
ORIGINATION FORM

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

Contact Information:

Date: May 2, 2023
Originator: Joshua Turley
Phone: (850) 414-4475
Email: joshua.turley@dot.state.fl.us

Standard Plans:

Index Number: 700-020
Sheet Number (s): 1, 2, & 3
Index Title: MULTI-COLUMN GROUND SIGN

Summary of the changes:

- Sheet 1: Revised bolts in the Hanger Beams to show correctly.
- Sheet 2: Added Foundation Notes to allow for precast concrete foundation with an octagon shape as a substitute for the circular shaped foundation shown.
- Sheet 3: Revised bolts in the Hanger Beams to show correctly.

Commentary / Background:

- Sheets 1 & 3: The bolts were not showing correctly in the elevation details.
- Sheet 2: A non-circular, octagon shaft option was requested by industry to simplify formwork. (Revision by Richard Stepp)

Other Affected Offices / Documents: (Provide name of person contacted)

- | Yes | No | |
|-------------------------------------|-------------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Other Standard Plans – 700-030 |
| <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: (Submit package to Rick Jenkins)

- | Yes | N/A | |
|-------------------------------------|--------------------------|---|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Redline Mark-ups |
| <input type="checkbox"/> | <input type="checkbox"/> | Revised or Proposed Standard Plan Instruction (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

Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us

ORIGINATION FORM

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

Contact Information:

Date: June 29, 2023
Originator: Dana Knox
Phone: (850) 410-5413
Email: Dana.Knox@dot.state.fl.us

Standard Plans:

Index Number: 700-020
Sheet Number (s): 1 and 3
Index Title: Multi-Column Ground Sign

Summary of the changes:

On both sheets changed all reference of length to width and all reference to depth to height.

Commentary / Background:

The change is to be consistent with how the MUTCD dimensions signs. Section 700 and 995 will also need to be updated to be consistent with MUTCD.

Other Affected Offices / Documents: (Provide name of person contacted)

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 checked="" type="checkbox"/>	<input type="checkbox"/>	Standard Specifications – Daniel Strickland
<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: (Submit package to Rick Jenkins)

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

Implementation:

<input type="checkbox"/>	Design Bulletin (Interim)
<input type="checkbox"/>	DCE Memo
<input type="checkbox"/>	Program Mgmt. Bulletin
<input checked="" type="checkbox"/>	FY-Standard Plans (Next Release)

Contact the Roadway Design Office for assistance in completing this form

Email to: Rick Jenkins rick.jenkins@dot.state.fl.us and Darren Martin darren.martin@dot.state.fl.us

GENERAL NOTES:

1. Meet the requirements of Specification 700.
2. Verify Column lengths in the field prior to fabrication.
3. Shop drawings:

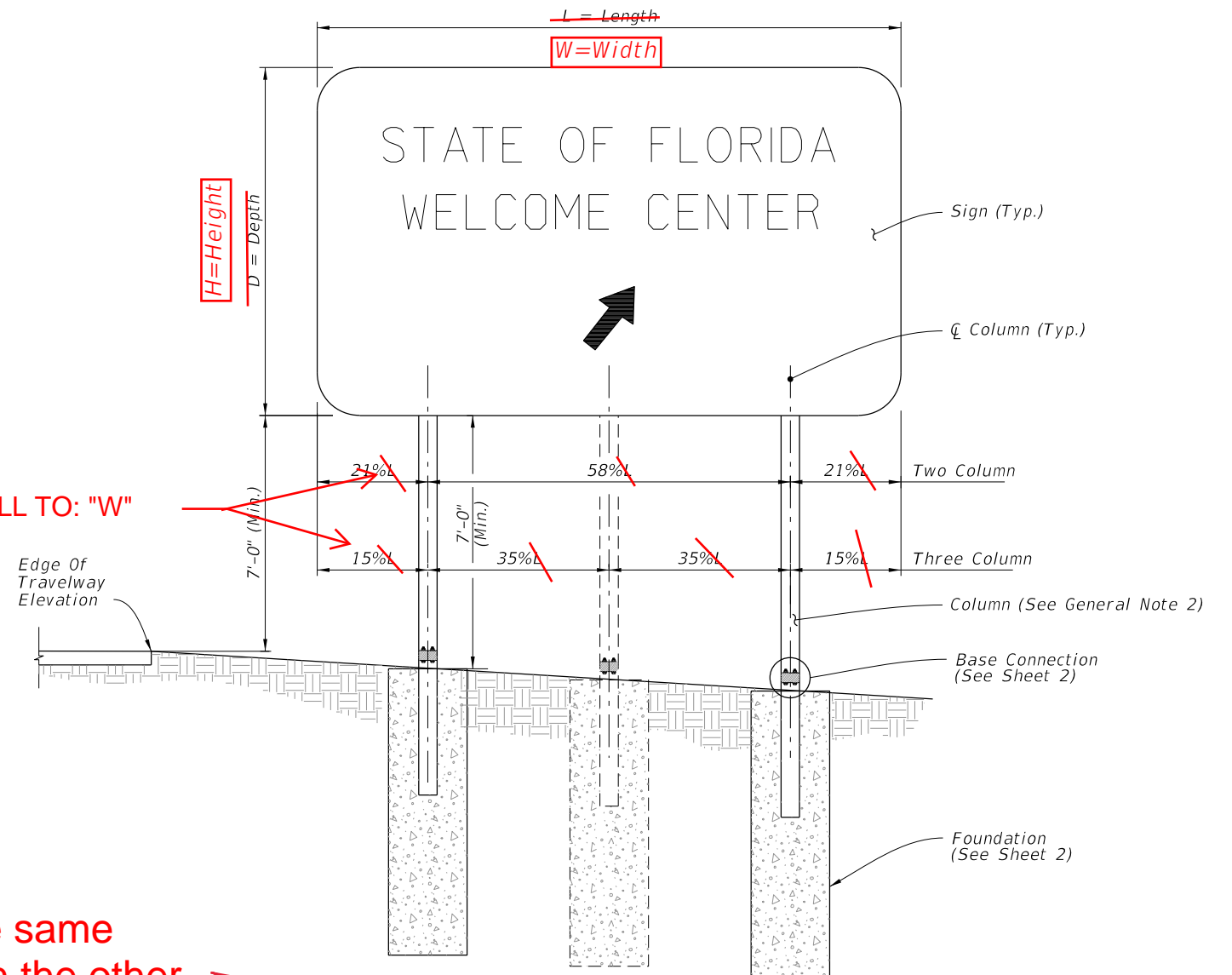
- A. Sign Support Shop drawings are not required when fabricated in accordance with this Index and support columns do not exceed the ~~length~~ ^{width} shown in the plans by more than 2'-0".
- B. Sign Panels: Horizontal panel splices are allowed at interior wind beams for sign panels with a ~~depth~~ ^{height} ("D") greater than 10 feet. Shop drawings required for horizontal panel splice details.
- C. ~~When~~ ^{Shop} drawings are required, obtain approval prior to fabrication.

CHANGE TO: height ("H")

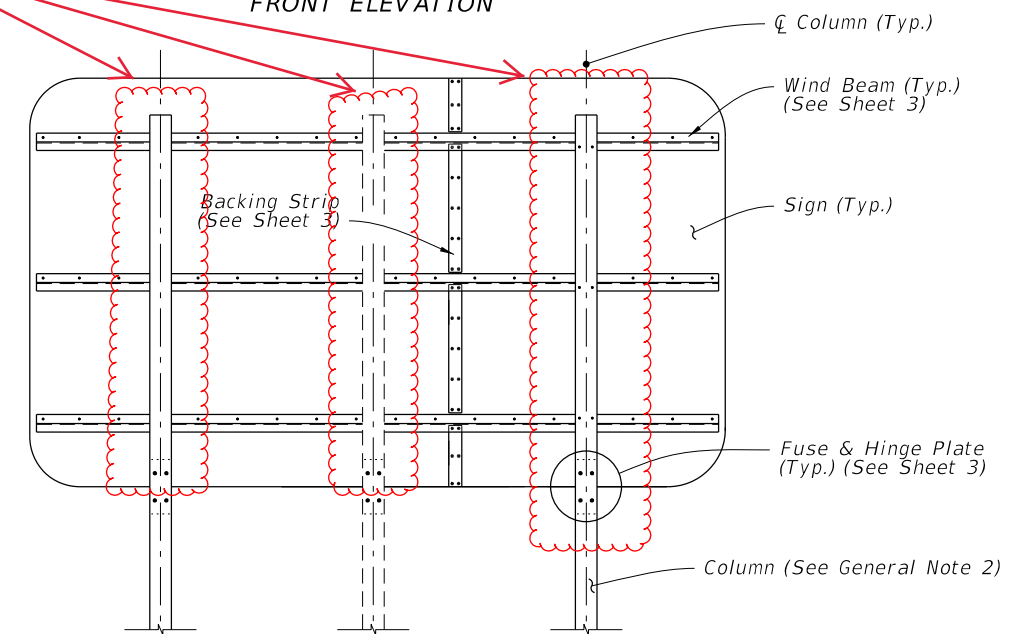
CHANGED TO: width ("W")

CHANGED ALL TO: "W"

