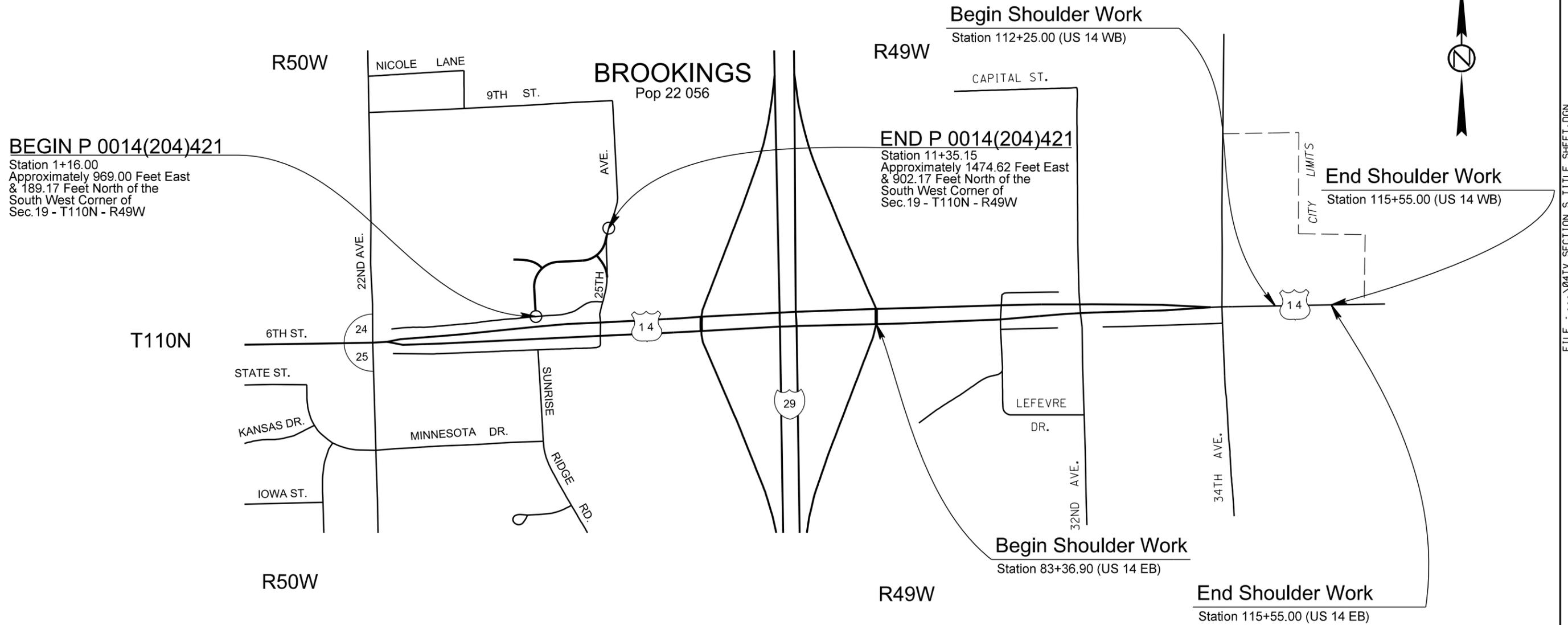


Section S: PERMANENT SIGNING PLANS

| | | | |
|-----------------------------|----------------|--------------|-----------------|
| STATE OF SOUTH DAKOTA | PROJECT | SHEET NO. | TOTAL SHEETS |
| | P 0014(204)421 | S1 | S6 |
| Plotting Date: 01/26/2015 | | | |

INDEX OF SHEETS

| | |
|-------|--------------------------------------|
| S1 | General Layout W/Index |
| S2 | Estimate of Quantities W/Plan Notes |
| S3 | Permanent Sign Table W/ Sign Summary |
| S4-S6 | Sign Post Install Details |



PLOT SCALE - 1:200

PLOT NAME - 1

FILE - ... \04TV SECTION S TITLE SHEET.DGN

PLOTTED FROM - TRAB10100

| | | | |
|-----------------------------|----------------|--------------|-----------------|
| STATE OF SOUTH DAKOTA | PROJECT | SHEET NO. | TOTAL SHEETS |
| | P 0014(204)421 | S2 | S6 |

SECTION S – ESTIMATE OF QUANTITIES – PCN 04TV

| Bid Item Number | Item | Quantity | Unit |
|-----------------|---|----------|------|
| 632E1320 | 2.0"x2.0" Perforated Tube Post | 30.0 | Ft |
| 632E3205 | Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity | 15.6 | SqFt |

GENERAL PERMANENT SIGNING NOTES

Permanent sign locations shall be staked in the field by the Contractor and checked by the Engineer. The Contractor shall give the Engineer a minimum of one week to check staked locations prior to sign/post installation.

