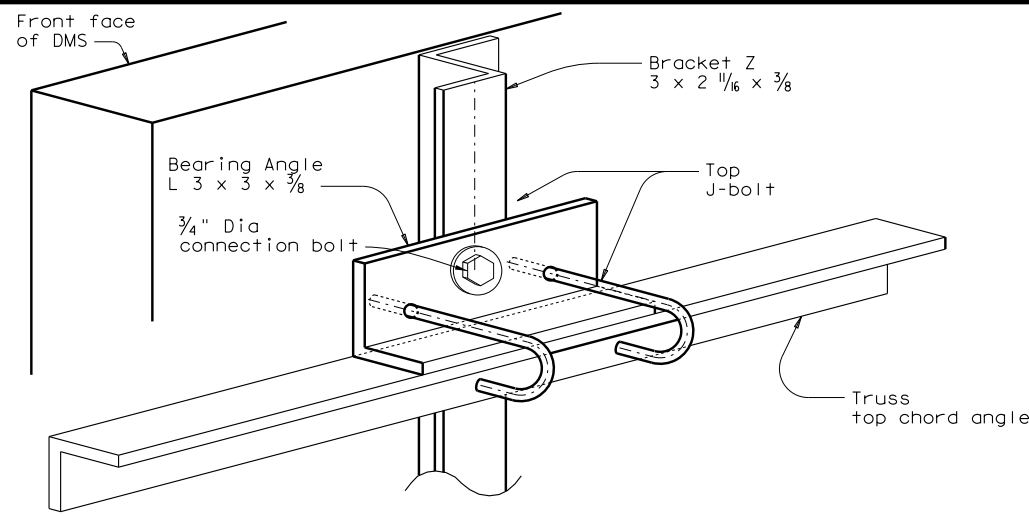
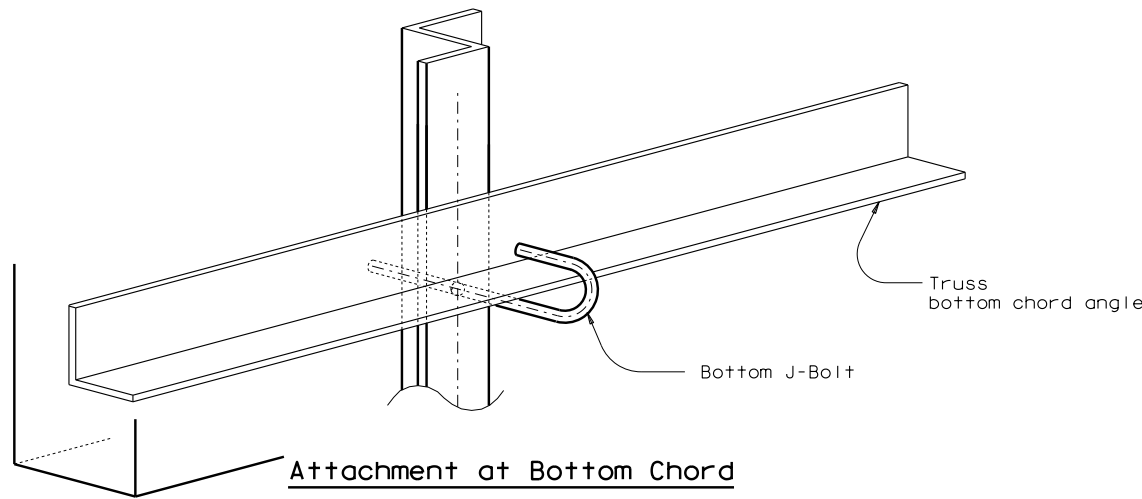


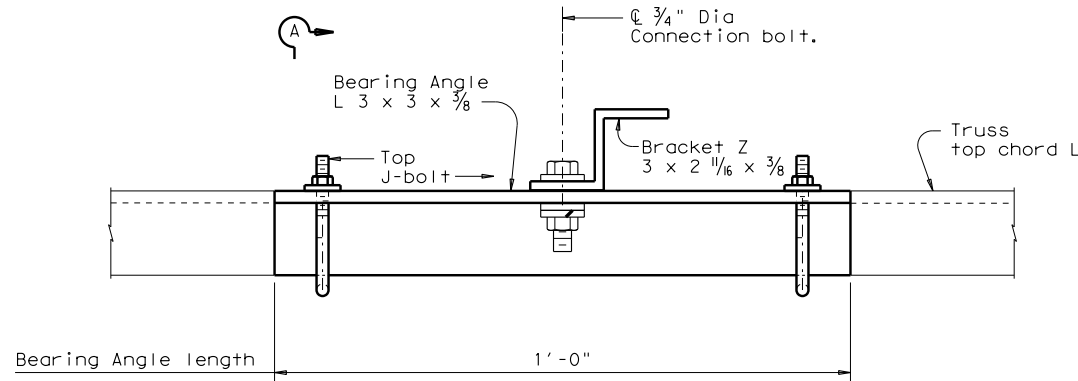
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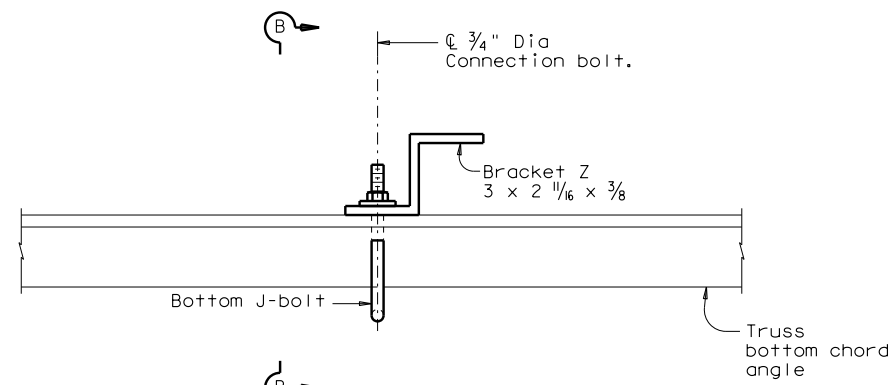
Attachment at Top Chord
(Showing Chord Angle 3")



