

A Beginner's Guide to Structural Engineering Peters Creek Bridge

General Notes:

1. All member and connection design is to be in accordance with latest version of the American Institute of Steel Construction (AISC) Specification for Structural Steel Buildings and the AISC Specification for Structural Joints using ASTM A325 or A490 bolts as found in the AISC Steel Construction Manual (SCM).
2. All steel is the preferred type for each shape as indicated in the Steel Construction Manual unless otherwise noted or specified in problem statements.
3. All bolts are $\frac{3}{4}$ " dia. A325-N unless otherwise noted or specified in problem statements.
4. Concrete 28-day strength, f'_c , is 4,000 psi
5. The drawings presented here are schematic in nature. Actual member and bolt types and sizes and connection configurations are subject to change during problem completion.
6. These drawings are intended for use in teaching structural steel design and are not intended for actual construction.

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| S2 | Plan, Profile, & Section |
| S3-S7 | Connection Details |



COVER SHEET

Revisions:
0. 8/23/07

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TBRDG

Sheet No.:
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By: TBO
Date: 2007

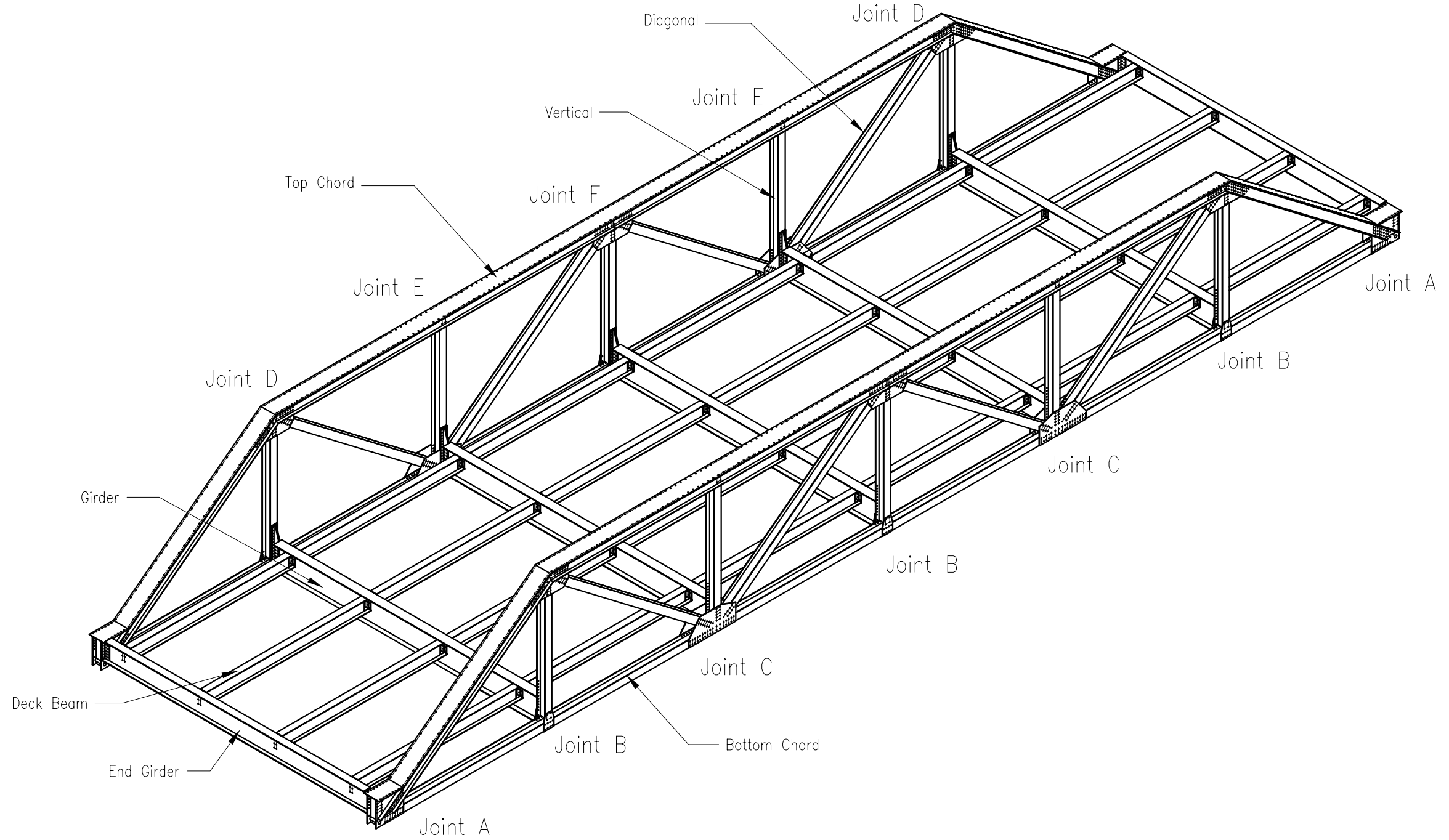
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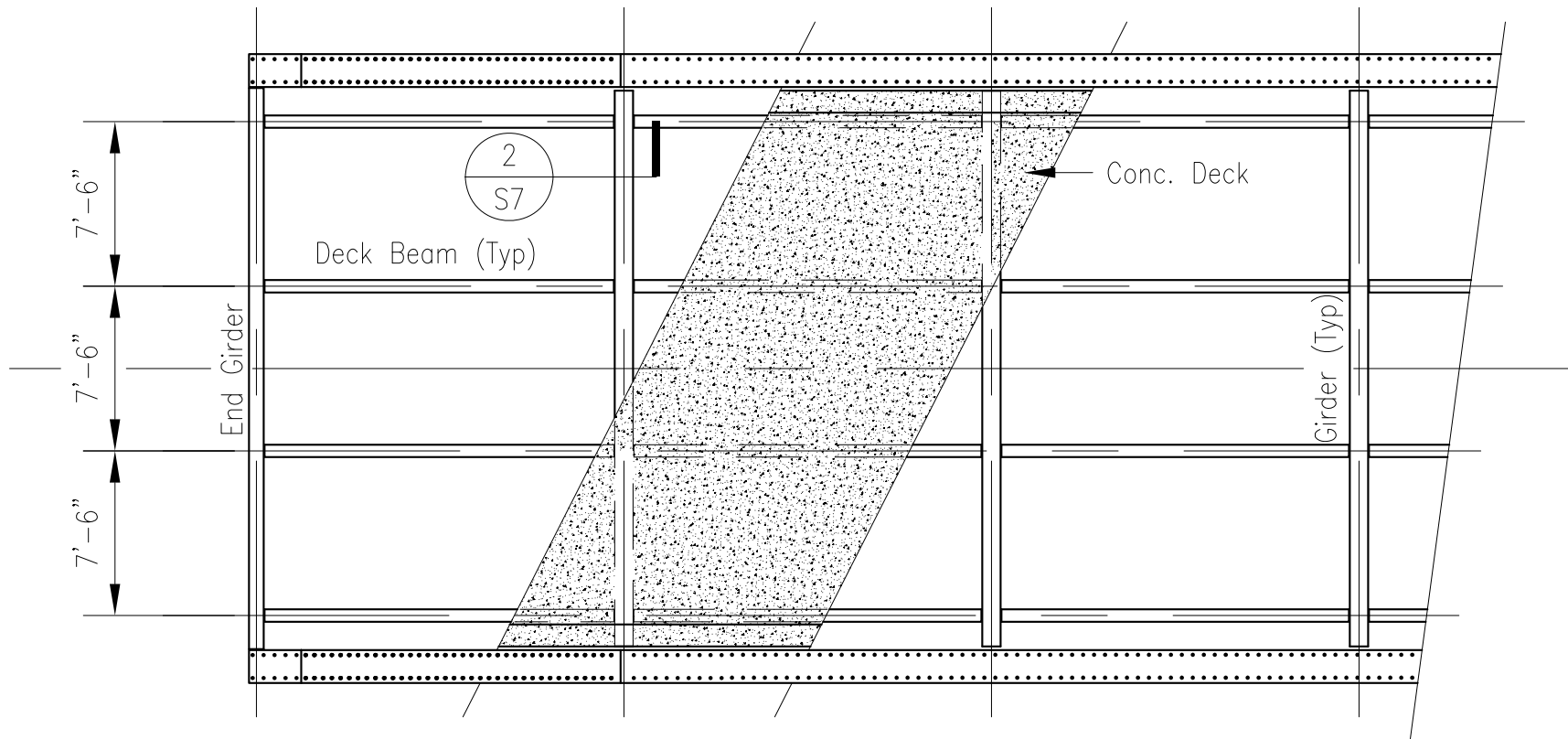