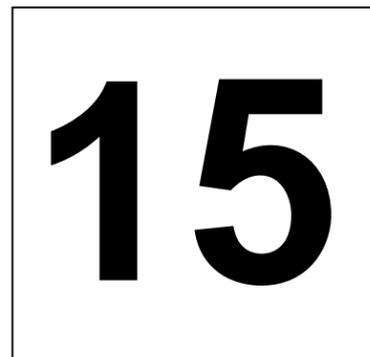
The Contractor shall be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

Prior to ordering sign posts, the Contractor shall verify post lengths. The height of the post shall not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign shall be cut off. No separate payment will be made for cutting the post or for that length cut off.

DATE DECALS

The Contractor shall furnish and affix a date decal to each new sign installed.

Date decals shall be self-adhesive weather resistant stickers with removable paper backing, approximately 2" X 2" in size. The date decal shall display the last two digits of the year the sign was manufactured with black numerals on a white background.



One decal shall be placed in the extreme lower left corner of the front of each extruded aluminum panel sign, or the extreme lower left corner of the back of each flat aluminum sign.

Sign supports or other obstructions shall not block the view of the date decal upon completion of the sign installation.

All costs to furnish and install date decals on new signs shall be incidental to the contract unit price per square foot for Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity.

NEW PERMANENT SIGNING

New signs for installation are summarized in the Permanent Sign Installation Table.

Sign Design

Signs shall be constructed as required per the Manual on Uniform Traffic Control Devices (MUTCD), the latest edition of "Standard Highway Signs", and as specified on the Special Sign Design sheets.

All sign material shall comply with Section 982 of the Specifications.

All upper/lower case letters and numerals shall be as required per the MUTCD, the latest edition of "Standard Highway Signs", and as illustrated on the Special Sign Design sheets.

The Contractor shall furnish the Aberdeen Region Traffic Engineer (P.O. Box 1767; Aberdeen, SD 57402) with a detailed sign layout sheet for each sign shown. These detailed sign layouts shall be approved by the Region Traffic Engineer prior to ordering the signs.

Sign Sheeting

Signs shall be constructed using Super/Very High Intensity (ASTM D4956 Type XI) reflective sheeting as summarized in the Permanent Sign Installation Tables.

All signs shall be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films. Digitally printed signs will not be accepted.

All black legend and borders shall be nonreflectorized (unless otherwise specified in these plans).

Sign Installation Hardware

Refer to the Breakaway Sign Supports diagram for typical sign details.

The Contractor shall use 3/8 inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts shall extend through each post.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware shall be incidental to the contract unit price per square foot for Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity.

SQUARE TUBE ANCHOR SLEEVE

The Contractor shall furnish and install new square tube anchor sleeve as follows:

2.5" x 18", 12 Gauge square tube anchor sleeve, (or equivalent components as approved by the Engineer).

A 2.25" x 2.25" x 4' perforated tube post (12 Gauge) shall be used as the anchor post for installation with the square tube anchor sleeve.

SIGN POST INSTALLATION THROUGH CONCRETE

On concrete surfaces a core shall be drilled out for sign installation. The core diameter shall be sized accordingly depending on post size. Concrete surrounding the core shall not be cracked or damaged.