Show the same bolting on the other wind hanger beams




FRONT ELEVATION



BACK ELEVATION

MULTI-COLUMN SIGN ASSEMBLY

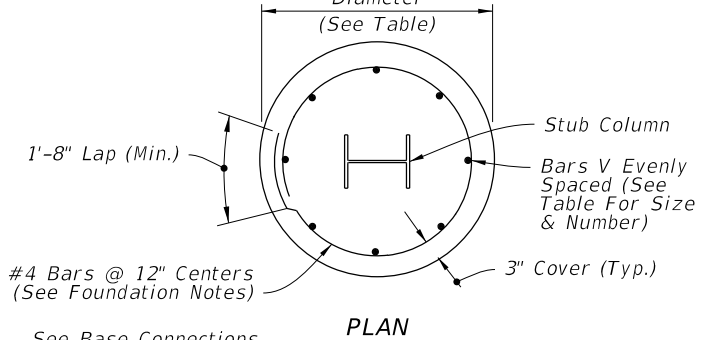
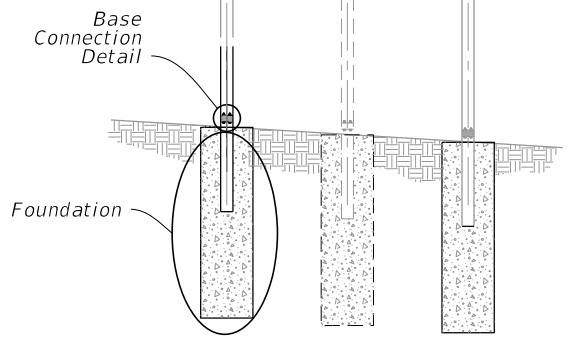
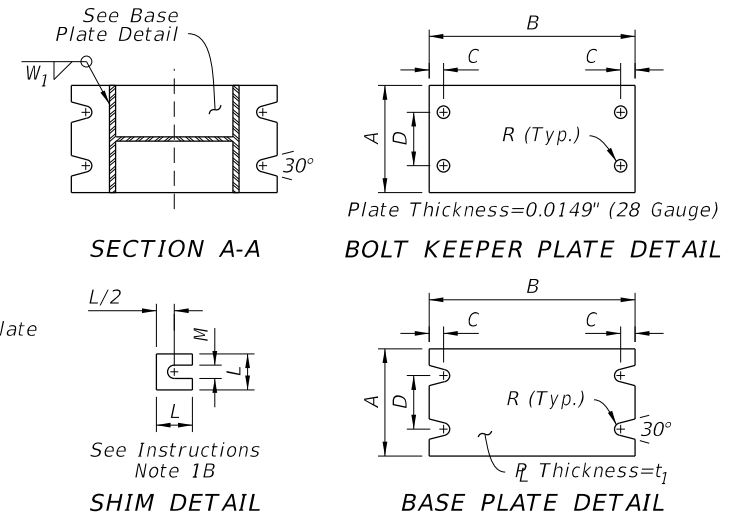
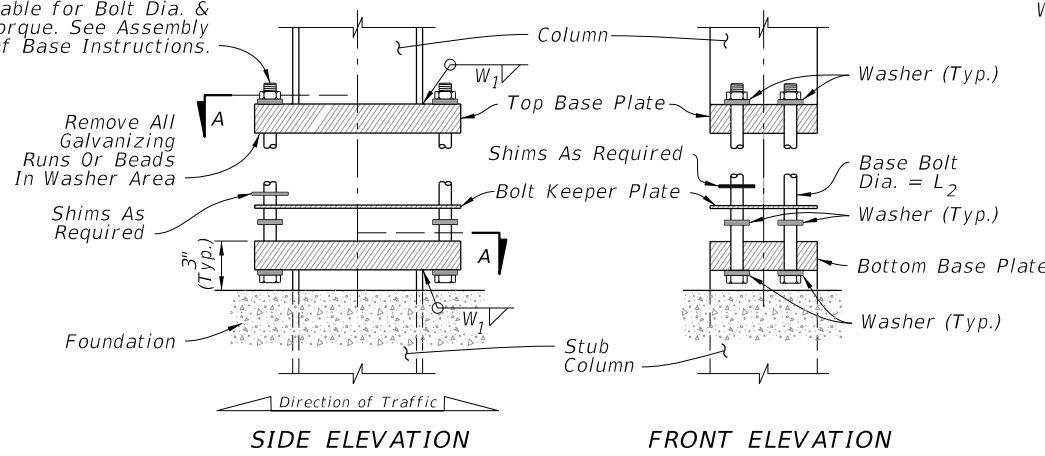
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LAST REVISION	11/01/22	REVISION	23	DESCRIPTION:	 FY 2023-24 STANDARD PLANS	MULTI-COLUMN GROUND SIGN	INDEX 700-020	SHEET 1 of 3
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STATE OF FLORIDA
WELCOME CENTER

FOUNDATION DATA				
Steel Post & Stub Section*	Dia.	Depth	Stub Column Length	Reinf. Bars V
S 3x5.7	2'-0"	4'-0"	3'-0"	10-#6
W 6x12	2'-0"	6'-0"	3'-0"	10-#6
W 8x18	2'-4"	7'-6"	4'-0"	8-#8
W 8x24	2'-4"	8'-6"	4'-0"	8-#8
W 10x33	2'-4"	10'-3"	4'-0"	8-#8
W 12x45	2'-8"	11'-3"	5'-0"	10-#8

H.S. Base Bolt With 3 Washers & Hex Nut on Each Bolt. See Table for Bolt Dia. & Torque. See Assembly Of Base Instructions.



Steel Post & Stub Section*	BASE CONNECTION DATA								SHIM		
	A	B	C	D	R	t ₁	L ₂	W ₁	Torque (lbf*in)	L	M
S 3x5.7	4"	7"	3/4"	2"	5/16"	1"	1/2"	1/4"	90 ± 20	1-1/4"	9/16"
W 6x12	4"	10"	3/4"	2"	3/8"	1-5/8"	5/8"	1/4"	270 ± 45	1-3/8"	11/16"
W 8x18	5-1/4"	12-1/2"	7/8"	2-3/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	1-3/4"	13/16"
W 8x24	6-1/2"	12-1/2"	7/8"	3-1/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	2-1/8"	13/16"
W 10x33	8"	16"	1-1/4"	4-3/4"	9/16"	2"	1"	1/2"	580 ± 90	2-3/8"	1-1/16"
W 12x45	10"	18"	1-1/4"	6"	9/16"	2"	1"	1/2"	580 ± 90	2-3/4"	1-1/16"

* Designations: (Nominal Depth in inches) x (weight in pounds per linear foot).

== MULTI-COLUMN SIGN ASSEMBLY ==

FOUNDATION NOTES:

The Contractor may use Welded Wire Reinforcement (WWR) for foundation reinforcing.

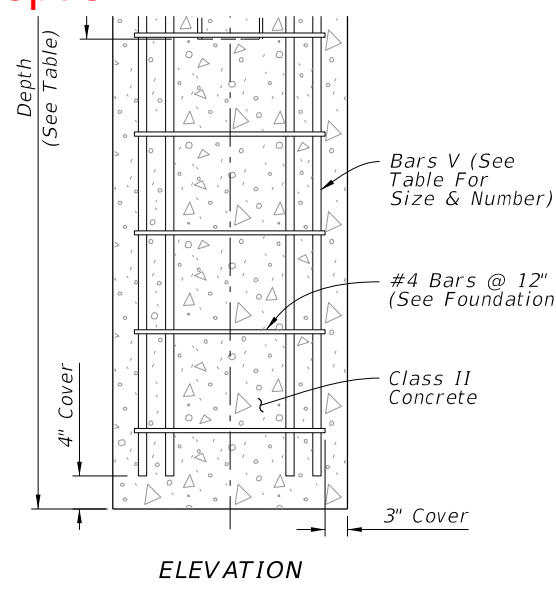
At the Contractors option, the #4 tie bars at 12" o.c. may be replaced by D10 Spiral Wire @ 6" pitch, with three flat turns at the top and one flat turn at the bottom in accordance with Specification 415.

BASE CONNECTION NOTES:

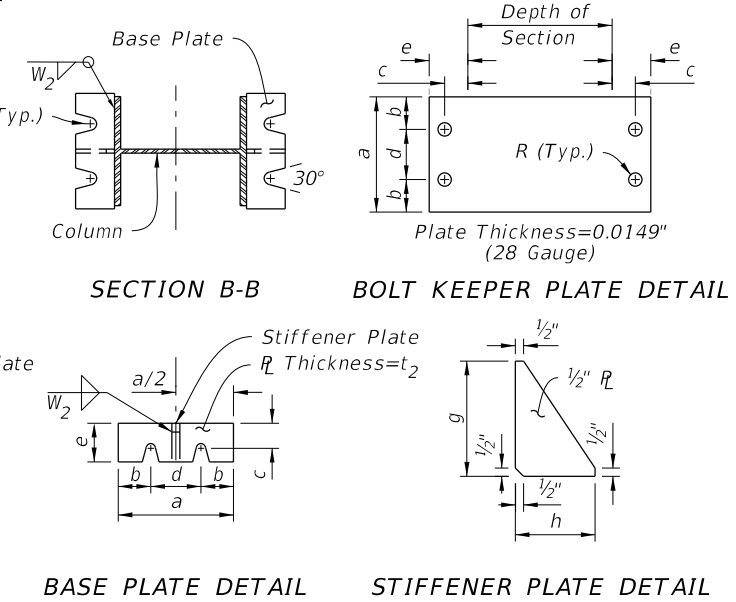
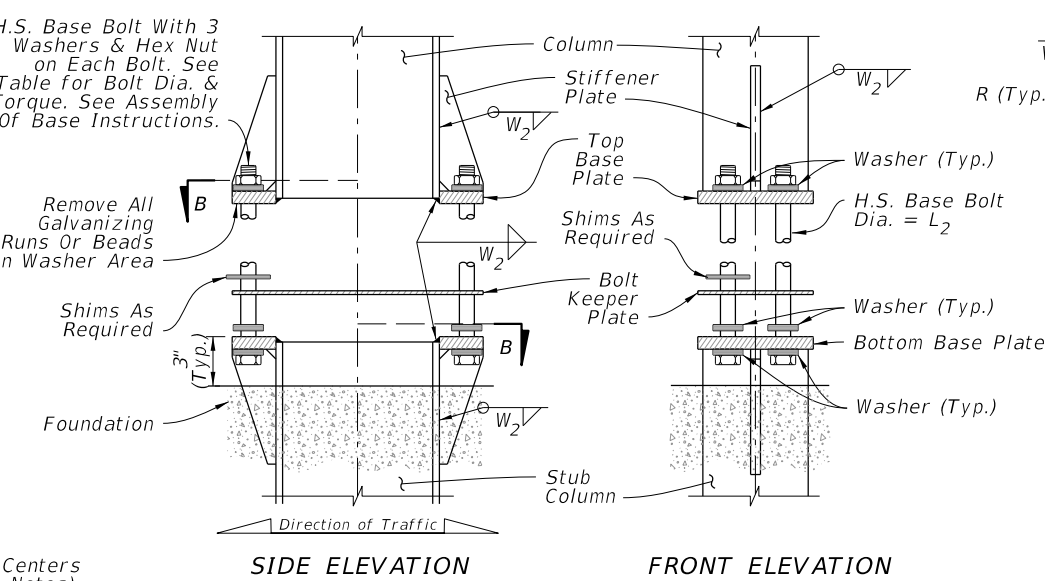
- Assembly of Base Instructions:
 - Place one washer on each Base Bolt between the Bottom Base Plate and the head of high strength Base Bolt; place the next washer between the Bottom Base Plate and the Bolt Keeper Plate; add the Top Base Plate section and place the third washer between the Top Base Plate and the Nut.
 - Shim as required to plumb column. Provide 2-0.0149" thick (28 gauge) and 2-0.0329" thick (21 gauge) shims per column.
- H.S. Base Bolt L Tightening Instructions:
 - Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).
 - Loosen each Base Bolt one turn.
 - Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the Table. Over tightened Base Bolts will not be permitted.
 - Burr threads at junction with nut to prevent nut loosening. Treat damaged galvanizing.
- Assemble Post to Stub with Base Bolts and three flat washers per bolt (See Base Connection Details). Tighten Base Bolts in accordance with Instructions with Note 2.
- Weld Base Plate to Post & Stub or if using the Alternate Connection Detail weld Base Plate and Stiffeners to Post and Stub.
- Orient Stub Post according to direction of traffic.

Revised note to add precast foundation option

Added note to explain the precast octagon shape option



H.S. Base Bolt With 3 Washers & Hex Nut on Each Bolt. See Table for Bolt Dia. & Torque. See Assembly Of Base Instructions.

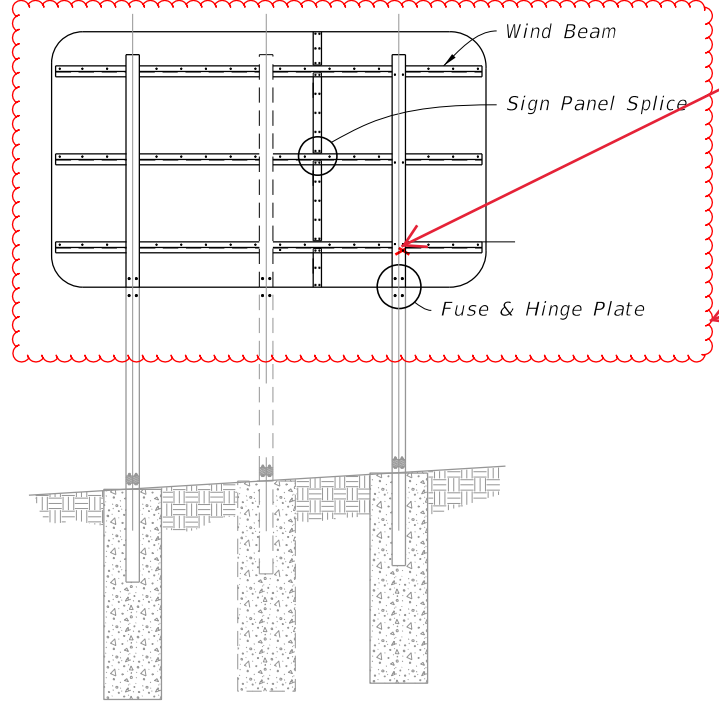


Steel Section*	ALTERNATIVE BASE CONNECTION DATA											
	a	b	c	d	e	t ₂	L ₂	R	Torque (lbf*in)	g	h	W ₂
W 6x12	4-3/4"	1-1/8"	1-3/16"	2-1/2"	2"	1/2"	5/8"	3/8"	270 ± 45	5-1/8"	2"	1/4"
W 8x18	5-3/4"	1-1/2"	1-3/8"	2-3/4"	2-3/16"	5/8"	3/4"	7/16"	445 ± 75	6-1/4"	2-3/16"	1/4"
W 8x24	7"	1-3/4"	1-3/8"	3-1/2"	2-3/8"	3/4"	3/4"	7/16"	445 ± 75	8"	2-3/8"	5/16"
W 10x33	8"	2"	1-9/16"	4"	2-3/4"	3/4"	1"	9/16"	580 ± 90	8"	2-3/4"	5/16"
W 12x45	8"	2"	1-9/16"	4"	3"	3/4"	1"	9/16"	580 ± 90	8"	3"	5/16"

* Designations: (Nominal Depth in inches) x (weight in pounds per linear foot).

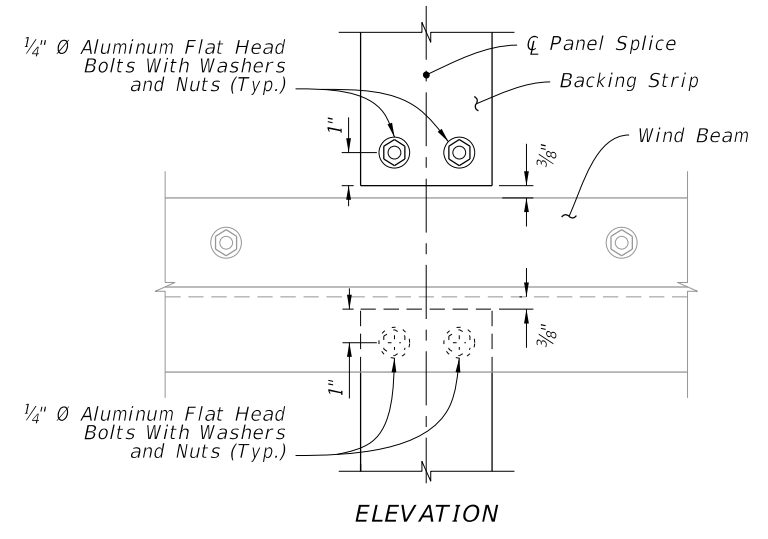
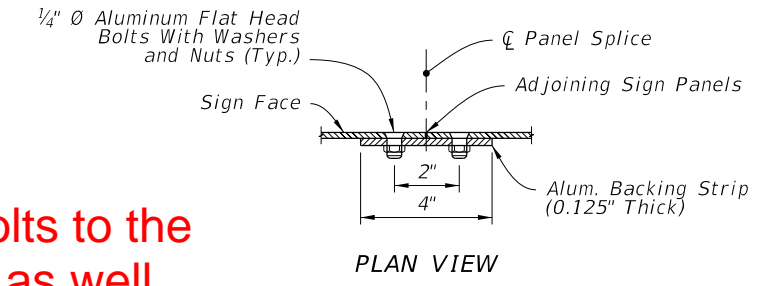
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LAST REVISION	DESCRIPTION:
11/01/22	23



Only 2 bolts per intersection

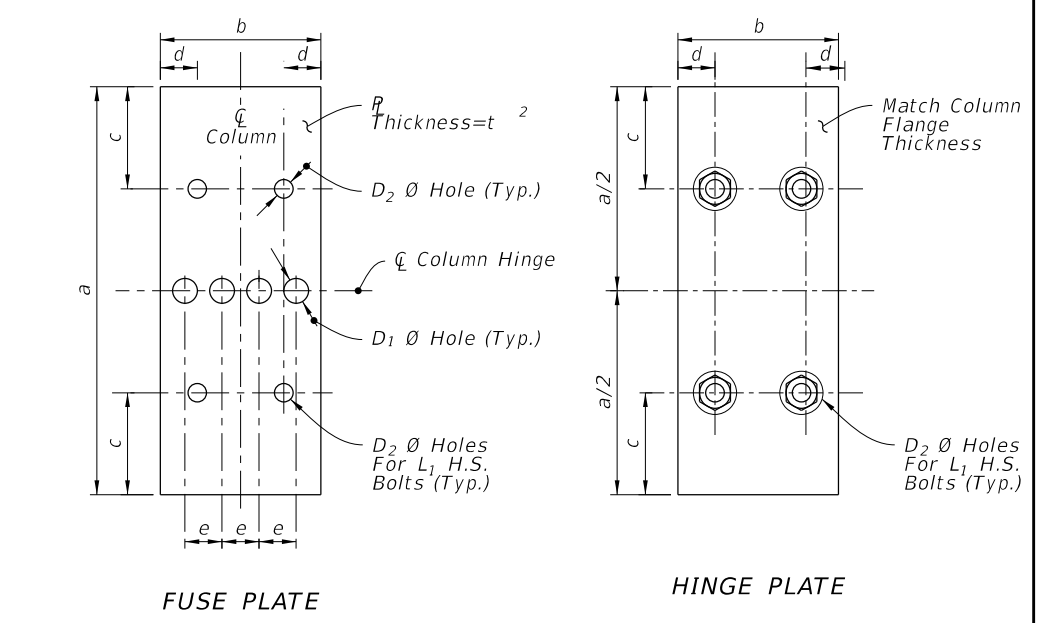
Added the bolts to the other beams as well