Attachment at Bottom Chord
ISOMETRIC VIEW



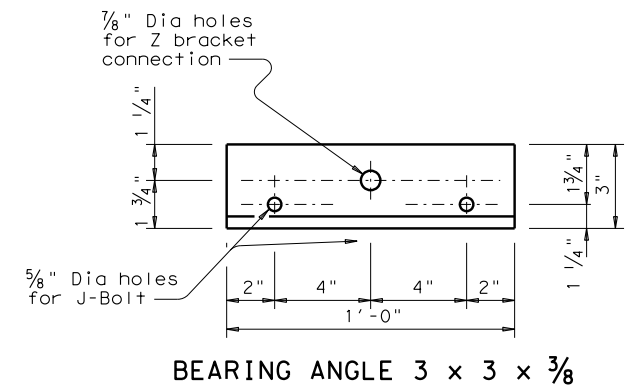
Attachment at Top Chord
(Showing Chord Angle 3")



Attachment at Bottom Chord
PLAN VIEW

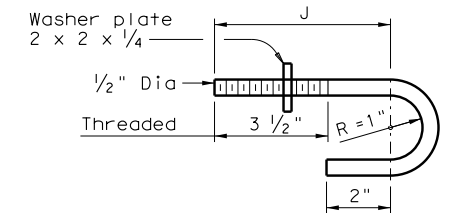
GENERAL NOTES:

- Application of the mounting detailed on Sheet 1 of 3 is limited to a dynamic message sign (DMS) attachment that is not in conflict with the truss connection bolts at the point(s) of attachment. The overhead sign structure must have adequate capacity to support the DMS. A determination of adequacy shall be made prior to attaching the DMS supports to the truss.
- Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto. The Design Sustained Wind Velocity is 100 mph with a gust factor of 1.3. Connections are designed for a DMS weight of 3600 lbs and a design Effective Projected Area (EPA) of 441 sq ft, with the EPA based on a DMS nominal width of 30.5 feet and nominal depth of 8.25 feet plus four top and bottom 1'-8" square flashing beacons. The EPA includes drag coefficients of 1.7 (applied to sign area) and 1.2 (applied to flashing beacon area). A horizontal eccentricity of 1.0 ft from the face of the truss to the center of gravity of the DMS for attachment of DMS is assumed. An even number of Z brackets, spaced at 5 ft max., is assumed to transfer forces through the connection.
- All structural steel shall conform to ASTM A36, A572 Gr 50 or A588. Connection bolts shall conform to ASTM A325 or A449. Each connection bolt shall be provided with 1 heavy hex nut, 2 flat washers, and 1 lock washer. J bolts and washer plate both shall be Type 304 stainless steel, with bolt minimum yield strength of 50 ksi and an elongation of 16 percent in 2 inches. All parts except stainless steel shall be galvanized.
- Contractor shall verify applicable field dimensions before fabrication.

