THE STEEL MEMBERS BETWEEN THE ALUMINUM MOUNTING SUPPORTS AND PLACE PLASTIC MATERIAL 1/16 MIN. THICKNESS (SEE SHEET 4 FOR CHART WITH SPACING)

MOUNTING SUPPORT-BOLT ARRANGEMENT FOR OVERHEAD SIGNS

MOUNTING SUPPORT:
SERIES (ALUM.) X HGT.-ALUM. PANEL WIDE FLANGE - ARMY/NAVY
5" x 5" x 5.37 lbs/ft

NOTE:  3 ANGLES MOUNTING ANGLES (ALUMINUM)
2" x 2" x 1/4" x 8' (LONG)

SIGN BOTTOM OF PANEL FROM TOP TO BOTTOM.

BOLTS LEFT & RIGHT ON EACH BOTTOM OF SIGN. ALTERNATE BOLT BOTH SIDES AT TOP & BOTTOM OF SIGN ALTERNATE. PROVIDE 2 WASHERS UNDER EACH NUT. TURN NUT DOWN UNTIL ALL MATING SURFACES ARE IN CONTACT. DO NOT OVER TIGHTEN.

DETAIL OF EXIT NUMBER PANEL ERECTION TO OVERHEAD SIGNS

PLACE PLASTIC MATERIAL 1/16 MIN. THICKNESS BETWEEN THE ALUMINUM MOUNTING SUPPORTS AND THE STEEL MEMBERS

SIGN LOCATION DETAIL SECTION A-A
MOUNTING SUPPORT:
5" x 5" x 5.37 lbs/ft
WIDE FLANGE - ARMY/NAVY
SERIES (ALUM.) X HGT.-ALUMINUM PANEL.
OR AS PROVIDED BY THE VARIABLE
MESSAGE SIGN MANUFACTURER

NOTE: SEE SIGN LOCATION DETAIL FOR SIGN POSITIONING DIMENSIONS.

SIGN LOCATION DETAIL
SECTION A-A
RECTANGULAR FLAT HEAD
BOLT DETAIL

MOUNTING SUPPORT:
5" x 5" x 5.37 106/4
WIDE FLANGE - ARMY/NAVY SERIES (ALUM.)
x hot. - alum.
or plywood panel.

SECTION B-B
CANTILEVER

PLAN-CANTILEVER CONNECTION

"U"-BOLT DIMENSIONS

<table>
<thead>
<tr>
<th>TRUSS TYPE</th>
<th>CANTILEVER TYPE</th>
<th>INSIDE BEND DIAMETER (D)</th>
<th>INSIDE BEND RADIUS (R)</th>
<th>U-BOLT LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>C(70&quot;) STEEL</td>
<td>4&quot;</td>
<td>17 1/4&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C(100&quot;) STEEL</td>
<td>5&quot;</td>
<td>20 1/4&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D(125&quot;) STEEL</td>
<td>5&quot;</td>
<td>20 1/2&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>10 3/4&quot;</td>
<td>5 3/8&quot;</td>
<td>32&quot;</td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>6&quot;</td>
<td>3&quot;</td>
<td>20 1/4&quot;</td>
<td></td>
</tr>
</tbody>
</table>

ALL U-BOLTS SHALL HAVE 2" THREAD LENGTH. (MIN.)

MICHIGAN DEPARTMENT OF TRANSPORTATION
BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.
### TRUSS MOUNTING SUPPORT SPACING

<table>
<thead>
<tr>
<th>SIGN LENGTH L (ft)</th>
<th>NUMBER OF MOUNTING SUPPORTS</th>
<th>EDGE OF SIGN TO NEAREST SUPPORT (ft)</th>
<th>DISTANCE BETWEEN SUPPORTS (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>L ≤ 8.0</td>
<td>2</td>
<td>L-5</td>
<td>5</td>
</tr>
<tr>
<td>8.5 ≤ L ≤ 16.5</td>
<td>2</td>
<td>0.2L</td>
<td>0.6L</td>
</tr>
<tr>
<td>17.0 ≤ L ≤ 28.5</td>
<td>3</td>
<td>0.15L</td>
<td>0.35L</td>
</tr>
<tr>
<td>29.0 ≤ L ≤ 43.0</td>
<td>4</td>
<td>0.15L</td>
<td>L-0.30L</td>
</tr>
</tbody>
</table>

**NOTE:** The dimensions above serve as an initial starting point to determine mounting support locations. The fabricator should adjust supports slightly to avoid truss "panel points" while maintaining as close as possible the chart spacing and adhering to the 5′ min. - 10′ max. spacing rule.

**ELEVATION VIEW**

**STEEL COLUMN BREAKAWAY**

Erection angles to remain in place (2 req’d.)
L2" x 2" x 1/4" (alum) x sign height - Shop connect by direct bolting on each panel (see Sheet 3 for rectangular flat head bolt detail). 1/2" x 3/4" elongated holes may be used to facilitate alignment of erection angles.