1 BRIDGE ISOMETRIC VIEW
 BGSCM: Bridge SCALE: 1/8" = 1'-0"

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ISOMETRIC & NOTES	
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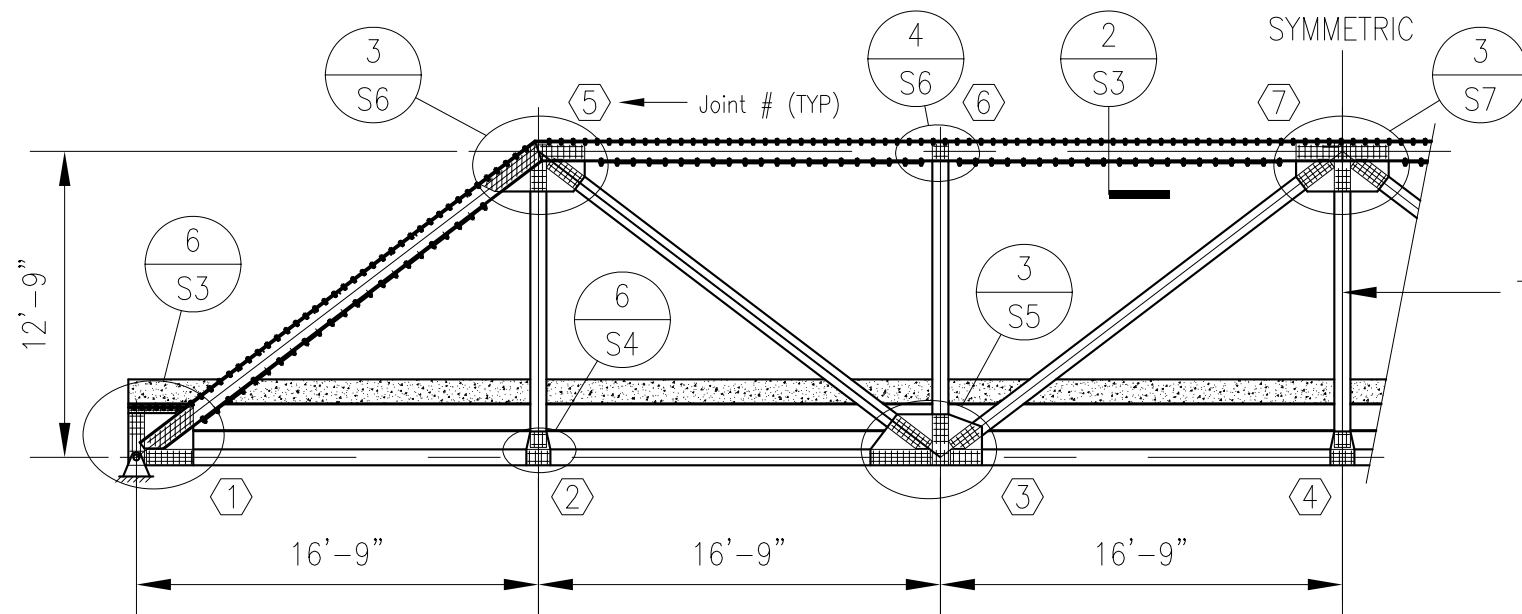
Truss Member Force Summary

Member	Length (ft)	Dead Load (k)	Vehicle Loading (k)	Ice Loading (k)
1-5	21.05	-94.61	-135.53	-8.92
1-2	16.75	75.28	107.84	7.10
2-5	12.75	22.92	40.48	2.16
2-3	16.75	75.28	107.84	7.10
5-3	21.05	56.77	88.71	5.35
5-6	16.75	-120.45	-171.29	-11.35
3-6	12.75	0.00	0.00	0.00
3-7	21.05	-18.92	-27.89	-1.78
3-4	16.75	135.51	189.65	12.77
6-7	16.75	-120.45	-171.29	-11.35
4-7	12.75	22.92	40.48	2.16

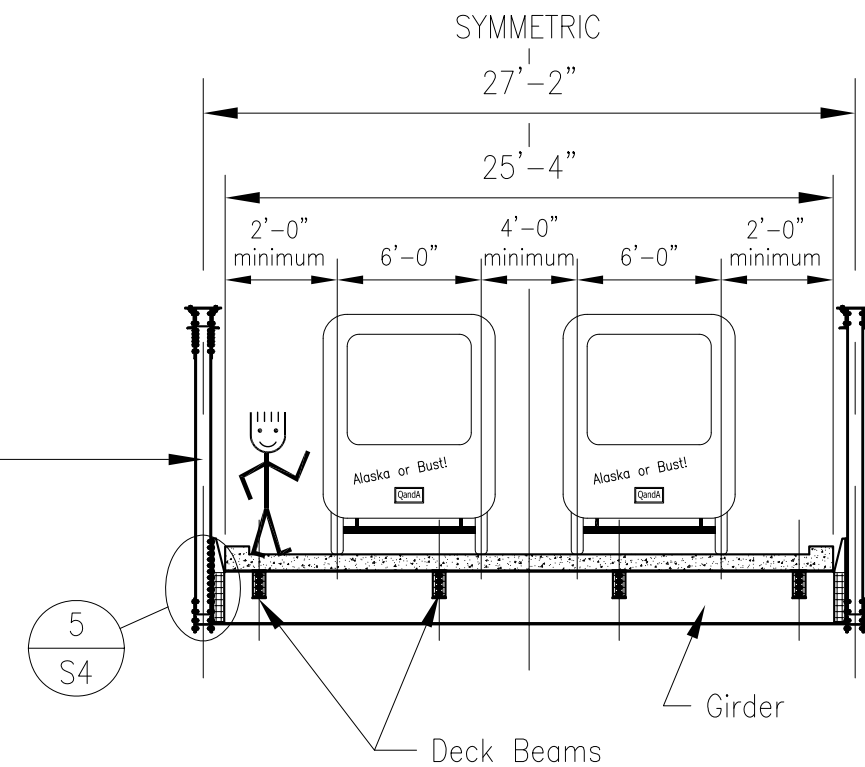
Positive Force = Tension
Negative Force = Compression



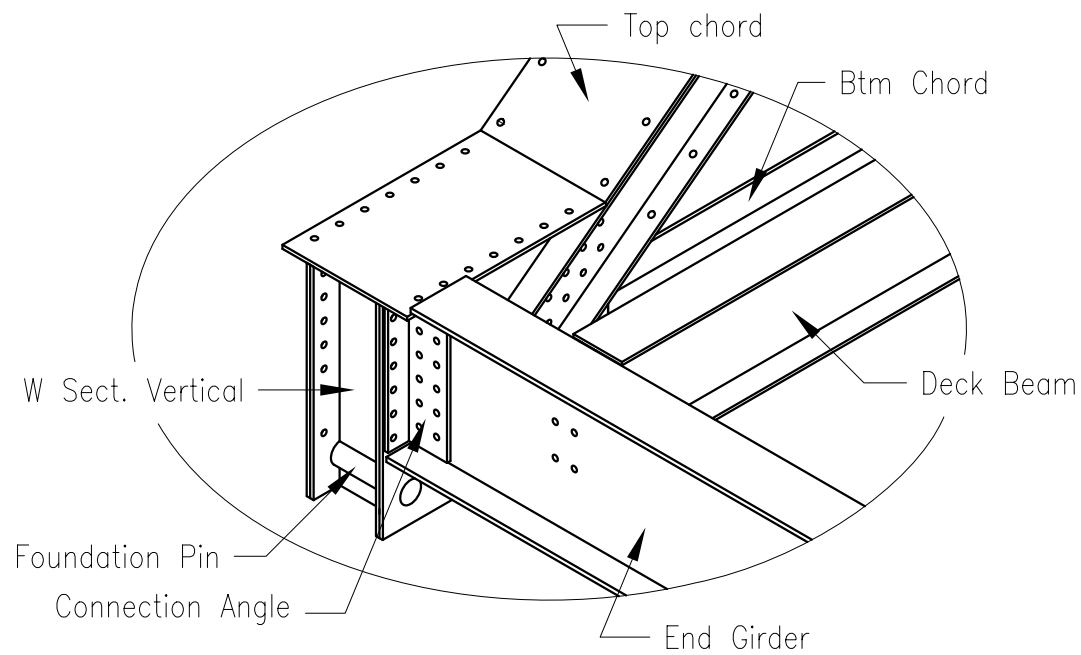
1 BRIDGE PLAN
BGSCM: Bridge SCALE: 1/8" = 1'-0"