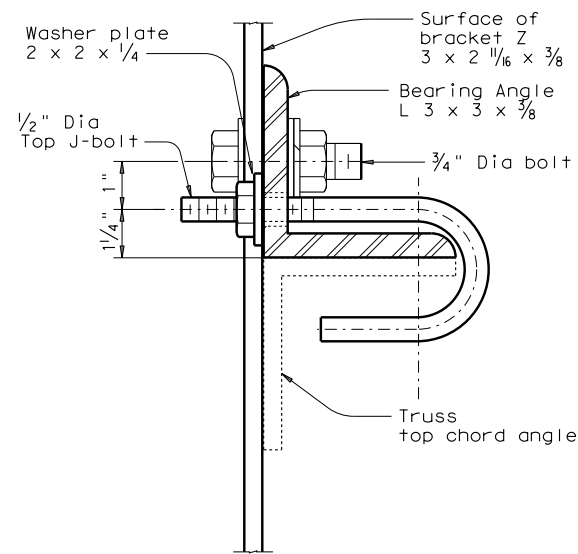


BEARING ANGLE 3 x 3 x 3/8

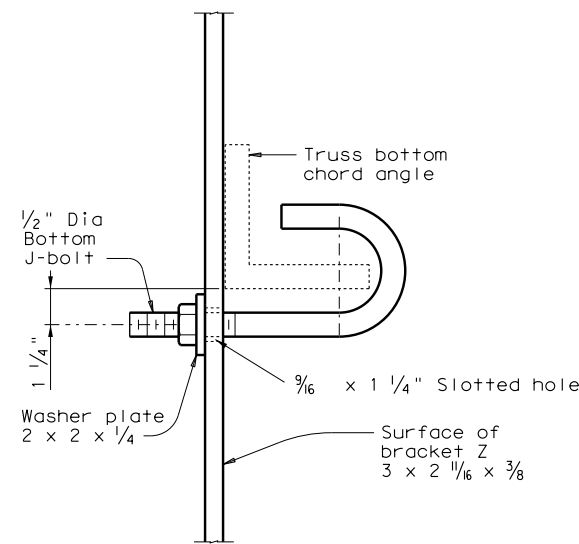
Chord Angle	J
3", 3 1/2", 4"	5 1/2"
5" and 6"	7 1/2"



TOP & BOTTOM J-BOLT



SECTION A-A



SECTION B-B

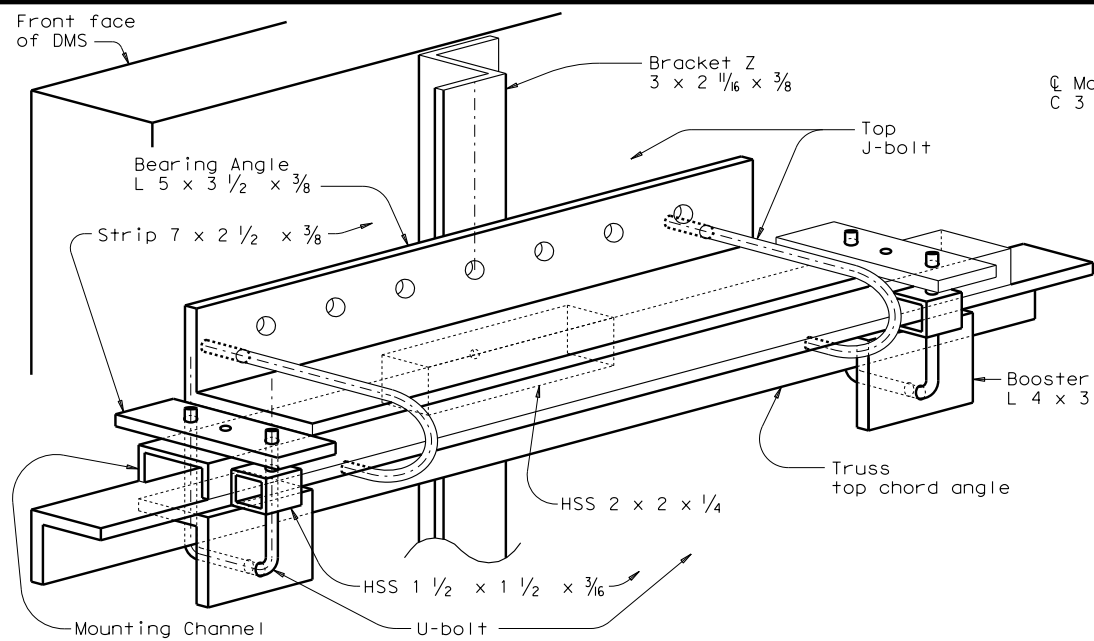
SHEET 1 OF 3



**DMS-TO-TRUSS MOUNTING
AT OVERHEAD SIGN SUPPORTS
(NON BUILD-UP)
DMS(TM-1)-16**

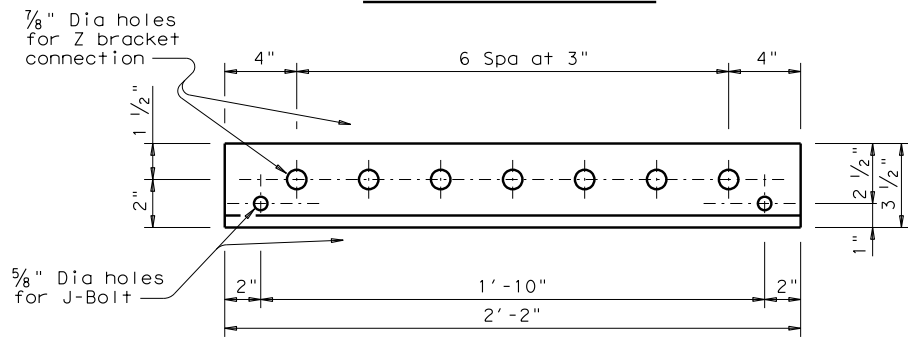
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© TxDOT June 2016	CONT	SECT	JOB	HIGHWAY
REVISIONS				
DIST	COUNTY		SHEET NO.	

