

Index 700-040 Cantilever Sign Structure

ORIGINATION

Date: May 12, 2022

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COMMENTARY

The 700 Index Series is being edited to remove material information and other information that is located in the Standard Specifications. Revisions are being made to Specification Sections 700, 962 and 965 in conjunction with these changes.

Sheet 2: New Note - This process is to help prevent residual stress buildup in base plate connection to prevent cracking.

COMMENTS AND RESPONSES

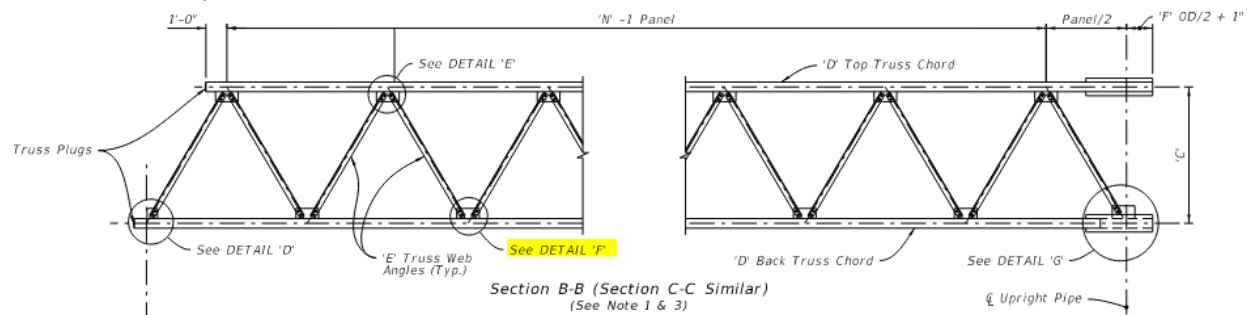
BLACK = Industry Review Comments **RED** = Standard Plans Response **GREEN** = Change Made to Index

Name: Robert Turnage

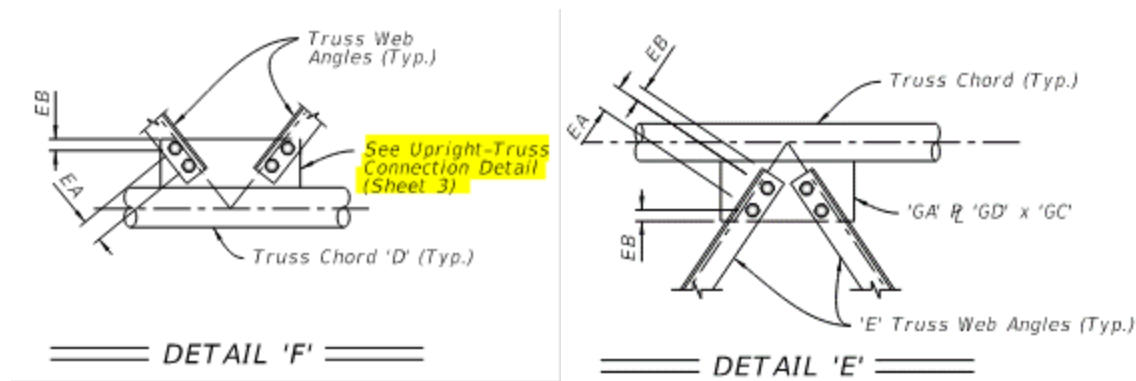
Date: July 14, 2022

COMMENT: Since you're in the process of looking at these Standards, something came up recently on a project regarding DETAIL F on sheet 4 of 5 of Index 700-040.

In SECTION B-B, DETAIL 'F' is shown in the middle of the cantilever:



However, despite not being anywhere near the Upright, DETAIL 'F' directs us to "See Upright-Truss Connection Detail (Sheet 3)" in reference to the gusset plate. Additionally, there is no indication of what size that gusset plate is. We presume that that plate is the same as the gusset plate in DETAIL 'E' given the geometry of the truss, but they are drawn slightly different.



To me, there is nothing obvious about the UPRIGHT-TRUSS CONNECTION DETAIL that DETAIL 'F' would be directing us to.

RESPONSE: Thanks for the comment. We agree that the callout on Detail F should be revised to match Detail E.

Change made to Index: Callout in Detail F updated to match Detail E.

Date: July 21, 2022

Name: Ge Wan

Date: July 20, 2022

COMMENT: The line work in Section A-A on sheet 3 should be corrected as shown in the markup provided. The callout in Detail F on sheet 4 should match the callout in Detail E.

RESPONSE: Agree. Both changes will be made with the final revisions.

Change made to Index: Update Sheet 3 and Sheet 4 based on comments.

