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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: August 28, 2020

Originator: Cheryl Hudson

Phone: 414-5332

Email: cheryl.hudson@dot.state.fl.us

**Standard Plans:**

Index Number: 521-512

Sheet Number (s): 4

Index Title: Concrete Barrier /Noise Wall - Junction Slab

**Summary of the changes:**

Changed Title; Sheet 2 Changed Notes 5 & 6, Added notes 8 & 9

**Commentary / Background:**

Note 8 & 9 from D-6. Notes 5 & 6 changes to match other Indexes.

**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                  |

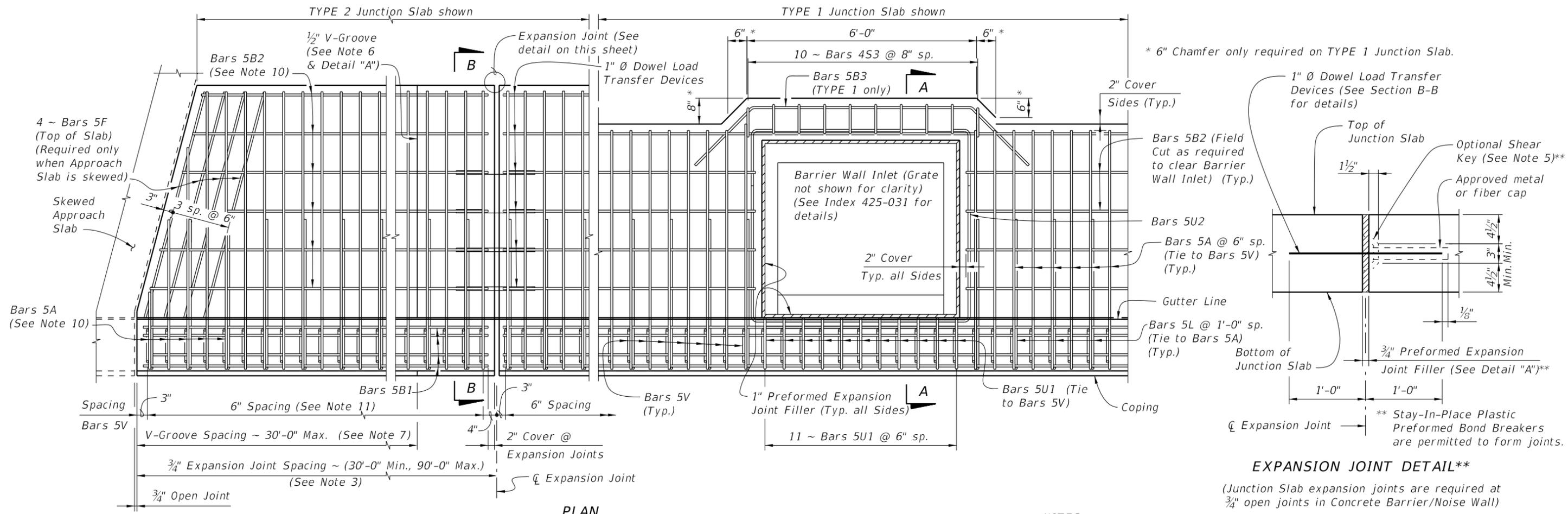
**Implementation:**

- 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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PLAN  
JUNCTION SLAB ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET

