


**PLAN - OPTION B**  
**SPREAD FOOTING ADJACENT TO SKEWED APPROACH SLAB AND WITH BARRIER WALL INLET**  
 (Option A Similar)

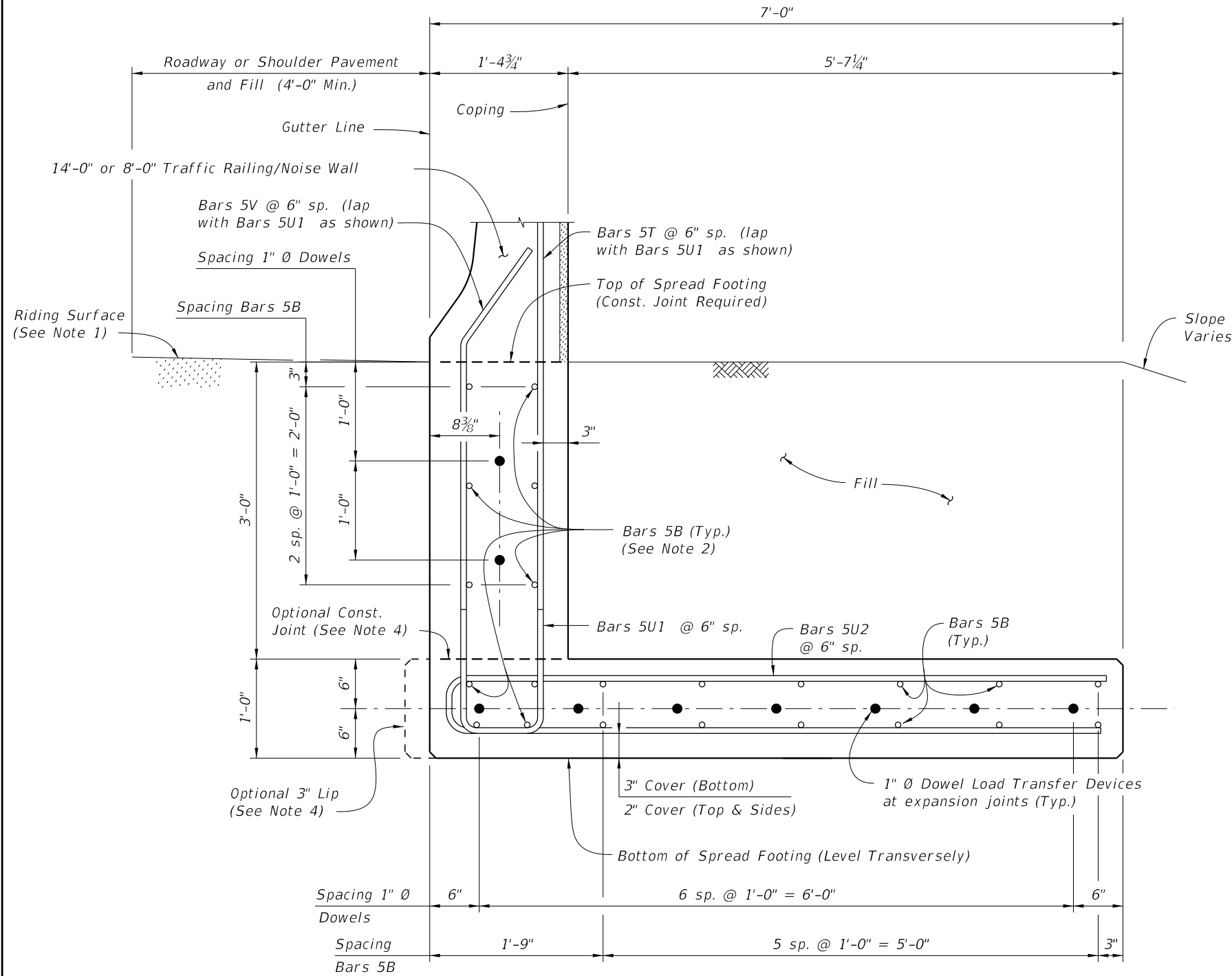
**NOTES**

1. **CONSTRUCTION REQUIREMENTS:** Construct the Spread Footing level transversely and expansion joints plumb; do not construct the spread footing perpendicular to the roadway surface. Slip forming is not permitted.
2. **CONCRETE:** Use Class II concrete for slightly aggressive environments. Use Class IV concrete for moderately or extremely aggressive environments. Concrete will be in accordance with Specification Section 346.
3. **DOWELS:** 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. Provide and install Preformed Expansion Joint Filler in accordance with Specification Section 932.
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 Spread Footing. V-Groove locations are to coincide with V-Groove locations in the Railing/Noise Wall.
7. **FILL REQUIREMENTS:** Shoulder or Roadway Pavement and Fill is required on the traffic side of the spread footing for a distance of 4'-0" and the full length of the spread footing (3'-0" minimum