Date: July 21, 2022

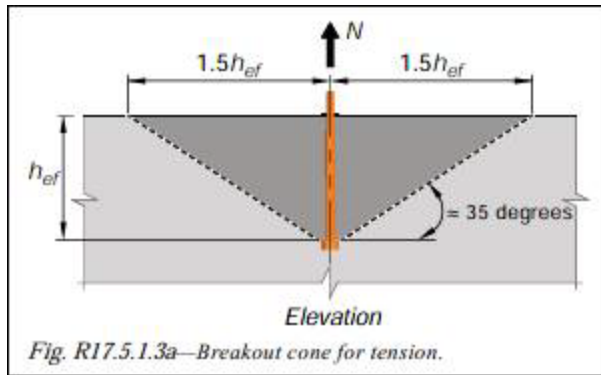
Name: Huanxi Liu

Date: July 20, 2022

COMMENT:

1. Anchor Embedment Length: in 700-040 and 7010-041, the anchor embedment is dimensioned from the concrete surface to the bottom of the anchor bolt. While in mast arm standard 649-031, it is dimensioned from the concrete surface to the top of the nut. Suggest reconciling this inconsistency.

FYI, ACI 318-19 Figure R17.5.1.3a shown below measures the effective embedment h_{ef} to top of the head of the headed bolt which is same as for mast arm standard.



2. In sheet 5 of 700-041, note 3 for upright splice was added as

3. Upright splice: Not allowed unless the upright exceeds available mill lengths (35' - 40').

. While this note was not added to 700-040. Is there any reason that only add this note to 700-041?

RESPONSE: 1. Agree.

2. This note was previously located on Sheet 1 of Index 700-041 in General Note 5. It was moved to sheet 5. The note was not previously included in Index 700-040.

Change made to Index: Changed dimension 'BK' extents in Base Plate Connection detail to match calcs.

Date: July 21, 2022

Name: Arcosa

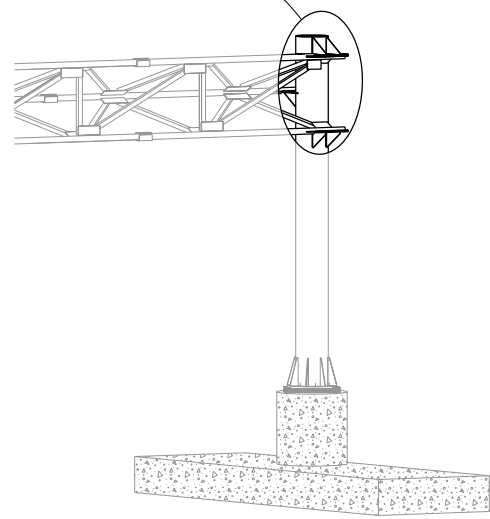
Date: 8-10-2022

COMMENT: It's not clear wear welds from plates to tubes should be wrapped.

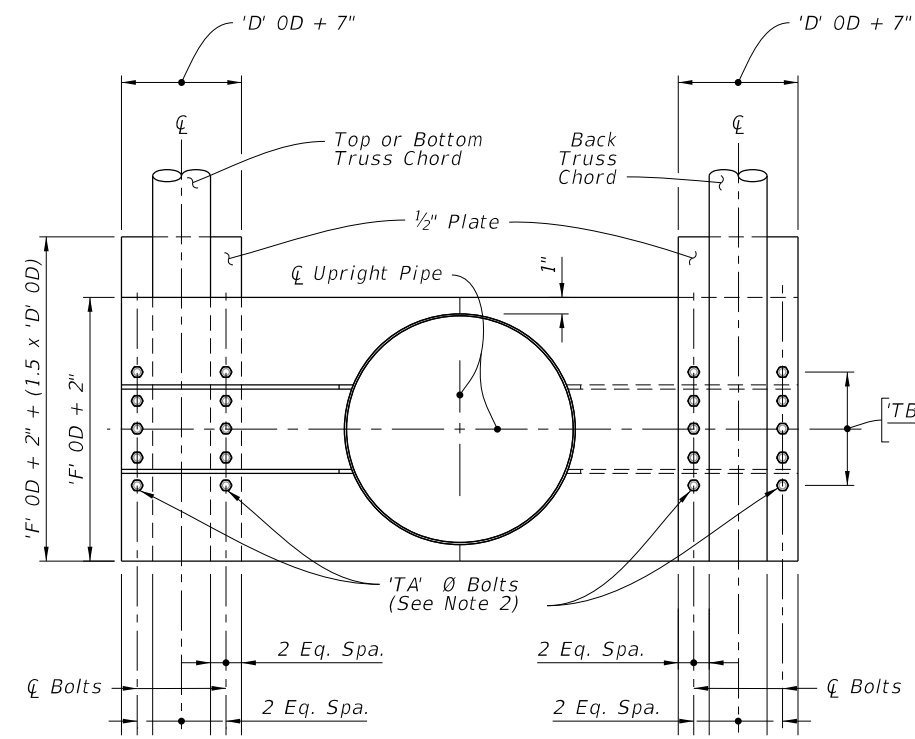
RESPONSE: Standard has been updated to more clearly specify where the welds should be wrapped.