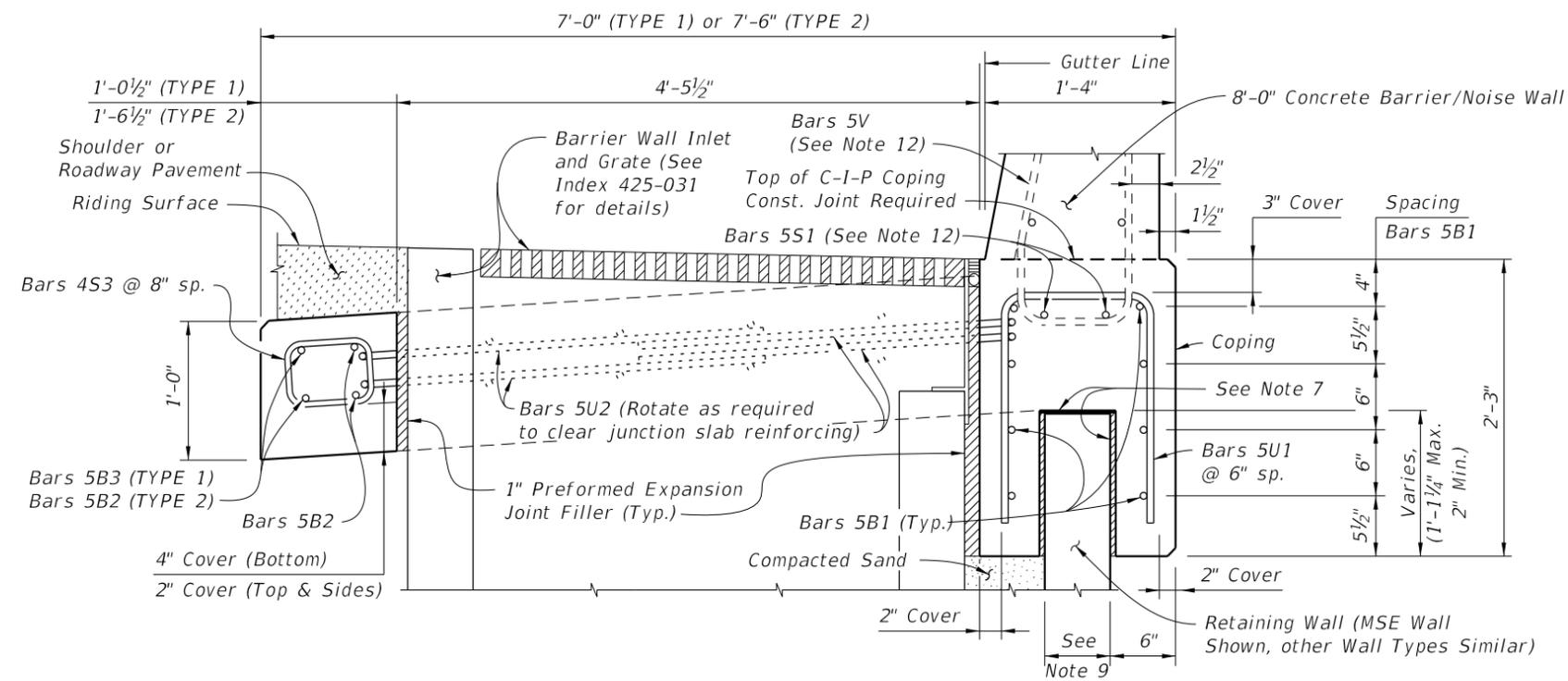


EXPANSION JOINT DETAIL\*\*  
(Junction Slab expansion joints are required at 3/4" open joints in Concrete Barrier/Noise Wall)

NOTES

1. Work this Index with Index 521-510 - Concrete Barrier/Noise Wall (8'-0").
2. Concrete will be in accordance with Specification Section 346.  
A. Use Class II concrete for slightly aggressive environments.  
B. Class IV concrete for moderately or extremely aggressive environments.
3. Construct 3/4" Expansion Joints and face of coping plumb, and either perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.
4. Dowel Load Transfer Devices will be hot-dip galvanized ASTM A36 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.
5. Shear Keys in Junction Slab are required when GFRP bars are used for Dowel Transfer Devices and are optional with steel dowel bars. Tongue Slope on Shear Key must be constant and between 5° to 45° from horizontal.
6. Construct 1/2" V-Grooves plumb and provide 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 Barrier/Noise Wall.
7. Provide Organic Felt bond breaker on top and Expanded Polystyrene (1/2" thick) on sides of retaining wall.
8. Shoulder or Roadway Pavement or Fill is required on top of the junction slab for its entire length on the traffic side of the Barrier/Noise Wall. See Section B-B for details.
9. Actual location & width vary depending on type of Retaining Wall used.
10. Field cut Bars 5A and 5B2 as required to maintain minimum cover for skewed Approach Slab.
11. Spacing shown is along the Gutter Line.
12. See Index 521-510 for Bars 5V and 2 ~ Bars 5S1. See Plans for Junction Slab width (TYPE).

CROSS REFERENCE:  
For Section B-B and Detail "A", see Sheet 2.



SECTION A-A  
SECTION THRU JUNCTION SLAB, BARRIER WALL INLET AND RETAINING WALL  
(TYPE 1 Junction Slab Shown, TYPE 2 Similar)

10/29/2019 2:32:10 PM

LAST REVISION 11/01/18	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CONCRETE BARRIER/NOISE WALL (8'-0") JUNCTION SLAB	INDEX 521-512	SHEET 1 of 2
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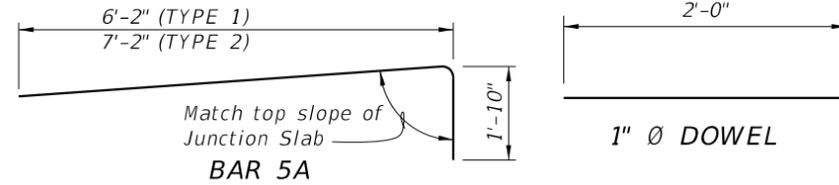
REINFORCING STEEL BENDING DIAGRAMS

