

# Origination Form

## Proposed Revisions to a Standard Plans Index

<b>Originator:</b>	Turley, Joshua	<b>Index Number:</b>	521-611
<b>Date:</b>	6/5/2024	<b>Sheet Number(s):</b>	1
<b>E-mail:</b>	Joshua.Turley@dot.state.fl.us	<b>Index Title:</b>	CONCRETE BARRIER/JUNCTION SLAB - WALL COPING (FRP)

### Summary of the changes:

Sheet 1: Updated ASTM reference for GFRP dowel load transfer devices

### Commentary/Background:

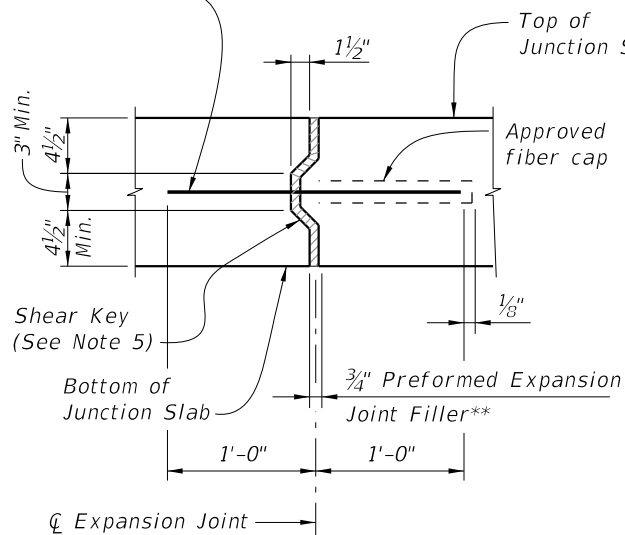
There is a updated more comprehensive ASTM that has recently been made available.

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)"]

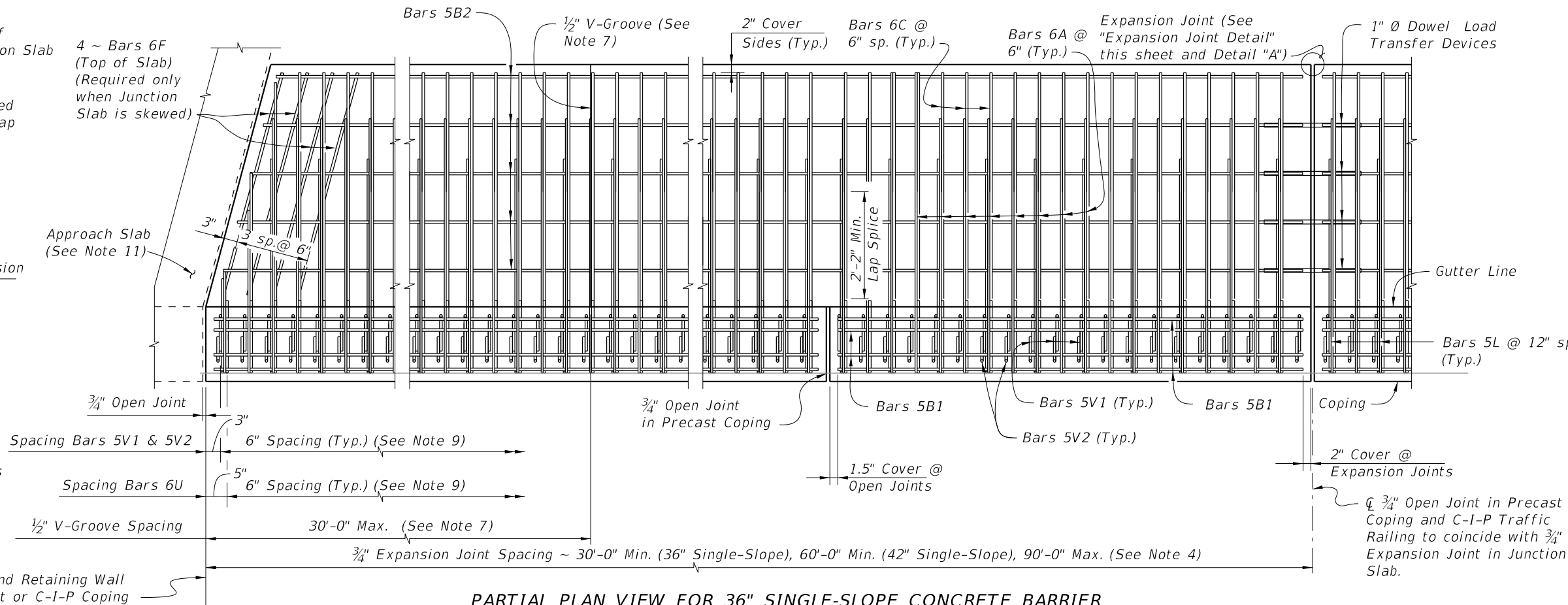
1" Ø FRP Dowel Load Transfer Devices (See Typical Sections for details)