depth) on the backside of the spread footing for Option A. Fill is required for a distance of 4'-0" on the backside of the spread footing and the full length of the spread footing (3'-0" minimum depth) on the traffic side of the spread footing for Option B. See Typical Sections on Sheet Nos. 2 and 3 for details.
8. Spacing shown is along the Gutter Line.
9. Work this Standard Drawing with one or both of the following:
  - a. Index No. 5210 - Traffic Railing/Noise Wall (8'-0").
  - b. Index No. 5211 - Traffic Railing/Noise Wall (14'-0").

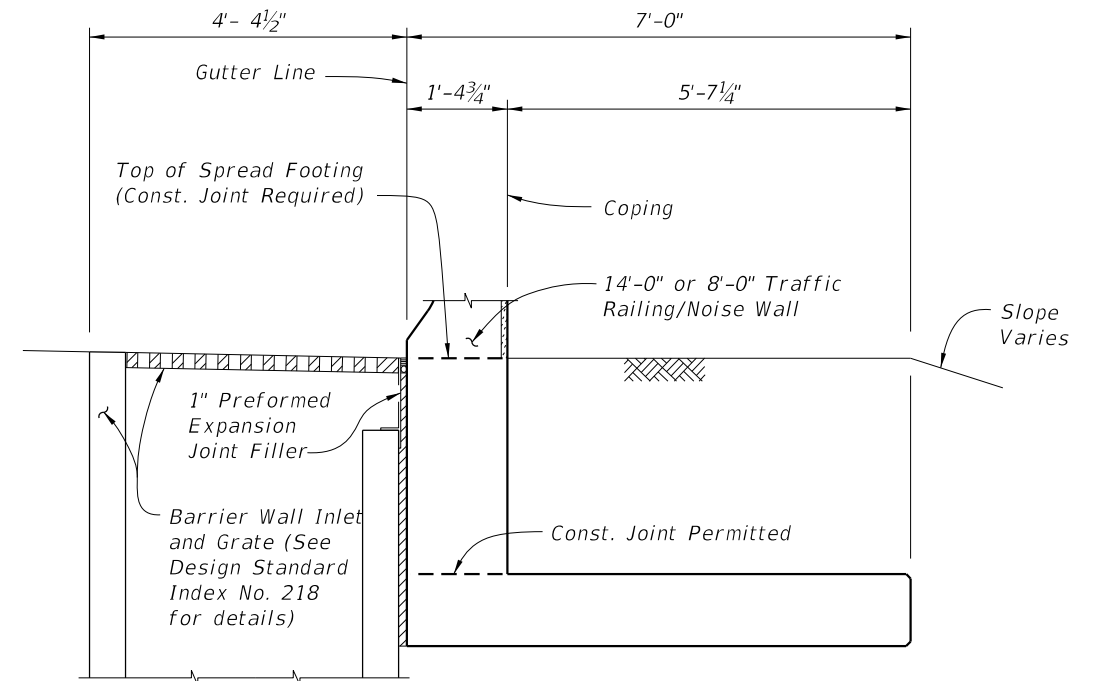
**CROSS REFERENCE:**  
 For Detail "A", see Sheet 3.  
 For Section A-A and Estimated Quantities, see Sheet 4.

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LAST REVISION 07/01/13	REVISION	DESCRIPTION:	 <b>2016</b> <b>DESIGN STANDARDS</b>	<b>TRAFFIC RAILING/NOISE WALL</b> <b>L-SHAPED SPREAD FOOTING</b>	INDEX NO. <b>5214</b>	SHEET NO. <b>1 of 4</b>
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TYPICAL SECTION THRU SPREAD FOOTING - OPTION A  
 (Bars 5P, 5R and 5S1 in Traffic Railing/Noise Wall not shown for clarity)