P 0014(204)421, PCN 04TV Permanent Sign Installation Table

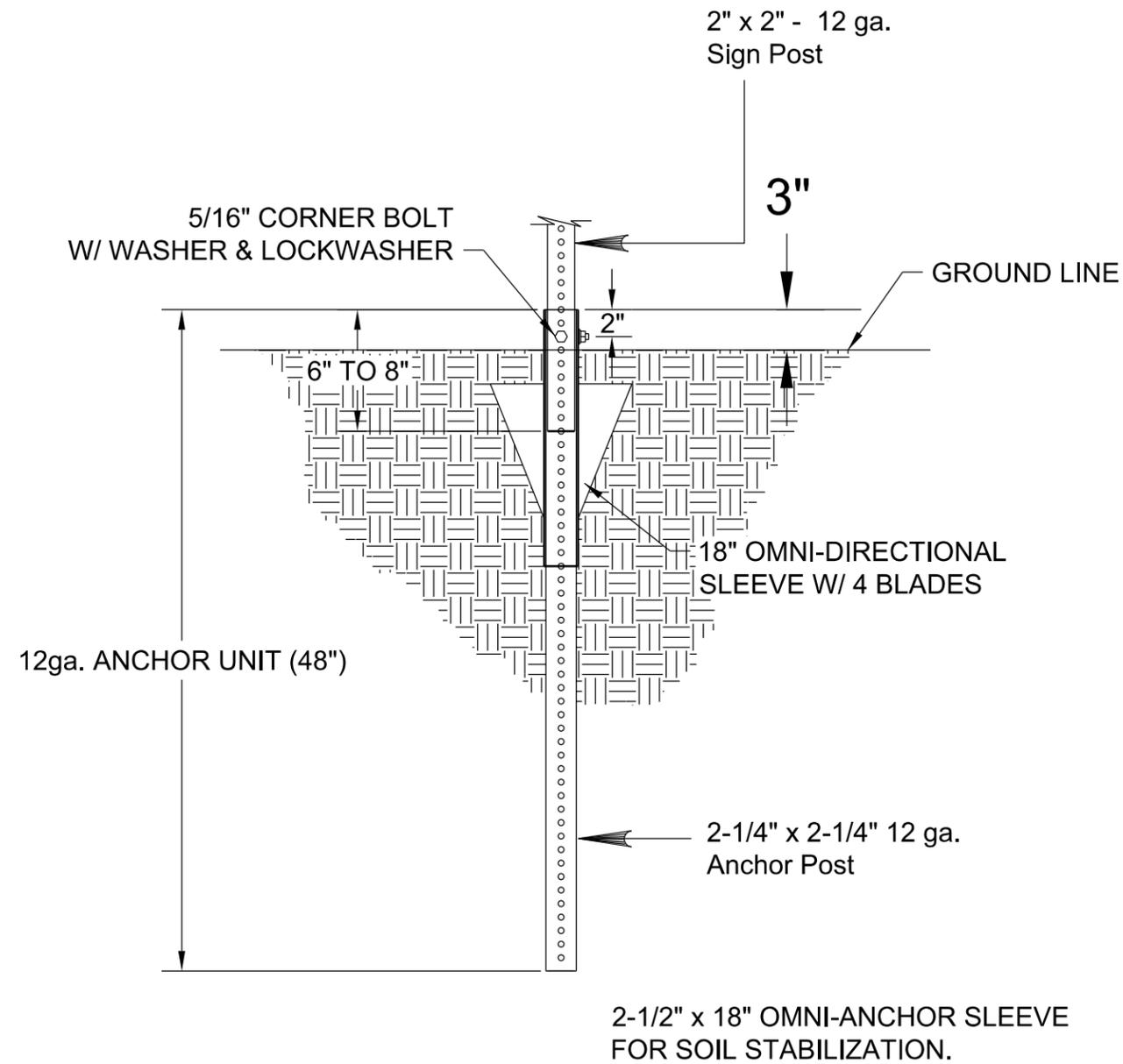
| Station | Side of Road | Description | Sign Code | Width (Inches) | Height (Inches) | Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity (SqFt) | 2.0"x2.0" Perforated Tube Post 12 Ga. (Ft) | (N.A.B.I.) Square Tube Anchor Sleeve (Each) | Direction Sign Faces | Remarks |
|---------|--------------|-------------|-----------|----------------|-----------------|--|--|---|----------------------|-----------------------|
| 1+24 | Lt. | Stop | R1-1 | 30 | 30 | 5.2 | 10 | 1 | N | New Sign Installation |
| 5+00 | Lt. | Stop | R1-1 | 30 | 30 | 5.2 | 10 | 1 | NW | New Sign Installation |
| 9+10 | Rt. | Stop | R1-1 | 30 | 30 | 5.2 | 10 | 1 | SE | New Sign Installation |
| | | | | | TOTAL | 15.6 | 30.0 | 3.0 | | |