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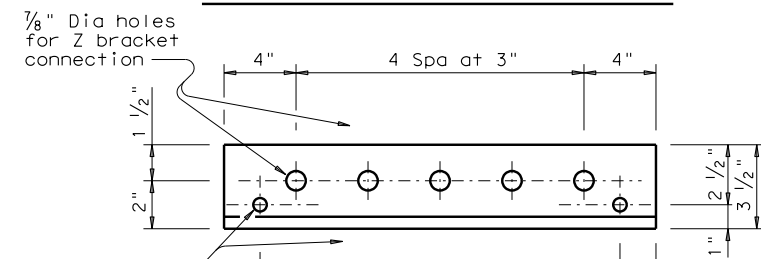


Built-up Attachment at Top Chord
(Showing Chord Angle 3")

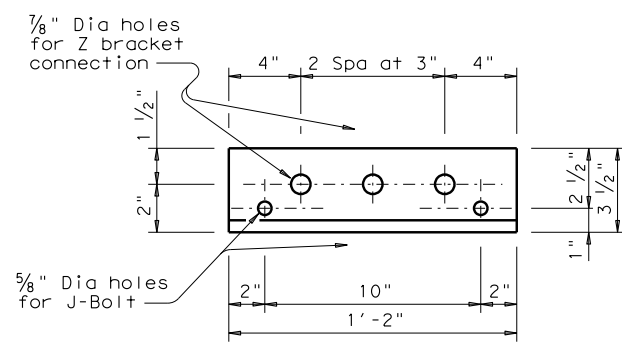
ISOMETRIC VIEW



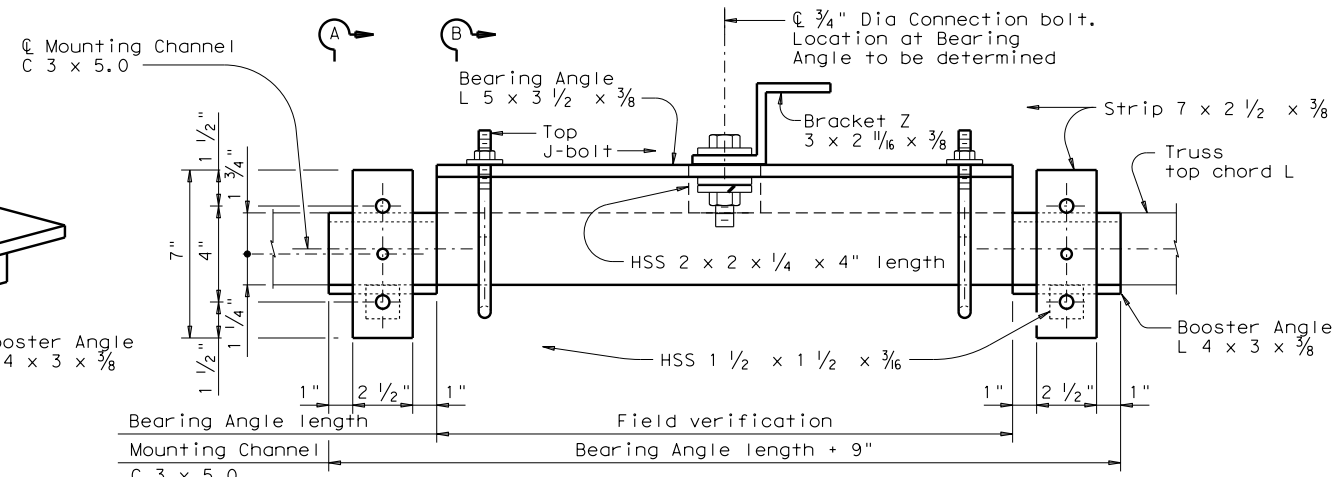
BEARING ANGLE 5 x 3 1/2 x 3/8



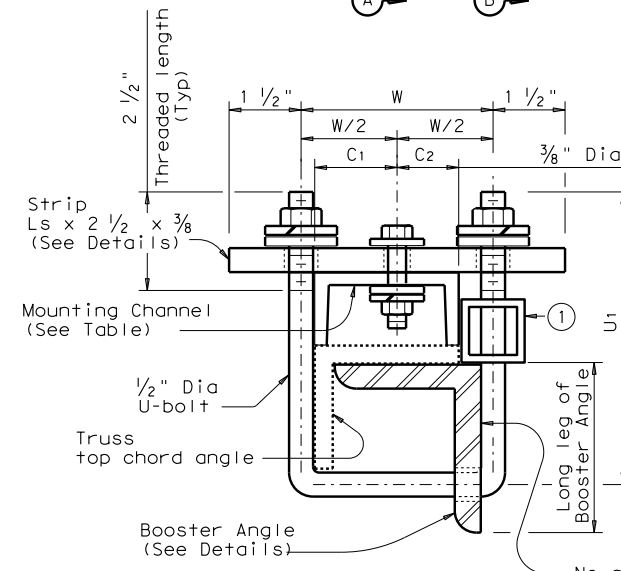
BEARING ANGLE 5 x 3 1/2 x 3/8



BEARING ANGLE 5 x 3 1/2 x 3/8

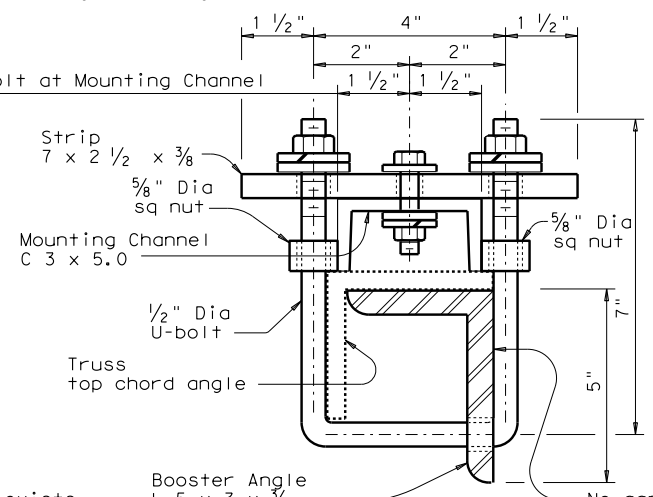


PLAN VIEW (AT TOP CHORD)
(Showing Chord Angle 3")

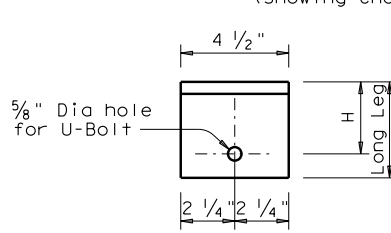


SECTION A-A
