**Concrete Barrier/Noise Wall Notes**

1. Construct the Concrete Barrier/Noise Wall and joints plumb; do not construct the Concrete Barrier/Noise Wall perpendicular to the roadway surface.

2. **Concrete:** 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. Construct $\frac{1}{2}$" Open Joints plumb and perpendicular or radial to Gutter Line. Provide at 90'-0" maximum intervals as shown. $\frac{1}{2}$" Open Joint locations are to coincide with $\frac{1}{2}$" Expansion Joints in footings.

4. Construct $\frac{1}{2}$" V-Grooves plumb and provide at 30'-0" maximum intervals as shown. Space V-Grooves equally between $\frac{1}{2}$" Open Joints and/or Begin or End Concrete Barrier/Noise Wall.

5. 14'-0" Noise Wall End Taper is required when adjacent to an 8'-0" Concrete Barrier/Noise Wall and may be used when an 8'-0" Concrete Barrier/Noise Wall End Taper is provided (see Index 521-510 for details). See Roadway Plans for Concrete Barrier/Noise Wall End Treatment.

6. Work this Index with Index 521-510—Concrete Barrier/Noise Wall (8'-0") and one or more of the following:
   - A. Index 521-513—Concrete Barrier/Noise Wall T-Shaped Spread Footing,
   - B. Index 521-514—Concrete Barrier/Noise Wall L-Shaped Spread Footing or
   - C. Index 521-515—Concrete Barrier/Noise Wall Trench Footing.

**CROSS REFERENCE:**
For Section A.A. Detail "A" and Estimated Quantities, see Sheet 3.
For Expansion Joint Detail in Footing, see Index 521-513, 521-514 or 521-515.

**PLAN (Reinforcing Steel not shown for clarity)**
(T-Shaped Spread Footing Shown, L-Shaped Spread Footing and Trench Footing Similar)

- Stem Wall
- T-Shaped Spread Footing
- Outside Edge of Concrete Barrier
- Shoulder or Roadway Pavement

**ELEVATION OF INSIDE FACE OF CONCRETE BARRIER/NOISE WALL**
(T-Shaped Spread Footing Shown, L-Shaped Spread Footing and Trench Footing Similar)

- Begin or End 8'-0" Concrete Barrier/Noise Wall or End Taper (See Note 6)
- Begin or End 14'-0" Concrete Barrier/Noise Wall

**Notes:**
- A. $\frac{1}{2}$" Open Joint may be omitted when 8'-0" Railing/Noise Wall End Taper is adjacent to a 14'-0" Concrete Barrier/Noise Wall End Taper.
- B. $\frac{1}{2}$" V-Groove in both faces and top of Concrete Barrier/Noise Wall
- 30'-0" Maximum (See Note 5)
- 14'-0" Noise Wall End Taper (See Sheet 2 and Note 6)
- See Plans for location of End Taper
- Elevation of Inside Face of Concrete Barrier/Noise Wall
- Plan (Reinforcing Steel not shown for clarity)
- T-Shaped Spread Footing
- Open Joint
- V-Groove in both faces and top of Concrete Barrier/Noise Wall
- Expansion Joint in footing (Typ.)
- 8'-0" Concrete Barrier/Noise Wall continuing or End Taper on Approach Slab or Roadway (shown)
ELEVATION OF CONCRETE BARRIER/NOISE WALL REINFORCING STEEL
(Bars S51 in Railing not shown for clarity)

NOTES:
1. Field Cut Bars S5 & S51 in Noise Wall End Taper as required to maintain minimum cover.
2. See Index 521-513, 521-514 and 521-515 for footing reinforcement.
3. 1/2 Open Joint may be omitted when 8'-0" Railing/Noise Wall End Taper is adjacent to a 14'-0" Concrete Barrier/Noise Wall End Taper as shown on Sheet 1. See Index 521-510 for reinforcement details and spacing. Bars S52 are not required when 1/2 Open Joint is omitted.
4. Bar spacing shown is along the Gutter Line.

End Taper (required when adjacent to an 8'-0" Concrete Barrier/Noise Wall)

8'-0" Concrete Barrier/Noise Wall continued on Approach Slab or Roadway

ELEVATION OF CONCRETE BARRIER/NOISE WALL END TAPER
(Bars S51 in Railing not shown for clarity)
**REINFORCING STEEL BENDING DIAGRAMS**

**BILL OF REINFORCING STEEL**

<table>
<thead>
<tr>
<th>MARK</th>
<th>SIZE</th>
<th>LENGTH</th>
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<tbody>
<tr>
<td>R1</td>
<td>5</td>
<td>5'-2&quot;</td>
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<tr>
<td>R2</td>
<td>5</td>
<td>5'-25&quot;</td>
</tr>
<tr>
<td>R3</td>
<td>5</td>
<td>10'-10&quot;</td>
</tr>
<tr>
<td>S1</td>
<td>5</td>
<td>AS REQ.</td>
</tr>
<tr>
<td>S2</td>
<td>5</td>
<td>7'-3&quot;</td>
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</table>

**BARS S51 & S52**

**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. Bars 5R may be continuous or spliced at construction joints. Lap splices for Bars 5R, and S5 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 CONCRETE BARRIER/NOISE WALL QUANTITIES**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>UNIT</th>
<th>QUANTITY</th>
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<tbody>
<tr>
<td>Concrete (Concrete Barrier)</td>
<td>CF/FT</td>
<td>0.107</td>
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<tr>
<td>Concrete (Noise Wall, excluding any thickening)</td>
<td>CF/FT</td>
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<tr>
<td>Reinforcing Steel (Killing/Noise Wall)</td>
<td>LB/FT</td>
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<tr>
<td>Additional Rein. @ Open Joint (Killing/Noise Wall)</td>
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<td>397.38</td>
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</table>

**NOTES:**

1. See Index 521-513, 521-514 or 521-515 for footing reinforcement.
2. At 1'-9" Open Joints, plug the lower 2' portion of the open joint by filling it with mortar in accordance with Specification Section 400.