FUSE (HINGE) PLATE DATA

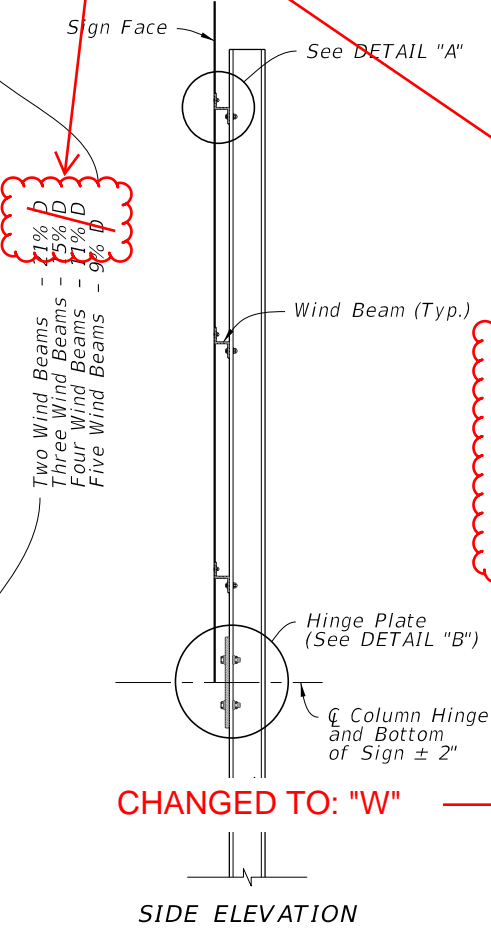
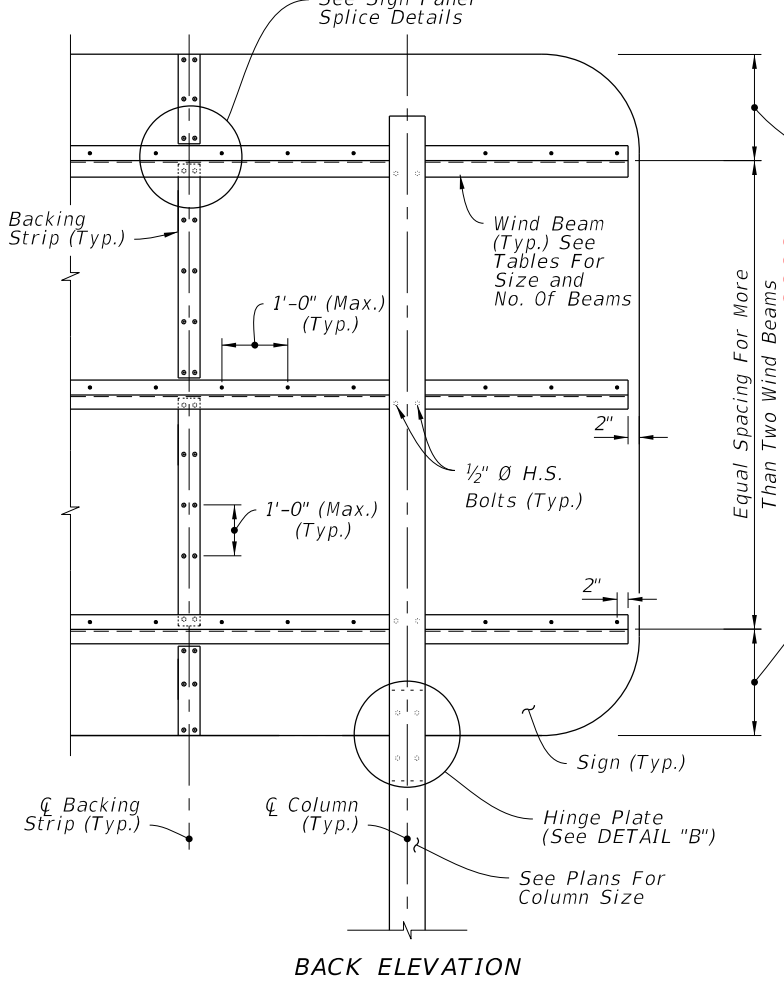
Steel Section*	a	b	c	d	e	t ₂	D ₁	D ₂	L ₁
S 3x5.7	7-1/4"	2-3/8"	1-1/4"	1/2"	9/16"	3/8"	7/16"	9/16"	1/2"
W 6x12	7-1/4"	4"	1-1/4"	7/8"	15/16"	3/8"	13/16"	11/16"	5/8"
W 8x18	8-1/4"	5-1/4"	1-3/8"	1-1/8"	1-1/4"	3/8"	1"	13/16"	3/4"
W 8x24	8-1/4"	6-1/2"	1-3/8"	1-1/2"	1-1/2"	1/2"	1"	13/16"	3/4"
W 10x33	9-1/4"	8"	2"	1-3/4"	1-3/4"	5/8"	1-1/8"	1-1/16"	1"
W 12x45	11"	8"	2"	1-3/4"	1-3/4"	3/4"	1-5/16"	1-1/16"	1"

* Designations: (Nominal Depth in inches) x (Weight in Pounds Per Linear Foot)



BACK ELEVATION CHANGED TO: "H"

MULTI-COLUMN SIGN ASSEMBLY



NUMBER OF WIND BEAMS BASED ON SIGN DEPTH (D)

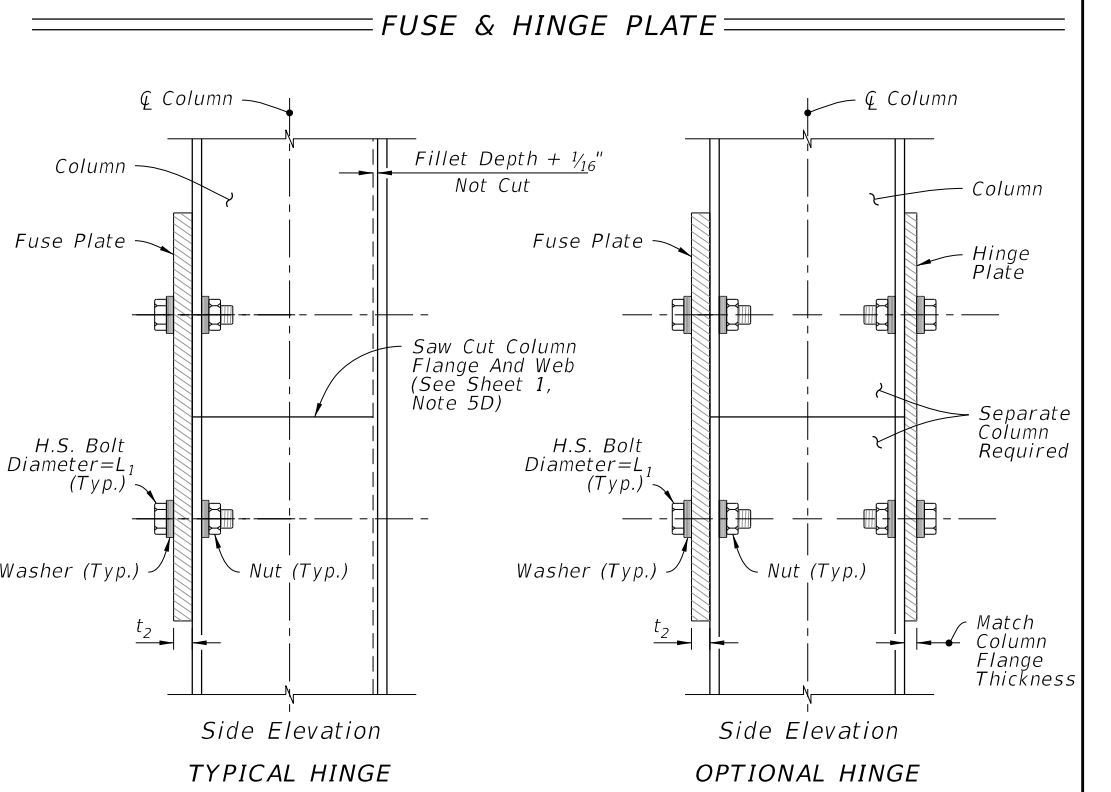
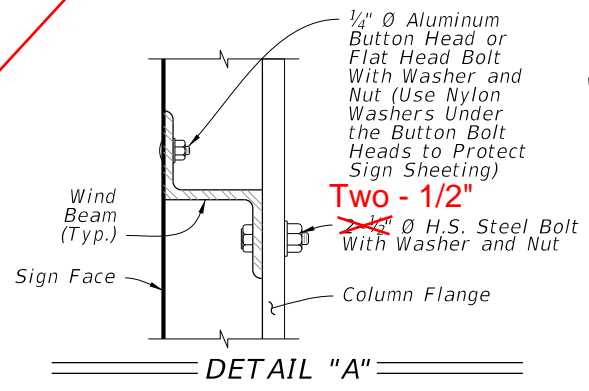
2 Beams	3 Beams	4 Beams	5 Beams
$D \leq 8'$	$8' < D \leq 12'$	$12' < D \leq 16'$	$16' < D \leq 20'$

