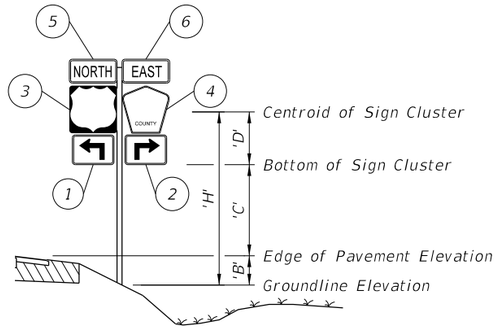
STEP 1: *Calculate the area and the centroid for an individual sign or a sign cluster. Note that the centroid and areas have been calculated for frequently used sign clusters. These are shown on Sheets 7, 8, and 9.*



	Size a x h	Centroid: Local $'Y_n'$	Centroid: Global $'X_n'$	Centroid: Global $'Y_n'$	$'A_n'$	$'X_n'$ x $'A_n'$	$'Y_n'$ x $'A_n'$
	(in. x in.)	(in.)	(in.)		(in.²)	(in.³)	(in.³)
1	21 x 15	7.5	–10.5–1.5–1.5 = –13.5	7.5	315	–4,252.5	2,362.5
2	21 x 15	7.5	10.5+1.5+1.5 = 13.5	7.5	315	+4,252.5	2,362.5
3	24 x 24	12	–12–1.5 = –13.5	15+1+12 = 28	576	–7,776	16,128
4	24 x 24	12	12+1.5 = 13.5	15+1+12 = 28	436	5,886	12,208
5	24 x 12	6	–12–1.5 = –13.5	15+1+24+1+6 = 47	288	–3,888	13,536
6	24 x 12	6	12+1.5 = 13.5	15+1+24+1+6 = 47	288	3,888	13,536
				TOTALS	2,218	–1,890	60,133

$\Sigma\ ('A_n')$ = 2,218 in.² = 15.4 ft.² $\quad \Sigma\ ('X_n' \times 'A_n')$ = –1,890 in.³ = –1.09 ft.³ $\quad \Sigma\ ('Y_n' \times 'A_n')$ = 60,133 in.³ = 34.8 ft.³

$$'X_c' = \frac{\Sigma\ ('X_n' \times 'A_n')}{\Sigma\ 'A_n'} = -0.1 \text{ ft.} \qquad 'Y_c' = \frac{\Sigma\ ('Y_n' \times 'A_n')}{\Sigma\ 'A_n'} = 2.26 \text{ ft.}$$

STEP 2: *Determine the height 'H' from groundline to the centroid of the individual sign or sign cluster.*

Assume: 'B' = 1 ft., 'C' = 7 ft.

Calculated: X_c' = –0.1 ft., Y_c' = 'D' 2.26 ft.

'H' = 'B' + 'C' + 'D' = 10.26 ft. ==> USE 11 ft. $\quad \Sigma\ ('A_n')$ = 15.4 ft.² ==> USE 16 ft.²

STEP 3: *Refer to the Aluminum Column (Post) Selection Tables and find the intersection point. See Sheet 3.*

ALUMINUM COLUMN (POST) SELECTION TABLE

TOTAL PANEL AREA (SF) \ 'H' (FT)	8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft
3 sf	2	2.5	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5
4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4
7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4
8 sf	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4
9 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4
10 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5
11 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5
12 sf	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5
13 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	5
14 sf	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5
15 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5
16 sf	3.5	4	4	4	4	4	4	4.5	4.5	5	5	5	6
17 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6
18 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6
19 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6	6
20 sf	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6	6
21 sf	4	4	4	4	4.5	4.5	5	5	5	6	6	6	6
22 sf	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6
23 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6	6
24 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6
25 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	6	8
26 sf	4	4.5	4.5	4.5	5	5	5	6	6	6	6	8	8
27 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8
28 sf	4	4.5	4.5	5	5	5	6	6	6	6	6	8	8
29 sf	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8	8
30 sf	4.5	4.5	5	5	5	6	6	6	6	6	8	8	8

For 'H' = 11 ft., Area = 16 ft.²

- *Refer to the Aluminum Column (Post) Selection Table, from Sheet 3 and shown here for reference.*
- *To determine the required post size, find the intersection of the row labeled "16 SF" and the column labeled "11 FT". For the example the intersection value is "4" (4" OD).*
- *In the Column (Post) and Foundation Table, the value "4" shows the design requires a 4.0" diameter and ¼" thick Aluminum Column (Post) and a 2.0' diameter and 3.5' deep Concrete Foundation and 3.0' Stub.*

STEP 4: *For sign assemblies with signs oriented in two directions, only the sign with the largest area should be analyzed to determine the Column (Post) requirements.*

GUIDE TO USE THIS INDEX

GENERAL NOTES:

1. *Shop Drawings:*
   This Index is considered fully detailed. Submit Shop Drawings only for minor modifications not detailed in the Plans.

2. *Aluminum Sign, Wind Beams and Column (Post) Materials:*
   - *A. Aluminum Plates: ASTM B209, Alloy 6061–T6*
   - *B. Aluminum Bars and Extruded Shapes: ASTM B221, Alloy 6061–T6*
   - *C. Aluminum Structural Shapes: ASTM B308 Alloy 6061–T6*
   - *D. Cast Aluminum: ASTM B26 Alloy A356–T6*
   - *E. Aluminum Weld Material: ER 5556 or 5356*

3. *Sign Mounting Bolts, Nuts and Washers:*
   - *A. Aluminum Button Head and Flat Head Bolts: ASTM F468 Alloy 2024–T4*
   - *B. Aluminum Hex Nuts: ASTM F467 Alloy 6061–T6 or 6262–T9*
   - *C. Aluminum Washers: ASTM B221, Alloy 7075–T6*

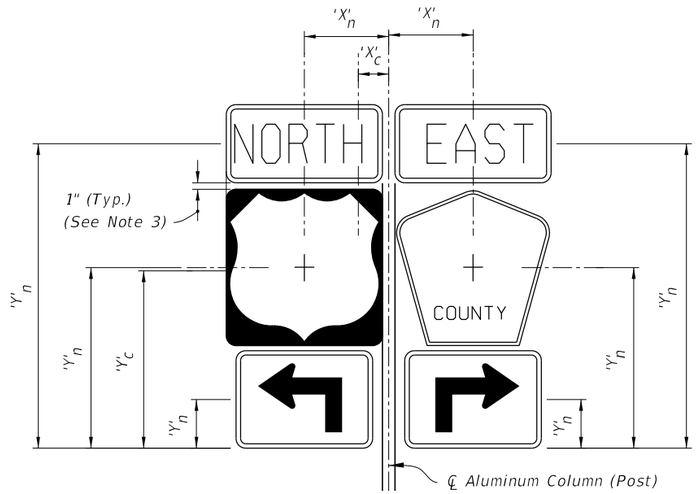
4. *Stainless Steel Bolts, Nuts and Washers may be used in lieu of the Aluminum button head and flat head bolts as follows:*
   - *A. Stainless Steel Bolts: ASTM F 593 Alloy Group 2, Condition A, CW1 or SH1*
   - *B. Stainless Steel Nuts: ASTM F594*

5. *Sign Column (Post) Bolts, Nuts and Washers:*
   - *A. Galvanized U–Bolt (Column): ASTM A449 or ASTM A193 B7 according to ASTM F2329 with double nuts.*
   - *B . Aluminum Bolts (Sleeve): ASTM F468, Alloy 6061–T6 or 2024–T4 with Hex Nuts F467 6061–T6 or 6262–T9 and Washers B221, Alclad 2024–T4*
   - *C. Galvanized High Strength Hex Head Bolts (BaseBolts): ASTM F3125, Grade A325, Type 1*
   - *D. Galvanized Hex Nuts: ASTM A563 Grade DH*
   - *E. Galvanized Washers: ASTM F436*
   - *F. Galvanized Bolts (Sleeve): ASTM A307 with Galvanized Hex Nuts and Washers*

6. *Coatings:*
   - *A. Aluminum Fasteners: Anodic coating (0.0002 inches min.) and chromate sealed*
   - *B. High Strength Steel Bolts Nuts and Washers: ASTM F2329*
   - *C. All other steel items (excluding stainless steel): Hot–dip Galvanize – ASTM A123*
   - *D. Repair damaged galvanizing in accordance with Specification 562*

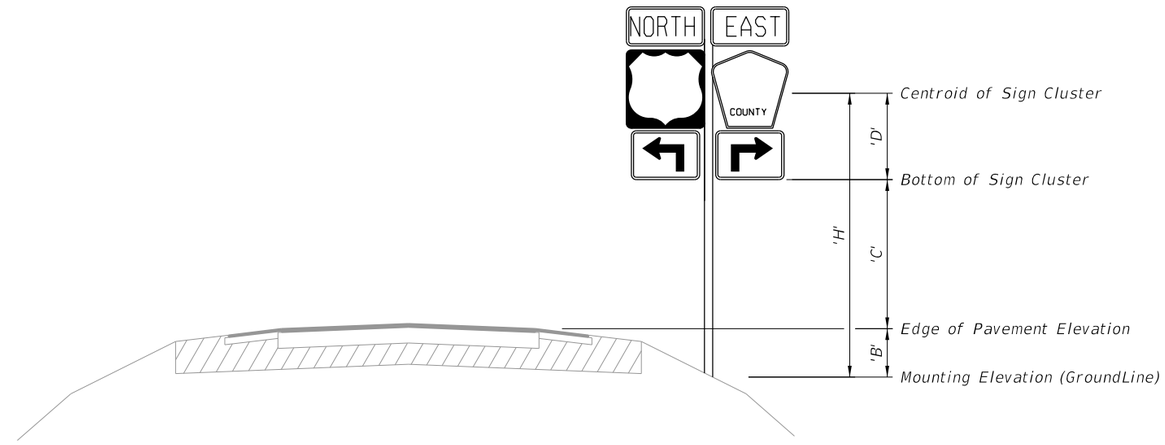
7. *BREAKAWAY SUPPORTS REQUIREMENTS: Install non–frangible aluminum column (post) (larger than 3½") with breakaway supports as shown on Sheet 4. Signs shielded by barrier wall or guardrail do not require breakaway support.*

GENERAL NOTES AND DESIGN EXAMPLE



SIGN CLUSTER

$$'X'_c = \frac{\Sigma\ (\ 'X'_n \times 'A'_n\ )}{\Sigma\ 'A'_n} \qquad 'C' = 'Y'_c = \frac{\Sigma\ (\ 'Y'_n \times 'A'_n\ )}{\Sigma\ 'A'_n}$$



TYPICAL SECTION

'A'n = Area of individual sign

'B' = Height of the edge of pavement from the mounting elevation

'C' = Height of the the bottom of the sign or cluster from the edge of pavement elevation

'D' = Height of the centroid of the sign or cluster from the bottom of the sign or cluster

h = Individual sign height

'H' = Height of sign or cluster centroid from groundline

a = Individual sign width

'X'c = Centroid horizontal location of sign or cluster from ℄ Aluminum Column (Post)

'Y'c = Centroid height of sign or cluster from bottom of sign cluster

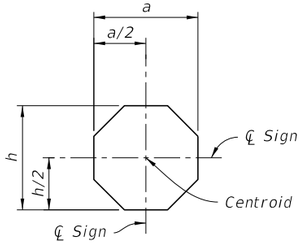
'X'n = Individual sign centroid horizontal location from ℄ Aluminum Column (Post)

'Y'n = Individual Sign centroid height from bottom of sign cluster

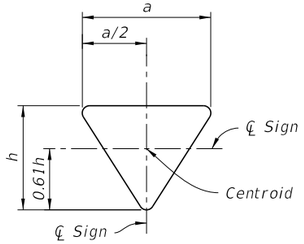
NOTES:

1. For 'B' & 'C' see Index 700-101 and Roadway Plans.
2. Do not exceed an area of 30 SF or a width of 60 inches for a sign or a sign cluster, including rotated sign panels.
3. Vertical sign spacing (1" shown on Sign Cluster detail) also applies to rotated signs.

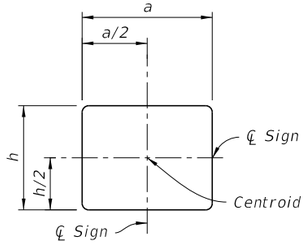
CALCULATION OF SIGN CLUSTER CENTROID



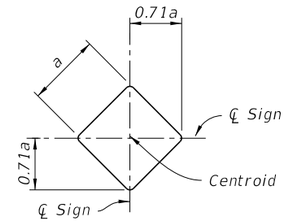
STOP



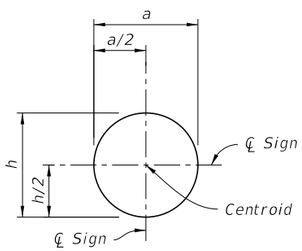
YIELD



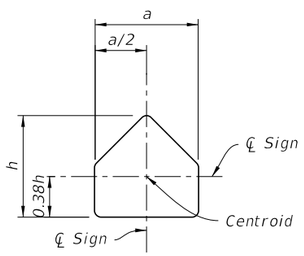
RECTANGLE



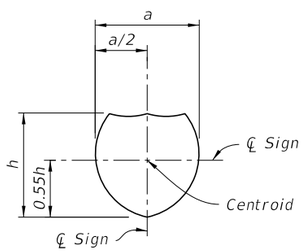
DIAMOND



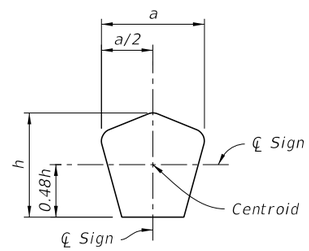
RAILROAD



SCHOOL



SHIELD



COUNTY

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DESIGN EXAMPLE - CENTROID

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FY 2020-21 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	700-010	2 of 10

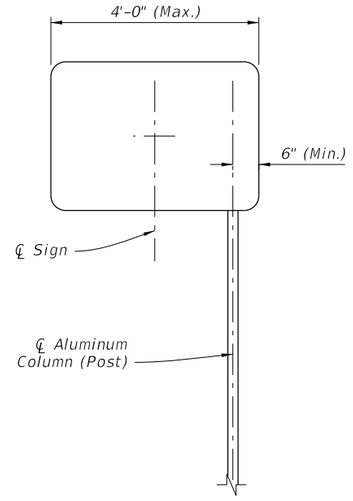
ALUMINUM COLUMN (POST) SELECTION TABLE (O.D. in.)

TOTAL PANEL AREA (SF)	'H' (FT) 8 ft	9 ft	10 ft	11 ft	12 ft	13 ft	14 ft	15 ft	16 ft	17 ft	18 ft	19 ft	20 ft
3 sf	2	2.5	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5
4 sf	2.5	2.5	3	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5
5 sf	2.5	3	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4
6 sf	3	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4
7 sf	3	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4
8 sf	3.5	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4
9 sf	3.5	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4
10 sf	3.5	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5
11 sf	3.5	3.5	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5
12 sf	3.5	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5
13 sf	3.5	3.5	4	4	4	4	4	4	4	4.5	4.5	4.5	5
14 sf	3.5	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5
15 sf	3.5	4	4	4	4	4	4	4.5	4.5	4.5	5	5	5
16 sf	3.5	4	4	4	4	4	4	4.5	4.5	5	5	5	6
17 sf	4	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6
18 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6
19 sf	4	4	4	4	4	4.5	4.5	4.5	5	5	6	6	6
20 sf	4	4	4	4	4.5	4.5	4.5	5	5	5	6	6	6
21 sf	4	4	4	4	4.5	4.5	5	5	5	6	6	6	6
22 sf	4	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6
23 sf	4	4	4	4.5	4.5	5	5	5	6	6	6	6	6
24 sf	4	4	4.5	4.5	4.5	5	5	6	6	6	6	6	6
25 sf	4	4	4.5	4.5	5	5	5	6	6	6	6	6	8
26 sf	4	4.5	4.5	4.5	5	5	5	6	6	6	6	8	8
27 sf	4	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8
28 sf	4	4.5	4.5	5	5	5	6	6	6	6	6	8	8
29 sf	4.5	4.5	4.5	5	5	6	6	6	6	6	8	8	8
30 sf	4.5	4.5	5	5	5	6	6	6	6	6	8	8	8

FOUNDATION TABLE

Column (Post) Size		Foundation Alternatives				
		Driven Post *		Concrete (Class I)		
Outside Diameter (in)	Wall Thk. (in)	Embedment Depth (ft) without Soil Plate	Embedment Depth (ft) with Soil Plate	Diameter (ft)	Embedment Depth (ft)	Stub Length (ft)
2.0	1/8	4.5	2.5	---	---	---
2.5	1/8	5.0	3.0	---	---	---
3.0	1/8	5.0	3.5	---	---	---
3.5	3/16	6.0	4.5	---	---	---
4.0	1/4	---	---	2.0	3.5	3.0
4.5	1/4	---	---	2.0	4.0	3.0
5.0	1/4	---	---	2.0	4.5	3.0
6.0	1/4	---	---	2.0	5.0	3.0
8.0	1/4	---	---	2.0	5.5	3.0

* *INSTALLING FRANGIBLE COLUMN SUPPORTS:*
Columns (posts) 3½" O.D. and less are considered frangible and may be installed either by driving the post or setting the posts in preformed holes. Backfill preformed holes with suitable material tamped in layers not thicker than 6" (to provide adequate compaction) or filled with flowable fill or bagged concrete.



OFFSET SIGN

NOTE:
1. For offset sign placement see Index 700-101.
2. For signs with widths greater than 4' see Index 700-011.
3. Offset signs with driven posts require a soil plate.

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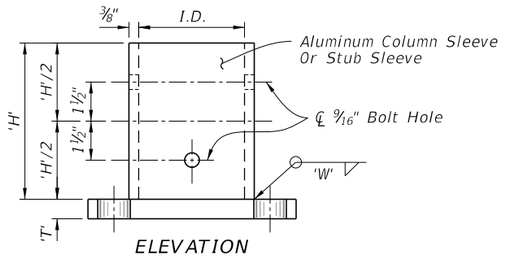
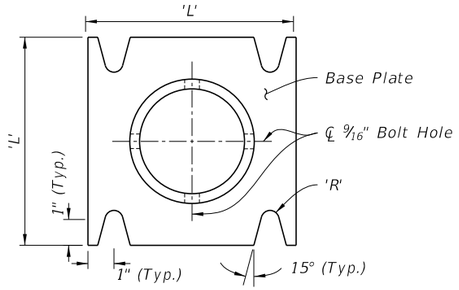
COLUMN AND FOUNDATION TABLES



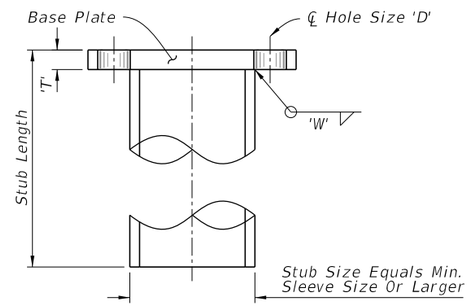
ELEVATION



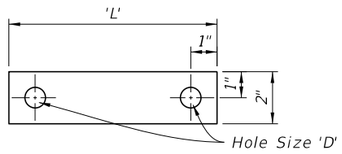
PLAN

(Welded Or Sandcast)

STUB/SLEEVE & BASE PLATE DETAILS

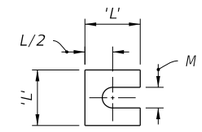


(Welded)



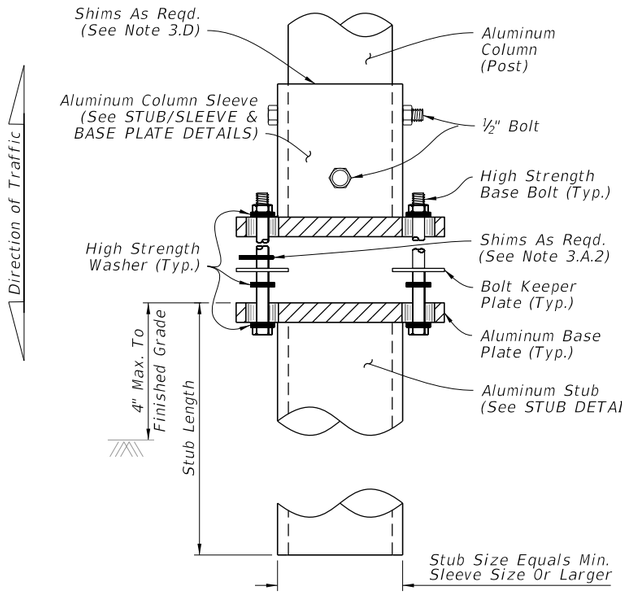
28 Ga. Thick Aluminum Strip
2 Reqd. Per Base

BOLT KEEPER PLATE DETAIL

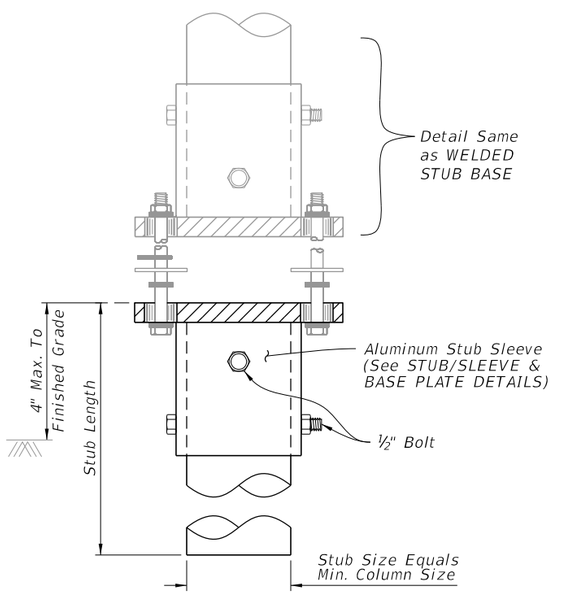


Provide 2~0.0149" Thick (28 gauge)
and 2~0.0329" Thick (21 gauge)
Brass Shims Per Post

SHIM DETAIL

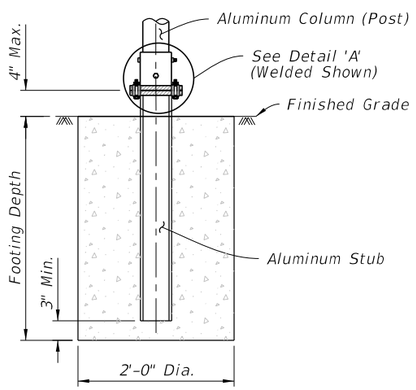


WELDED STUB BASE

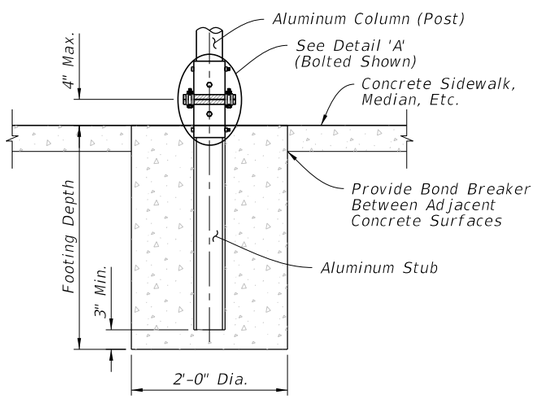


BOLTED STUB/SLEEVE BASE

STUB DETAIL



DETAIL 'A'



SLIP BASE AND FOUNDATION DETAIL
(Non-Frangible Column, Typ.)

SLIP BASE AND FOUNDATION DETAIL IN CONCRETE
(Non-Frangible Column In Crossovers, Medians & Sidewalks)

NOTES:

1. Foundation Notes for Slip Base:

   A. Place Stub into concrete foundation given in the FOUNDATION TABLE using Class I Concrete.

2. Slip Base Fabrication Notes:

   A. The difference between the O.D. of the post and I.D. of the Sleeve must be 1/16" or less.

   B. Either a Welded Stub Base or Bolted Stub/Sleeve Base may be used in Slip Base.

   C. For cast base plates bolted to foundation stubs, use a foundation stub the same size as the sign column (Post).

3. Slip-Base Assembly Instructions:

   A. Assemble the Slip Base as follows:
      1. Insert Post into Sleeve and connect using 2 ~ ½" diameter Sleeve Bolts.
      2. Assemble top base plate to bottom Base Plate using Base Bolts (High strength) with 3 washers per bolt. (See Detail 'A'):
         a. Place one washer on each Base Bolt between the bottom Base Plate and the Base Bolt head.
         b. Place the next washer between the Bottom Base Plate and the Bolt Keeper Plate.
         c. Use brass or galvanized steel shims to plumb the post.
         d. Add the top base plate section.
         e. Place the third washer between the Top Base Plate and the Nut.

   B. Orient the Bolt Keeper Plates in the Direction of Traffic.

   C. Tighten Base Bolts as follows:
      1. 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).
      2. Loosen each Base Bolt one turn.
      3. Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the SLIP BASE DETAILS Table. Over tightened Base Bolts are not permitted.
      4. Distort bolt threads at the junction with nuts to prevent loosening. Repair damaged galvanizing.

   D. Obtain a tight sleeve connection by placing 4 galvanized steel shims between the column (post) and sleeve. Space the shims evenly around the perimeter of the column (1 between each bolt hole, 4 total). Use shims that are 1" shorter than the height of the sleeve.

Column (Post) Size	SLIP BASE DETAILS													
Outside Dia.	Wall Thickness	Sleeve I.D. (Max.)	Sleeve Height 'H'	Weld 'W'	Base Plate 'L'	Base Plate 'T'	Radius 'R'	Base Bolt Size	Base Bolt Length	Base Plate Torque ft-lbs	Base Plate Torque in.-lbs	Hole Size 'D'	SHIM L	SHIM M
4"	¼"	4 1/16"	6"	¼"	8"	¾"	1 1/32"	⅝"	3"	29	345	1 1/16"	1 3/8"	1 1/16"
4½"	¼"	4 9/16"	6"	¼"	8"	⅞"	1 1/32"	⅝"	3¼"	29	345	1 1/16"	1 3/8"	1 1/16"
5"	¼"	5 1/16"	7"	¼"	8"	⅞"	1 1/32"	⅝"	3¼"	29	345	1 1/16"	1 3/8"	1 1/16"
6"	¼"	6 1/16"	8"	¼"	9"	1"	1 3/32"	¾"	3½"	46	554	1 3/16"	1 3/4"	1 3/16"
8"	¼"	8 1/16"	10"	¼"	11"	1"	1 5/32"	⅞"	3¾"	53	640	1 5/16"	2⅜"	1 1/16"

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SLIP BASE AND FOUNDATION DETAILS

LAST REVISION	REVISION	DESCRIPTION:			
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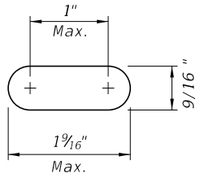
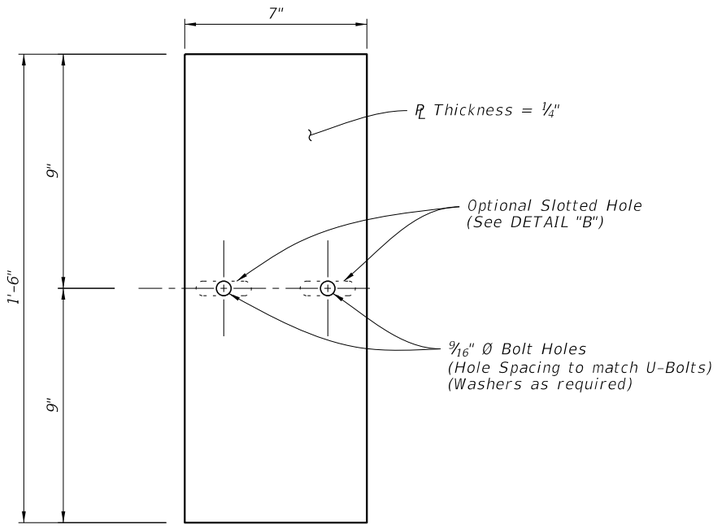
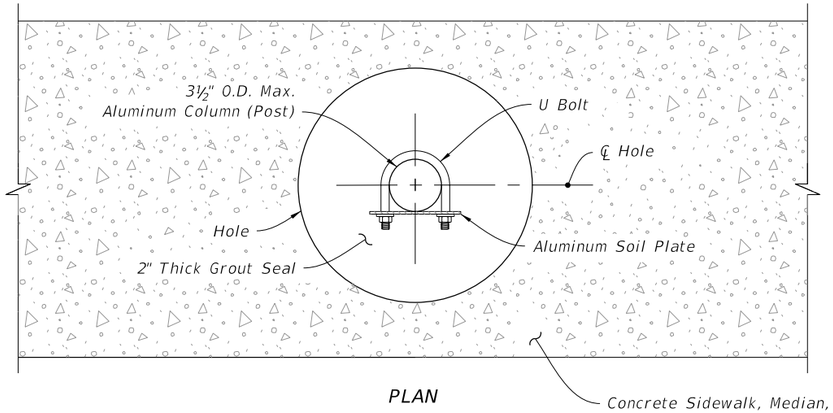


Optional Slotted Holes

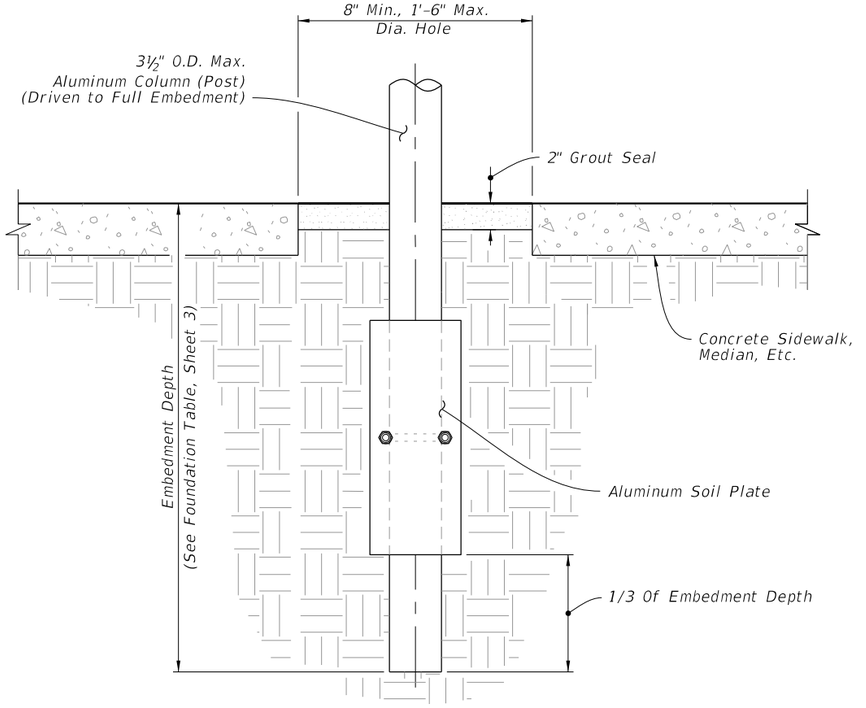
DETAIL "B"



ALUMINUM SOIL PLATE DETAIL



PLAN



ELEVATION

DRIVEN POST DETAIL

(Frangible Post In Crossovers, Medians & Sidewalks)

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DRIVEN POST AND SOIL PLATE DETAIL

LAST REVISION	REVISION	DESCRIPTION:				
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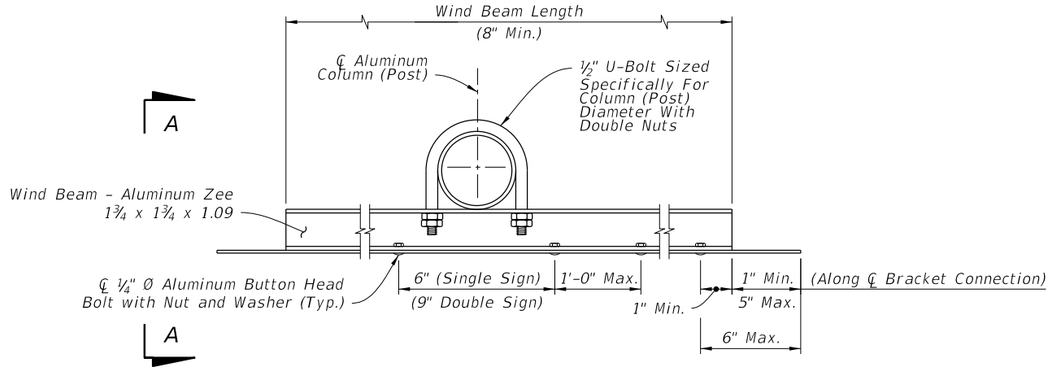
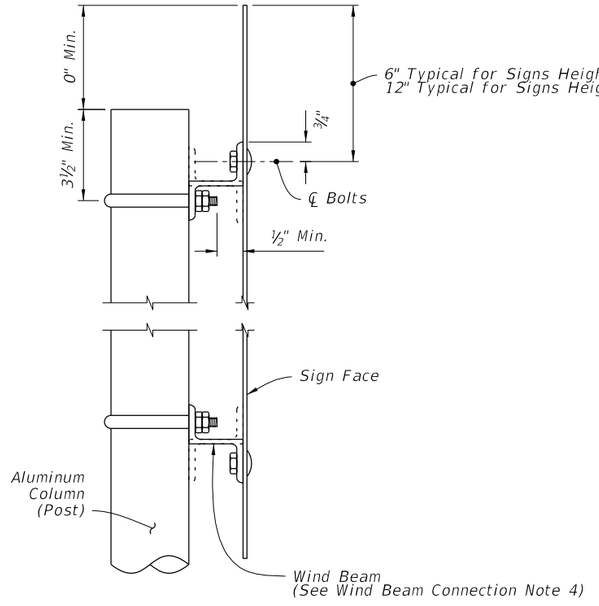
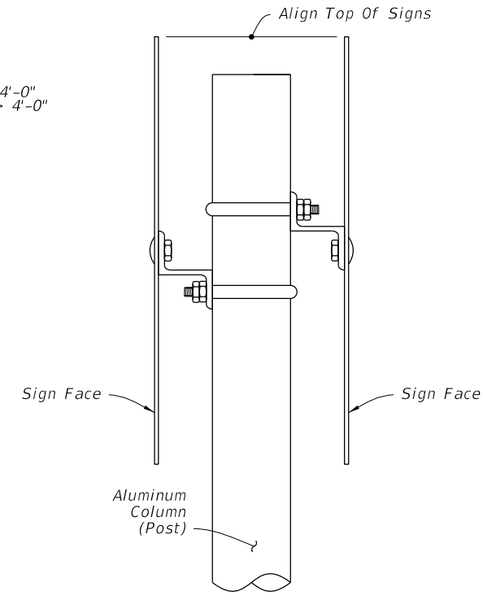


WIND BEAM CONNECTIONS DETAILS



SINGLE SIGN DETAIL



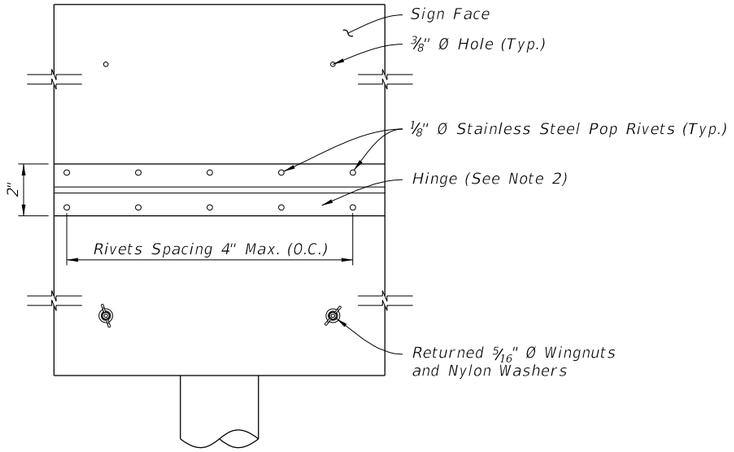
NOTE: Use the area and the centroid location of the largest sign to determine aluminum column (post) size.

BACK-TO-BACK SIGN DETAIL

VIEW A-A

NOTES:

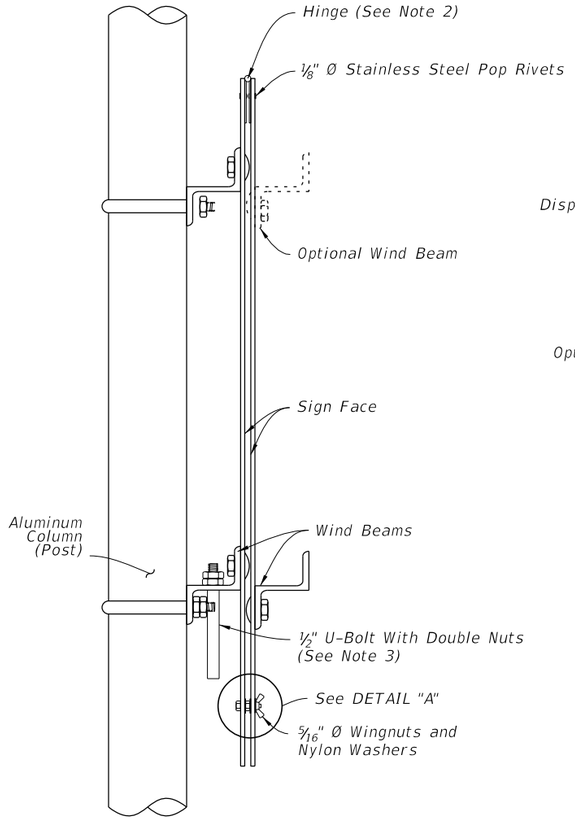
1. $\frac{5}{16}$" Ø stainless steel hex head bolts with nylon washer under head and washer under nut may be used in lieu of ¼" Ø aluminum button or flat head bolts.
2. Use nylon washers (provided by the sheeting supplier) under the bolt heads to protect sign sheeting.
3. Slots up to 2" long are allowed in wind beams to accommodate U-Bolts for varying Column (Post) diameters.
4. Wind beams may be oriented in either direction.
5. For signs greater than 66" in height, install a third wind beam evenly spaced between the top and bottom wind beams. For signs up to 12" in height, use only one wind beam at ℄ Sign. Install two wind beams on signs with heights greater than 12" and less than or equal to 66".



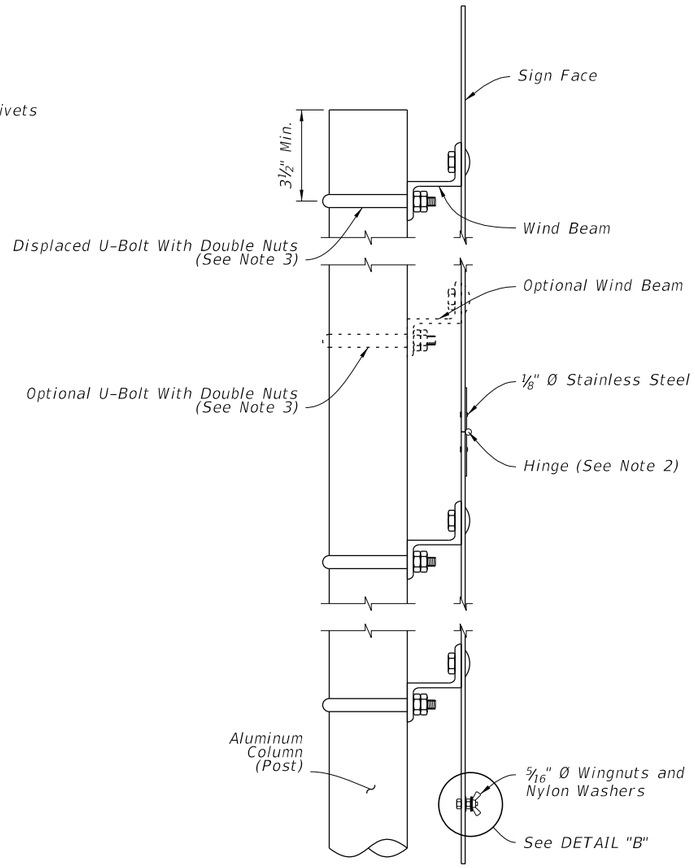
SIGN PANEL FRONT VIEW

NOTES:

1. Install sign in the undeployed (down) position.
2. Provide a continuous stainless steel hinge with minimum 0.060" leaf thickness, 2" open width and 0.120" pin diameter. Stake the hinge at both ends to prevent pin movement.
3. Stowed 1 or 2 pcs of U-Bolt sized specifically for column (post) diameter with double nuts. Stowed on Wind Beam and displaced while deploying the sign.
4. Bolts, Wingnuts, and washers at the bottom corners of the sign hold the sign panels closed when in the undeployed (down) position. Store bolts, wingnuts, and washers in the bottom corner of the sign when in the deployed (up) position.

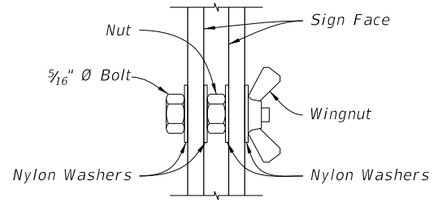


UNDEPLOYED SIGN DETAIL

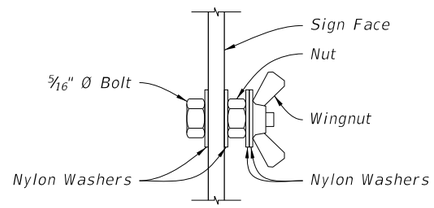


DEPLOYED SIGN DETAIL

SIGN PANEL SIDE VIEW



DETAIL "A"



DETAIL "B"

WIND BEAM CONNECTION FOR FLIP UP SIGN

Size	Area	Total Area	Centroid
36x12	3.00 SF	6.31 SF	1.75 Ft.
24x24	3.31 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	8.18 SF	1.92 Ft.
30x30	5.18 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	10.46 SF	2.10 Ft.
36x36	7.46 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	16.25 SF	2.48 Ft.
48x48	13.25 SF		

Size	Area	Total Area	Centroid
24x24	3.31 SF	6.31 SF	1.71 Ft.
24x18	3.00 SF		

Size	Area	Total Area	Centroid
30x30	5.18 SF	10.18 SF	2.19 Ft.
30x24	5.00 SF		

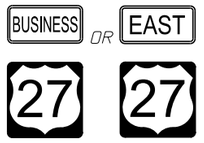
Size	Area	Total Area	Centroid
36x36	7.46 SF	12.46 SF	2.55 Ft.
30x24	5.00 SF		

Size	Area	Total Area	Centroid
36x12	3.00 SF	13.18 SF	2.87 Ft.
30x30	5.18 SF		
30x24	5.00 SF		

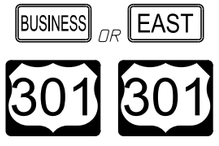
Size	Area	Total Area	Centroid
36x12	3.00 SF	15.46 SF	3.15 Ft.
36x36	7.46 SF		
30x24	5.00 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	6.19 SF	1.60 Ft.
24x24	4.00 SF		

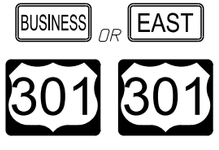
Size	Area	Total Area	Centroid
21x15	2.19 SF	7.19 SF	1.52 Ft.
30x24	5.00 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	6.00 SF	1.53 Ft.
24x24	4.00 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	7.00 SF	1.45 Ft.
30x24	5.00 SF		

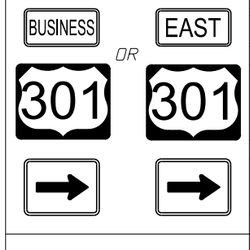


Size	Area	Total Area	Centroid
30x15	3.13 SF	8.13 SF	1.66 Ft.
30x24	5.00 SF		

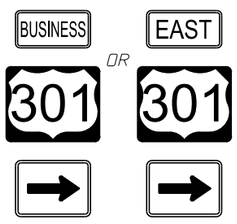
Size	Area	Total Area	Centroid
24x24	4.00 SF	6.19 SF	1.73 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x24	5.00 SF	7.19 SF	1.81 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	8.19 SF	2.26 Ft.
24x24	4.00 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	9.19 SF	2.27 Ft.
30x24	5.00 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
30x15	3.13 SF	10.32 SF	2.49 Ft.
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	10.19 SF	2.80 Ft.
24x12	2.00 SF		
24x24	4.00 SF		
21x15	2.19 SF		

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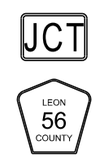
Size	Area	Total Area	Centroid
24x12	2.00 SF	11.19 SF	2.76 Ft.
24x12	2.00 SF		
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	13.45 SF	3.16 Ft.
30x15	3.13 SF		
30x24	5.00 SF		
21x15	2.19 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	3.90 SF	1.57 Ft.
18x18	1.71 SF		



Size	Area	Total Area	Centroid
21x15	2.19 SF	5.22 SF	1.72 Ft.
24x24	3.03 SF		

Size	Area	Total Area	Centroid
21x15	2.19 SF	6.95 SF	1.87 Ft.
30x30	4.76 SF		

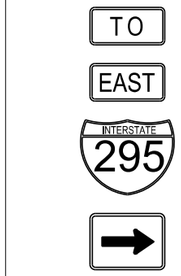
Size	Area	Total Area	Centroid
18x18	1.71 SF	3.90 SF	1.26 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x24	3.03 SF	5.22 SF	1.62 Ft.
21x15	2.19 SF		

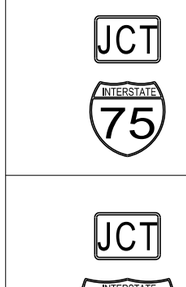
Size	Area	Total Area	Centroid
30x30	4.76 SF	6.95 SF	1.97 Ft.
21x15	2.19 SF		

Size	Area	Total Area	Centroid
24x12	2.00 SF	9.39 SF	2.87 Ft.
24x12	2.00 SF		
24x24	3.20 SF		
21x15	2.19 SF		

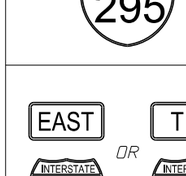
Size	Area	Total Area	Centroid
24x12	2.00 SF	10.18 SF	2.84 Ft.
24x12	2.00 SF		
30x24	3.99 SF		
21x15	2.19 SF		



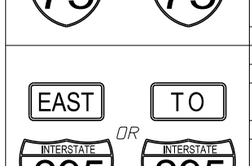
Size	Area	Total Area	Centroid
30x15	3.13 SF	12.44 SF	3.26 Ft.
30x15	3.13 SF		
30x24	3.99 SF		
21x15	2.19 SF		



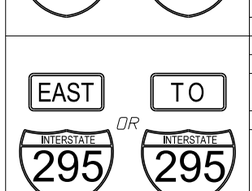
Size	Area	Total Area	Centroid
21x15	2.19 SF	5.39 SF	1.75 Ft.
24x24	3.20 SF		



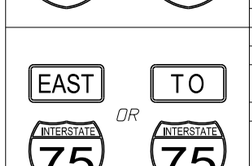
Size	Area	Total Area	Centroid
21x15	2.19 SF	6.18 SF	1.67 Ft.
30x24	3.99 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	5.20 SF	1.67 Ft.
24x24	3.20 SF		



Size	Area	Total Area	Centroid
24x12	2.00 SF	5.99 SF	1.60 Ft.
30x24	3.99 SF		



Size	Area	Total Area	Centroid
30x15	3.13 SF	7.12 SF	1.81 Ft.
30x24	3.99 SF		

Size	Area	Total Area	Centroid
30x15	3.13 SF	10.33 SF	2.27 Ft.
36x36	7.20 SF		

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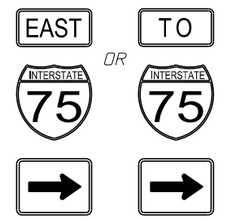
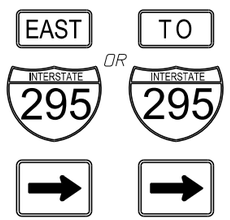
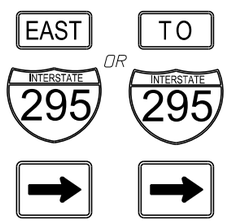
Size	Area	Total Area	Centroid
30x15	3.13 SF	12.12 SF	2.18 Ft.
45x36	8.99 SF		



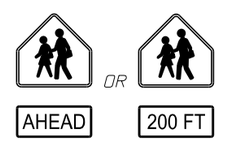
Size	Area	Total Area	Centroid
24x12	2.00 SF	7.39 SF	2.30 Ft.
24x24	3.20 SF		
21x15	2.19 SF		



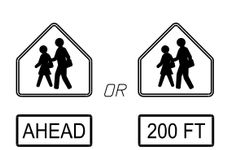
Size	Area	Total Area	Centroid
24x12	2.00 SF	8.18 SF	2.31 Ft.
30x24	3.99 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
30x15	3.13 SF	9.31 SF	2.55 Ft.
30x24	3.99 SF		
21x15	2.19 SF		



Size	Area	Total Area	Centroid
30x30	4.69 SF	6.69 SF	1.61 Ft.
24x12	2.00 SF		



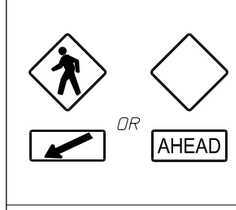
Size	Area	Total Area	Centroid
30x30	4.69 SF	8.44 SF	1.77 Ft.
30x18	3.75 SF		

Size	Area	Total Area	Centroid
36x36	6.75 SF	10.50 SF	2.06 Ft.
30x18	3.75 SF		

Size	Area	Total Area	Centroid
30X30	4.69 SF	6.69 SF	1.61 Ft.
24X12	2.00 SF		

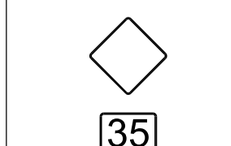
Size	Area	Total Area	Centroid
30X30	4.69 SF	8.44 SF	1.77 Ft.
30X18	3.75 SF		

Size	Area	Total Area	Centroid
36X36	6.75 SF	10.50 SF	2.06 Ft.
30X18	3.75 SF		

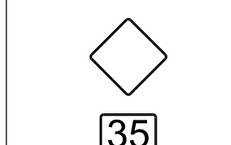


Size	Area	Total Area	Centroid
30X30	6.25 SF	8.25 SF	2.28 Ft.
24X12	2.00 SF		

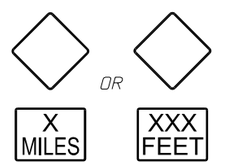
Size	Area	Total Area	Centroid
36X36	9.00 SF	12.75 SF	2.84 Ft.
30X18	3.75 SF		



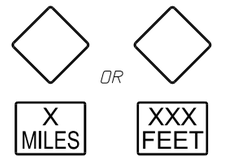
Size	Area	Total Area	Centroid
30X30	6.25 SF	10.25 SF	2.74 Ft.
24X24	4.00 SF		



Size	Area	Total Area	Centroid
36X36	9.00 SF	15.25 SF	3.29 Ft.
30X30	6.25 SF		



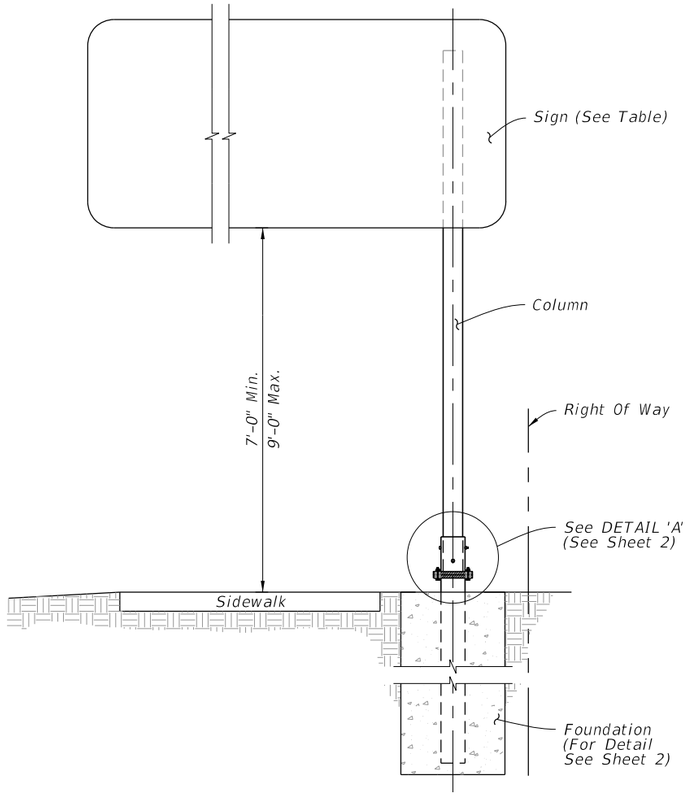
Size	Area	Total Area	Centroid
30X30	6.25 SF	9.25 SF	2.51 Ft.
24X18	3.00 SF		



Size	Area	Total Area	Centroid
36X36	9.00 SF	14.00 SF	3.06 Ft.
30X24	5.00 SF		

10/29/2019 8:23:09 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	SINGLE COLUMN GROUND SIGNS	INDEX	SHEET
11/01/19						700-010	10 of 10

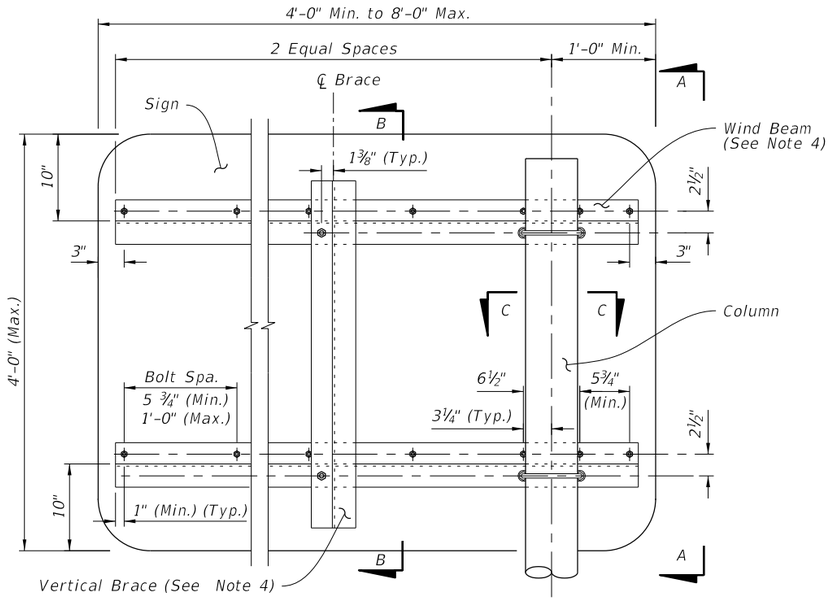


TYPICAL SECTION

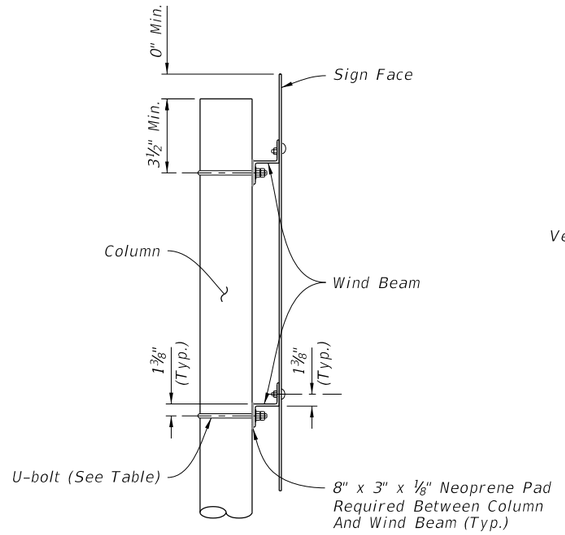
GENERAL NOTES:

1. Refer to Index 700-010 for additional notes, assembly of base connection and material specifications not given in this Index.
2. Aluminum Columns: ASTM B429 Alloy 6061-T6.
3. Place galvanized steel shims between the Sleeve and Post to obtain a tight fit between the Post and Sleeve.
4. Wind Beam and Vertical Brace: Aluminum Z 3 x $2\frac{11}{16}$ x 3.38. Install Vertical Brace on 7'-0" to 8'-0" signs only.
5. Provide 2 ~ 0.0149" Thick (28 gauge) and 2 ~ 0.0329" Thick (21 gauge) Brass Shims Per Post. Used brass shims to plumb the post.
6. Use nylon washers under the button bolt heads to protect sign sheeting. Use aluminum washers under nut.

