CANTILEVER TRUSS DATA

<table>
<thead>
<tr>
<th>CANTILEVER ARM LENGTH (FT)</th>
<th>NUMBER OF PANELS</th>
<th>SUPPORT END PANEL LENGTH (FT)</th>
<th>SLOPE (IN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>4</td>
<td>2 @ 10.0</td>
<td>1/8</td>
</tr>
<tr>
<td>35</td>
<td>4</td>
<td>2 @ 7.5</td>
<td>1/8</td>
</tr>
<tr>
<td>30</td>
<td>3</td>
<td>2 @ 10.0</td>
<td>1/8</td>
</tr>
<tr>
<td>25</td>
<td>3</td>
<td>2 @ 7.5</td>
<td>1/16</td>
</tr>
<tr>
<td>20</td>
<td>2</td>
<td>2 @ 10.0</td>
<td>1/16</td>
</tr>
</tbody>
</table>

NOTE:
CANTILEVER "TYPE J" CAN ONLY BE USED WITH WRITTEN AUTHORIZATION FROM THE MDOT - TRAFFIC AND SAFETY SUPPORT AREA.
NOTES:

1. THE DESIGN OF THIS STRUCTURE IS BASED ON THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS, CURRENT EDITION.


3. ONLY TYPE I SIGNS ARE TO BE USED WITH THE TYPE J CANTILEVER.

4. MAXIMUM SIGN AREA IS 450 SQUARE FEET. SIGNS MUST NOT PROJECT PAST THE ENDS OF THE TRUSS. MAXIMUM 6 FOOT SIGN PROJECTION ABOVE THE TOP CHORD. MINIMUM SIGN HEIGHT WITH ALUMINUM BEAM IS 8.5 FEET.

5. HDG GALVANIZED (HOG) ALL STEEL COMPONENTS PER ASTM A123 PRIOR TO BOLTED ASSEMBLY. HDG ALL FASTENER COMPONENTS PER ASTM A353. BLAST CLEAN BASE PLATES, STIFFENERS, AND ALL WELDMENTS PRIOR TO GALVANIZING.

6. PROVIDE 15/16" Ø HOLES FOR 7/8" Ø HIGH STRENGTH (HS) BOLTS FOR ALL CONNECTIONS UNLESS OTHERWISE STATED. PROVIDE HIGH STRENGTH BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SUBSECTION 902.07 OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. PROVIDE LOCK WASHERS THAT MEET ANSI B18.21.1

7. TIGHTEN ALL HIGH STRENGTH BOLTS BY THE TURN OF NUT METHOD PER SUBSECTION 707.03.D OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. EXCEPT AT SPICE CONNECTIONS. SPICE CONNECTIONS MUST HAVE A FLAT WASHER AND LOCK WASHER UNDER EACH NUT AND TIGHTENED TO A SNUG TIGHT CONDITION PER SUBSECTION 707.03.D OF THE MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION.

8. DO NOT LIFT THE TRUSS BY THE WEB MEMBERS.

9. FIELD SPLICES MAY BE PLACED ALONG THE TRUSS CHORD TO FACILITATE FABRICATION. PLACE FIELD SPLICE 6'-6" MINIMUM TO THE GUSSET PLATE EDGE. ANY DEVIATION FROM THE DETAILS SHOWN ON THIS TYPICAL WILL REQUIRE APPROVAL BY THE ENGINEER IN WRITING BEFORE FABRICATION.

10. ALL WELDS MUST BE 100 PERCENT VISUAL TEST (VT) INSPECTED BY AN AWS CERTIFIED WELDING INSPECTOR (CWI). ALL FILLER WELDS (EXCEPT END CAP AND COLUMN CAP WELDS) MUST BE 25 PERCENT MAGNETIC PARTICLE TEST (MT) INSPECTED BY A TECHNICIAN QUALIFIED IN ACCORDANCE WITH AMERICAN SOCIETY OF NONDESTRUCTIVE TESTING (ASNT) LEVEL II. ALL COMPLETE JOINT PENETRATION (CJP) WELDS MUST BE 100 PERCENT ULTRASONIC TEST (UT) INSPECTED BY A TECHNICIAN QUALIFIED IN ACCORDANCE WITH ASNT LEVEL II.