**EXPANSION JOINT DETAIL**

(Junction Slab expansion joints are to coincide with 3/4" open joints in Concrete Barrier)

\*\* Stay-In-Place Plastic Preformed Bond Breakers are permitted to form joints.



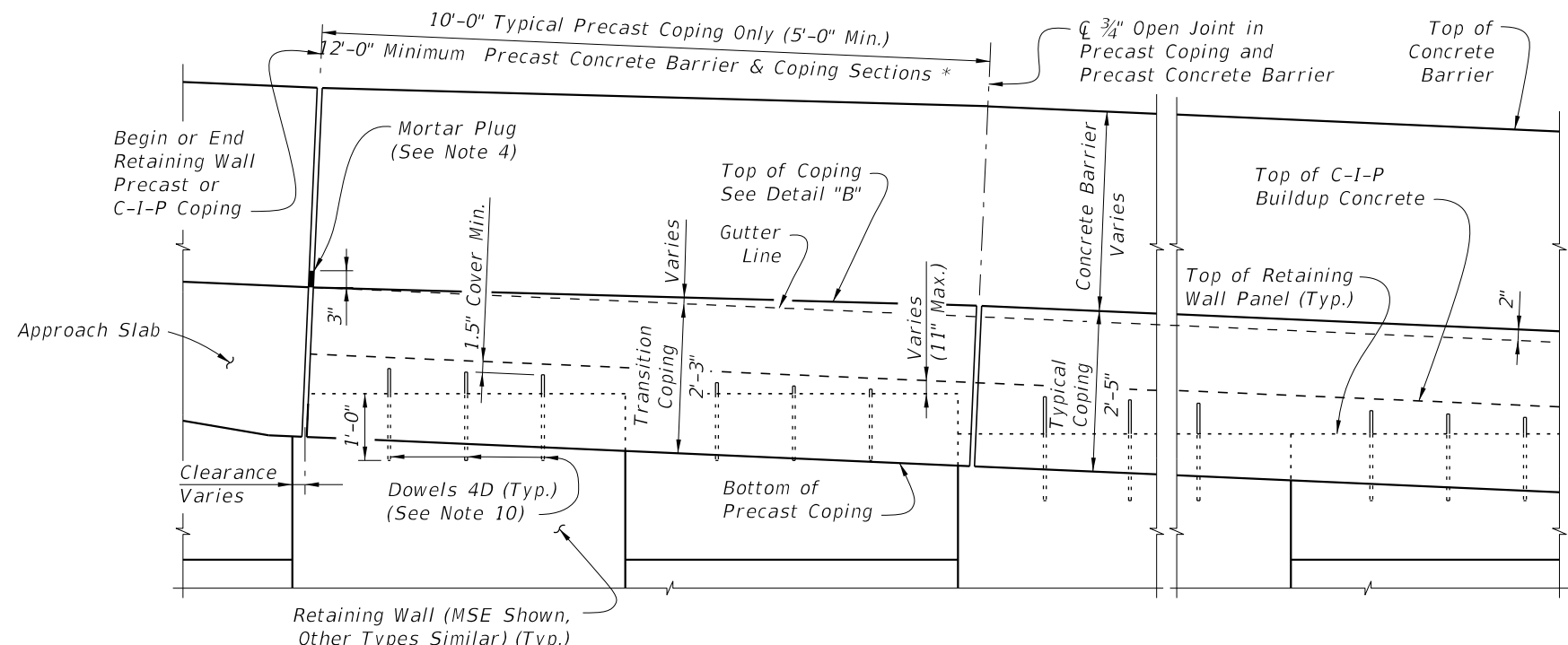
**PARTIAL PLAN VIEW FOR 36" SINGLE-SLOPE CONCRETE BARRIER**  
(Skewed Approach Slab Shown, Perpendicular Approach Slab Similar)  
(Precast Coping Shown, C-I-P Coping Similar) (Concrete Barrier not Shown for Clarity)