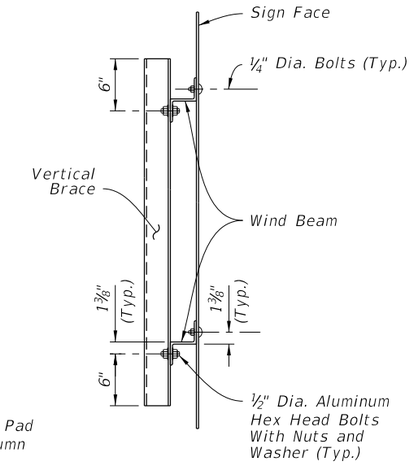
COLUMN SELECTION AND FOOTING SIZE TABLE							
Sign Size Height x Length	Column Size Diameter x Thickness	Sleeve Size Diameter x Thickness	U-bolt Diameter	Base Bolt Diameter x Length	Torque lbs./in	Base Plate Thickness	Footing Depth
4'-0" x 5'-0"	4 NPS Schedule 80 (4.5" x 0.337")	5 NPS Schedule 120 (5.563" x 0.5")	½"	⅝" x 3½"	270 ± 45	1"	6'-0"
4'-0" x 6'-0"							
4'-0" x 7'-0"	5 NPS Schedule 80 (5.563" x 0.375")	6 NPS Schedule 80 (6.625" x 0.432")	⅝"	¾" x 4"	445 ± 75	1⅛"	6'-6"
4'-0" x 8'-0"							7'-0"



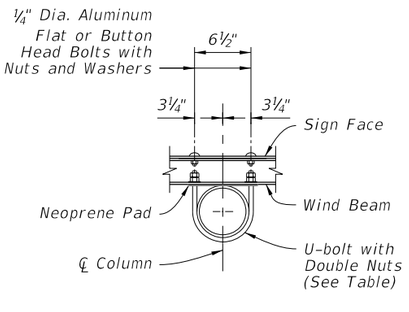
SIGN DETAIL



VIEW A-A



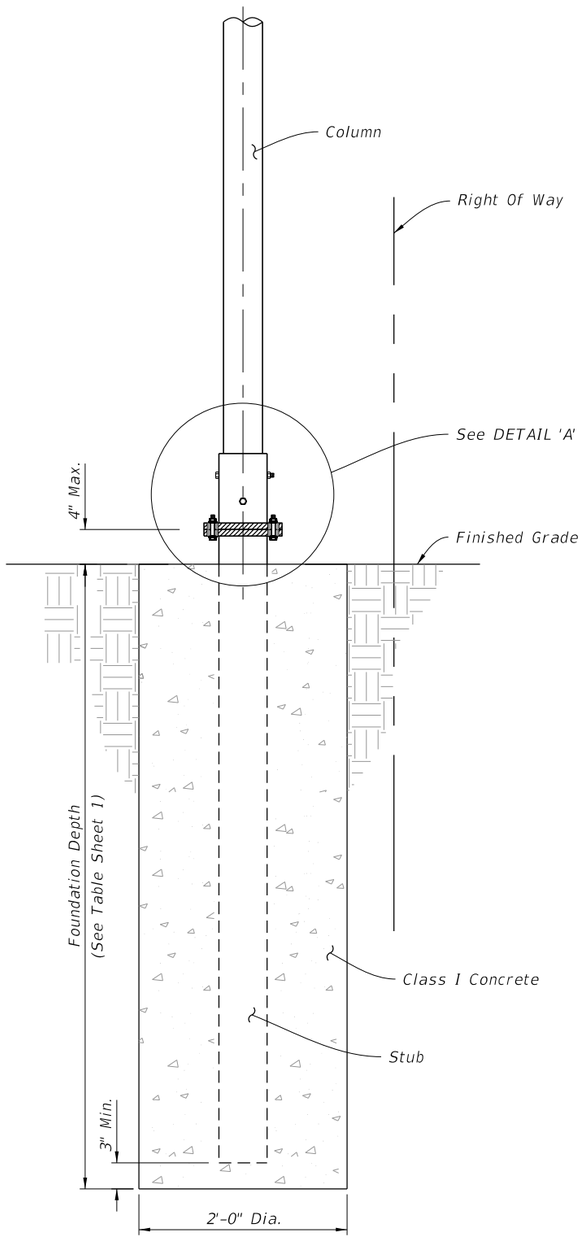
SECTION B-B



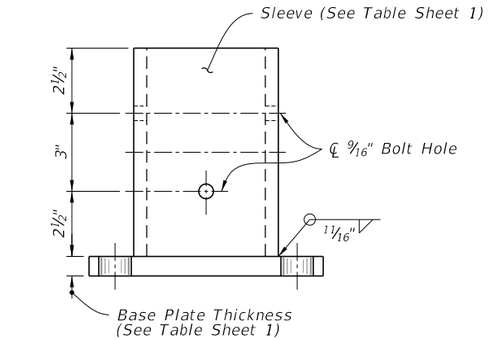
SECTION C-C

10/29/2019 8:23:10 AM

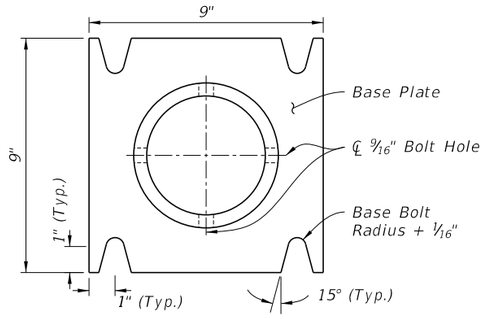
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/18			FY 2020-21 STANDARD PLANS	SINGLE COLUMN CANTILEVER GROUND MOUNTED SIGN	700-011	1 of 2



BASE AND FOUNDATION DETAIL

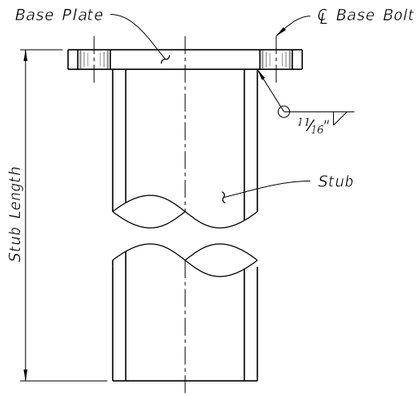


ELEVATION



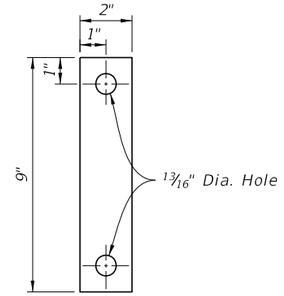
PLAN

SLEEVE & BASE PLATE DETAILS



Stub Size Equals
Min. Sleeve Size

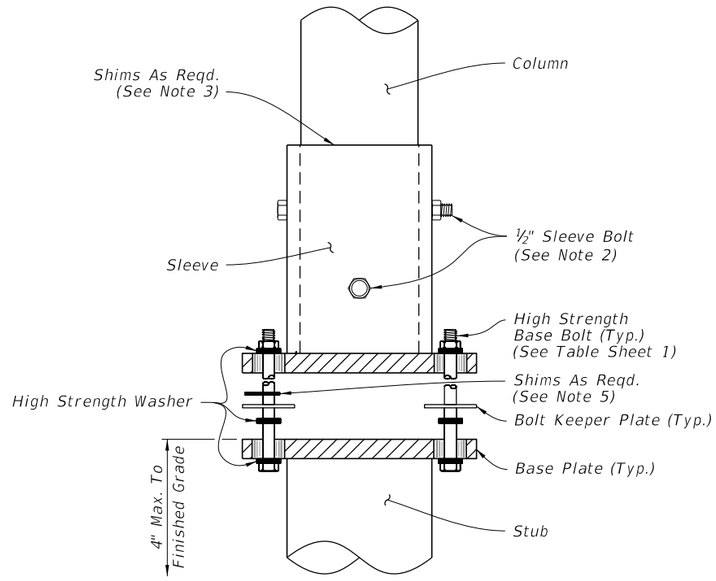
STUB DETAIL



28 Ga. Thick Aluminum Strip
2 Required Per Base

BOLT KEEPER PLATE DETAIL

Direction of Traffic



DETAIL 'A'

10/29/2019 8:23:11 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	SINGLE COLUMN CANTILEVER GROUND MOUNTED SIGN	INDEX	SHEET
11/01/18						700-011	2 of 2

NOTES:

1. Work with Index 700-010.

2. Shop Drawings: Not required.

3. Materials:

   A. Steel Plate: ASTM A36 or ASTM A709 Grade 36
   B. Steel Pipe (Support Post): ASTM A501 Schedule 40
   C. Aluminum Pipe: ASTM B429 Alloy 6061-T6
   D. Galvanized U-Bolts, Nuts and Plate Washer
      a. U-Bolts: ASTM A449
      b. Hex Nuts: ASTM A 563 Lock Nuts
      c. Plate Washer: ASTM A 36 or ASTM A709 Grade 36 or 50
   E. Galvanized Anchor bolts, Nuts and Washers:
      a. Anchor Rod: ASTM F1554 Grade 55 fully threaded (for Adhesive Anchors)
      b. Anchor Bolts: ASTM F1554 Grade 55 Grade A Hex
      c. Nuts: ASTM A563 Heavy Hex Locking
      d. Washers: ASTM F436
   F. Adhesive Anchor Bonding Material: Specification 931 Type HV Adhesive.
   G. Weld Material: E70XX
   H. Snap-In Post Cap: UV and weather-resistant glass-filled polyester cap

4. Coating:

   A. U-Bolts, Threaded Rods, Nuts and Washers: ASTM F2329
   B. Other Steel: ASTM A123

5. Fabrication:

   A. Weld: Specification 460-6.4
   B. Hot dip galvanize after fabrication

6. Construction:

   A. Locate Sign Support a minimum of 5 feet from an open joint or transition (sign stationing may be adjusted to accommodate this requirement.
   B. Base plate must be flush with back of Traffic Railing
   C. Anchors in Traffic Railings:
      a. Install Adhesive Anchors in accordance with Specification 416 except perform field test on one anchor per sign support location.
      b. Use templates and tie anchors as necessary to maintain correct placement of C-I-P Embedded Anchors
      c. Do not drill into existing conduit
   D. Temporary Signs on Permanent Traffic Railings: Same as Permanent except Field testing of anchors is not required

7. Removal of Temporary Signs on Permanent Traffic Railings:

   A. Cut anchor rods flush with the top of the traffic railing
   B. Coat anchors with Type F-1 epoxy to prevent corrosion
      a. Extend coating 2 inches beyond edge of cut anchor rods
      b. Epoxy coating 1/16" thick minimum

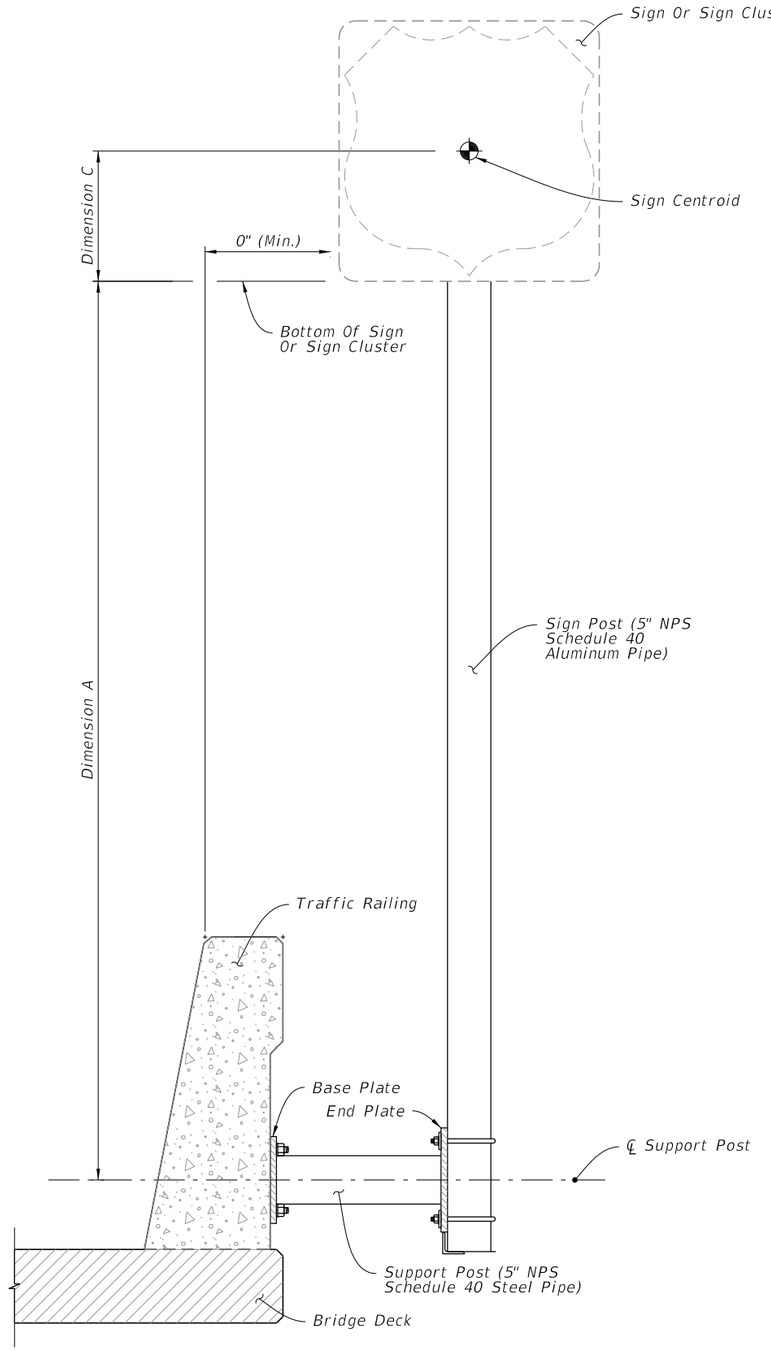
8. Payment:

   Include the cost of all materials and labor in the cost of the single post sign assembly.

SIGN LIMITATIONS TABLE	
MAX. SIGN AREA (SF)	MAX. SIGN CENTROID HEIGHT (DIM. A + DIM. C)
25	9'-7"

Dimension A = Distance from centerline of the Support Post to the bottom of the sign or sign cluster.

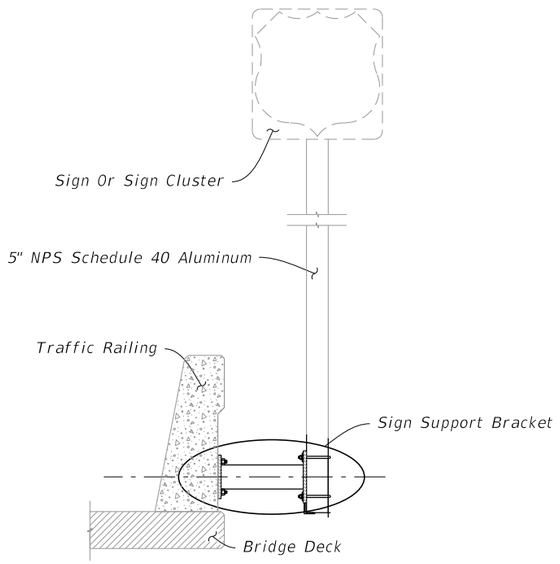
Dimension C = Vertical distance from the bottom of the sign or sign cluster to the Centroid of the sign or sign cluster.

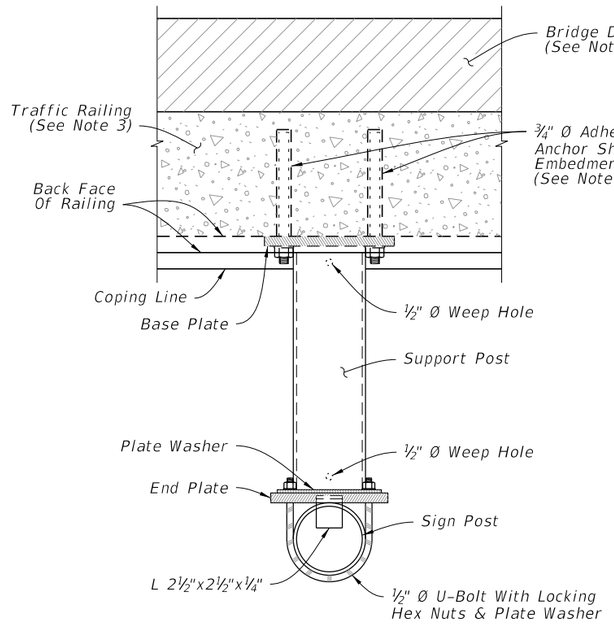


SIGN SUPPORT ASSEMBLY

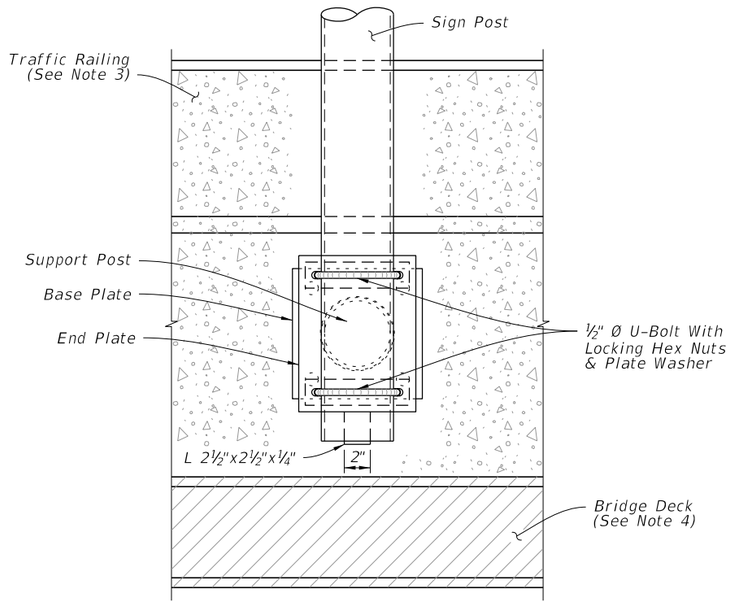
10/29/2019 8:23:12 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	SINGLE POST BRIDGE MOUNTED SIGN SUPPORT	INDEX	SHEET
11/01/18						700-012	1 of 3





PLAN



ELEVATION

SIGN SUPPORT BRACKET

NOTES:

1. Existing Traffic Railings:

   A. Locate existing conduit prior to drilling and adjust placement of base plate as necessary to avoid damaging existing conduit. Base plate must be flush with back of traffic railing. Maintain a minimum cover 2" from face of traffic railing to tip of Adhesive Anchor.

   B. For concrete parapets less than 10" thick, through bolt ¾" Ø Heavy Hex Head Bolts with Nuts and Washers in lieu of Adhesive Bonded Anchors. Bolt heads shall not protrude more than 1½" beyond traffic face of railing.

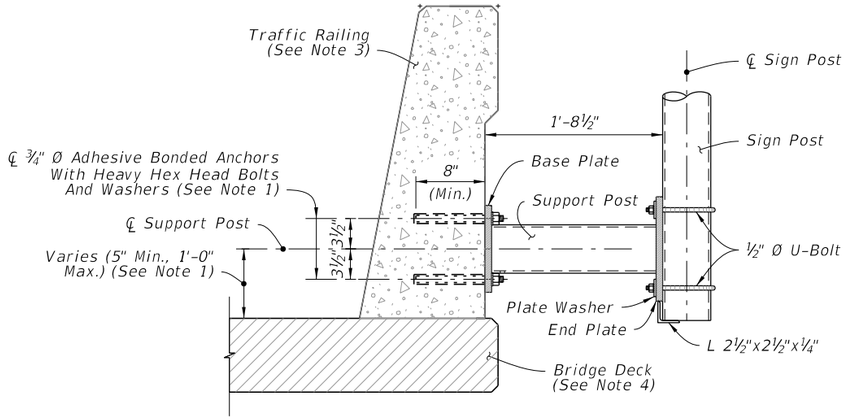
   C. For through bolting, countersink the nut and washer so that the bolt and nut does not extend beyond the face of the traffic railing. Do not exceed a countersink depth and diameter of 2½".

2. New Traffic Railings:

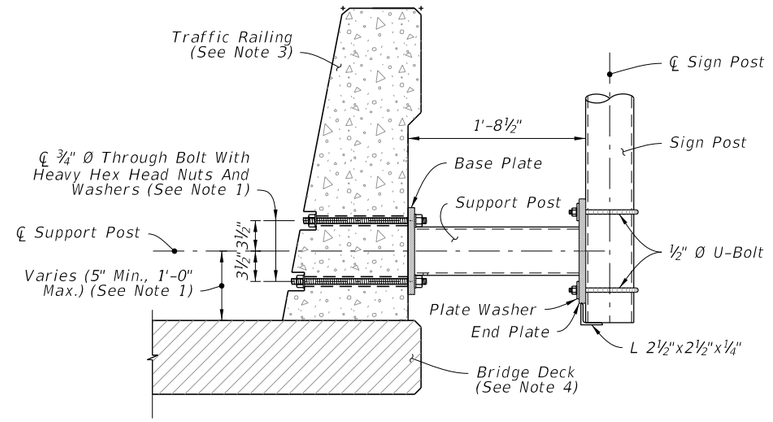
   A. Optional Couplers are shown for slipforming; keep Anchor Bolt coupler threads free of concrete.

3. 36" Single-Slope Traffic Railing shown, other Traffic Railings and Parapets are similar.

4. Bridge Deck shown, Approach Slab and Retaining Wall are similar.

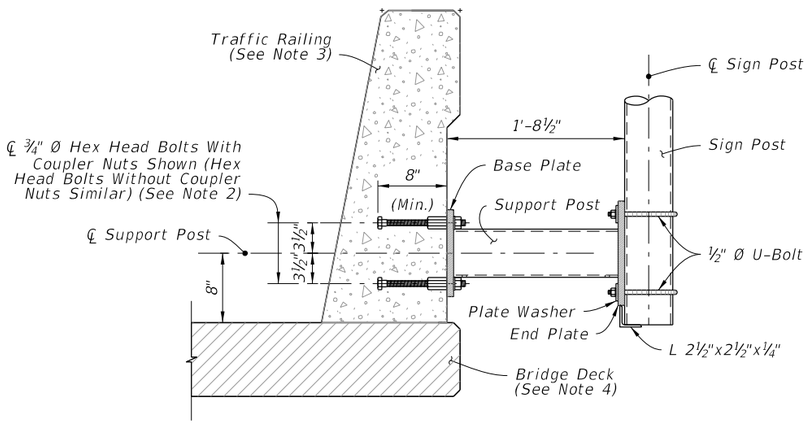


ADHESIVE BOND



THROUGH BOLTING

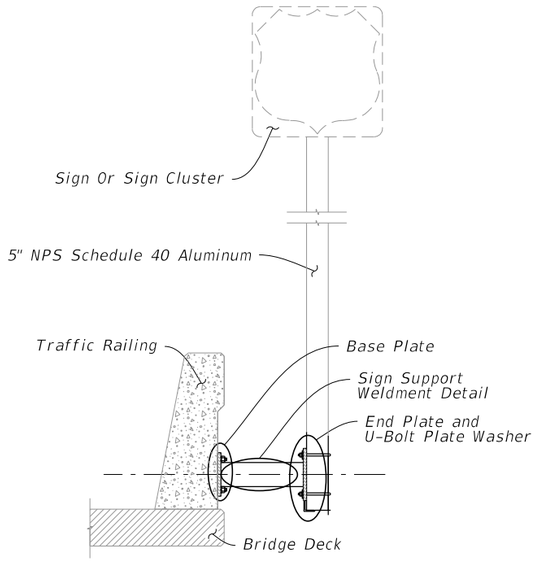
TYPICAL SECTION - EXISTING RAILING



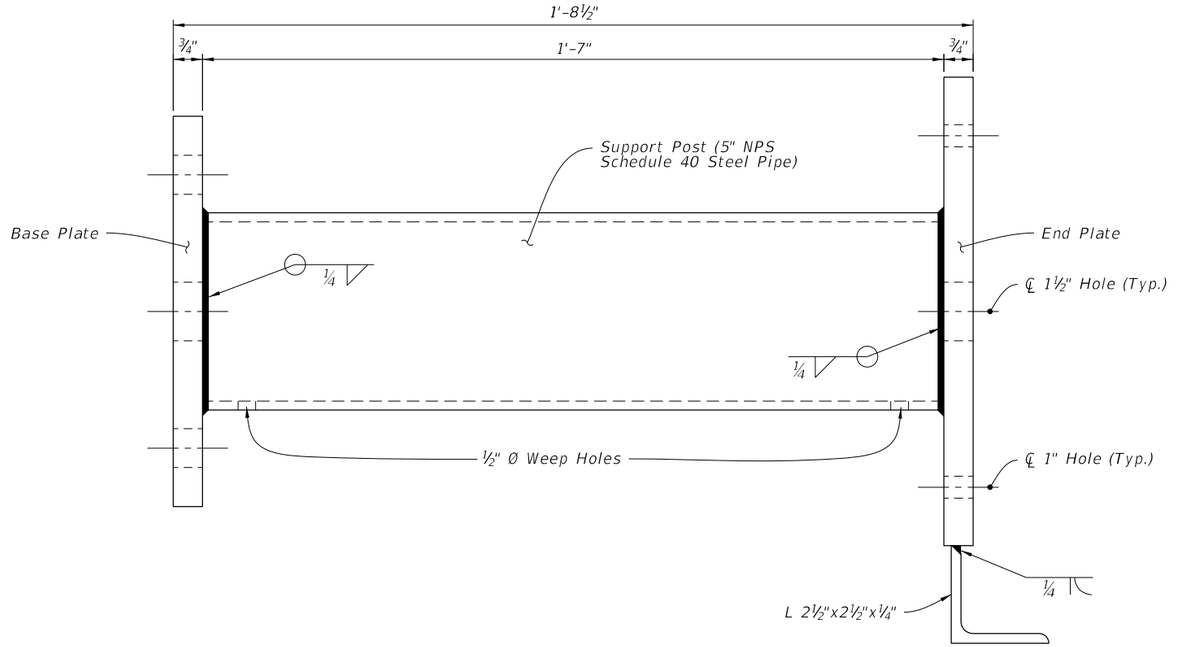
TYPICAL SECTION - NEW CONSTRUCTION

10/29/2019 8:23:13 AM

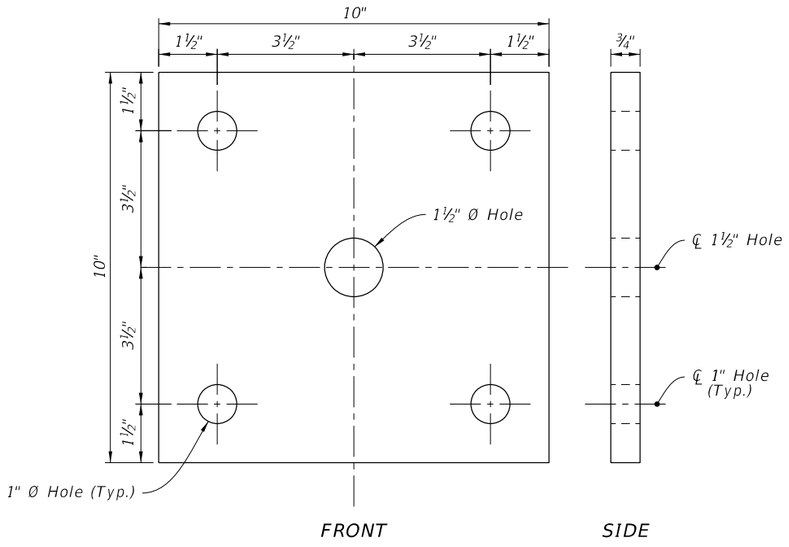
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	SINGLE POST BRIDGE MOUNTED SIGN SUPPORT	INDEX	SHEET
11/01/17						700-012	2 of 3



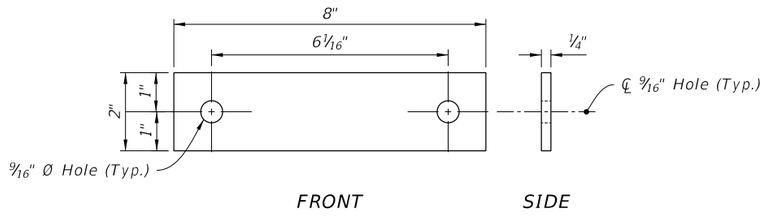
SIGN SUPPORT ASSEMBLY



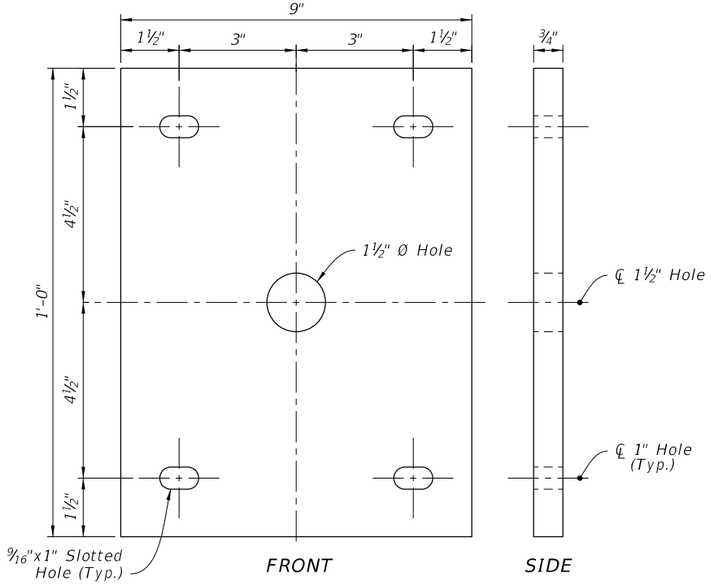
SIGN SUPPORT WELDMENT DETAIL



BASE PLATE



U-BOLT PLATE WASHER



END PLATE

10/29/2019 8:23:15 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FDOT FY 2020-21 STANDARD PLANS	SINGLE POST BRIDGE MOUNTED SIGN SUPPORT	INDEX 700-012	SHEET 3 of 3

NOTES:

1. Work with Index 700-010.

2. Shop Drawings: Not required.

3. Materials:

   A. Steel Plate: ASTM A36 or ASTM A709 Grade 36
   B. Steel Pipe (Support Post): ASTM A53 Grade B Schedule 40
   C. Galvanized U-Bolts, Nuts and Plate Washer
      a. U-Bolts: ASTM A449
      b. Hex Nuts: ASTM A 563 Lock Nuts
      c. Plate Washer: ASTM A 36 or ASTM A709 Grade 36 or 50
   D. Galvanized Anchor Bolts, Nuts and Washers:
      a. Anchor Rod: ASTM F1554 Grade 55 fully threaded (for Adhesive Anchors)
      b. Anchor Bolts: ASTM F1554 Grade 55 Grade A Hex
      c. Nuts: ASTM A563 Heavy Hex Locking
      d. Washers: ASTM F436
   E. Adhesive Anchor Bonding Material: Specification 937 Type HV Adhesive
   F. Weld Material: E70XX
   G. Snap-In Post Cap: UV and weather-resistant glass-filled polyester cap

4. Coating:

   A. U-Bolts, Threaded Rods, Nuts and Washers: ASTM F2329
   B. Other Steel: ASTM A123

5. Fabrication:

   A. Weld: Specification 460-6.4
   B. Hot dip galvanize after fabrication

6. Construction:

   A. Locate Sign Support a minimum of 5 feet from an open joint or transition (sign stationing may be adjusted to accommodate this requirement
   B. Base plate must be flush with top of Railing
   C. Anchors in Traffic Railings:
      a. Install Adhesive Anchors in accordance with Specification 416 except perform field test on one anchor per sign support location
      b. Use template and tie anchors as necessary to maintain correct placement of C-I-P Embedded Anchors
      c. Do not drill into existing reinforcing
   D. Temporary Signs on Permanent Traffic Railings, Same as Permanent except field testing of anchors is not required
   E. Temporary Signs on Temporary Railings/Barriers:
      a. Install Sign Supports at the midpoint along the length of a single segment
      b. Avoid drilling through existing reinforcement; use of metal detector not required.
      c. Field testing of anchors is not required

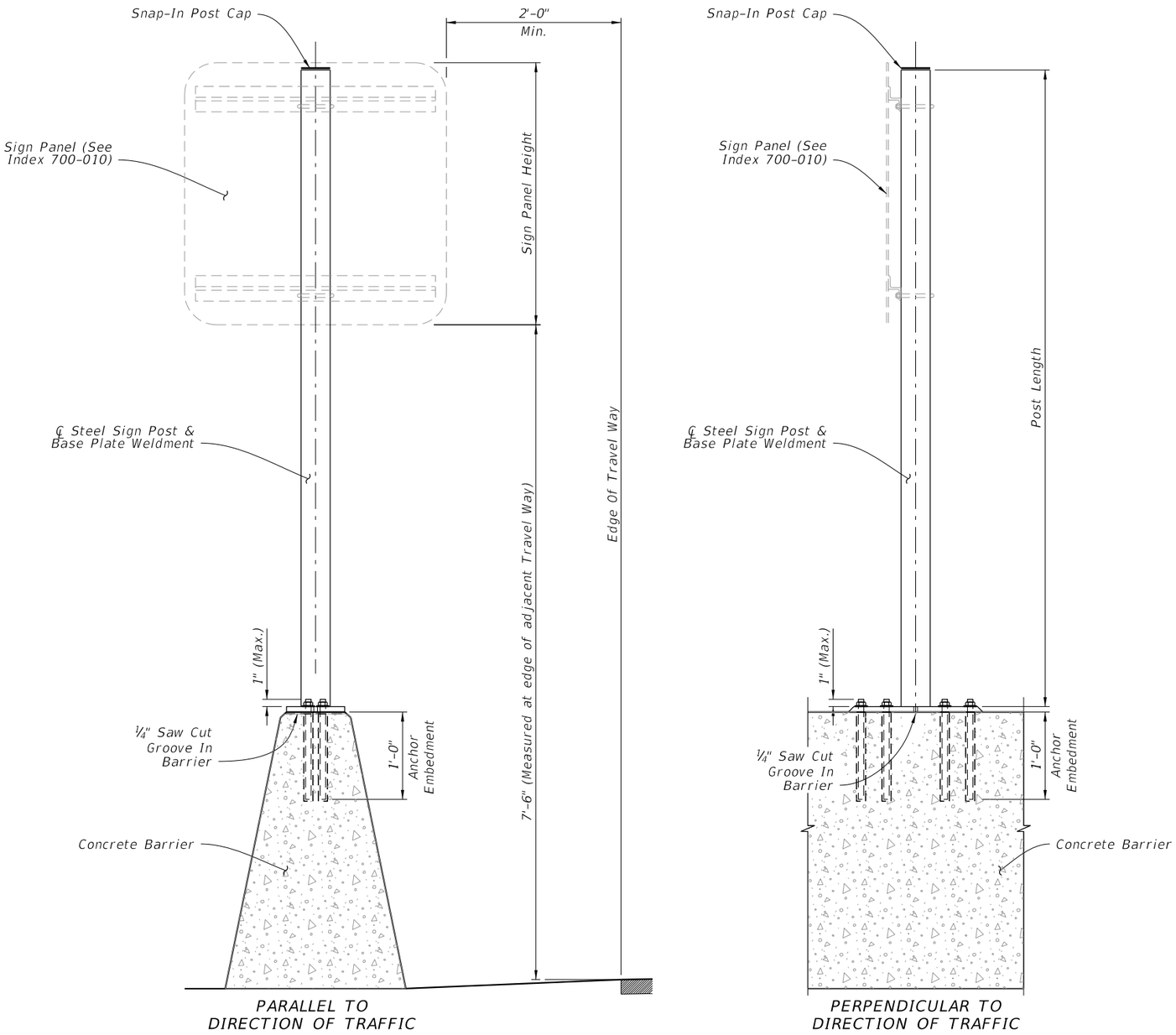
7. Removal of Temporary Signs on Permanent Traffic Railings:

   A. Cut anchor rods flush with the top of the railing
   B. Coat anchors with Type F-1 epoxy to prevent corrosion
      a. Extend coating 2 inches beyond edge of cut anchor rods
      b. Epoxy coating 1/16"thick minimum

8. Payment:

   Include the cost of all materials and labor in the cost of the single post sign assembly.

TABLE 1 - SIGN PANEL AND POST SIZING		
	Max. Sign Area (SF)	Post (NPS)
Temporary Signs	≤ 24	3.0
Permanent Signs	< 13.5	3.0
	13.5 < Sign < 20	3.5

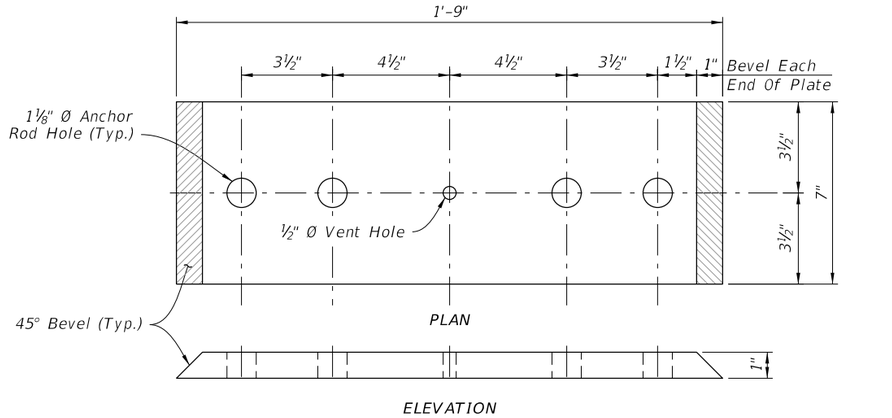


(Index 521-001 Median Barrier shown; others similar)

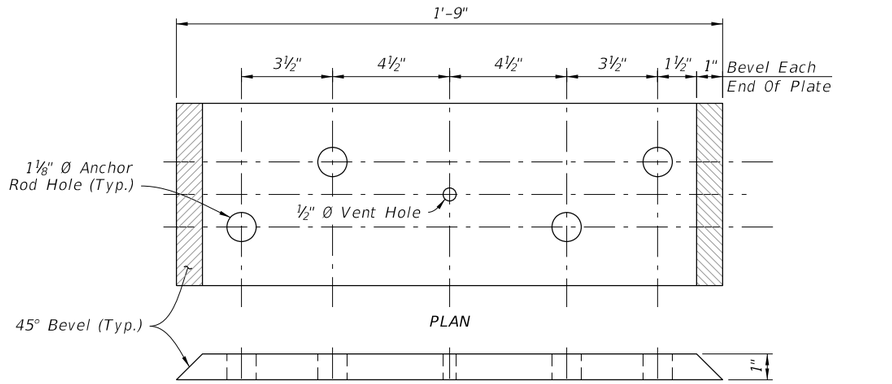
ELEVATION

10/29/2019 8:23:16 AM

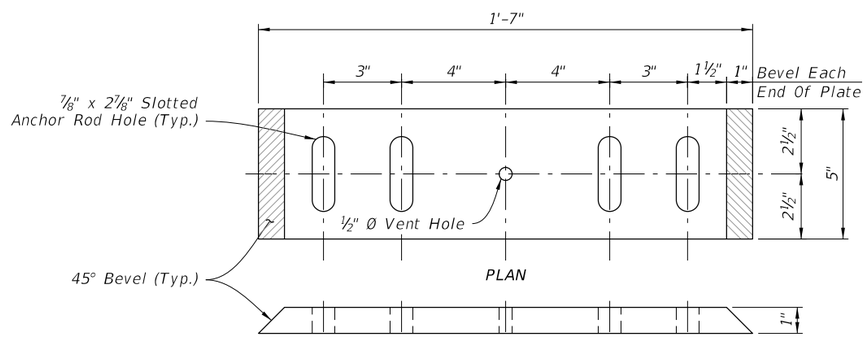
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	SINGLE POST MEDIAN BARRIER MOUNTED SIGN SUPPORT	INDEX	SHEET
11/01/18						700-013	1 of 2



BASE PLATE TYPE A
(Linear Anchor Rod Pattern)



BASE PLATE TYPE B
(Staggered Anchor Rod Pattern)

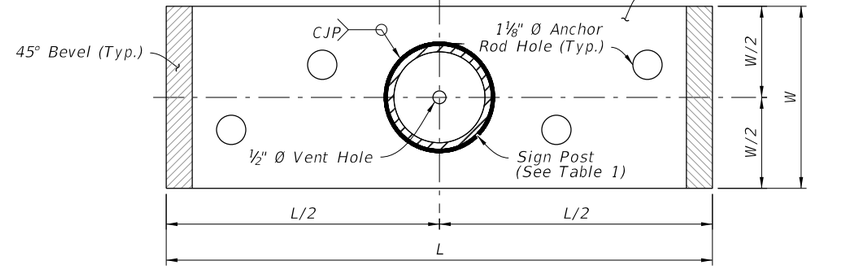


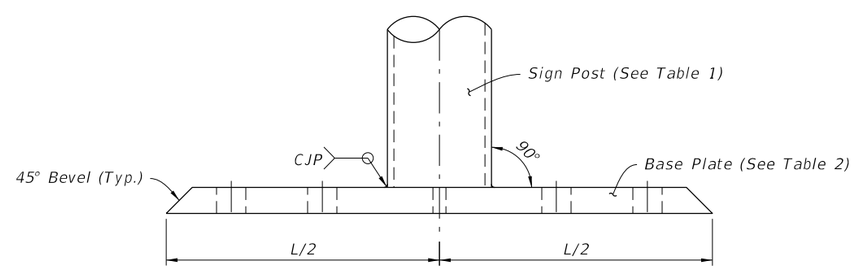
BASE PLATE TYPE C

NOTES:
1. Place anchor rods in a staggered or linear pattern as necessary to avoid reinforcing.
2. Use a staggered pattern for all temporary barriers.

TABLE 2 - BASE PLATE TYPE AND ANCHOR ROD SIZING

Index	Type/Application	Base Plate Type	Anchor Rod Ø
521-001	Full Wall	B	1"
521-001	Cantilever or L-Wall	A	
All listed above Plus 102-110 & 102-100	Temporary Signs	C	¾"





SIGN SUPPORT WELDMENT DETAIL
(Staggered Anchor Rod Pattern shown)

10/29/2019 8:23:17 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FY 2020-21 STANDARD PLANS	SINGLE POST MEDIAN BARRIER MOUNTED SIGN SUPPORT	700-013	2 of 2

GENERAL NOTES:

1. Verify Column lengths in the field prior to fabrication.

2. 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 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 ("D") greater than 10 feet. Shop drawings required for horizontal panel splice details.

C. When shop drawings are required, obtain approval prior to fabrication.

3. Materials:

A. Sign Panel Mounting Materials:
   a. Aluminum Bars, and Extruded Shapes: ASTM B221, Alloy 6061-T6 or Alloy 6351-T5
   b. Aluminum Structural Shapes: ASTM B308, Alloy 6061-T6
B. Sign Support Structure Materials:
   a. Steel Plates and Structural Shapes: ASTM A36 or ASTM A709, Grade 36
   b. Steel Weld Metal: E70XX
   c. Shims: Brass ASTM B36 or Galvanized Steel
C. Aluminum Bolts, Nuts and Washers:
   a. Flat Head and Button Head Bolts: ASTM F 468, Alloy 2024-T4
   b. Hex Nuts: ASTM F467, 2024-T4
   c. Washers: ASTM B221, Alloy 2024-T4
D. Stainless Steel Bolts, Nuts and Washers Alloy Group 2, Condition A, may be substituted for the Aluminum bolts as follows:
   a. Bolts: ASTM F593, CW1 or SH1
   b. Nuts: ASTM F594,
E. High Strength (H.S.) Steel Bolts, Nuts and Washers:
   a. Galvanized Hex Head Bolts: ASTM F3125, Grade A325, Type 1
   b. Galvanized Nuts: ASTM A563 Hex, Grade DH
   c. Galvanized Washers: ASTM F436
F. Concrete: Class I.
G. Reinforcing Bars or Welded Wire Reinforcement (WWR): Specification 415

4. Coatings:

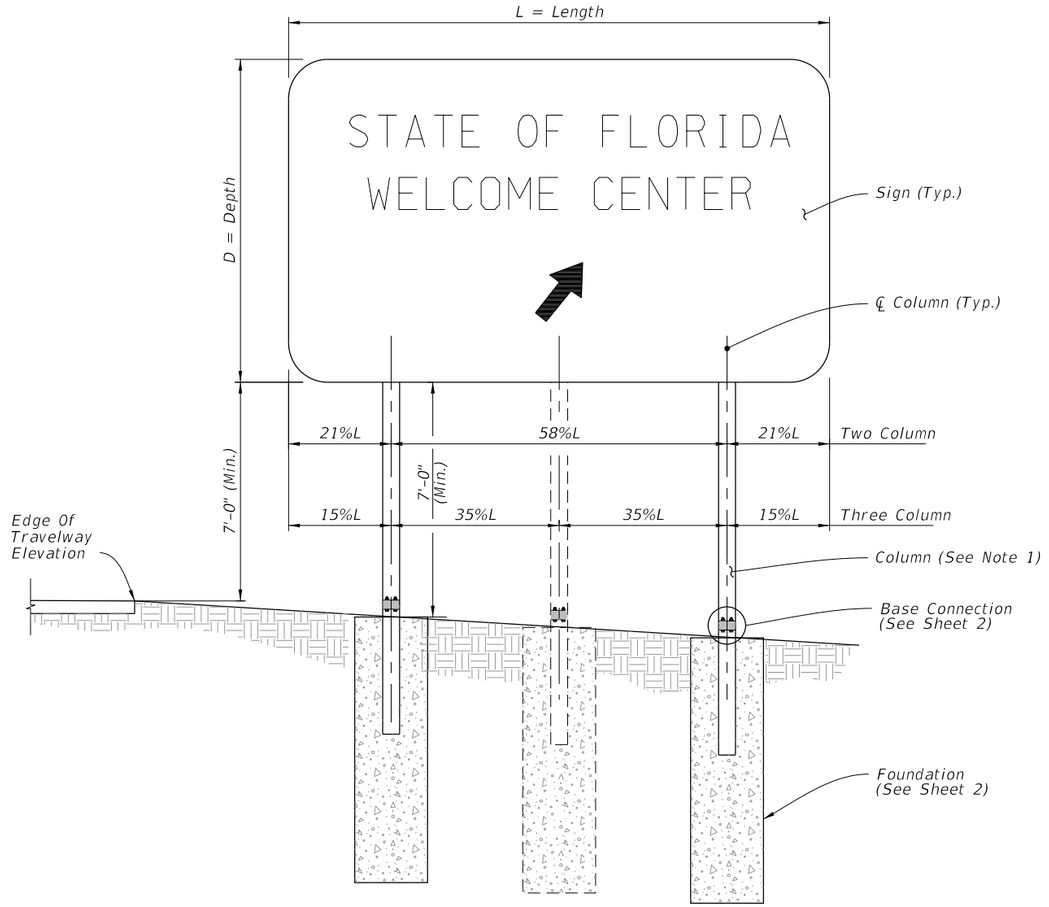
A. Aluminum Fasteners: Anodic coating (0.0002 inches min.) and chromate sealed
B. Galvanize High Strength Steel Bolts Nuts and Washers: ASTM F2329
C. Galvanize all other steel items (excluding stainless steel): Hot-dip ASTM A123
D. Treat damaged galvanizing in accordance with Specification 562

5. Fabrication:

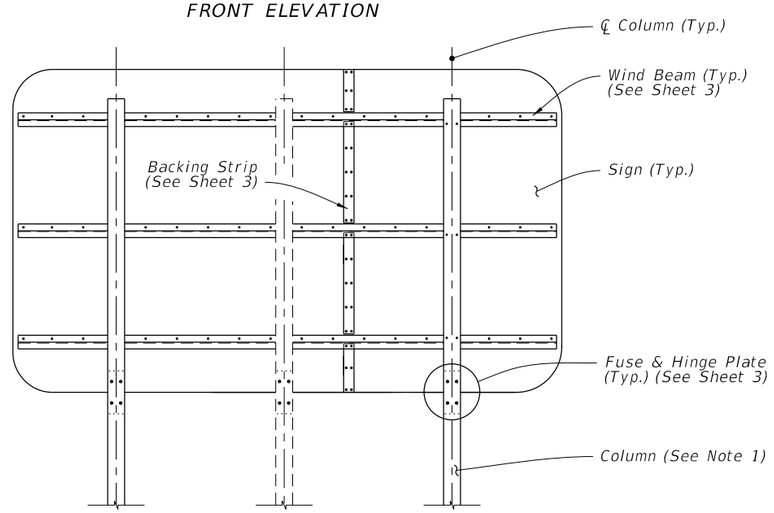
A. All Base Connections and Stub Column materials are steel unless otherwise specified.
B. Drill or sub-punch and ream holes in Fuse Plates and Hinge Plates
C. Weld Base Plate to Post & Stub or if using the Alternate Connection Detail weld Base Plate and Stiffeners to Post and Stub (Sheet 2)
D. Hot dip galvanize after fabrication; Remove all drips, runs or beads on base plate within washer contact areas (Including saw cuts)

6. Construction:

A. Install the Sign Structure foundation in accordance with Specification 455. Orient Stub Post according to direction of traffic (Sheet 2)
B. Tighten all high strength bolts except Base Bolts in accordance with Specification 700.
C. Assemble Post to Stub with Base Bolts and three flat washers per bolt (See Base Connection Details, Sheet 2). Tighten Base Bolts in accordance with Instructions Notes on Sheet 2.



FRONT ELEVATION

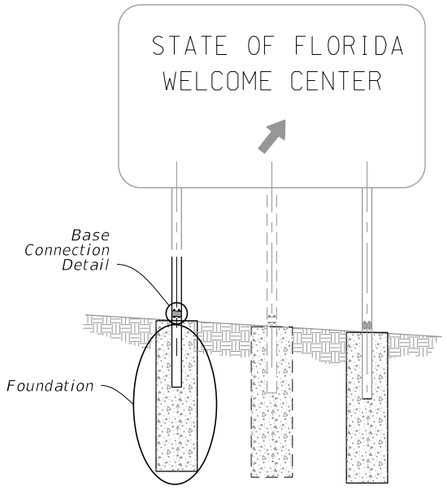


BACK ELEVATION

MULTI-COLUMN SIGN ASSEMBLY

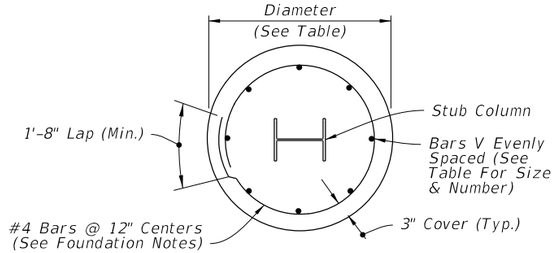
11/5/2019 9:28:34 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	MULTI-COLUMN GROUND SIGN	INDEX	SHEET
11/01/18						700-020	1 of 3

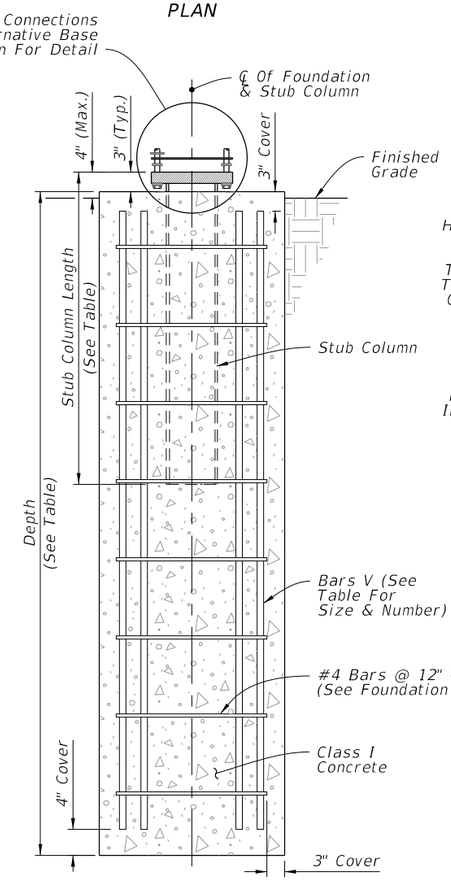


MULTI-COLUMN SIGN ASSEMBLY

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



PLAN



ELEVATION

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.

INSTRUCTIONS NOTES:

1. Assembly of Base Instructions:

   A. 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.

   B. Shim as required to plumb column. Provide 2-0.0149" thick (28 gauge) and 2-0.0329" thick (21 gauge) shims per column.

2. H.S. Base Bolt L_2 Tightening Instructions:

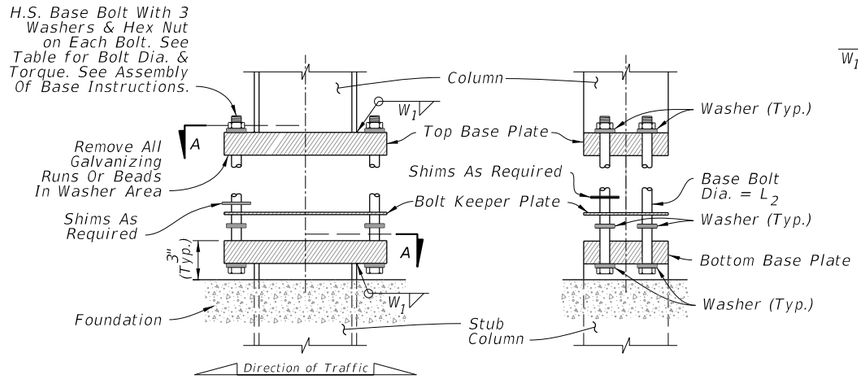
   A. Tighten Base Bolts to the maximum possible with a 12" to 15" wrench (this will bed the washers and shims and clear the bolt threads).

   B. Loosen each Base Bolt one turn.

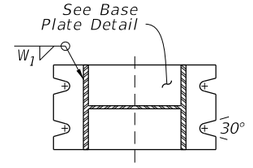
   C. Under the supervision of the Engineer, use a calibrated wrench to tighten bolts to the torque prescribed in the Table. Over tightened Base Bolts will not be permitted.

   D. Burr threads at junction with nut to prevent nut loosening. Treat damaged galvanizing.

FOUNDATION



SIDE ELEVATION FRONT ELEVATION



SECTION A-A

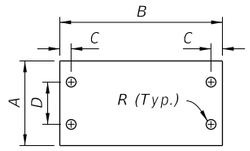
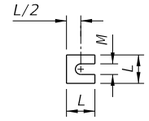
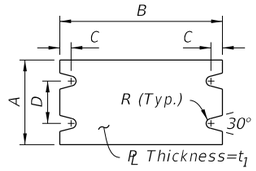


Plate Thickness=0.0149" (28 Gauge)

BOLT KEEPER PLATE DETAIL



SHIM DETAIL

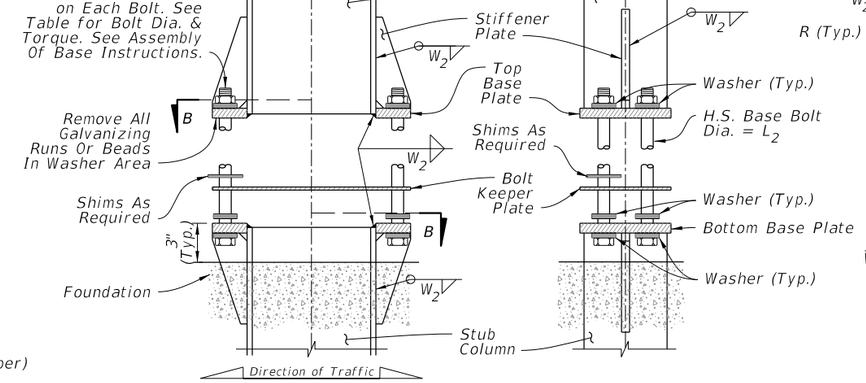


BASE PLATE DETAIL

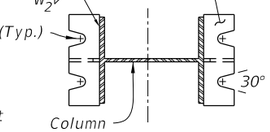
	BASE CONNECTION DATA									SHIM	
Steel Post & Stub Section*	A	B	C	D	R	t_1	L_2	W_1	Torque (lbf*in)	L	M
S 3x5.7	4"	7"	3/4"	2"	5/16"	1"	1/2"	1/4"	90 ± 20	1-1/4"	9/16"
W 6x12	4"	10"	3/4"	2"	3/8"	1-5/8"	5/8"	1/4"	270 ± 45	1-3/8"	11/16"
W 8x18	5-1/4"	12-1/2"	7/8"	2-3/4"	7/16"	1-3/4"	3/4"	3/8"	445 ± 75	1-3/4"	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).

BASE CONNECTION



SIDE ELEVATION FRONT ELEVATION



SECTION B-B

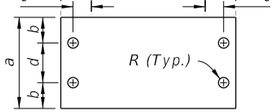
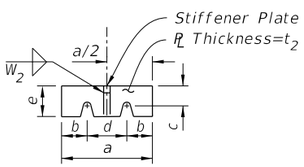
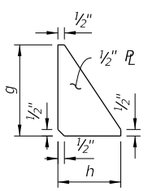


Plate Thickness=0.0149" (28 Gauge)

BOLT KEEPER PLATE DETAIL



BASE PLATE DETAIL



STIFFENER PLATE DETAIL

ALTERNATIVE BASE CONNECTION DATA												
Steel Section*	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"

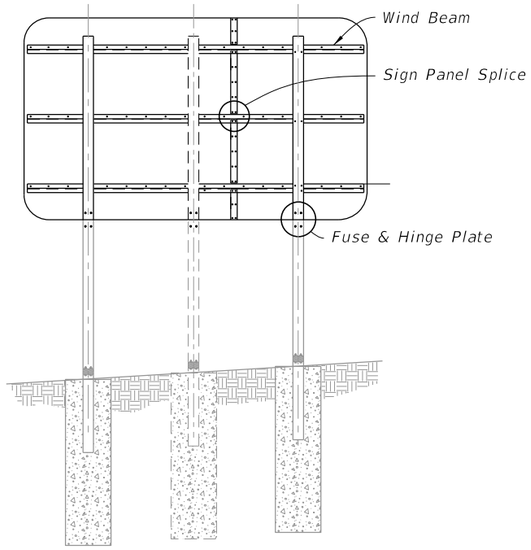
* Designations: (Nominal Depth in inches) x (weight in pounds per linear foot).