(Showing Chord Angle 3", 4", 5" & 6")

Chord Angle	U1	W	C1	C2	Mounting Channel
3"	7"	4"	1 3/4"	1 1/4"	C3 x 5.0
4"	8"	5"	2 1/4"	1 3/4"	C4 x 7.25
5"	9"	6"	2 3/4"	2 1/4"	C5 x 9.0
6"	10 1/2"	7"	3 1/4"	2 3/4"	C6 x 13

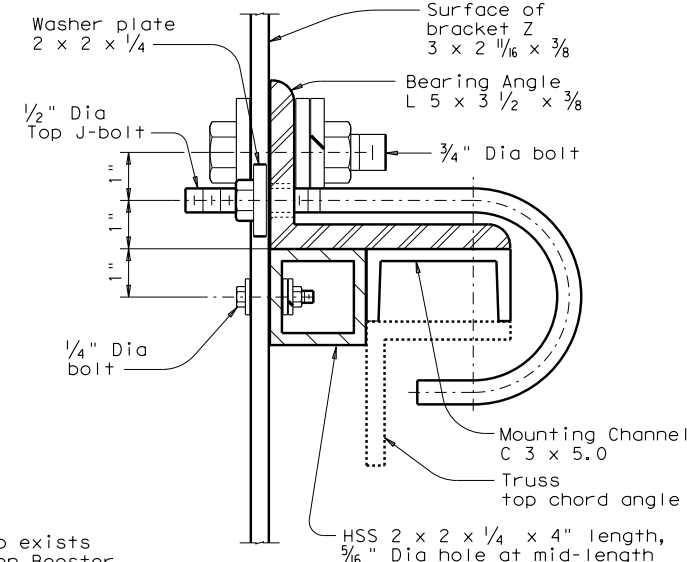


SECTION A-A
(Showing Chord Angle 3 1/2")

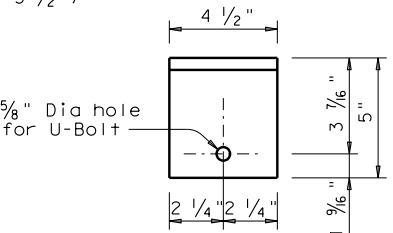


BOOSTER ANGLE
(For Chord Angle 3", 4", 5" and 6")

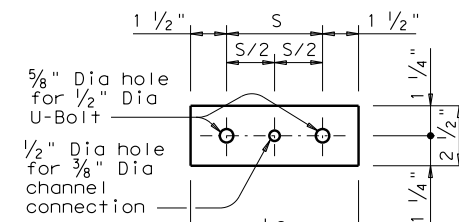
Chord Angle	Booster Angle	H
3"	4 x 3 x 3/8	3"
4"	5 x 3 1/2 x 3/8	3 13/16"
5"	6 x 4 x 3/8	4 13/16"
6"	7 x 4 x 3/8	5 5/8"