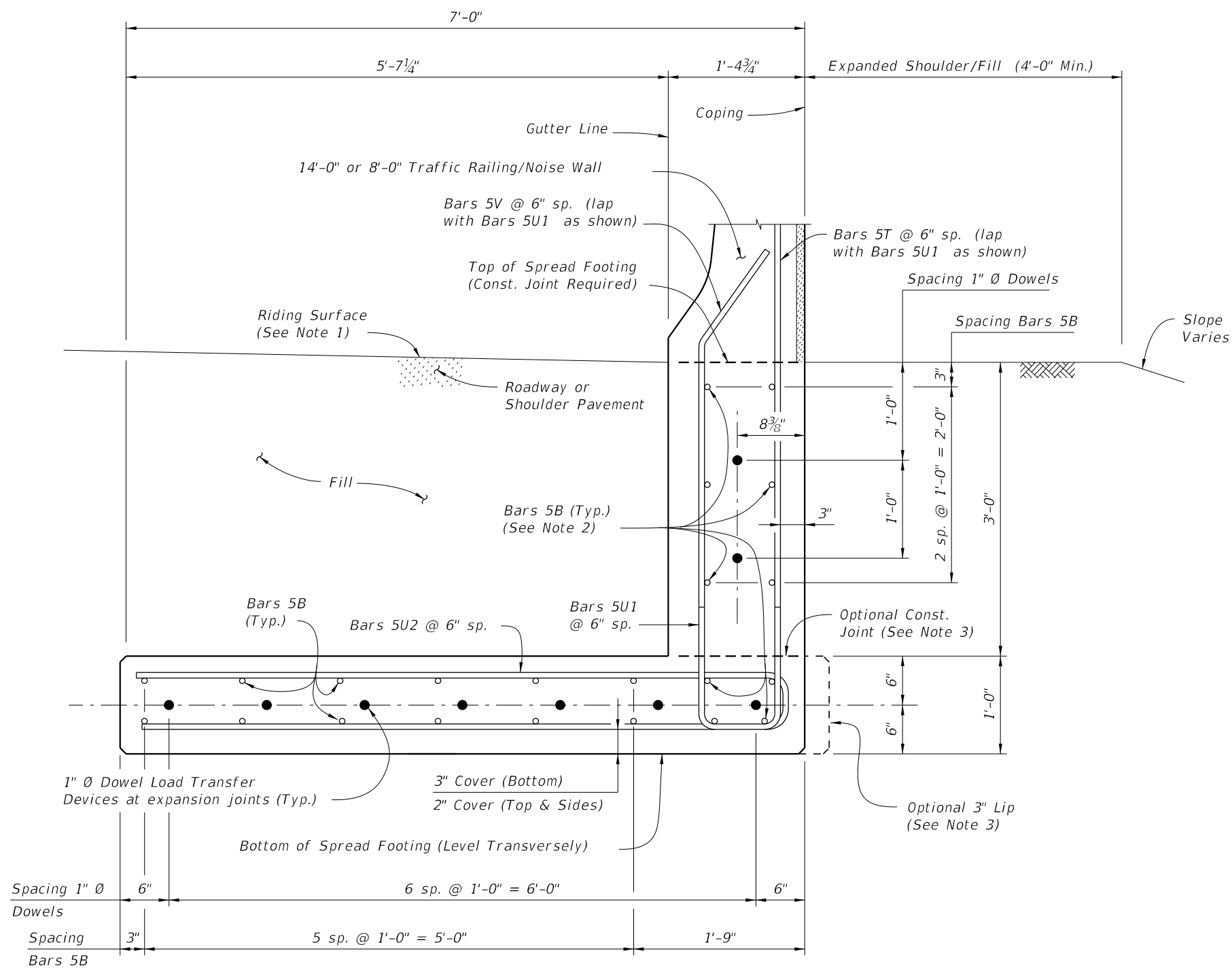


TYPICAL SECTION THRU SPREAD FOOTING AND BARRIER WALL INLET - OPTION A  
 (Reinforcing Steel not shown for clarity (See Note 3))

- NOTES:
1. Match Cross Slope of Travel Lane or Shoulder.
  2. Place 10 ~ Bars 5B inside Bars 5U1 as shown.
  3. For Reinforcing Steel spacing, see Typical Section Thru Spread Footing - Option A this Sheet.
  4. Provide 3" lip when optional construction joint is used.

