**GUIDE TO USE THIS STANDARD:**

1. Calculate the area and the centroid for an individual sign or a sign cluster. Note that the centroid and areas have been calculated for frequently used sign clusters. These are shown on Sheet No. 6, 7 & 8 of 8.

2. Determine the height \( h \) from groundline for the individual sign or the cluster.

3. Select the appropriate column (post) selection table by wind speed and find the intersection of the appropriate row and column.

4. Design the post and the foundation according to the dark-bold lines or shaded area (if cantilever sign) in the column (post) selection table and foundation table. For sign posts with signs oriented in two directions, only the sign with the largest area should be analyzed to determine the post requirements.

**EXAMPLE:**

- **Area** \( A = 16 \text{ FT}^2 \)
- **Height** \( h = 11 \text{ FT} \)

**SINGLE COLUMN GROUND SIGNS**

**WIND SPEEDS BY COUNTY:**

- **150 MPH:** Bradford, Collier, Dade, Escambia, Indian River, Martin, Monroe, Palm Beach, Santa Rosa and St. Lucie counties.

**NOTES AND EXAMPLE**

- If CANTILEVER SIGN configuration is used (see Cantilever Sign Details) in this region, use next larger post size than that indicated.

**REFERENCES:**

- Broward, Collier, Dade, Escambia, Indian River, Martin, Monroe, Palm Beach, Santa Rosa and St. Lucie counties.

**PRODUCTS LIST (QPL):** Must submit a QPL application, design calculations, detailed drawings or steel square tube single post ground sign assemblies for inclusion on the Qualified Products List (QPL).
**SLIP BASE NOTES:**

1. Use sleeves with an inside diameter (I.D.) no more than \( \frac{3}{8} \)" larger than the outside diameter (O.D.) of the column.
2. Sleeve bolts: ASTM A-307, \( \frac{3}{8} \)" galvanized steel bolt with lock nuts or Alloy 2024-T4 or 6061-T6 (ASTM B-211).
4. Base plates may have either single or double beveled slots.
5. An alternate cast base plate of aluminum alloy 356 and T6 temper in lieu of the fabricated base plate may be submitted for approval if a cast base plate is used, the slab width the same size as the column and will be bolted to the casting.
6. Assemble the slip base connection in the following manner:
   a. Connect column to sleeve using two \( \frac{3}{8} \)" machine bolts.
   b. Assemble top base plate to stub base plate using high strength bolts with three hardened washers per bolt. One of the three washers per bolt and two bolt keeper plates go between the base plates.
   c. Use shim stock as required to plumb the column.
   d. Orient the bolt keeper plates in the Directions of Traffic.
   e. Use shim stock as required to plumb the column.
   f. Tighten all bolts to the prescribed torque (see table) under the supervision of the Project Engineer.
   g. Burr threads at junction with nut using a center punch to prevent nut loosening.
7. Use galvanized steel shims to obtain a tight fit between the column face and the sleeve. Place shims in quadrants between the \( \frac{3}{8} \)" sleeve bolts. Use shims that are \( \frac{1}{2} \)" shorter than the height of the sleeve.
8. Both fabricated and cast base assemblies were impact tested by the Texas Transportation Institute, College Station, TX on February 10, 2003, and both alternate assemblies were determined to be compliant with the performance recommendations of the National Cooperative Highway Research Program (NCHRP) report 350.

**SLIP BASE AND FOOTING DETAIL IN CONCRETE**

- (non-frangible post in crossovers, medians, & sidewalks)
- (frangible post in crossovers, medians, & sidewalks)

**BASE AND FOUNDATION DETAILS**

**SLIP BASE DETAILS**

<table>
<thead>
<tr>
<th>Column Size</th>
<th>Sleeve Height</th>
<th>Weld M</th>
<th>Base Plate Size</th>
<th>Base Bolt Size</th>
<th>Base Plate Torque</th>
<th>Hole Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 x 1 1/4</td>
<td>43/6 1/8</td>
<td>3/8</td>
<td>6 1/8 1/8</td>
<td>3/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
<tr>
<td>5 x 1 1/4</td>
<td>43/6 1/8</td>
<td>3/8</td>
<td>6 1/8 1/8</td>
<td>3/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
<tr>
<td>6 x 1 1/4</td>
<td>4 1/8 1/8</td>
<td>3/8</td>
<td>6 1/8 1/8</td>
<td>3/8</td>
<td>1/8</td>
<td>1/8</td>
</tr>
</tbody>
</table>

**REVISIONS**

- Added \( \frac{3}{8} \)" column to SLIP BASE DETAILS table.
- Changed Note 8.b.

**BASE/FOOTING DETAILS**

- Column (Post) (Driven in center to full embedment)
- Concrete sidewalk, median, etc.
- Provide removable form or PVC of \( 12" \) dia.
- Provide bond breaker between adjacent concrete surfaces
- PROVIDE REMOVABLE FORM OR PVC OF \( 12" \) Dia.