WIND BEAM SIZE BASED ON SIGN LENGTH (L)

2 Columns	3 Columns	Aluminum Beam Size **
$L \leq 12'$	$L \leq 18'$	Z 1-3/4 x 1-3/4 x 1.09
$12' < L \leq 20'$	$18' < L \leq 30'$	Z 3 x 2-1/16 x 2.33
$20' < L \leq 25'$	$30' < L \leq 39'$	Z 4-1/16 x 3-1/8 x 3.57

**Designation gives (Member Depth in inches) x (Flange Width in inches) x (lb/ft)

CHANGED TO: "W"



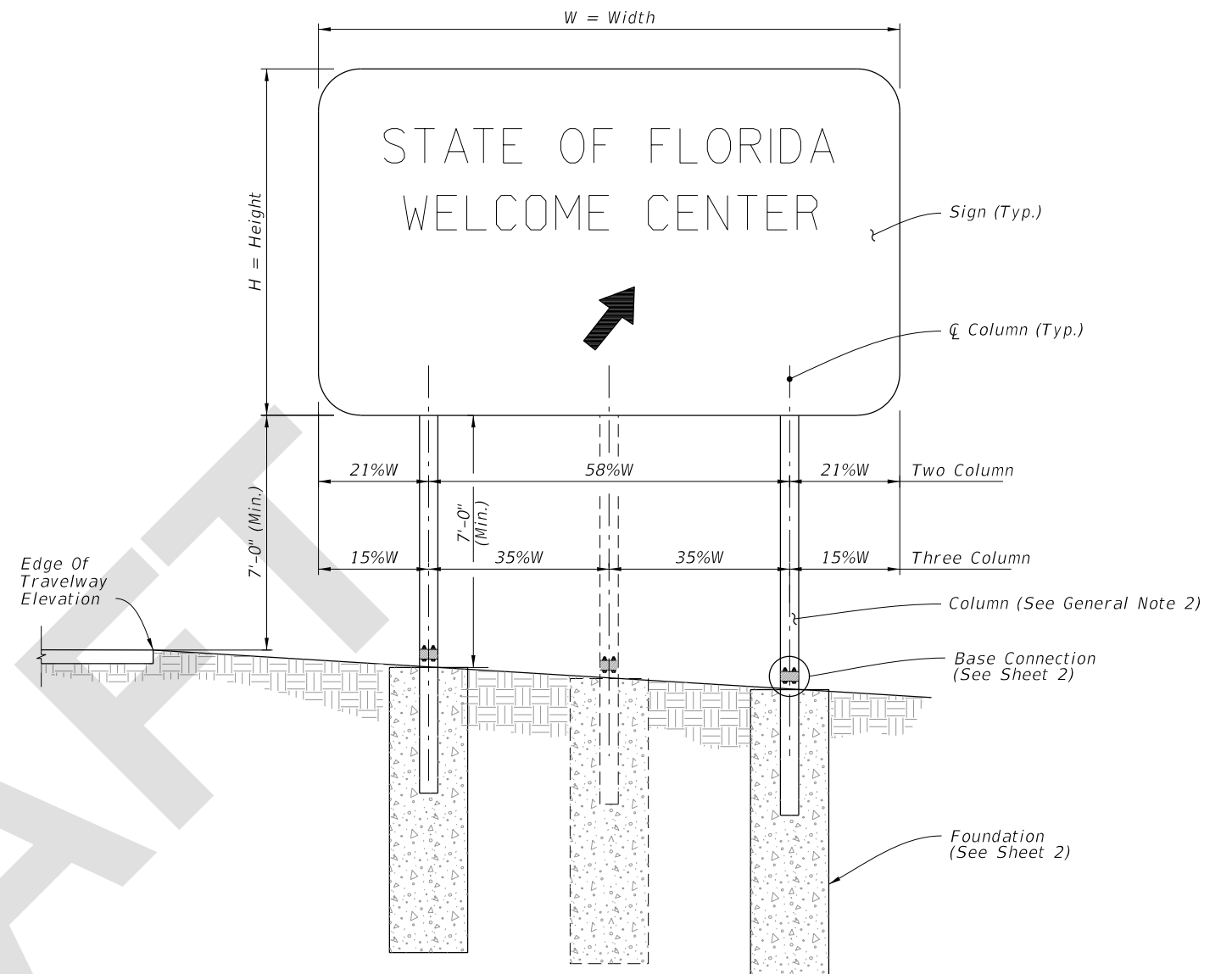
WIND BEAM, BACKING STRIP & FUSE/HINGE PLATE DETAILS

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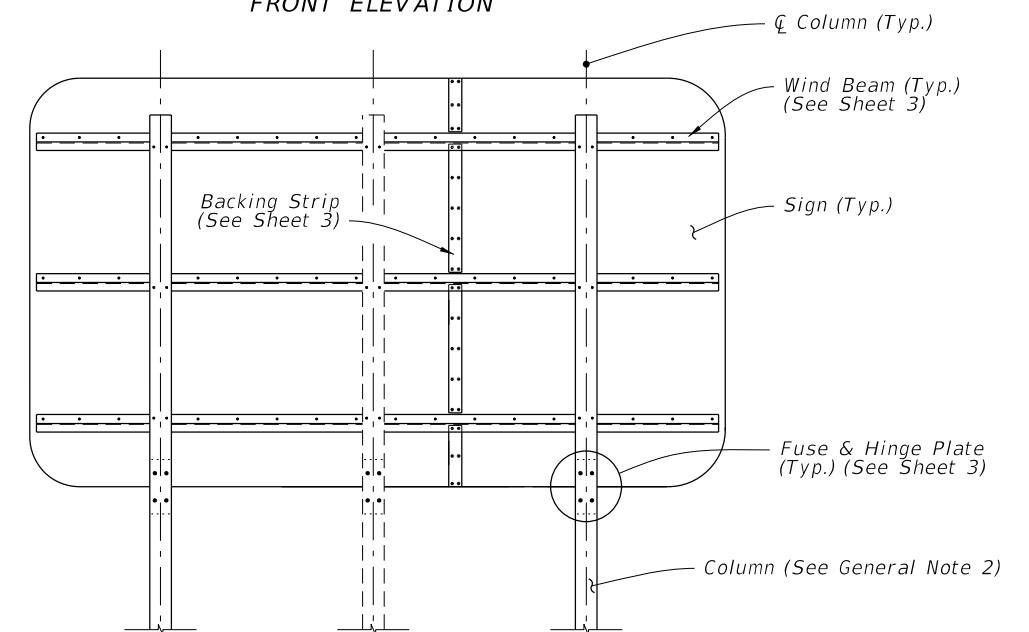
LAST REVISION	DESCRIPTION:
11/01/22	23

GENERAL NOTES:

1. Meet the requirements of Specification 700.
2. Verify Column lengths in the field prior to fabrication.
3. Shop drawings:
 - A. Sign Support Shop drawings are not required when fabricated in accordance with this Index and support columns do not exceed the width ("W") shown in the plans by more than 2'-0".
 - B. Sign Panels: Horizontal panel splices are allowed at interior wind beams for sign panels with a height ("H") greater than 10 feet. Shop drawings required for horizontal panel splice details.
 - C. When shop drawings are required, obtain approval prior to fabrication.




