

ORIGINATION FORM

Proposed Revisions to a Standard Plans Index
(Please provide all information – Incomplete forms will be returned)

Contact Information:

Date: August 8, 2019
Originator: **Cheryl Hudson**
Phone: 414-5332
Email: cheryl.hudson@dot.state.fl.us

Standard Plans:

Index Number: 700-041
Sheet Number (s): 1, 2, &4
Index Title: Span Sign Structure

Summary of the changes:

Added paragraph and bullets pertaining to shop drawing review.

Commentary / Background:

Add notes for shop drawing review listing possible fabrication restrictions to meeting notes 5B and 5C on the Std Drawings.

Other Affected Offices / Documents: (Provide name of responsible personnel)

- | Yes | No | |
|--------------------------|-------------------------------------|-----------------------------|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Other Standard Plans – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | FDOT Design Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Basis of Estimates Manual – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Standard Specifications – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Approved Product List – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Construction – |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Maintenance – |

Origination Package Includes: (Email or hand deliver package to Derwood Sheppard)

- | Yes | N/A | |
|-------------------------------------|-------------------------------------|---|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | Proposed Standard Plan Instructions (SPI) |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Revised SPI |
| <input type="checkbox"/> | <input type="checkbox"/> | Other Support Documents |

Implementation:

- Design Bulletin (Interim) DCE Memo Program Mgmt. Bulletin FY-Standard Plans (Next Release)

————— **Contact the Roadway Design Office for assistance in completing this form** —————

NOTES:

1. Work this Index in conjunction with SPAN SIGN STRUCTURE DATA TABLES in the Plans and Index 700-030.

2. Handholes at the pole base are required for DMS Structures. Refer to Index 700-090 for Handhole Details.

3. Shop Drawings are required.

Obtain Shop Drawing approval prior to fabrication. Include the following:

- A. Upright Pipe height ('C' & 'B') and foundation elevations: Verify dimensions in the field prior to submittal to ensure minimum vertical clearances of the sign panel over the roadway.
- B. Height of the foundation above adjacent ground.
- C. Anchor bolt orientation with respect to centerline of truss and the direction of traffic.
- D. Method to be used to provide the required parabolic camber (see Camber Diagram).
- E. Handholes at pole base (when required).

4. Materials:

A. Sign Structure:

- a. Upright and Chords (Steel Pipe): API 5L X42 PSL2, 42 ksi yield or ASTM A500, Grade B (Min.)
- b. Steel Angles and Plates: ASTM A709 grade 36
- c. Weld Material: E70XX

B. Bolts, Nuts and Washers:

- a. High Strength Bolts: ASTM F3125, Grade A325, Type 1
- b. Nuts: ASTM A563, Grade DH Heavy-Hex
- c. Washers: ASTM F436, Type 1, one under turned element

C. Anchor Bolts, Nuts and Washers

- a. Anchor Bolts: ASTM F1554 Grade 55
- b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per bolt)
- c. Plate Washers: ASTM A36 (2 per bolt)

D. Concrete: Class IV (Drilled Shaft)

E. Reinforcing Steel: Specification 415

5. Fabrication:

A. Welding: Specification 460-6.4

B. Chord Splices: Minimum splice spacing is three truss panel lengths apart and three truss panel lengths from the uprights. Chord Splices may be either the Standard Splice or the Alternate Splice but not both on the same structure.

C. Upright splice: Not allowed

D. Structural bolt hole diameters: Bolt diameter plus $\frac{1}{16}$ ".

E. Anchor bolt hole diameters: Bolt diameter plus $\frac{1}{2}$ ".

F. Hot Dip Galvanize after fabrication.

G. Shop assemble the entire structure after galvanizing to validate/document alignment and clearance for bolted connections as well as contact between connecting plates. Take remedial action, if necessary, prior to shipment.

H. Disassemble as necessary and secure components for shipment.

6. Coatings:

A. Bolts, Nuts and Washers: ASTM F2329

B. All other steel, including Plate Washers, hot dip galvanize: ASTM A123

7. Construction:

A. Construct foundation in accordance with Specification 455 Drilled Shaft, except payment is included in the cost of the structure.