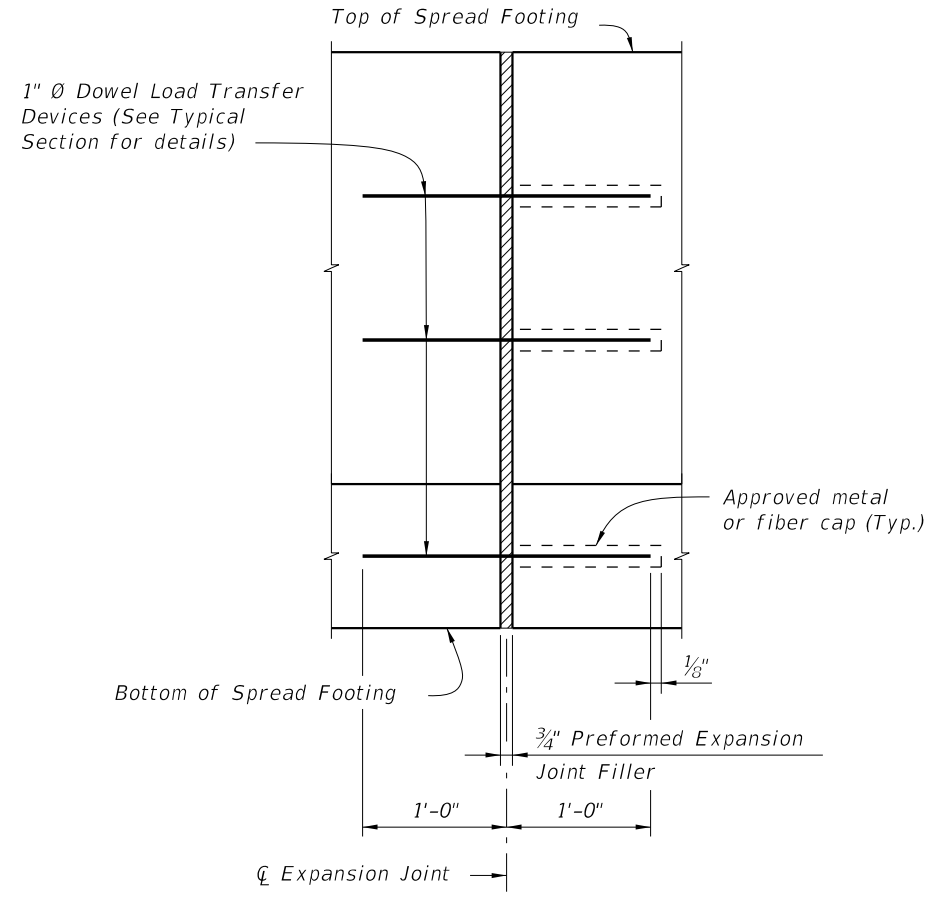
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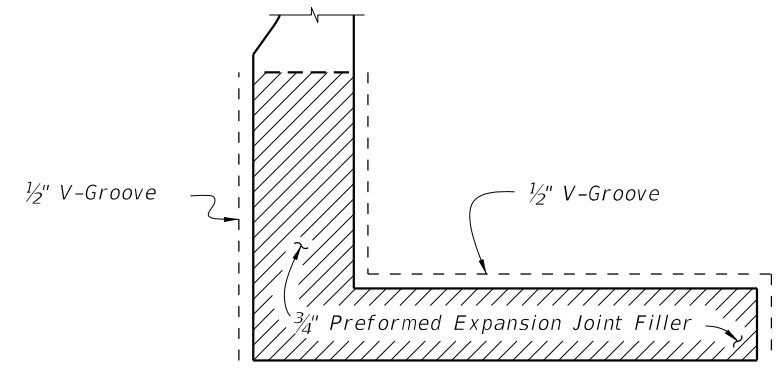


**TYPICAL SECTION THRU SPREAD FOOTING - OPTION B**  
 (Bars 5P, 5R and 5S1 in Traffic Railing/Noise Wall not shown for clarity)

- NOTES:**
1. Match Cross Slope of Travel Lane or Shoulder.
  2. Place 10 ~ Bars 5B inside Bars 5U1 as shown.
  3. Provide 3" lip when optional construction joint is used.