ALTERNATIVE BASE CONNECTION

FOUNDATION AND BASE CONNECTION DETAILS

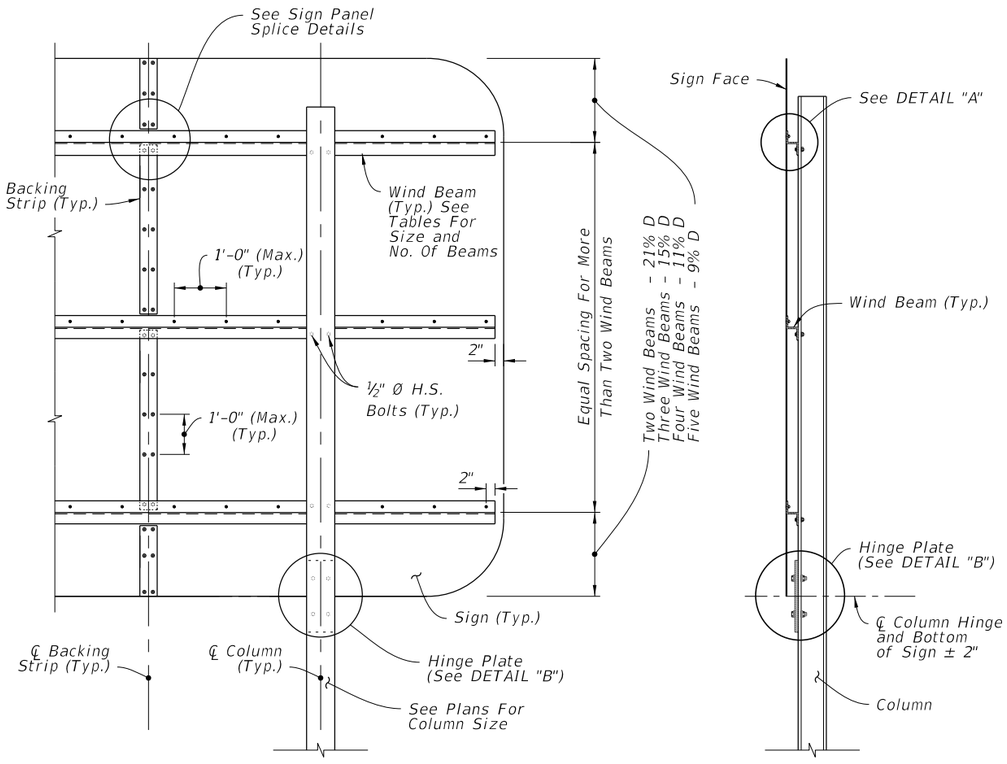
11/5/2019 9:28:35 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/18			FDOT FY 2020-21 STANDARD PLANS	MULTI-COLUMN GROUND SIGN	INDEX 700-020	SHEET 2 of 3



BACK ELEVATION

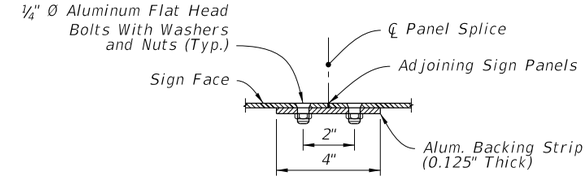
MULTI-COLUMN SIGN ASSEMBLY



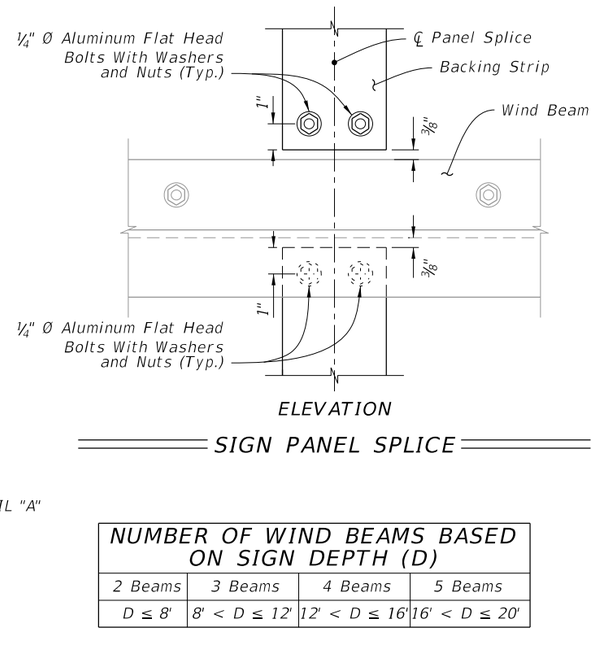
BACK ELEVATION

SIDE ELEVATION

MULTI-COLUMN SIGN BACK PANEL



PLAN VIEW



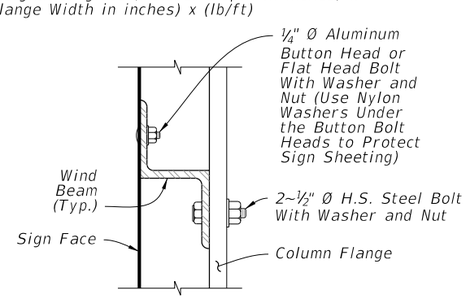
ELEVATION

SIGN PANEL SPLICE

NUMBER OF WIND BEAMS BASED ON SIGN DEPTH (D)			
2 Beams	3 Beams	4 Beams	5 Beams
D ≤ 8'	8' < D ≤ 12'	12' < D ≤ 16'	16' < D ≤ 20'

WIND BEAM SIZE BASED ON SIGN LENGTH (L)		
2 Columns	3 Columns	Aluminum Beam Size **
L ≤ 12'	L ≤ 18'	Z 1-¾ x 1-¾ x 1.09
12' < L ≤ 20'	18' < L ≤ 30'	Z 3 x 2-^{1}1⁄$_{16}$ x 2.33
20' < L ≤ 25'	30' < L ≤ 39'	Z 4-1⁄$_{16}$ x 3-⅛ x 3.57

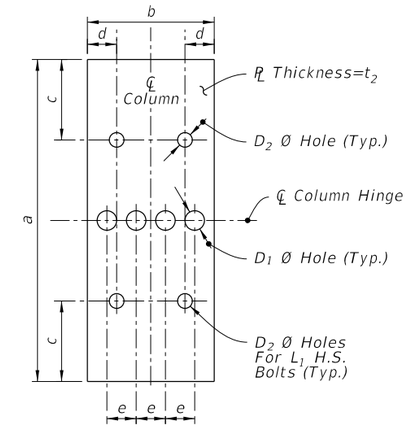
**Designation gives (Member Depth in inches) x (Flange Width in inches) x (lb/ft)



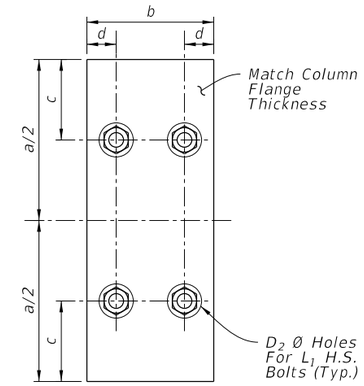
DETAIL "A"

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)

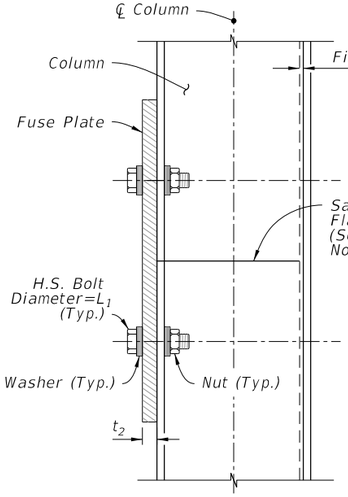


FUSE PLATE



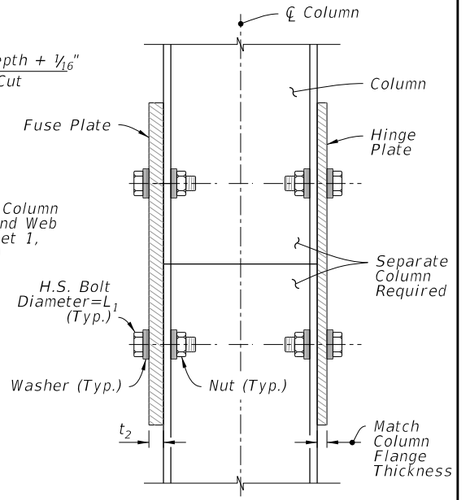
HINGE PLATE

FUSE & HINGE PLATE



Side Elevation

TYPICAL HINGE



Side Elevation

OPTIONAL HINGE

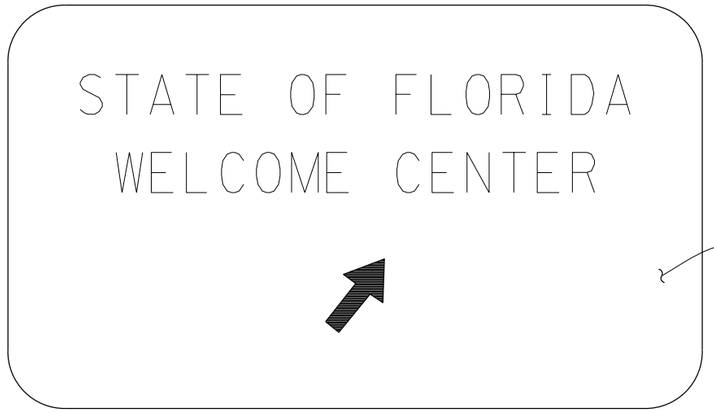
(See Fabrication Notes on Sheet 1)

DETAIL "B"

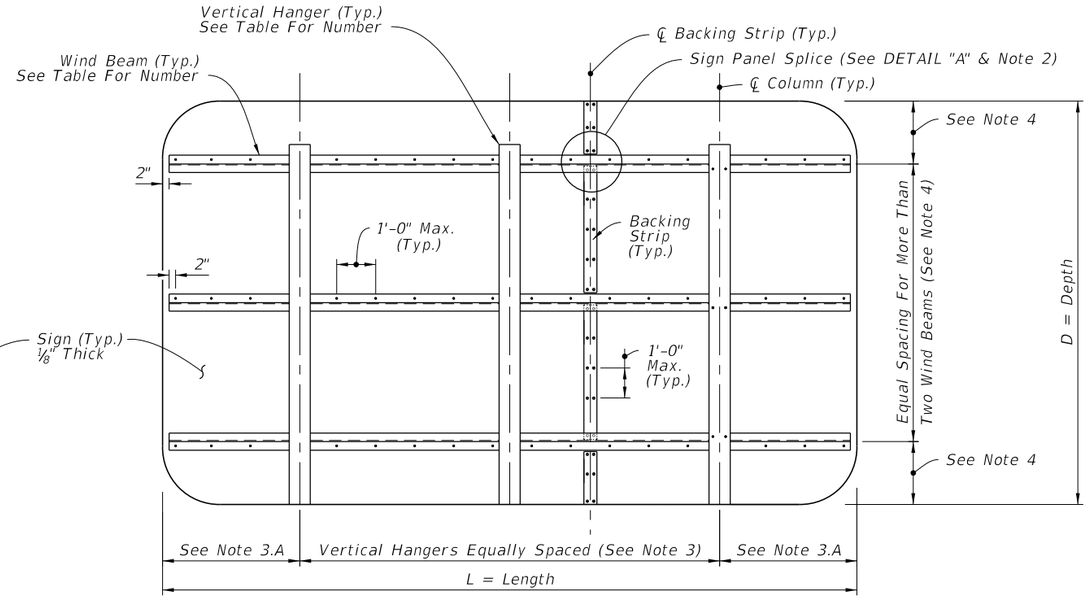
WIND BEAM, BACKING STRIP & FUSE/HINGE PLATE DETAILS

11/5/2019 9:28:37 AM

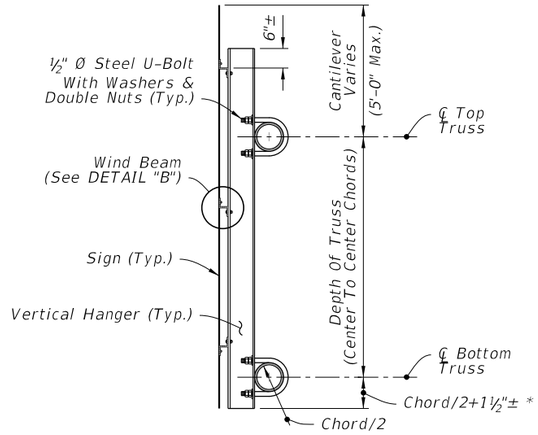
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/18			FY 2020-21 STANDARD PLANS	MULTI-COLUMN GROUND SIGN	700-020	3 of 3



FRONT ELEVATION



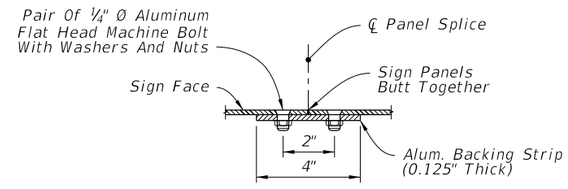
BACK ELEVATION



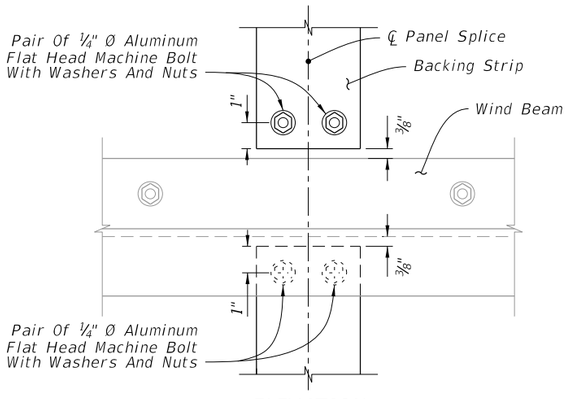
*Bottom Justified Shown, Center Justified Similar.

SIDE ELEVATION

TYPICAL SIGN FOR OVERHEAD TRUSS



PLAN VIEW



ELEVATION

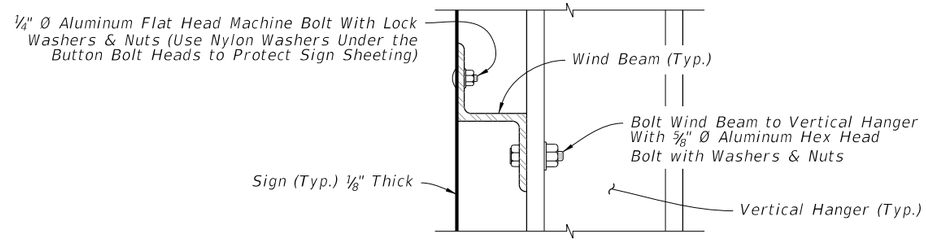
SIGN PANEL SPLICE

DETAIL "A"

WIND BEAM TABLE (Z 3 x 2 11/16 x 2.33)				
Number of Horizontal Wind Beams Based on Sign Depth (D)				
2 Beams	3 Beams	4 Beams	5 Beams	6 Beams
D ≤ 5'	5' < D ≤ 9'	9' < D ≤ 12'	12' < D ≤ 15'	15' < D ≤ 18'

HANGER TABLE (I 6 x 4.69 or Z 5 x 3¼ x 6.19)					
Number of Vertical Hanger Beams Based on Wind Speed and Sign Length (L)					
	2 Hangers	3 Hangers	4 Hangers	5 Hangers	6 Hangers
130 mph	L ≤ 20'	20' < L ≤ 30'	30' < L ≤ 40'	40' < L ≤ 50'	--
150 mph	L ≤ 18'	18' < L ≤ 27'	27' < L ≤ 35'	35' < L ≤ 45'	45' < L ≤ 50'
170 mph	L ≤ 15'	15' < L ≤ 20'	20' < L ≤ 28'	28' < L ≤ 35'	35' < L ≤ 43'

NOTE: For Monroe County designs, use 170 mph values but with Z 5 x 3-¼ x 6.19 vertical hanger beams only.



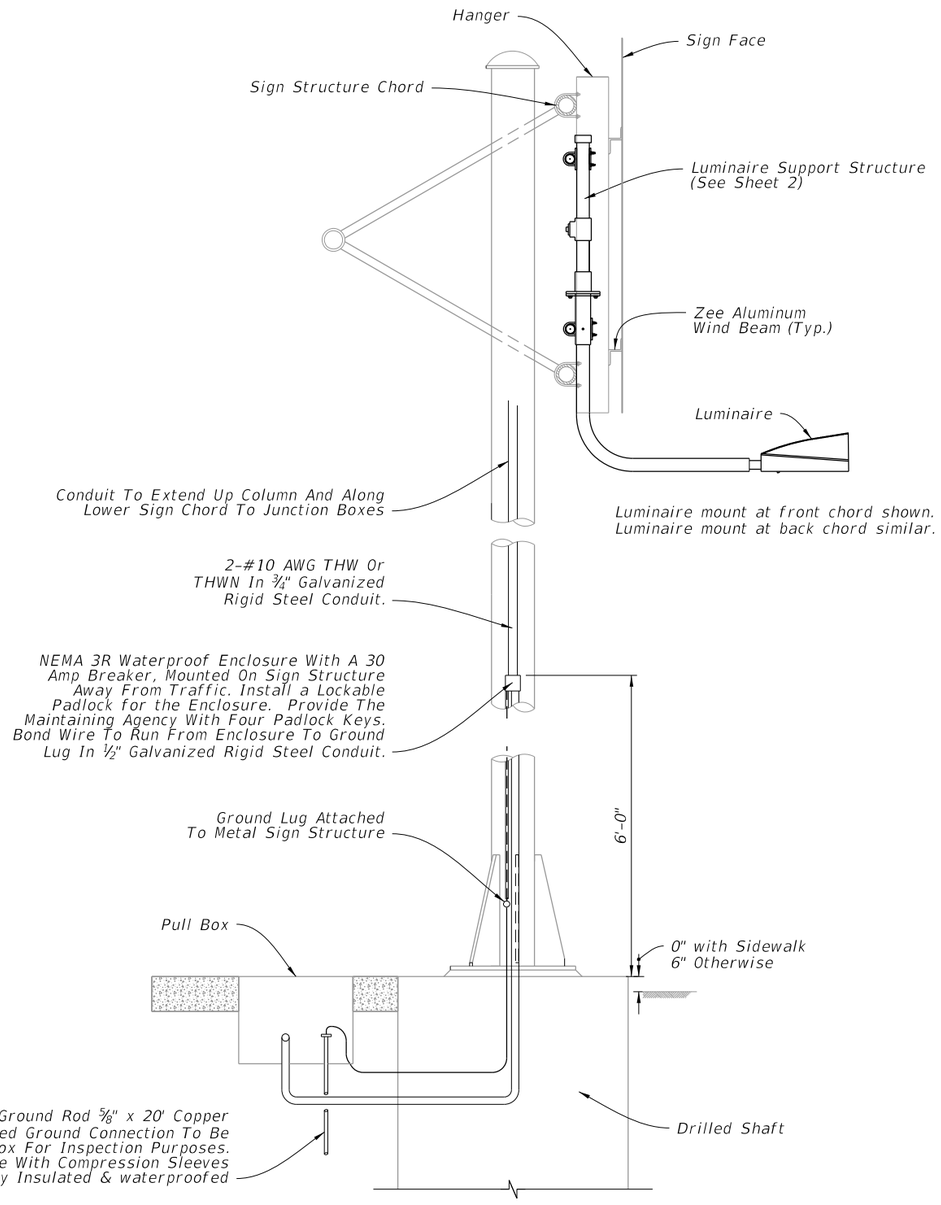
DETAIL "B"

GENERAL NOTES

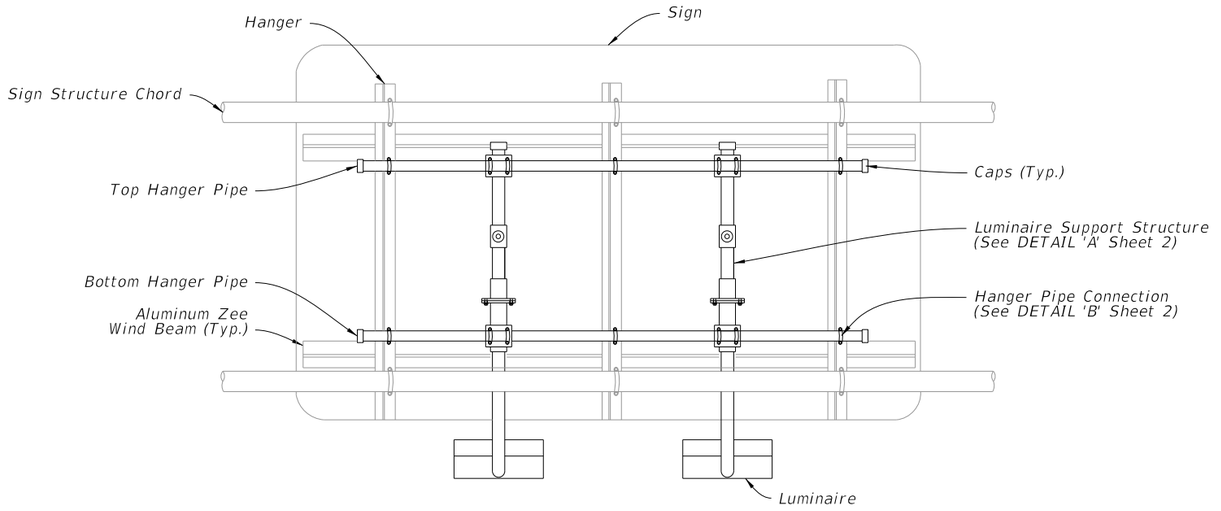
1. Work this Index with Index 700-040 and 700-041.
2. The number and location of the Panel Splices are determined by the Sign Face supplier.
3. Spacing of Vertical Hangers:
   A. Two Vertical Hanger = 21.0% L
      Three Vertical Hanger = 15.0% L
      Four Vertical Hanger = 11.0% L
      Five Vertical Hanger = 9.0% L
      Six Vertical Hanger = 7.0% L
   B. Spacing of vertical hangers may be varied slightly as necessary to clear the truss struts and diagonals at panel points
4. Spacing of Wind Beams:
   Two Wind Beams = 21.0% D
   Three Wind Beams = 15.0% D
   Four Wind Beams = 11.0% D
   Five Wind Beams = 9.0% D
   Six Wind Beams = 7.0% D
5. Shop Drawings:
   A. Required for Sign Panels deeper than 10'-0" with a horizontal panel splice.
   B. Splice must be located in between interior Zee Supports and only allowed on signs greater than 10'-0".
6. Materials:
   A. Aluminum:
      a. Bars, and Extruded Shapes: ASTM B 221, Alloy 6061-T6 or Alloy 6351-T5
      b. Structural Shapes: ASTM B308, Alloy 6061-T6
      c. Flat Head and Hex Head Machine Bolts: ASTM F468, Alloy 2024-T4
      d. Hex Nuts: ASTM F467, Alloy 6061-T6 or Alloy 6262-T9
      e. Washers: ASTM B221, Alclad 2024-T4
   B. Steel:
      a. U-Bolts: ASTM A449 or ASTM A193 B7
      b. Nuts: ASTM A563, 2 per leg
      c. Washers: ASTM F436, (Flat Washers)
7. Coatings:
   A. Aluminum Bolts, Nuts and Washers: Anodic (0.0002 inches min) and chromate sealed.
   B. Galvanized Steel Bolts, Nuts and Washers: ASTM F2329
8. Wind Speed by county: see Index 715-010.

10/29/2019 8:23:23 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	WIND AND HANGER BEAMS FOR OVERHEAD SIGNS	INDEX	SHEET
11/01/18						700-030	1 of 1



SIDE VIEW



BACK VIEW

PLACEMENT OF SIGN LIGHTS

1. This Index details a bottom luminaire support structure. For signs requiring top luminaire support structures, the detail can be reversed.
2. Luminaire spacing and arm length is shown on Guide Sign Worksheet.
3. The Guide Sign Worksheet indicates the sign luminaire used for basis of design. The contractor may propose a different luminaire by submitting photometric calculations for each lighted sign for review by the Engineer.

SIGN LIGHTING INSTALLATION

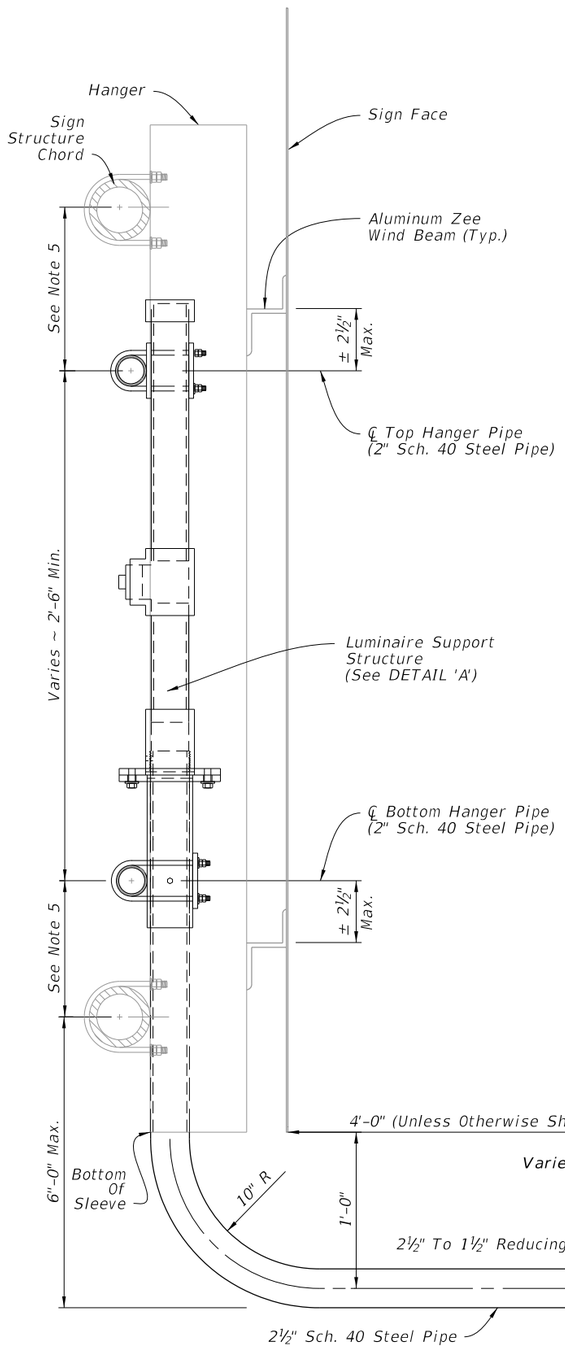
Roadway Lighting included in contract:

1. Power for the sign lighting provided from the roadway lighting circuit.
2. Indicate sign location and a pull box location for connection to the sign lights in the lighting plans.
3. Lighting contractor installs pull box and loop 2' of lighting circuit conductors in the pull box for connection by the signing contractor.
4. Signing contractor furnishes and installs the Luminaires, NEMA 3R enclosure, 30 amp breaker, conduit, conductors and all other electrical equipment necessary for connection to the lighting circuit.

Roadway Lighting not included in contract:

1. Signing plans include the pay item numbers to furnish and install conduit, conductors, ground rods, pull boxes and service point equipment.
2. Signing plans indicate the location of the service point equipment and circuit runs.
3. Signing contractor provides all electrical equipment necessary for connection of the sign lights.

10/29/2019 8:23:24 AM



LUMINAIRE SUPPORT STRUCTURE

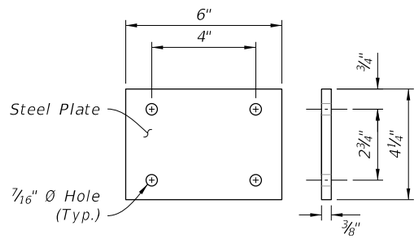


PLATE 'A'

NOTES

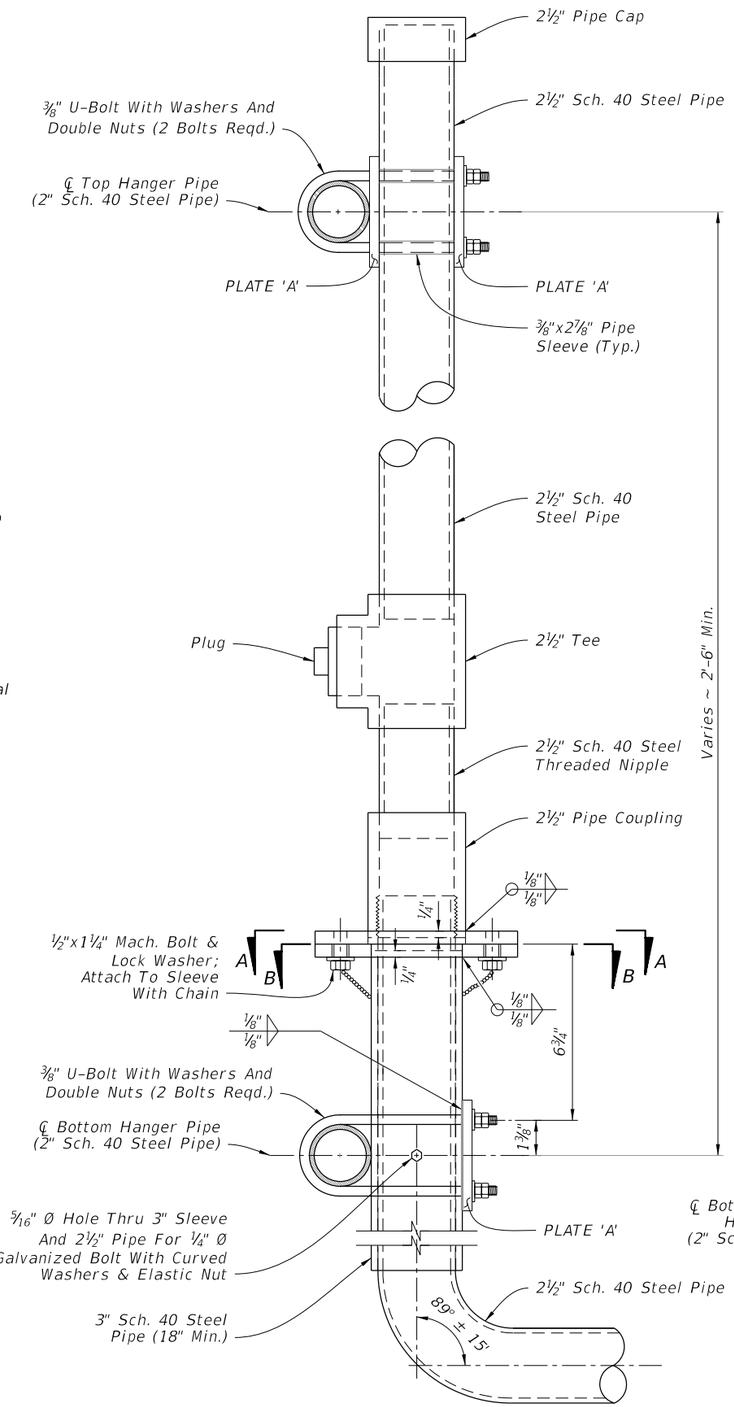
1. Install hanger pipe to each vertical beam crossed with a ⅜" U-Bolt, lock washers and hex nuts. Cap both ends of the horizontal pipe.

2. Materials;
   A. Steel Pipe: ASTM A53 (Grade A or B)
   B. Steel Plate: ASTM A36
   C. Bolts: ASTM A307
   D. Hex Nuts: ASTM A563
   E. Washers: ASTM F436

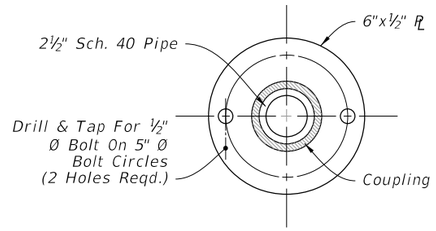
3. Coating: Hot-Dip Galvanize pipes, plates, structural shapes: ASTM A123, Fasteners and hardware: ASTM A153.

4. All pipe dimensions are NPS.

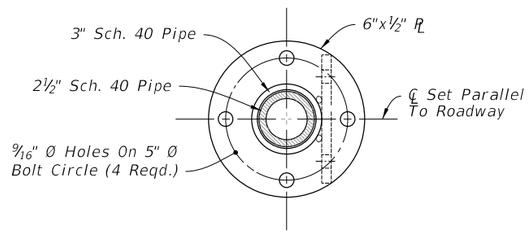
5. $\frac{\text{Chord O.D.}}{2}$ + 5" (Min.)



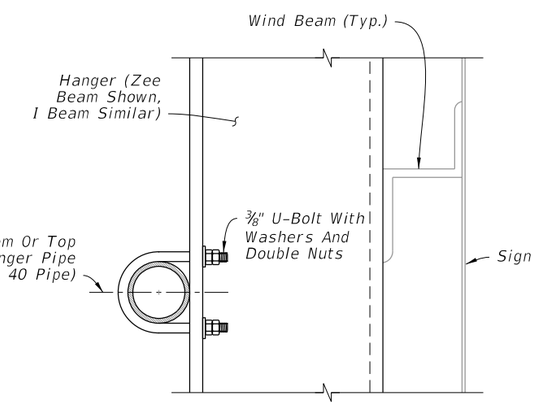
DETAIL 'A'
(Luminaire Support Structure)



SECTION A-A



SECTION B-B



DETAIL 'B'
(Hanger Pipe Connection)

10/29/2019 8:23:25 AM

LAST REVISION	REVISION	DESCRIPTION:			
11/01/17			FY 2020-21 STANDARD PLANS	EXTERNAL LIGHTING FOR SIGNS	INDEX 700-031 / SHEET 2 of 2

NOTES:

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

2. Handholes are required at pole base 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 ('A') and Foundation elevations: Verify dimension 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. Chord Splices
   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 Structural Plates and Bars: 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:
      a. Spread Footing Concrete: Class IV
      b. Drilled Shaft concrete: Class IV (Drilled Shaft)
   E. Reinforcing Steel: Specification 415

5. Fabrication:

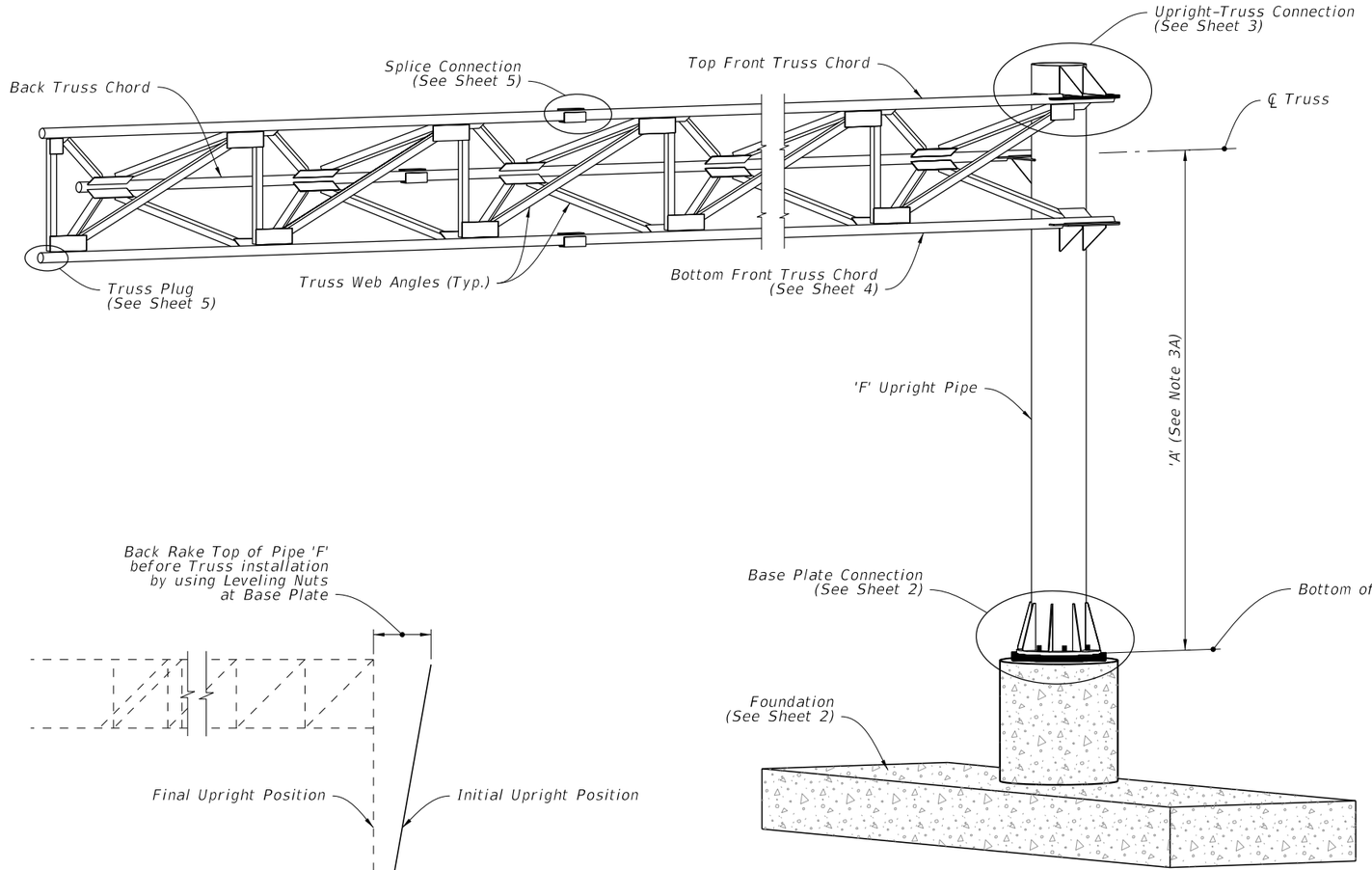
   A. Welding: Specification 460-6.4
   B. Chord Splices: "SD" Panel from upright is the closest panel in which a chord splice may be used. See Plans for CANTILEVER SIGN STRUCTURE DATA TABLE. Minimum splice spacing is two truss panel lengths apart.
   C. Upright splices: Not allowed
   D. Structural bolt 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, 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. Place backfill above spread footings prior to installation of the sign panels. Do not remove or reduce backfill without prior approval of the Engineer.
   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. Place structural grout pad with drain between top of foundation and bottom of baseplate in accordance with Specification 649-7.



CAMBER DIAGRAM

ISOMETRIC VIEW

CANTILEVER SIGN ASSEMBLY

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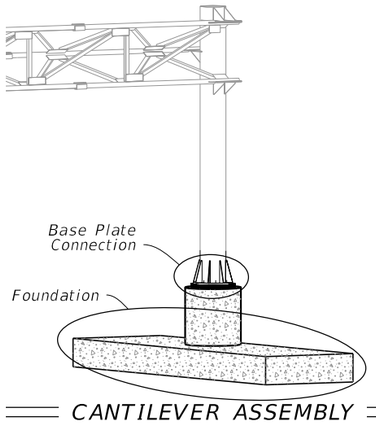
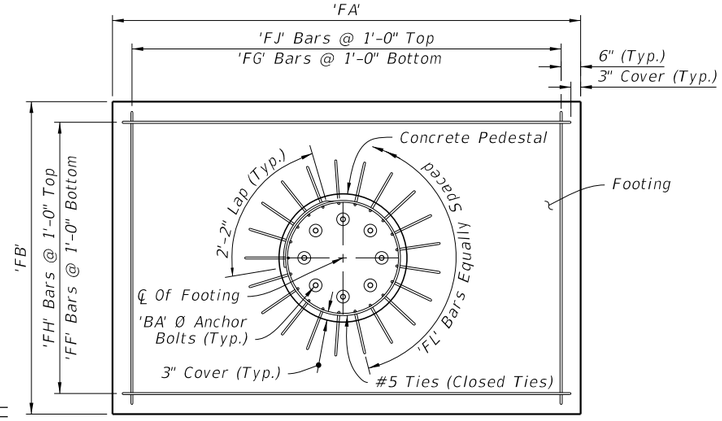
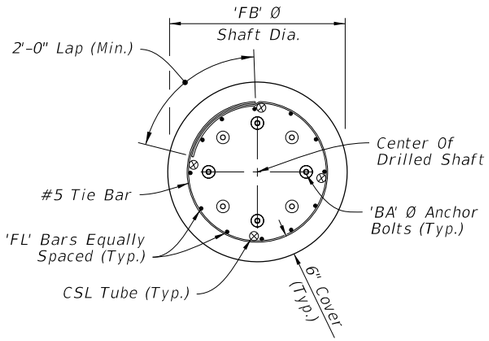
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	CANTILEVER SIGN STRUCTURE	INDEX	SHEET
11/01/17					700-040	1 of 5



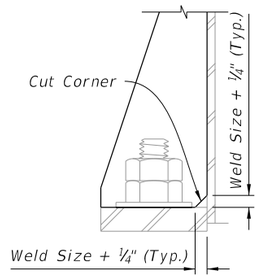
CANTILEVER ASSEMBLY



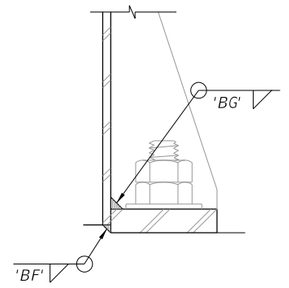
PLAN



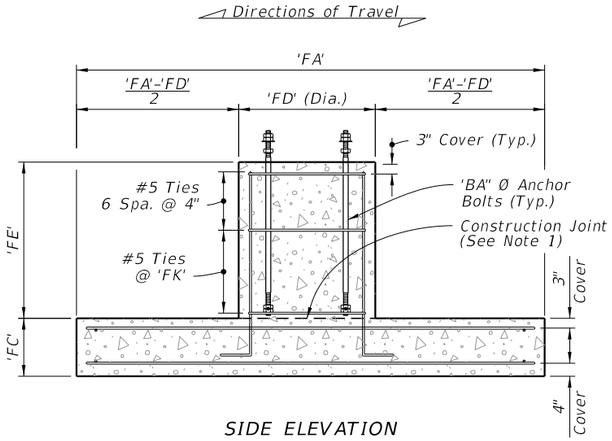
PLAN



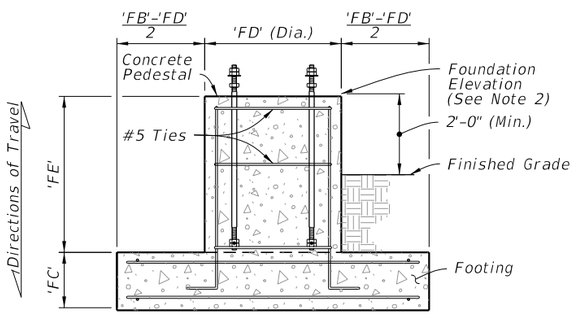
DETAIL 'A'



DETAIL 'B'

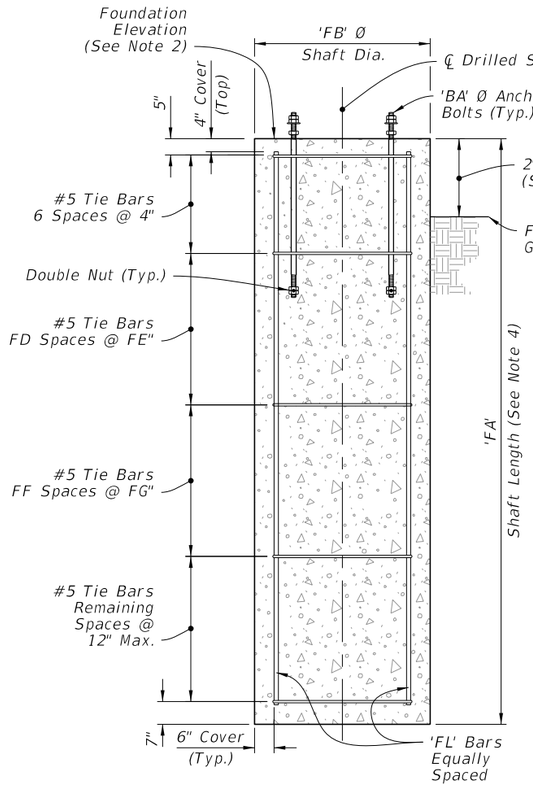


SIDE ELEVATION



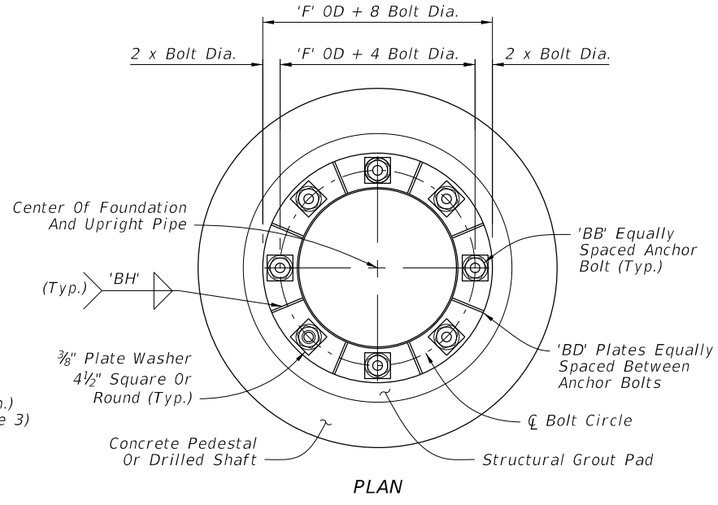
FRONT ELEVATION

FOOTING AND PEDESTAL

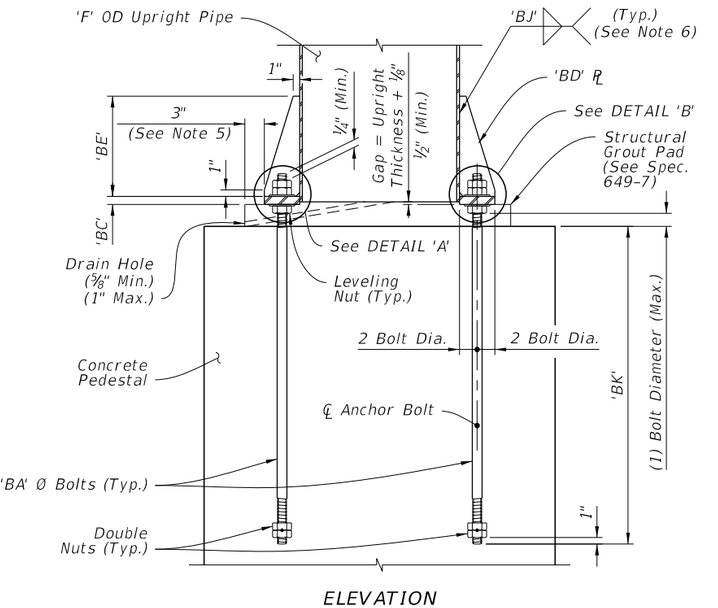


ELEVATION

DRILLED SHAFT
(Alternate Foundation)



PLAN



ELEVATION

NOTES:

1. Construction joint allowed, roughen surface to ¼" minimum amplitude prior to pour.
2. See Traffic Plans for elevation at top of Foundation.
3. Install Drilled Shaft with a 2'-0" minimum from top elevation of the drilled shaft to the finished grade, unless specified otherwise in the plans.
4. The shaft length is based on 2'-0" height above finished grade.
5. Structural Grout Pad dimension may be modified to be less than 3" where the footprint of the Structural Grout Pad does not provide adequate clearance for accessibility considerations.
6. Wrap fillet weld around the stiffener termination on the tube wall.

FOUNDATION

BASE PLATE CONNECTION

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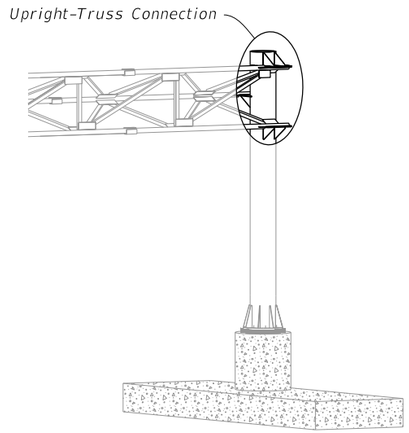
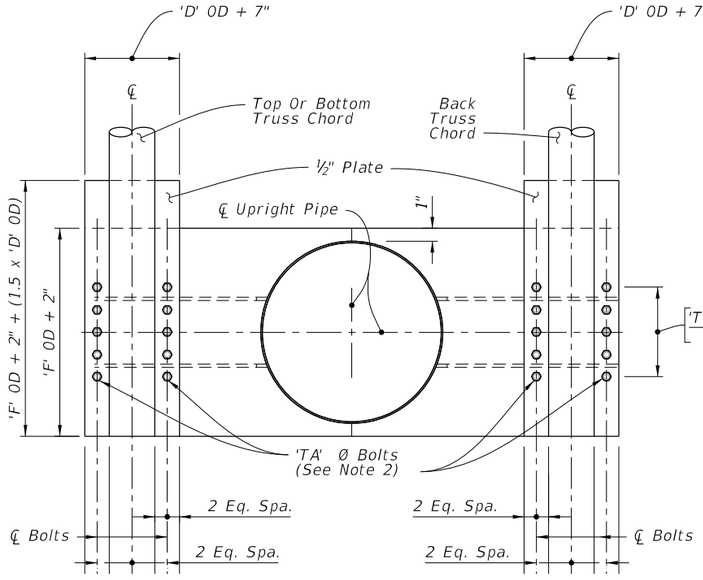
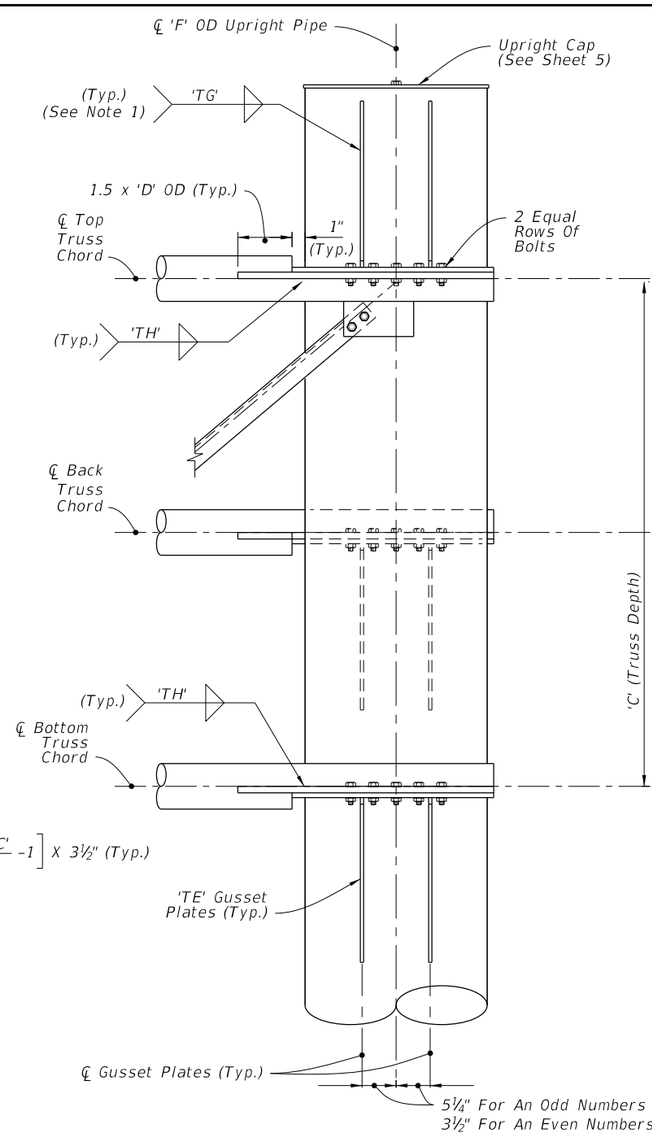
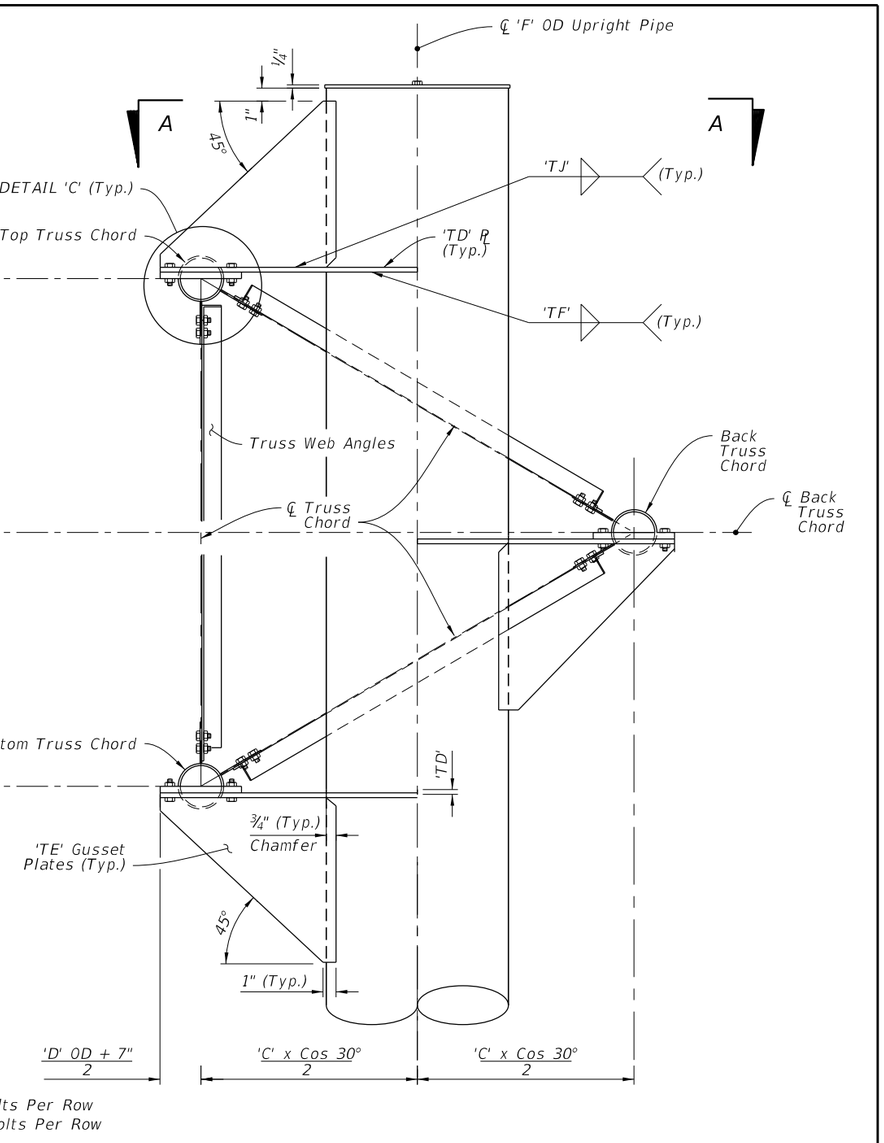


CANTILEVER ASSEMBLY





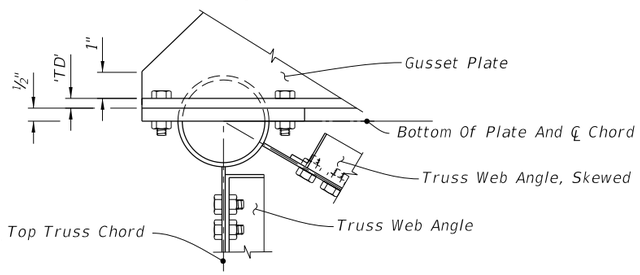
FRONT ELEVATION



SIDE ELEVATION

SECTION A-A

(With Gusset Plates And Web Angles Omitted For Clarity)



DETAIL 'C'

UPRIGHT-TRUSS CONNECTION DETAIL

(Web Members From Back Truss Chord Omitted For Clarity)

NOTE:

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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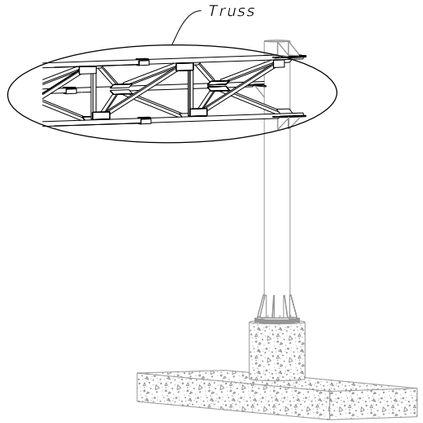
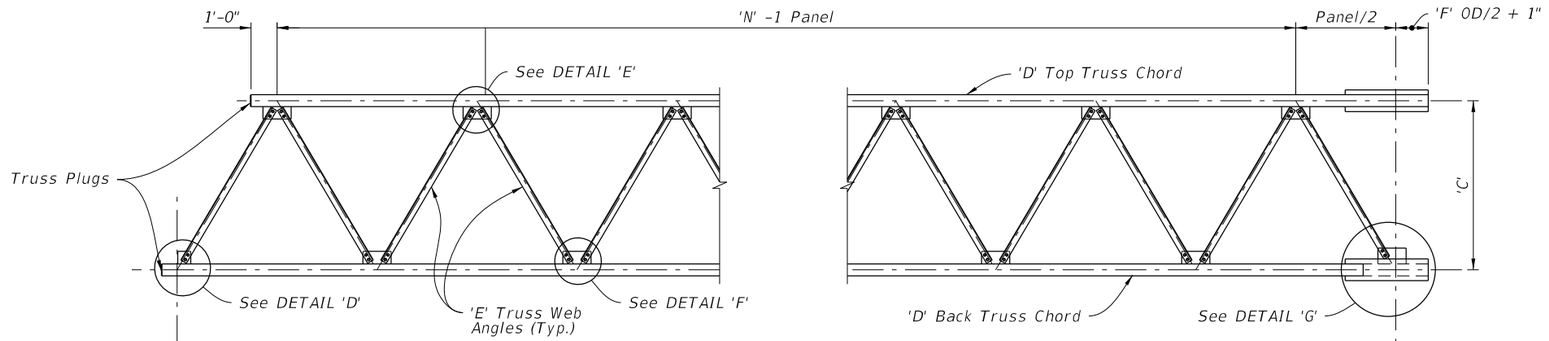
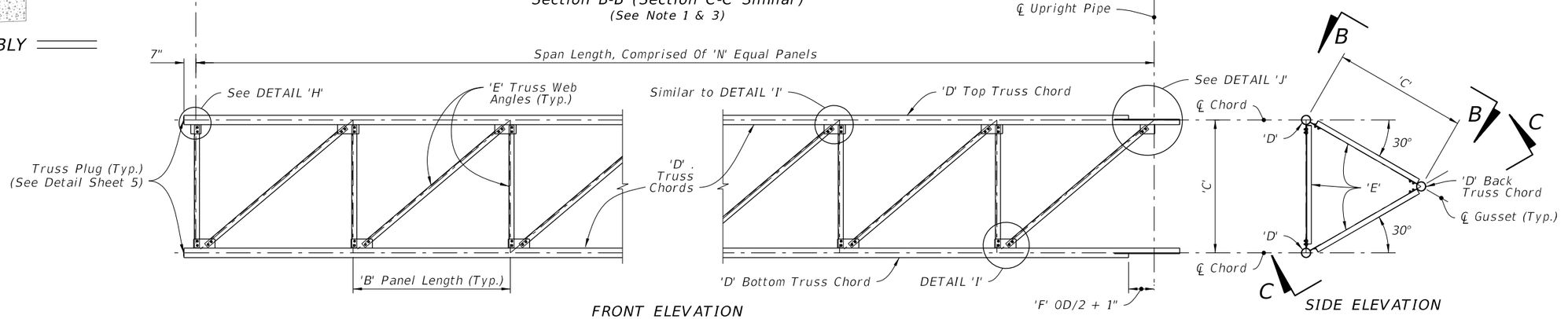
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FY 2020-21 STANDARD PLANS	CANTILEVER SIGN STRUCTURE	700-040	3 of 5



CANTILEVER ASSEMBLY



Section B-B (Section C-C Similar)
(See Note 1 & 3)



FRONT ELEVATION
(See Note 1 & 3)

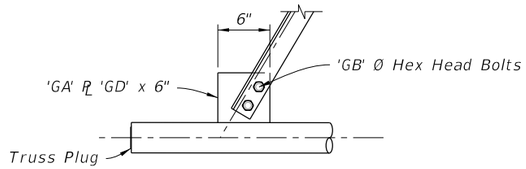
SIDE ELEVATION

TRUSS NOTES:

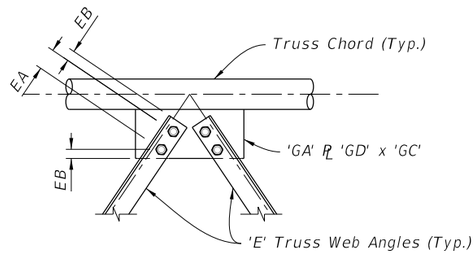
1. Out-of-plane members are not shown for clarity.
2. Wrap fillet weld around plate termination on the tube wall.
3. Chord Splices not shown.

Bolt Size	Distance	
	EA	EB
1¼" Ø	4⅜"	2¼"
1" Ø	3½"	1¾"
⅞" Ø	3"	1½"
¾" Ø	2½"	1¼"
⅝" Ø	2¼"	1⅛"

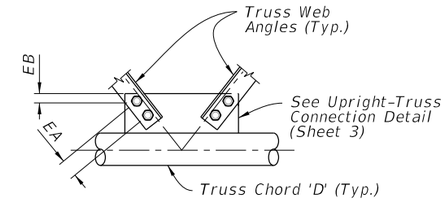
TRUSS



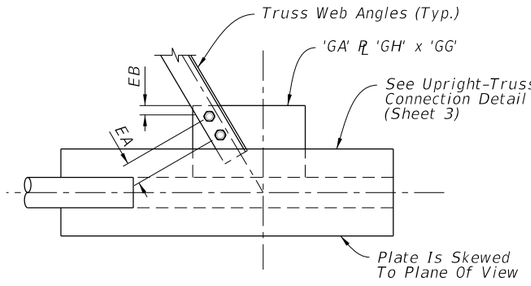
DETAIL 'D'



DETAIL 'E'



DETAIL 'F'



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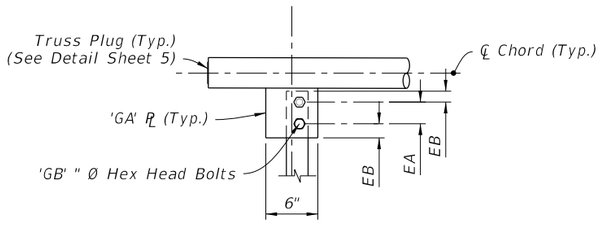
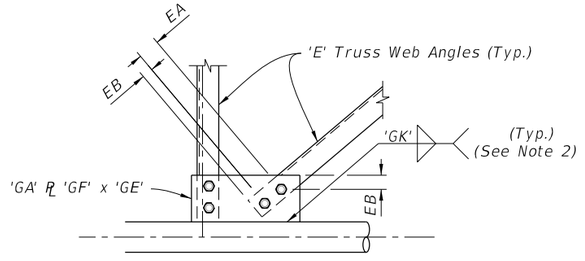
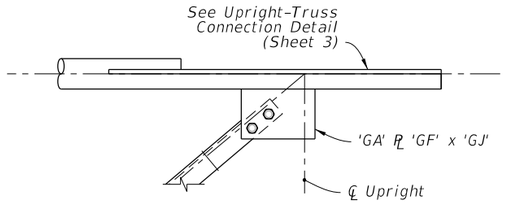


DETAIL 'H'



DETAIL 'I'



DETAIL 'J'

10/29/2019 8:23:33 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	CANTILEVER SIGN STRUCTURE	INDEX	SHEET
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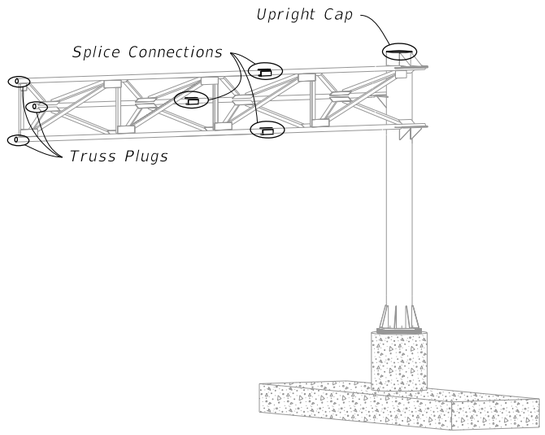
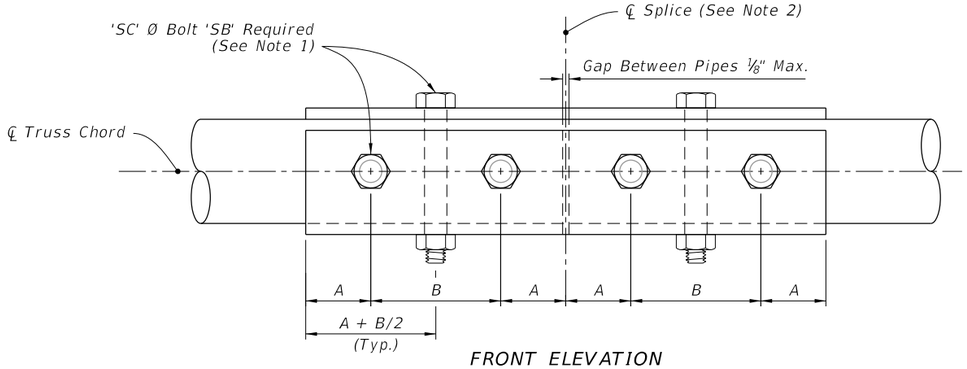
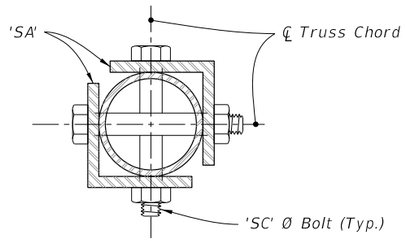


CANTILEVER ASSEMBLY

Bolt Size	Distance	
	A	B
1" Ø	1¾"	3½"
⅞" Ø	1½"	3"
¾" Ø	1¼"	2½"



FRONT ELEVATION



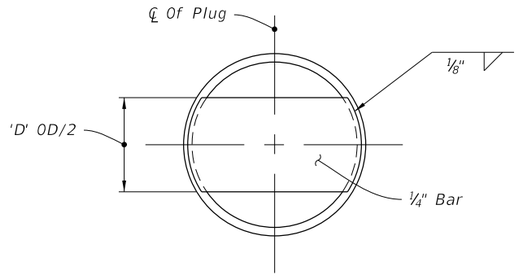
SIDE ELEVATION

SPLICE CONNECTION DETAIL

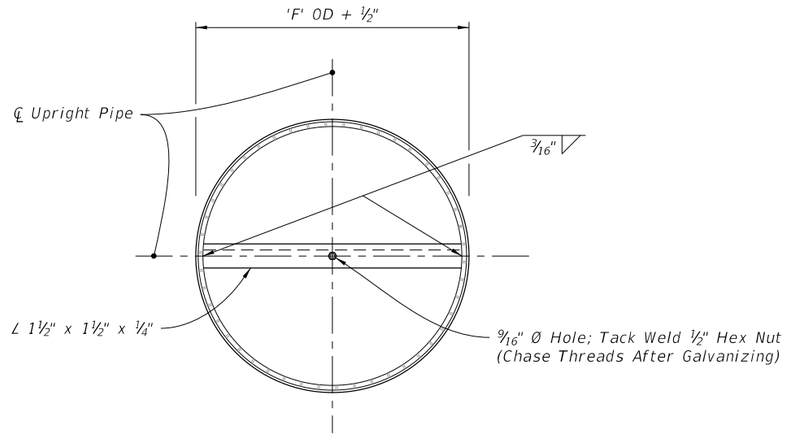
SPLICE CONNECTION NOTES:

1. Only 6 bolts are shown in detail for clarity. (One Half Each Side Of Splice)

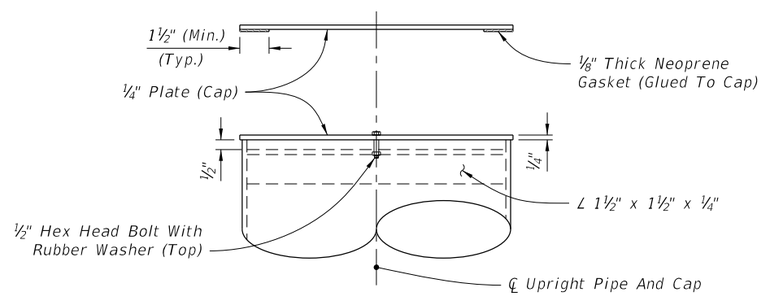
2. Splices are not permitted for trusses less than or equal to 40', Splice optional for trusses greater than 40'.