Change Made to Index: Annotations added to UPRIGHT-TRUSS CONNECTION DETAIL on sheet 3

Date: August 10, 2022

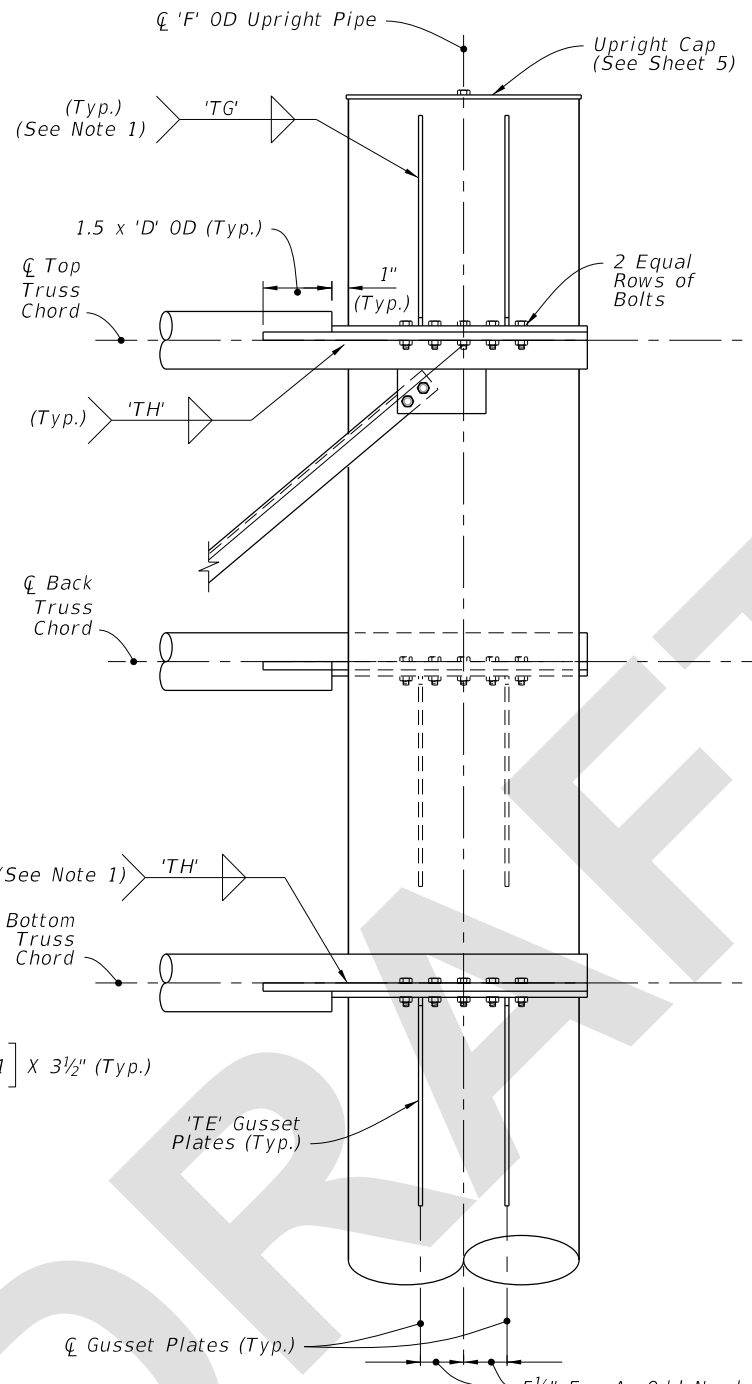


CANTILEVER ASSEMBLY

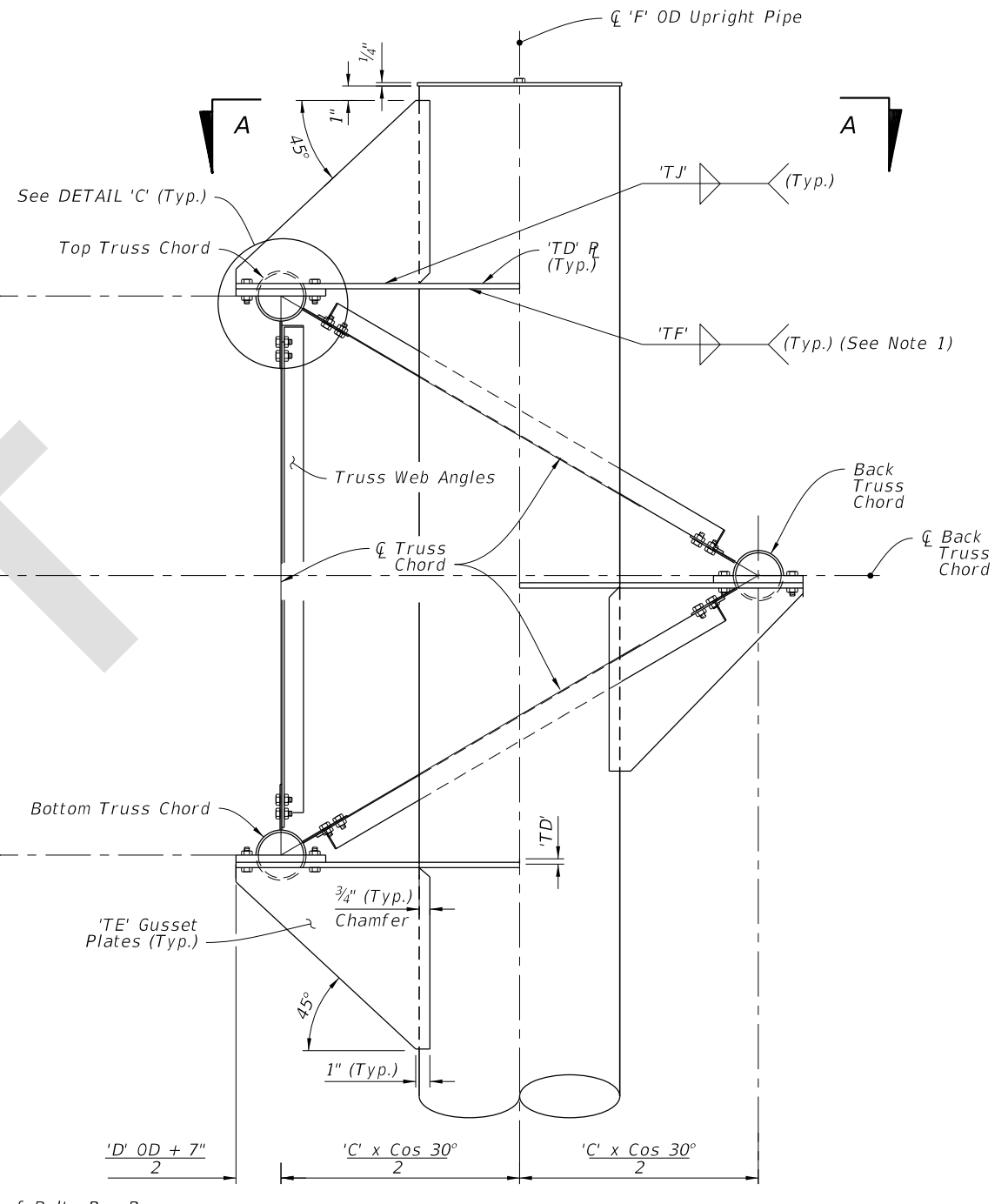


SECTION A-A

(With Gusset Plates And Web Angles Omitted For Clarity)



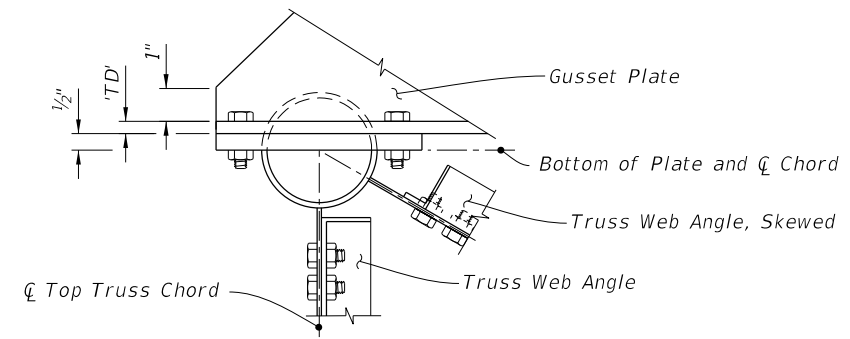
FRONT ELEVATION



SIDE ELEVATION

UPRIGHT-TRUSS CONNECTION DETAIL

(Web Members From Back Truss Chord Omitted For Clarity)