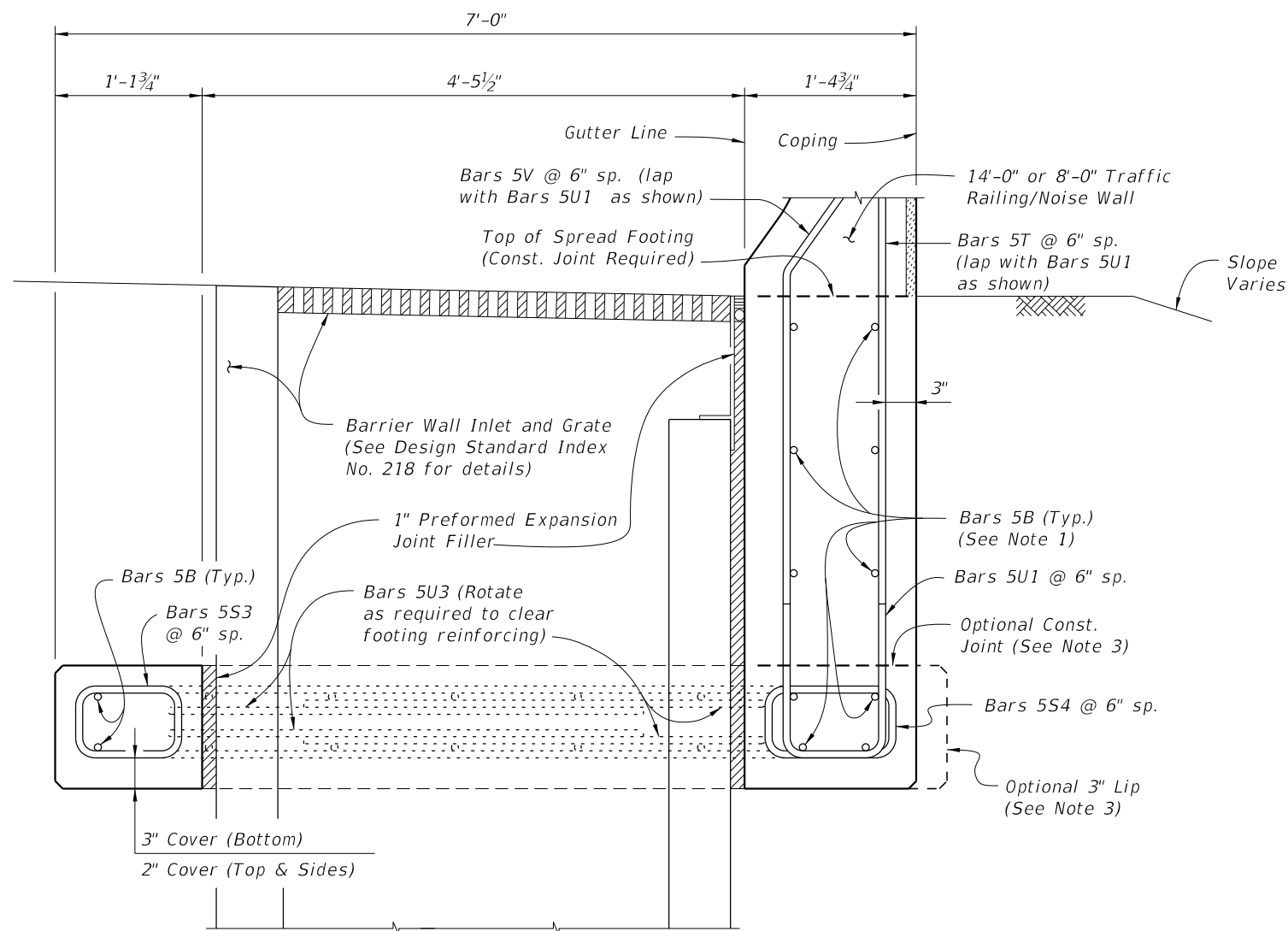
**EXPANSION JOINT DETAIL**  
 (Spread Footing expansion joints are required at 3/4" open joints in Traffic Railing/Noise Wall)



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

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

**NOTES:**

1. Place 10 ~ Bars 5B inside Bars 5U1 as shown.
2. For Reinforcing Steel spacing, see Typical Section Thru Spread Footing - Option B on Sheet 3.
3. Provide 3" lip when optional construction joint is used.