BILL OF REINFORCING STEEL

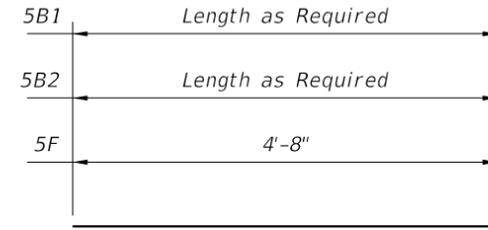
MARK	SIZE	LENGTH	
		TYPE 1	TYPE 2
A	5	8'-0"	9'-0"
B1	5	AS REQD.	AS REQD.
B2	5	AS REQD.	AS REQD.
B3	5	10'-0"	N/A
F	5	4'-8"	5'-8"
L	5	4'-5"	4'-5"
S3	4	3'-1"	4'-0"
U1	5	4'-9"	4'-9"
U2	5	12'-10"	12'-10"
DOWEL	1" Ø Smooth Bar	2'-0"	2'-0"

REINFORCING STEEL NOTES:

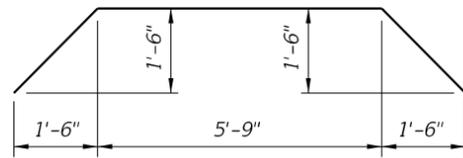
1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints will have a 2" minimum cover.
3. Lap splices for Bars 5B will be a minimum of 2'-2".
4. The Contractor may use Deformed WWR when approved by the Engineer. Deformed WWR must meet the requirements of Specification Section 931.



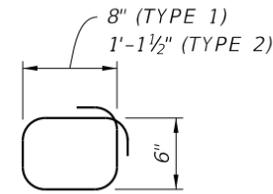
1" Ø DOWEL



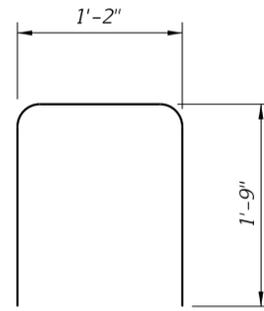
BARS 5B & 5F



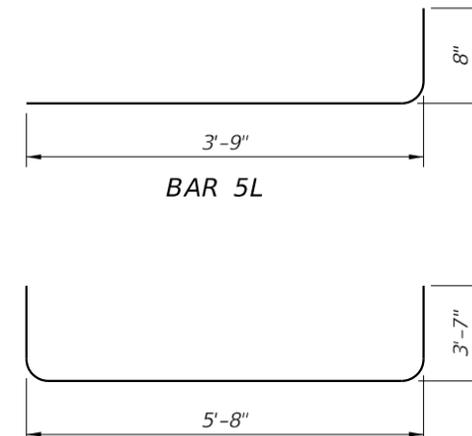
BAR 5B3 (TYPE 1 only)



BAR 4S3

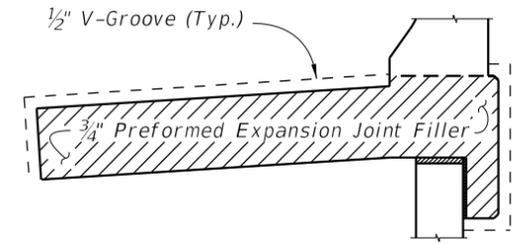


BAR 5U1



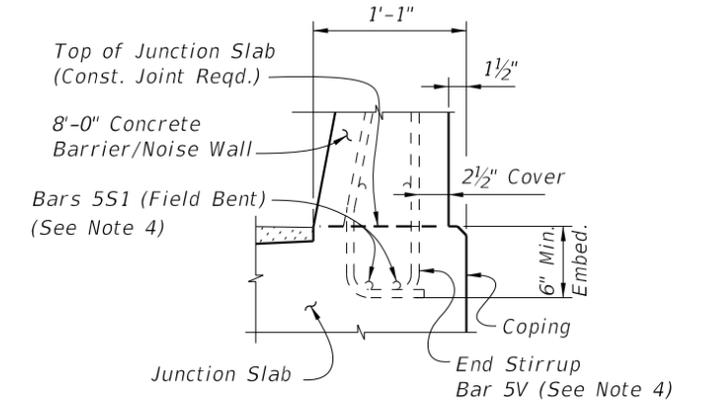
BAR 5L

BAR 5U2



DETAIL "A"

(Showing Locations of 1/2" V-Grooves and 3/4" Preformed Expansion Joint Filler)



PARTIAL END VIEW OF RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5V and Bars 5B1)

NOTE: See Index 521-510, Detail "A" for details.