CROSS REFERENCE: For Detail "A", see Sheet 2.  
For Detail "B", see Sheet 3.

**JUNCTION SLAB NOTES:**

- Construct the expansion joints, V-Grooves and face of coping plumb.
- Provide Class II concrete.
- Dowel Load Transfer Devices will be GFRP smooth round bars with a minimum shear strength of 22 ksi in accordance with ASTM D7617. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
- Construct 3/4" Expansion Joints in junction slabs and C-I-P copings plumb and perpendicular or radial to the Gutter Line. Provide at 90'-0" maximum intervals as shown. Provide 3"x3" Mortar plugs in open joints at the base of Concrete Barriers to contain runoff.
- Shear Keys in Junction Slab are required. Tongue Slope on Shear Key must be constant and between 5° to 45° from horizontal.
- Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
- Construct 1/2" V-Grooves in junction slabs and C-I-P copings at 30'-0" maximum intervals as shown. Space V-Grooves equally between 3/4" Expansion Joints and/or Begin or End Junction Slab. V-Groove locations are to coincide with V-Groove locations in the Concrete Barrier.
- Shoulder or Roadway Pavement is required on top of the junction slab for its entire length on the traffic side of the Concrete Barrier. See Typical Sections on Sheets 2 and 3 for details.
- Spacing shown is along the Gutter Line.
- For Precast Coping only, provide Dowel Bars 4D embedded 1'-0" and extended 9" above the top of MSE wall panels. Field cut as necessary to maintain 2" minimum cover to the top of the buildup concrete. See Wall Company Drawings for number and spacing of Dowel Bars 4D.
- The following Indexes contain details of the intersection of the retaining wall at approach slabs:  
Index 400-090 - Approach Slabs (Flexible Pavement Approaches)  
Index 400-091 - Approach Slabs (Rigid Pavement Approaches)
- Junction slabs with rigid pavement: the two inch increase in concrete barrier height is not required.
- There are two options to accommodate the 2" height transitions :  
A. Raise the top of coping elevation 2" and mount either a 36" or 42" standard barrier on top  
B. Transition the height of the concrete barrier by gradually extending the toe and back of the barrier 2" while keeping the top of coping elevation even with the gutterline elevation.
- The barrier construction joint must be at the interface of the coping and the barrier base. Embed the V bars a minimum of 9" below the construction joint.
- For embedded conduit and junction boxes, see Index 630-010.