FRONT ELEVATION



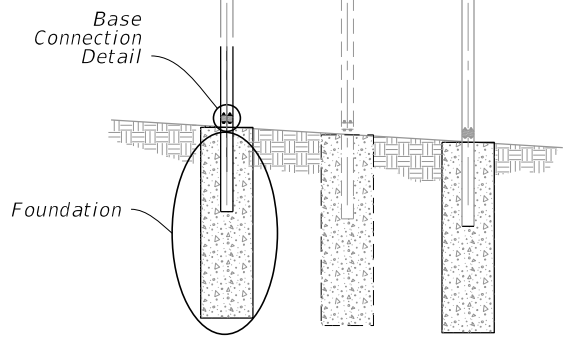
BACK ELEVATION

MULTI-COLUMN SIGN ASSEMBLY

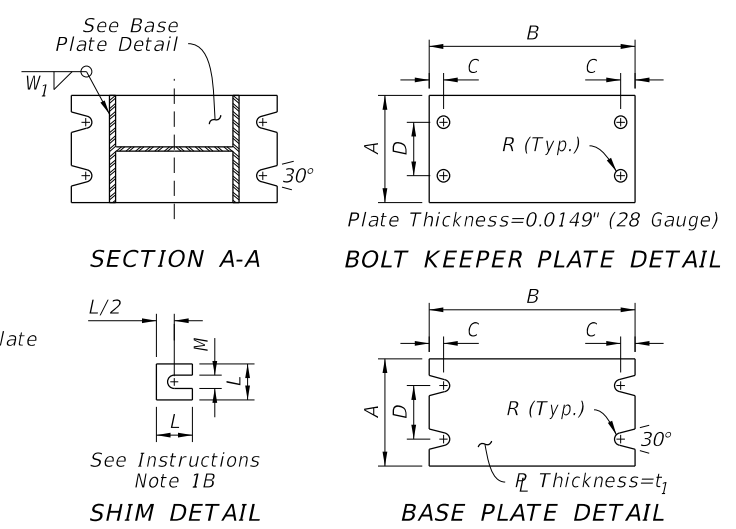
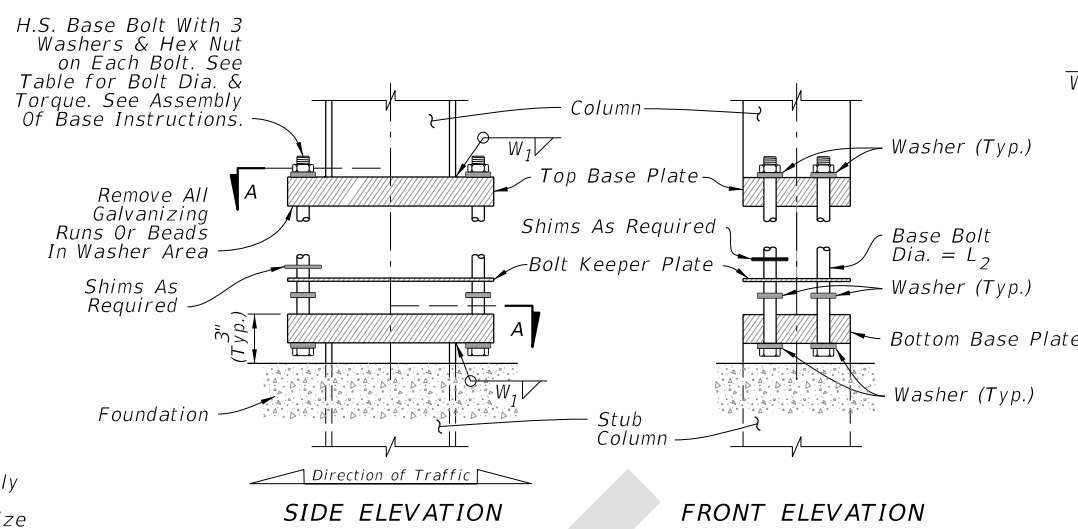
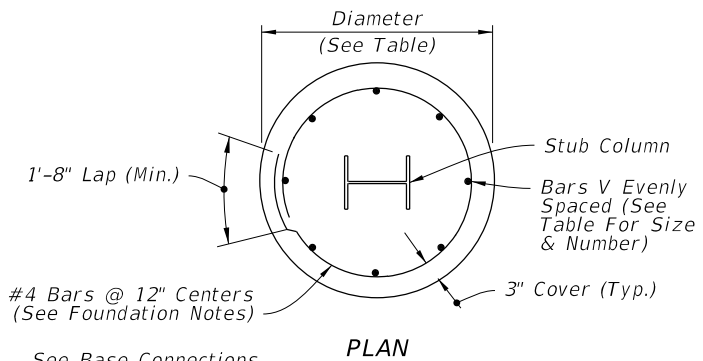
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LAST REVISION 11/01/23	REVISION	DESCRIPTION:	 FY 2024-25 STANDARD PLANS	MULTI-COLUMN GROUND SIGN	INDEX 700-020	SHEET 1 of 3
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STATE OF FLORIDA
WELCOME CENTER



FOUNDATION DATA				
Steel Post & Stub Section*	Dia.	Depth	Stub Column Length	Reinf. Bars V
S 3x5.7	2'-0"	4'-0"	3'-0"	10-#6
W 6x12	2'-0"	6'-0"	3'-0"	10-#6
W 8x18	2'-4"	7'-6"	4'-0"	8-#8
W 8x24	2'-4"	8'-6"	4'-0"	8-#8
W 10x33	2'-4"	10'-3"	4'-0"	8-#8
W 12x45	2'-8"	11'-3"	5'-0"	10-#8



Steel Post & Stub Section*	BASE CONNECTION DATA								SHIM		
	A	B	C	D	R	t ₁	L ₂	W ₁	Torque (lbf*in)	L	M
S 3x5.7	4"	7"	3/4"	2"	5/16"	1"	1/2"	1/4"	90 ± 20	1-1/4"	9/16"
W 6x12	4"	10"	3/4"	2"	3/8"	1-5/8"	5/8"	1/4"	270 ± 45	1-3/8"	11/16"
W 8x18	5-1/4"	12-1/2"	7/8"	2-3/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	1-3/4"	13/16"
W 8x24	6-1/2"	12-1/2"	7/8"	3-1/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	2-1/8"	13/16"
W 10x33	8"	16"	1-1/4"	4-3/4"	9/16"	2"	1"	1/2"	580 ± 90	2-3/8"	1-1/16"
W 12x45	10"	18"	1-1/4"	6"	9/16"	2"	1"	1/2"	580 ± 90	2-3/4"	1-1/16"

* Designations: (Nominal Depth in inches) x (weight in pounds per linear foot).

== MULTI-COLUMN SIGN ASSEMBLY ==

FOUNDATION NOTES:

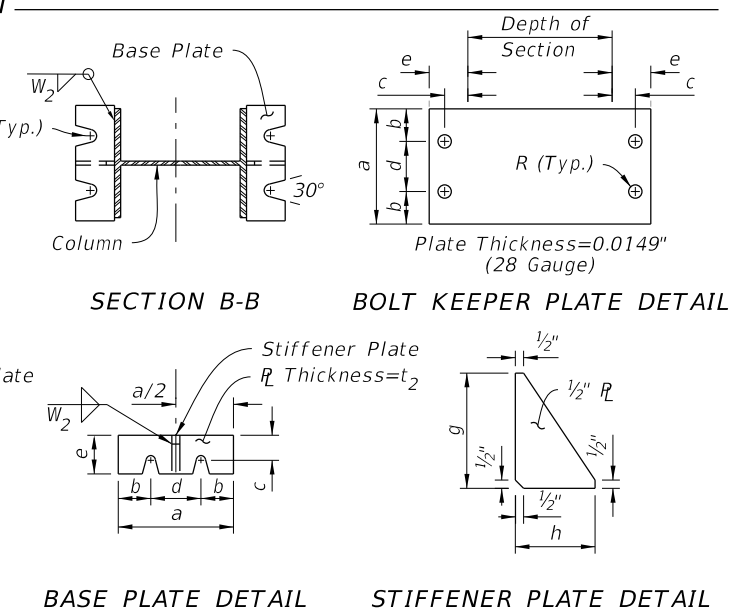
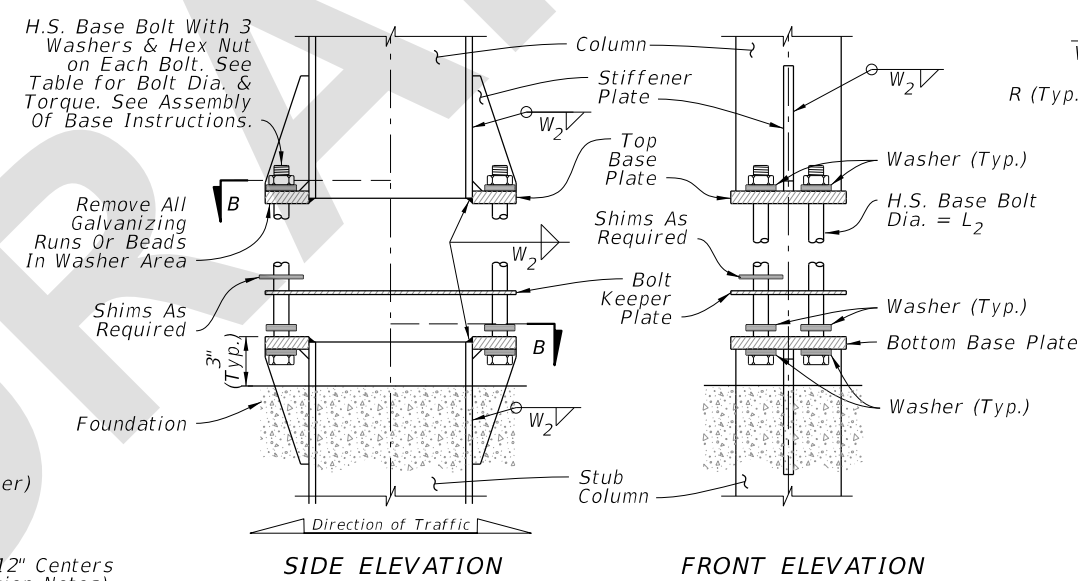
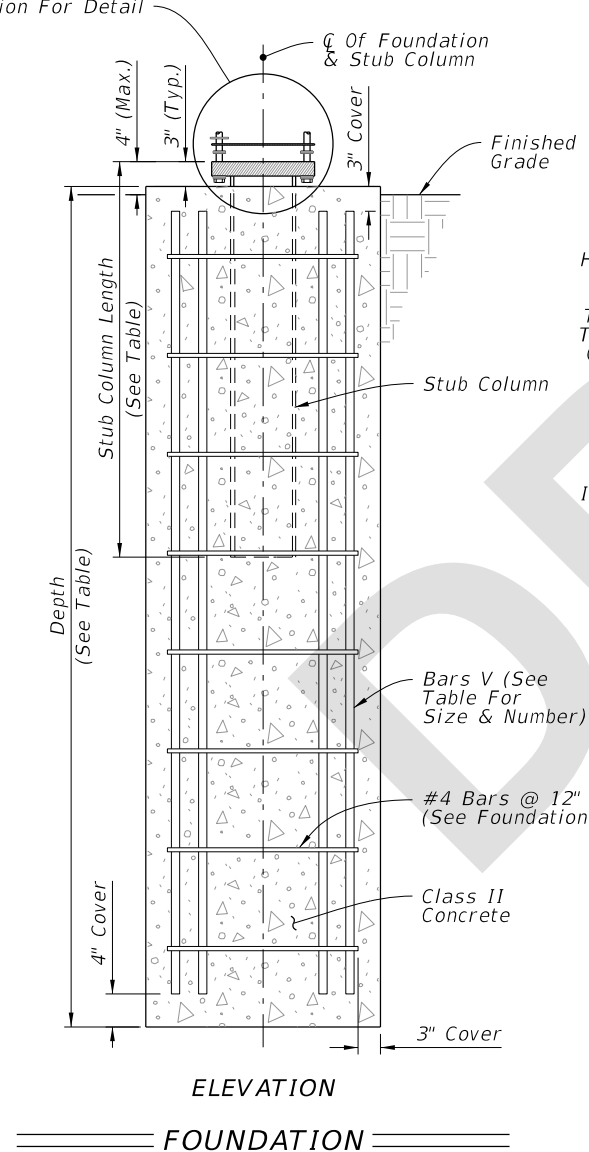
The foundation may be either precast or cast-in-place. Use Reinforcing bars or equivalent Welded Wire Reinforcement.