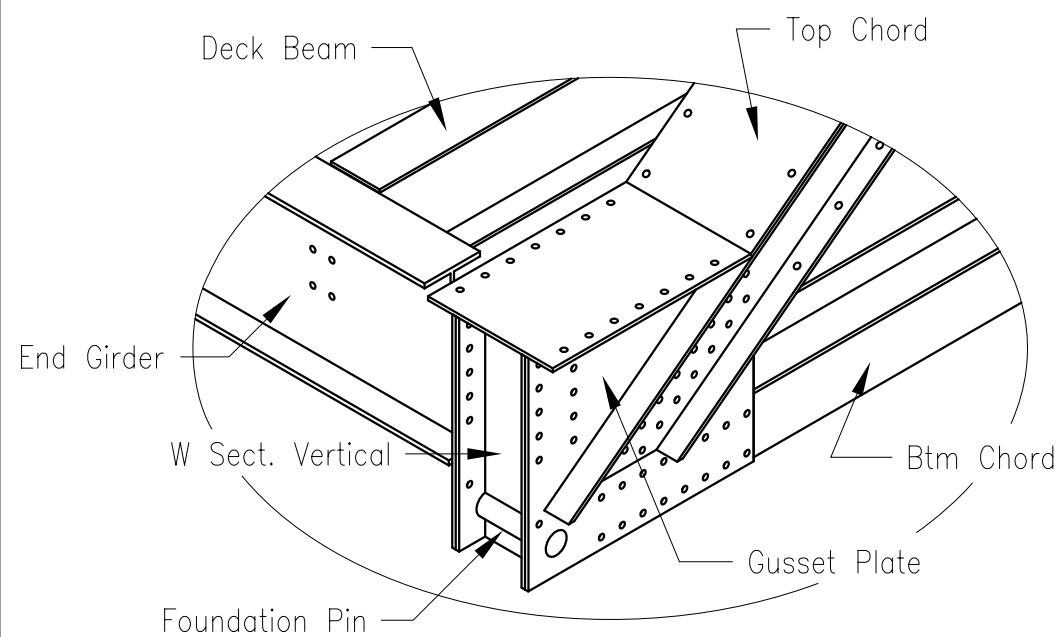
2 BRIDGE PROFILE
BGSCM: Bridge SCALE: 1/8" = 1'-0"



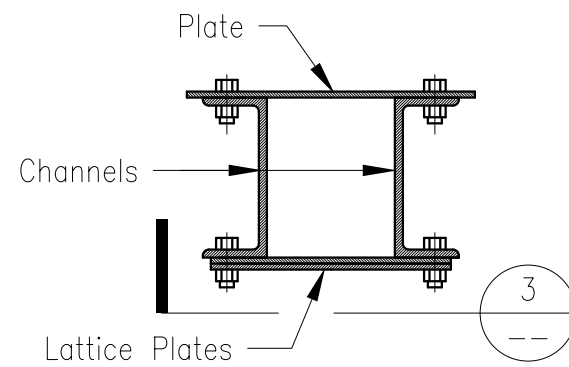
3 BRIDGE SECTION
BGSCM: Bridge SCALE: 1/8" = 1'-0"



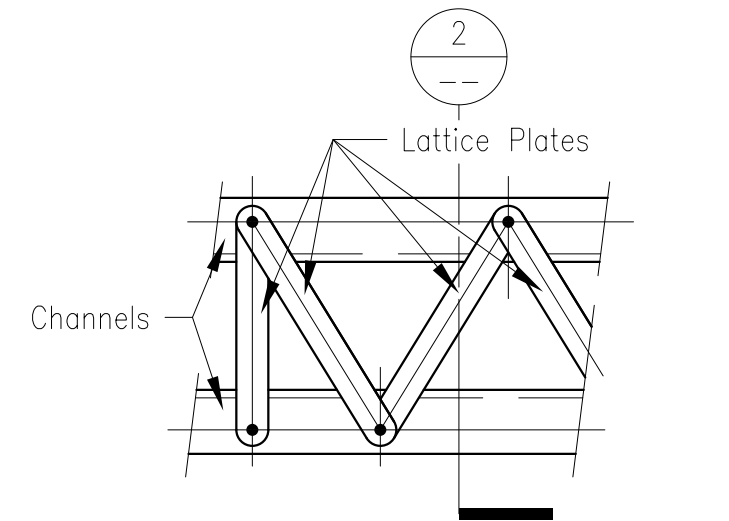
1 JOINT A ISOMETRIC VIEW
BGSCM: Bridge SCALE: 1/2" = 1'-0"



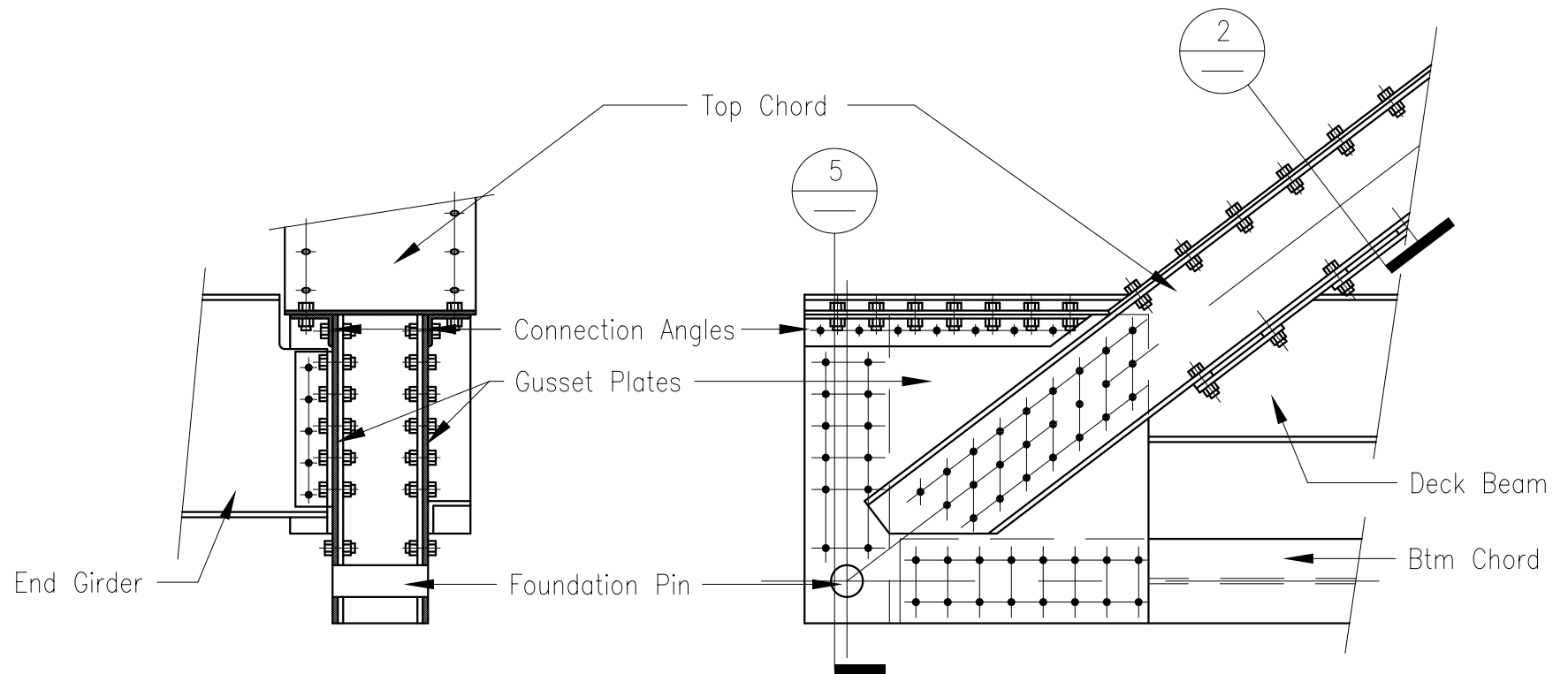
4 JOINT A ISOMETRIC VIEW
BGSCM: Bridge SCALE: 1/2" = 1'-0"