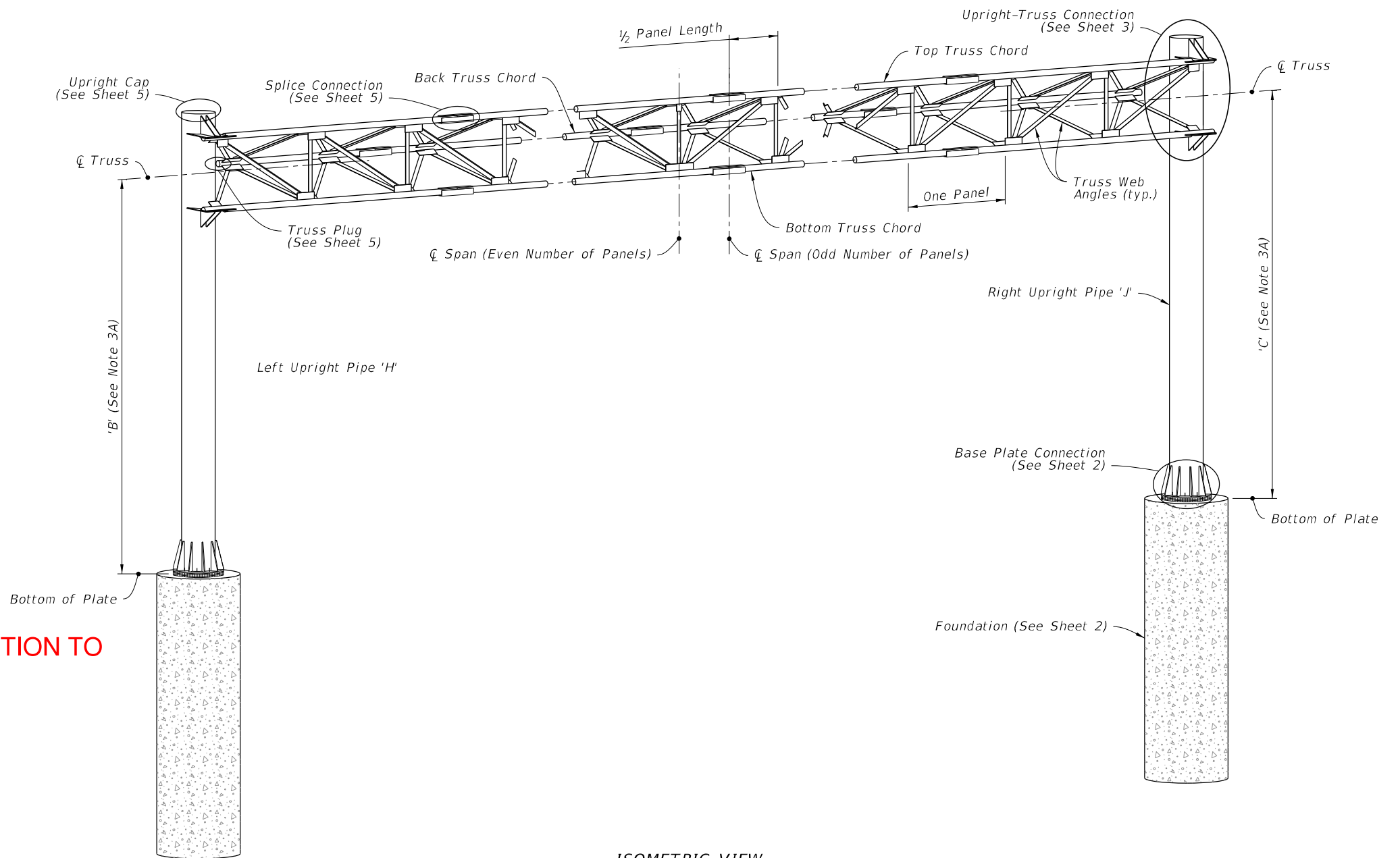
B. Prior to erection, record the as-built anchor locations and submit to the Engineer.