SECTION B-B

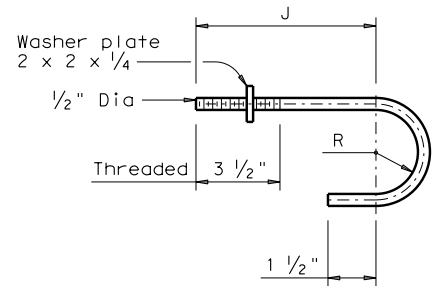


BOOSTER ANGLE 5 x 3 x 3/8
(For Chord Angle 3 1/2")



Strip Ls x 2 1/2 x 3/8

Chord Angle	S	Ls
3"	4"	7"
3 1/2"	4"	7"
4"	5"	8"
5"	6"	9"
6"	7"	10"



TOP J-BOLT

Chord Angle	J	R
3 & 3 1/2"	7"	1 3/4"
4 & 5"	8"	2"
6"	9"	2 1/4"

① HSS 1 1/2 x 1 1/2 x 3/16



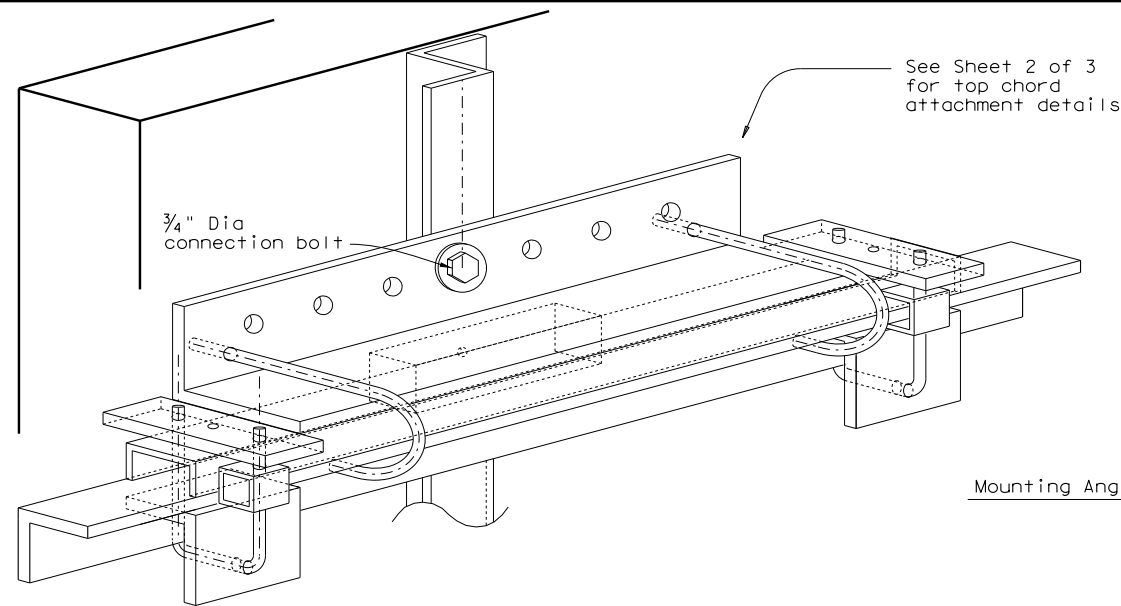
DMS-TO-TRUSS MOUNTING AT OVERHEAD SIGN SUPPORTS (WITH BUILD-UP)
DMS (TM-2) - 16

FILE: dms-tm-16.dgn	DN: TxDOT	CK: DW: TxDOT	CK:
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REVISIONS	DIST	COUNTY	SHEET NO.