2 TOP CHORD SECTION
BGSCM: Bridge SCALE: 1" = 1'-0"



3 TOP CHORD BTM VIEW
BGSCM: Bridge SCALE: 1" = 1'-0"



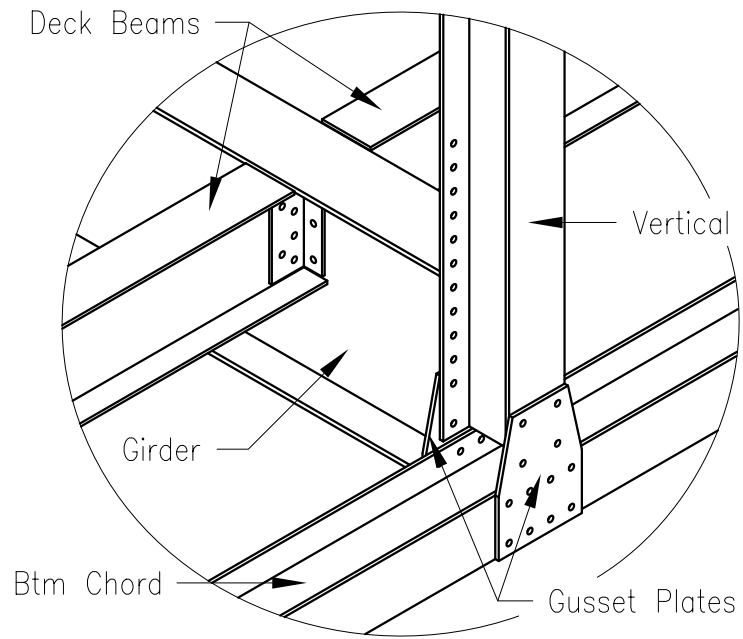
5 JOINT A SECTION
BGSCM: Bridge SCALE: 3/4" = 1'-0"

6 JOINT A FRONT VIEW
BGSCM: Bridge SCALE: 3/4" = 1'-0"

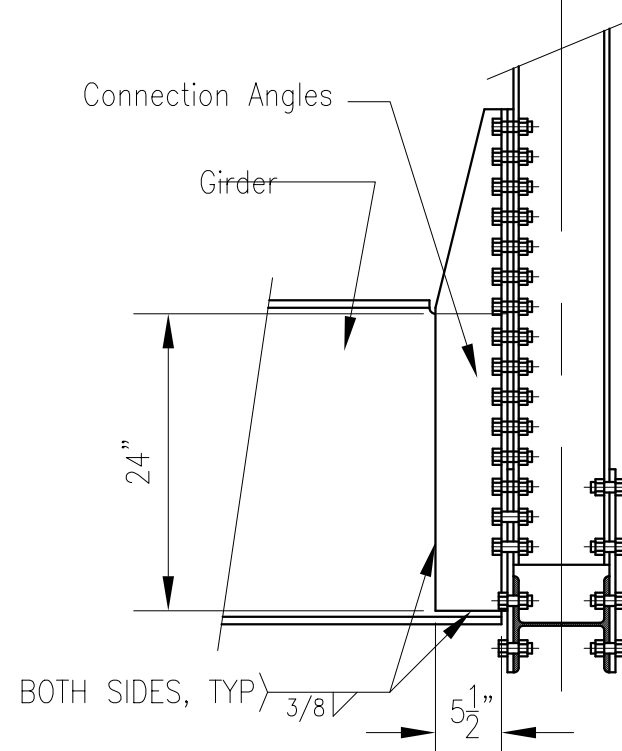
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CONNECTION DETAILS	
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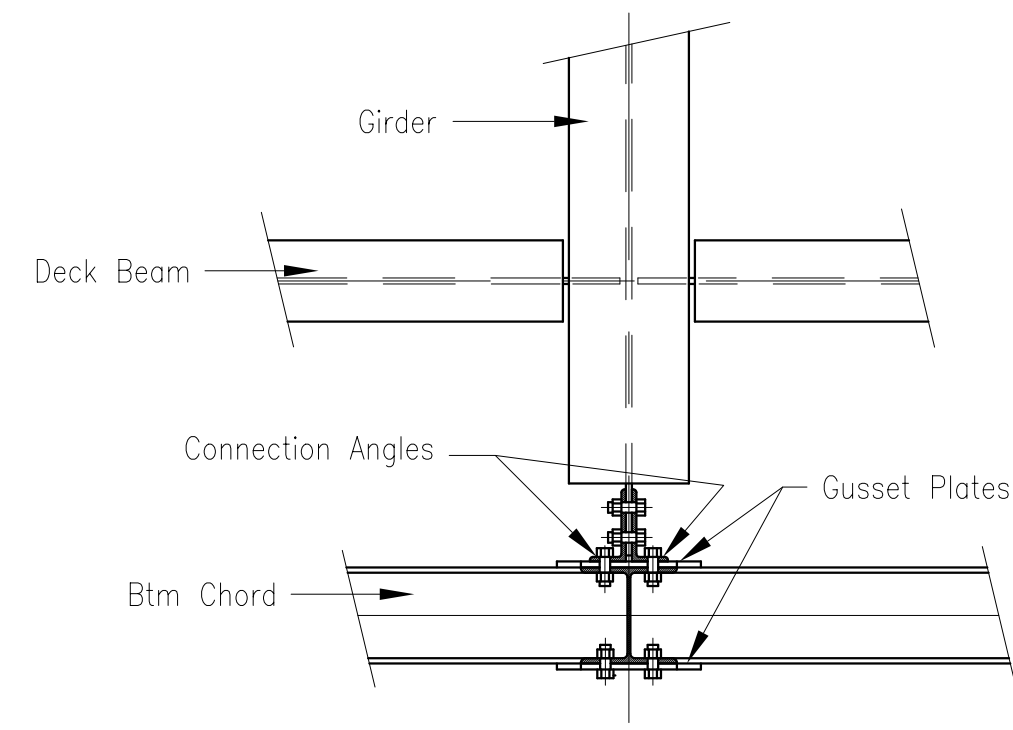
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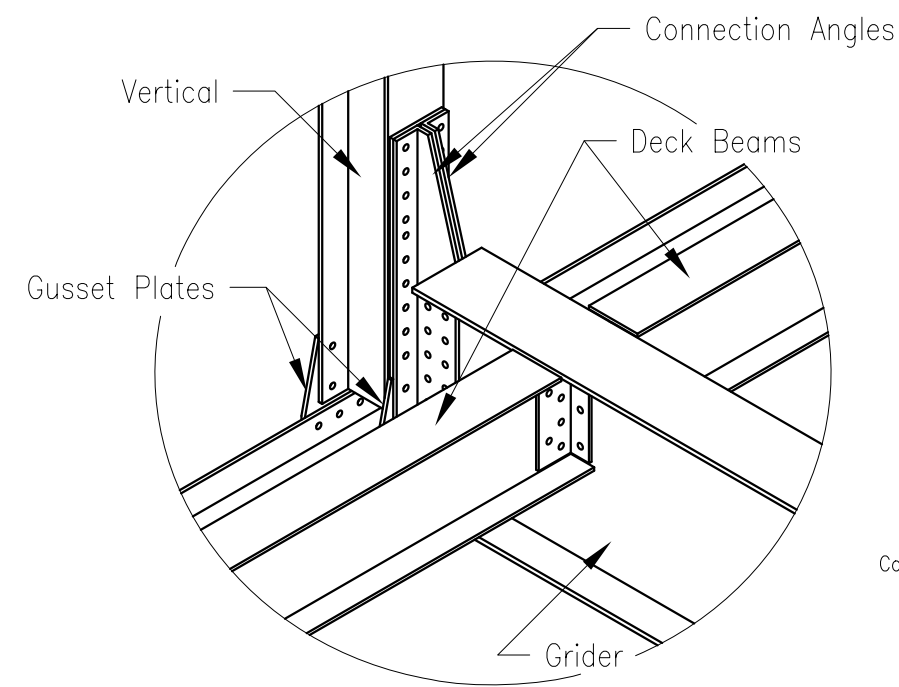
1 JOINT B ISOMETRIC VIEW
BGSCM: Bridge SCALE: 1/2" = 1'-0"