C. Provide a parabolic camber with the required upward deflection as shown on the Camber Diagram.

D. Tighten nuts and bolts in accordance with Specification 700. Split-Lock Washers are not permitted.

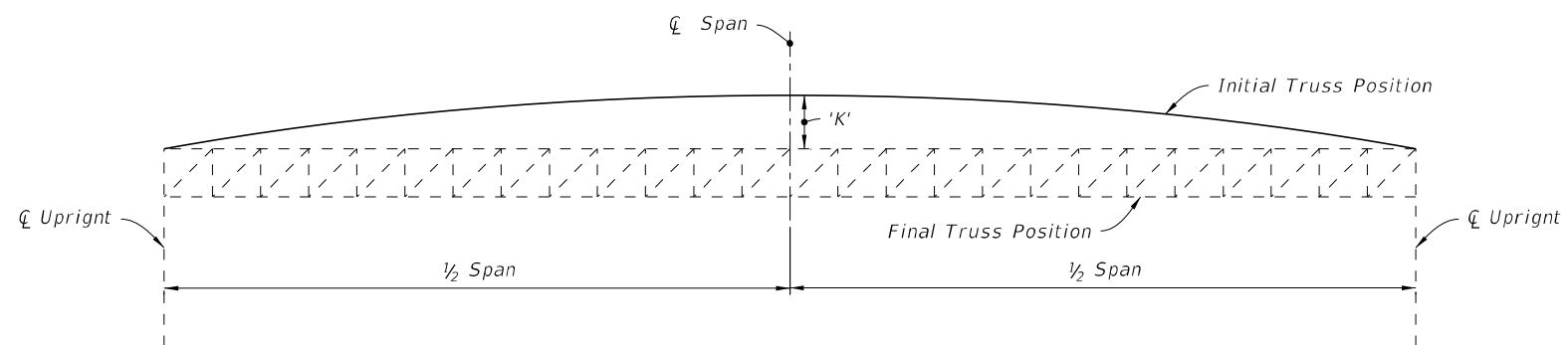
E. Install Aluminum Sign Panels as shown in the Plans.

F. After installation, place wire screen between top of foundation and bottom of baseplate in accordance with Specification 649-6.



ISOMETRIC VIEW

SPAN SIGN ASSEMBLY




CAMBER DIAGRAM

ADDED INFORMATION TO NOTES

11/01/19

12/23/2018 9:12:43 AM

LAST REVISION 11/01/18	DESCRIPTION: 11/01/19	 FY 2019-20 STANDARD PLANS	SPAN SIGN STRUCTURE	INDEX 700-041	SHEET 1 of 5
----------------------------------	---------------------------------	---	---------------------	------------------	-----------------

NOTES:

1. Work this Index in conjunction with SPAN SIGN STRUCTURE DATA TABLES in the Plans and Index 700-030.
2. Handholes at the pole base are required for DMS Structures. Refer to Index 700-090 for Handhole Details.
3. Shop Drawings are required.

Obtain Shop Drawing approval prior to fabrication. Include the following:

- A. Upright Pipe height ('C' & 'B') and foundation elevations: Verify dimensions in the field prior to submittal to ensure minimum vertical clearances of the sign panel over the roadway.
- B. Height of the foundation above adjacent ground.
- C. Anchor bolt orientation with respect to centerline of truss and the direction of traffic.
- D. Method to be used to provide the required parabolic camber (see Camber Diagram).
- E. Handholes at pole base (when required).