ESTIMATED JUNCTION SLAB QUANTITIES

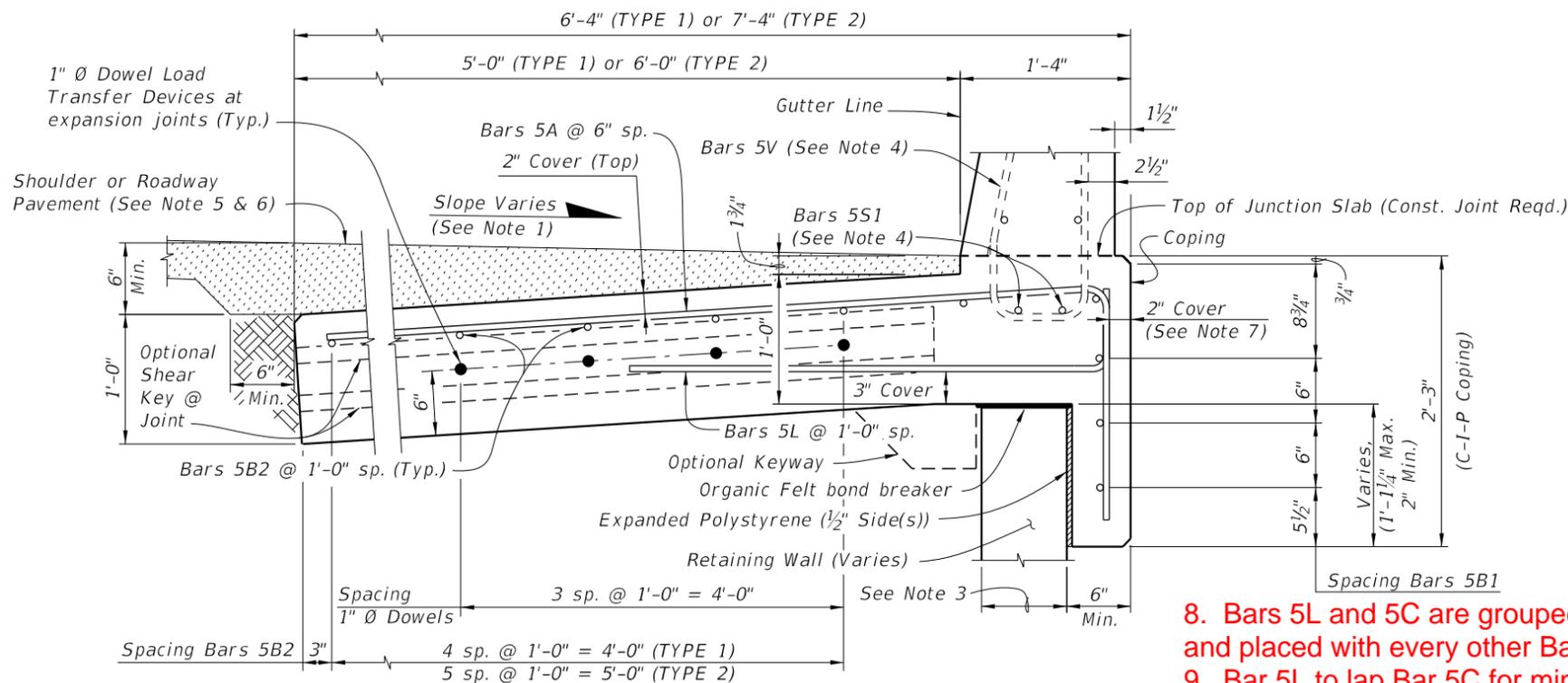
ITEM	UNIT	QUANTITY	
		TYPE 1	TYPE 2
Concrete (Junction Slab)	CY/FT	0.268	0.305
Reinforcing Steel (Typical)	LB/FT	31.72	34.85
Additional Reinf. @ Expansion Joint	LB	21.36	21.36

NOTES:

1. Match Cross Slope of Travel Lane or Shoulder.
2. Vary Junction Slab slope based on roadway cross slope to maintain a minimum 6" asphalt depth at the edge of the slab as shown.
3. Actual width varies depending on type of Retaining Wall used.
4. See Index 521-510 for Bars 5V and Bars 5S1.
5. For Rigid Pavement (Concrete), Junction Slab may be thickened to match finished grade.
6. See Roadway Plans for asphalt shoulder, roadway pavement and overbuild.
7. If slip forming is used, submit shop drawings for approval showing Expansion Joint support details and 1/2" side cover with adjusted Typical Section dimensions.

8. Bars 5L and 5C are grouped together and placed with every other Bar 5A.
9. Bar 5L to lap Bar 5C for minimum wall embedment. Minimum Lap splice length 2'-2".

CROSS REFERENCE:  
For location of Section B-B, see Sheet 1.