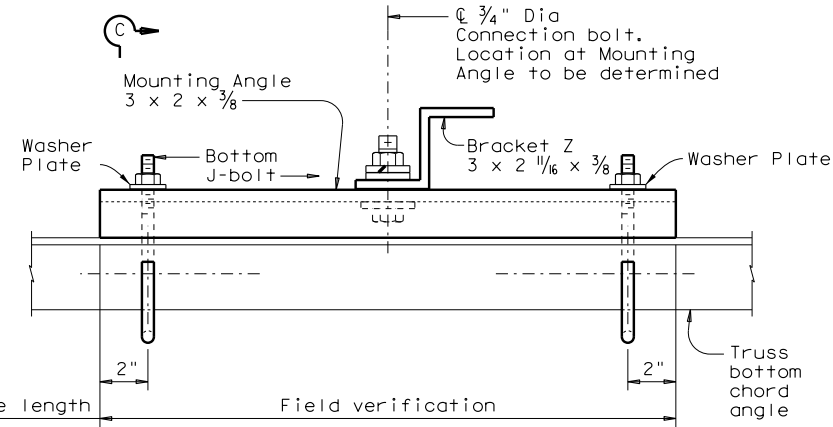
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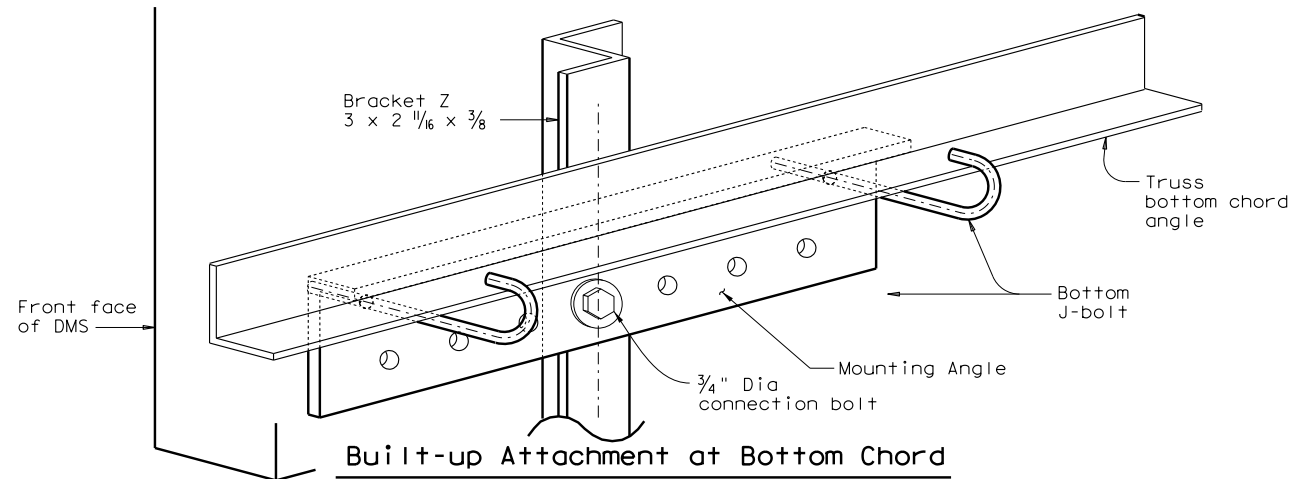
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Built-up Attachment at Top Chord

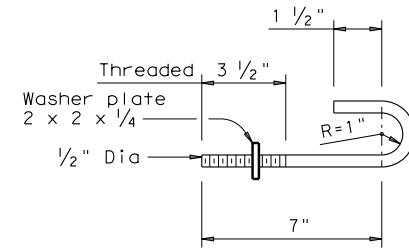


PLAN VIEW (AT BOTTOM CHORD)