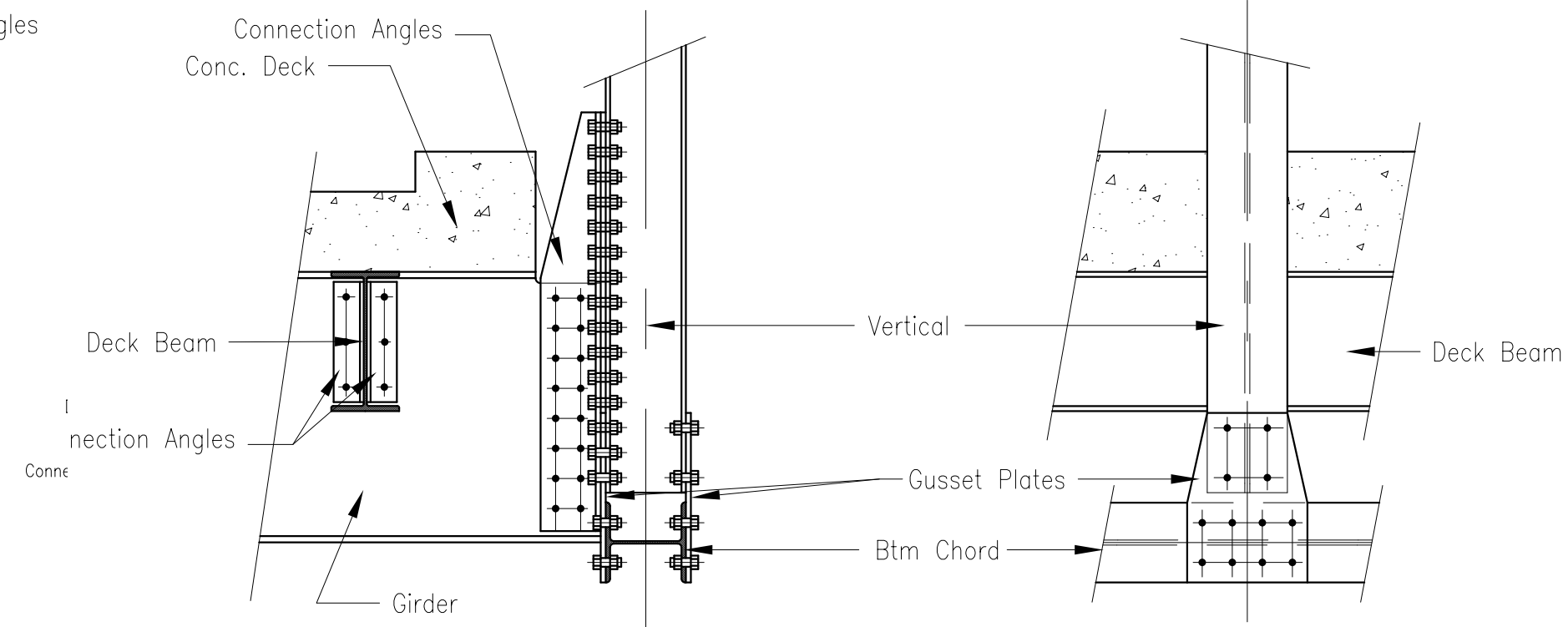
2 ALTERNATE GIRDER CONN.
BGSCM: Bridge SCALE: 3/4" = 1'-0"



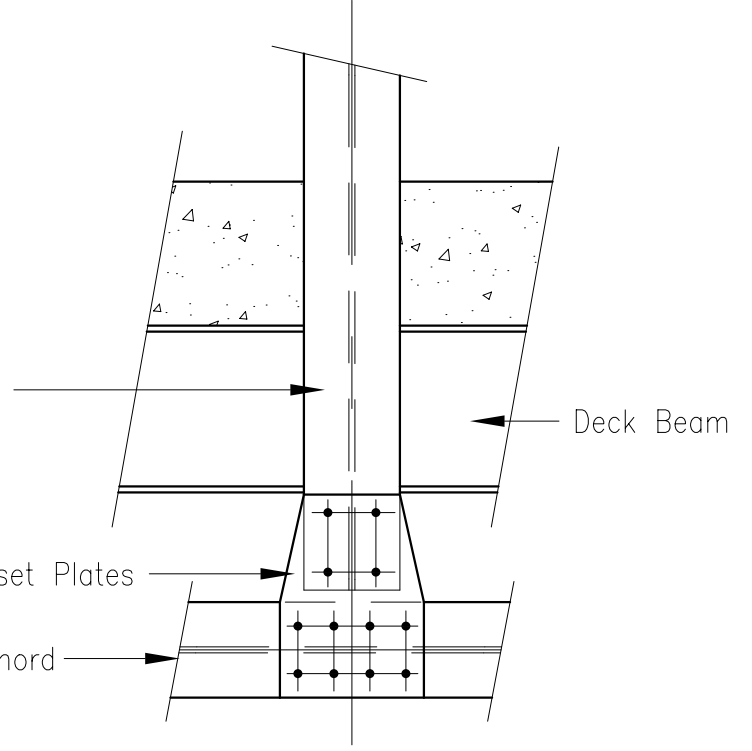
3 JOINT B TOP VIEW
BGSCM: Bridge SCALE: 3/4" = 1'-0"