**ADDED: that meet ASTM D8444**



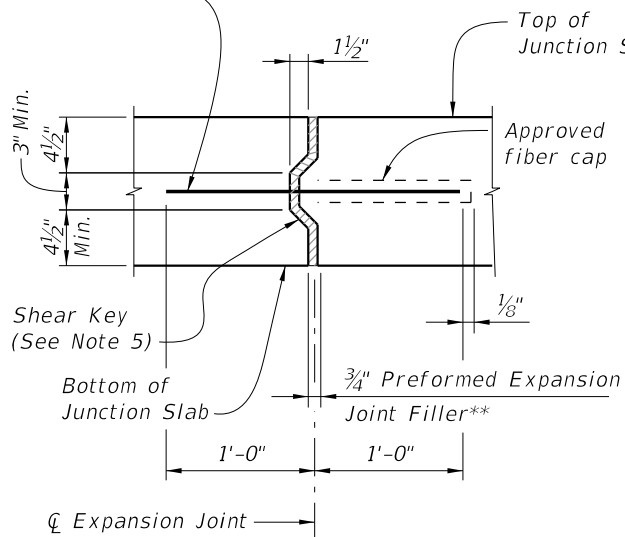
**PARTIAL ELEVATION VIEW**  
(Precast Coping and Junction Slab Reinforcing not Shown for Clarity)  
(Precast Coping Shown, C-I-P Coping Similar)

\* C-I-P End Section must be ≥ 12'-0".

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LAST REVISION	DESCRIPTION:
11/01/21	
11/01/24	