**SIGN SUPPORT CLIP OR BOLT ARRANGEMENT FOR STEEL COLUMN BREAKAWAY**

Clip both sides @ top and bottom of sign alternate clips left and right on each panel from top to bottom. For signs over 22′ long, erected on steel column breakaway, use clips both sides on each panel from top to bottom (see Note 3 on Sheet 5).

**PLAN VIEW**

**STEEL COLUMN BREAKAWAY**

Not to scale

**MICHIGAN DEPARTMENT OF TRANSPORTATION**

**BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN**

**SIGN-700-D SHEET 4 OF 5**

**F.H.W.A. APPROVAL**

**PLAN DATE 01/25/16**

**NOTE:** The original signed copy is kept on file at the Michigan Department of Transportation.
NOTES FOR EXIT NUMBER PANEL ERECTION:

1. ALL MOUNTING ANGLES AND CONNECTIONS ARE INCLUDED IN THE PAY ITEM "SIGN, TYPE _".

2. SHIFT MOUNTING ANGLES A MINIMUM DISTANCE TO AVOID CONFLICT WITH GUIDE SIGN SUPPORTS.

3. WHERE GUIDE SIGN IS LESS THAN 6’ IN HEIGHT, SHORTEN MOUNTING ANGLES TO MATCH BOTTOM OF GUIDE SIGN.

4. EXIT NUMBER PANEL SHALL BE DIRECT BOLTED AT TOP, MIDDLE AND BOTTOM TO MOUNTING ANGLE (3 BOLTS REQUIRED PER MOUNTING ANGLE). USE STAINLESS STEEL 3/8 DIAMETER RECTANGULAR FLAT HEAD BOLTS, FLAT WASHERS AND NYLON INSERT LOCKNUTS. 1/2” X 3/4” ELONGATED BOLT HOLES MAY BE USED TO FACILITATE ALIGNMENT OF MOUNTING SUPPORTS.

5. REFER TO PLAN SHEET FOR PLACEMENT OF RIGHT OR LEFT EXIT SIGN PANEL.

6. GUIDE SIGN STIFFENER ANGLES AND/OR ERECTION ANGLES SHALL NOT BE EXTENDED TO SERVE AS EXIT NUMBER PANEL MOUNTING ANGLES.

NOTES FOR OVERHEAD SIGN SUPPORT:

7. NEW WIDE FLANGE MOUNTING SUPPORTS SHALL BE SHOP CONNECTED TO ALL SIGNS BEFORE HANDLING FINISHED SIGN. (ARE INCLUDED IN THE PAY ITEM "SIGN, TYPE _".)

8. SIGNS TOO TALL TO BE SHIPPED IN ONE PIECE SHALL HAVE TEMPORARY SUPPORT ANGLES ATTACHED TO EACH PIECE PRIOR TO HANDLING. THE TEMPORARY SUPPORT ANGLES SHALL REMAIN ON THE SIGN UNTIL THE PERMANENT WIDE FLANGE MOUNTING SUPPORTS ARE ATTACHED. TEMPORARY SUPPORTS SHALL BE STEEL OR ALUMINUM ANGLES.

9. FOR ATTACHMENT OF TYPE I SIGN TO OVERHEAD SIGN MOUNTING SUPPORTS, USE STAINLESS STEEL 3/8” DIAMETER RECTANGULAR FLAT HEAD BOLTS, FLAT WASHERS AND NYLON INSERT LOCKNUTS. 1/2” X 3/4” ELONGATED BOLT HOLES MAYBE USED TO FACILITATE ALIGNMENT OF MOUNTING ONLY.

10. ALL U-BOLTS, BOLTS, AND ALL NYLON INSERT LOCKNUTS SHALL BE PER MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

NOTES FOR VARIABLE MESSAGE SIGNS:

11. TYPE I SIGNS SHALL NOT BE USED ON THE SAME TYPE E TRUSS AS VARIABLE MESSAGE SIGNS.

12. ATTACH VARIABLE MESSAGE SIGNS ON THE TYPE E TRUSS PER THE MANUFACTURERS RECOMMENDATIONS.

GENERAL NOTES:

13. NEW ERECTION ANGLES SHALL BE SHOP CONNECTED TO ALL SIGNS BEFORE HANDLING FINISHED SIGN. THEY ARE INCLUDED IN THE PAY ITEM "SIGN, TYPE _".

14. ALL CONNECTIONS ARE INCLUDED IN THE PAY ITEM "SIGN, TYPE _".

15. FOR SIGN PANEL CONNECTIONS, 3/8” DIAMETER STAINLESS STEEL BOLTS AND HEX NUTS AT 24” O.C SHALL BE USED.

16. TO ATTACH TYPE I SIGNS TO ROADSIDE STEEL COLUMN BREAKAWAYS, USE SIGN SUPPORT CLIPS ONLY.