11. SEE CURRENT MDOT SIGN SUPPORT TYPICAL PLAN SIGN-350-SERIES FOR SIGN FOUNDATION.

12. SEE CURRENT MDOT SIGN SUPPORT TYPICAL PLAN SIGN-700-SERIES FOR SIGN CONNECTION.

13. COLUMN SECTIONS MUST BE ASTM A53, GRADE B OR API-5L-K42 24" Ø X 1.219". CHORD SECTIONS MUST BE ASTM A500, GRADE B HSS 6" Ø X 0.500", ASTM 519-4140 ANNEALED HSS 6" Ø X 0.375", OR ASTM A500, GRADE B HSS 6 5/8" Ø X 0.432".

14. WEB ANGLES MUST BE ASTM A709, GRADE 36 OR ASTM A36 L5" X 5" X 7/16" OR L5" X 5" X 1/2". STEEL PLATES MUST BE ASTM A709, GRADE 36 OR ASTM A36.

15. THE ESTIMATED WEIGHT OF THE TRUSS IS 190 POUNDS PER FOOT.

16. BASE PLATE (B) WARPAGE MUST NOT EXCEED 1/16 INCH PER FOOT.

17. BACKING BAR FOR OPTIONAL COLUMN SPLICE MUST BE 1/4 INCH X 2 INCH PLATE MINIMUM OR STANDARD CHILL RING. BACKING BAR FOR COLUMN TO BASE PLATE MUST BE MINIMUM 1/4 INCH X 1 INCH PLATE OR STANDARD CHILL RING.
COLUMN

TRUSS CONNECTION DETAIL

(WEB MEMBERS AND CONNECTIONS ARE OMITTED FOR CLARITY)

*WRAP WELD AROUND OUTSIDE EDGE, STOP 1/4" SHORT OF CORNER CLIP*

NOT TO SCALE
SECTION B-B

(WEB MEMBERS AND CONNECTIONS OMITTED FOR CLARITY)

*TOP AND BOTTOM CHORD

CHORD-COLUMN CONNECTION PLATE DETAILS

Michigan Department of Transportation

Bureau of Development Standard Plan

(SPECIAL DETAIL)

F.H.W.A. APPROVAL

PLAN DATE

SIGN-370-B SHEET 4 OF 10

NOTE: THE ORIGINAL SIGNED COPY IS KEPT ON FILE AT THE MICHIGAN DEPARTMENT OF TRANSPORTATION.
PLAN VIEW 38" BASE PLATE DETAIL

FOR USE WITH 20 FT, 25 FT, AND 30 FT CANTILEVER ARMS. ALSO FOR USE WITH 35 FT AND 40 FT CANTILEVER ARMS WITH REDUCED SIGN AREA. SEE CHART IN SIGN-350-SERIES, SHEET 5

SECTION C-C
ELEVATION VIEW FOR 50' TO 105' TRUSS

DETAIL B

* WRAP WELD AROUND OUTSIDE EDGE
STOP 1/4" SHORT OF CORNER CLIP
Column Wall
1/4" (TYP)
3/4" (TYP)

Grind Smooth
Weld and Detail C
1" Stiffener (TYP)

(116) 2"Ø Anchor Bolts
Equally spaced at 22.5°
on a 36"Ø Bolt Circle

6"Ø Center Hole with 2"
Wide Slot Parallel with
Truss Chords

24" O.D. Column

42"Ø x 3" Base

Plan View 42" Base Plate Detail
For use with 35 ft and 40 ft Cantilever Arms

Section D-D
Elevation View for 110' to 140' Truss

Detail C

Leveling Nut (TYP)

1 1/2" x 1 1/2" Cope (TYP)

G Anchor Bolt (TYP) G Column

6" (TYP) 3" (TYP) 9" (TYP)

Top of Finished Grade
TYPICAL SECTION OF TRUSS

SECTION E-E

FRONT OF TRUSS ELEVATION

(BACK TRUSS CHORD AND ATTACHED ANGLES NOT SHOWN FOR CLARITY)
NOT TO SCALE

MICHIGAN DEPARTMENT OF TRANSPORTATION

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SHEET 8 OF 10

SEE SHEET 9 FOR ALTERNATE CONNECTION DETAILS.

DIMENSION TYPICAL FOR ALL CONNECTION DETAILS.
ALTERNATE DETAIL D

ALTERNATE DETAIL E

ALTERNATE DETAIL F

ALTERNATE DETAIL G

ALTERNATE DETAIL H

ALTERNATE DETAIL J

ALTERNATE DETAIL K

ALTERNATE DETAIL L

NOT TO SCALE

* DIMENSION TYPICAL FOR ALL CONNECTION DETAILS.
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