TRUSS PLUG DETAIL



PLAN



ELEVATION

UPRIGHT CAP DETAIL

10/29/2019 8:23:34 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CANTILEVER SIGN STRUCTURE	INDEX	SHEET
11/01/17						700-040	5 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:

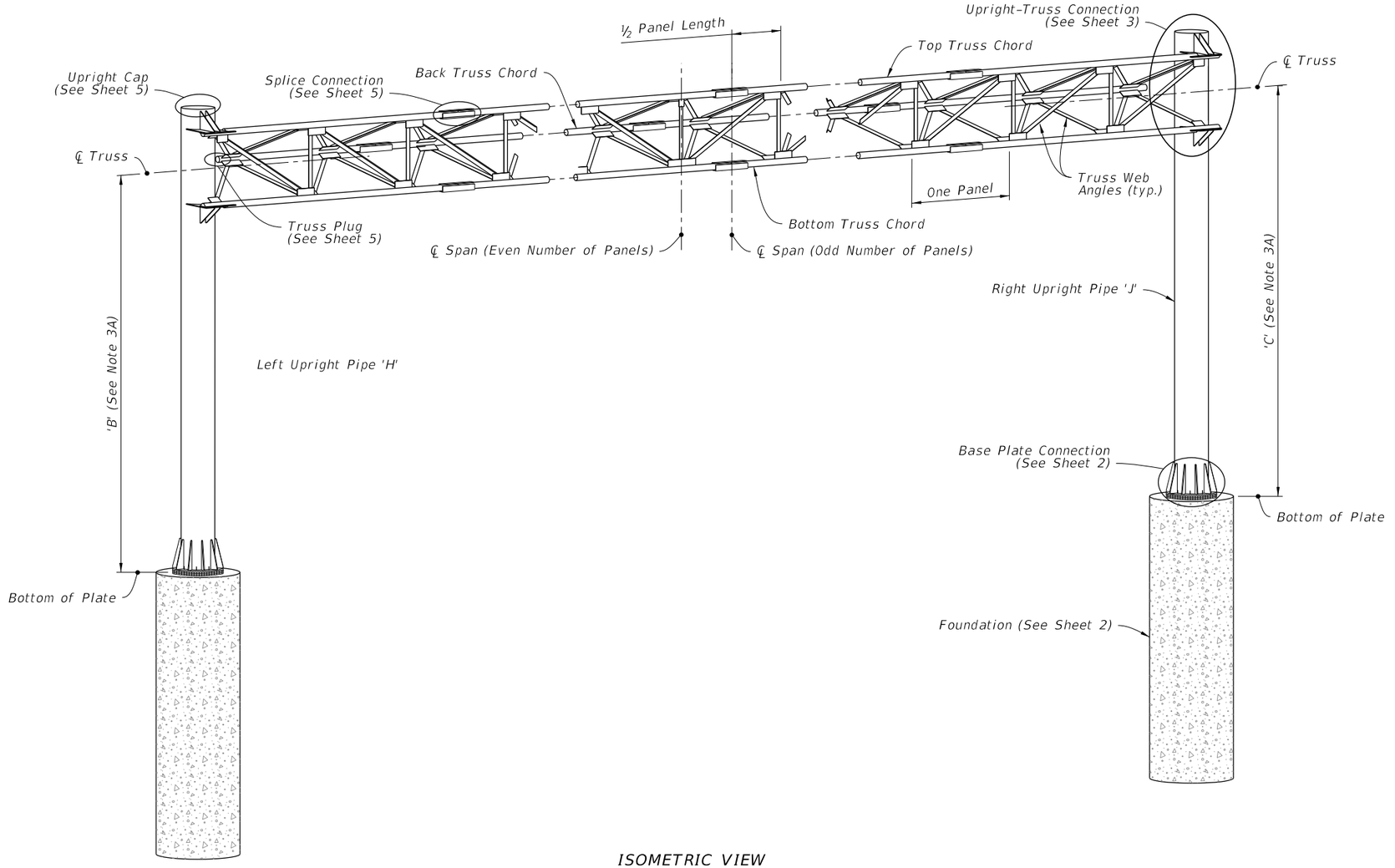
   A. Welding: Specification 460-6.4
   B. Chord Splices: Minimum splice spacing is three truss panel lengths apart and three truss panel lengths from the uprights when panel lengths are 10'-0" or less.
      Chord Splices may be either the Standard Splice or the Alternate Splice, but not both on the same 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

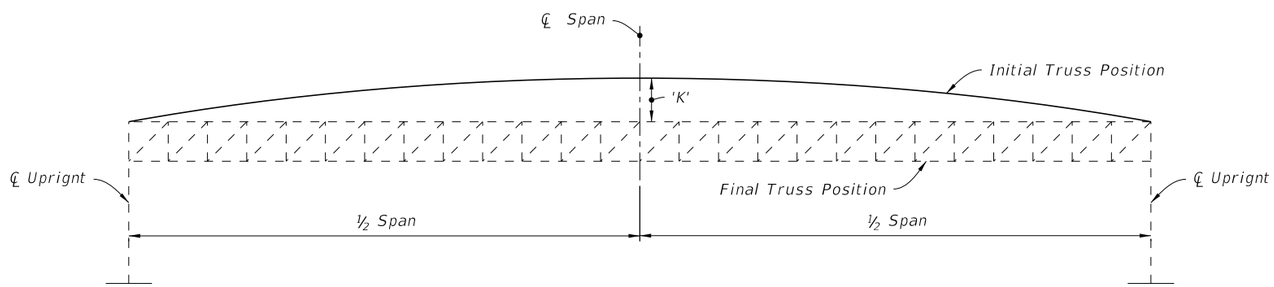
7. Construction:

   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

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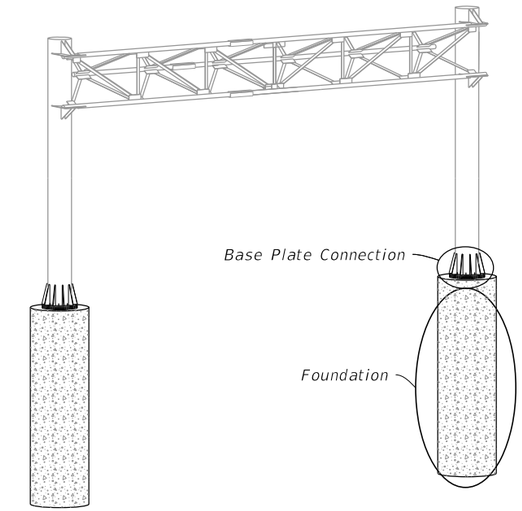
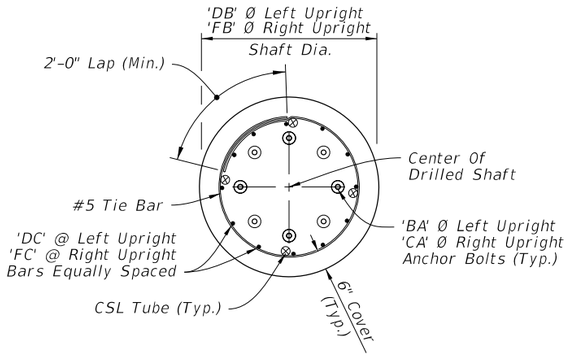
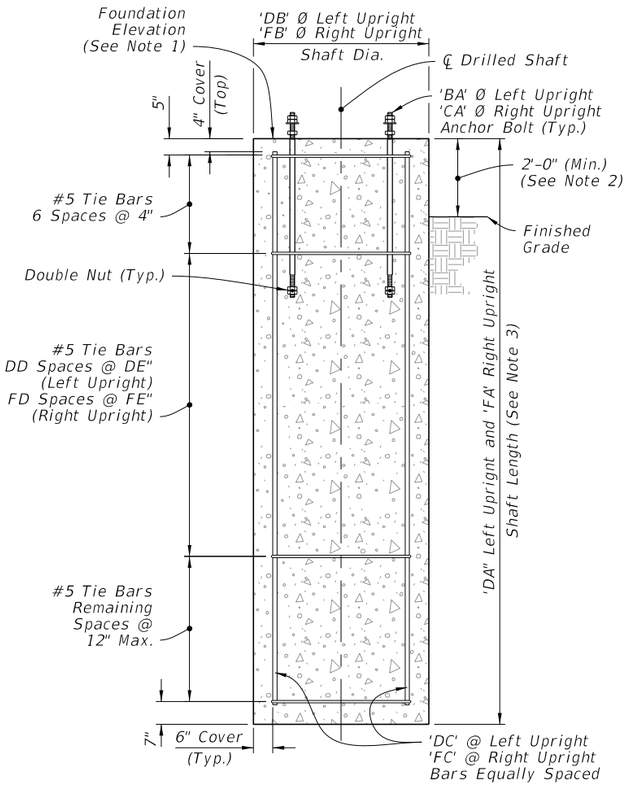


SPAN SIGN ASSEMBLY



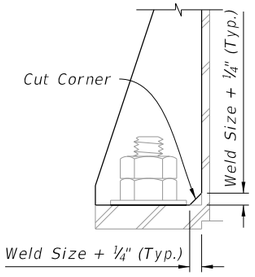
PLAN



ELEVATION

DRILLED SHAFT

FOUNDATION



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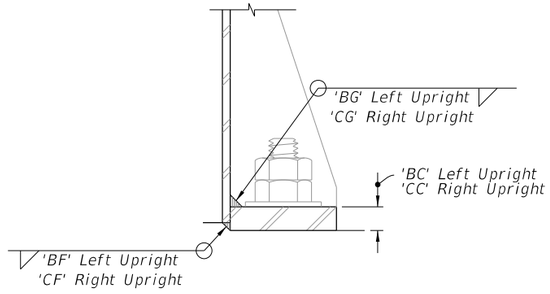

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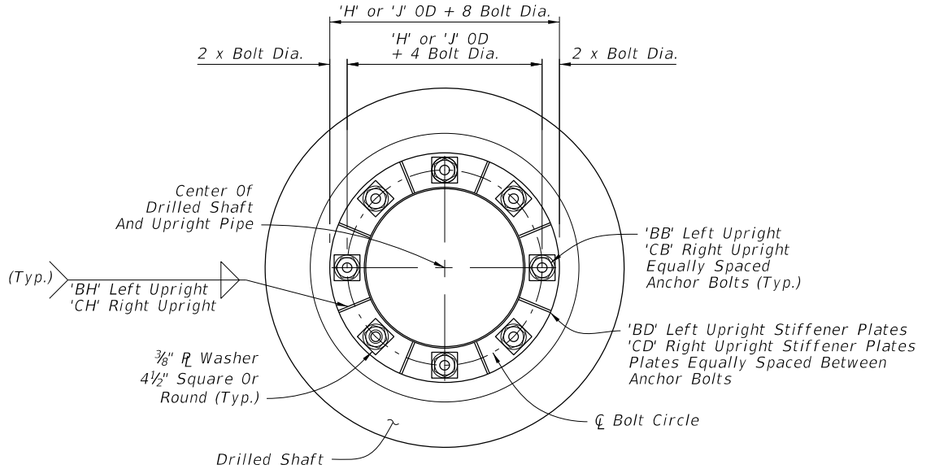
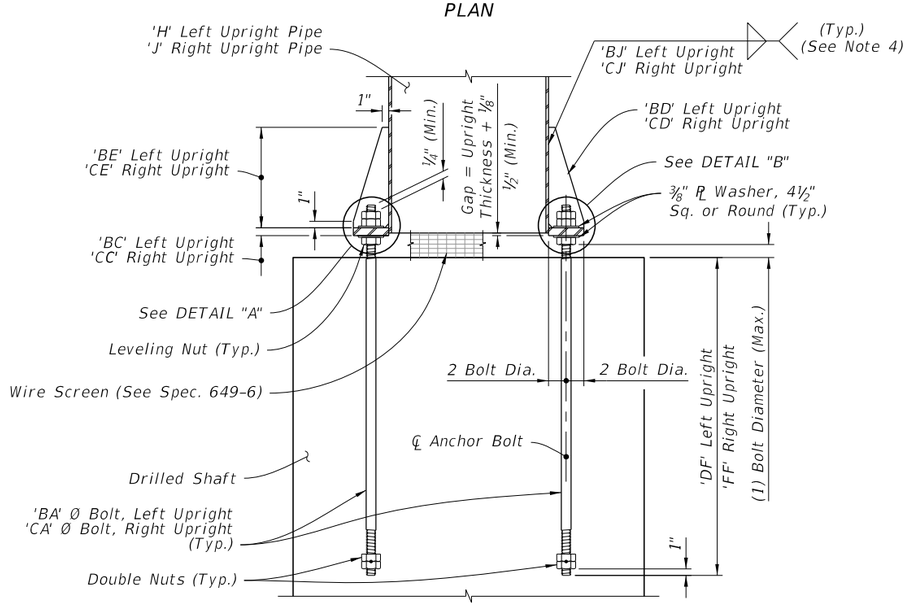


PLAN



ELEVATION

BASE PLATE CONNECTION

NOTES:

1. See Traffic Plans for elevation at top of Foundation.
2. Install Drilled Shaft with a 2'-0" minimum from top elevation of the drill shaft to the finished grade, unless specified otherwise in the plans.
3. The shaft length is based on 2'-0" height above finished grade.
4. Wrap fillet weld around the stiffener termination on the tube wall (Typ).

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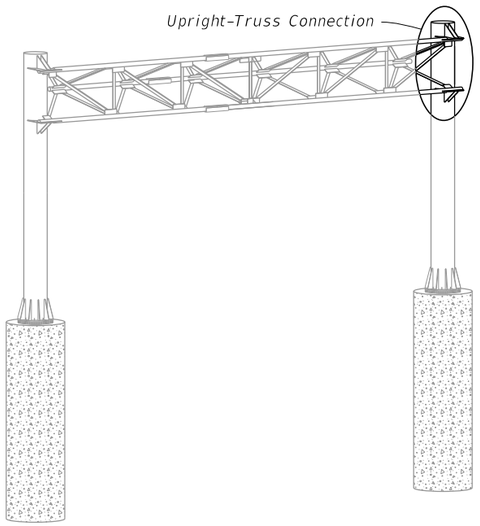
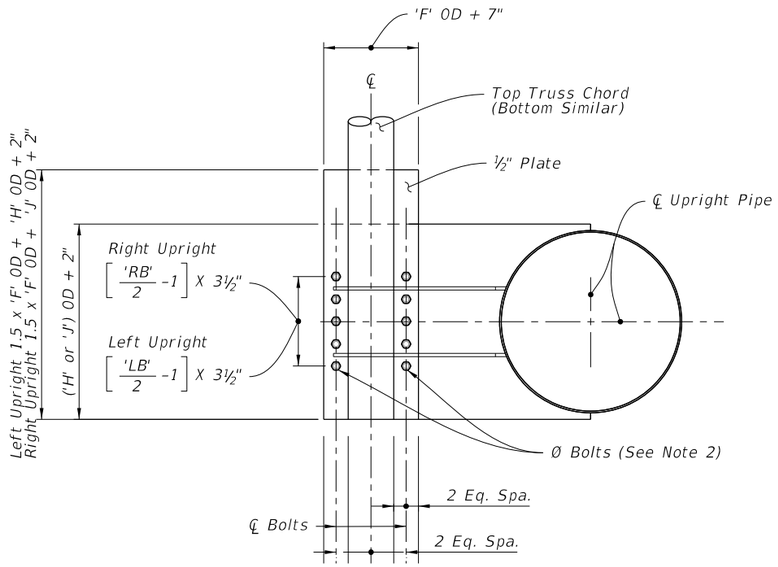
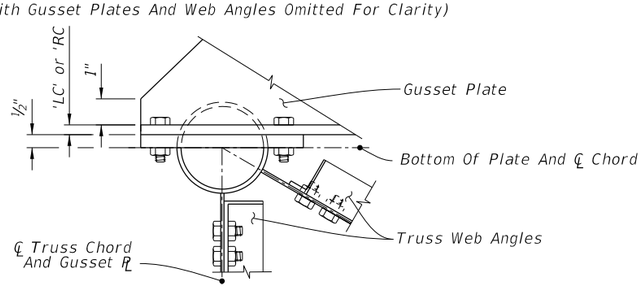


SPAN SIGN ASSEMBLY



SECTION A-A

(With Gusset Plates And Web Angles Omitted For Clarity)



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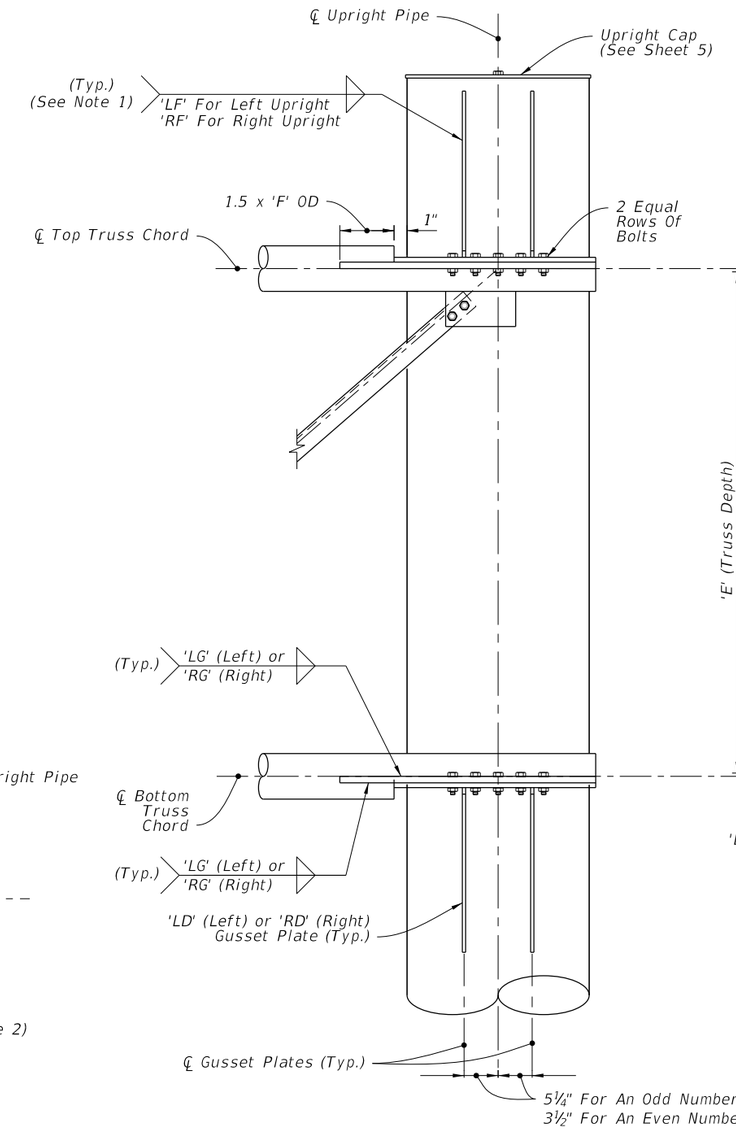
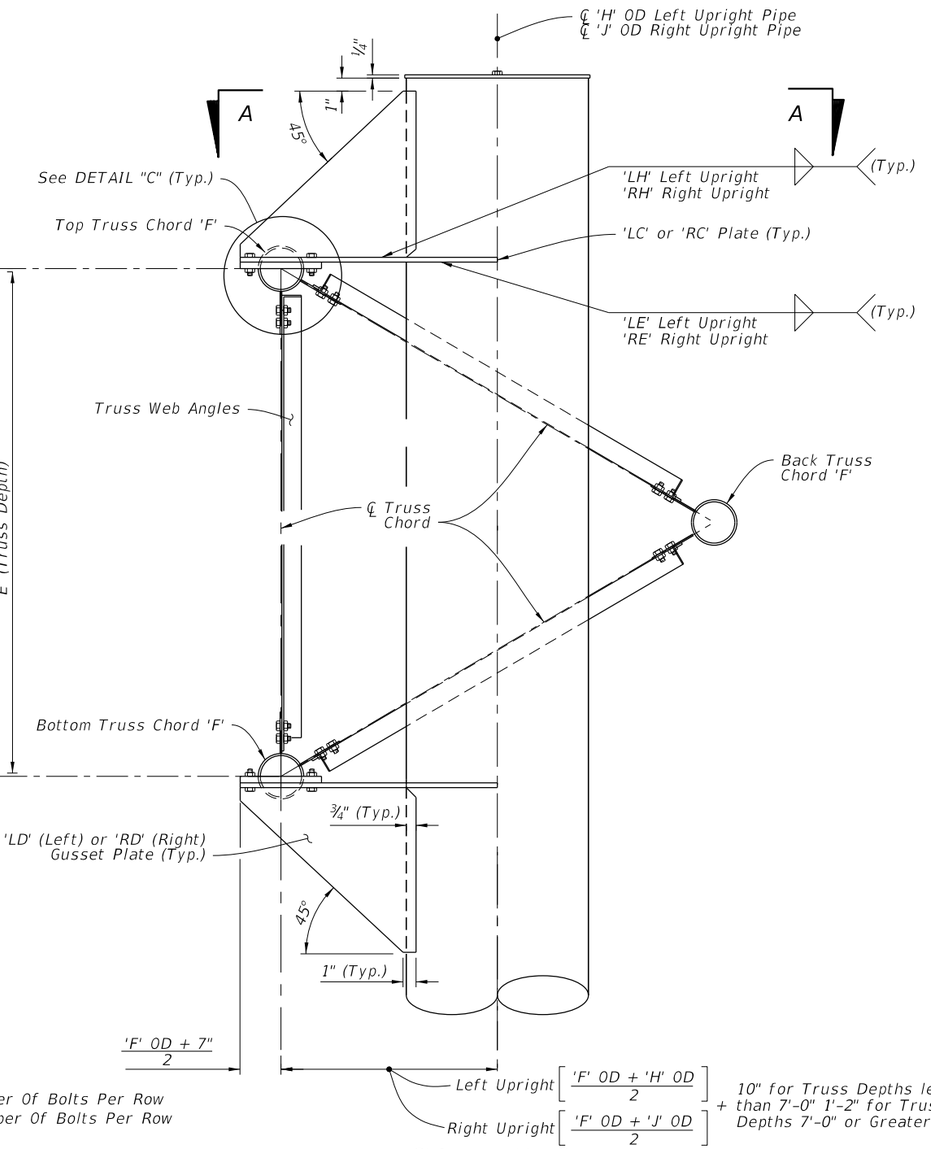


FRONT ELEVATION



SIDE ELEVATION

UPRIGHT-TRUSS CONNECTION DETAIL

(Web Members From Back Truss Chord Omitted For Clarity, See Note 3)

NOTES:

1. Wrap fillet weld around the stiffener termination on the tube wall.
2. Truss Chord Bolts: 'LB' or 'RB' Hex Head Bolts 'LA' or RA' Ø.
3. Right Upright Truss connection shown, Left Upright Truss connection similar.

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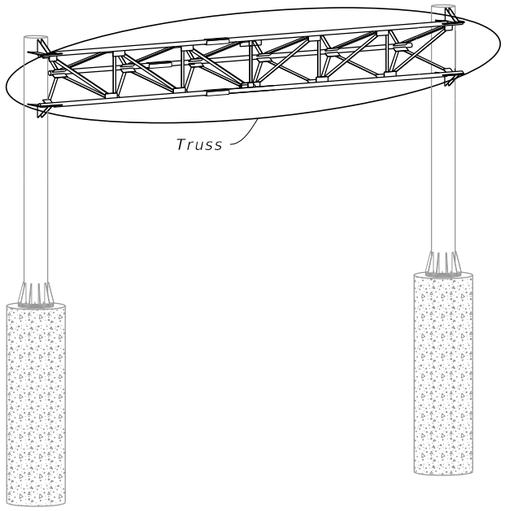
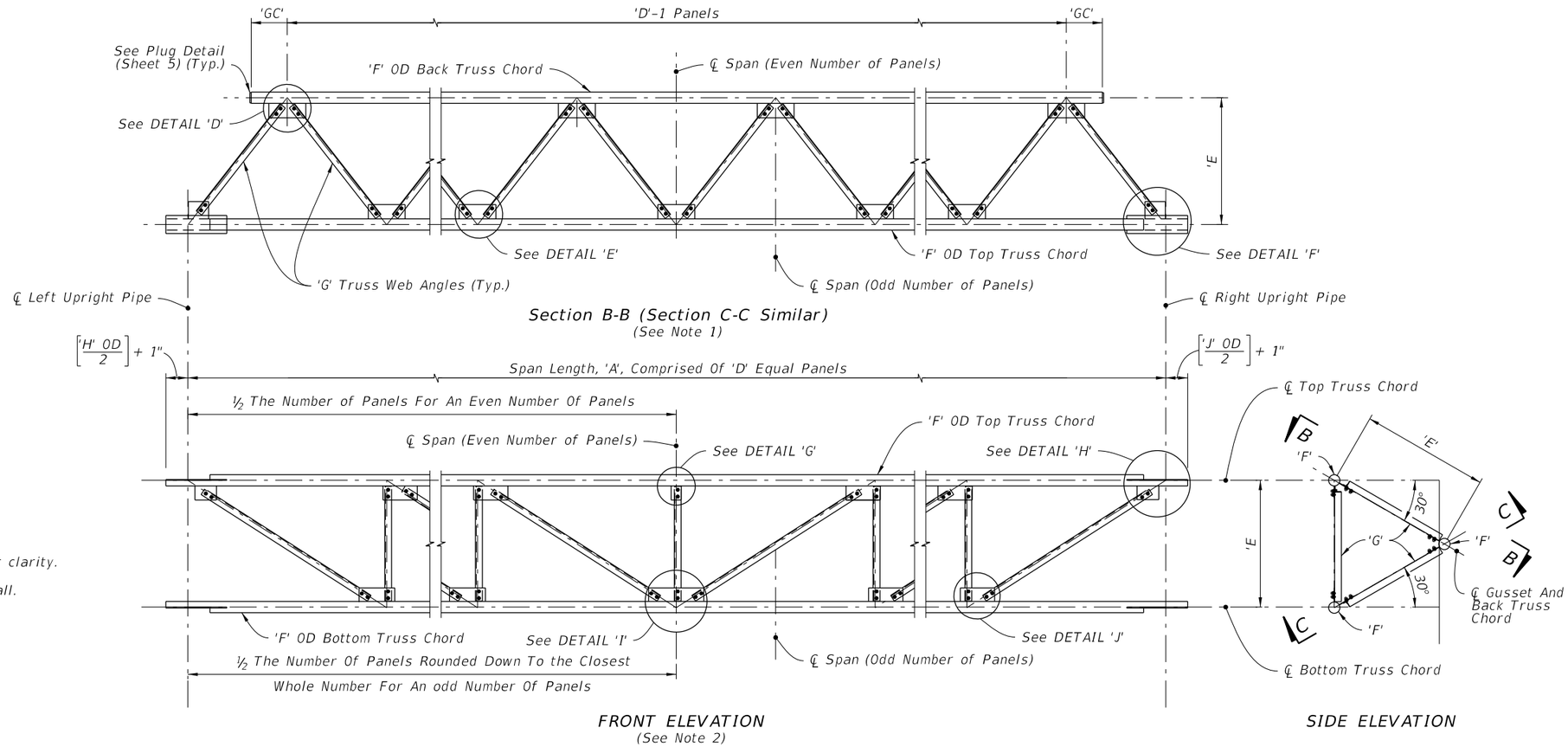


SPAN SIGN ASSEMBLY

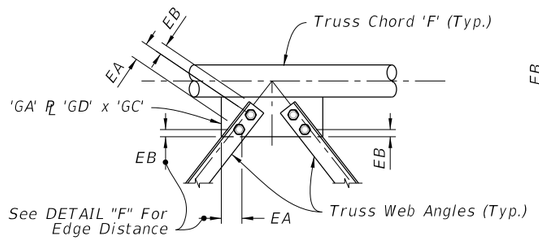
NOTES:

1. Out-of-plane members are not shown for clarity.
2. Back truss chord and attached angles are not shown for clarity.
3. Wrap fillet weld around plate termination on the tube wall.

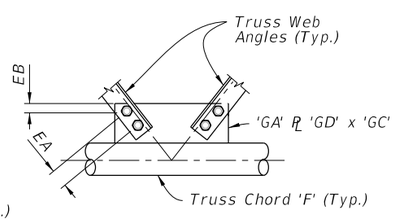
Bolt Diameter (in.)	Distance (in.)	
	EA	EB
1¼	4⅜	2¼"
1	3½	1¾
⅞	3	1½
¾	2½	1¼
⅝	2¼	1⅛



TRUSS



DETAIL 'D'



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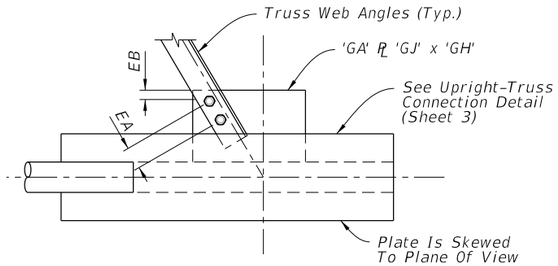

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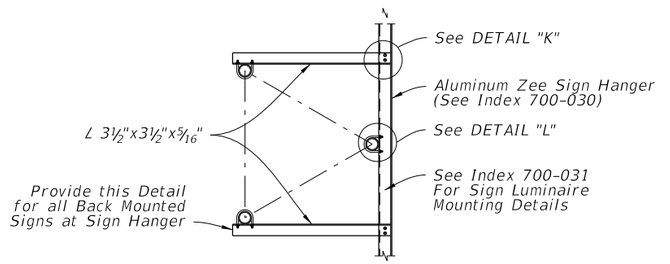
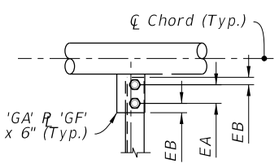
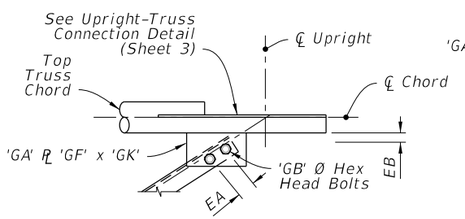


BACK-SIDE SIGN MOUNTING



DETAIL 'G'



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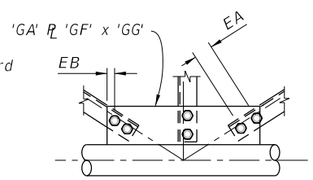

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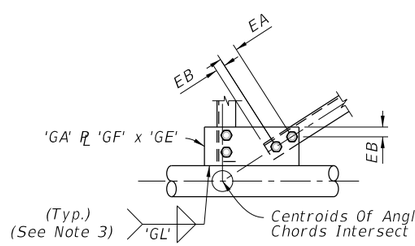

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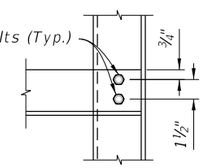

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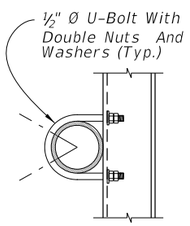

DETAIL 'L'

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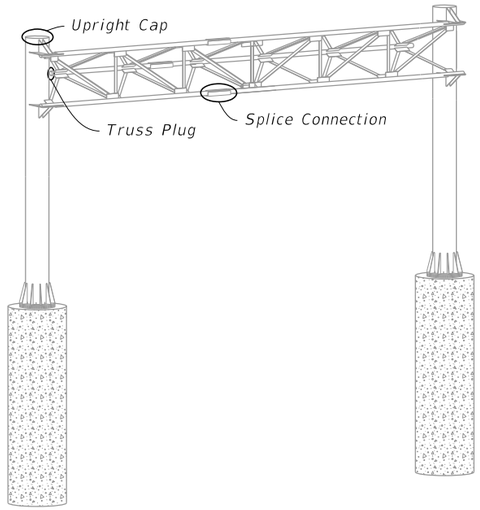
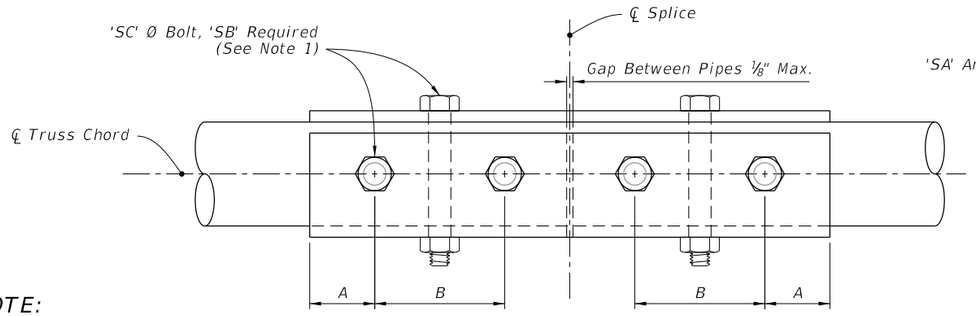


SPAN SIGN ASSEMBLY

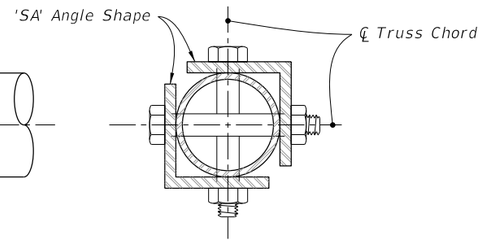
Bolt Diameter (in.)	Distance (in.)	
	A	B
1	1¾	3½
⅞	1½	3
¾	1¼	2½

SPLICE CONNECTION NOTE:

1. Only 6 bolts are shown in detail for clarity. (One Half Each End Of Splice)

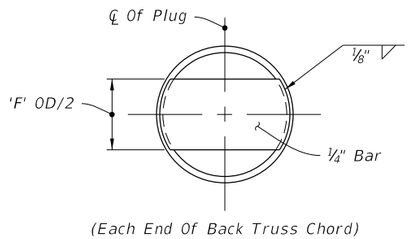


FRONT ELEVATION

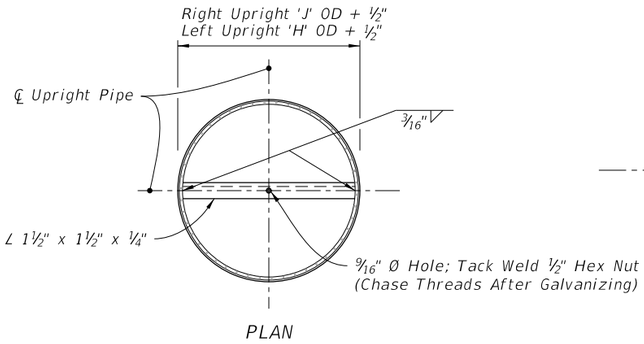


SIDE ELEVATION

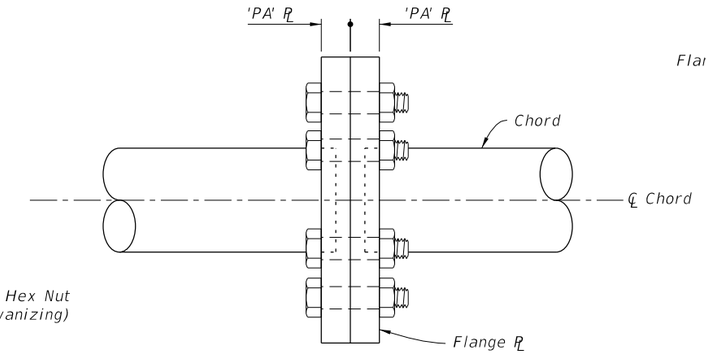
SPLICE CONNECTION DETAIL



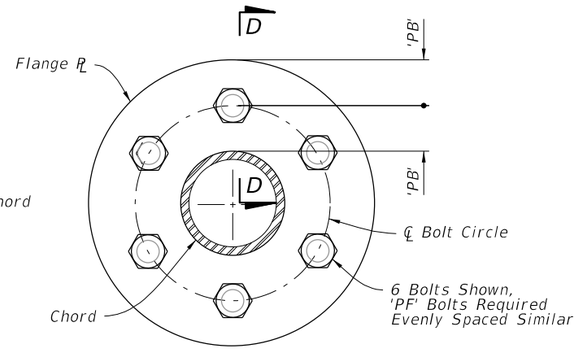
TRUSS PLUG DETAIL



PLAN



FRONT ELEVATION



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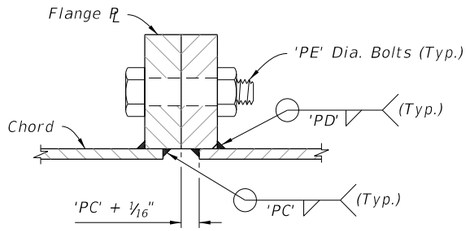
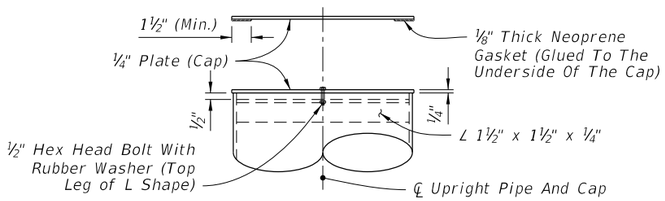


SECTION D-D



ELEVATION

UPRIGHT CAP DETAIL

ALTERNATE SPLICE CONNECTION DETAIL

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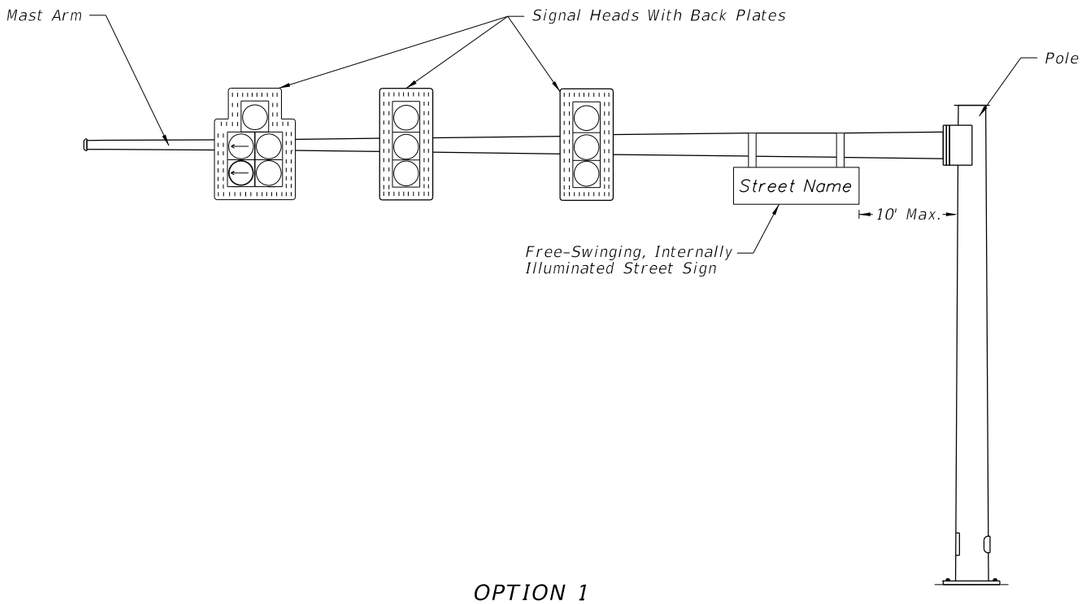
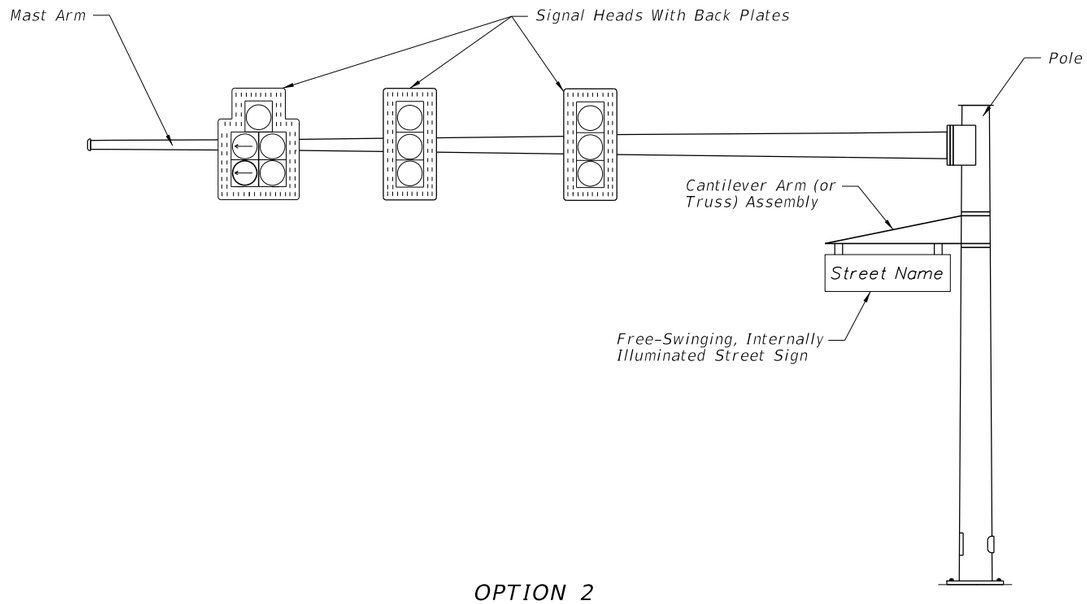
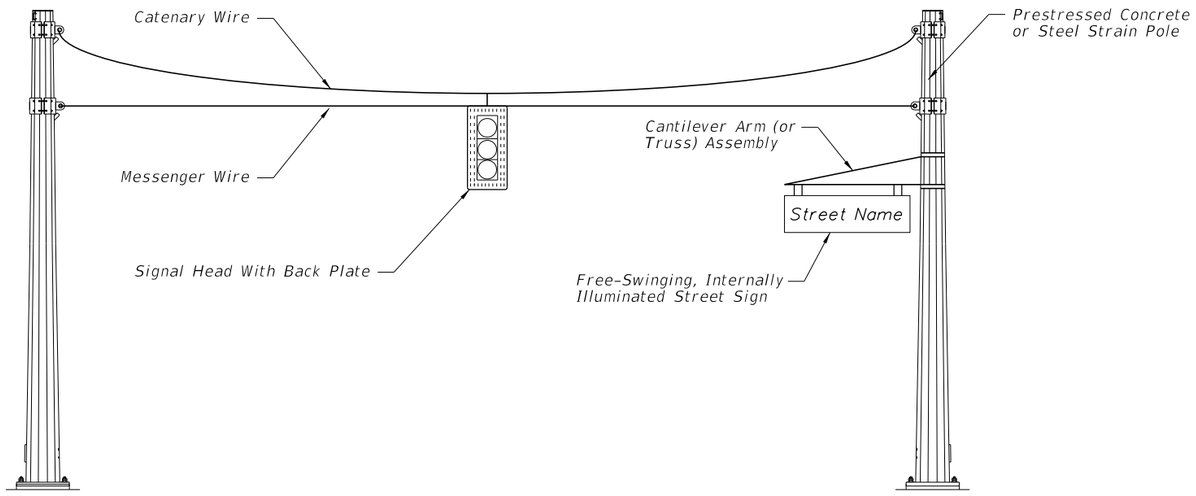


OPTION 1



OPTION 2

MAST ARM ASSEMBLY



SPAN WIRE ASSEMBLY

NOTES:

1. Free-swinging, internally-illuminated street signs shall only be installed on the signal pole for span wire assemblies. For mast arm assemblies the street sign may be installed on the arm or pole.
2. Free-swinging, internally-illuminated street signs meet the requirements of Specification 700.
3. Pole attachments and cantilever arm (or truss) assemblies may be accepted by Contractor certification provided the signs being supported meet the weight and area limitations included in Specification 700 for "Acceptance by Certification".
4. Pole attachments and cantilever arm (or truss) assemblies supporting signs not meeting the weight or area limitations included in Specification 700 for "Acceptance by Certification" require the submittal of structural calculations and Shop Drawings that have been prepared by and sealed by the Specialty Engineer.

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GENERAL NOTES:

1. Work this Index with Specification 700.

2. Furnish and install the Dynamic Message Sign (DMS), sign structure in accordance with Index 700-040 or 700-041. Locate foundations at locations shown in the Plans.

3. Shop Drawings are required:

   A. Include the DMS connection
   B. Do not start fabrication until the shop drawings are approved

4. If required, install guardrail at location show in the Plans and in accordance with Index 536-001.

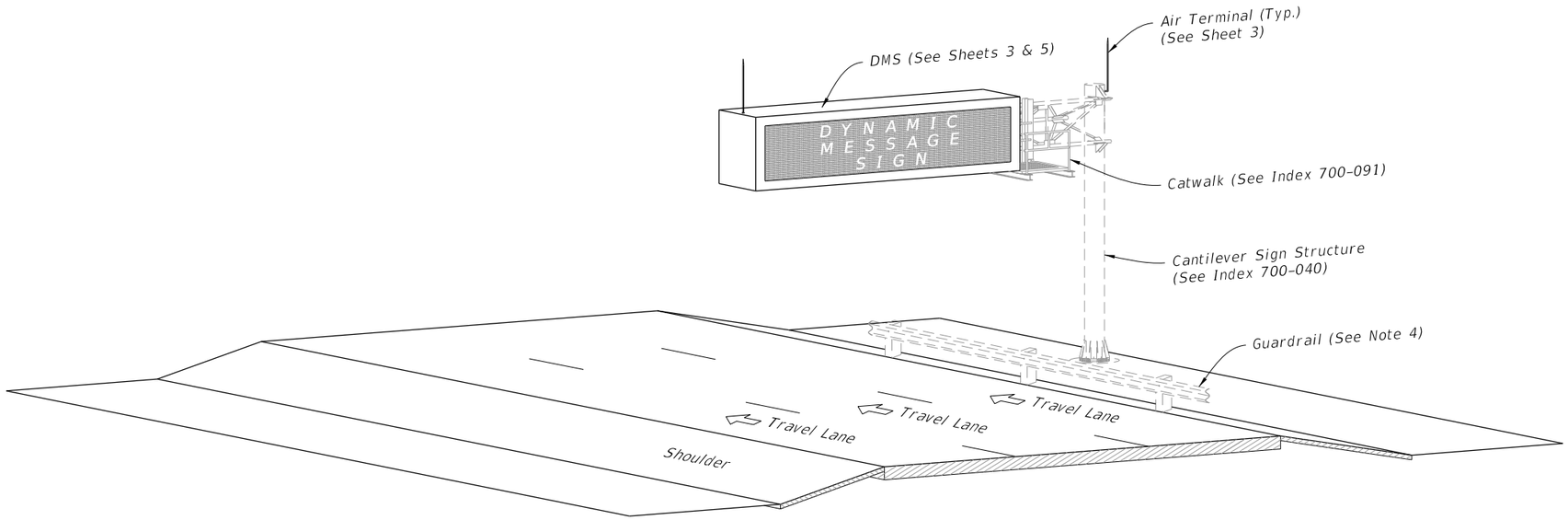
5. Materials:

   A. Sign Mounting Components:
      a. Aluminum Structural Shapes: ASTM B308, Alloy 6061-T6
      b. Vertical Hangers: ASTM A704, Grade 36
      c. U-Bolts: ASTM A449 or A193 B7
      d. Steel Bolts, Nuts, and Washers:
         1. High Strength Bolts: ASTM F3125, Grade A325, Type 1
         2. Nuts: ASTM F563
         3. Washers: ASTM F463 (Flat Washer)

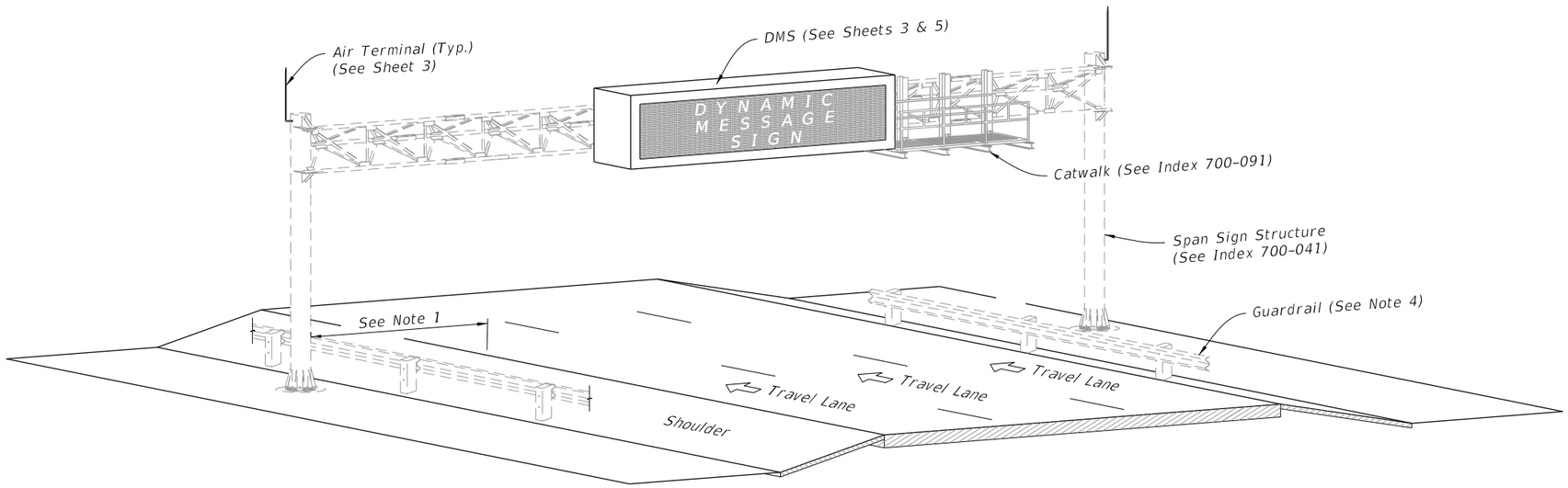
   B. Coatings:
      a. All nuts, bolts and washers ASTM F2329
      b. All other steel items ASTM A123
      c. Bolt hole Diameters: Bolt plus $\frac{1}{16}$" before galvanizing

6. Installation:

   A. See project requirements for location of DMS Cabinet.
   B. Field Adjust pole-mounted DMS cabinet height to achieve best access for maintenance personnel given site condition as directed by the Engineer. Avoid conflicts with stiffeners, handhole and maintenance of anchor bolts.
   C. Locate the sign horizontal on the structure as shown in the Plans. Vertically center the sign enclosure with the centerline of the truss.
   D. Before erection, field drill the bolt holes in the vertical hangers and horizontal mounting member attached to the sign enclosure. Field locate holes to allow vertical hanger placement as shown on the Plans with no conflicts with gusset or splice plates.
   E. Locate threaded couplings on sign side of upright above the sign truss
   F. Connect grounding conductors to the steel framework that has been cleaned to base metal by use of bonding plates having contact area of not less than 8 square inches or by welding or brazing. Drilling and tapping the steel structure to accept a threaded connector is also an acceptable method
   G. If steel framework is to be drilled and tapped to accept threaded connector, the threaded connector shall be galvanized and have at least 5 threads fully engaged and secured with a jam nut to the steel framework.
   H. Bends in the conduit must be greater than the minimum bending radius for the cable contained in the conduit.
   I. Completely encase all data, fiber optic and power cables for the DMS within the sign structure or in conduit.
   J. Permanently stamp/mark foundation to indicate conduit locations.
   K. Transition conduit in foundation to indicate underground conduit with appropriate reducer outside the limits of the foundation.



CANTILEVER ISOMETRIC VIEW



SPAN ISOMETRIC VIEW

DYNAMIC MESSAGE SIGN ASSEMBLY

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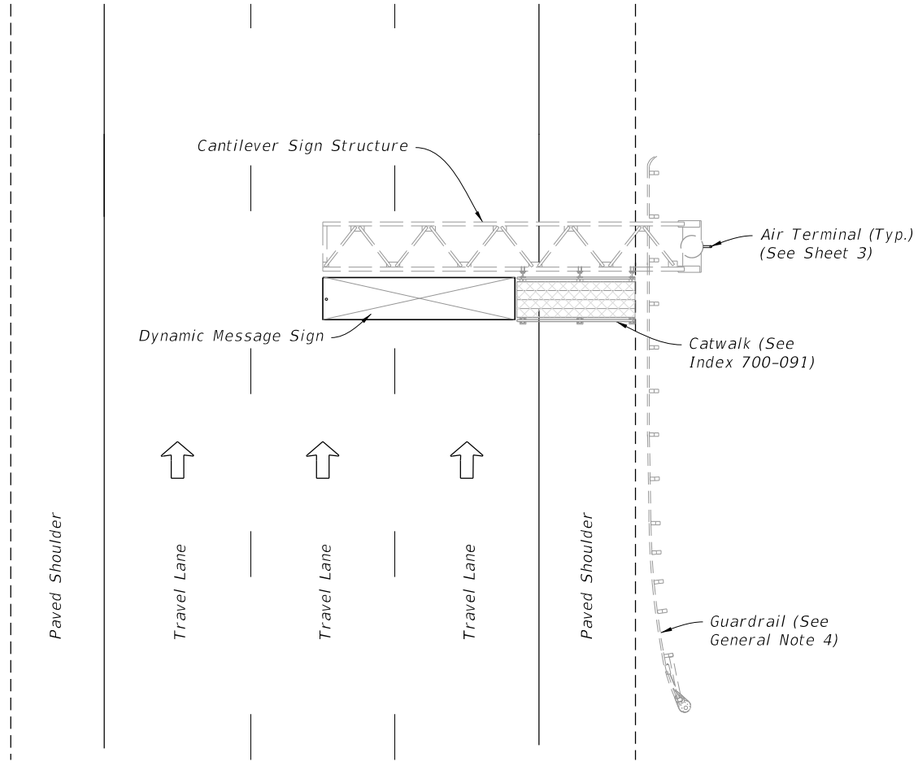
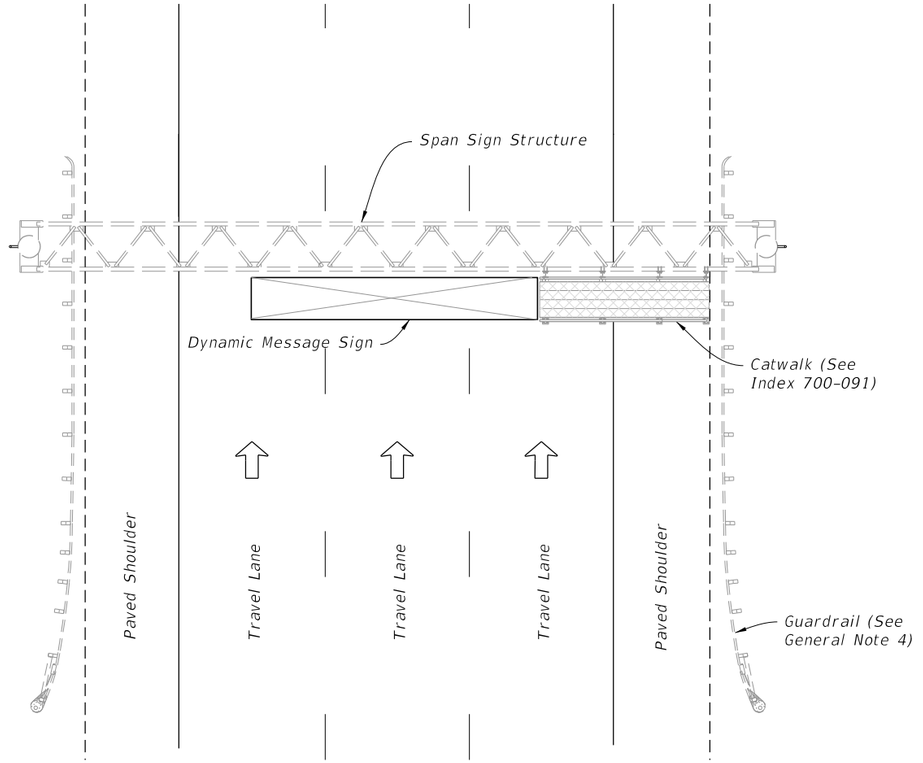
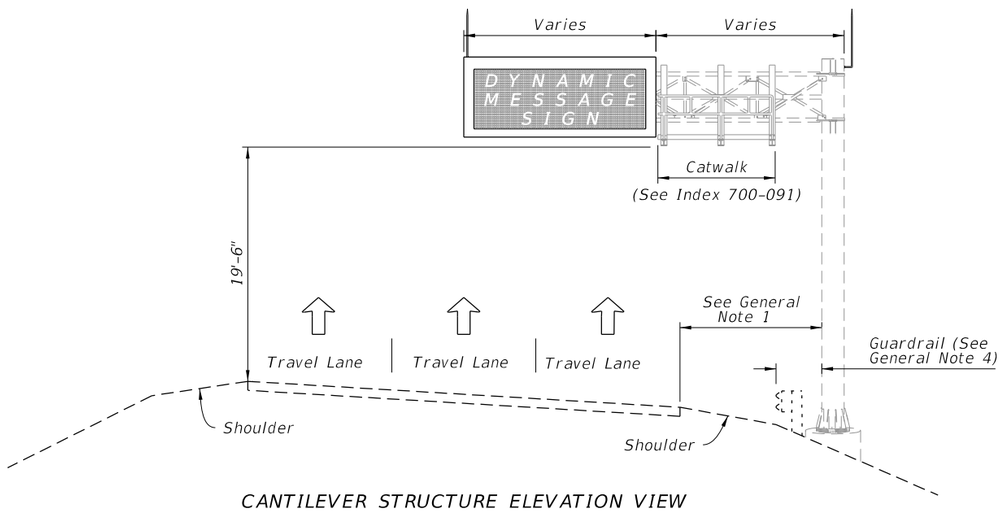


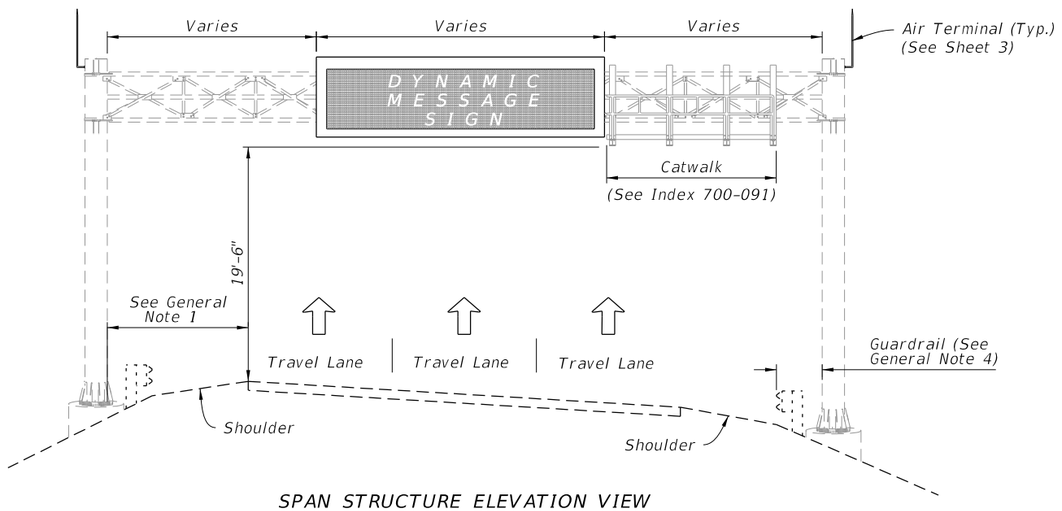
CANTILEVER STRUCTURE PLAN VIEW



SPAN STRUCTURE PLAN VIEW



CANTILEVER STRUCTURE ELEVATION VIEW



SPAN STRUCTURE ELEVATION VIEW

DYNAMIC MESSAGE SIGN GENERAL LAYOUT

NOTE: Actual number and direction of travel lanes varies.