At the Contractor's option, the #4 tie bars at 12" o.c. may be replaced by D10 Spiral Wire @ 6" pitch, with three flat turns at the top and one flat turn at the bottom in accordance with Specification 415.

For precast foundations, the circular cross section shown may be substituted with an octagon shape. The out-to-out distance between parallel edges must be greater than or equal to the diameter in the Foundation Data table. Use the same reinforcing diameter with centered placement and a minimum 3" cover.

BASE CONNECTION NOTES:

- Assembly of Base Instructions:
 - Place one washer on each Base Bolt between the Bottom Base Plate and the head of high strength Base Bolt; place the next washer between the Bottom Base Plate and the Bolt Keeper Plate; add the Top Base Plate section and place the third washer between the Top Base Plate and the Nut.
 - Shim as required to plumb column. Provide 2-0.0149" thick (28 gauge) and 2-0.0329" thick (21 gauge) shims per column.
- H.S. Base Bolt L Tightening Instructions:
 - Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).
 - Loosen each Base Bolt one turn.
 - Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the Table. Over tightened Base Bolts will not be permitted.
 - Burr threads at junction with nut to prevent nut loosening. Treat damaged galvanizing.
- Assemble Post to Stub with Base Bolts and three flat washers per bolt (See Base Connection Details). Tighten Base Bolts in accordance with Instructions with Note 2.
- Weld Base Plate to Post & Stub or if using the Alternate Connection Detail weld Base Plate and Stiffeners to Post and Stub.
- Orient Stub Post according to direction of traffic.



Steel Section*	ALTERNATIVE BASE CONNECTION DATA											
	a	b	c	d	e	t ₂	L ₂	R	Torque (lbf*in)	g	h	W ₂
W 6x12	4-3/4"	1-1/8"	1-3/16"	2-1/2"	2"	1/2"	5/8"	3/8"	270 ± 45	5-1/8"	2"	1/4"
W 8x18	5-3/4"	1-1/2"	1-3/8"	2-3/4"	2-3/16"	5/8"	3/4"	7/16"	445 ± 75	6-1/4"	2-3/16"	1/4"
W 8x24	7"	1-3/4"	1-3/8"	3-1/2"	2-3/8"	3/4"	3/4"	7/16"	445 ± 75	8"	2-3/8"	5/16"
W 10x33	8"	2"	1-9/16"	4"	2-3/4"	3/4"	1"	9/16"	580 ± 90	8"	2-3/4"	5/16"
W 12x45	8"	2"	1-9/16"	4"	3"	3/4"	1"	9/16"	580 ± 90	8"	3"	5/16"

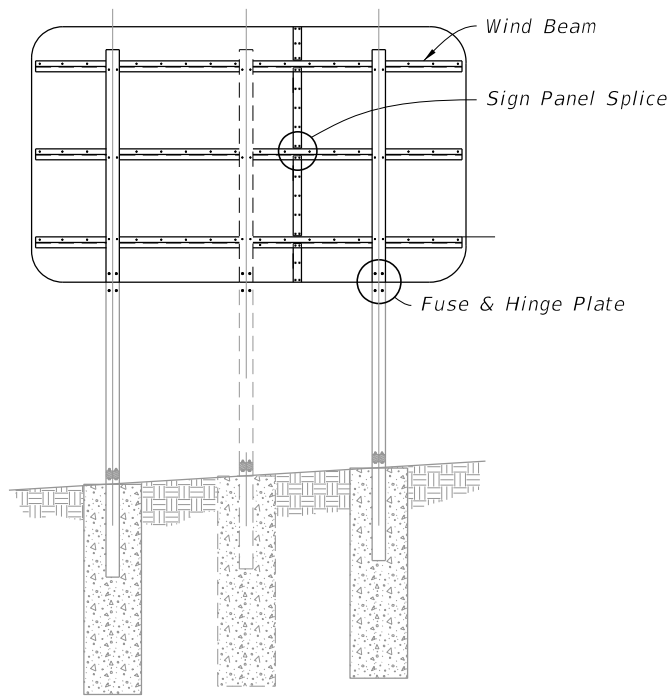
* Designations: (Nominal Depth in inches) x (weight in pounds per linear foot).