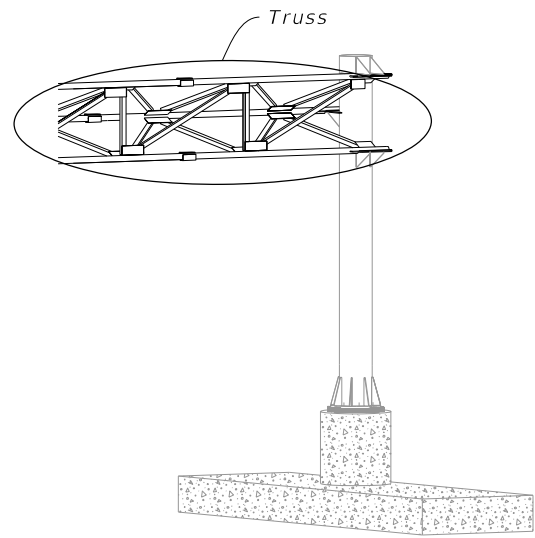
DETAIL 'C'

NOTES:

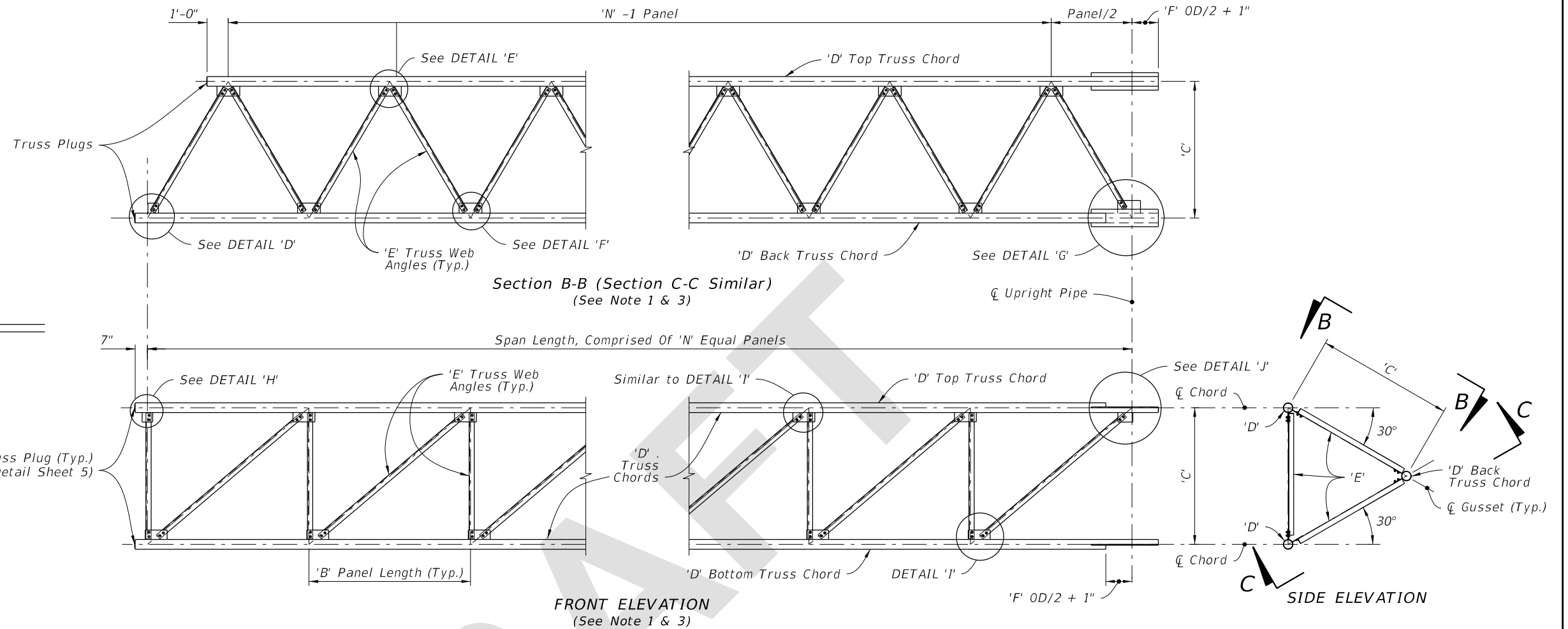
1. Wrap fillet weld around the stiffener termination on the tube wall.
2. Truss Chord Bolts:
 - A. Top and Bottom: Install 'TC' hex head bolts.
 - B. Back: Install 'TB' hex head bolts.