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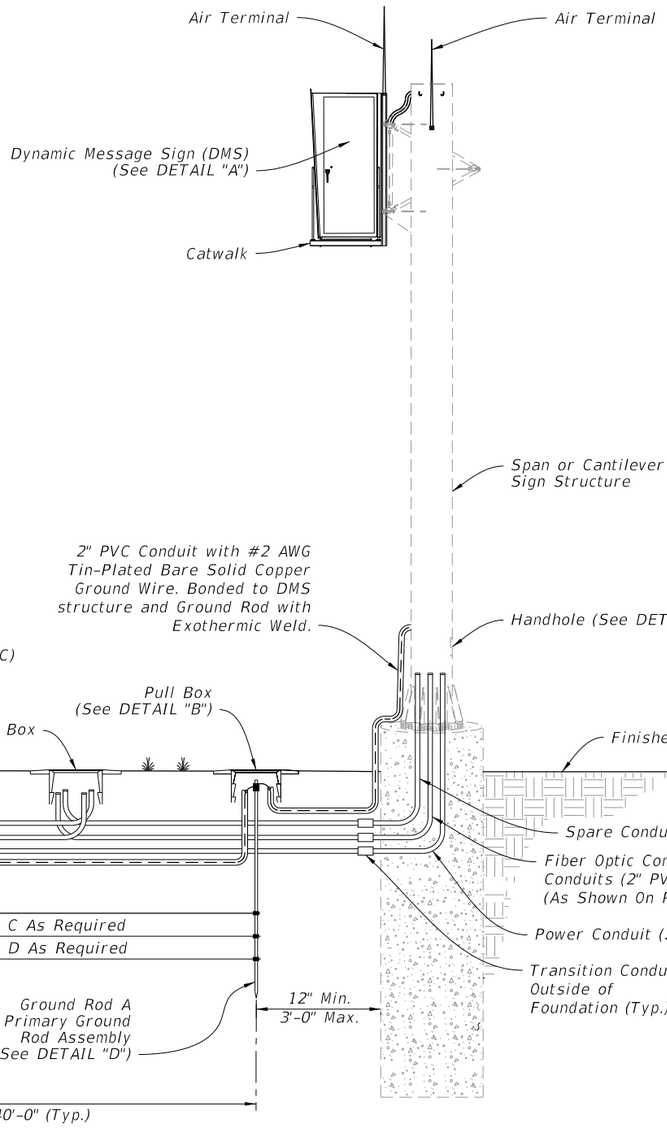
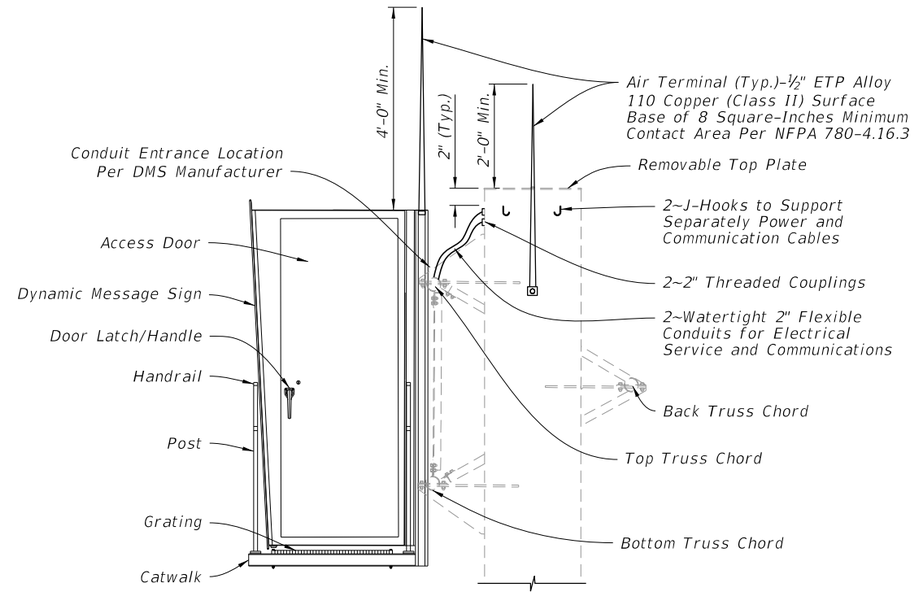
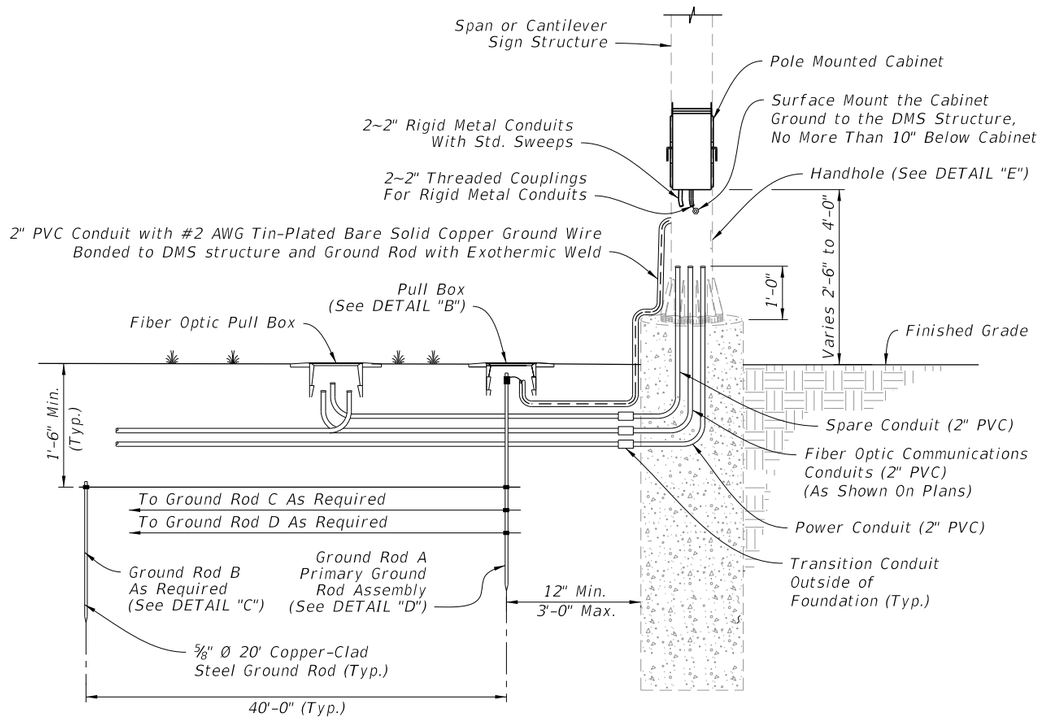
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FY 2020-21 STANDARD PLANS	DYNAMIC MESSAGE SIGN WALK-IN	700-090	2 of 5



GROUND MOUNTED CABINET



DETAIL "A"

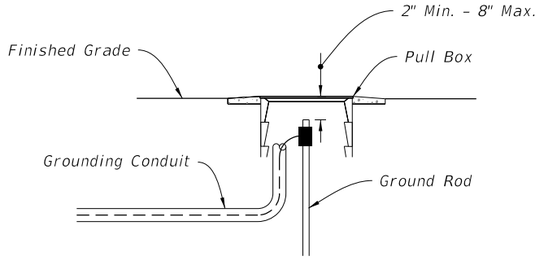


POLE MOUNTED CABINET

DYNAMIC MESSAGE SIGN GROUNDING AND CONDUIT DETAIL

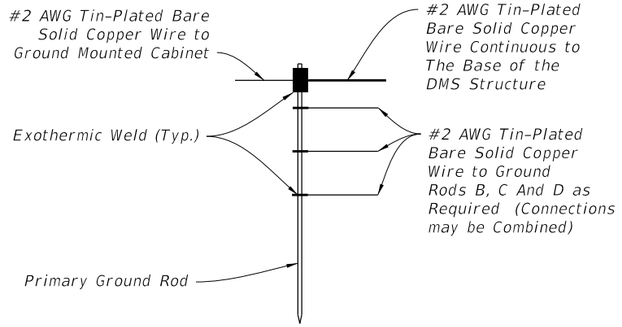
10/29/2019 8:23:44 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	DYNAMIC MESSAGE SIGN WALK-IN	INDEX	SHEET
11/01/17						700-090	3 of 5

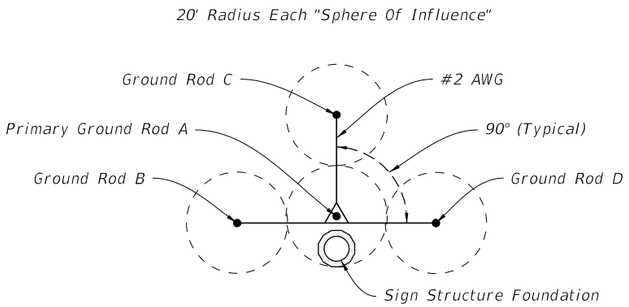


(Pole Mounted Cabinet Configuration Shown)

DETAIL "B"



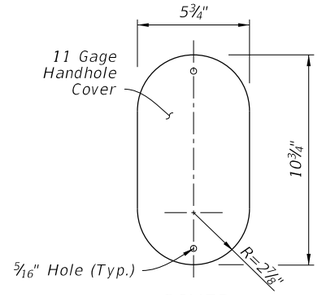
DETAIL "C"



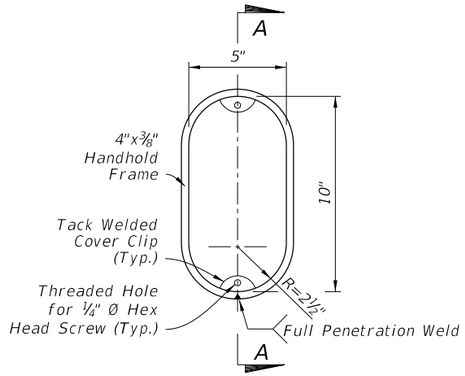
TYPICAL
(20' Rods, 40' Spacing)

GROUND ROD ARRAY DETAIL

DETAIL "D"



COVER



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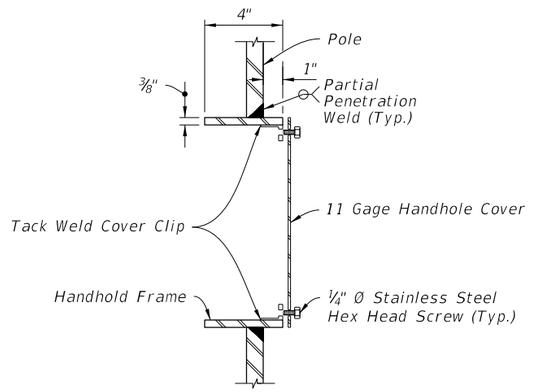


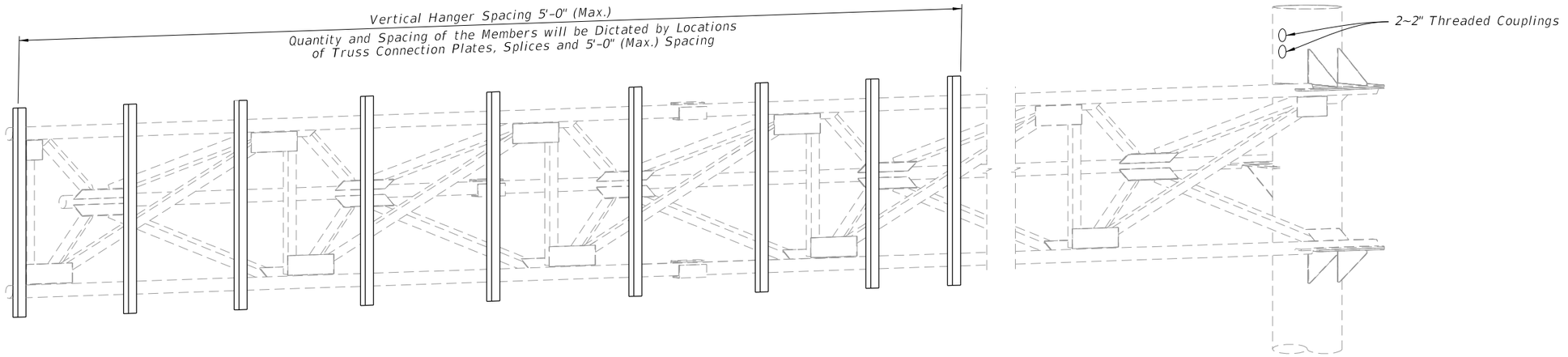
(Thru Handhole)

SECTION A-A

DETAIL "E"

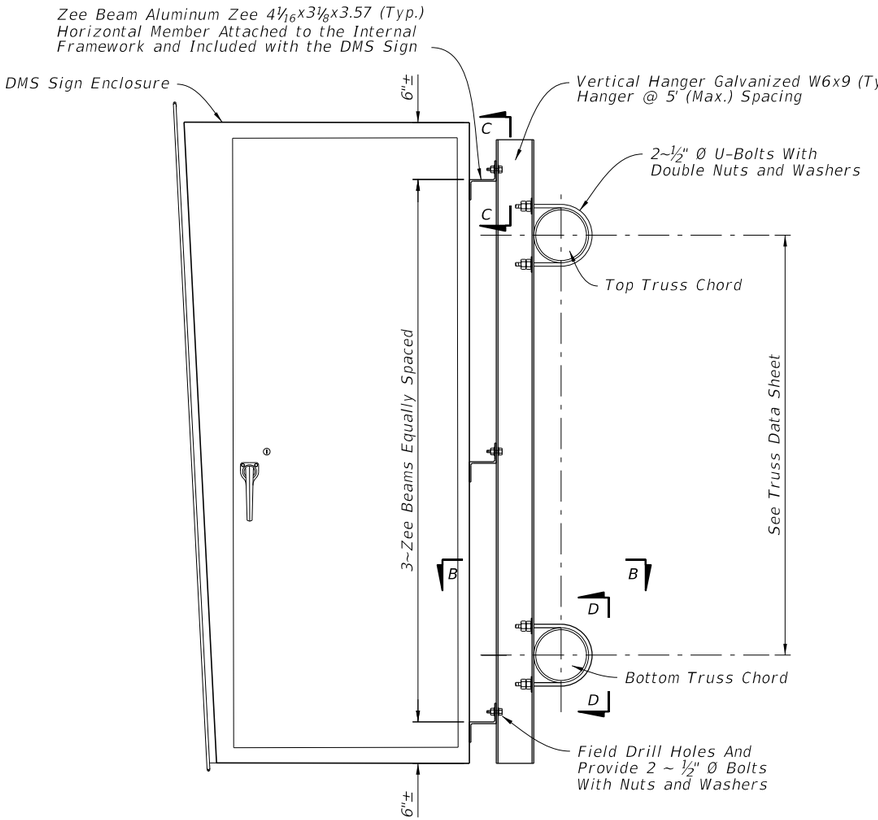
10/29/2019 8:23:45 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	DYNAMIC MESSAGE SIGN WALK-IN	INDEX	SHEET
11/01/17						700-090	4 of 5

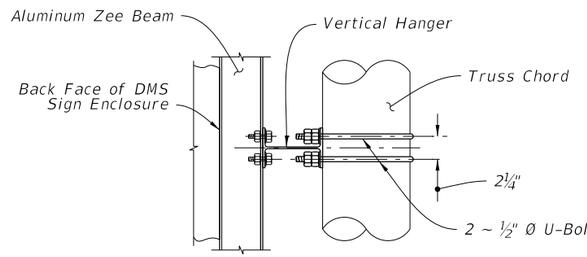


(Cantilever Sign Structure Shown, Span Sign Structure Similar)

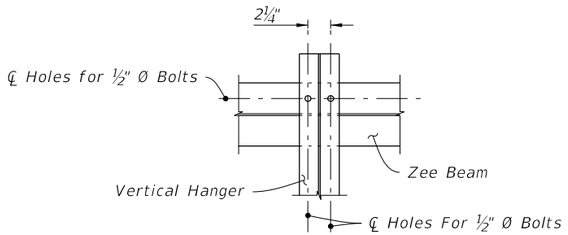
HANGER LOCATION DETAIL



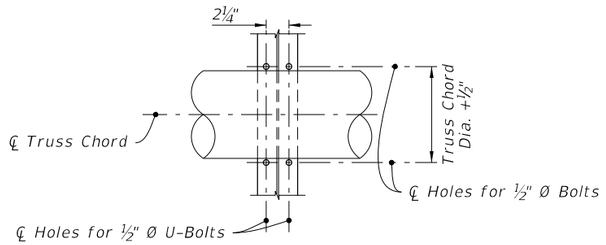
DYNAMIC MESSAGE SIGN END VIEW



SECTION B-B



SECTION C-C



SECTION D-D

10/29/2019 8:23:46 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	DYNAMIC MESSAGE SIGN WALK-IN	INDEX	SHEET
11/01/17					700-090	5 of 5

GENERAL NOTES:

1. Work this Index with Specification 700.

2. Shop Drawings are required:

   A. Provide length as shown in the Plans
   B. Design in accordance with AISC, AASHTO, and OSHA requirements
   B. Do not start fabrication until the shop drawings are approved

3. Catwalk hangers must be positioned to avoid conflicts with the sign structure truss and gusset plates. Place walkway close to the sign with a maximum open distance from walkway grate to DMS sign of ½".

4. Maximum spacing of Catwalk hanger supports is 5'–0". Cantilever ends of grating is 8".

5. Galvanized steel catwalk grating meeting the requirements of Specification 504–2.3. Must Support a 90 psf load and have a 3½" minimum toe kick. Attach grating in accordance with the manufacturer's instructions using stainless steel or galvanized fasteners.

6. Supply and install an OSHA 1910 compliant, self closing, corrosion resistant safety gate.

7. Chain link fabric options (2" mesh with knuckled selvage top and bottom for all options):

   A. AASHTO M181 Type I – Zinc Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 1.8 oz/ft². (M181 Class D 2.0 oz./ft². modified to 1.8 oz./ft².).
   B. AASHTO M181 Type II –Aluminum Coated Steel, No. 9 gage (coated wire diameter), coated at the rate of 0.40 oz./ft².

8. Install 2" NPS (Sch. 40) guiderail and posts: ASTM A53 Grade B for standard weight pipe.

9. Welding:

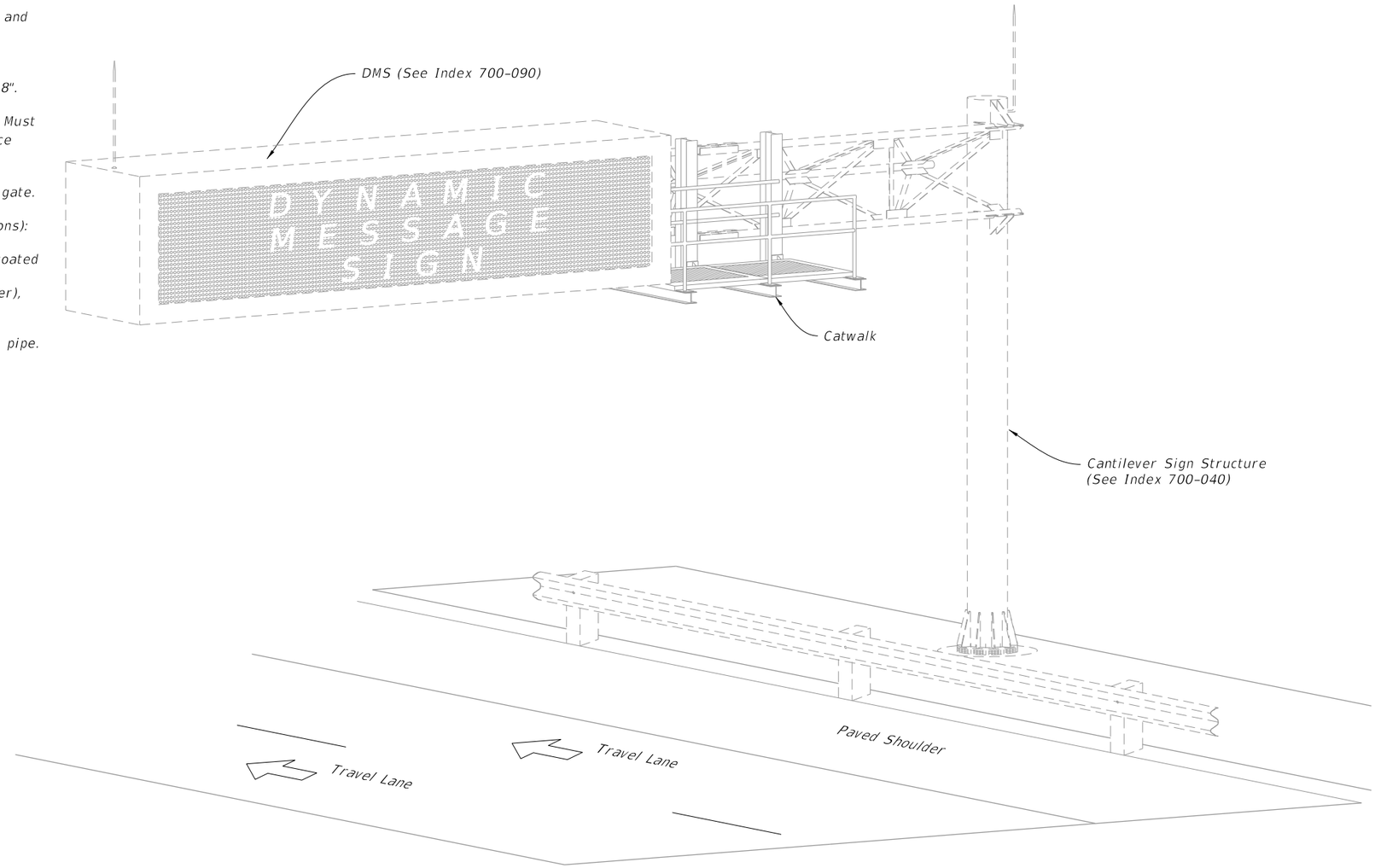
   E70XX

10. Materials:

    A. Steel Plates ASTM A 36 or A709 Grade 36.
    B. W– Sections: ASTM A572 Grade 36 or 50.
    C. Steel Pipe Railings or Structural Tubing: Specification 962
    D. High Strength Bolts, Nuts and Washers: Specification 962
    E. U–Bolts, nuts and washers: Specification 962

11. Coatings/Galvanizing:

    Hot dip galvanize support frame after fabrication and galvanize non–stainless steel fasteners in accordance with Specification 962.



CATWALK ASSEMBLY
(Cantilever Shown, Span Similar)

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CATWALK DETAILS	INDEX	SHEET
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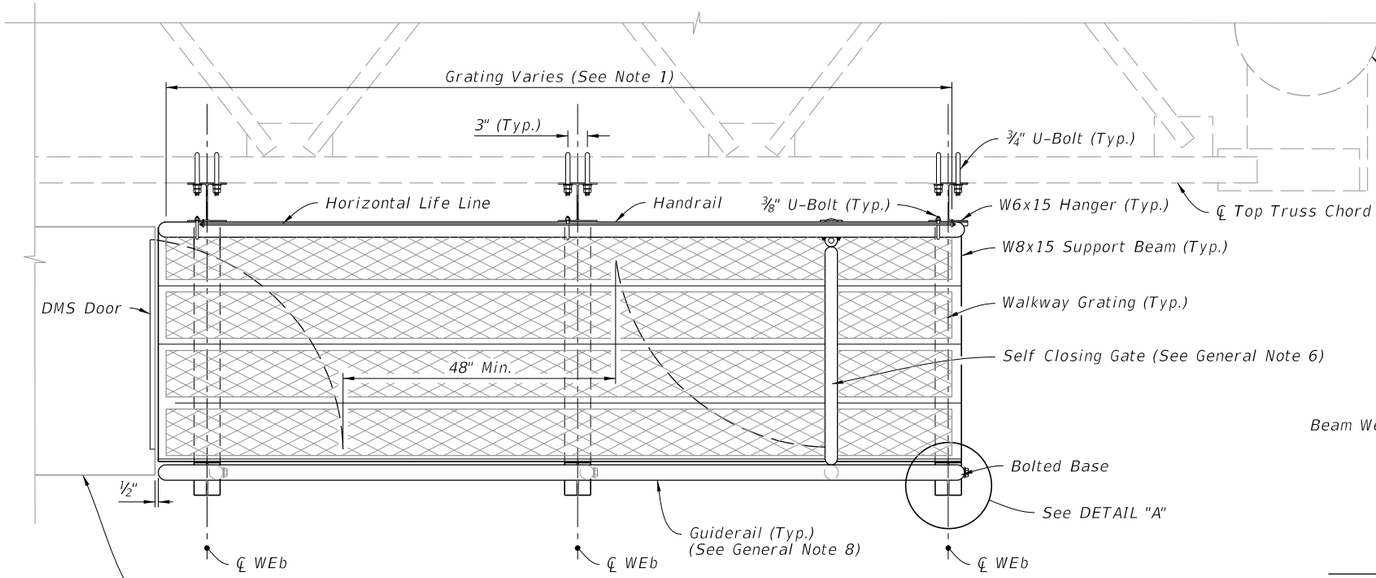
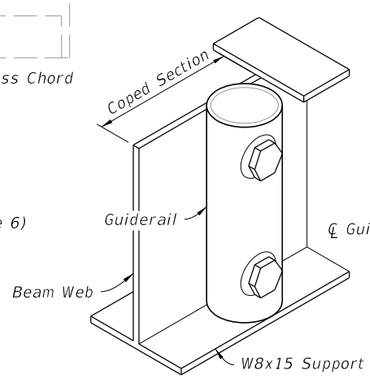
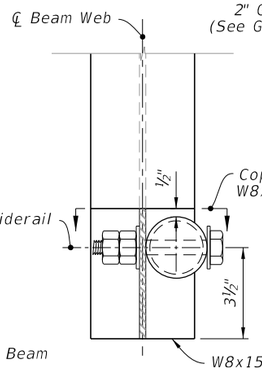


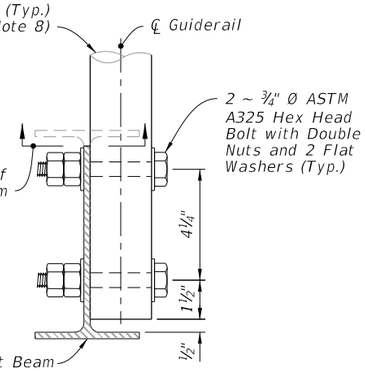
PLAN



ISOMETRIC VIEW

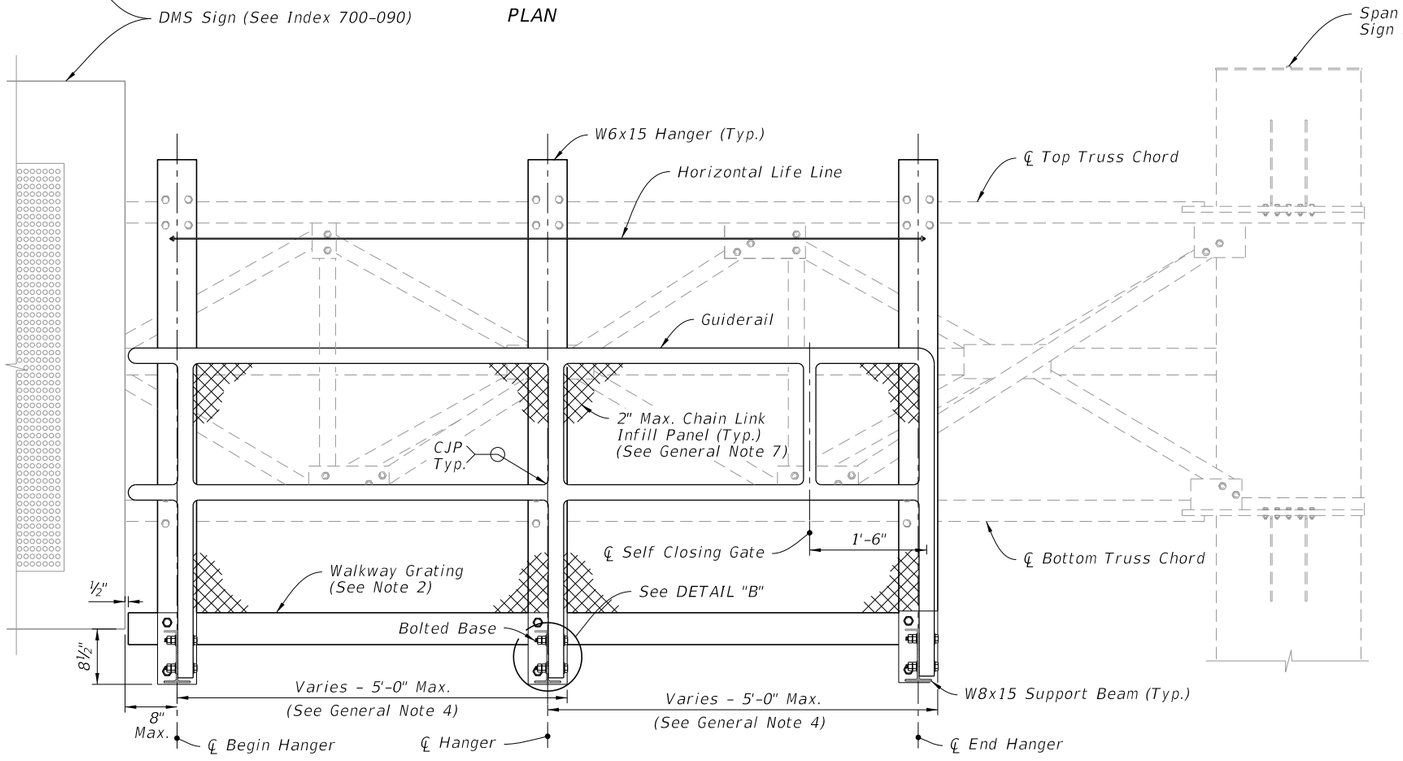


DETAIL "A"

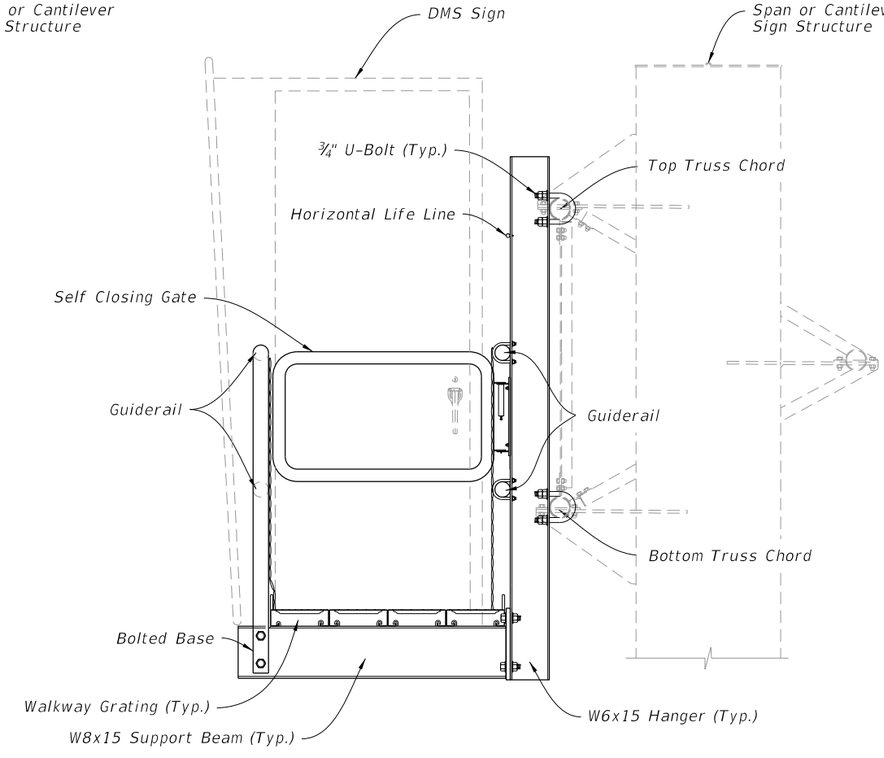


DETAIL "B"

BOLTED BASE DETAILS



FRONT ELEVATION



SIDE ELEVATION

GENERAL ASSEMBLY

NOTES:

1. See manufacturer details for walkway planks and bolting criteria.
2. Fasten securely. See grating manufactures details.

GENERAL ASSEMBLY AND FIXED BASE DETAILS

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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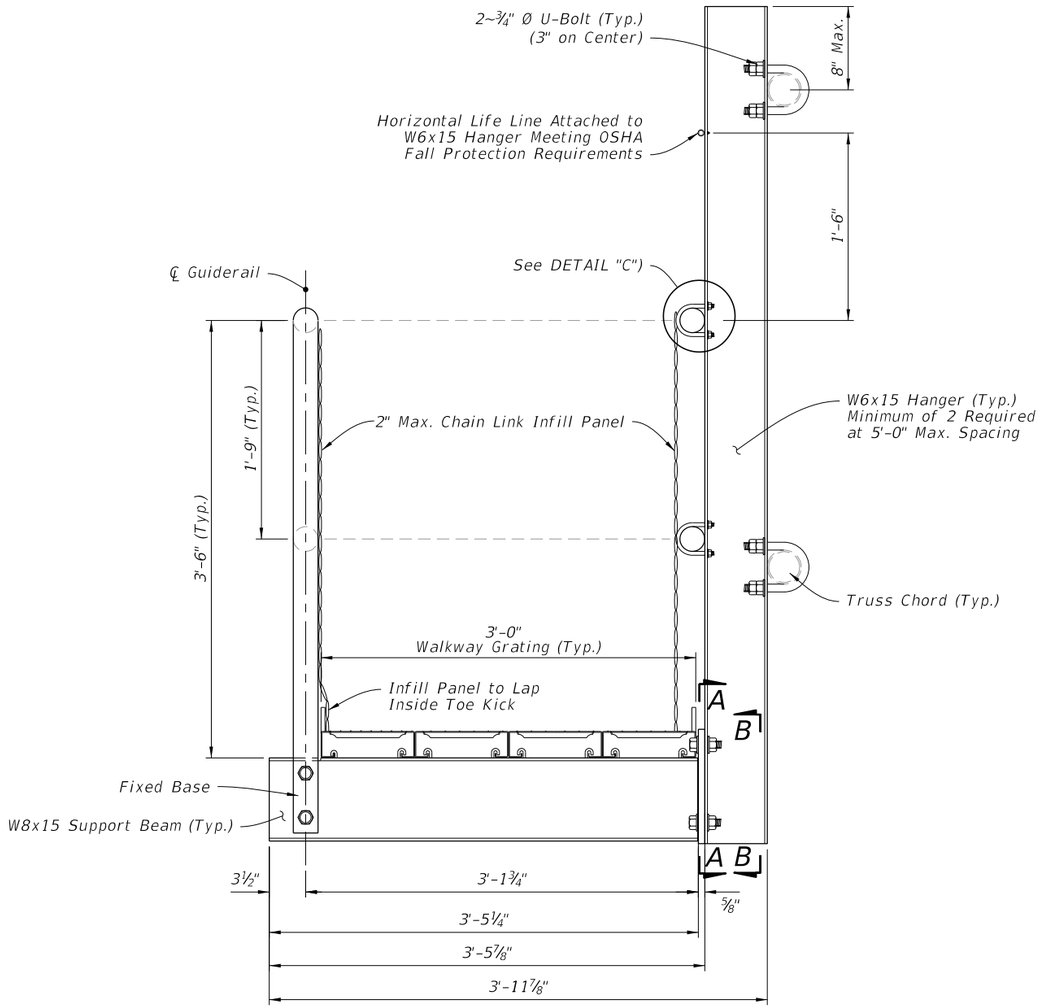
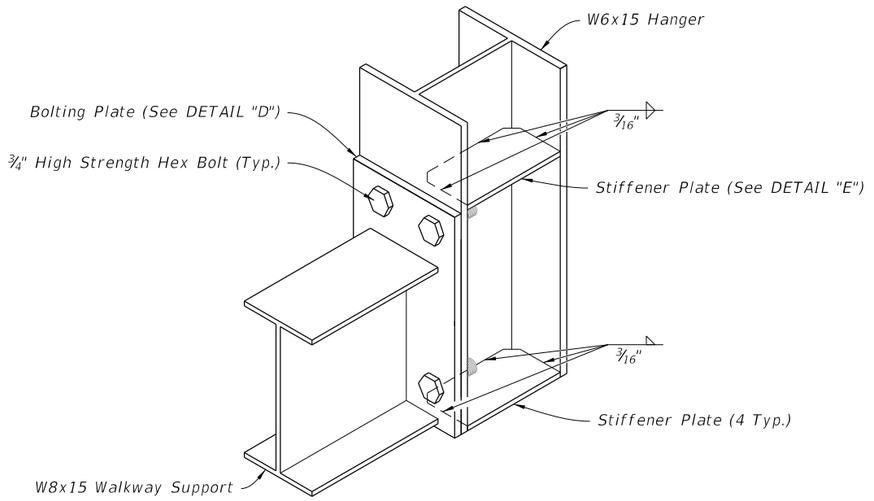
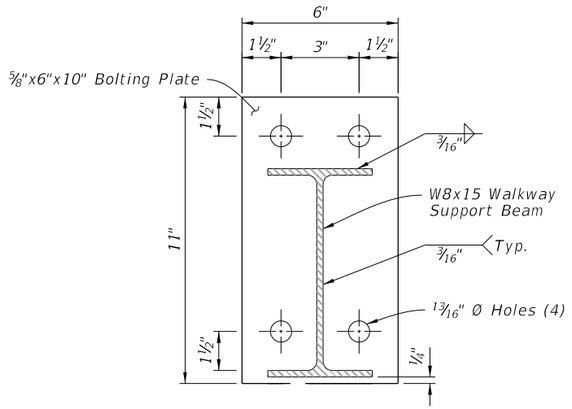


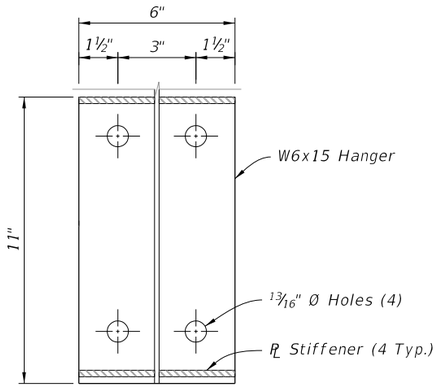
WALKWAY SUPPORT DETAILS



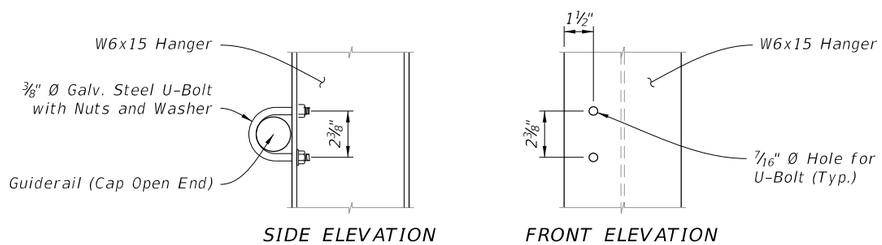
ISOMETRIC VIEW



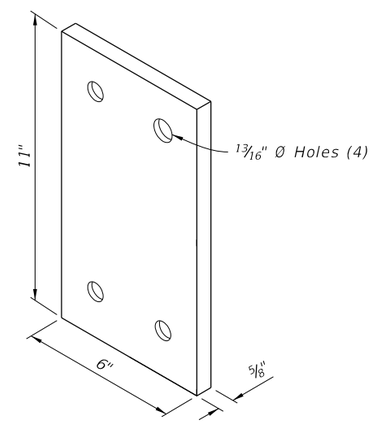
SECTION A-A



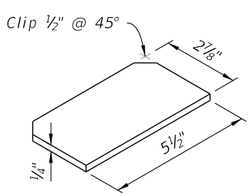
SECTION B-B



DETAIL "C"
(Guiderail Attachment)



DETAIL "D"
(Bolting Plate)

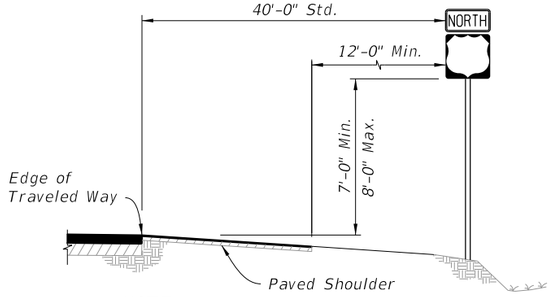


DETAIL "E"
(Stiffener Plate)

WALKWAY SUPPORT DETAILS

10/29/2019 8:23:50 AM

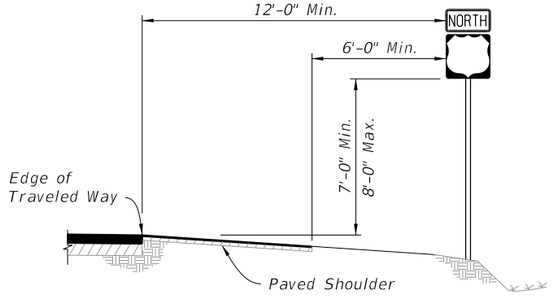
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CATWALK DETAILS	INDEX	SHEET
11/01/19						700-091	3 of 3



NOTE:
If median width does not allow standard offset from both roadway, center sign in median.

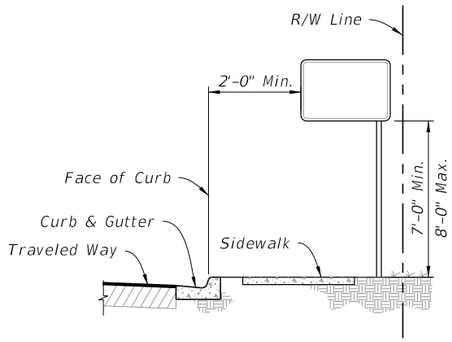
CASE I

Use on Limited Access Roadways



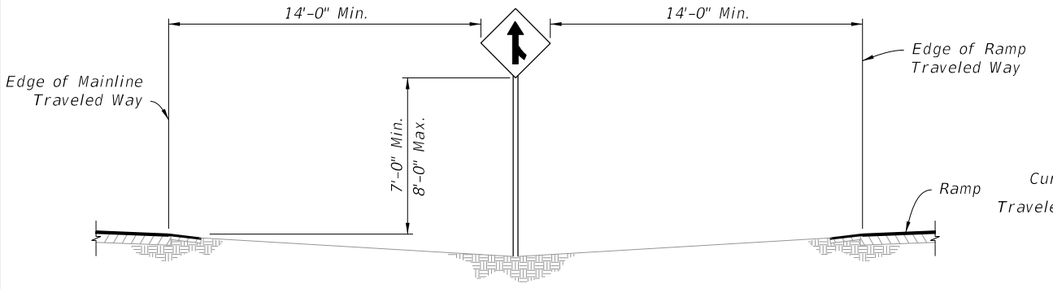
CASE II

Use on Arterial and Collector Roadways, and Limited Access Ramps



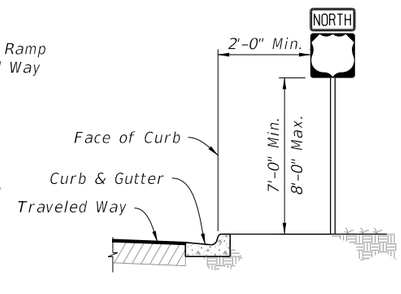
CASE III

Use on Arterial and Collector Roadways



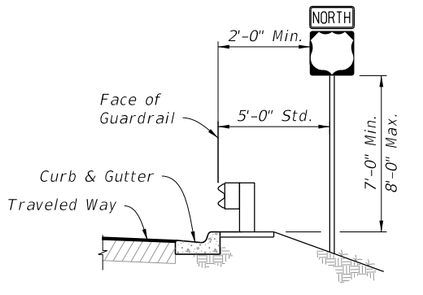
CASE IV

Use on Limited Access Roadways



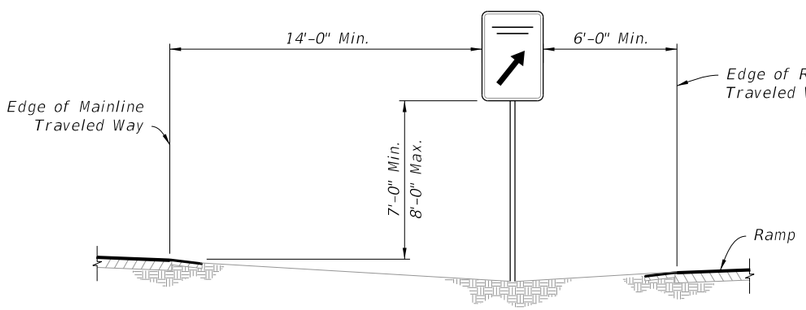
CASE V

Use in Business or Residential Areas Only



CASE VI

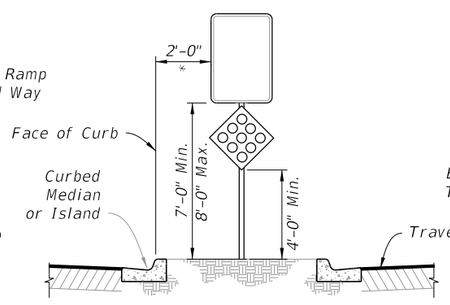
Use on Roadways With
Signs Behind Guardrail



CASE VII

REST AREA AND EXIT GORE SIGNS

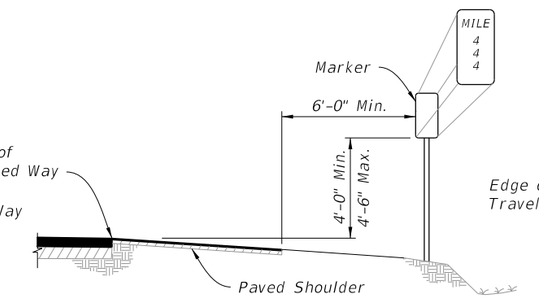
Use on Limited Access Roadways



* For separators <6'-0", center the sign within the separator, center sign column on island

CASE VIII

Use on Island or Curbed Median

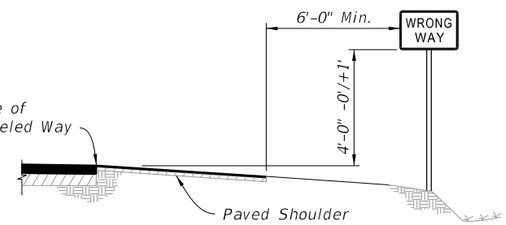


NOTE:
For more information refer to Section 2H of the MUTCD.

CASE IX

MILE POST MARKER

Use on Limited Access Roadways



CASE X

WRONG WAY SIGNS

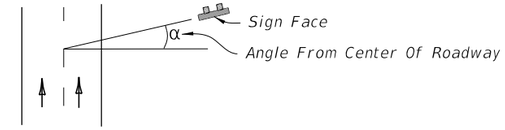
Use on Interstate Exit Ramps

GENERAL NOTES:

1. Single-Column Signs Shown, Multi-Column Signs similar. These typical sections serve as a guide for locating the traffic signs required under various roadside conditions. For size and details of sign construction and footing, refer to the appropriate Index and Plans.

2. Verify the length of sign supports in the field prior to fabrication.

3. Install ground signs at an angle of 1 to 4 degrees away from the traffic flow (see illustration). Install shoulder mounted signs rotated counterclockwise and median mounted signs rotated clockwise. Install signs on a curve as noted above from the perpendicular to the motorist line of sight.



4. The setback for Stop and Yield signs may be reduced to 3' minimum from the Edge of Traveled Way if required for visibility in business or residential sections with no curb and speeds of 30 MPH or less.

5. The mounting heights are measured from the bottom of the sign panel to a horizontal line extended from the Edge of Traveled Way or from the ground surface at the back of curb. If the standard heights cannot be met, the minimum heights are as follows:

   Limited Access Roadways – 7'

   Arterial and Collector Roadways:
   5' – Rural
   7' – Urban (including residential with parking and/or pedestrian activity)

   Limited Access Roadways:
   If a secondary sign is mounted below the major sign, mount the major sign so that the bottom of the sign is at least 8' above the edge of the traveled way and the secondary sign at least 5' above the edge of the traveled way.

   Arterial and Collector Roadways:
   Rural, mount the secondary sign at least 5' above the edge of the traveled way.
   Urban, mount the secondary sign at least 7' above the edge of the traveled way.

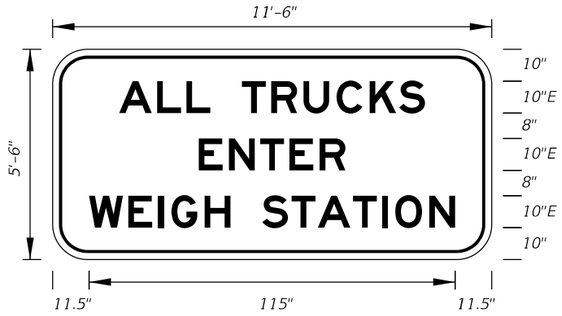
6. Do not install sign supports in the bottom of ditches.

7. Install sign supports so they do not reduce the accessible Width of Sidewalks or Shared Use Paths to less than 4' min. clear width.

6/24/2020 6:33:28 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FDOT FY 2021-22 STANDARD PLANS	TYPICAL SECTIONS FOR PLACEMENT OF SINGLE AND MULTI-COLUMN SIGNS	700-101	1 of 1

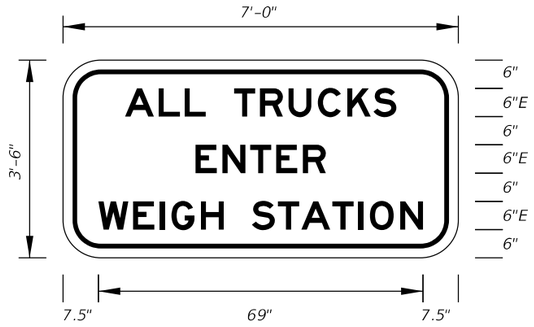
FREEWAY USE



FTP-1-06
11'-6" X 5'-6"
9" Radii 2" Border

10" Series E Legend
White Background
Black Legend and Border

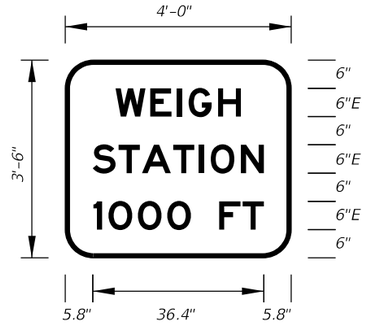
OTHER THAN FREEWAY USE



FTP-2-06
7' X 3'-6"
6" Radii 2" Border

6" Series E Legend
White Background
Black Legend and Border

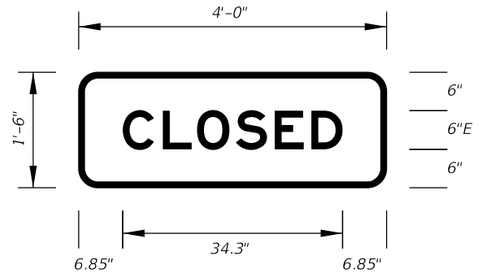
OTHER THAN FREEWAY USE



FTP-3-06
4' X 3'-6"
6" Radii 2" Border

6" Series E Legend
Green Background
White Legend and Border

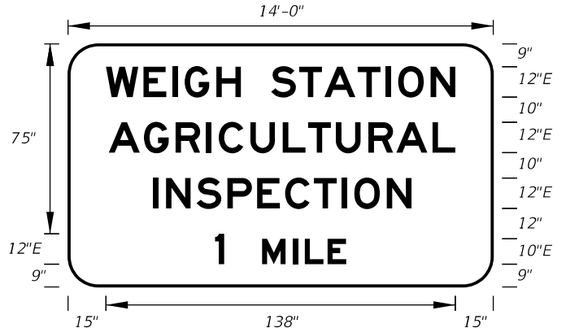
OTHER THAN FREEWAY USE



FTP-4-06
4' X 1'-6"
3" Radii 2" Border

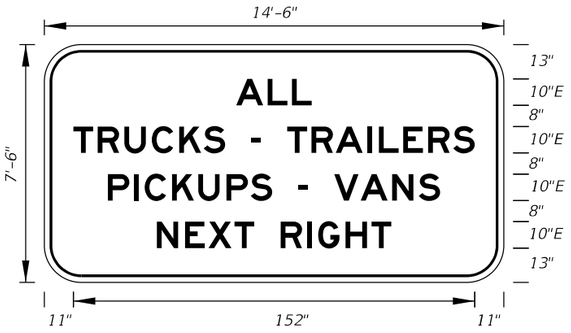
6" Series E Legend
Green Background
White Legend and Border

Note:
FTP-4-06 to be
used with FTP-3-06



FTP-5-06
14' X 8'
12" Radii 2" Border

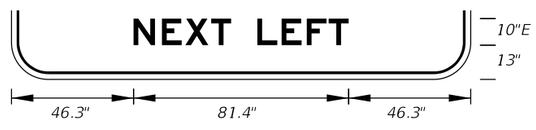
12" and 10" Series E Legend
Green Background
White Legend and Border



FTP-6A-06
14'-6" X 7'-6"
12" Radii 2" Border

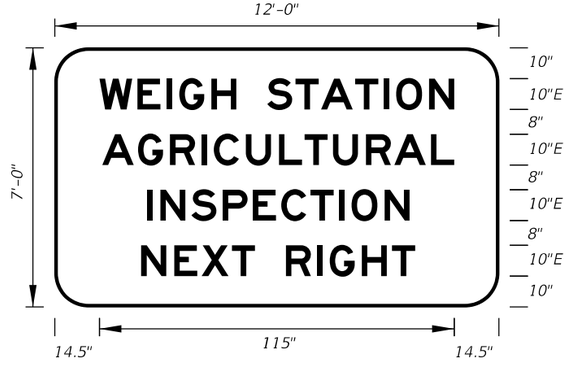
10" Series E Legend
White Background
Black Legend and Border

On Interstate Station
Delete Pickups-Vans,
and reduce Sign height
accordingly.



FTP-6B-06
14'-6" X 7'-6"
12" Radii 2" Border

10" Series E Legend
White Background
Black Legend and Border

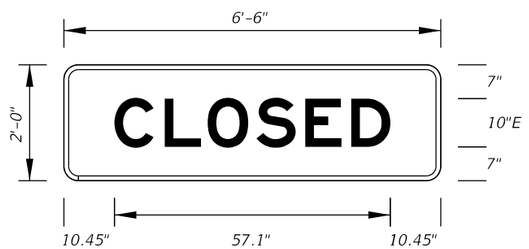


FTP-7A-06
12' X 7'
11" Radii 2" Border

10" Series E Legend
Green Background
White Legend and Border

FTP-7B-06
12' X 7'
11" Radii 2" Border
10" Series E Legend
Green Background
White Legend and Border

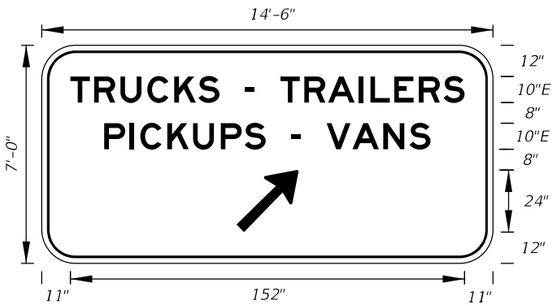
FREEWAY USE



FTP-8-06
6'-6"X 2'
3" Radii 2" Border
10" Series E Legend
Green Background
White Legend and Border

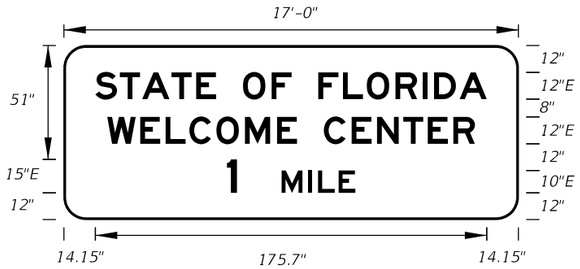
Note:
FTP-8-06 to be
used with FTP-7A-06
& FTP-7B-06.

