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 1" Expansion Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown.

5. Construct 3/4" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between 1" 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 B = 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').

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

**BILL OF REINFORCING STEEL**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>5</td>
<td>6'-8&quot;</td>
</tr>
<tr>
<td>B</td>
<td>5</td>
<td>AS REQ'd</td>
</tr>
<tr>
<td>U</td>
<td>5</td>
<td>1'-0&quot;</td>
</tr>
</tbody>
</table>

**DOWEL** 1" Ø Smooth Bar 2'-0"

**BARS 5A & 5B**

**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 Welded Wire Reinforcement (WWR) when approved by the Engineer. WWR must consist of Deformed wire meeting the requirements of Specification Section 931.

**ESTIMATED T-SHAPED SPREAD FOOTING QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANTITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concrete (Footings)</td>
<td>CY/FT</td>
<td>0.312</td>
</tr>
<tr>
<td>Rebar Steel (Typical)</td>
<td>LB/FT</td>
<td>25.90</td>
</tr>
<tr>
<td>Additional Rein @ Expansion Joint</td>
<td>LB</td>
<td>31.38</td>
</tr>
</tbody>
</table>

*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.