	Plastic						

\* See Data Table in Contract Plans.

\*\* ~~Silica fume, metakaolin or ultrafine fly ash.~~

**Highly Reactive Pozzolans**

11:23:08 AM 10/14/2019

**GENERAL NOTES AND DETAILS**

LAST REVISION 11/01/18 20 REVISION	DESCRIPTION:	 <b>FY 2020-21 STANDARD PLANS</b>	<b>MSE RETAINING WALL SYSTEMS - PERMANENT</b>	INDEX <b>548-020</b>	SHEET <b>1 of 1</b>
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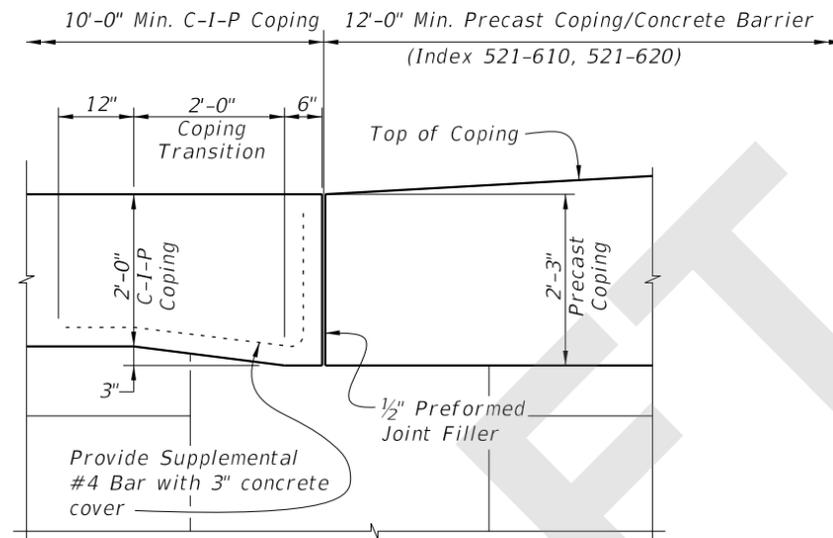
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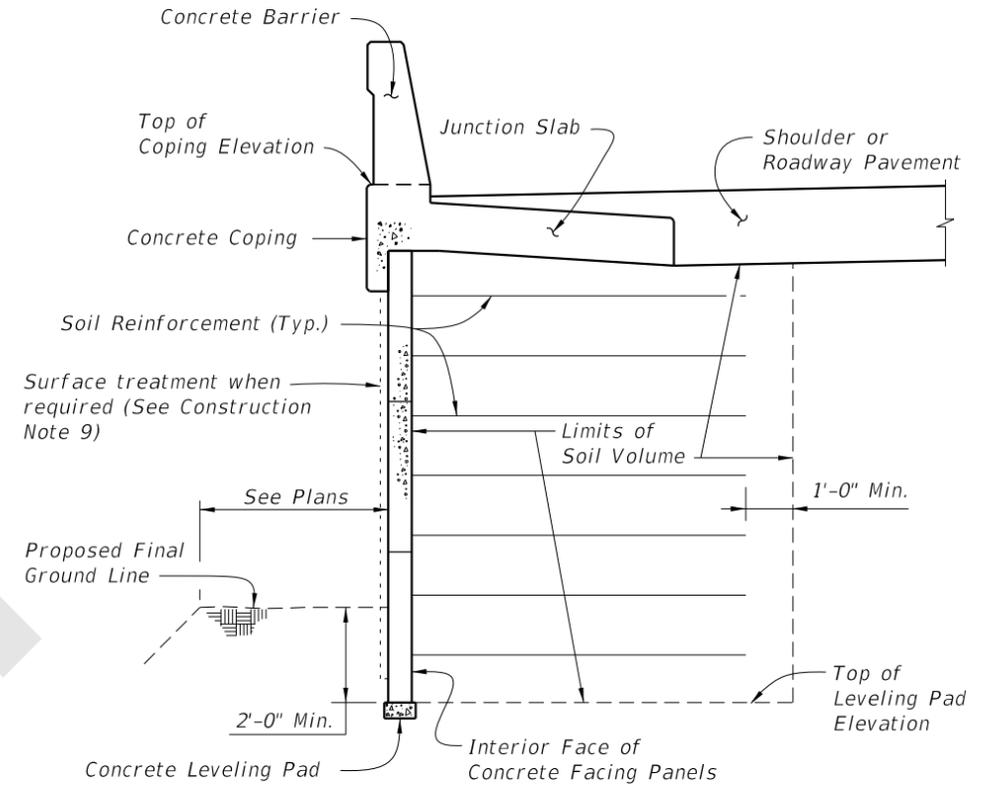
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Type 2D	3	IV	Yes	2	IV	No	Metal					✓	✓
Type 2E	3	IV	No	2	IV	No	Plastic						✓
Type 2F	3	IV	Yes	2	IV	No	Plastic						

\* See Data Table in Contract Plans.

\*\* Highly Reactive Pozzolans.

7/28/2020 9:02:00 AM

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LAST REVISION 11/01/18	REVISION	DESCRIPTION:	 FY 2020-21 STANDARD PLANS	MSE RETAINING WALL SYSTEMS - PERMANENT	INDEX 548-020	SHEET 1 of 1
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