FTP-9B-06-LEFT ARROW



FTP-9A-06
14'-6" X 7'
11" Radii 2" Border

10" Series E Legend
Green Background
White Legend and Border



FTP-10-06
17' X 6'-6"
10" Radii 2" Border

12", 10" and 15" Series E Legend
Blue Background
White Legend and Border

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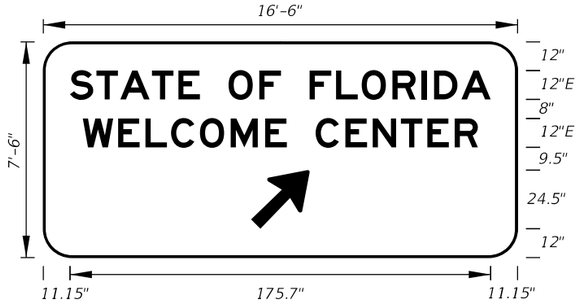
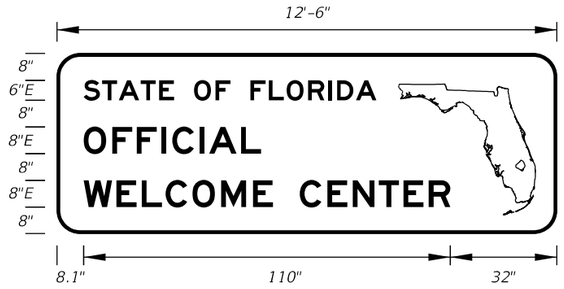
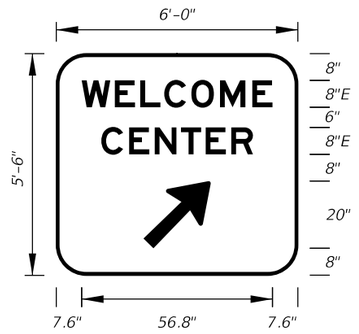


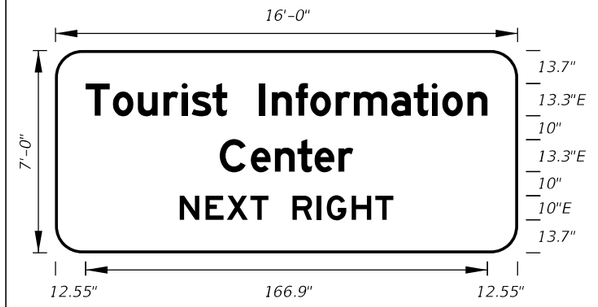
FTP-11-06
16'-6" X 7'-6"
12" Radii 2" Border
12" Series E Legend
Blue Background
White Legend and Border



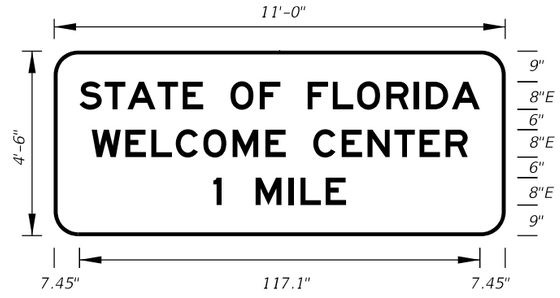
FTP-12-06
12'-6" X 4'-6"
7" Radii 2" Border
6" and 8" Series E Legend
Blue Background
White Legend and Border



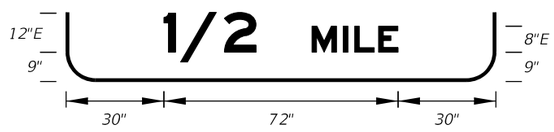
FTP-13-06
6' 0" X 5'-6"
9" Radii 2" Border
8" Series E Legend
Blue Background
White Legend and Border



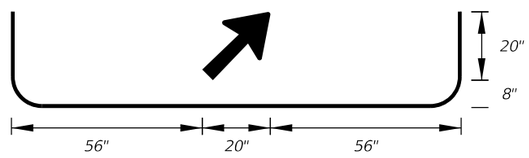
FTP-14-06
16'-0" X 7'-0"
11" Radii 2" Border
13.3 and 10" Series E Legend
Blue Background
White Legend and Border



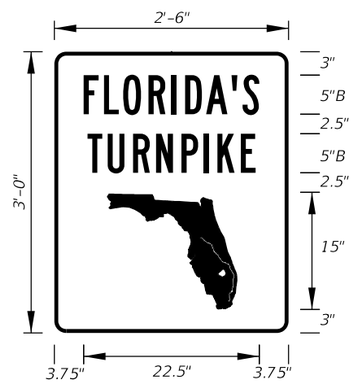
FTP-15A-06
11'-0" X 4'-6"
7" Radii 2" Border
8" Series E Legend
Blue Background
White Legend and Border



FTP-15B-06
11'-0" X 5'-0"
8" Radii 2" Border
8" and 12" Series E Legend
Blue Background
White Legend and Border



FTP-15C-06
11'-0" X 5'-6"
9" Radii 2" Border
8" Series E Legend
Blue Background
White Legend and Border



FTP-16-10
2'-6" X 3'-0"
1.5" Radii 3/4" Border
5" Series B Legend
Green Background
White Legend, Border,
and Florida Symbol

FTP-17-10
3'-0" X 4'-0"
1.5" Radii 3/4" Border
7" Series B Legend
Green Background
White Legend, Border,
and Florida Symbol

FTP-18-10
4'-0" X 5'-0"
3" Radii 1 1/4" Border
8" Series B Legend
Green Background
White Legend, Border,
and Florida Symbol

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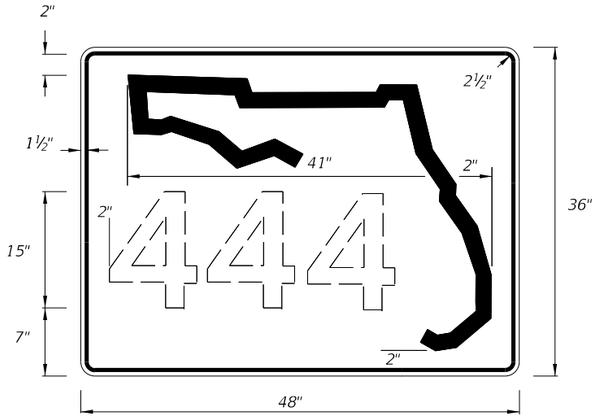
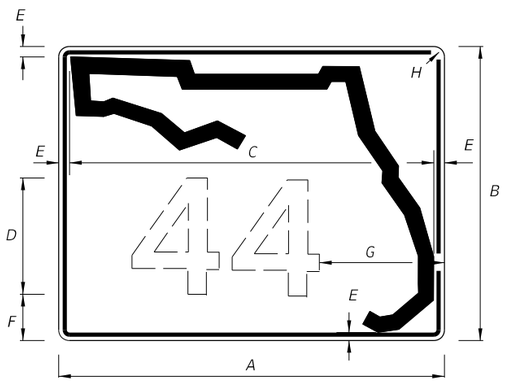


DIGITS	NUMERAL SIZE	SERIES LEGEND	PANEL SIZE
1-3	15"	C	48" x 36"
4	12"	C	48" x 36"

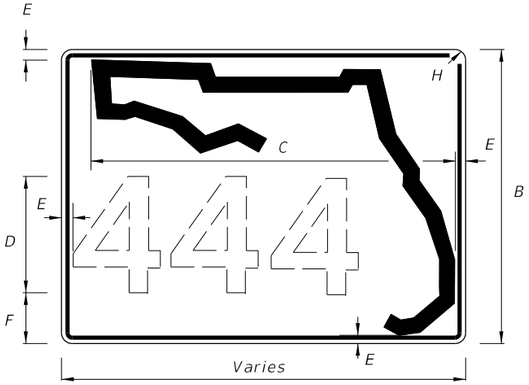
NOTES:

1. Stroke width of State Outline shall be 1".
2. 2½" Radii

INDEPENDENT USE FOR FREEWAY



1 OR 2 DIGITS



3 OR MORE DIGITS

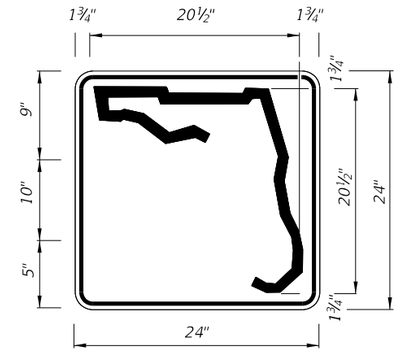
NOTES:

1. Florida marker shall have Black Legend with White Background.
2. Stroke width of State outline shall be 1¾" for Guide Sign.
3. Series D Legend.
4. ⅝" Border

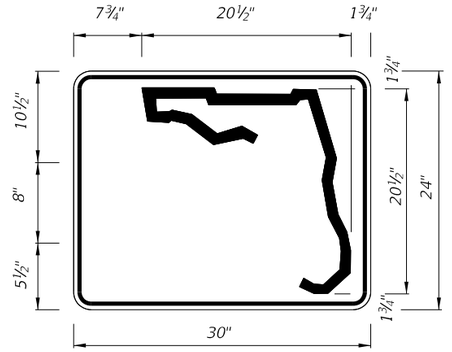
A	B	C	D	E	F	G	H
30"	24"	26"	12"	1¼"	2¾"	8¼"	1¼"
36"	30"	32"	15"	1¼"	3¼"	8¾"	1¼"
42"	36"	38"	15"	1¼"	6¼"	11"	1¼"

GUIDE SIGN USE

FTP-17-06 - FLORIDA ROUTE MARKER



1 or 2 DIGITS



3 or 4 DIGITS

DIGITS	NUMERAL SIZE	SERIES LEGEND	PANEL SIZE
1-2	10"	D	24" x 24"

DIGITS	NUMERAL SIZE	SERIES LEGEND	PANEL SIZE
3	8"	D	30" x 24"
4	8"	C	30" x 24"

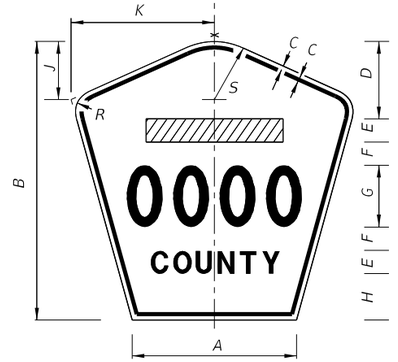
NOTES:

1. Stroke width of State Outline shall be 1".
2. The 24" X 24" panel shall only be used for a 3 digit route when the panel is to be used on a sign cluster with other 24" X 24" panels.
3. 1½" Radii

INDEPENDENT USE OTHER THAN FREEWAY

NOTES:

1. Series D Legend.
2. Color: Yellow Legend and Border on Blue Background.
3. When used on a guide sign, marker must be overlaid on a rectangular Yellow Background as shown in chart.
4. When two or more County Route Markers are mounted together, use the dimensions of the largest marker for all other markers.



SIGN	DIMENSIONS												Rectangular Yellow Background Dimensions (See Note 3)
	A	B	C	D	E	F	G	H	J	K	R	S	
4 DIGIT POST MOUNTED	25⅛"	42"	¾"	10"	4"	4"	8"	8"	8⅜"	22"	5"	8¾"	42"x 42"
2 DIGIT OVERHEAD	21½"	36"	½"	7½"	3"	3"	12"	4½"	7⅛"	18⅞"	4¼"	7½"	42"x 42"
3 DIGIT OVERHEAD	25⅛"	42"	¾"	8"	4"	4"	12"	6"	8⅜"	22"	5"	8¾"	48"x 48"
4 DIGIT OVERHEAD	29⅞"	48"	¾"	8"	5"	5"	12"	8"	9¾"	25⅝"	5¾"	10¼"	52"x 52"

FTP-18-06 - COUNTY ROUTE MARKER (M1-6)

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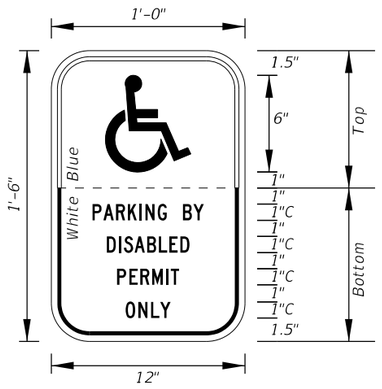
FTP-19-06

1' X 1'-6"
4" Radii 3/8" Border
Top 4" Series D
Bottom 2" Series C
White Background
Green Legend and Border

All Letters → 1" Series C, 1" Spacing Between Lines of Text

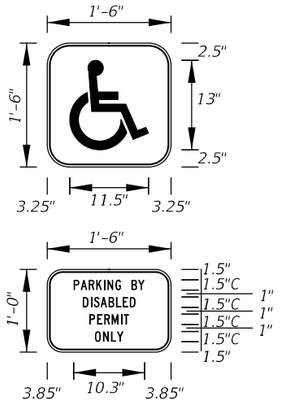


FTP-20-06

1' X 1'-6"
2" Radii 3/8" Border
1" Series C Legend
Color
Background
Legend and Border

Top	Bottom
Blue	White
White	Black

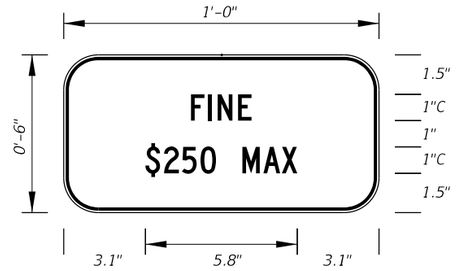
All Letters → 1.5" Series C, 1" Spacing Between Lines of Text



FTP-21-06

1'-6" X 2'-6"
2" Radii 3/8" Border
1.5" Series C Legend
Color
Background
Legend and Border

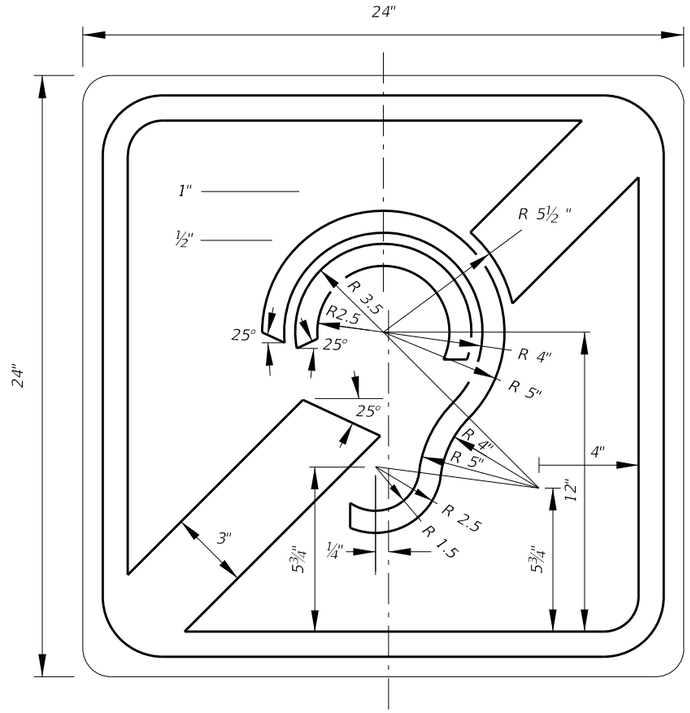
Top	Bottom
Blue	White
White	Black



FTP-22-06

1' X 6"
1" Radii 3/8" Border
1" Series C Legend
White Background
Black Legend and Border

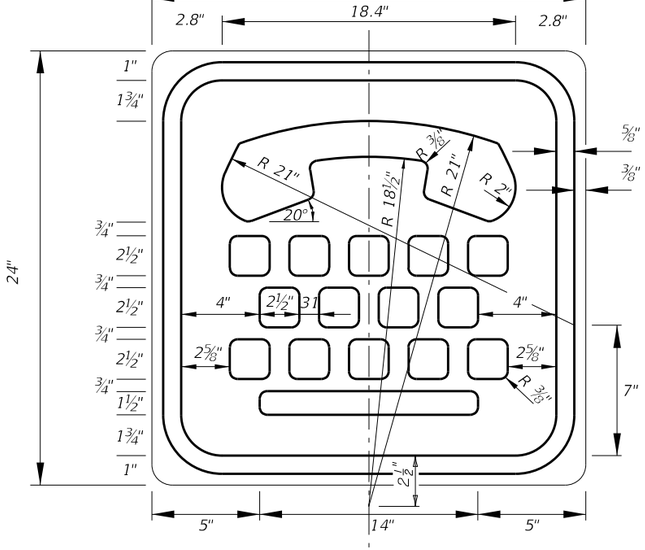
Supplemental Panel for the FTP-20-06 and FTP-21-06 signs



FTP-23-06

2' X 2'
1.5" Radii 3/8" Border
Blue Background
White Legend and Border

INTERNATIONAL SYMBOL OF ACCESS FOR HEARING LOSS



FTP-24-06

2' X 2'
1.5" Radii 3/8" Border
Blue Background
White Legend and Border

INTERNATIONAL TDD SYMBOL

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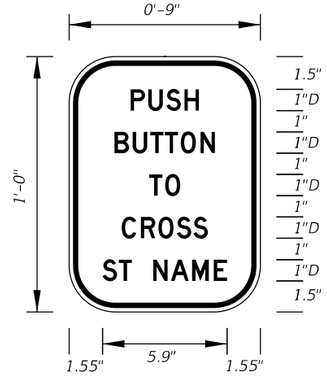
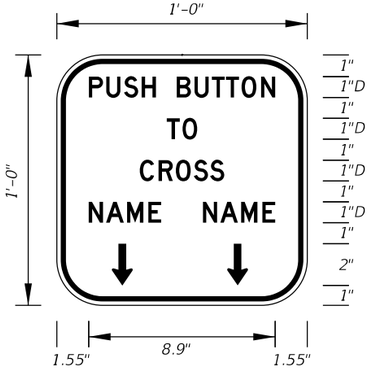
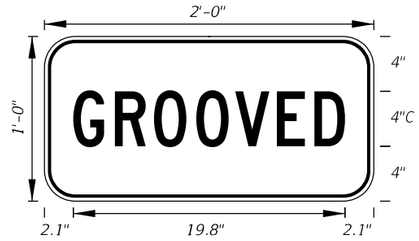


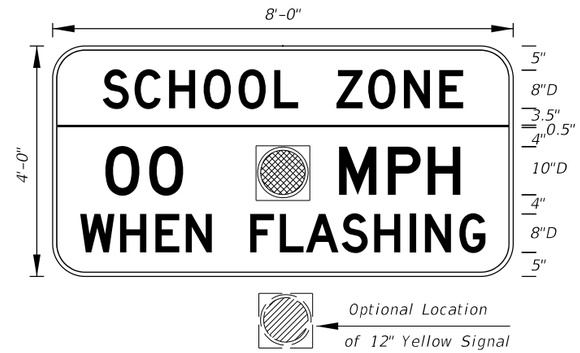
FTP-25-06
9" X 1'-0"
2" Radii 3/8" Border
1" Series D Legend
White Background
Black Legend and Border



FTP-26-06
1' X 1'
2" Radii 3/8" Border
1" Series D Legend
White Background
Black Legend and Border

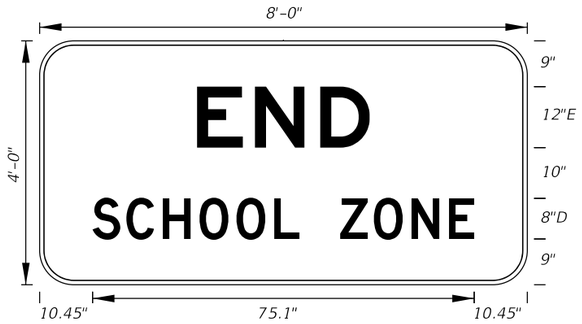


FTP-29-06
2'-0" X 1'-0"
2" Radii 3/8" Border
4" Series C Legend
Yellow Background
Black Legend and Border



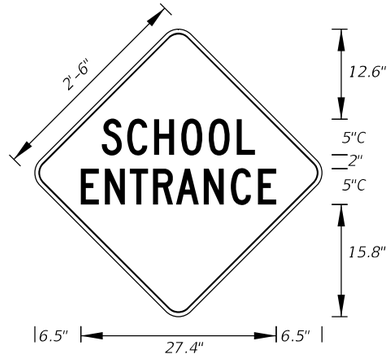
FTP-31-06
8' X 4'
6" Radii 3/4" Border
Series D Legend

Fluorescent Yellow-Green Background Top
White Background Bottom
Black Legend and Border



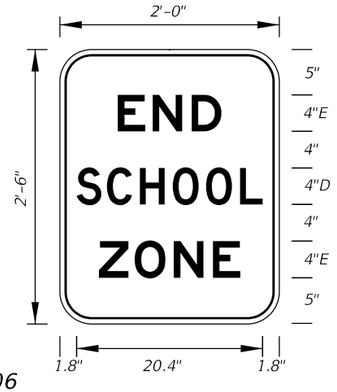
FTP-32-06
8' X 4'
6" Radii 3/4" Border

12" Series E and 8" Series D Legend
White Background
Black Legend and Border

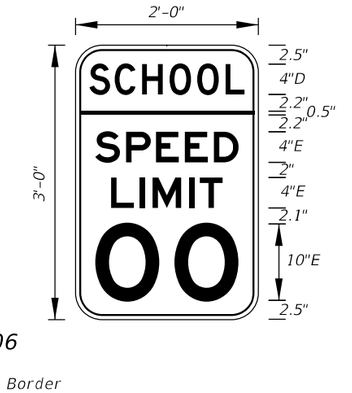


FTP-33-06
2'-6" X 2'-6"
2" Radii 3/4" Border

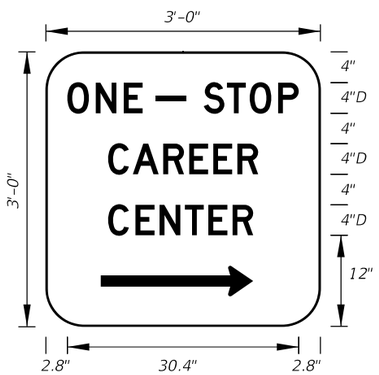
5" Series C Legend
Fluorescent Yellow-Green Background
Black Legend and Border



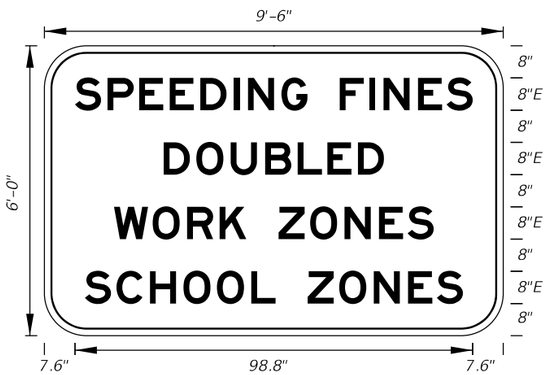
FTP-34-06
2' X 2'-6"
3" Radii 5/8" Border
4"Series D and E Legend
White Background
Black Legend and Border



FTP-35-06
2' X 3'
3" Radii 5/8" Border
Top 4" Series D Legend
Bottom 4" and 10" Series E Legend
Fluorescent Yellow-Green Background Top
White Background Bottom
Black Legend and Border

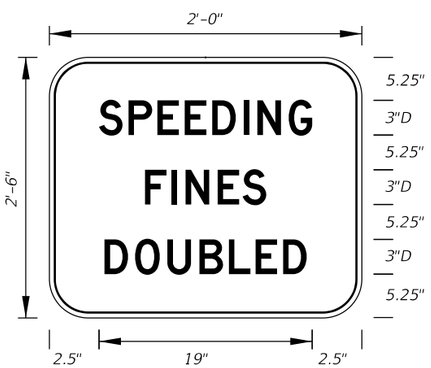


FTP-36-06
3' X 3'
5" Radii
4" Series D Legend
Green Background
White Legend and Border

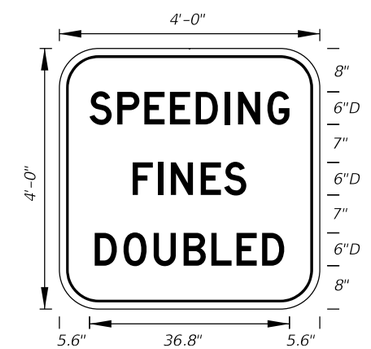


FTP-37-06
9'-6"X 6'
9" Radii 2" Border
8" Series E Legend
White Background
Black Legend and Border

State Line Sign



FTP-38-06
2' X 2'-6"
4" Radii 3/4" Border
3" Series D Legend
White Background
Black Legend and Border



FTP-39-06
4' X 4'
6" Radii 3/4" Border
6" Series D Legend
White Background
Black Legend and Border

Freeway Sign

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FTP-40-06
3'-6" X 4'
6" Radii ¾" Border

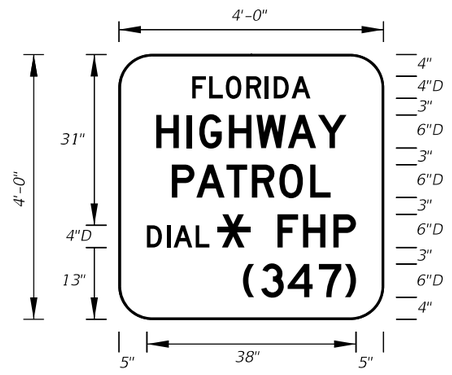
3" and 6" Series C Legend
White Background
Black Legend and Border

FTP-41-06
2'-6"X 3'
4" Radii ¾" Border

2" and 4" Series C Legend
White Background
Black Legend and Border

FTP-42-06
4'X 2'-6"
3" Radii
Top 4" Series C Legend

Bottom 2" Series EM Legend
White Background
Blue Legend and Border



FTP-43-06
4' X 4'
6" Radii 1" Border
Top 4" Series D Legend

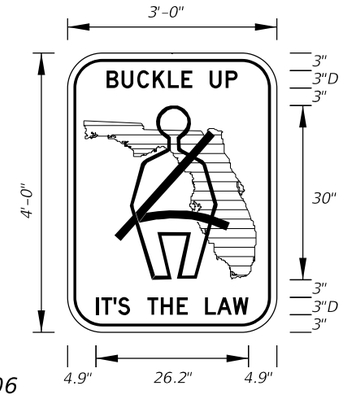
Bottom 6" Series D Legend
Blue Background
White Legend and Border

FTP-44-06
9' X 6'
9" Radii ¾" Border

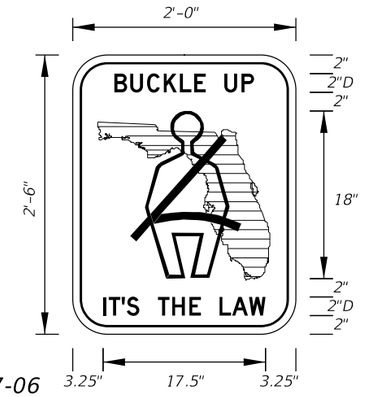
8" Series D Legend
White Background
Black Legend and Border

FTP-45-06
4' X 3'
5" Radii ¾" Border

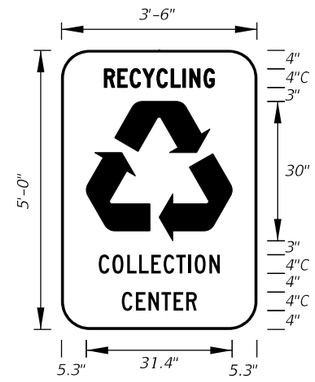
4" Series C Legend
White Background
Black Legend and Border



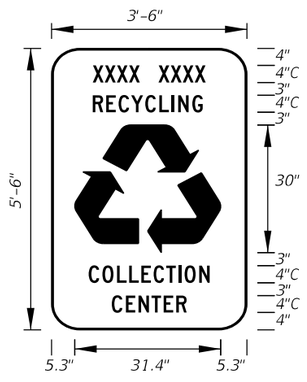
FTP-46-06
3' X 4'
5" Radii ¾" Border
3" Series D Legend
White Background Green Florida Symbol
Black Legend, Border and Man Belt Symbol



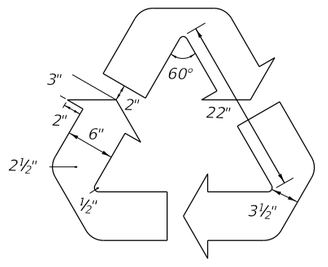
FTP-47-06
2' X 2'-6"
3" Radii ⅝" Border
2" Series D Legend
White Background Green Florida Symbol
Black Legend, Border and Man Belt Symbol



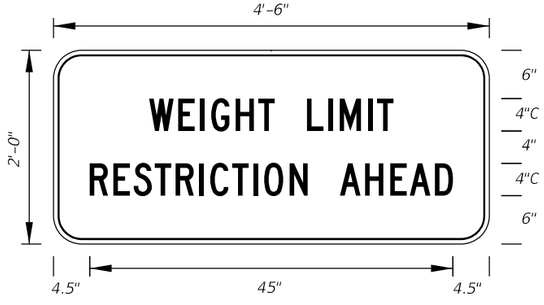
FTP-48-06
3'-6" X 5'
6" Radii
4" Series C Legend
Green Background
White Legend, Border and Symbol



FTP-49-06
3'-6" X 5'-6"
6" Radii
4" Series C Legend
Green Background Municipality Name Optional
White Legend, Border and Symbol



Detail for **FTP-48-06** and **FTP-49-06**



FTP-50-06
4'-6" X 2'
3" Radii ¾" Border
4" Series C Legend
Yellow Background
Black Legend and Border

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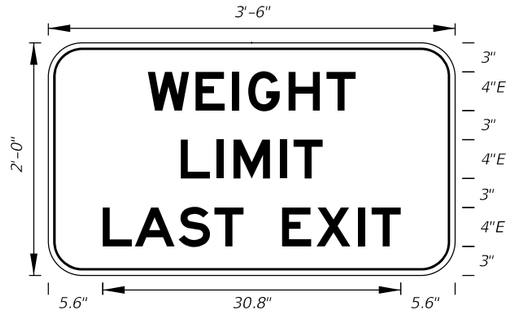
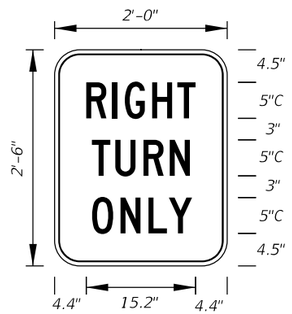


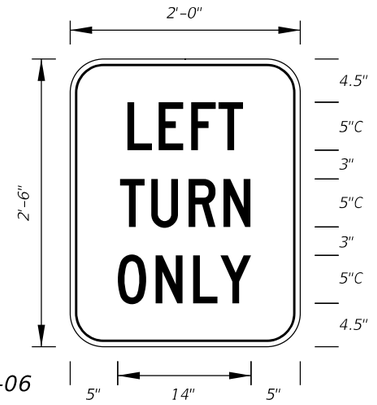
FTP-51-06
3' X 2'
3" Radii 3/4" Border

4" Series E Legend
White Background
Black Legend and Border

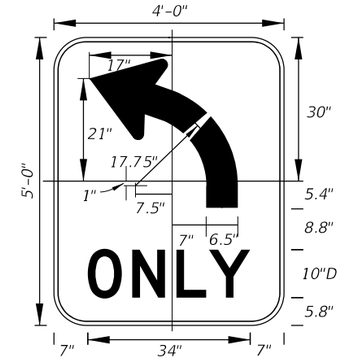


FTP-52-06
2' X 2'-6"
3" Radii 5/8" Border

5" Series C Legend
White Background
Black Legend and Border

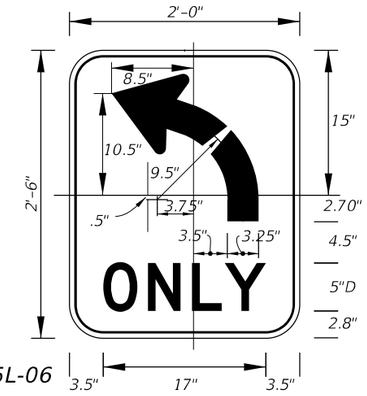


FTP-53-06
2' X 2'-6"
3" Radii 5/8" Border
5" Series C Legend
White Background
Black Legend and Border



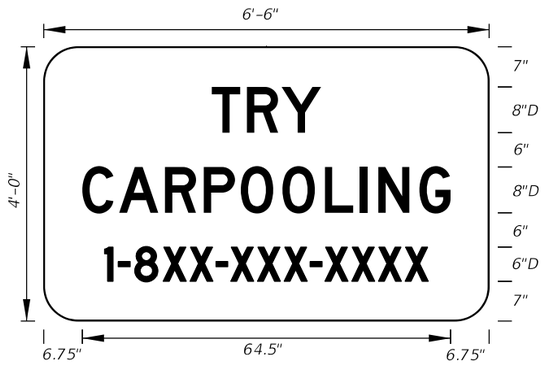
FTP-54L-06
4' X 5'
6" Radii 3/4" Border
10" Series D Legend
White Background
Black Legend and Border

FTP-54R-06 for
(Right Turn Arrow)



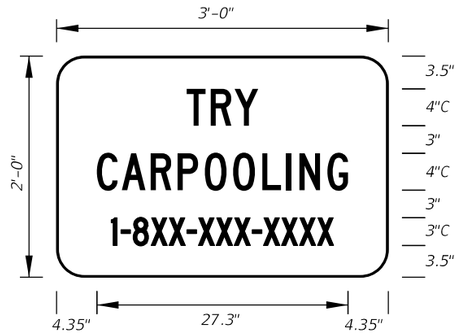
FTP-55L-06
2' X 2'-6"
3" Radii 3/8" Border
5" Series D Legend
White Background
Black Legend and Border

FTP-55R-06 for
(Right Turn Arrow)



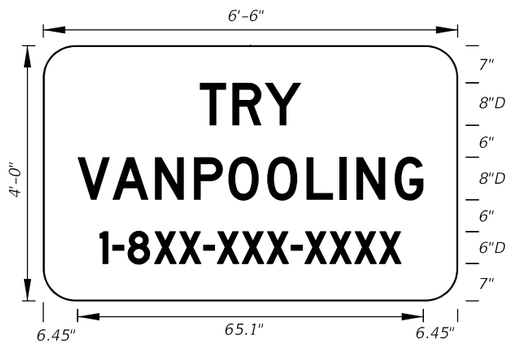
FTP-56-06
6'-6"X 4'
6" Radii 3/4" Border
8" and 6" Series D Legend
Blue Background
White Legend and Border

Design Project Manager
or Transit Administrator
will supply correct 1-8XX
number.



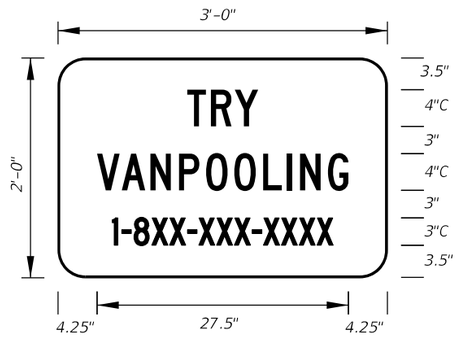
FTP-56A-06
3' X 2'
3" Radii
4" and 3" Series C Legend
Blue Background
White Legend and Border

Design Project Manager
or Transit Administrator
will supply correct 1-8XX
number.



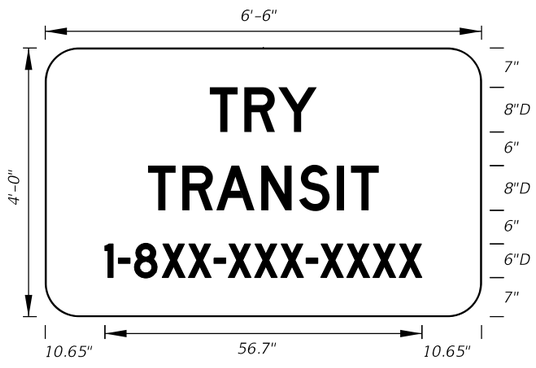
FTP-57-06
6'-6" X 4'
6" Radii
8"and 6" Series D Legend
Blue Background
White Legend and Border

Design Project Manager
or Transit Administrator
will supply correct 1-8XX
number.



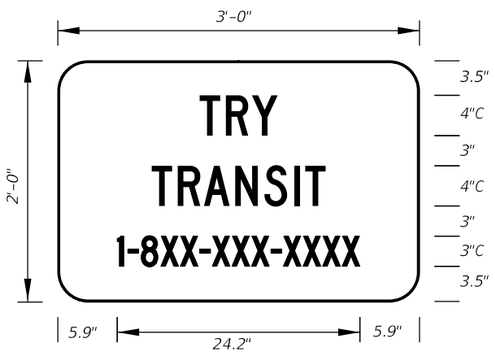
FTP-58-06
3' X 2'
3" Radii
4" and 3" Series C Legend
Blue Background
White Legend and Border

Design Project Manager
or Transit Administrator
will supply correct 1-8XX
number.



FTP-59-06
6'-6" X 4'
6" Radii
8" and 6" Series D Legend
Blue Background
White Legend and Border

Design Project Manager
or Transit Administrator
will supply correct 1-8XX
number.



FTP-60-06
3' X 2'
3" Radii
4"and 3" Series C Legend
Blue Background
White Legend and Border

Design Project Manager
or Transit Administrator
will supply correct 1-8XX
number.

FTP-61-06
3' X 2'
3" Radii 3/4" Border
4" and 3" Series C Legend
Yellow Background
Black Legend and Border

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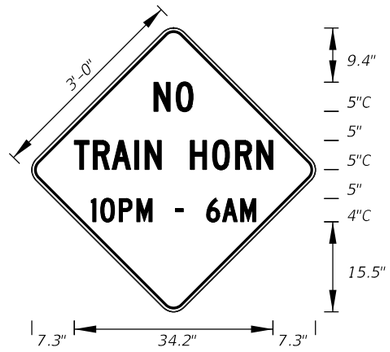
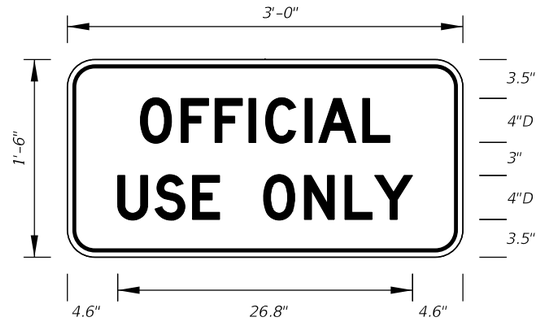


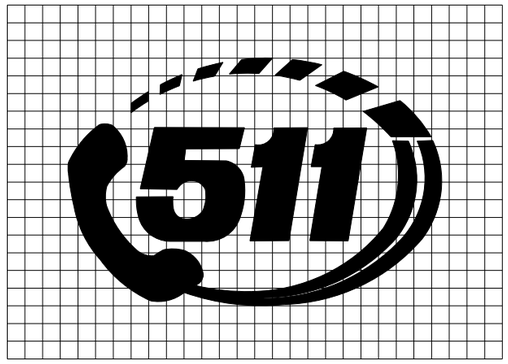
FTP-62-06
3' X 3'
2" Radii ¾" Border 4"and 5" Series C Legend
Yellow Background Black Legend and Border



FTP-65-06
3' X 1'-6"
2" Radii ¾" Border
4" Series D Legend
White Background
Black Legend and Border

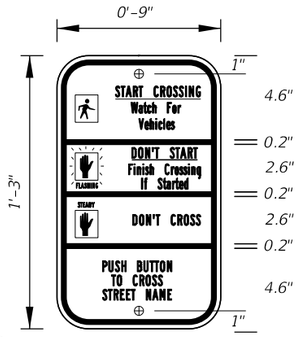
FTP-66-06
4'X 5'
2" Radii ¾" Border
7" Series D Legend
Blue Background
White Legend and Border

FTP-67-06
3' X 4'
2" Radii ¾" Border
5" Series D Legend
Blue Background
White Legend and Border



DETAIL for FTP-66 AND FTP-67

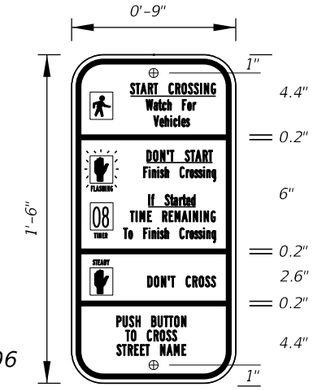
Sign Mounting Holes Can Be Punched Or Field Drilled With No Obstruction To Text Or Symbols From Holes Or Bolts.



FTP-68A-06
9" X 1'-3"
1.5" Radii ¾" Border
Series B Legend
White Background
Black Legend and Border

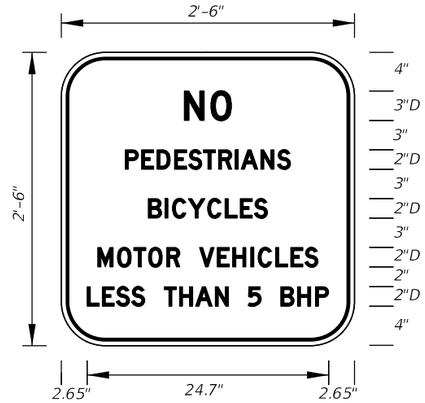
See Standard Highway Signs Manual, Sign R10-3b For Letter Size Spacing And Symbol Sizes.

Sign Mounting Holes Can Be Punched Or Field Drilled With No Obstruction To Text Or Symbols From Holes Or Bolts.



FTP-68B-06
9" X 1'-6"
1.5" Radii ¾" Border
Series B Legend
White Background
Black Legend and Border

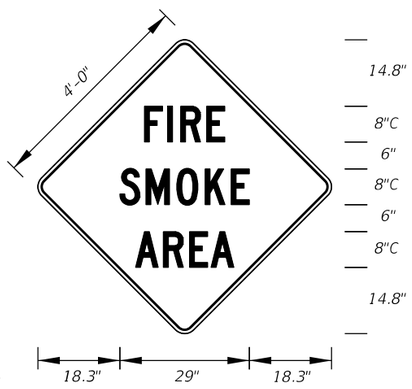
See Standard Highway Signs Manual, Sign R10-3b For Letter Size Spacing And Symbol Sizes.



FTP-69-06
2'-6" X 2'-6"
4" Radii ¾" Border

2" and 3" Series D Legend
White Background
Black Legend and Border

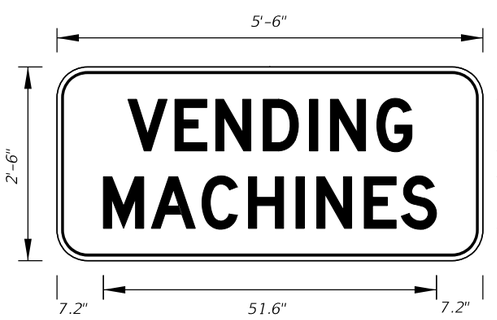
FTP-70-06
3'-6" X 2'-6"
2.25" Radii ¾" Border
5" Series C and 7" Series C Legend
Blue Background
White Legend and Border



FTP-71-06
4' X 4'
2" Radii ¾" Border
8" Series C Legend
Yellow Background
Black Legend and Border

FTP-72-06
3' X 3'
2" Radii ¾" Border

6" Series C Legend
Yellow Background
Black Legend and Border



FTP-73-06
5'-6" X 2'-6"
4" Radii ¾" Border

8" Series D Legend
Blue Background
White Legend and Border

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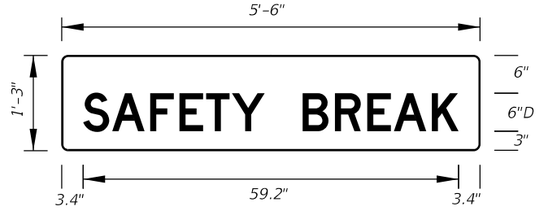
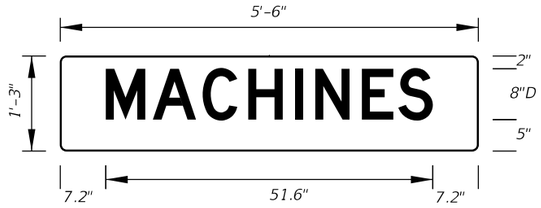
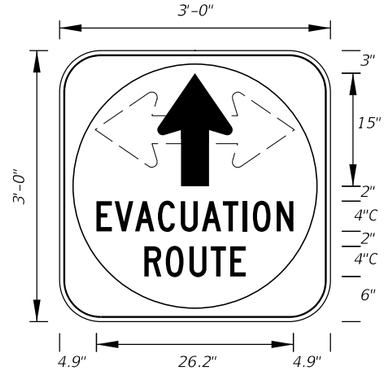
FTP-74-06
5'-6" X 2'-6"
4" Radii ¾" Border
6" Series D Legend
Blue Background
White Legend and Border



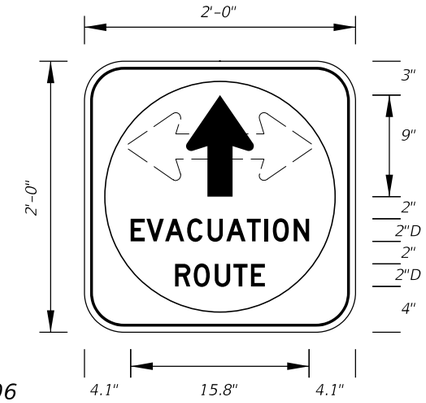
FTP-75-06
5'-6" X 1'-3"
1" Radii
6" Series D Legend
Blue Background
White Legend



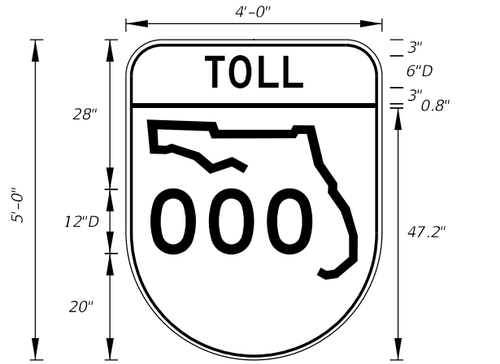
FTP-76-06
5'-6" X 1'-3"
1" Radii
8" Series D Legend
Blue Background
White Legend



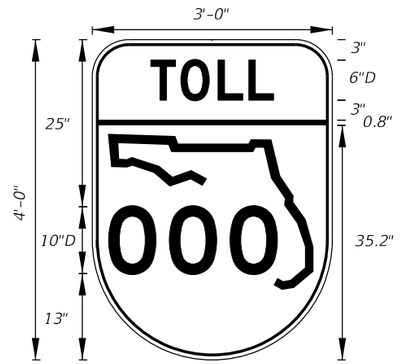
FTP-77-06
3' X 3'
5" Radii ¾" Border
4" Series C Legend
White Background with Blue Circle Background
White Legend and Black Border



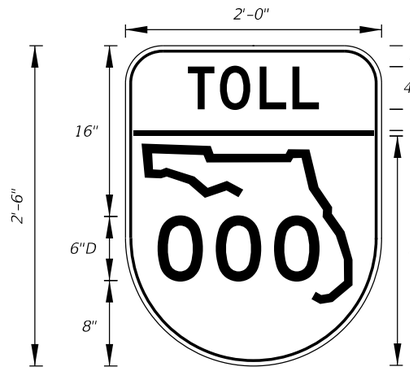
FTP-78-06
2' X 2'
3" Radii ¾" Border
2" Series D Legend
White Background with Blue Circle Background
White Legend and Black Border



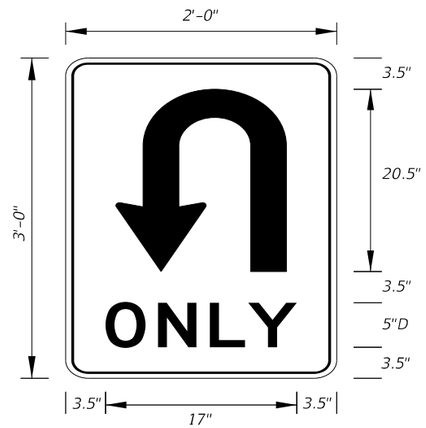
FTP-79-06
4' X 5'
6" Radii ¾" Border
6" and 12" Series D Legend
Top Yellow Background with Black Legend and Black Border
Bottom White Background with Black Legend and Border



FTP-80-06
3' X 4'
5" Radii ¾" Border
6"and 10" Series D Legend
Top Yellow Background with Black Legend and Black Border
Bottom White Background with Black Legend and Border



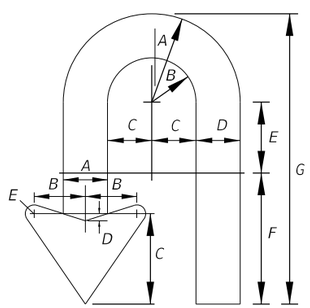
FTP-81-06
2' X 2'-6"
3" Radii ¾" Border
4" and 6" Series D Legend
Top Yellow Background with Black Legend and Black Border
Bottom White Background with Black Legend and Border



FTP-82-08
2' X 3'
1.5" Radii
5" Series D Legend
White Background
Black Legend and Border

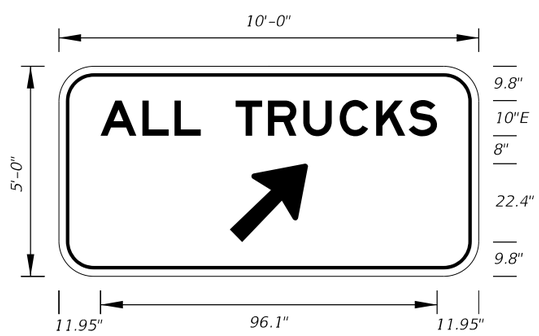
ARROW HEAD

A	3.125
B	3.625
C	6.375
D	.5
E	.625



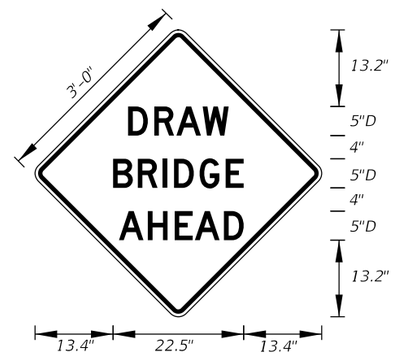
ARROW BODY

A	B	C	D	E	F	G
6.25	3.125	3.125	3.125	5	9.25	20.5



FTP-83-08
10'-0" X 5'-0"
8" Radii

10" Series E Legend
Green Background
White Legend



FTP-84-09
3' X 3'
1.5" Radii

5" Series D Legend
Yellow Background
Black Legend and Border

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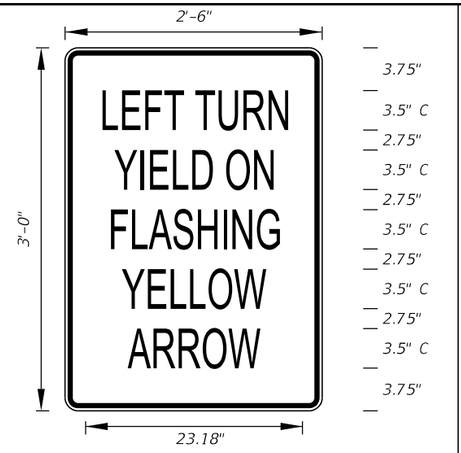
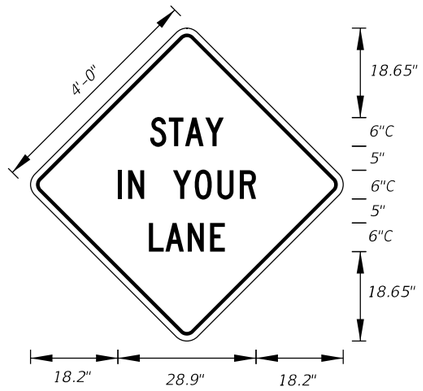


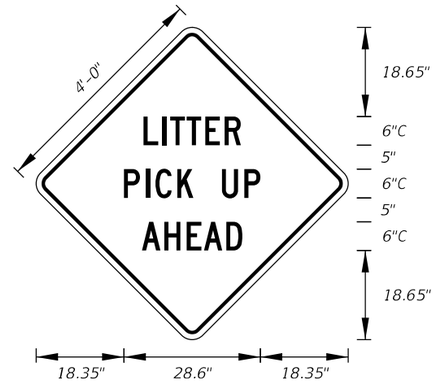
FTP-85-13
3' X 2'-6"
1.875" Radii ¾" Border

3.5" Series C Legend
White Background
Black Legend and Border



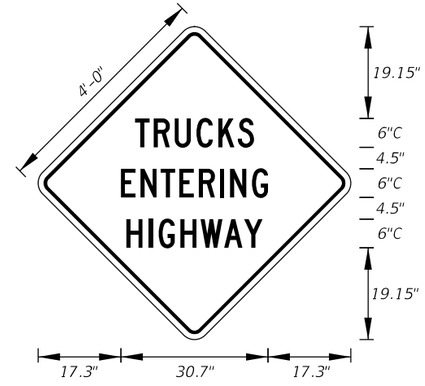
MOT-1-06
4' X 4'
2" Radii ¾" Border

6" Series C Legend
Orange Background
Black Legend and Border



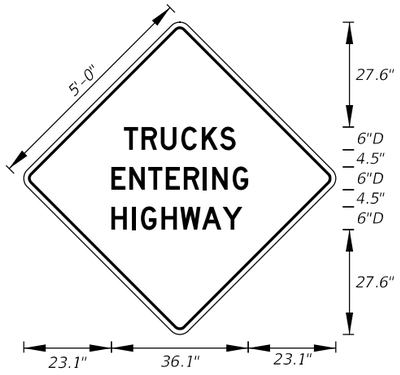
MOT-4-06
4' X 4'
2" Radii ¾" Border

6" Series C Legend
Orange Background
Black Legend and Border



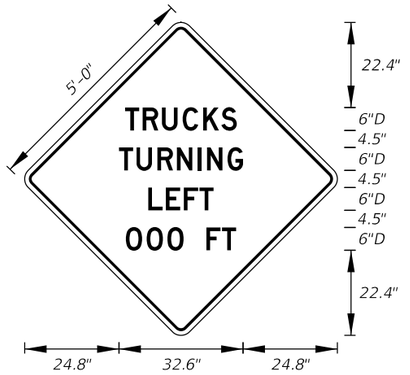
MOT-5-06
4' X 4'
2" Radii ¾" Border

6" Series C Legend
Orange Background
Black Legend and Border



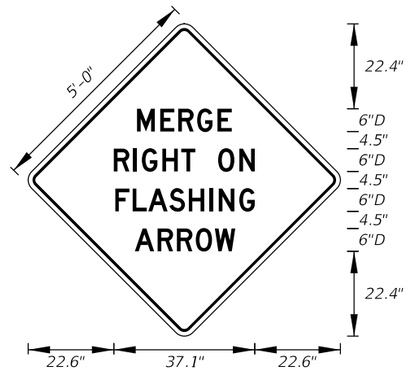
MOT-6-06
5' X 5'
2" Radii ¾" Border

6" Series D Legend
Orange Background
Black Legend and Border



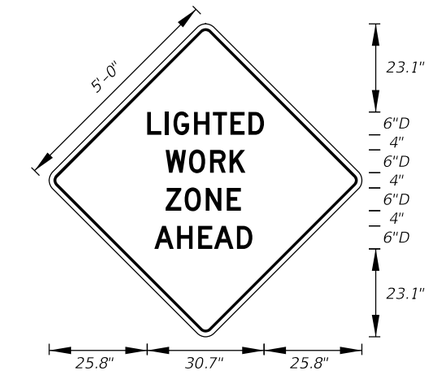
MOT-7-06
5' X 5'
2" Radii ¾" Border

6" Series D Legend
Orange Background
Black Legend and Border



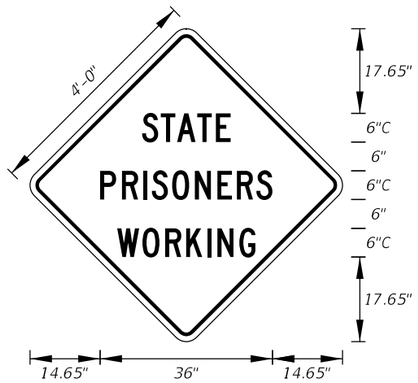
MOT-8-06
5' X 5'
2" Radii ¾" Border

6" Series D Legend
Orange Background
Black Legend and Border



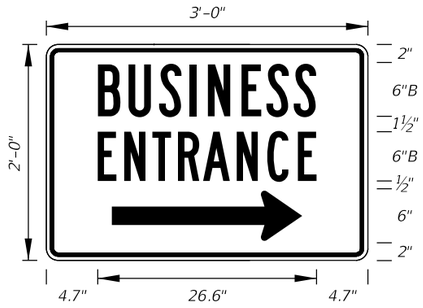
MOT-9-06
5' X 5'
2" Radii ¾" Border

6" Series D Legend
Orange Background
Black Legend and Border



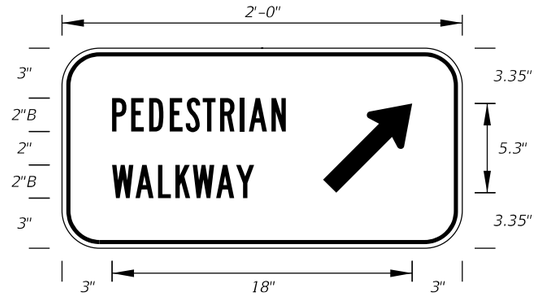
MOT-10-06
4' X 4'
2" Radii ¾" Border

6" Series C Legend
Orange Background
Black Legend and Border



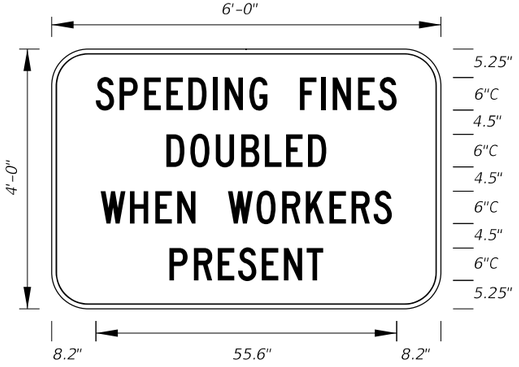
MOT-11-06
3' X 2'
2" Radii ¾" Border

6" Series B Legend
Blue Background
White Legend and Border



MOT-12R-06
2' X 1'
2" Radii ¾" Border
2" Series B Legend
White Background
Black Legend and Border

MOT-12L-06
For Diversion
to the left

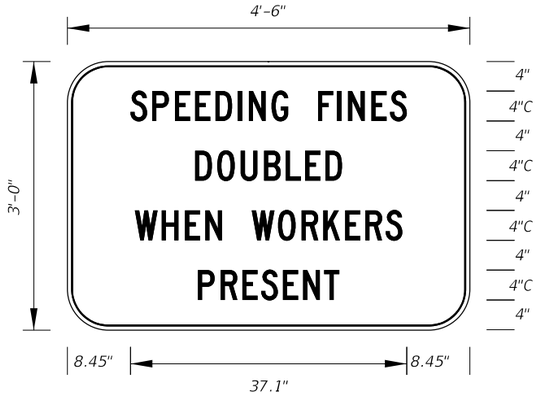


MOT-13-06
Freeway Sign
6' X 4'
6" Radii ¾" Border

6" Series C Legend
White Background
Black Legend and Border

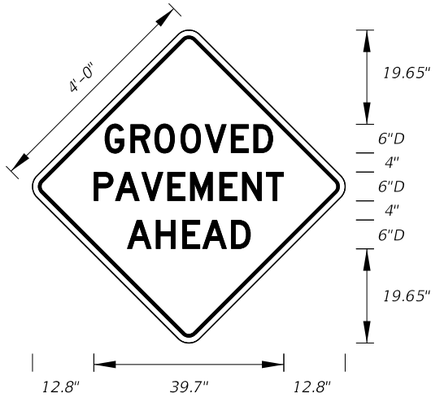
10/29/2019 8:24:01 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	SPECIAL SIGN DETAILS	INDEX	SHEET
11/01/18					700-102	10 of 11



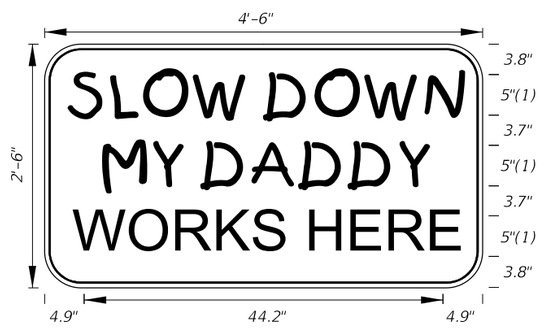
MOT-14-06
Arterial Sign
4'-6" X 3'
5" Radii ¾" Border

4" Series C Legend
White Background
Black Legend and Border



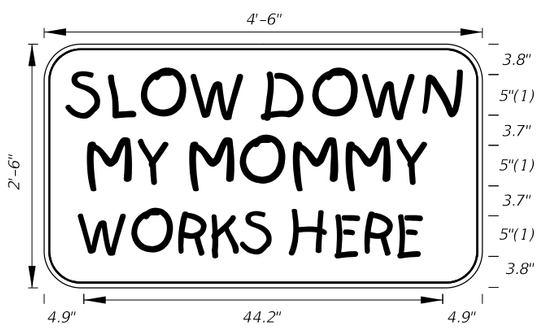
MOT-15-06
4' X 4'
2" Radii ¾" Border

6" Series D Legend
Orange Background
Black Legend and Border



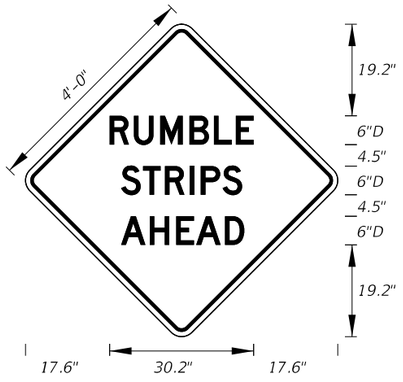
MOT-16-06
4'-6" X 2'-6"
4" Radii ¾" Border

5" Kids Series Legend
Orange Background
Black Legend and Border



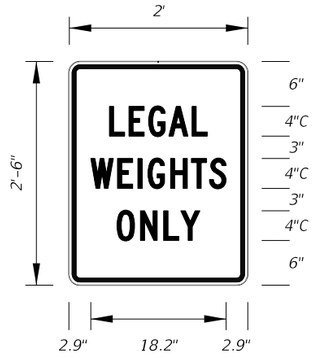
MOT-17-06
4'-6" X 2'-6"
4" Radii ¾" Border

5" Kids Series Legend
Orange Background
Black Legend and Border



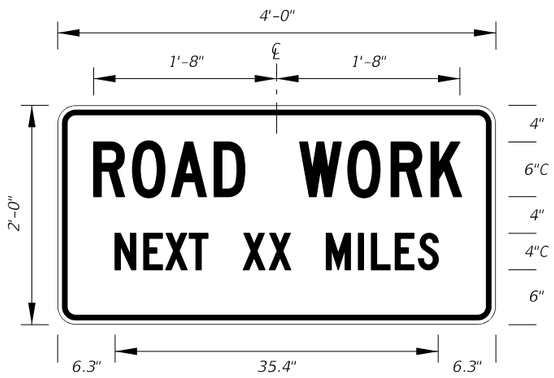
MOT-18-10
4' X 4'
2" Radii ¾" Border

6" Series D Legend
Orange Background
Black Legend and Border



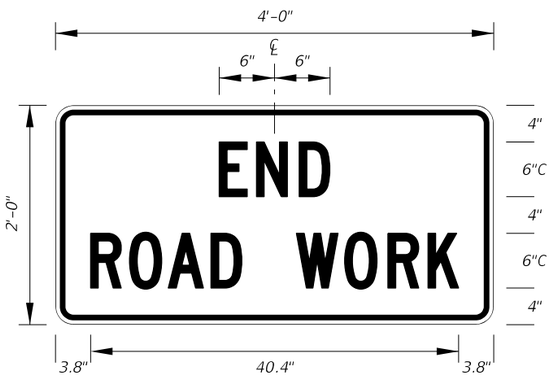
MOT-19-11
2' X 2'-6"
1.13" Radii ¾" Border

4" Series C Legend
White Background
Red Legend and Border



G20-1
2' X 4'
1.5" Radii ¾" Border

Orange Background
Black Legend and Border



G20-2
2' X 4'
1.5" Radii ¾" Border

Orange Background
Black Legend and Border

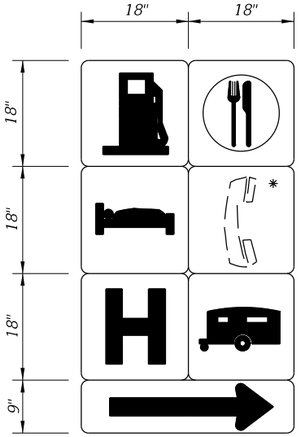
10/29/2019 8:24:02 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	SPECIAL SIGN DETAILS	INDEX	SHEET
11/01/18					700-102	11 of 11

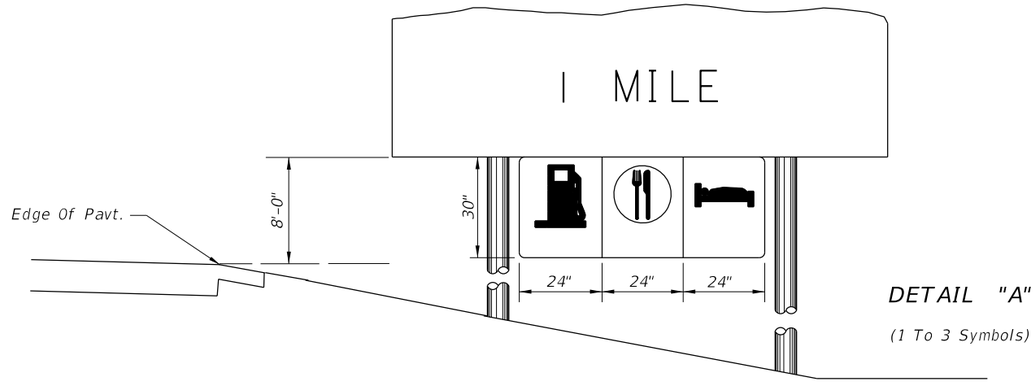
** Note:

Two assemblies are required; one for each side of the ramp, showing those services in each particular direction from the ramp terminal.