SECTION B-B  
TYPICAL SECTION THRU JUNCTION SLAB AND RETAINING WALL

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LAST REVISION 11/01/19	DESCRIPTION:
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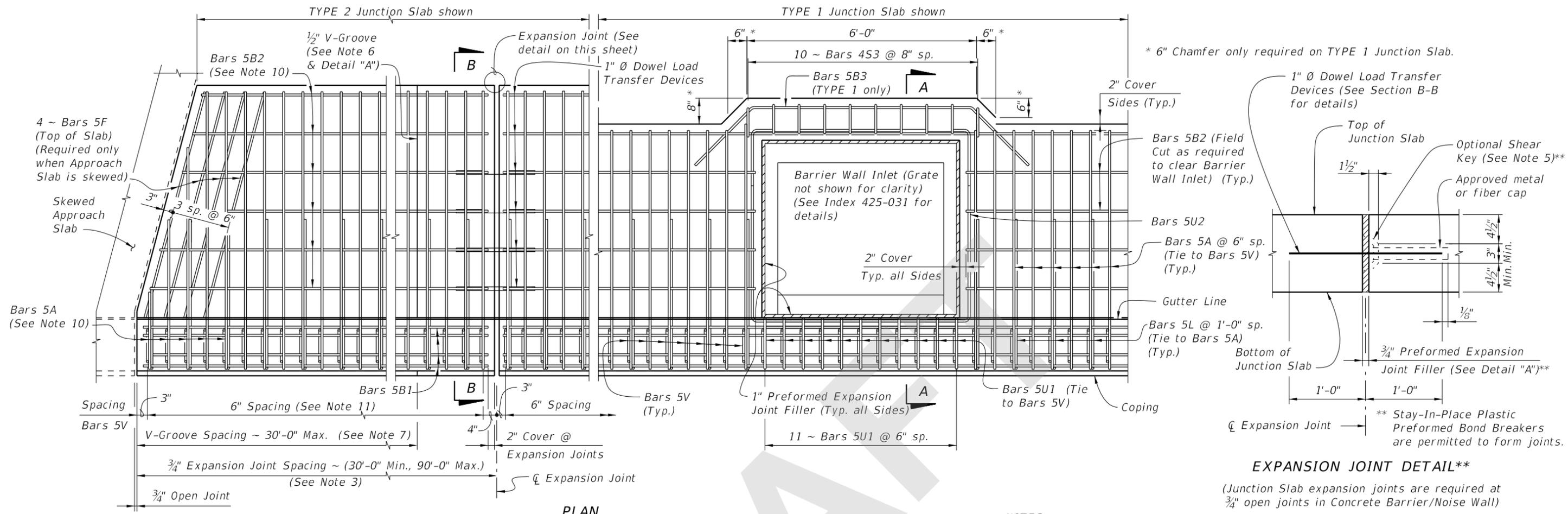