4. Materials:

- A. Sign Structure:
 - a. Upright and Chords (Steel Pipe): API 5L X42 PSL2, 42 ksi yield or ASTM A500, Grade B (Min.)
 - b. Steel Angles and Plates: ASTM A709 grade 36
 - c. Weld Material: E70XX
- B. Bolts, Nuts and Washers:
 - a. High Strength Bolts: ASTM F3125, Grade A325, Type 1
 - b. Nuts: ASTM A563, Grade DH Heavy-Hex
 - c. Washers: ASTM F436, Type 1, one under turned element
- C. Anchor Bolts, Nuts and Washers
 - a. Anchor Bolts: ASTM F1554 Grade 55
 - b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per bolt)
 - c. Plate Washers: ASTM A36 (2 per bolt)
- D. Concrete: Class IV (Drilled Shaft)
- E. Reinforcing Steel: Specification 415

5. Fabrication:

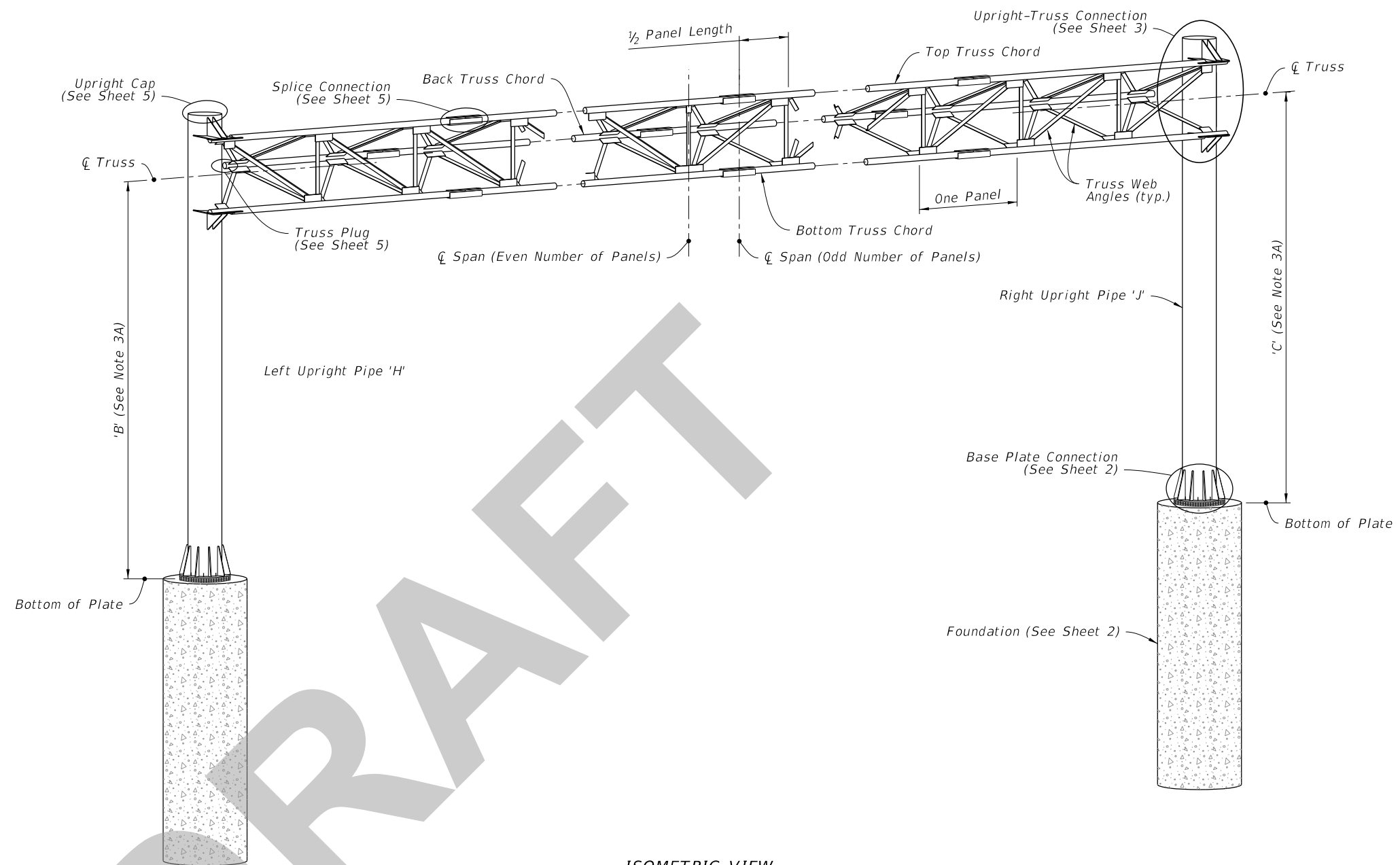
- A. Welding: Specification 460-6.4
- B. Chord Splices: Minimum splice spacing is three truss panel lengths apart and three truss panel lengths from the uprights when panel lengths are 10'-0" or less. Chord Splices may be either the Standard Splice or the Alternate Splice, but not both on the same structure.
- C. Upright splice: Not allowed unless the upright exceeds available mill lengths (35' - 40').
- D. Structural bolt hole diameters: Bolt diameter plus 1/16".
- E. Anchor bolt hole diameters: Bolt diameter plus 1/2".
- F. Hot Dip Galvanize after fabrication.
- G. Shop assemble the entire structure after galvanizing to validate/document alignment and clearance for bolted connections as well as contact between connecting plates. Take remedial action, if necessary, prior to shipment.
- H. Disassemble as necessary and secure components for shipment.

