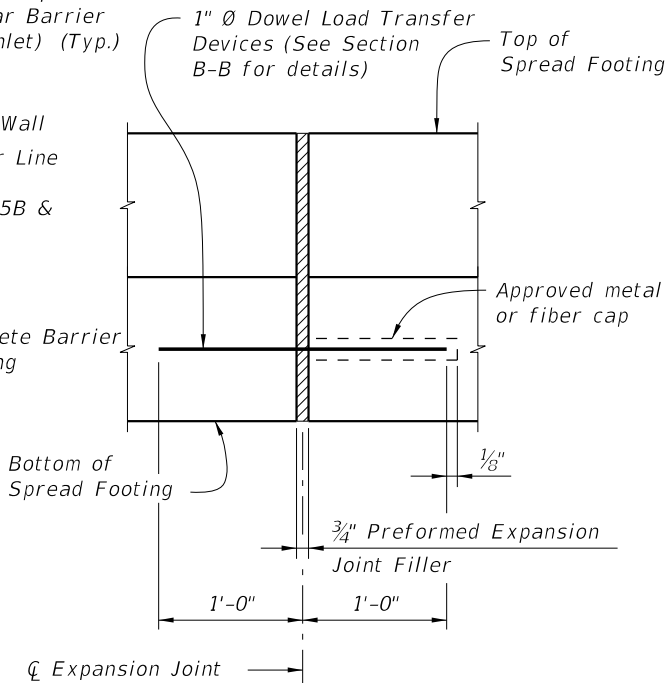
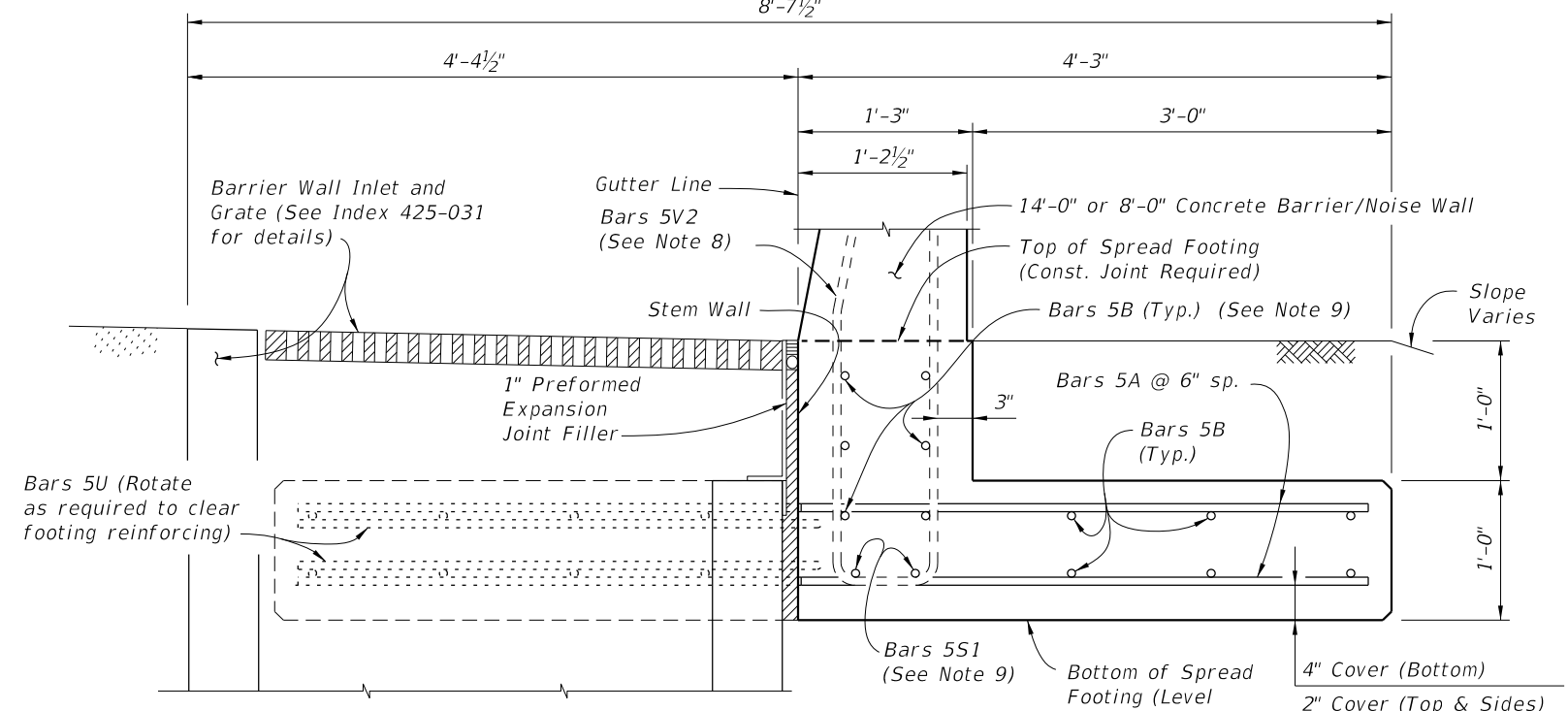