4 JOINT B ISOMETRIC VIEW
BGSCM: Bridge SCALE: 1/2" = 1'-0"



5 JOINT B SECTION
BGSCM: Bridge SCALE: 3/4" = 1'-0"

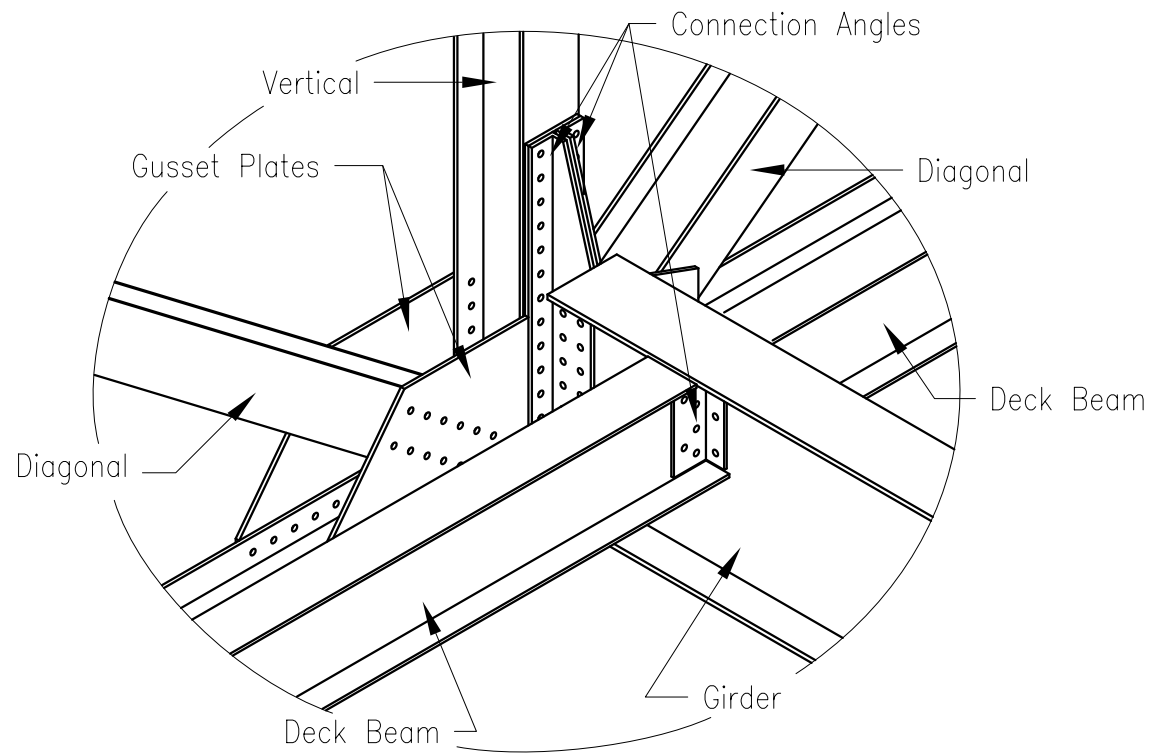


6 JOINT B FRONT VIEW
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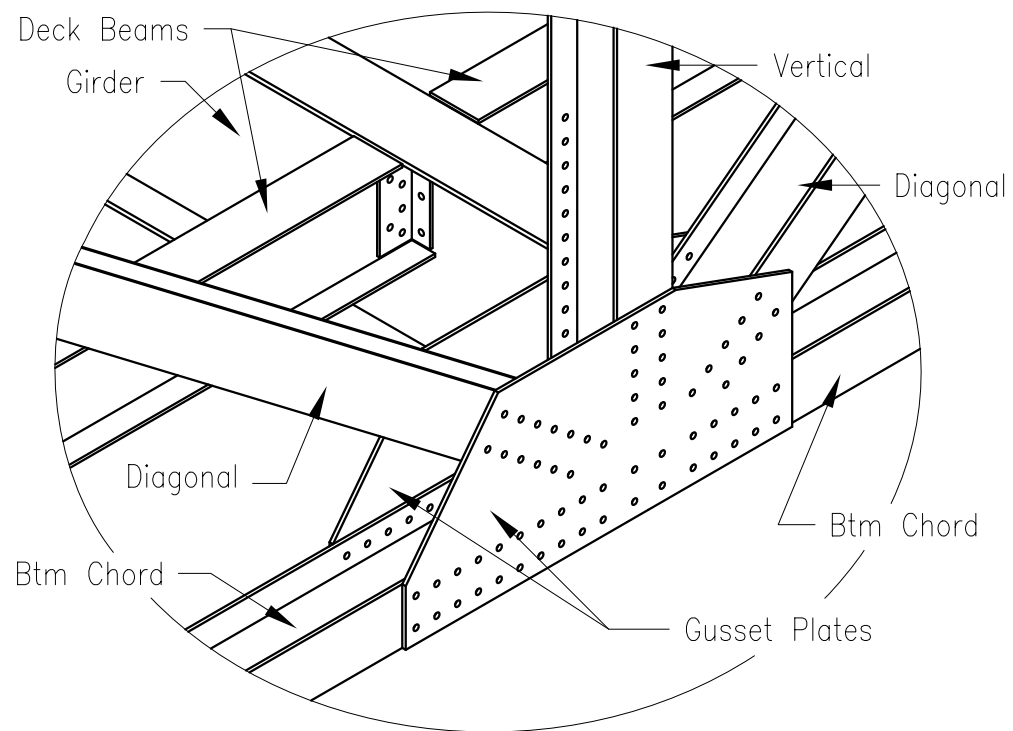
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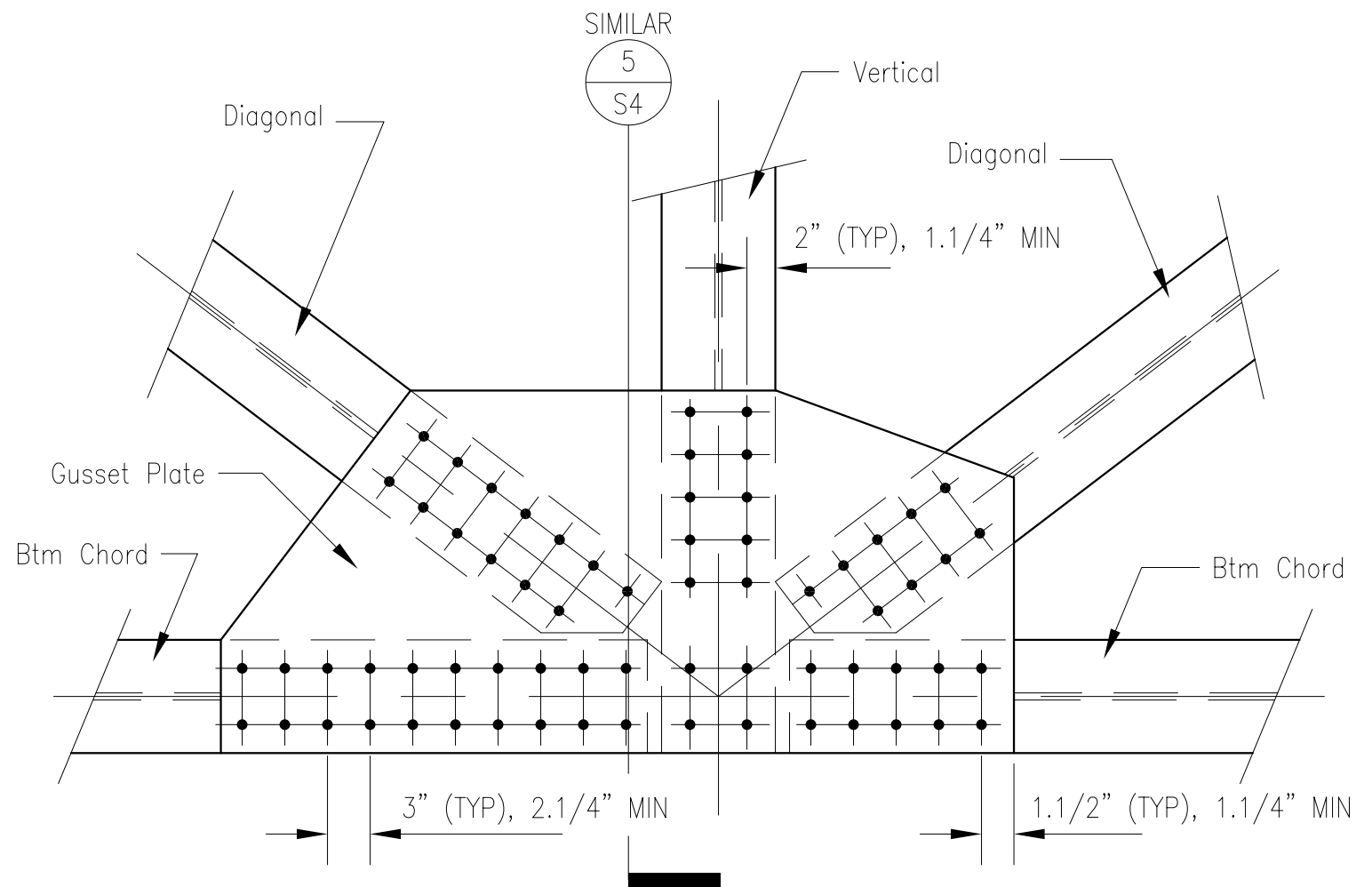
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1 JOINT C ISOMETRIC VIEW
 BGSCM: Bridge SCALE: 1/2" = 1'-0"