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LAST REVISION 11/01/22	REVISION	DESCRIPTION:		FY 2023-24 STANDARD PLANS	CANTILEVER SIGN STRUCTURE	INDEX 700-040	SHEET 3 of 5
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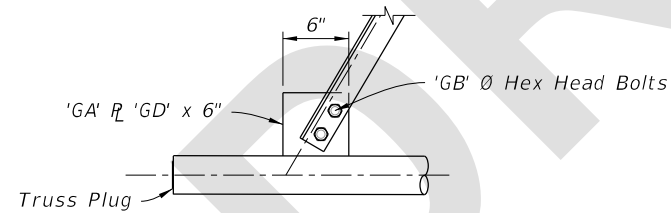
CANTILEVER ASSEMBLY



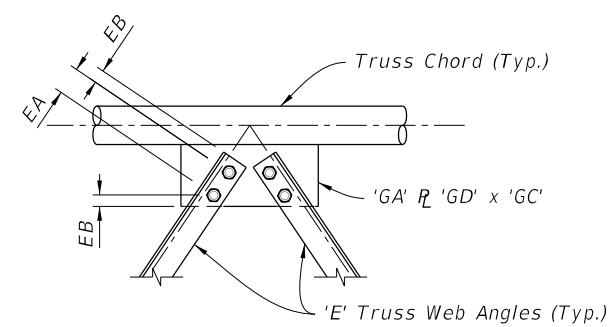
TRUSS NOTES:

1. Out-of-plane members are not shown for clarity.
2. Wrap fillet weld around plate termination on the tube wall.
3. Chord Splices not shown.

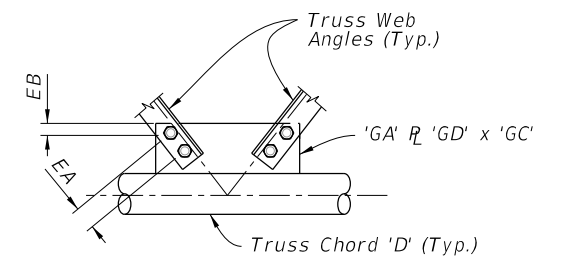
Bolt Size	Distance	
	EA	EB
1 1/4" Ø	4 3/8"	2 1/4"
1" Ø	3 1/2"	1 3/4"
7/8" Ø	3"	1 1/2"
3/4" Ø	2 1/2"	1 1/4"
5/8" Ø	2 1/4"	1 1/8"



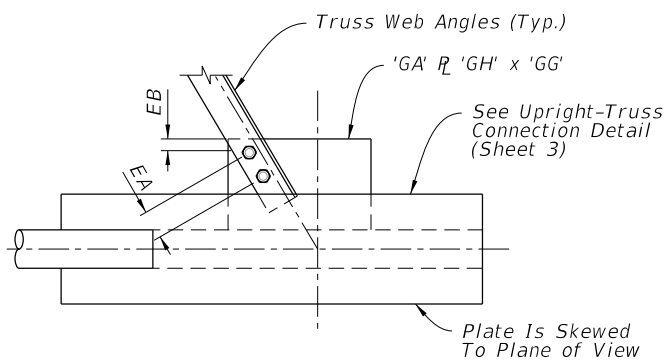
DETAIL 'D'



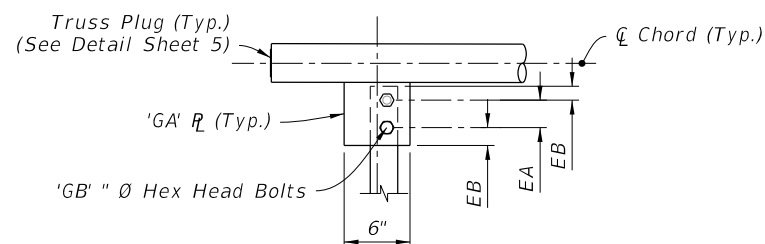
DETAIL 'E'



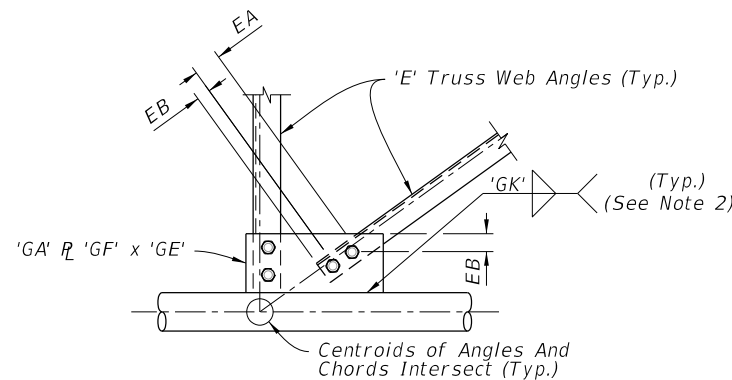
DETAIL 'F'