6. Coatings:

- A. Bolts, Nuts and Washers: ASTM F2329
- B. All other steel, including Plate Washers, hot dip galvanize: ASTM A123

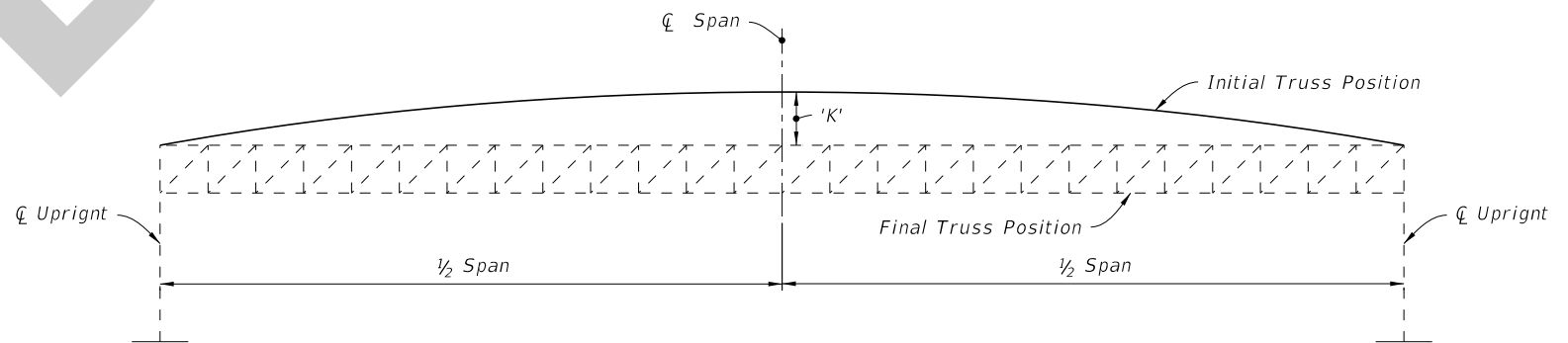
7. Construction:

- A. Construct foundation in accordance with Specification 455 Drilled Shaft, except payment is included in the cost of the structure.
- B. Prior to erection, record the as-built anchor locations and submit to the Engineer.
- C. Provide a parabolic camber with the required upward deflection as shown on the Camber Diagram.
- D. Tighten nuts and bolts in accordance with Specification 700. Split-Lock Washers are not permitted.
- E. Install Aluminum Sign Panels as shown in the Plans.
- F. After installation, place wire screen between top of foundation and bottom of baseplate in accordance with Specification 649-6.




ISOMETRIC VIEW

SPAN SIGN ASSEMBLY



CAMBER DIAGRAM

8/14/2019 11:06:47 AM

LAST REVISION 11/01/19	REVISION	DESCRIPTION:	 FY 2020-21 STANDARD PLANS	SPAN SIGN STRUCTURE	INDEX 700-041	SHEET 1 of 5
---------------------------	----------	--------------	--	---------------------	------------------	-----------------