== ALTERNATIVE BASE CONNECTION ==

FOUNDATION AND BASE CONNECTION DETAILS

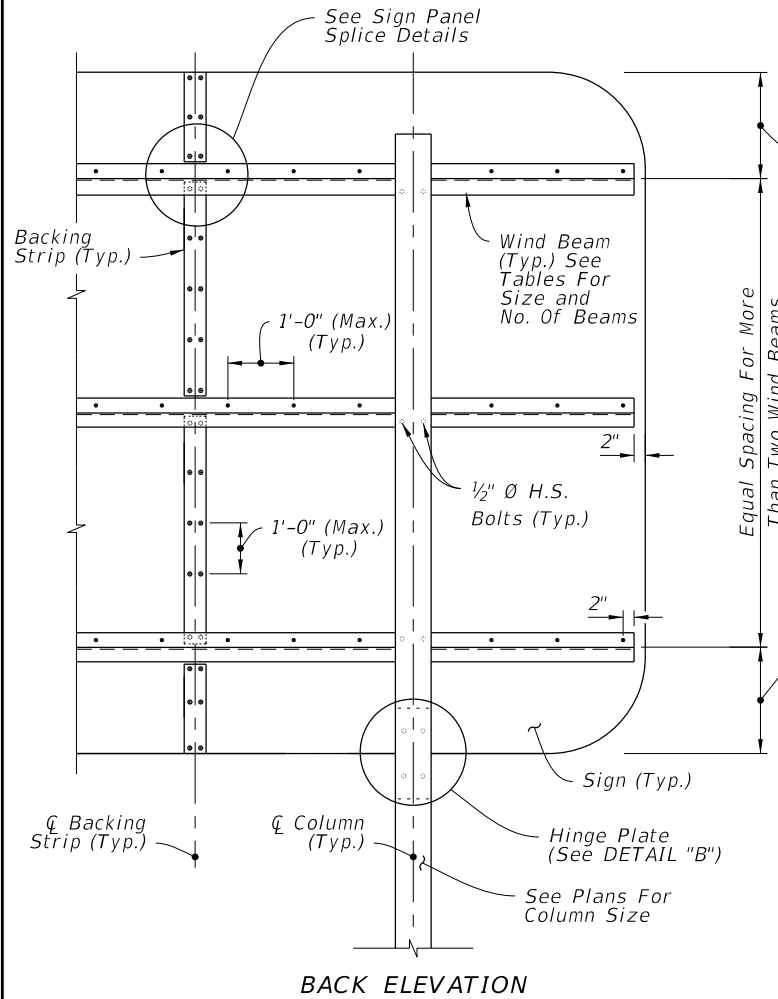
8/3/2023 8:28:53 AM

LAST REVISION 11/01/23	DESCRIPTION:		FY 2024-25 STANDARD PLANS	MULTI-COLUMN GROUND SIGN	INDEX	SHEET
					700-020	2 of 3



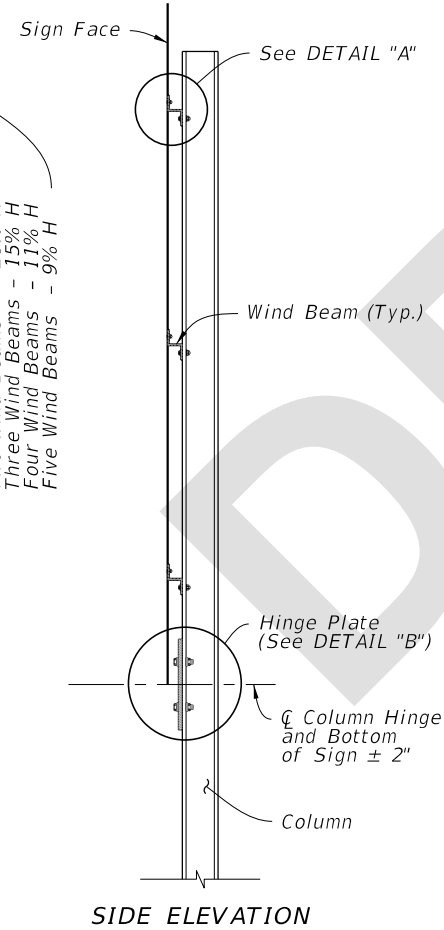
BACK ELEVATION

MULTI-COLUMN SIGN ASSEMBLY

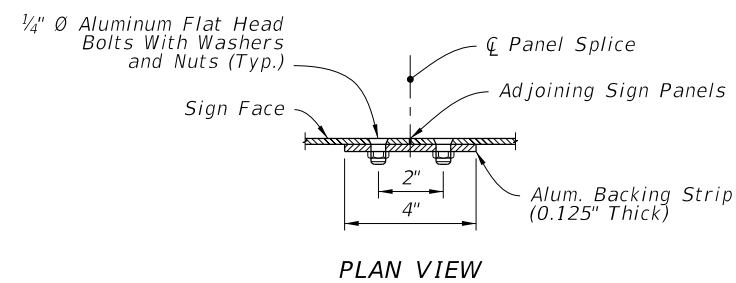


BACK ELEVATION

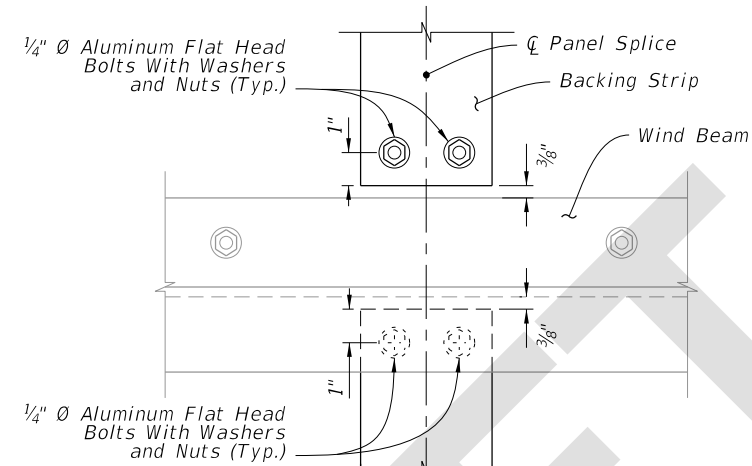
MULTI-COLUMN SIGN BACK PANEL



SIDE ELEVATION



PLAN VIEW



ELEVATION

SIGN PANEL SPLICE

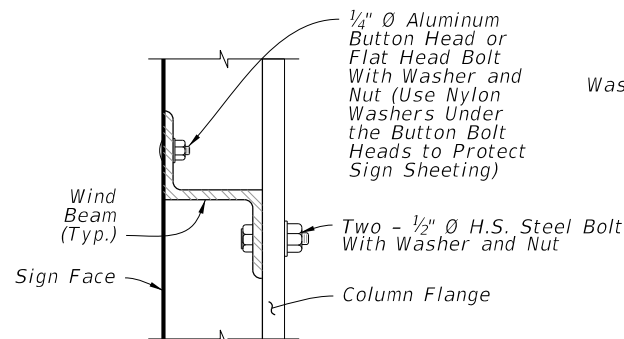
NUMBER OF WIND BEAMS BASED ON SIGN HEIGHT (H)

2 Beams	3 Beams	4 Beams	5 Beams
$H \leq 8'$	$8' < H \leq 12'$	$12' < H \leq 16'$	$16' < H \leq 20'$

WIND BEAM SIZE BASED ON SIGN WIDTH (W)

2 Columns	3 Columns	Aluminum Beam Size **
$W \leq 12'$	$W \leq 18'$	Z 1-3/4 x 1-3/4 x 1.09
$12' < W \leq 20'$	$18' < W \leq 30'$	Z 3 x 2-1/16 x 2.33
$20' < W \leq 25'$	$30' < W \leq 39'$	Z 4-1/16 x 3-1/8 x 3.57

**Designation gives (Member Depth in inches) x (Flange Width in inches) x (lb/ft)

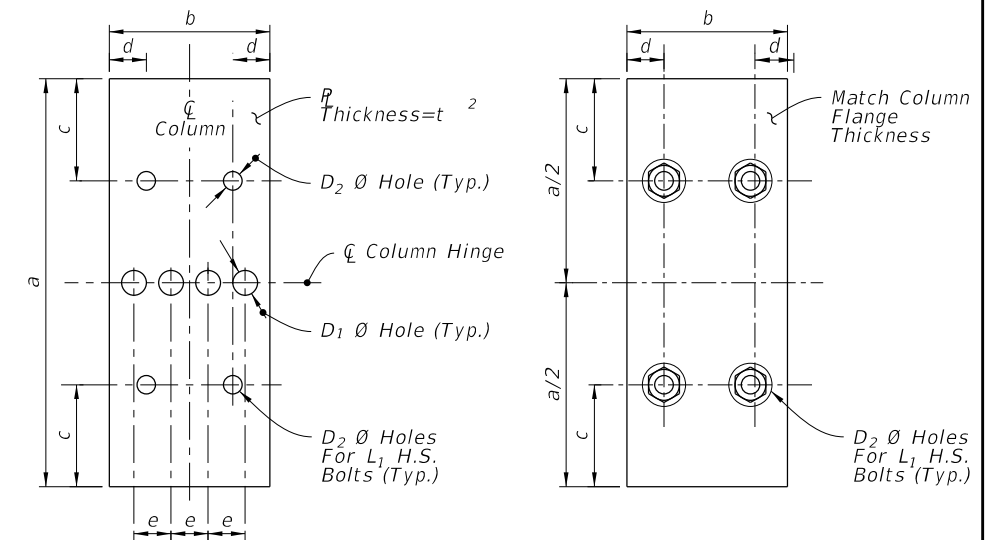


DETAIL "A"

FUSE (HINGE) PLATE DATA

Steel Section*	a	b	c	d	e	t ₂	D ₁	D ₂	L ₁
S 3x5.7	7-1/4"	2-3/8"	1-1/4"	1/2"	9/16"	3/8"	7/16"	9/16"	1/2"
W 6x12	7-1/4"	4"	1-1/4"	7/8"	15/16"	3/8"	13/16"	11/16"	5/8"
W 8x18	8-1/4"	5-1/4"	1-3/8"	1-1/8"	1-1/4"	3/8"	1"	13/16"	3/4"
W 8x24	8-1/4"	6-1/2"	1-3/8"	1-1/2"	1-1/2"	1/2"	1"	13/16"	3/4"
W 10x33	9-1/4"	8"	2"	1-3/4"	1-3/4"	5/8"	1-1/8"	1-1/16"	1"
W 12x45	11"	8"	2"	1-3/4"	1-3/4"	3/4"	1-5/16"	1-1/16"	1"

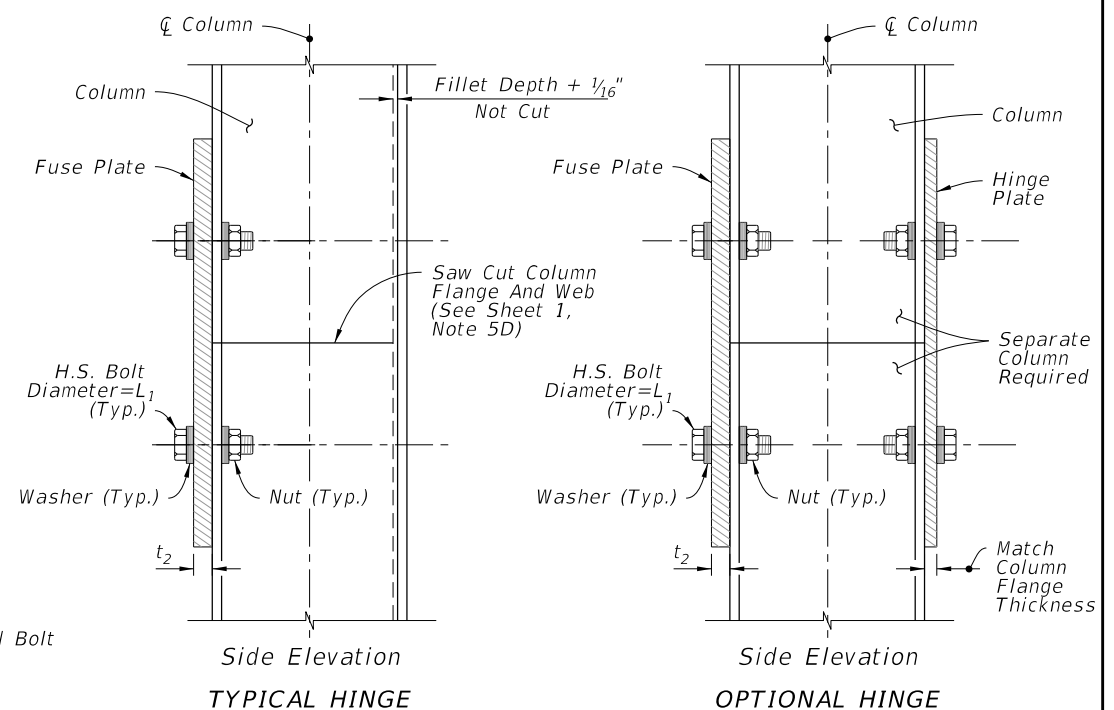
* Designations: (Nominal Depth in inches) x (Weight in Pounds Per Linear Foot)



FUSE PLATE

HINGE PLATE

FUSE & HINGE PLATE



Side Elevation
TYPICAL HINGE

Side Elevation
OPTIONAL HINGE

DETAIL "B"

WIND BEAM, BACKING STRIP & FUSE/HINGE PLATE DETAILS

8/3/2023 8:28:56 AM

LAST REVISION	DESCRIPTION:
11/01/23	