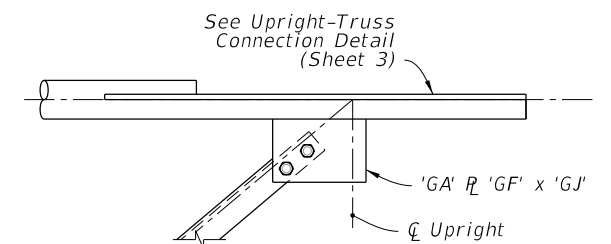
DETAIL 'G'



DETAIL 'H'



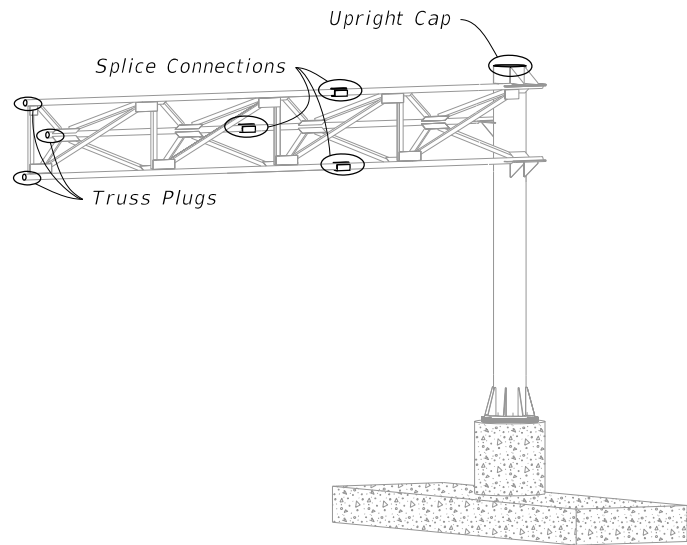
DETAIL 'I'



DETAIL 'J'

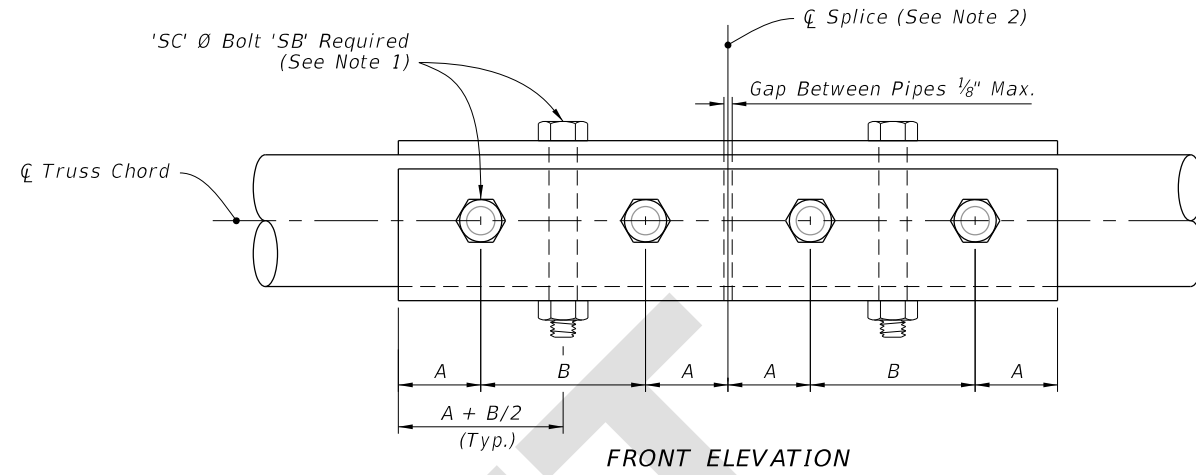
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LAST REVISION	DESCRIPTION:
11/01/22	

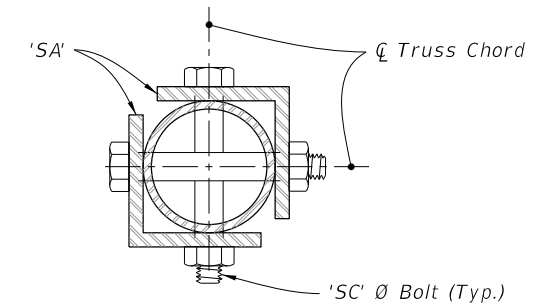


CANTILEVER ASSEMBLY

Bolt Size	Distance	
	A	B
1" Ø	1 3/4"	3 1/2"
7/8" Ø	1 1/2"	3"
3/4" Ø	1 1/4"	2 1/2"