Sign Summary

| Sign Code | Description | Width (Inches) | Height (Inches) | Sq. Ft. | Quantity | Flat Aluminum Sign, Nonremovable Copy Super or Very High Intensity (SQFT) | Text / Background |
|---------------|-------------|----------------|-----------------|---------|----------|---|-------------------|
| R1-1 | Stop | 30 | 30 | 5.2 | 3 | 15.6 | White on Red |
| Totals | | | | | | 15.6 | |

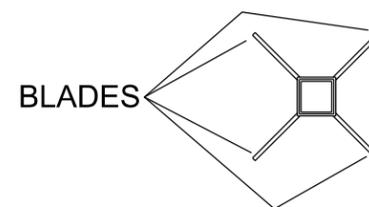
| | | | |
|-----------------------------|-----------------|--------------|-----------------|
| STATE OF SOUTH DAKOTA | PROJECT | SHEET NO. | TOTAL SHEETS |
| | P 0014 (204)421 | S4 | S6 |
| Plotting Date: 01/08/2015 | | | |

SQUARE TUBE 4 BLADE ANCHOR DETAIL

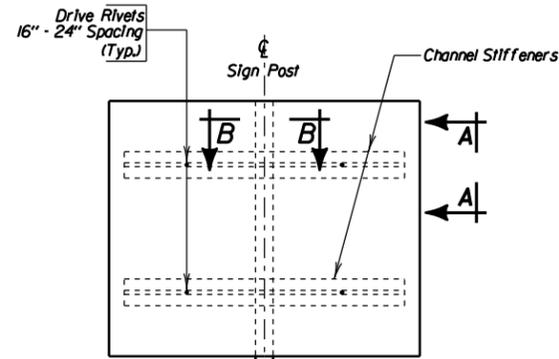


ANCHOR SLEEVE
TOP VIEW

2-1/2" x 18" 12 ga. Omni-Sleeve



ONE POST BREAKAWAY SIGN SUPPORTS

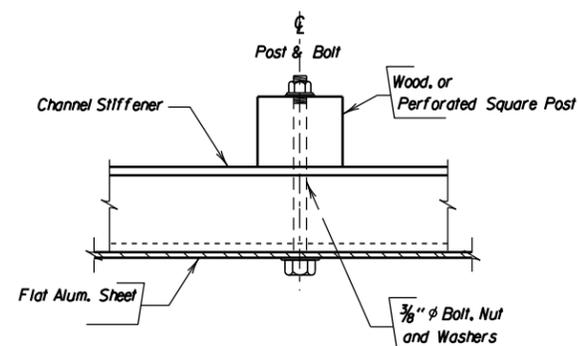
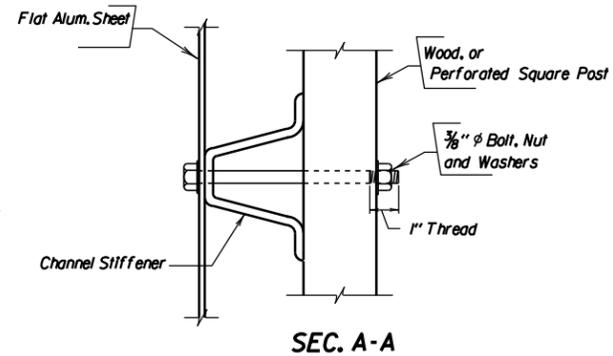
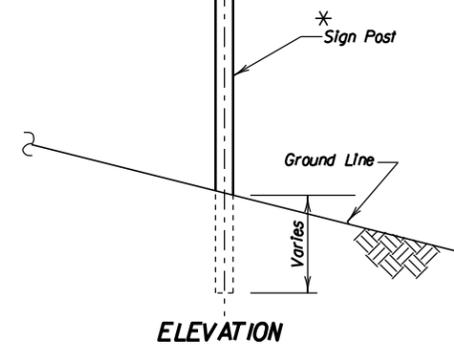


∅ A plastic washer, as recommended by the sheeting manufacturer, shall be installed between the sign face and the metal washer shown.