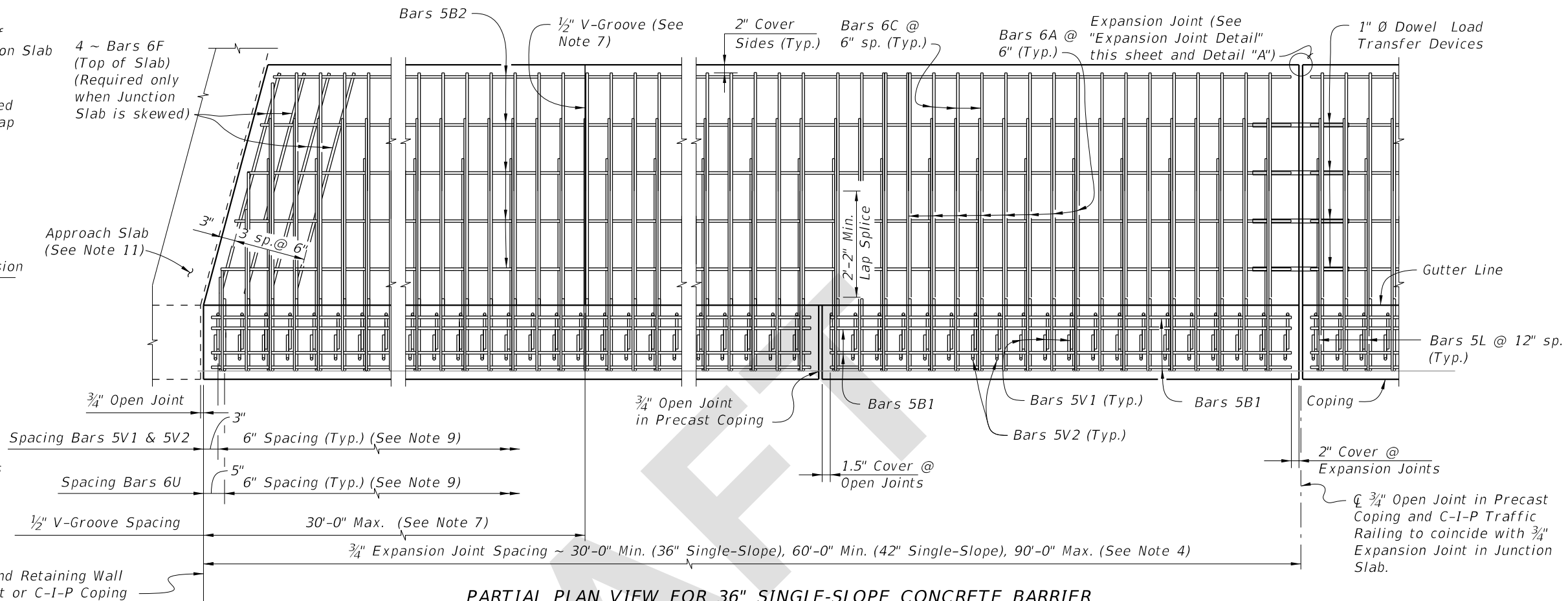
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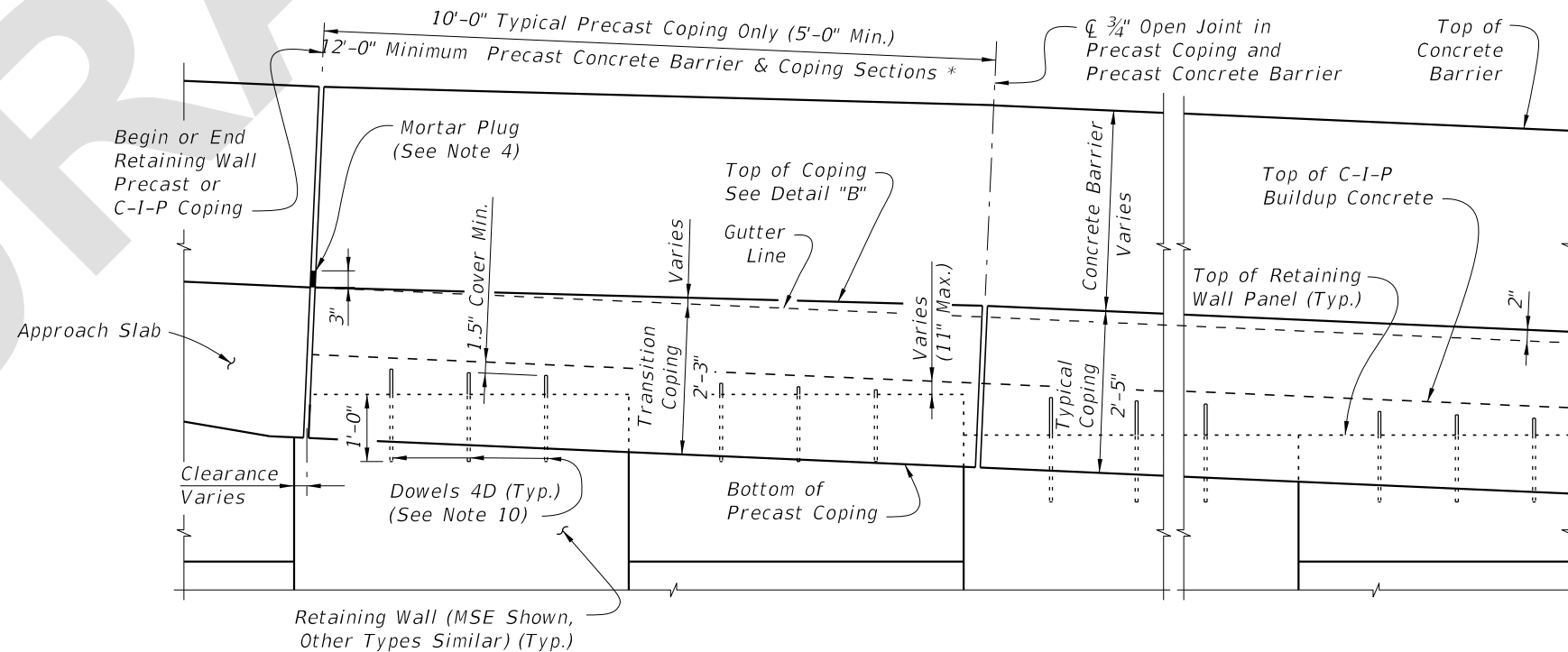


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**SINGLE-SLOPE CONCRETE BARRIERS**

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LAST REVISION 11/01/24	REVISION	DESCRIPTION:		FY 2025-26 STANDARD PLANS	CONCRETE BARRIER/JUNCTION SLAB - WALL COPING (FRP)	INDEX 521-611	SHEET 1 of 4
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