**ESTIMATED L-SHAPED SPREAD FOOTING QUANTITIES**

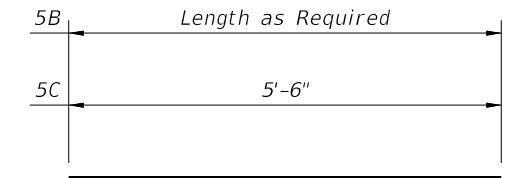
ITEM	UNIT	QUANTITY
Concrete (Footing)	CY/FT	0.414
Reinforcing Steel (Typical)	LB/FT	85.53
Additional Reinf. @ Expansion Joint	LB	48.06

(Subtract 12.69 lb/ft from typical reinforcing steel quantity shown on Index No. 5210 to account for the absence of Stirrup Bars 5V and 5S1 in L-Shaped Spread Footings.)

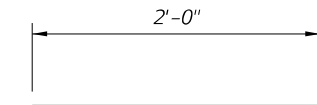
**CROSS REFERENCE:**  
 For location of Section A-A, see Sheet 1.

**REINFORCING STEEL BENDING DIAGRAMS**

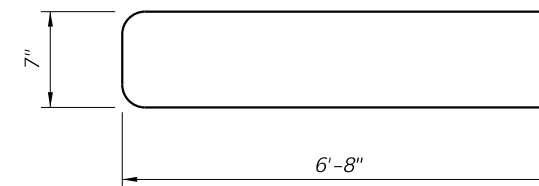
BILL OF REINFORCING STEEL		
MARK	SIZE	LENGTH
B	5	AS REQD.
C	5	5'-6"
S3	5	3'-10"
S4	5	4'-3"
T	5	4'-3"
U1	5	8'-0"
U2	5	13'-11"
U3	5	12'-10"
V	5	3'-10"
DOWEL	1" Ø Smooth Bar	2'-0"



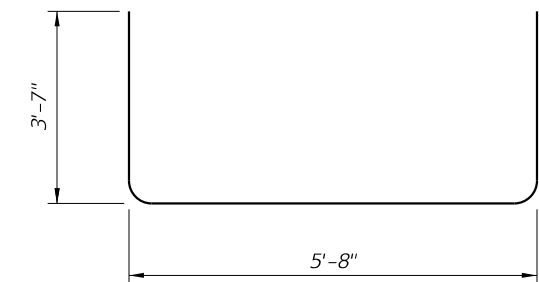
**BARS 5B & 5C**



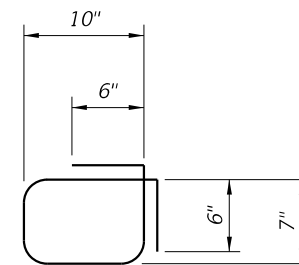
**1" Ø DOWEL**



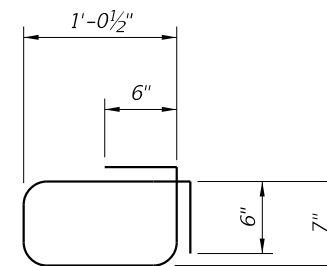
**BAR 5U2**



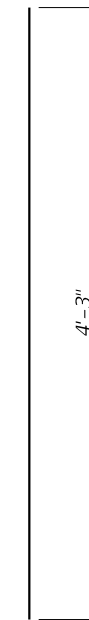
**BAR 5U3**



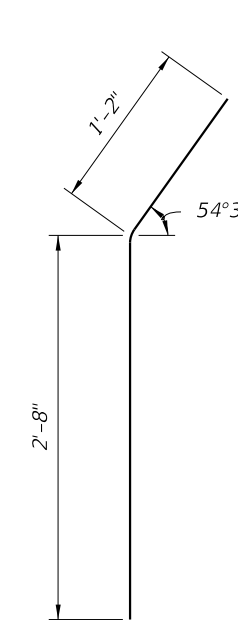
**BAR 5S3**



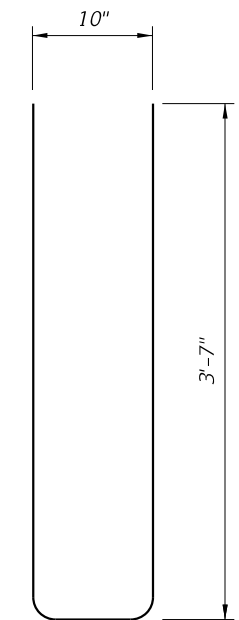
**BAR 5S4**



**BAR 5T**



**BAR 5V**



**BAR 5U1**

**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. Lap splices Bars 5T and 5V with 5U1 will be a minimum of 2'-2".
5. 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.

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LAST REVISION	DESCRIPTION:
07/01/13	