FY 2020-21  
STANDARD PLANS

CONCRETE BARRIER/NOISE WALL (8'-0")  
JUNCTION SLAB

INDEX  
521-512

SHEET  
2 of 2



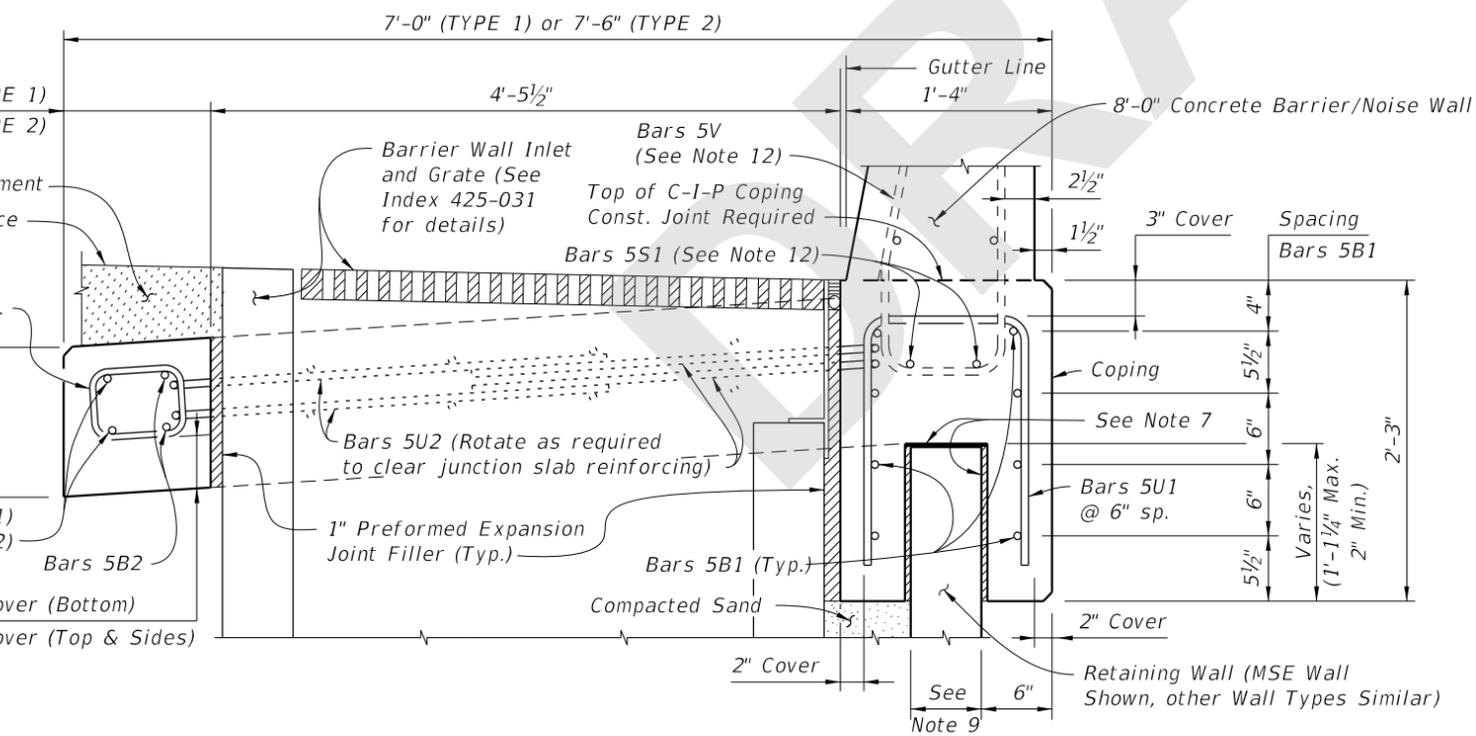
**PLAN**  
**JUNCTION SLAB ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET**

**EXPANSION JOINT DETAIL\*\***  
 (Junction Slab expansion joints are required at 3/4" open joints in Concrete Barrier/Noise Wall)

**NOTES**

1. Work this Index with Index 521-510 - Concrete Barrier/Noise Wall (8'-0").
2. Concrete will be in accordance with Specification Section 346.  
 A. Use Class II concrete for slightly aggressive environments.  
 B. Class IV concrete for moderately or extremely aggressive environments.
3. Construct 3/4" Expansion Joints and face of coping plumb, and either perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.
4. Dowel Load Transfer Devices will be hot-dip galvanized ASTM A36 smooth round bars or 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.
5. Shear Keys in Junction Slab are required when GFRP bars are used for Dowel Transfer Devices and are optional with steel dowel bars. Tongue Slope on Shear Key must be constant and between 5° to 45° from horizontal.
6. Construct 1/2" V-Grooves plumb and provide 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 Barrier/Noise Wall.
7. Provide Organic Felt bond breaker on top and Expanded Polystyrene (1/2" thick) on sides of retaining wall.
8. Shoulder or Roadway Pavement is required on top of the junction slab for its entire length on the traffic side of the Barrier/Noise Wall. See Section B-B for details.
9. Actual location & width vary depending on type of Retaining Wall used.
10. Field cut Bars 5A and 5B2 as required to maintain minimum cover for skewed Approach Slab.
11. Spacing shown is along the Gutter Line.
12. See Index 521-510 for Bars 5V and 2 ~ Bars 5S1. See Plans for Junction Slab width (TYPE).

CROSS REFERENCE:  
 For Section B-B and Detail "A", see Sheet 2.



**SECTION A-A**  
**SECTION THRU JUNCTION SLAB, BARRIER WALL INLET AND RETAINING WALL**  
 (TYPE 1 Junction Slab Shown, TYPE 2)