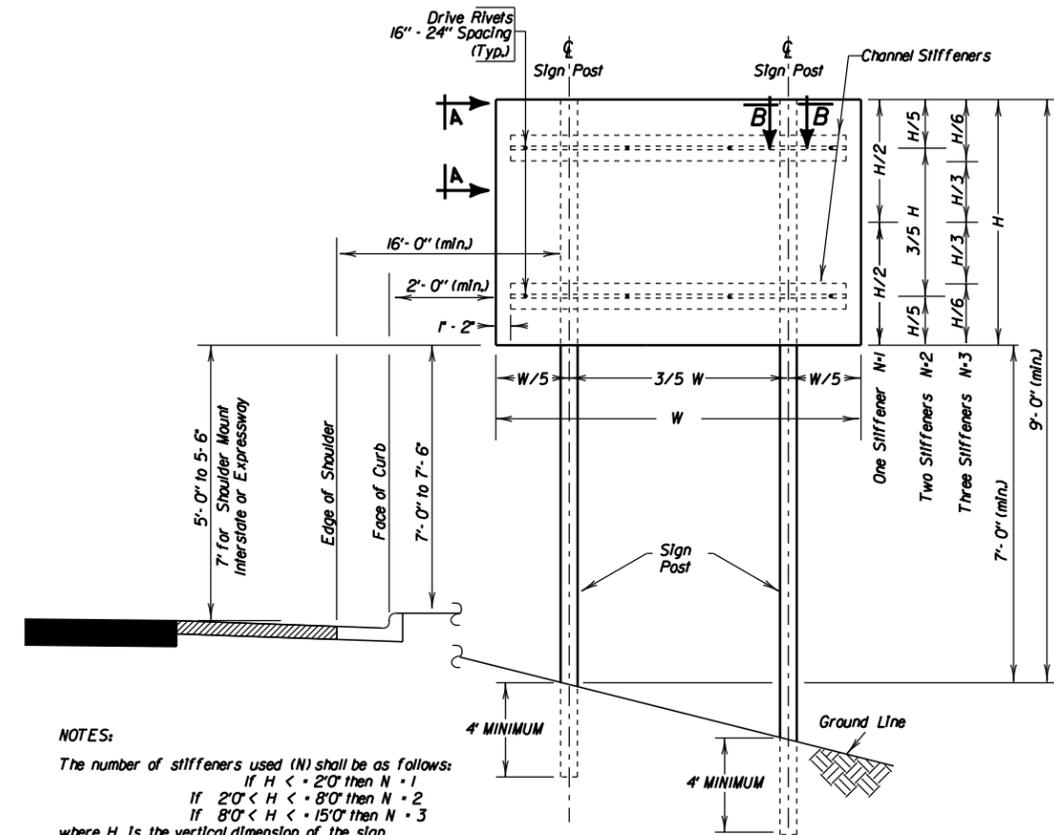
Height and lateral distance as recommended by latest edition of MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

* Single post installation shown. (See applicable Details or Standard Plates shown in these plans for multiple post spacing requirements.)

(Typical Sign and Stiffener Details)



TWO POST BREAKAWAY SIGN SUPPORTS



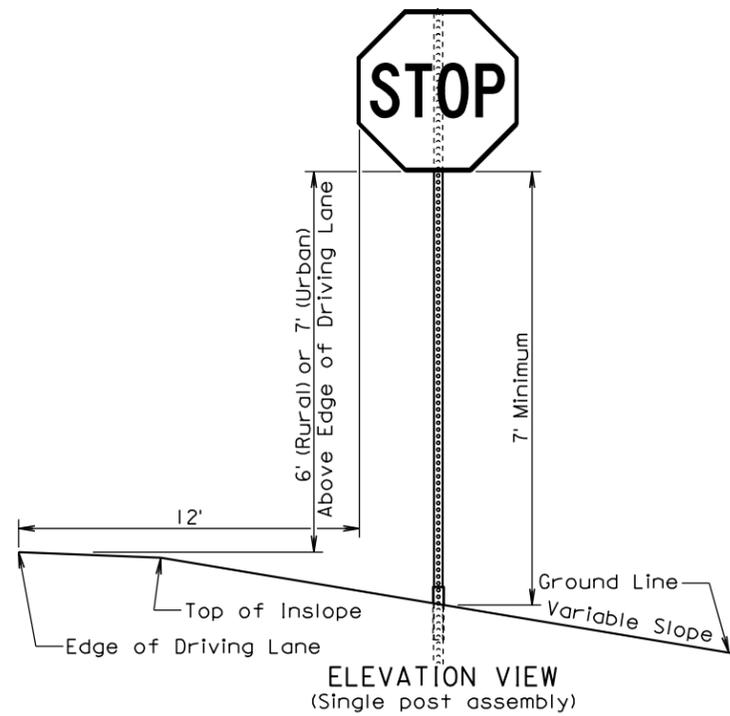
NOTES:

The number of stiffeners used (N) shall be as follows:
 If $H < 2'0"$ then $N = 1$
 If $2'0" < H < 8'0"$ then $N = 2$
 If $8'0" < H < 15'0"$ then $N = 3$
 where H is the vertical dimension of the sign.

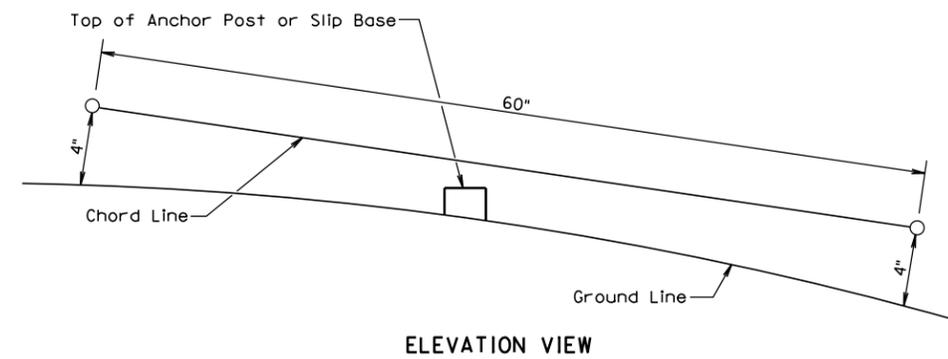
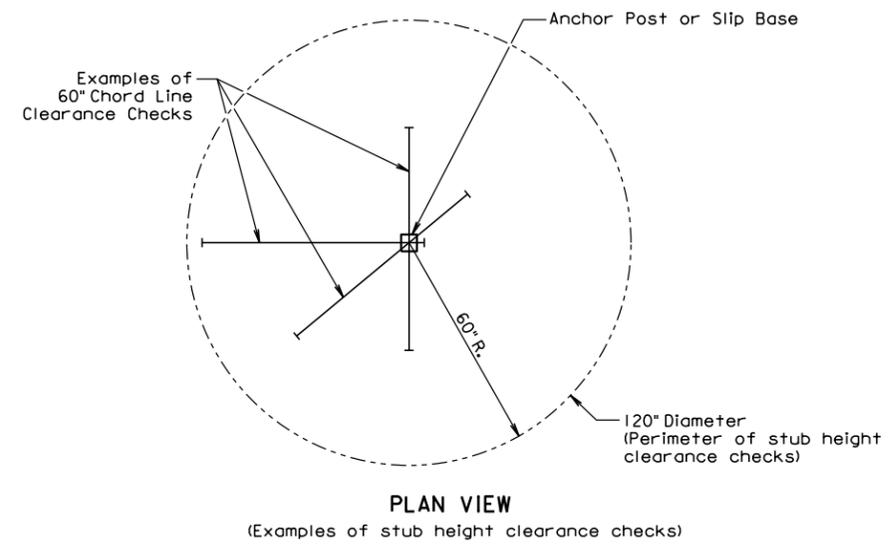
A minimum of two bolts shall be required to fasten the sign to each post.

| | | | |
|-----------------------------|----------------|--------------|-----------------|
| STATE OF SOUTH DAKOTA | PROJECT | SHEET NO. | TOTAL SHEETS |
| | P 0014(204)421 | S6 | S6 |
| Plotting Date: 01/08/2015 | | | |

INSTALLATION DETAILS FOR STOP SIGNS



BREAKAWAY SUPPORT STUB CLEARANCE



GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.