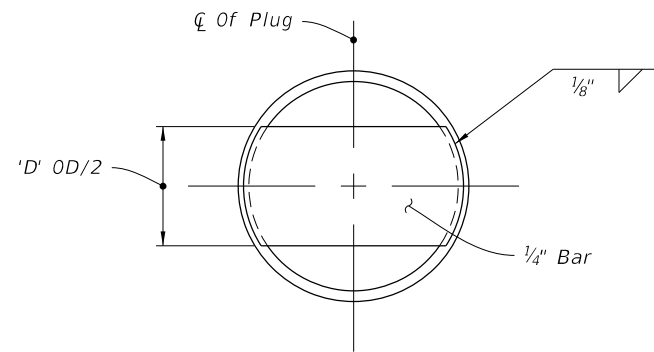
SPLICE CONNECTION DETAIL



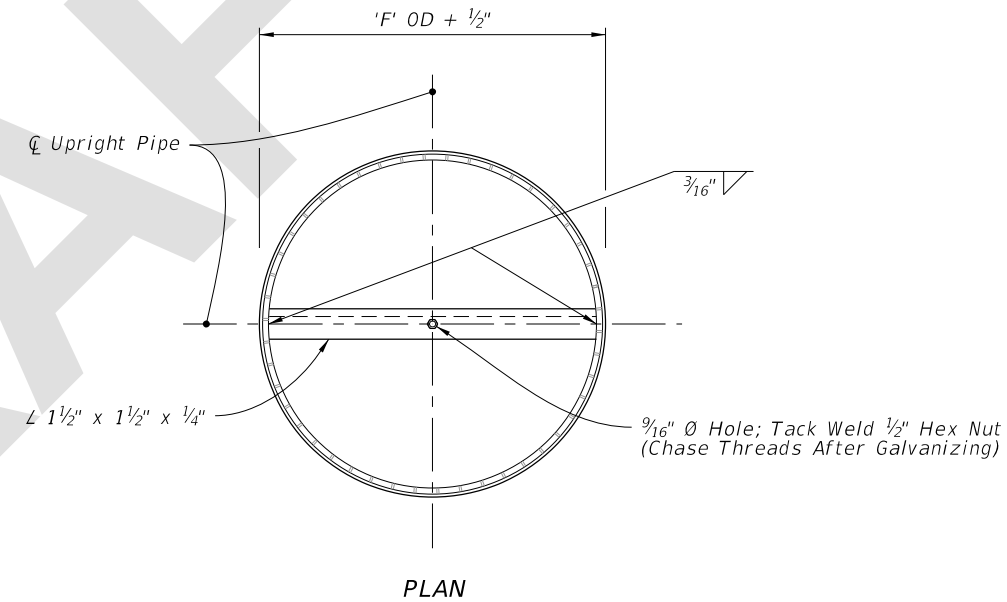
SIDE ELEVATION

SPLICE CONNECTION NOTES:

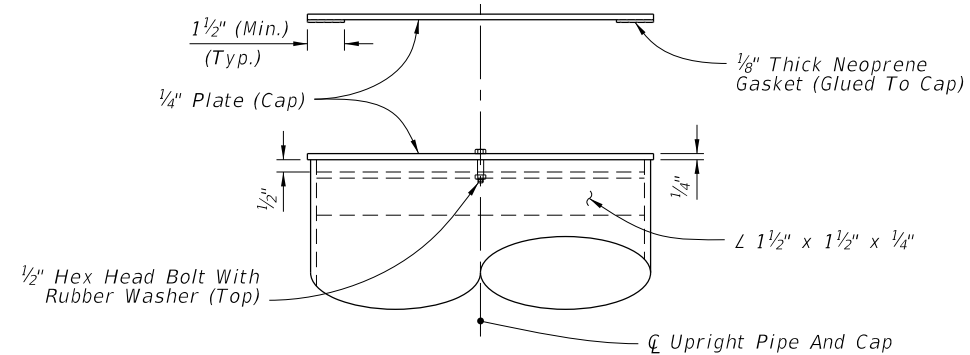
1. Only 6 bolts are shown in detail for clarity. (One Half Each Side Of Splice)
2. Splices are not permitted for trusses less than or equal to 40', Splice optional for trusses greater than 40'.
3. Chord Splices: "SD" Panel from upright is the closest panel in which a chord splice may be used. See Plans for CANTILEVER SIGN STRUCTURE DATA TABLE. Minimum splice spacing is two truss panel lengths apart.



TRUSS PLUG DETAIL



PLAN



ELEVATION

UPRIGHT CAP DETAIL

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