7/27/2020 4:24:01 PM

LAST REVISION 11/01/18	DESCRIPTION:	 FY 2020-21 STANDARD PLANS	<b>CONCRETE BARRIER/NOISE WALL</b> <b>JUNCTION SLAB</b>	INDEX 521-512	SHEET 1 of 2
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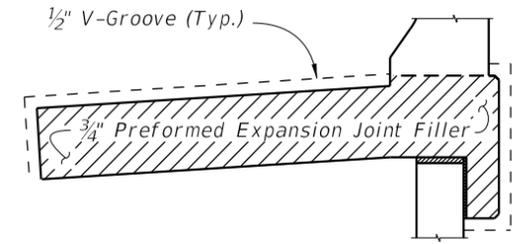
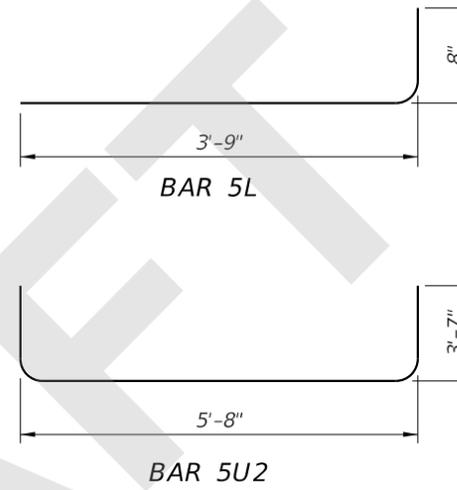
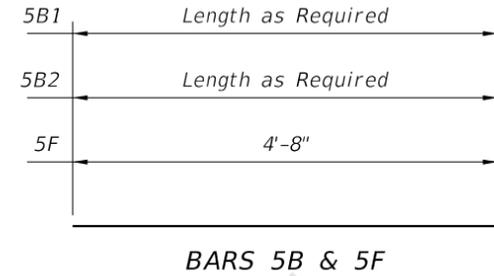
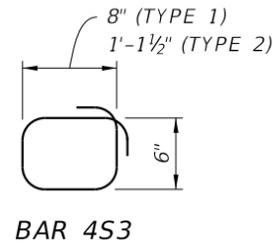
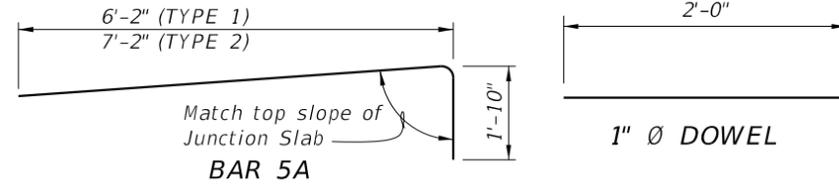
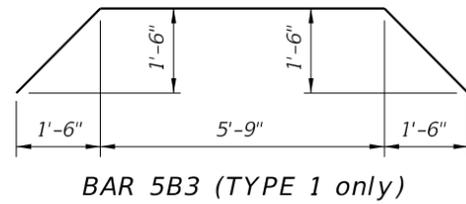
**REINFORCING STEEL BENDING DIAGRAMS (8'-0" Concrete Barrier/Noise Wall)(TYPE 1 and 2)**

**BILL OF REINFORCING STEEL**

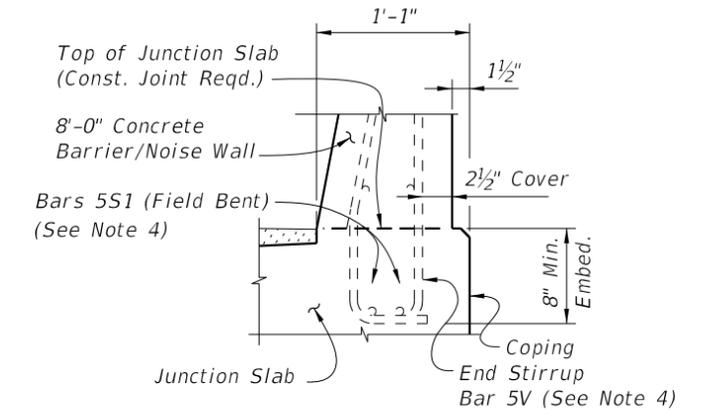
MARK	SIZE	LENGTH	
		TYPE 1	TYPE 2
A	5	8'-0"	9'-0"
B1	5	AS REQD.	AS REQD.
B2	5	AS REQD.	AS REQD.
B3	5	10'-0"	N/A
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L	5	4'-5"	4'-5"
S3	4	3'-1"	4'-0"
U1	5	4'-9"	4'-9"
U2	5	12'-10"	12'-10"
DOWEL	1" Ø Smooth Bar	2'-0"	2'-0"