Ramp mounted signs shall be installed to avoid conflict with existing signs and in no case should they be placed within 100' of another sign.

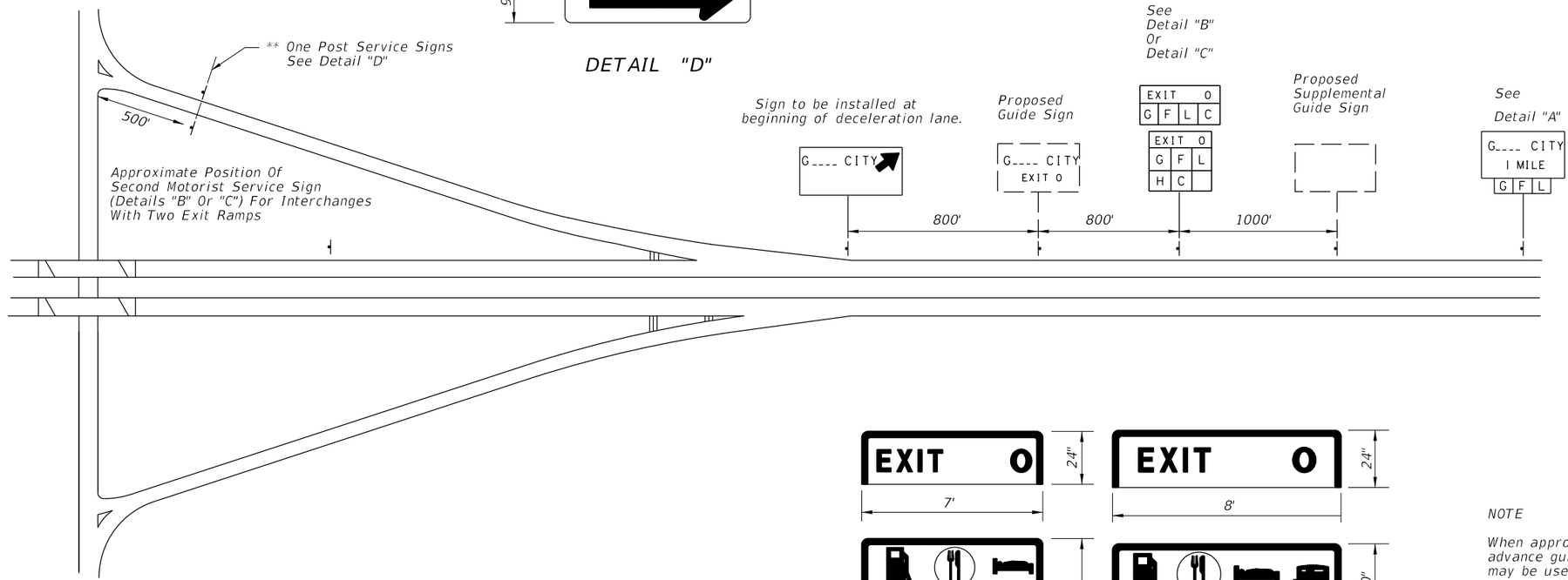


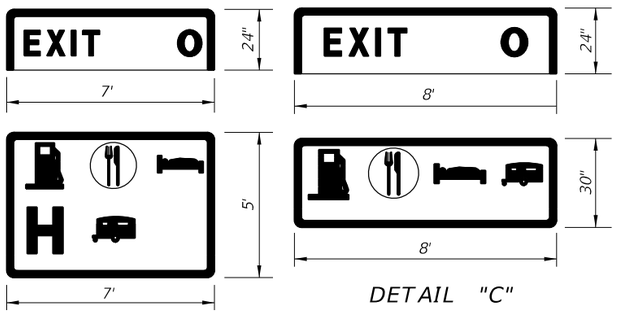
DETAIL "D"



DETAIL "A"

(1 To 3 Symbols)





DETAIL "B"

(4 To 6 Symbols)

DETAIL "C"

(4 Symbols)

GENERAL NOTES

1. Only those services meeting criteria established by the Department and approved by the State Traffic Operations Engineer for each interchange shall be shown. Symbol signs for motorist services shall always appear in the following order reading from left to right and top to bottom: Gas, Food, Lodging, Phone * , Hospital, Camping.

   * The phone symbol shall not be shown whenever any Gas, Food, Lodging or Camping symbol appears.

2. Symbols shall appear consecutively on the sign with no positions left blank or reserved for intermediate symbols not currently approved for a particular interchange.

3. All motorist service signs to have White Legend and Border with Blue Background.

4. For mounting details see Index 700-010 for Single-column Ground Signs or Index 700-020 for Multi-column Ground Signs.

NOTE

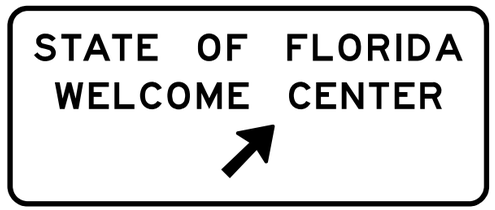
When approved for attachment to the advance guide signs, up to 3 services may be used for an exit. The symbol signs shall be suspended from the guide sign panel or existing wind beams. Symbol signs are not to be connected to existing sign posts.

The mounting height of the advance guide sign shall be increased, where necessary, to provide 8' between the level of the pavement edge and the bottom of the guide sign, prior to mounting the supplementary panel.

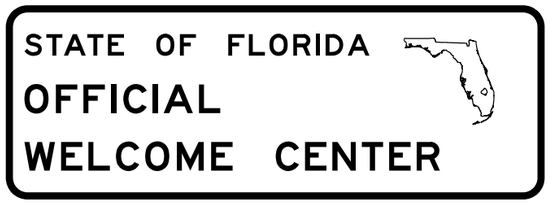
10/29/2019 8:24:02 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	SIGNING FOR MOTORIST SERVICES	INDEX	SHEET
11/01/19						700-104	1 of 1

Sign FTP-10-06

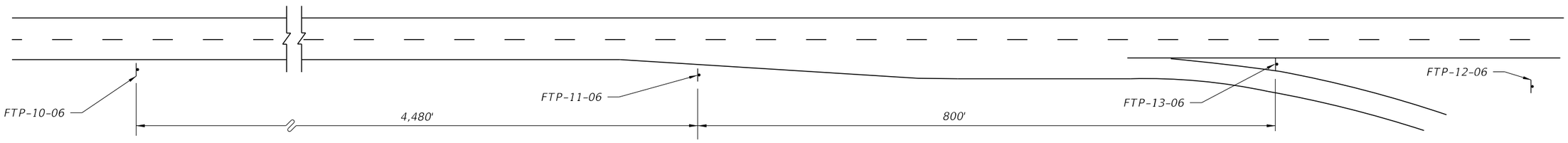


Sign FTP-11-06



Sign FTP-12-06

Sign FTP-13-06



Note: Roadway not drawn to scale
Distances shown are adequate for driver communication but may be altered slightly if conditions require.

Sign FTP-14-06

Note: Sign FTP-14-06 shall be used as a supplemental guide sign at interchanges which have a Tourist Information Center approved for such signing (locate half-way between normal guide signs)

Notes:

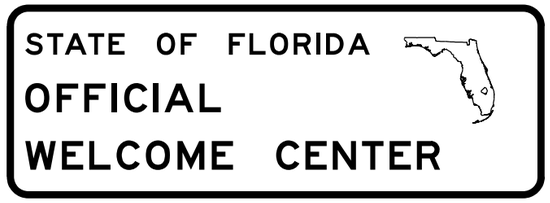
1. Signs and sign structures shall be erected in accordance with the details shown on Index 700-020.
2. Sign FTP-12-06 shall be located on the Welcome Center grounds in proximity to the building and as far from the main line roadway as possible (2 signs back to back).
3. Sign FTP-10-06, 11-06, 12-06 shall be located as limited access highways only.
4. All legend to be Series E.
5. See Index 700-102 for sign details.

FOR LIMITED ACCESS HIGHWAYS

10/29/2019 8:24:03 AM

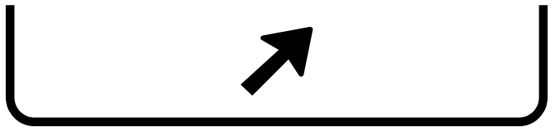
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	WELCOME CENTER SIGNING	INDEX	SHEET
11/01/17						700-105	1 of 2

SIGN FTP-15A-06

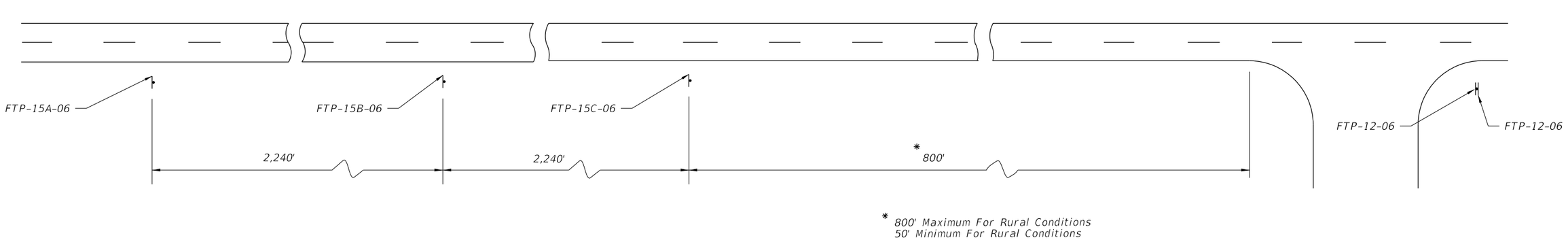


SIGN FTP-12-06

SIGN FTP-15B-06



SIGN FTP-15C-06



* 800' Maximum For Rural Conditions
50' Minimum For Rural Conditions

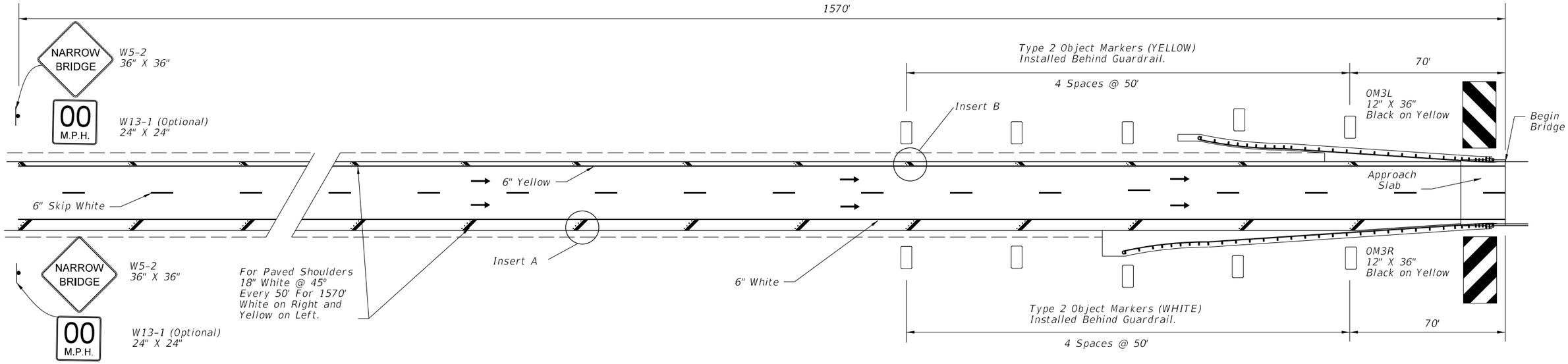
Notes:

1. Signs and sign structures shall be erected in accordance with the details shown on Index 700-020.
2. Sign FTP-12-06 shall be located on the Welcome Center grounds in proximity to the building and as far from the Main Line Roadway as possible (2 signs back to back).
3. All legend to be Series E.
4. One sign FTP-15A-06 or 15B-06 should be used depending on speed, roadside development & geometric conditions.

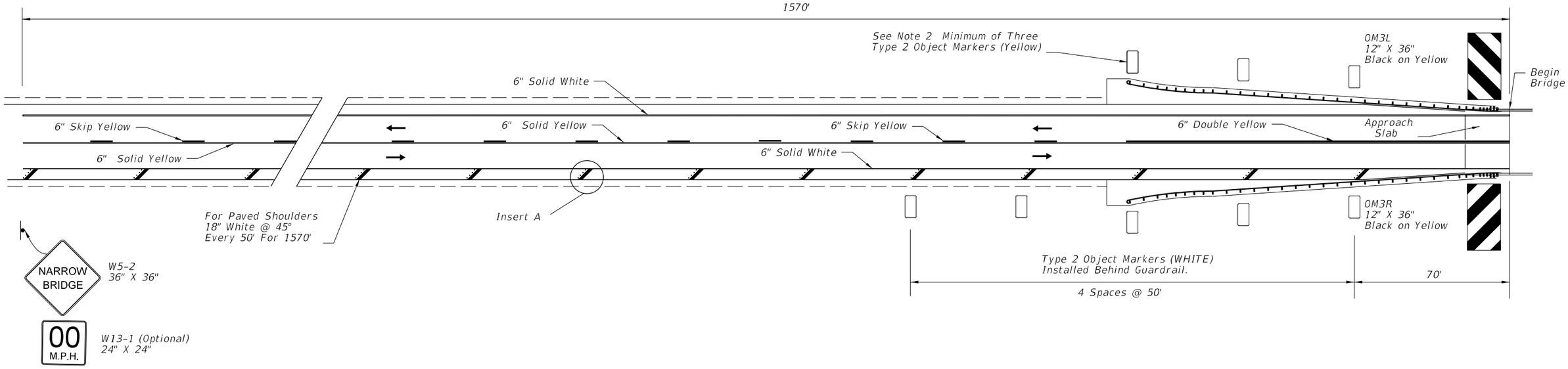
10/29/2019 8:24:03 AM

FOR PRIMARY HIGHWAYS

LAST REVISION 11/01/17	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	WELCOME CENTER SIGNING	INDEX 700-105	SHEET 2 of 2



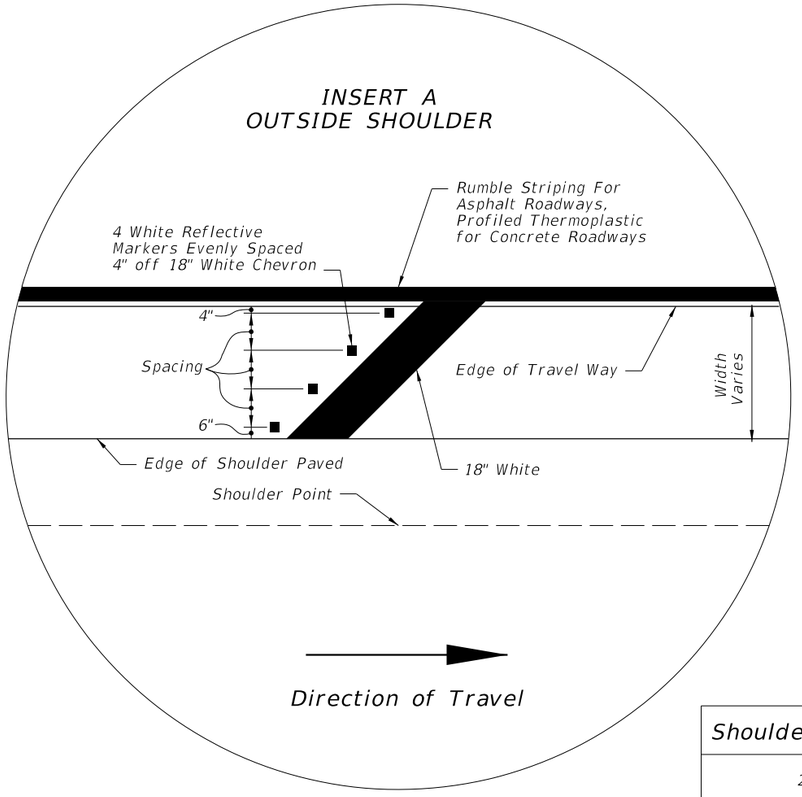
One-Way Traffic

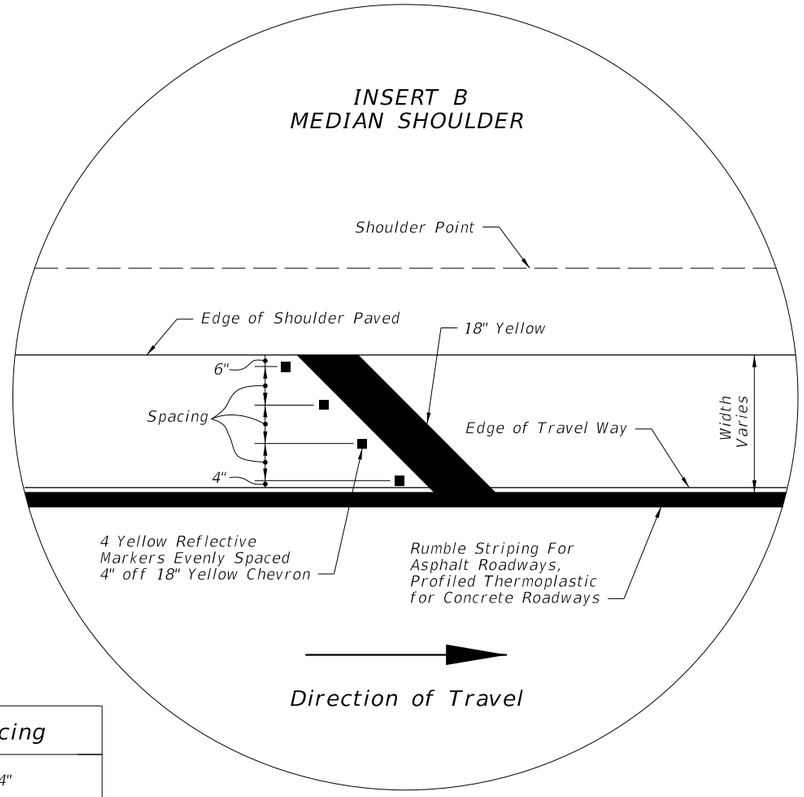


2-Way Traffic

10/29/2019 8:24:04 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FY 2020-21 STANDARD PLANS	RURAL NARROW BRIDGE TREATMENT	INDEX 700-106	SHEET 1 of 2





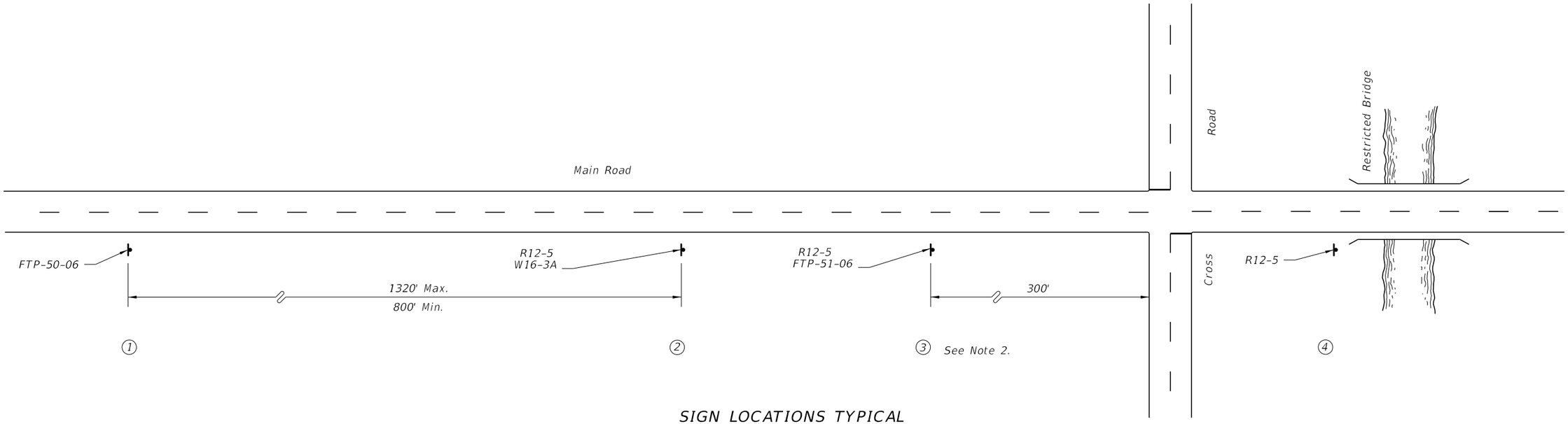
Shoulder Width	No. of RPM's	Spacing
2'	2	14"
3'	3	13"
4'	3	19"
5'	4	16.67"

NOTES:

1. Roadways with Two-Way Traffic:
   No passing zone should be extended 1570' in advance of narrow bridge.
2. If the bridge or the approach is on a curve, delineators shall be installed for a distance of 1570' in advance of narrow bridge on the outside portion of the roadway. Spacing shall be 100' between delineators. Delineators are to be placed not less than 2' or not more than 8' outside the outer edge of pavement.
3. Object markers and delineators on both sides of roadway shall face traffic approaching bridge
4. The OM-3R & OM-3L object markers shall be installed 4' above the roadway edge. The panels may be post mounted at the bridges.

10/29/2019 8:24:05 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FY 2020-21 STANDARD PLANS	RURAL NARROW BRIDGE TREATMENT	700-106	2 of 2



SIGN LOCATIONS TYPICAL

① WEIGHT LIMIT RESTRICTION AHEAD

FTP-50-06

② WEIGHT LIMIT 8T 12T 16T

R12-5 (24" X 36")

X MILES

W 16-3A

③ WEIGHT LIMIT 8T 12T 16T

R12-5 (24" X 36")

WEIGHT LIMIT LAST EXIT

FTP-51-06

④ WEIGHT LIMIT 8T 12T 16T

R12-5 (24" X 36")

1. See Standard Highway Signs for sign R12-5 and W16-3 details.
2. Location of Sign 3 may require some field adjustment.
3. The Cross Road is the last detour to route around the restricted bridge.
4. Location of Sign 2 should be established from the Cross Road the following approximate distances; Interstate-1 Mile Non- Interstate-1/2 Mile.
5. See Index 700-102 for sign details.

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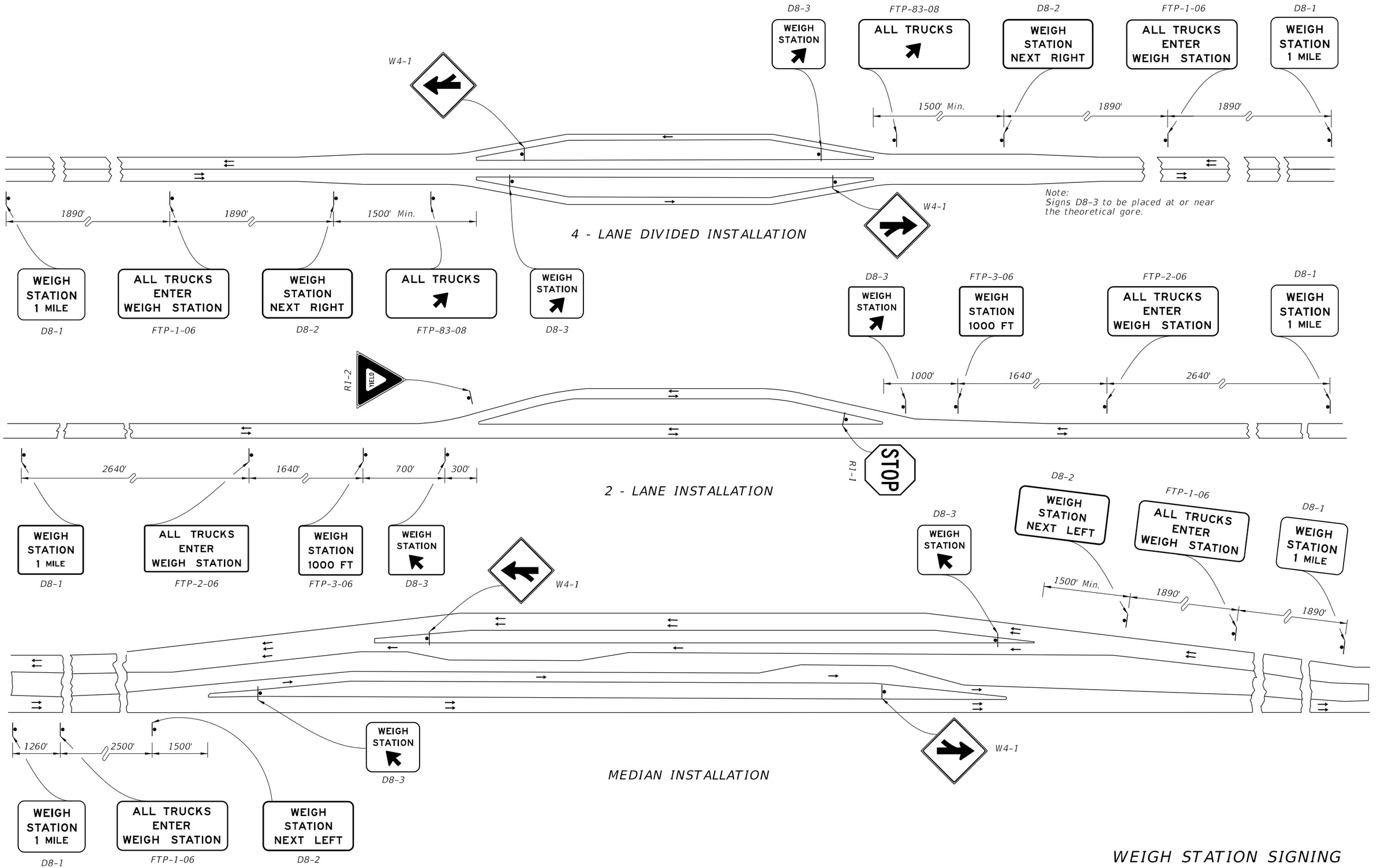
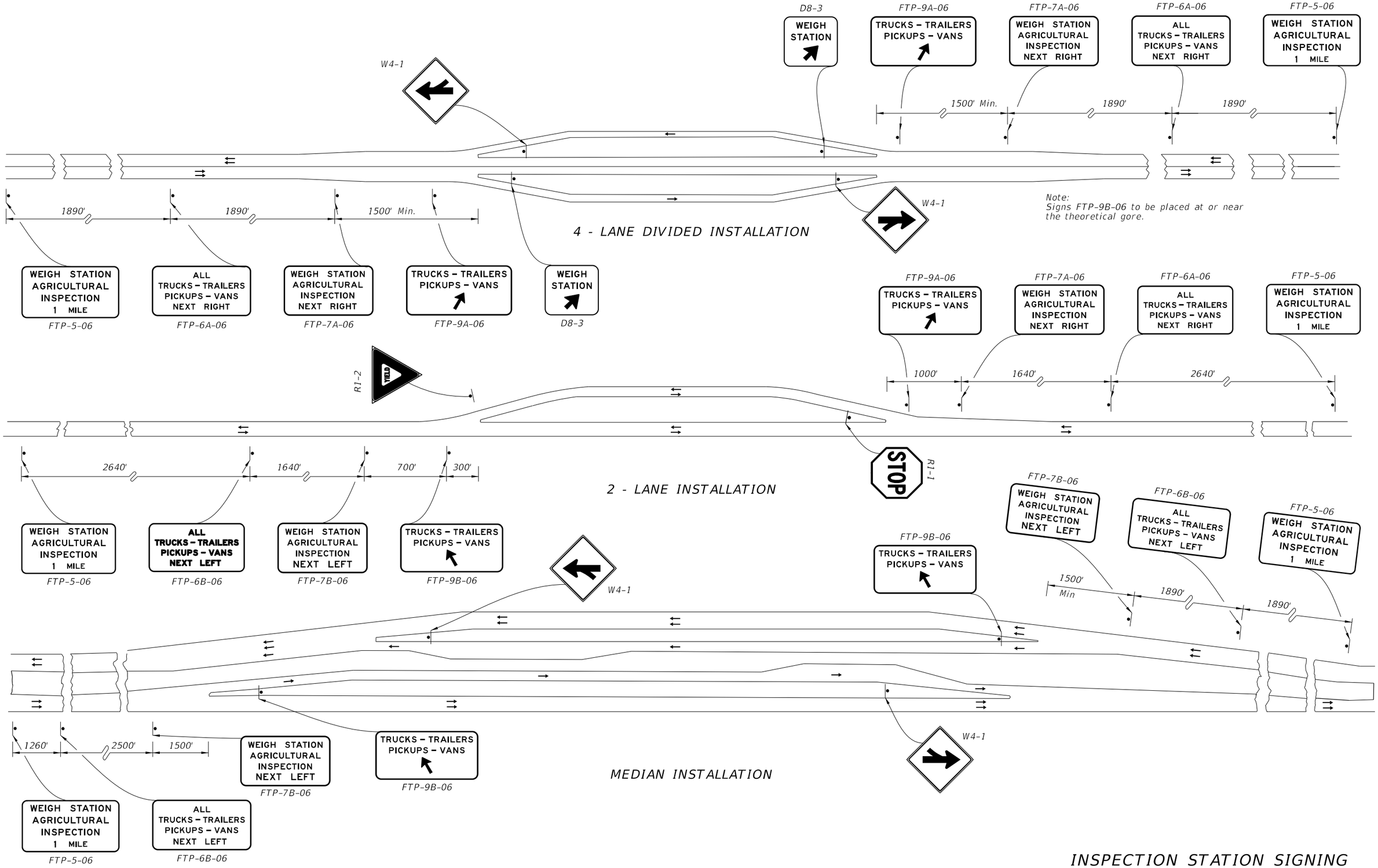
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	BRIDGE WEIGHT RESTRICTIONS	INDEX	SHEET
11/01/17						700-107	1 of 1



10/29/2019 8:24:08 AM

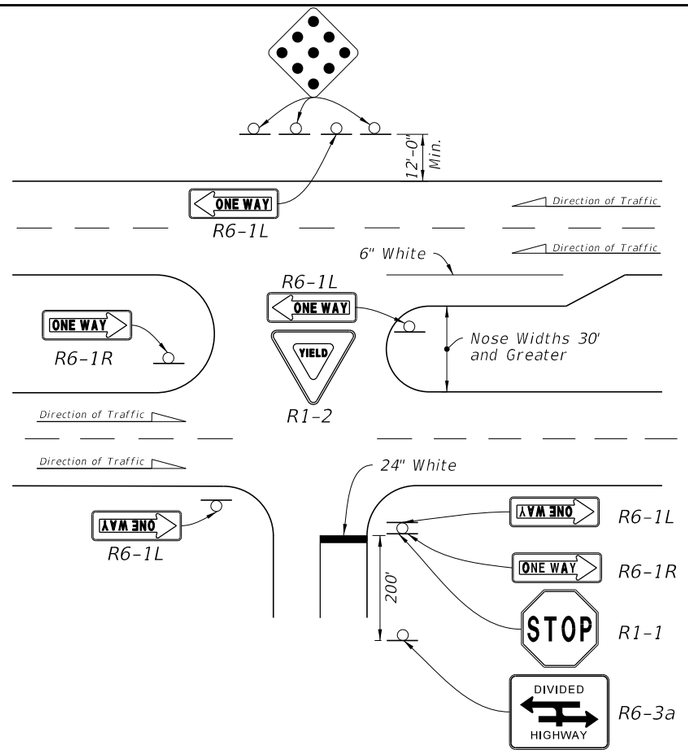
LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FDOT FY 2020-21 STANDARD PLANS	TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS	INDEX 700-108	SHEET 1 of 2

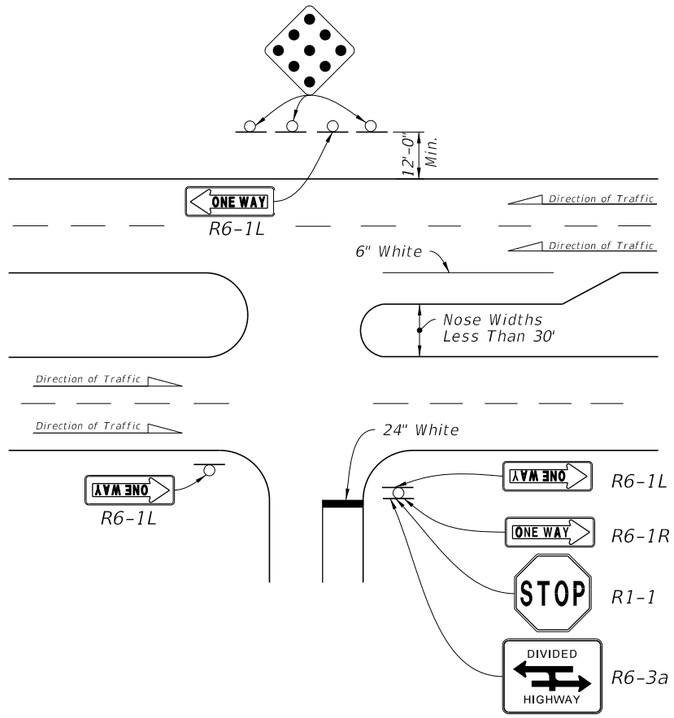


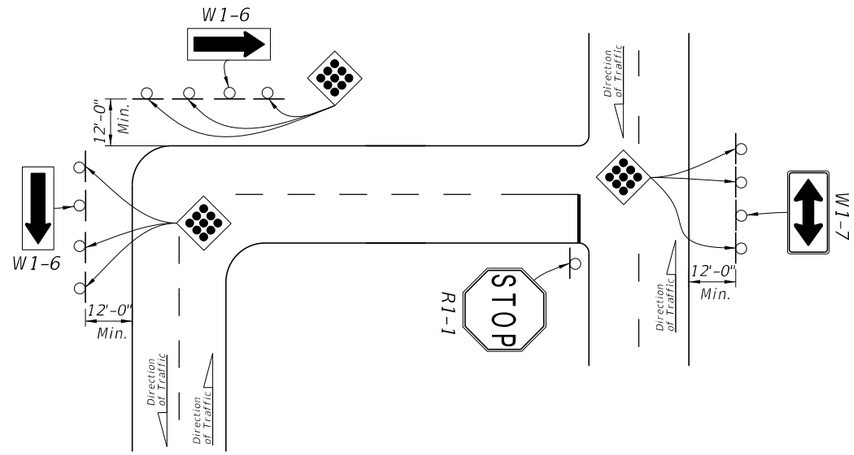
INSPECTION STATION SIGNING

10/29/2019 8:24:09 AM

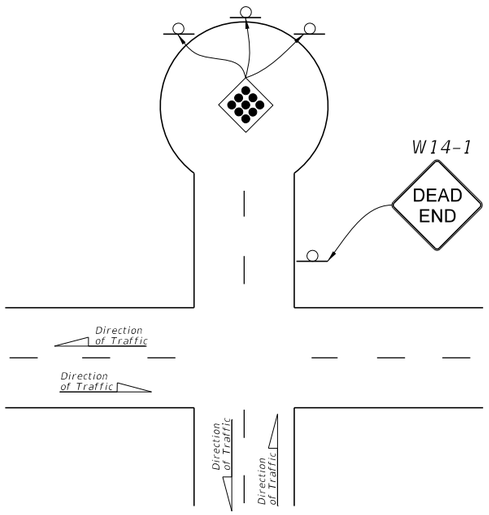
LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FDOT	FY 2020-21 STANDARD PLANS	TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS	INDEX 700-108 / SHEET 2 of 2

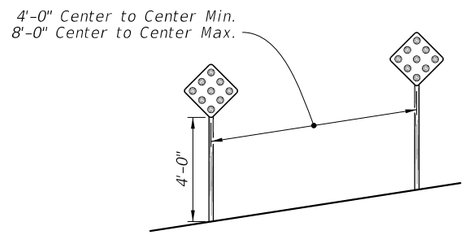


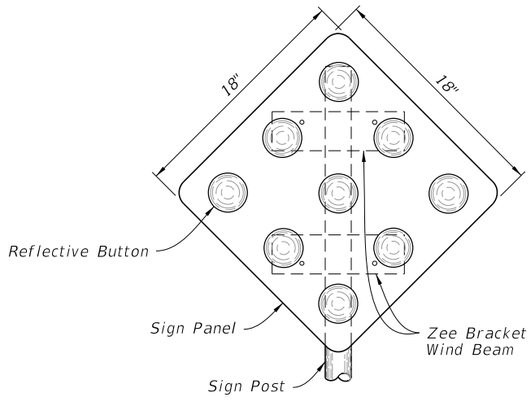




TYPE 1 OBJECT MARKER PLACEMENT







TYPE 4 OBJECT MARKER PLACEMENT

OBJECT MARKER DETAIL

NOTES:

1. Index applicable to residential and minor streets only. Major streets to be evaluated on a case-by-case basis.
2. Install Object Markers in accordance with Index 700-010
3. See Index 711-001 for pavement markings.

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FDOT FY 2020-21 STANDARD PLANS	TRAFFIC CONTROLS FOR STREET TERMINATIONS	700-109	1 of 1

NOTES:

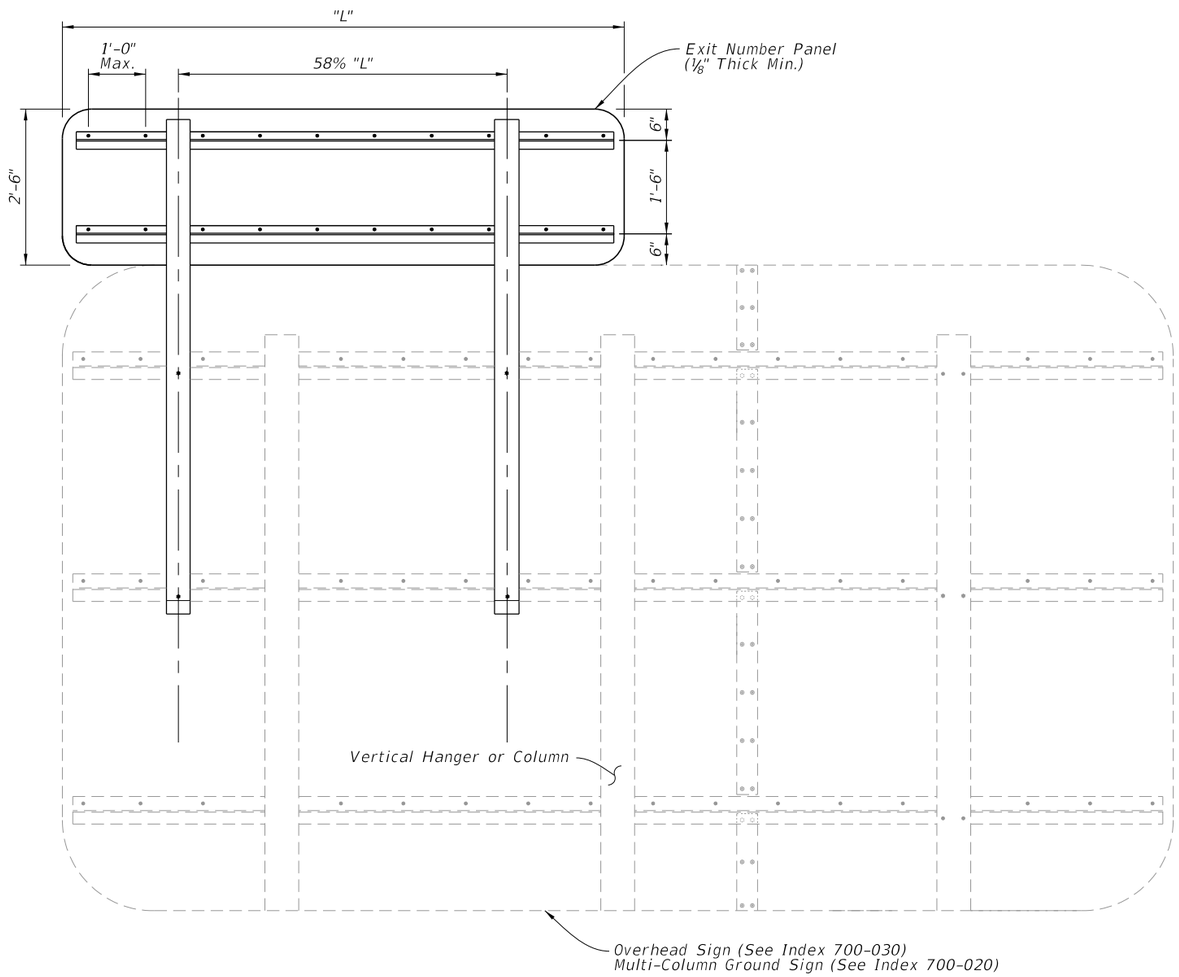
1. Work with Indexes 700-020 and 700-030.

2. Materials (Aluminum):
   A Sheets and Plates: ASTM B209 Alloy 6061-T6
   B. Standard Structural Shapes: ASTM B308 Alloy 6061-T6
   C. Extruded Shapes: ASTM B221 Alloy 6061-T6
   D. For Bolts, Nuts, and Washers requirements see Index 700-020 or 700-030.

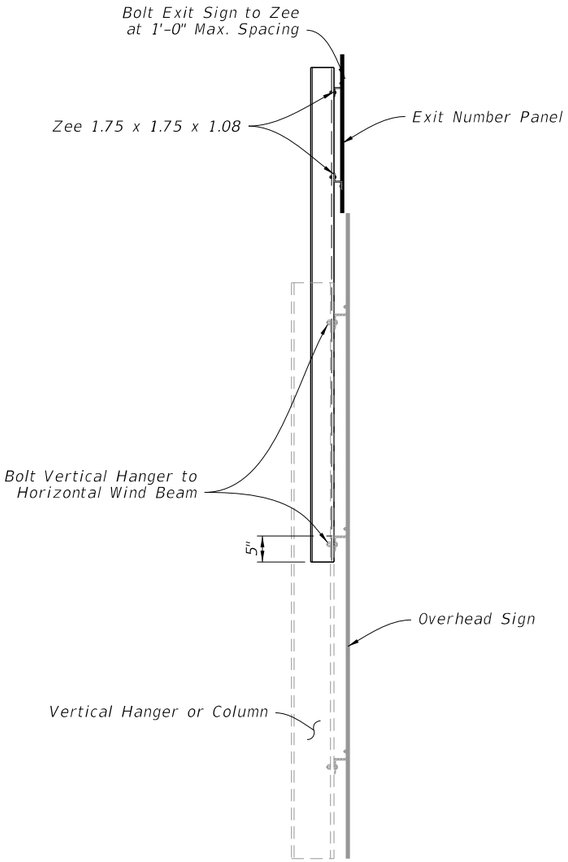
3. Fabrication:
   A. See sign layout sheet for dimension "L" and sign face details in the Plans.
   B. Round all sign corners.

4. For right exits, install the Exit Numbering Panel to the top right side of the Highway Sign.

5. For left exits, install the Exit Numbering Panel to the top left side of the Highway Sign.



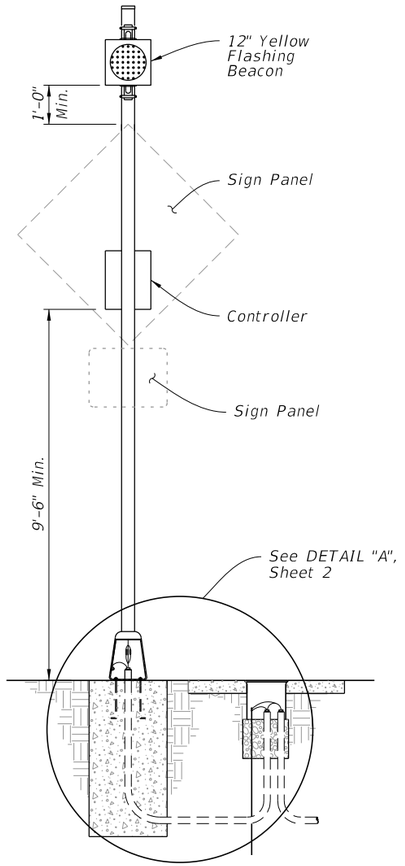
BACK ELEVATION



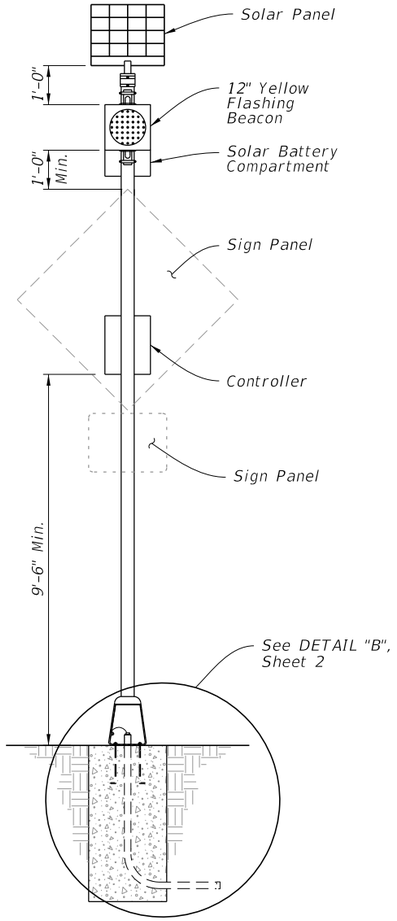
SIDE ELEVATION

2/13/2020 6:46:14 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	MOUNTING EXIT NUMBER PANELS TO SIGNS	INDEX	SHEET
11/01/19						700-110	1 of 1

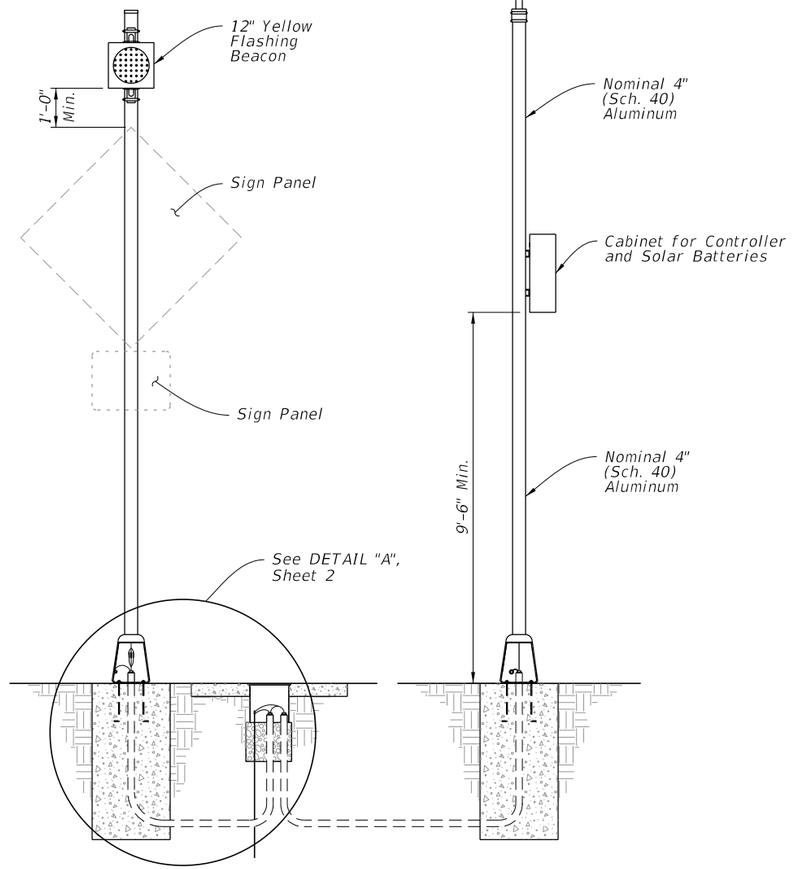


FRONT VIEW



FRONT VIEW

WITHOUT AUXILIARY POLE



SIGN ASSEMBLY FRONT VIEW

AUXILIARY POLE

WITH AUXILIARY POLE

POWER CONFIGURATION 'A'
CONVENTIONALLY-POWERED
(Type A1 Shown)

GENERAL NOTES:

1. Install sign assemblies based on Alpha–Numeric Type designation shown in the Plans (e.g., Type A1). Assembly Type is based on Power Configuration 'Alpha' Identification shown above and Numerical Identification shown on Sheet 3 thru 8.
2. Install sign panel and wind beam in accordance with Index 700–010 and Specification 700.
3. Engage all threads on the transformer base and post unless the aluminum post is fully seated into base.
4. Meet the requirements of Specification 646 for aluminum poles and transformer bases.
5. Install a concrete slab around all roadside assemblies on slopes 6:1 or greater. The minimum slab dimension is 6" by 4'–0" by 5'–0".
6. When wire entry holes are drilled in the sign column, use a bushing or rubber grommet to protect conductors.

POWER CONFIGURATION 'B'
SOLAR-POWERED
(Type B1 Shown)

POWER CONFIGURATION 'B' NOTES:

1. Install a separate pole for mounting the solar panel, controller and batteries for all roadside assemblies with solar panels, controllers and batteries weighing more than 170 lbs.
2. Install the auxiliary pole as close to the right of way boundary as possible.
3. Install the auxiliary pole so that the height is the same as the column for the roadside assembly.
4. Orient solar panel to face South for optimal exposure to sunlight.
5. The controller and the solar batteries may be located in the same compartment.

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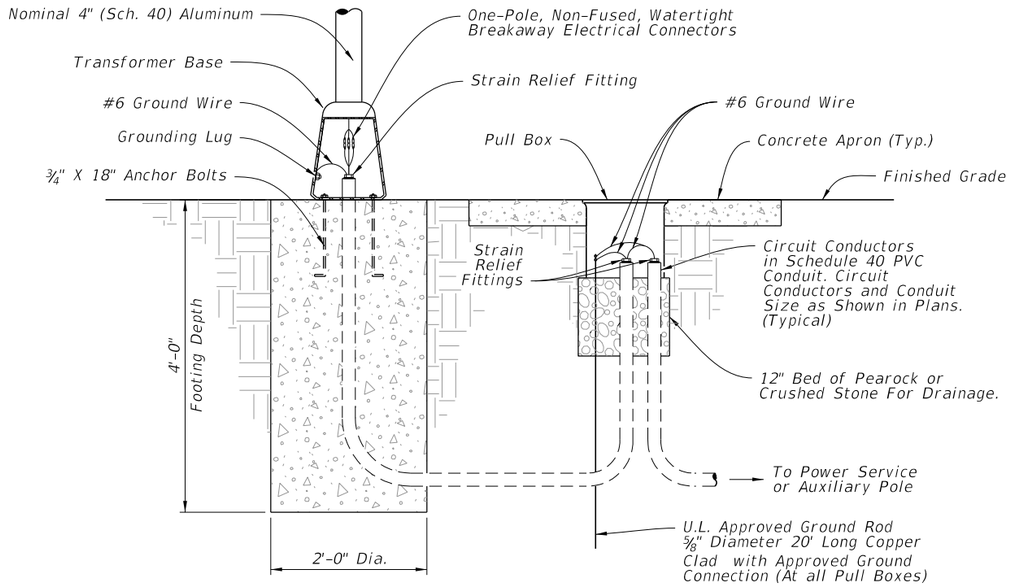
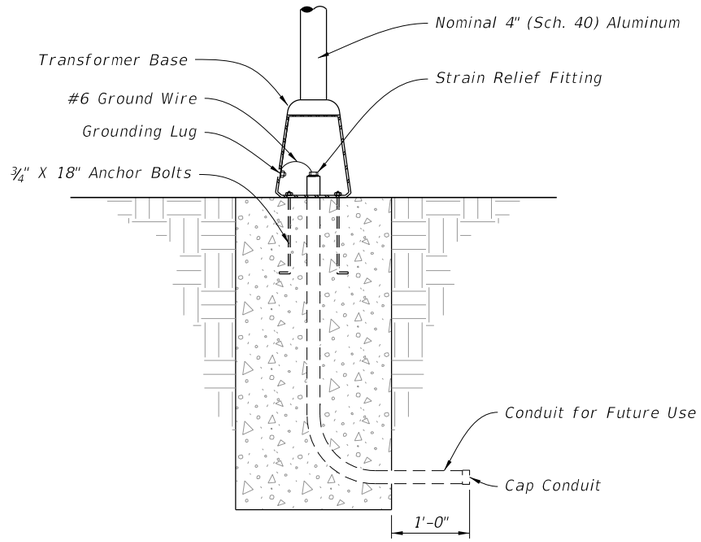
9/29/2020 12:08:22 PM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
07/01/19						700-120	1 of 10



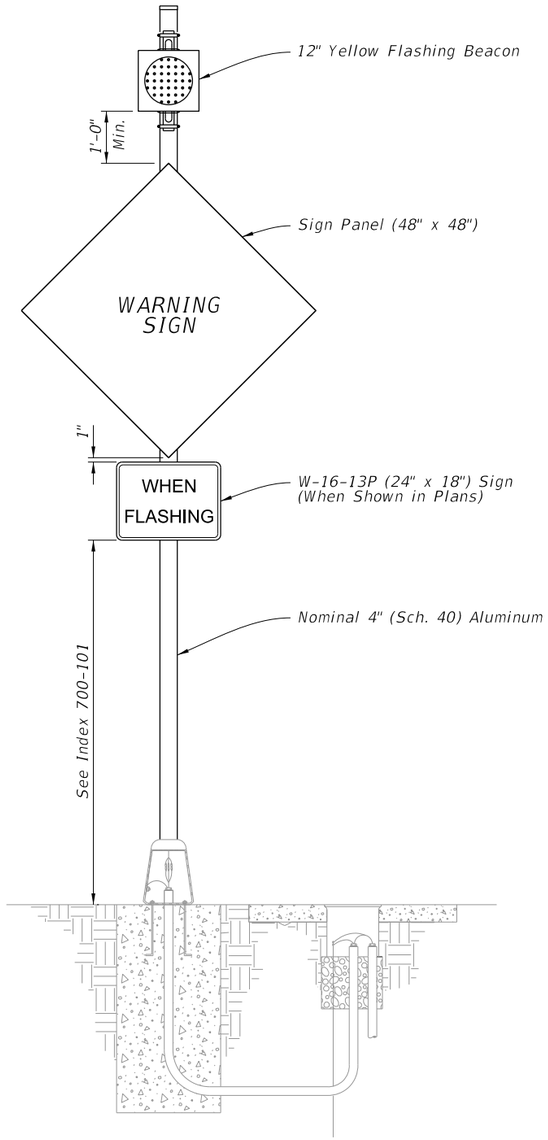
DETAIL "A"



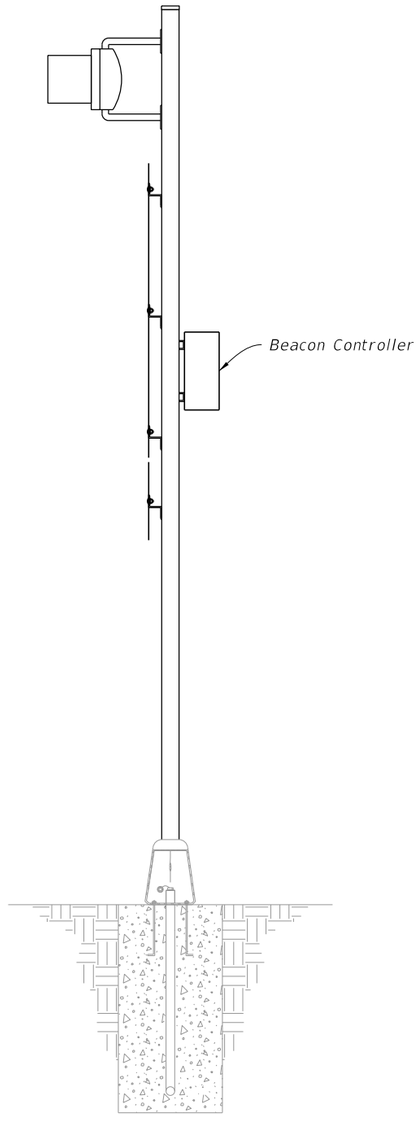
DETAIL "B"

10/29/2019 8:24:12 AM

CONDUIT, WIRING, AND FOUNDATION DETAILS



FRONT VIEW



SIDE VIEW

NOTE:

Type A1 Assembly (conventionally-powered) is shown.
Type B1 Assemblies (solar-powered) similar.

ROADSIDE SIGN ASSEMBLY-1

10/29/2019 8:24:12 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
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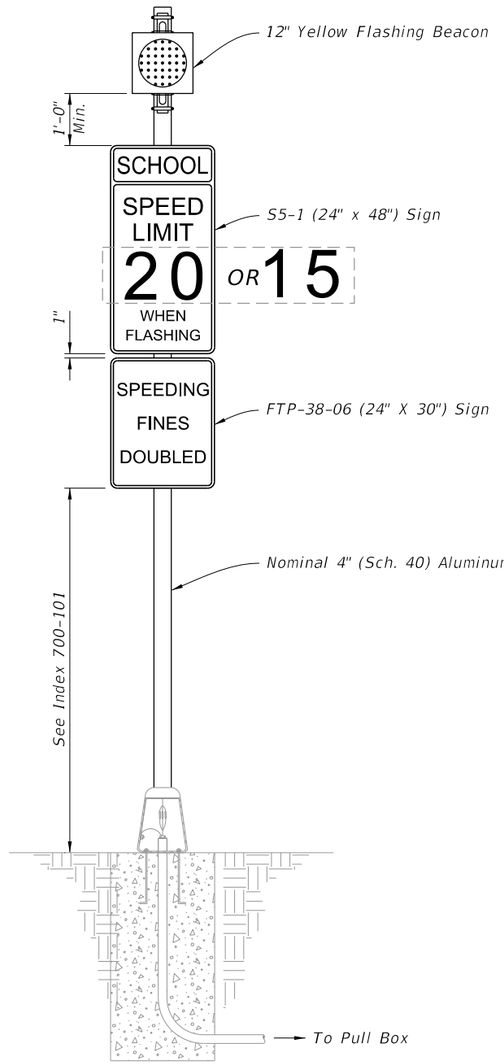
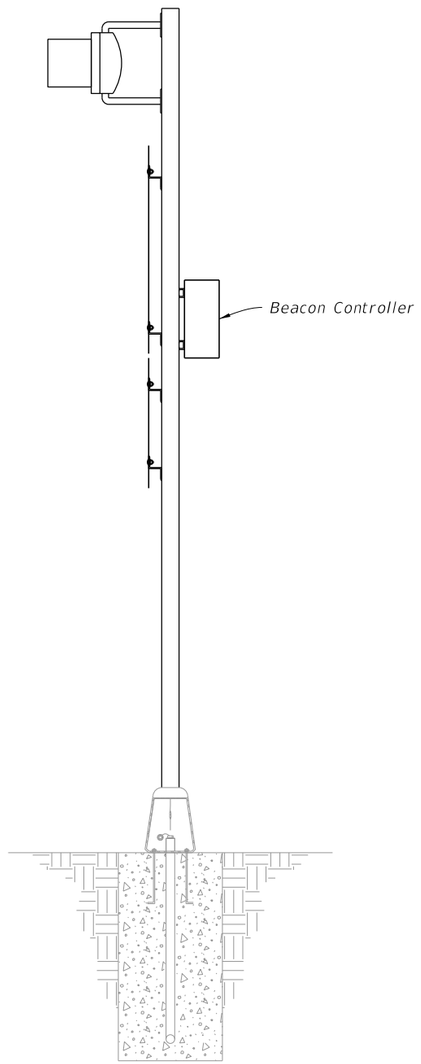


FRONT VIEW



SIDE VIEW

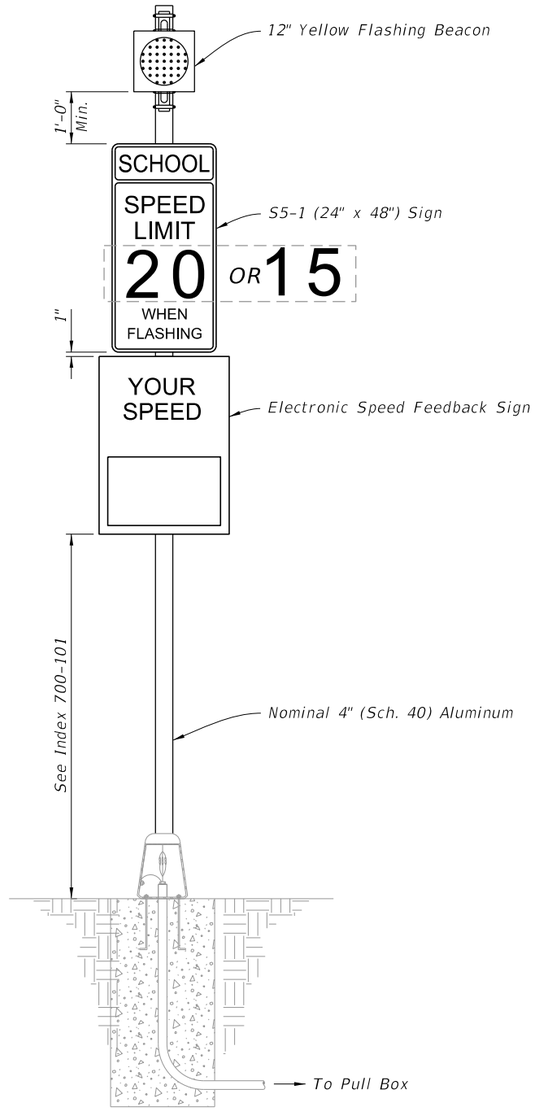
NOTE:

Type A2 Assembly (conventionally-powered) is shown.
Type B2 Assemblies (solar-powered) similar.