**PLAN**  
**SPREAD FOOTING ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET**



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



**SECTION A-A**  
**SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET**  
 (Bars 5P, 5R and 5S1 in Concrete Barrier/Noise Wall not shown for clarity)

**NOTES**

1. Construct the Spread Footing level transversely and plumb vertically; do not construct the spread footing perpendicular to the roadway surface.
2. Concrete will be in accordance with Specification Section 346.
  - A. Class II concrete for slightly aggressive environments.
  - B. Class IV concrete for moderately or extremely aggressive environments.
3. Dowel Load Transfer Devices will be ASTM A 36 smooth round bar and hot-dip galvanized in accordance with Specification Section 962. Install Dowel Load Transfer Devices in accordance with Specification Section 350.
4. Construct 3/4" Expansion Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.
5. 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 Spread Footing. V-Groove locations are to coincide with V-Groove locations in the Barrier/Noise Wall.
6. Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
7. FILL REQUIREMENTS: Shoulder or Roadway Pavement or Fill is required on top (1'-0" minimum depth) for the entire length of the spread footing on both sides of the Barrier/Noise Wall. See Section B-B for details.
8. See Index 521-510 for Bars 5V2.
9. Place 8 ~ Bars (6 ~ 5B1 & 2 ~ 5S1) inside Stirrup Bars 5V2 as shown. (2 ~ 5S1 Bars included in 521-510 or 521-511 quantities)
10. Spacing shown is along the Gutter Line.
11. Work this Index with one or both of the following:
  - a. Index 521-510 - Concrete Barrier/Noise Wall (8'-0").
  - b. Index 521-511 - Concrete Barrier/Noise Wall (14'-0").

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

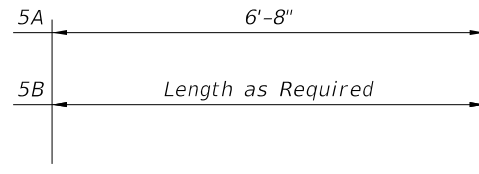
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LAST REVISION 11/01/18	DESCRIPTION:	 FY 2019-20 STANDARD PLANS	<b>CONCRETE BARRIER/NOISE WALL</b> <b>T-SHAPED SPREAD FOOTING</b>	INDEX 521-513	SHEET 1 of 2
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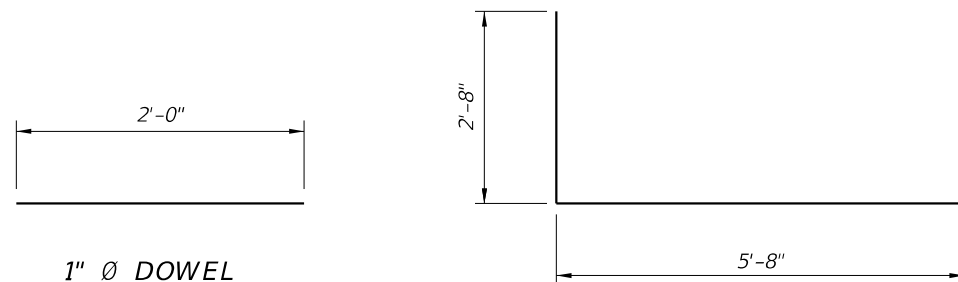
**REINFORCING STEEL BENDING DIAGRAMS**