2 JOINT C ISOMETRIC VIEW
 BGSCM: Bridge SCALE: 1/2" = 1'-0"

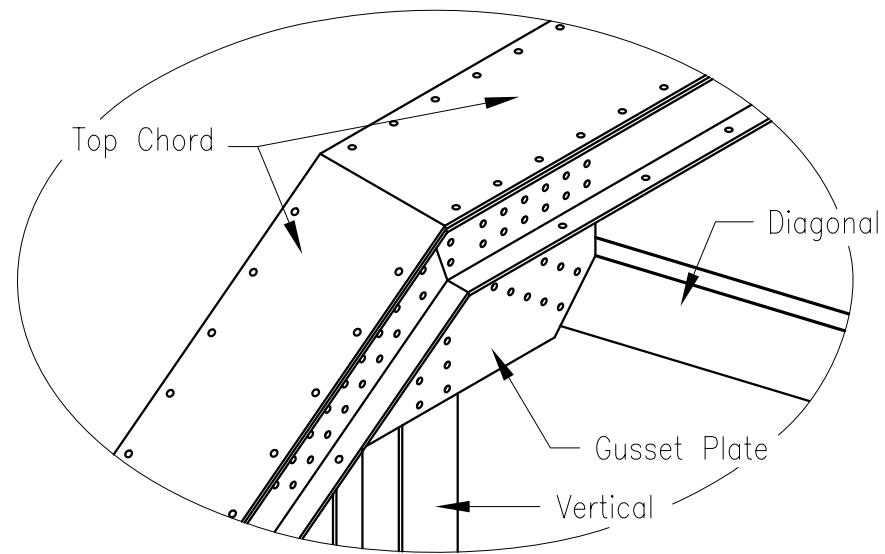


3 JOINT C FRONT VIEW
 BGSCM: Bridge SCALE: 1" = 1'-0"

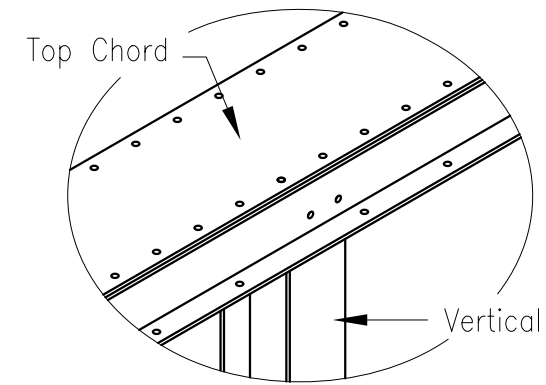
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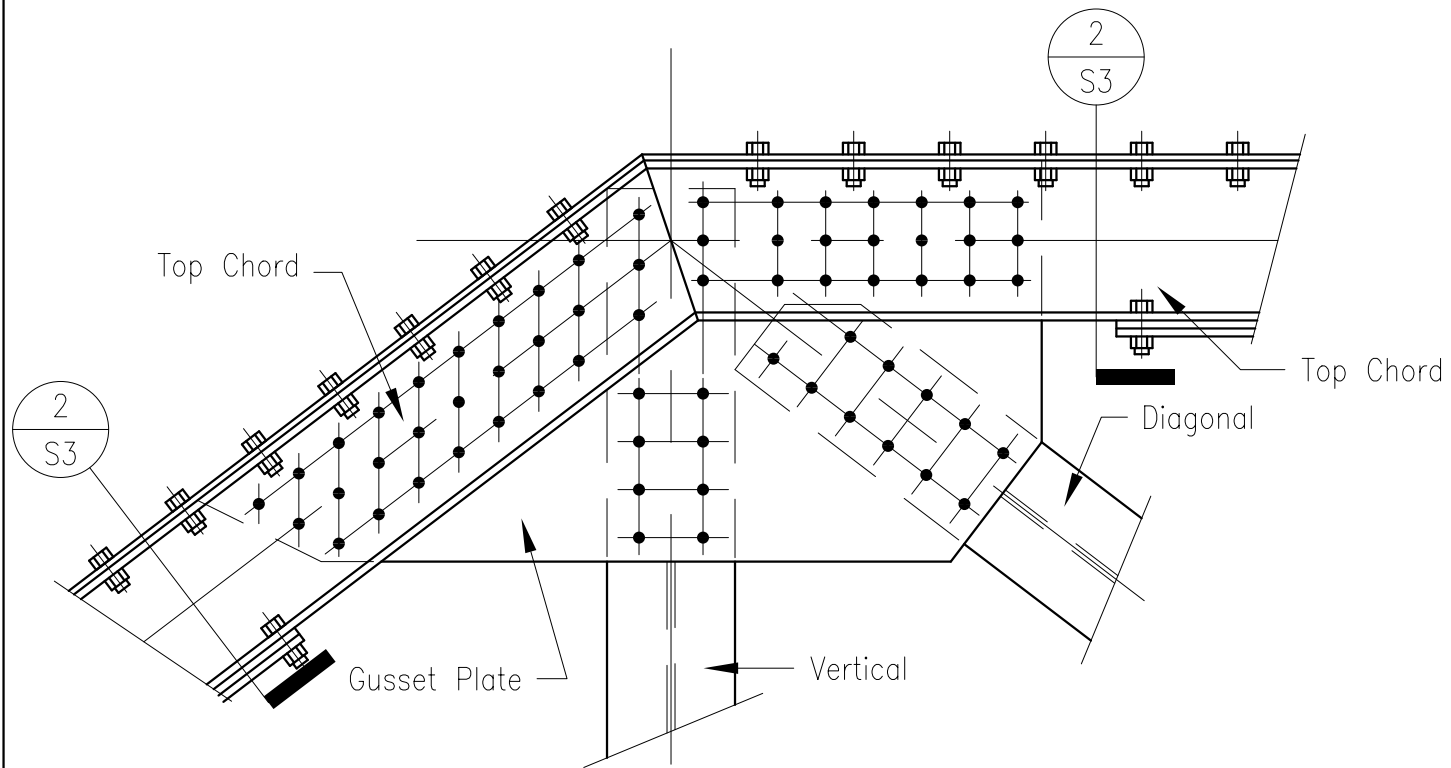
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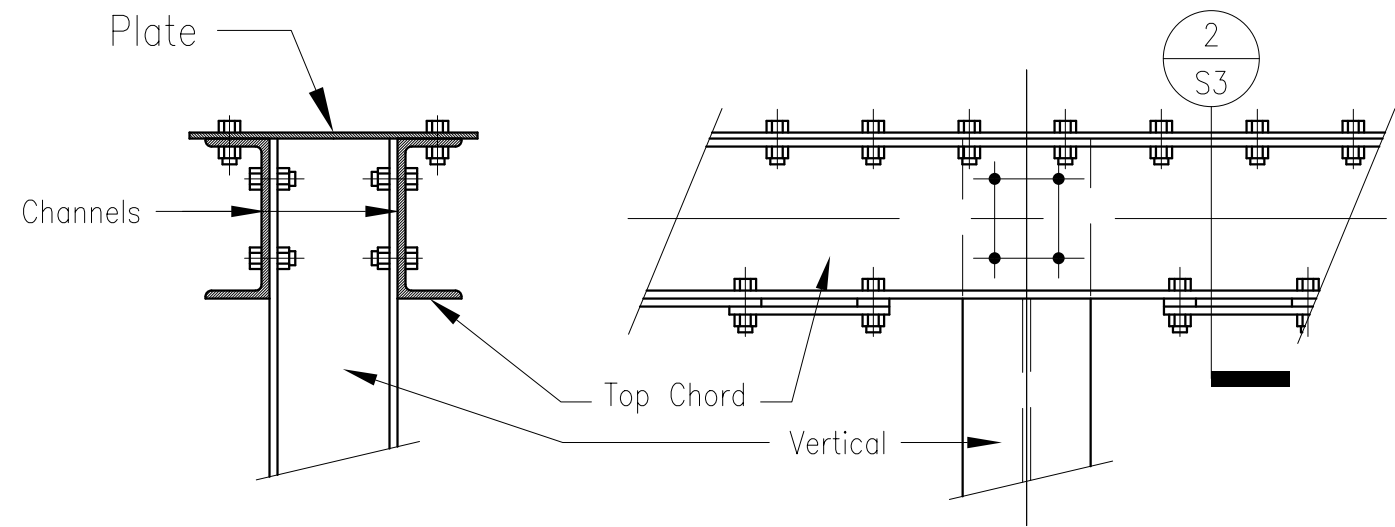
1 JOINT D ISOMETRIC
BGSCM: Bridge SCALE: 1/2" = 1'-0"