**REINFORCING STEEL NOTES:**

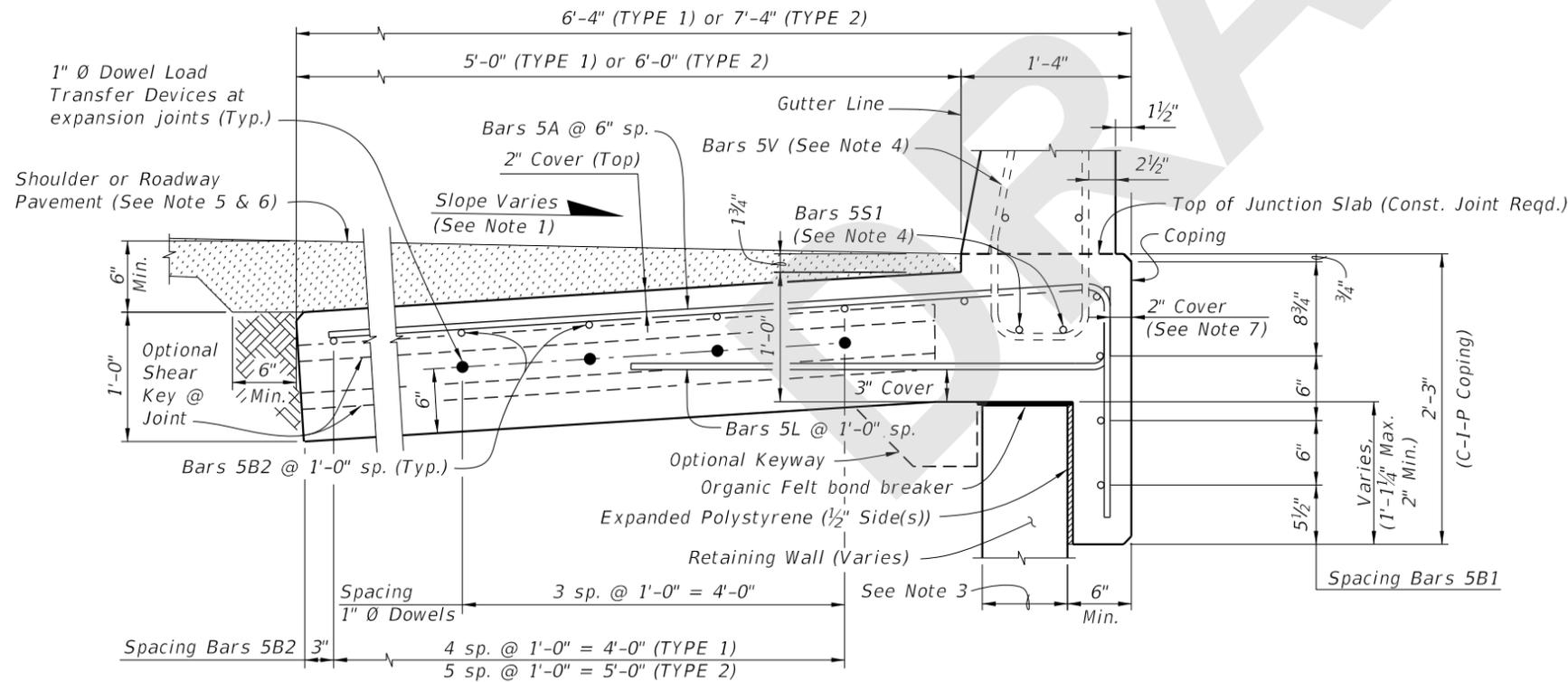
1. All bar dimensions in the bending diagrams are out to out.
2. All reinforcing steel at the open joints will have a 2" minimum cover.
3. Lap splices for Bars 5B will be a minimum of 2'-2".
4. The Contractor may use Deformed WWR when approved by the Engineer. Deformed WWR must meet the requirements of Specification Section 931.



(Showing Locations of 1/2" V-Grooves and 3/4" Preformed Expansion Joint Filler)



NOTE: See Index 521-510, Detail "A" for details.



**ESTIMATED JUNCTION SLAB QUANTITIES**

ITEM	UNIT	QUANTITY	
		TYPE 1	TYPE 2
Concrete (Junction Slab)	CY/FT	0.268	0.305
Reinforcing Steel (Typical)	LB/FT	31.72	34.85
Additional Reinf. @ Expansion Joint	LB	21.36	21.36

**NOTES:**

1. Match Cross Slope of Travel Lane or Shoulder.
2. Vary Junction Slab slope based on roadway cross slope to maintain a minimum 6" asphalt depth at the edge of the slab as shown.
3. Actual width varies depending on type of Retaining Wall used.
4. See Index 521-510 for Bars 5V and Bars 5S1.
5. For Rigid Pavement (Concrete), Junction Slab may be thickened to match finished grade. Vary the Junction Slab slope to maintain a minimum 1'-6" thickness at the inside edge of the slab.
6. See Roadway Plans for asphalt shoulder, roadway pavement and overbuild.
7. If slip forming is used, submit shop drawings for approval showing Expansion Joint support details and 2 1/2" side cover with adjusted Typical Section dimensions.
8. Bars 5L and 5C are grouped together and placed with every other Bar 5A.
9. Bar 5L to lap Bar 5C for minimum wall embedment. Minimum Lap splice length 2'-2".

CROSS REFERENCE:  
For location of Section B-B, see Sheet 1.

SDATES

LAST REVISION	DESCRIPTION:
11/01/20	