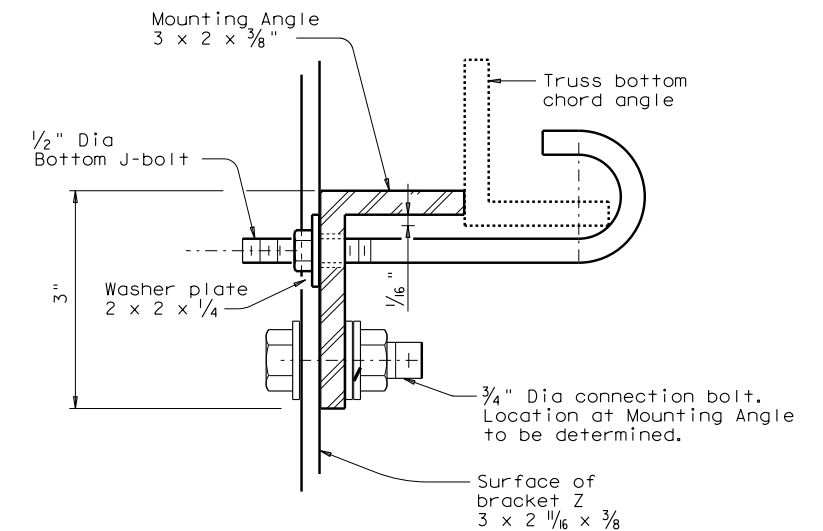


Built-up Attachment at Bottom Chord

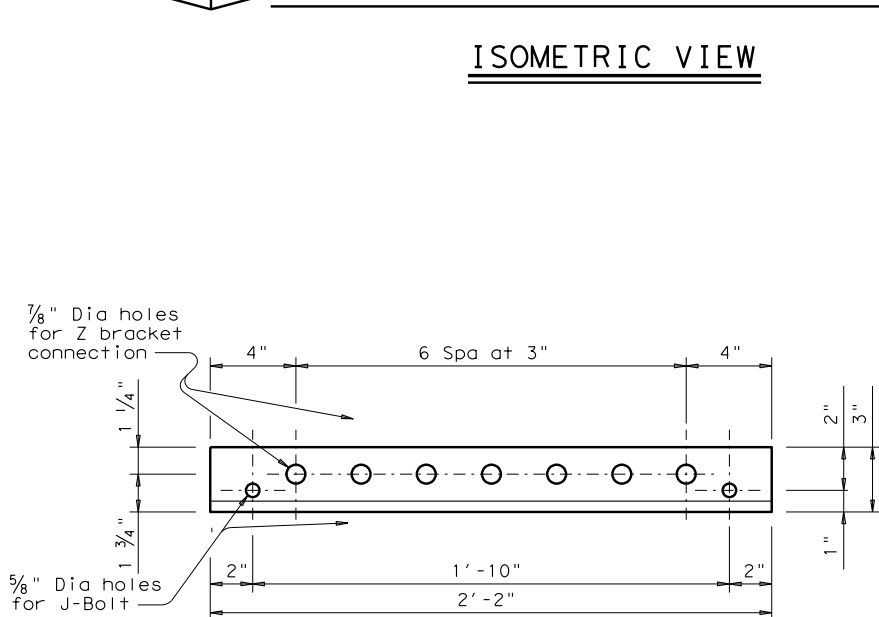
ISOMETRIC VIEW



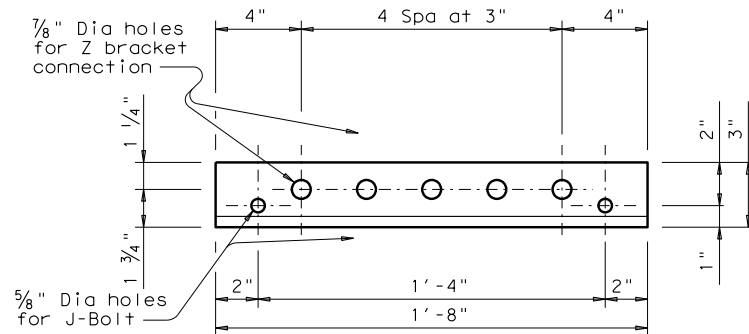
BOTTOM J-BOLT



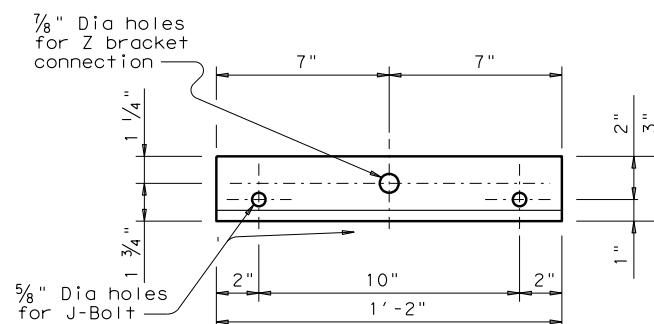
SECTION C-C



MOUNTING ANGLE 3 x 2 x 3/8



MOUNTING ANGLE 3 x 2 x 3/8



MOUNTING ANGLE 3 x 2 x 3/8

GENERAL NOTES:

- Application of the built-up detailed on Sheet 2 and 3 of 3 is limited to the dynamic message sign (DMS) attachment which is in conflict with the truss connection bolts at the point(s) of attachment. The overhead sign structure must have adequate capacity to support the DMS. A determination of adequacy shall be made prior to attaching the DMS supports to the truss.
- Design conforms to 1994 AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals and Interim Revisions thereto. The Design Sustained Wind Velocity is 100 mph with a gust factor of 1.3. Connections are designed for a DMS weight of 3600 lbs and a design Effective Projected Area (EPA) of 441 sq ft, with the EPA based on a DMS nominal width of 30.5 feet and nominal depth of 8.25 feet plus four top and bottom 1'-8" square flashing beacons. The EPA includes drag coefficients of 1.7 (applied to sign area) and 1.2 (applied to flashing beacon area). A horizontal eccentricity of 1.0 ft from the face of the truss to the center of gravity of the DMS for attachment of DMS is assumed. An even number of Z brackets, spaced at 5 ft max., is assumed to transfer forces through the connection.
- All structural steel shall conform to ASTM A36, A572 Gr 50 or A588. Connection bolts shall conform to ASTM A325 or A449. Each connection bolt shall be provided with 1 heavy hex nut, 2 flat washers, and 1 lock washer. U bolts shall conform to ASTM A307 with 2 hex nuts, 2 flat washers and 2 lock washers. Hollow structural section (HSS) shall conform to ASTM A500, A501, or A847. J bolts and washer plate both shall be Type 304 stainless steel, with bolt minimum yield strength of 50 ksi and an elongation of 16 percent in 2 inches. All parts, except stainless steel shall be galvanized.
- Contractor shall verify applicable field dimensions before fabrication. Various lengths of bearing and mounting angle are provided for suitable mounting. Contractor shall determine the proper bearing and mounting angle length, and the connection along the length at Z bracket to accommodate J-bolt hook. Contractor may substitute HSS for the mounting channel as long as the HSS has equal or greater thickness at the mounting channel. Limit HSS height to achieved mounting clearance.

SHEET 3 OF 3

		Traffic Operations Division Standard	
DMS-TO-TRUSS MOUNTING AT OVERHEAD SIGN SUPPORTS (WITH BUILD-UP)			
DMS (TM-3) - 16			
FILE: dms-tm-16.dgn	DN: TxDOT	CK: DW: TxDOT	CK:
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