**BILL OF REINFORCING STEEL**

MARK	SIZE	LENGTH
A	5	6'-8"
B	5	AS REQD.
U	5	11'-0"
DOWEL	1" Ø Smooth Bar	2'-0"



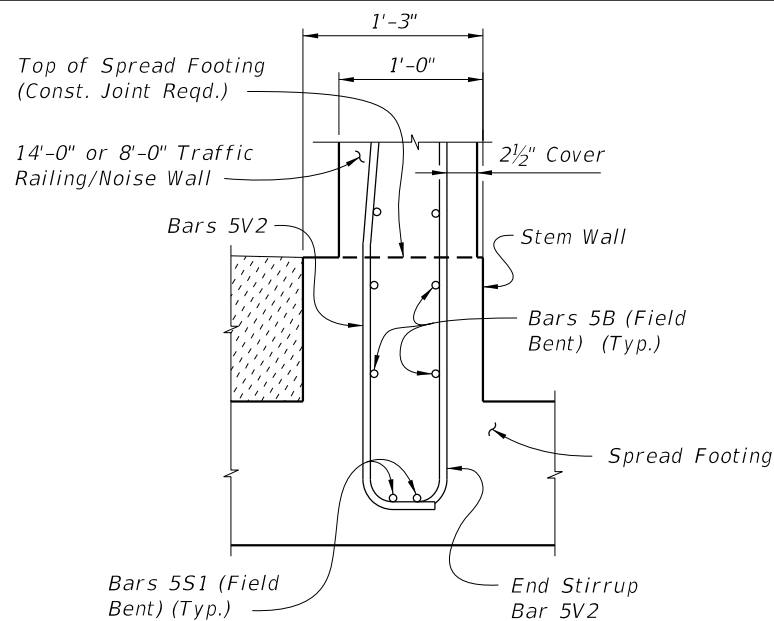
**BARS 5A & 5B**



**BAR 5U**

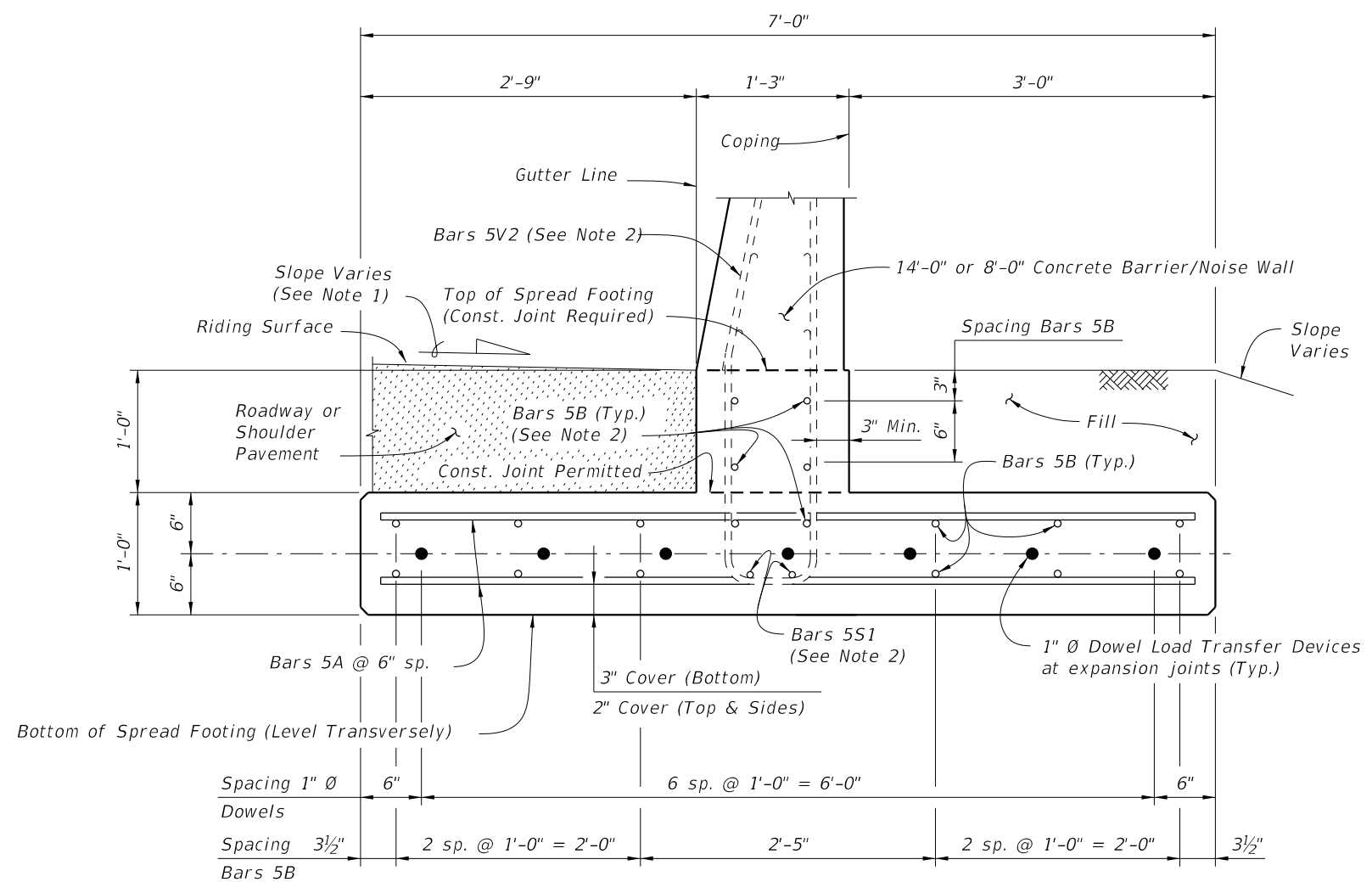
**REINFORCING STEEL NOTES:**

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



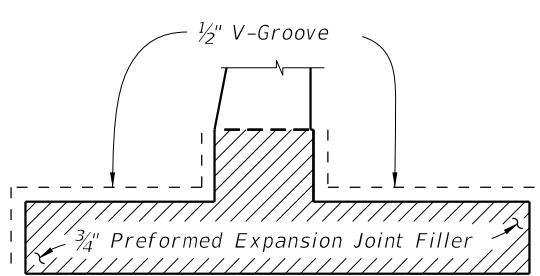
**PARTIAL END VIEW OF RAILING END TRANSITION FOR GUARDRAIL ATTACHMENT (Showing Bars 5V2, and Bars 5B inside of Stirrup Bars 5V2)**

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



**SECTION B-B  
TYPICAL SECTION THRU SPREAD FOOTING  
(Bars 5R and 5S1 in Concrete Barrier/Noise Wall not shown for clarity)**

- NOTES:**
- Match Cross Slope of Travel Lane or Shoulder.
  - See Sheet 1, Notes 8 & 9.



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

<b>ESTIMATED T-SHAPED SPREAD FOOTING QUANTITIES</b>		
ITEM	UNIT	QUANTITY
Concrete (Footing)	CY/FT	0.312
Reinforcing Steel (Typical)	LB/FT	25.90
Additional Reinf. @ Expansion Joint	LB	37.38

Note: The reinforcing steel quantity includes the difference between Index 521-510 or 521-511 and Bars 5V shown. Bars 5S1 are included in Index 521-510 or 521-511 quantities.

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

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LAST REVISION	DESCRIPTION:
11/01/17	