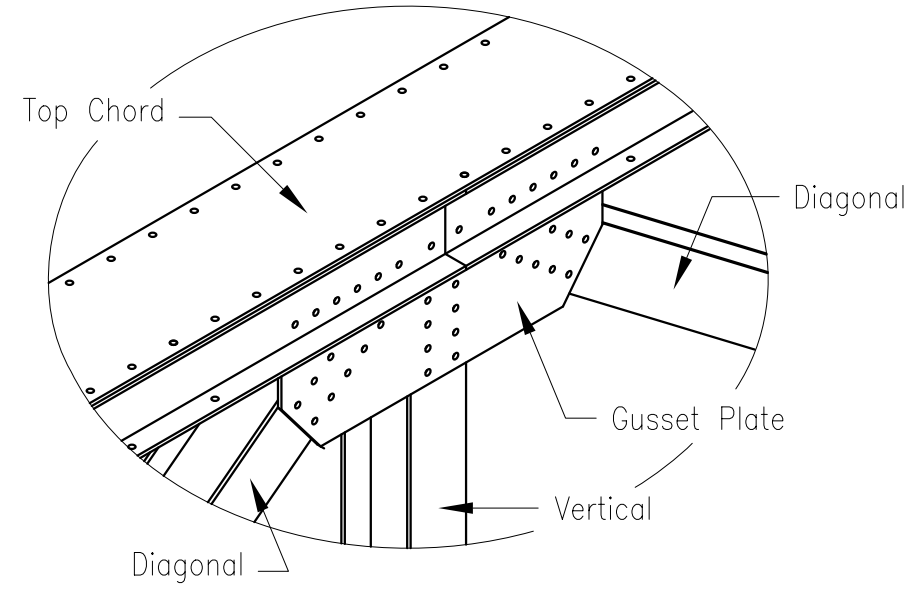
2 JOINT E ISOMETRIC
BGSCM: Bridge SCALE: 1/2" = 1'-0"



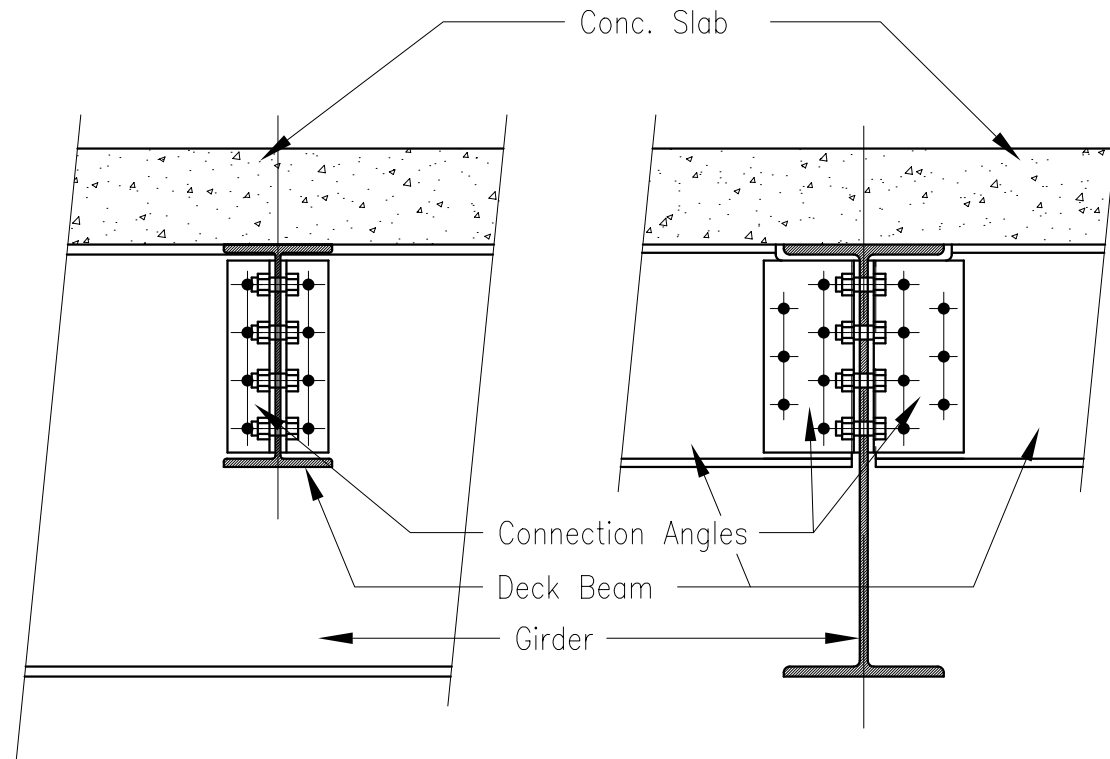
3 JOINT D DETAIL
BGSCM: Bridge SCALE: 1" = 1'-0"



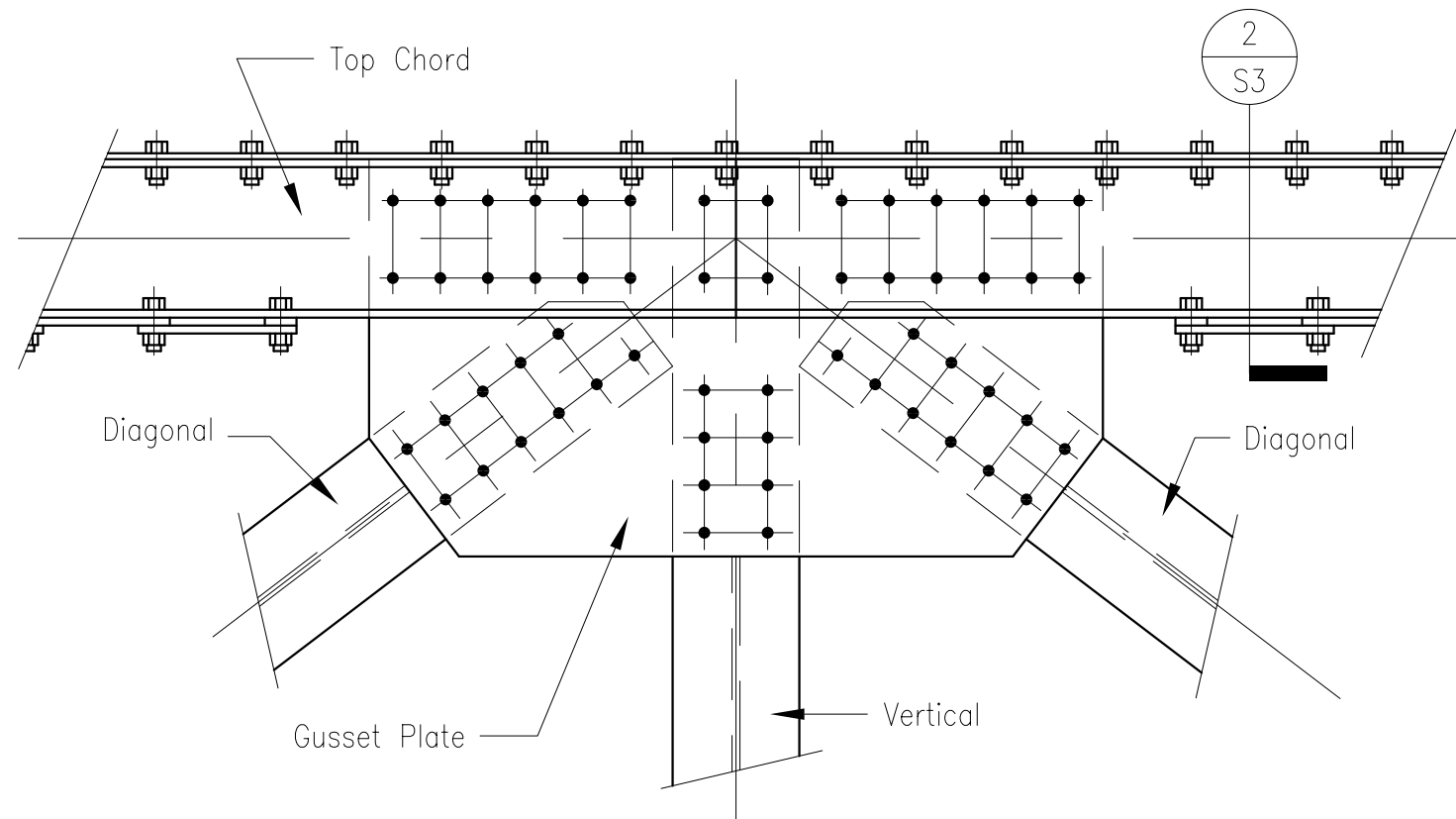
4 JOINT E DETAIL
BGSCM: Bridge SCALE: 1" = 1'-0"



1 JOINT F ISOMETRIC
BGSCM: Bridge SCALE: 1/2" = 1'-0"



2 BEAM-BEAM CONNECTION DETAIL
BGSCM: Bridge SCALE: 1" = 1'-0"



3 JOINT F DETAIL
BGSCM: Bridge SCALE: 1" = 1'-0"

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