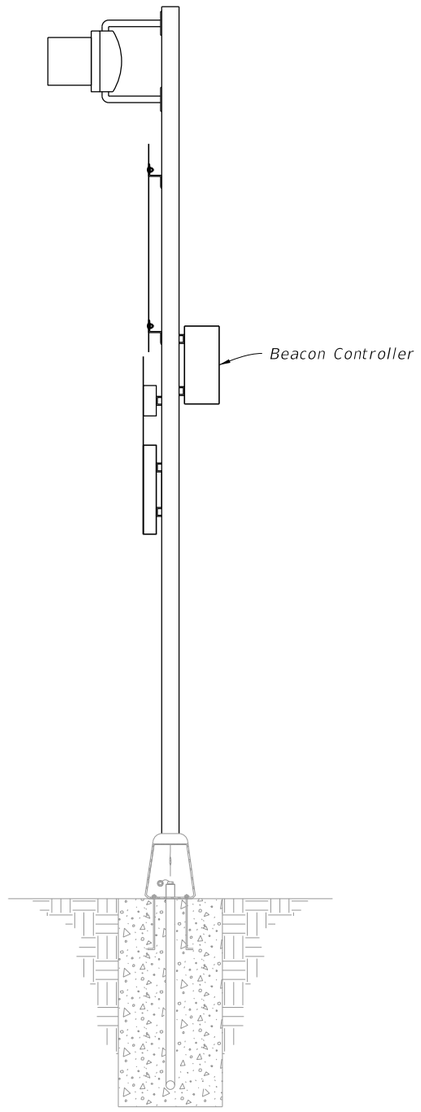
ROADSIDE SIGN ASSEMBLY-2

10/29/2019 8:24:13 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
07/01/19					700-120	4 of 10



FRONT VIEW



SIDE VIEW

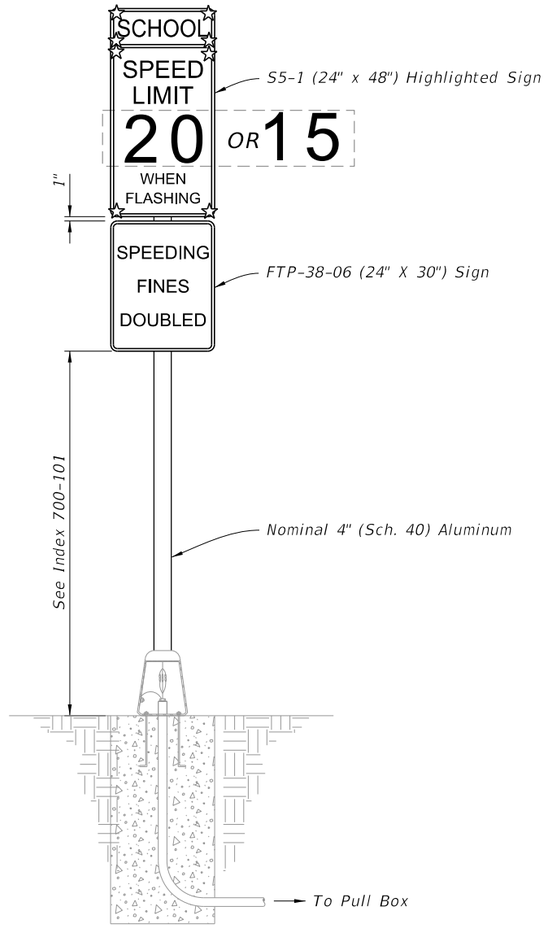
NOTES:

1. Type A3 Assembly (conventionally-powered) is shown. Type B3 Assemblies (solar-powered) similar.
2. Use electronic speed feedback sign with 15" high numerals for posted speed of 45 mph or less, and 18" high numerals for posted speeds greater than 45 mph.

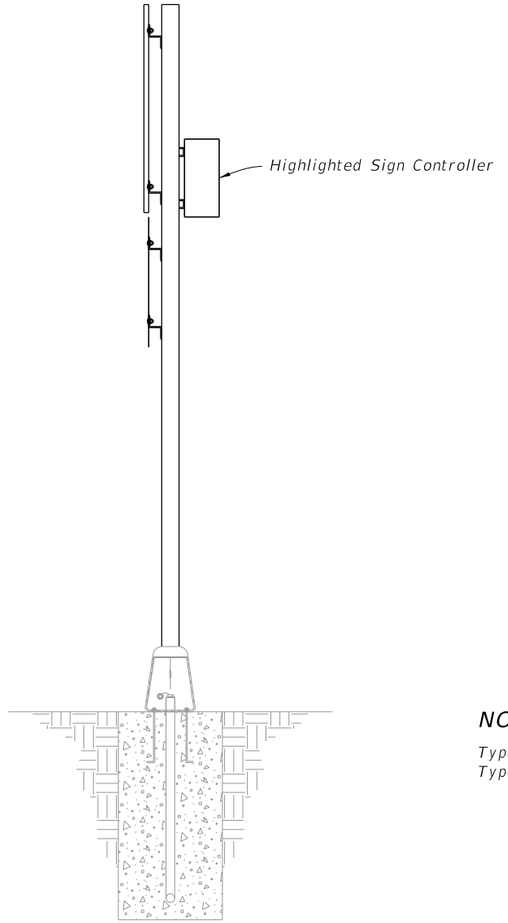
10/29/2019 8:24:13 AM

ROADSIDE SIGN ASSEMBLY-3

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
07/01/19						700-120	5 of 10



FRONT VIEW



SIDE VIEW

NOTE:

Type A4 Assembly (conventionally-powered) is shown.
Type B4 Assemblies (solar-powered) similar.

ROADSIDE SIGN ASSEMBLY-4

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
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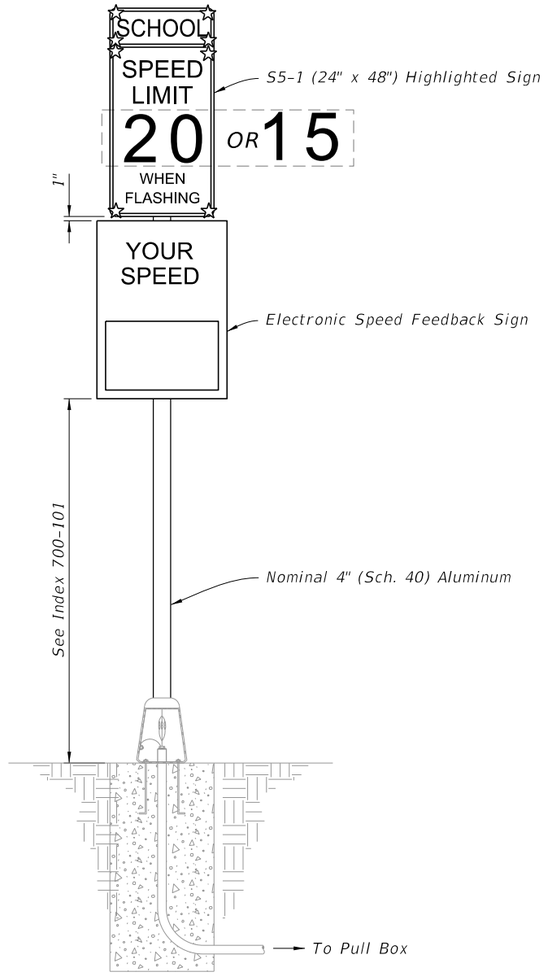
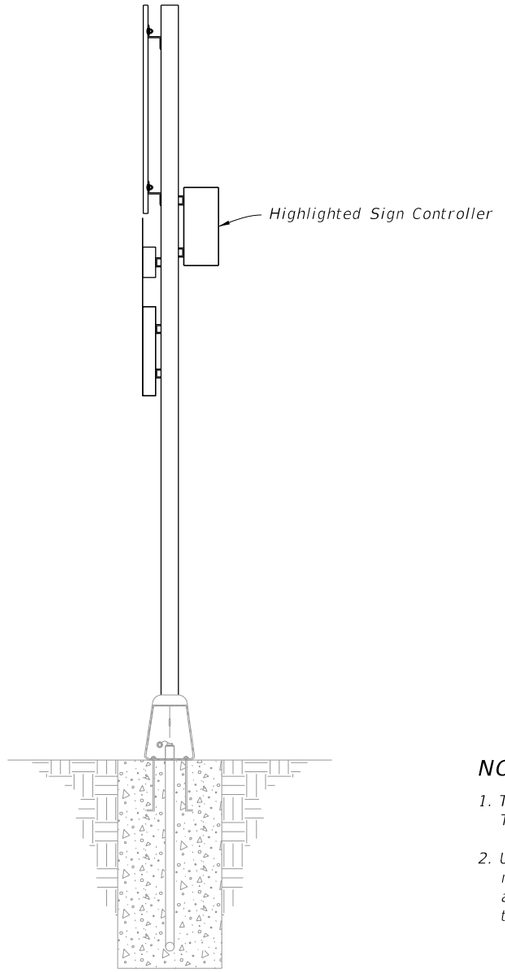


FRONT VIEW



SIDE VIEW

NOTES:

1. Type A5 Assembly (conventionally-powered) is shown. Type B5 Assemblies (solar-powered) similar.
2. Use electronic speed feedback sign with 15" high numerals for posted speed of 45 mph or less, and 18" high numerals for posted speeds greater than 45 mph.

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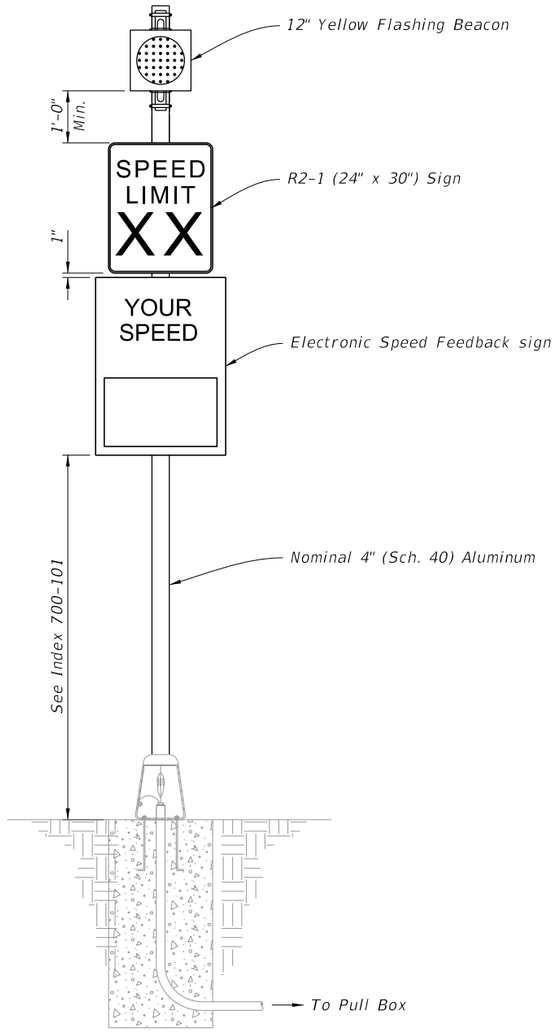
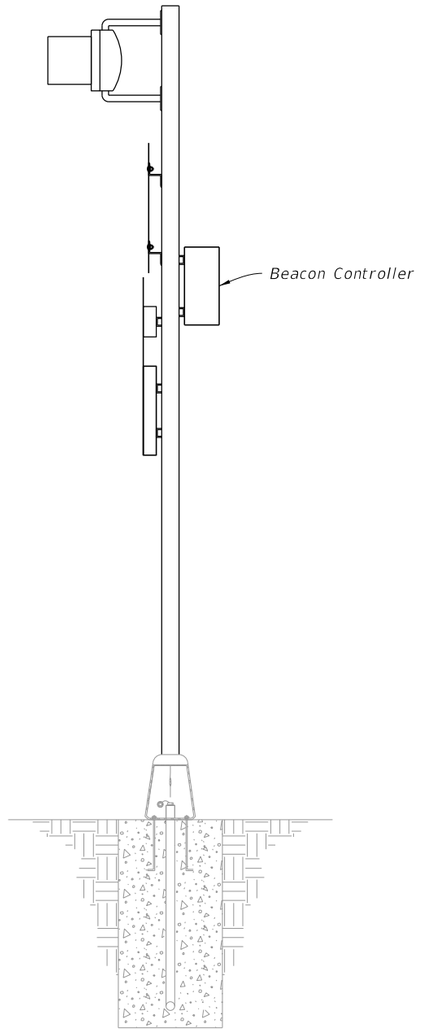
ROADSIDE SIGN ASSEMBLY-5

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
07/01/19					700-120	7 of 10



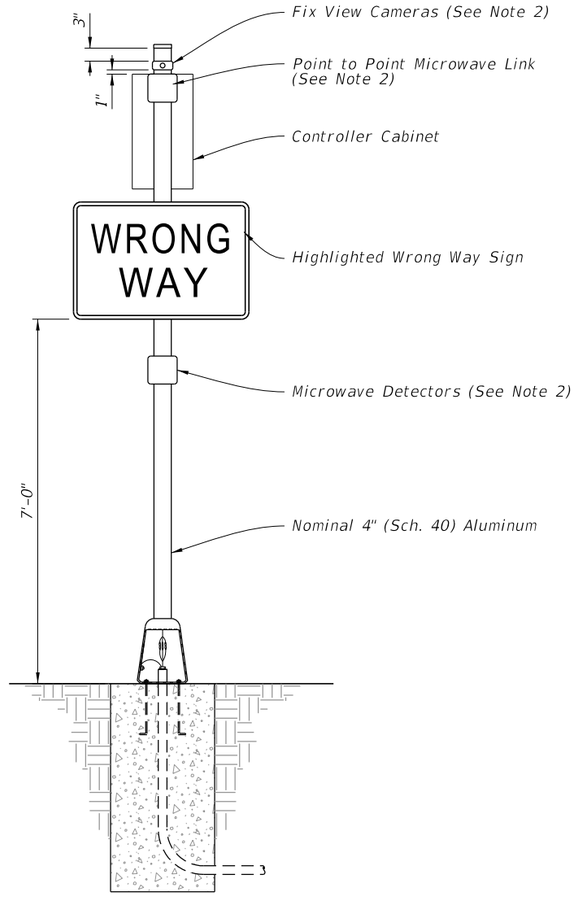
FRONT VIEW



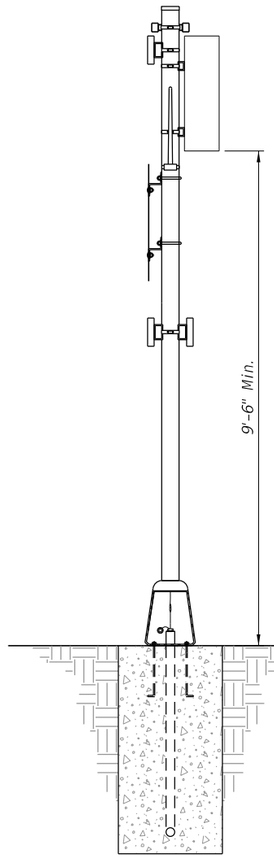
SIDE VIEW

NOTES:

1. Type A6 Assembly (conventionally-powered) is shown. Type B6 Assemblies (solar-powered) similar.
2. Use electronic speed feedback sign with 15" high numerals for posted speed of 45 mph or less, and 18" high numerals for posted speeds greater than 45 mph.



FRONT VIEW



SIDE VIEW

NOTES:

1. Type A7 Assembly (Conventionally-Powered) is shown. Type B7 Assemblies (Solar-Powered) Similar.
2. Install cameras, point to point microwave link, microwave detectors, and antennas in accordance with the manufacturer's instructions.

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ROADSIDE SIGN ASSEMBLY-7

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
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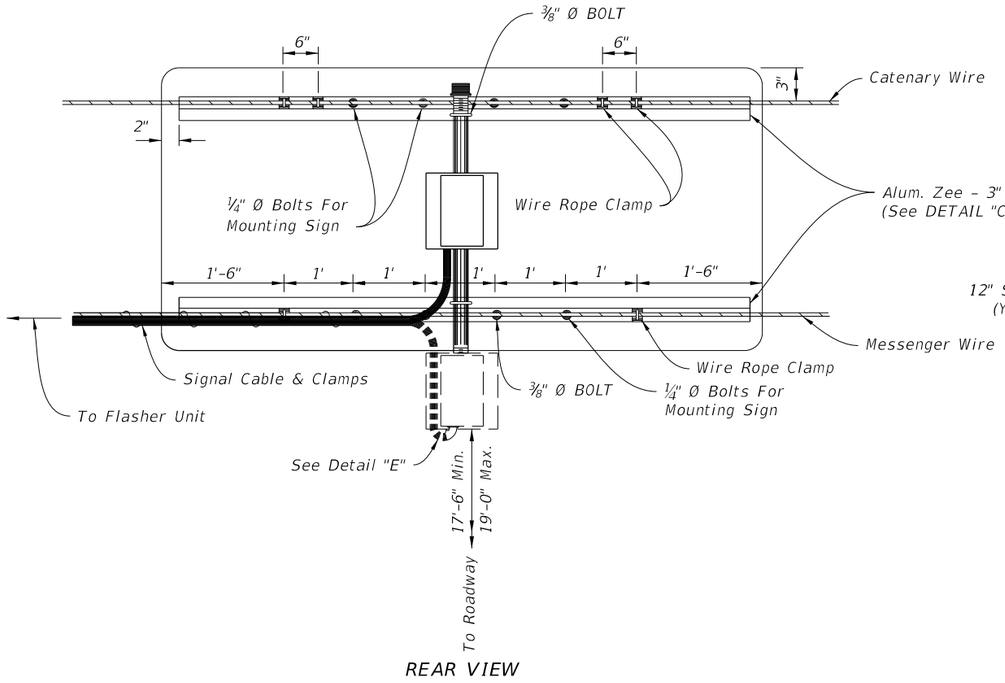
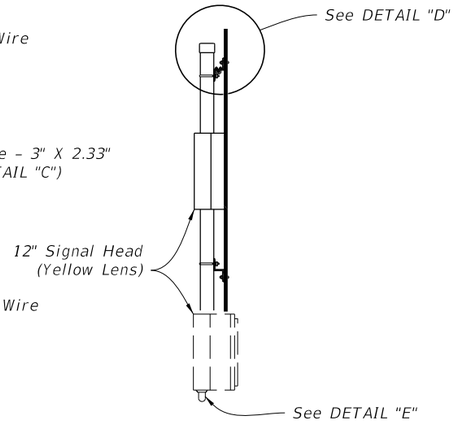
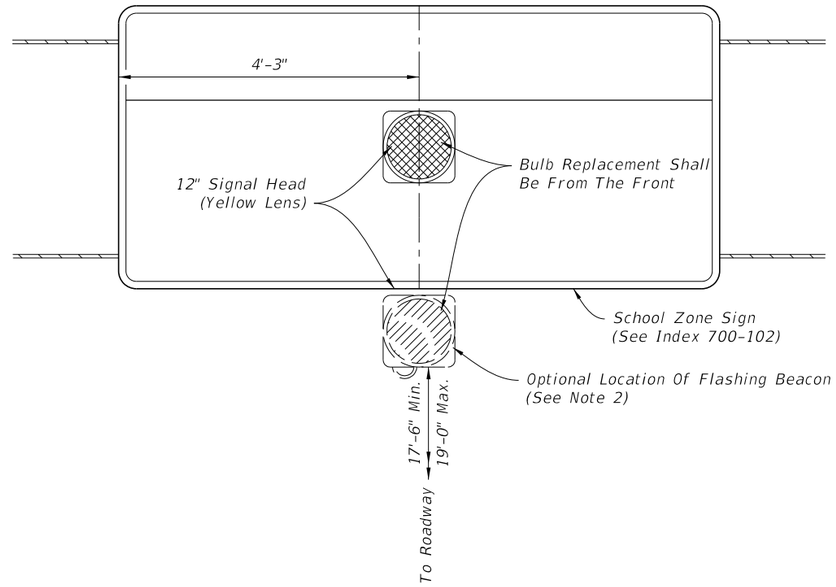


REAR VIEW

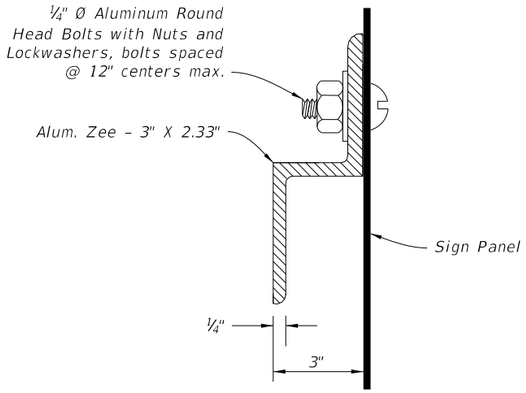


SIDE VIEW



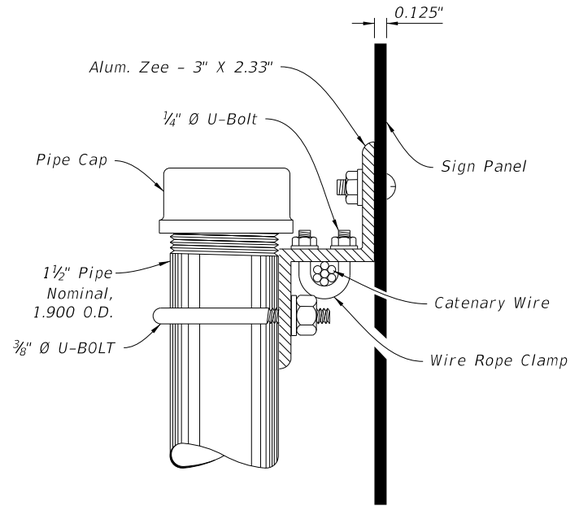
FRONT VIEW

OVERHEAD SCHOOL SIGN ASSEMBLY



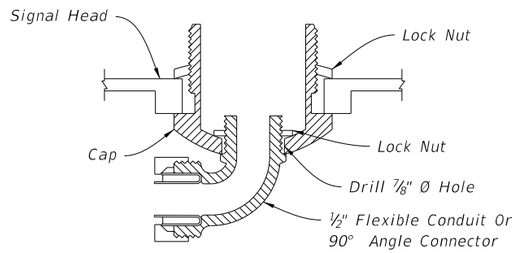
ZEE SECTION DETAIL

DETAIL "C"



MOUNTING DETAIL

DETAIL "D"



CABLE ENTRY DETAIL

DETAIL "E"

NOTES:

1. Flasher unit and cabinet to be placed on the strain pole supporting overhead sign assembly or on service pole. The flasher unit not to overhang private property or sidewalk.
2. Optional flashing beacon will be called for in the Plans. They may be placed within or below the panel, or face to the rear.

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OVERHEAD SIGN ASSEMBLY

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	ENHANCED HIGHWAY SIGNING ASSEMBLIES	INDEX	SHEET
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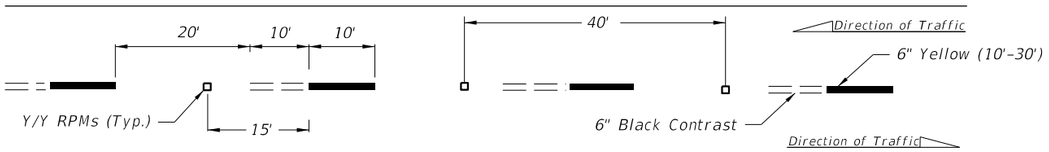
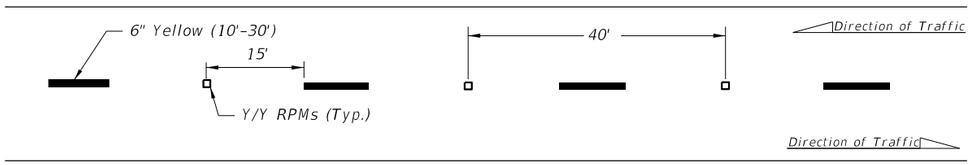
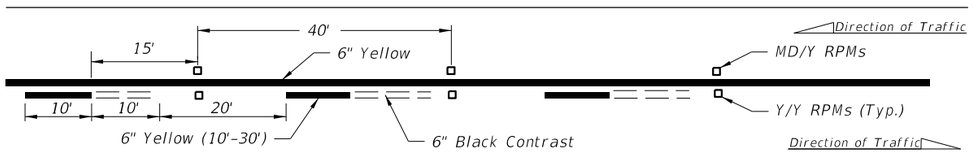


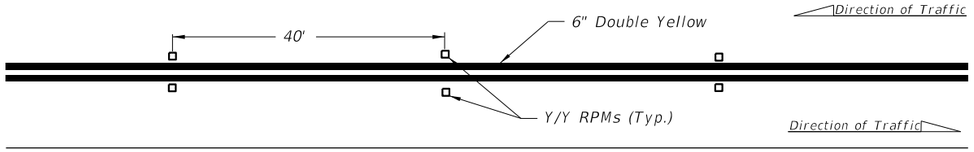
ALTERNATING SKIP LINE



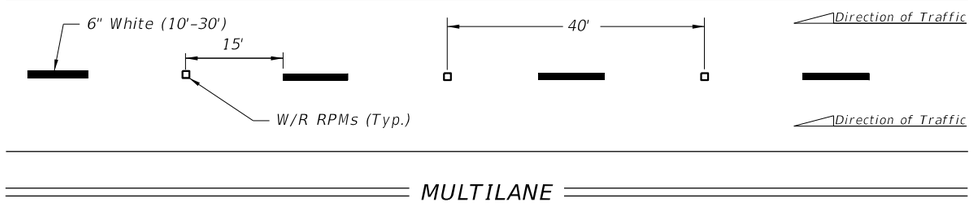
SKIP LINE



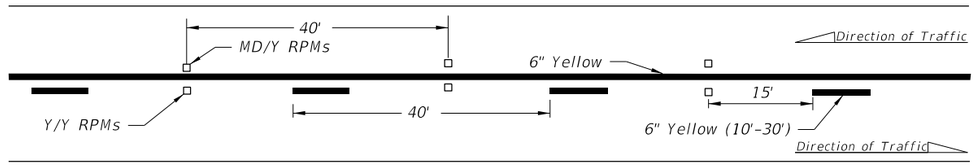
SOLID LINE WITH ALTERNATING SKIP



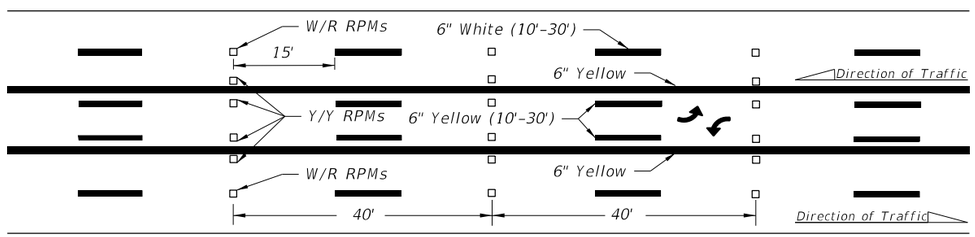
DOUBLE SOLID LINE



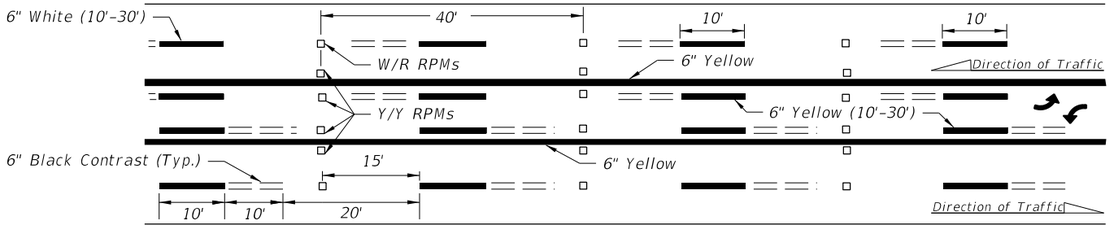
MULTILANE



SOLID LINE WITH SKIP



SKIP LINE WITH TWO-WAY LEFT TURN LANE



ALTERNATING SKIP LINE WITH TWO-WAY LEFT TURN LANE

GENERAL NOTES:

1. Offset all RPMs 1" from solid longitudinal lines unless otherwise noted or shown.
2. Spacing may be reduced for sharp curves if required.
3. For placement of RPMs on ramps, see Index 711-003.
4. Make the traffic face of the RPM the same color as the pavement marking that it is supplementing.

LEGEND:

B/C = BACK OF CURB

EOP = EDGE OF PAVEMENT

RPM = RAISED PAVEMENT MARKER

W/R = WHITE/RED RPM

Y/Y = YELLOW/YELLOW RPM

Y/R = YELLOW/RED RPM

MD/Y = MONO-DIRECTIONAL YELLOW RPM

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
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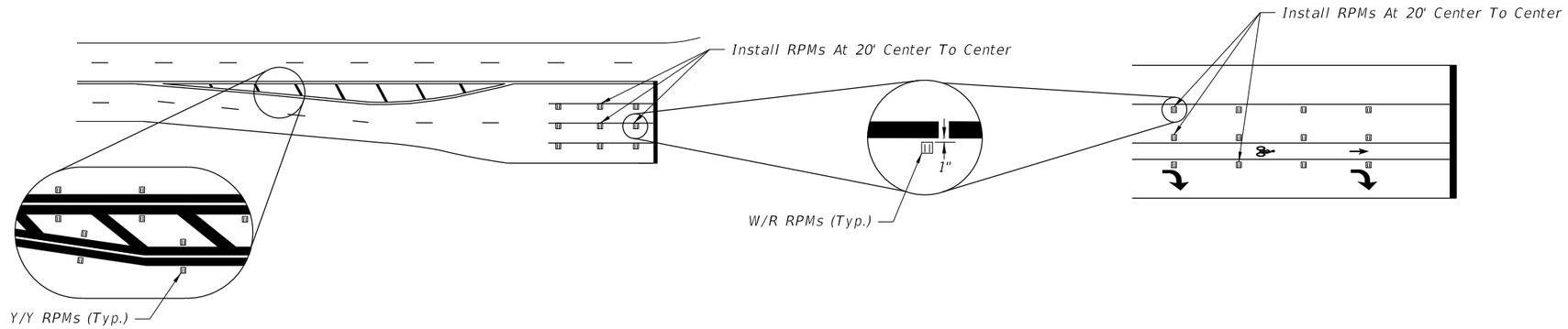
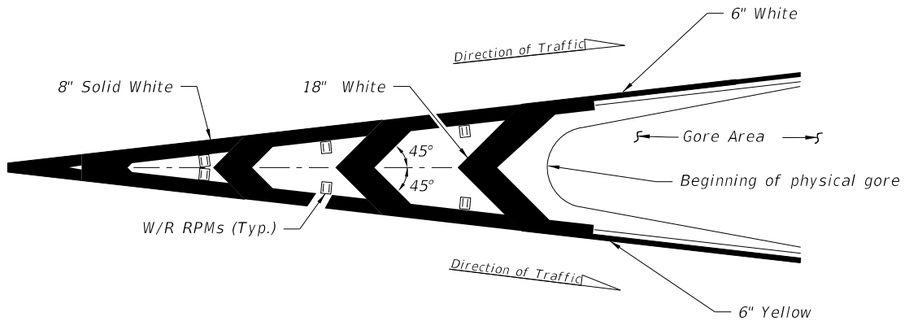
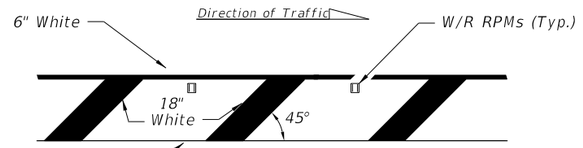


RPM PLACEMENT AT INTERSECTIONS

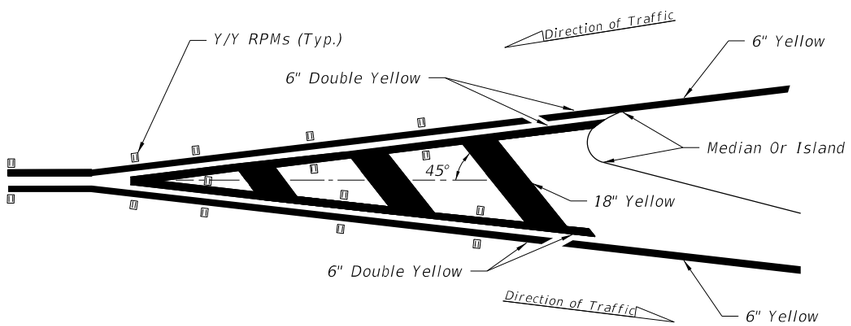


RPM PLACEMENT AT TRAFFIC CHANNELIZATION AT GORE
(Traffic Flows In Same Direction)



Right side of the roadway shown. For the left side of roadway, the pavement marking is yellow and oriented opposite hand.

RPM PLACEMENT AT ROADSIDE CROSSHATCHING



RPM PLACEMENT AT TRAFFIC SEPARATION
(Traffic Flows In Opposite Direction)

NOTE:

1. Center the Raised Pavement Markers between chevrons and crosshatching.

LEGEND:

B/C = BACK OF CURB

EOP = EDGE OF PAVEMENT

RPM = RAISED PAVEMENT MARKER

W/R = WHITE/RED RPM

Y/Y = YELLOW/YELLOW RPM

Y/R = YELLOW/RED RPM

MD/Y = MONO-DIRECTIONAL YELLOW RPM

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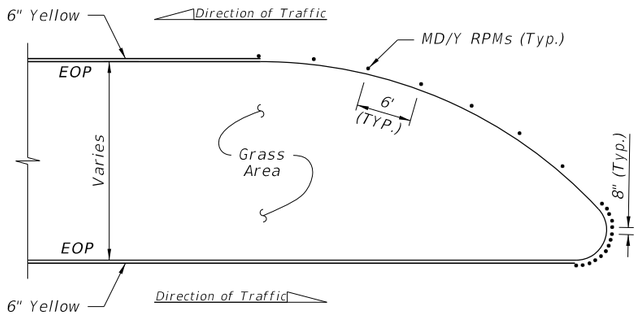
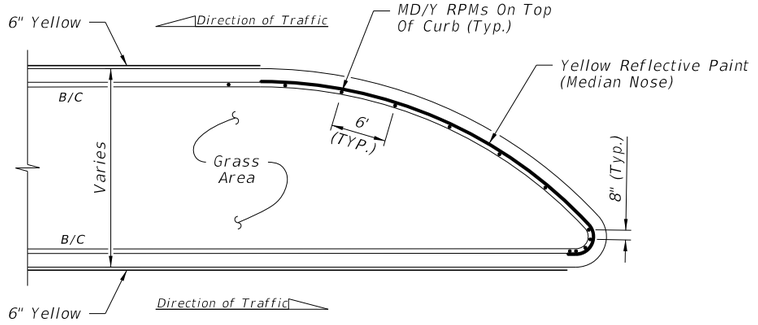
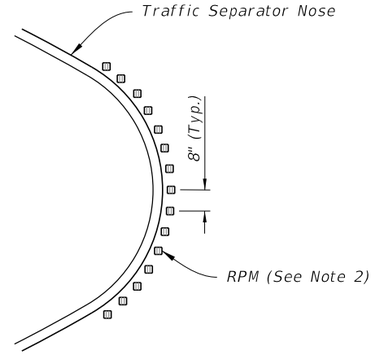
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
11/01/18						706-001	2 of 6



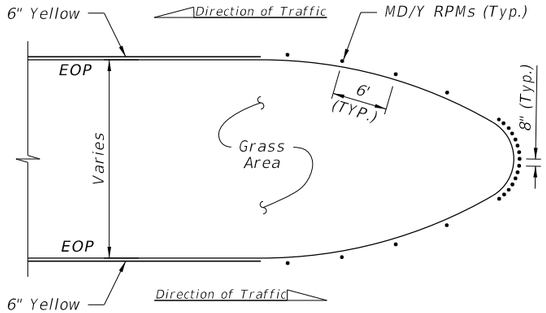
DETAIL "A"



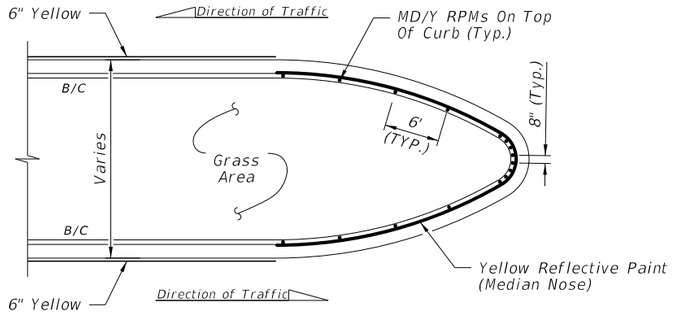
DETAIL "D"



RPM PLACEMENT DETAIL



DETAIL "B'



DETAIL "E"

POSTED SPEED LIMIT MPH	"Y" FEET
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

LEGEND:

B/C = BACK OF CURB

EOP = EDGE OF PAVEMENT

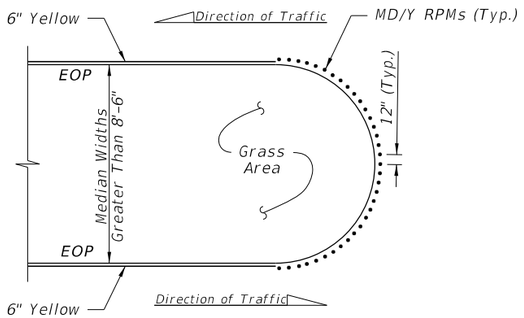
RPM = RAISED PAVEMENT MARKER

W/R = WHITE/RED RPM

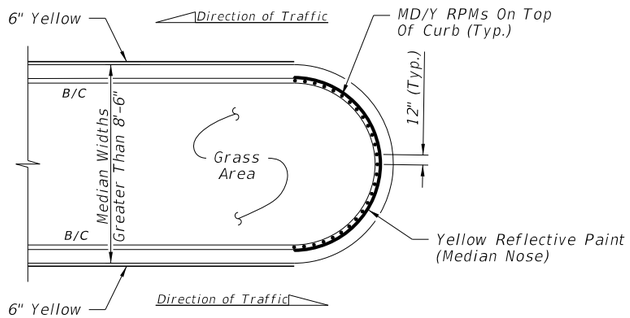
Y/Y = YELLOW/YELLOW RPM

Y/R = YELLOW/RED RPM

MD/Y = MONO-DIRECTIONAL YELLOW RPM



DETAIL "C"



DETAIL "F"

NOTES:

1. For Type "E" Curb, install RPMs along the pavement edge marking using the same spacing shown.
2. Orient traffic faces of RPMs in curb median radii to be parallel to direction of travel lanes.

FLUSH MEDIAN OPENINGS

TYPE "D" OR "F" CURB

RPM PLACEMENT AT MEDIAN OPENINGS
(When called for in the Plans)

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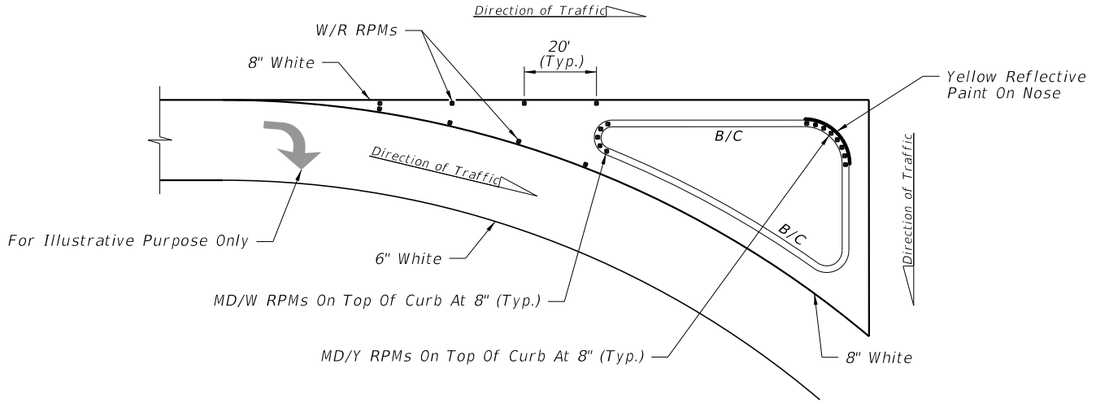
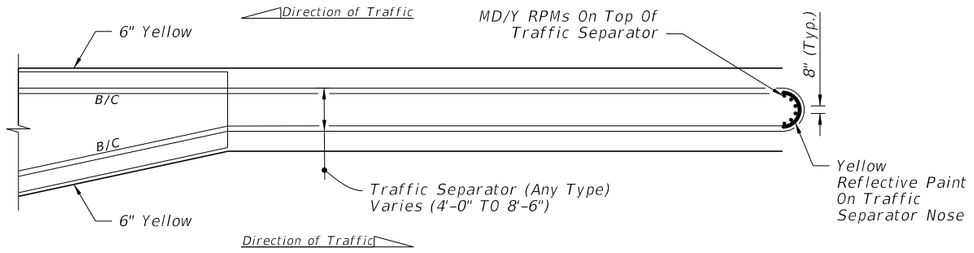
LAST REVISION	REVISION	DESCRIPTION:				
11/01/19			FY 2020-21 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX 706-001	SHEET 3 of 6



DETAIL "G"



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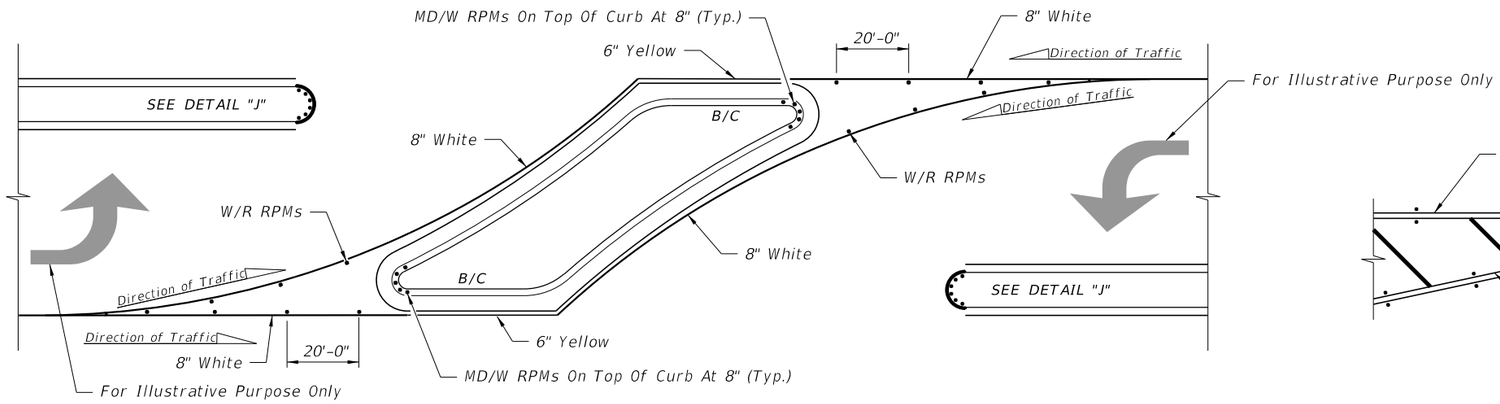

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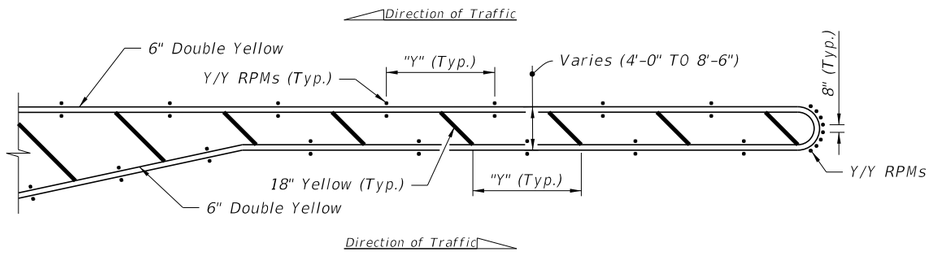

DETAIL "K"

RPM PLACEMENT AT ISLANDS
(When called for in the Plans)

POSTED SPEED LIMIT MPH	"Y" FEET
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

RPM PLACEMENT AT TRAFFIC SEPARATORS
(When called for in the Plans)

NOTES:
1. For Type "E" Curb install RPMs along the pavement edge marking using the same spacing shown.
2. Orient traffic faces of RPMs in median radii to be parallel to direction of travel lanes.

LEGEND:
B/C = BACK OF CURB

EOP = EDGE OF PAVEMENT

RPM = RAISED PAVEMENT MARKER

W/R = WHITE/RED RPM

Y/Y = YELLOW/YELLOW RPM

Y/R = YELLOW/RED RPM

MD/Y = MONO-DIRECTIONAL YELLOW RPM

MD/W = MONO-DIRECTIONAL WHITE RPM

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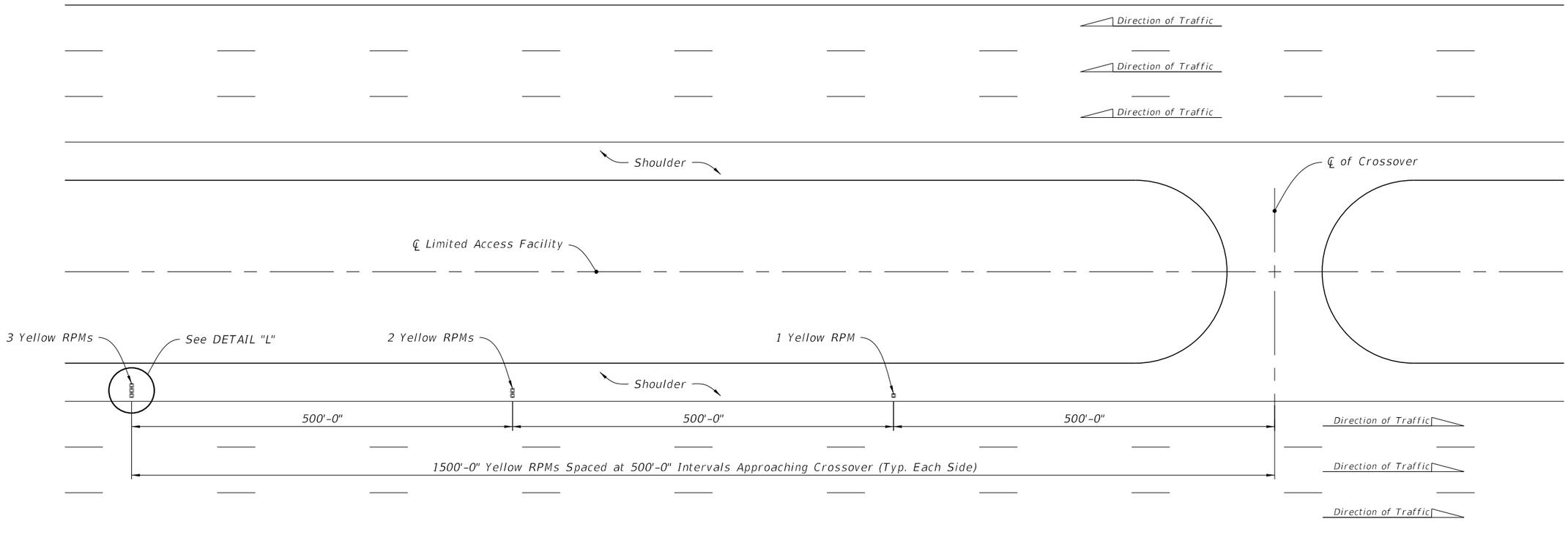
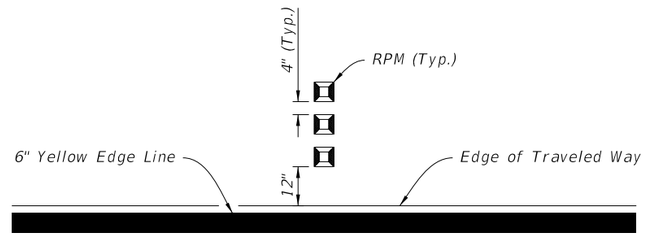
LAST REVISION	REVISION	DESCRIPTION:	FY 2020-21 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	INDEX	SHEET
11/01/18					706-001	4 of 6



RPM PLACEMENT FOR CROSSOVERS ON LIMITED ACCESS ROADWAYS



DETAIL "L"

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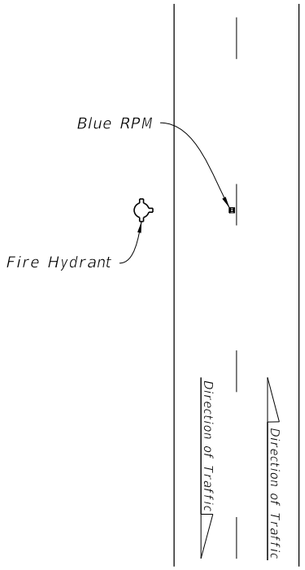
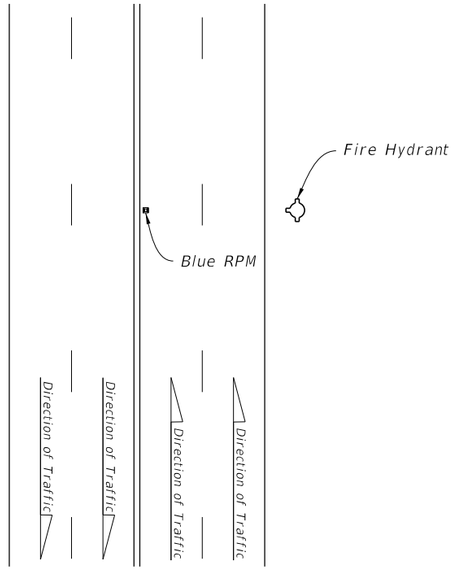
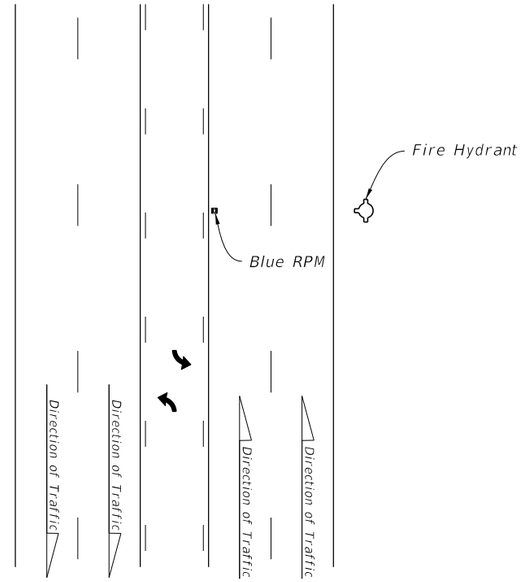
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/18			FY 2020-21 STANDARD PLANS	TYPICAL PLACEMENT OF RAISED PAVEMENT MARKERS	706-001	5 of 6



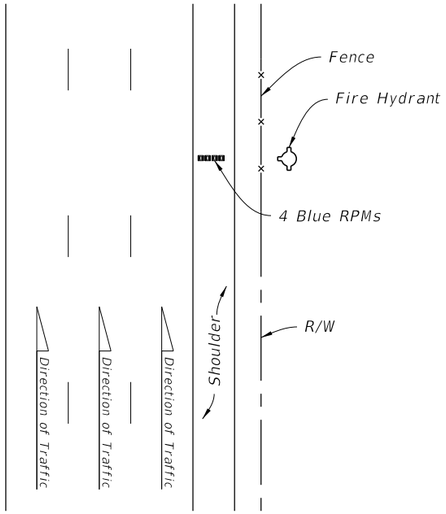
TWO-LANE ROADWAY



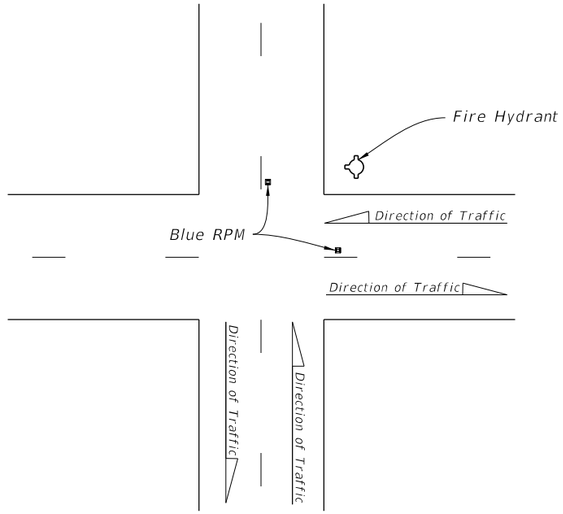
MULTILANE ROADWAY



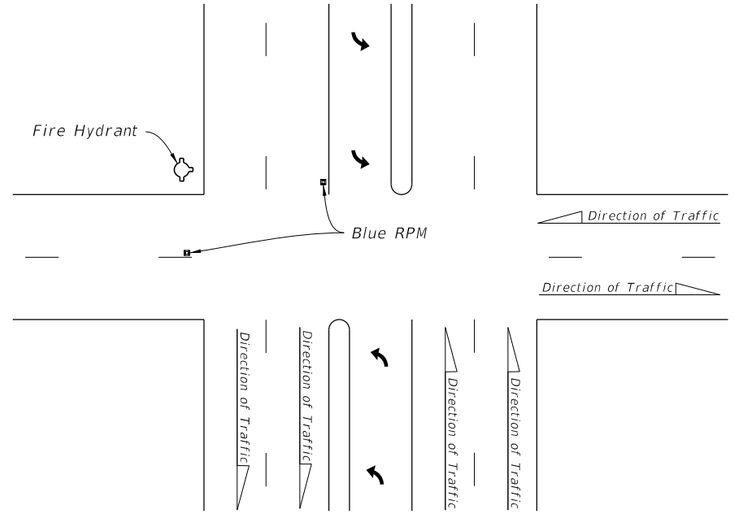
MULTILANE ROADWAY
WITH TURN LANE



LIMITED ACCESS ROADWAY



TWO-LANE ROADWAY
AT INTERSECTION



MULTILANE ROADWAY AT INTERSECTION

BLUE RPM PLACEMENT

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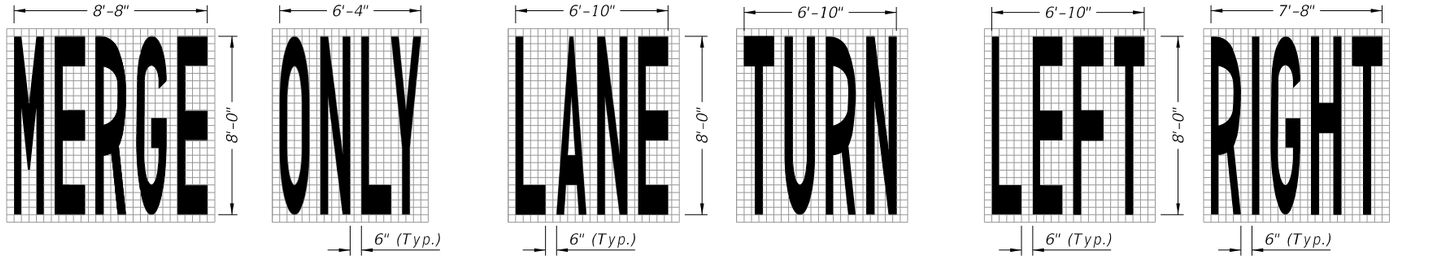
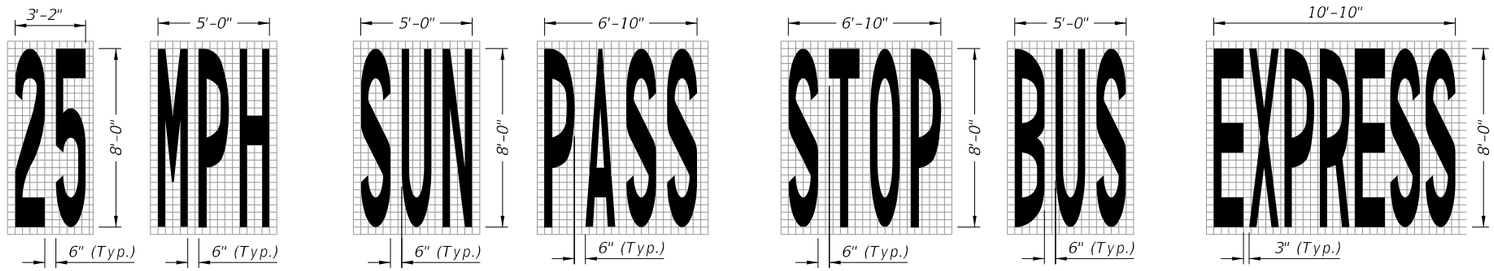
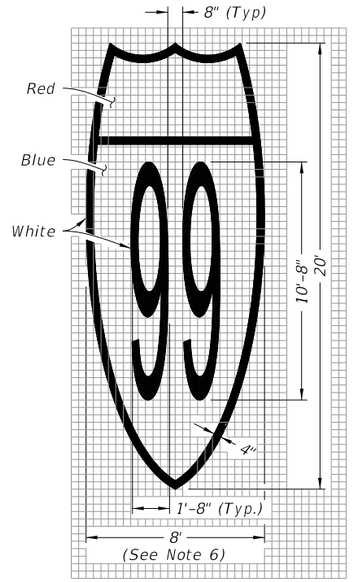


34 S.F. | 22 S.F. | 23 S.F. | 24 S.F. | 20 S.F. | 26 S.F.

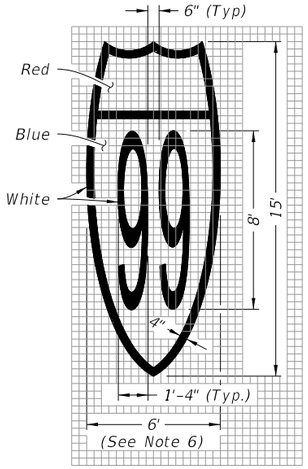


13 S.F. | 20 S.F. | 20 S.F. | 23 S.F. | 22 S.F. | 20 S.F. | 43 S.F.



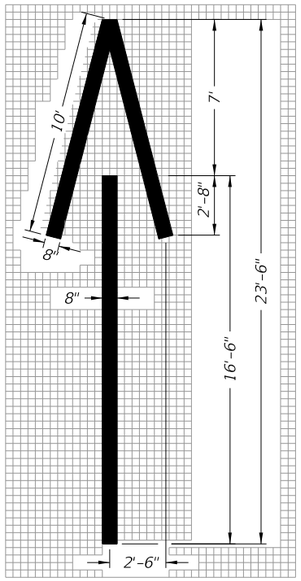
Route Shield for Limited Access Roadways (Interstate Route Shield Shown; U.S. and State Route Shield Similar)

128 S.F.



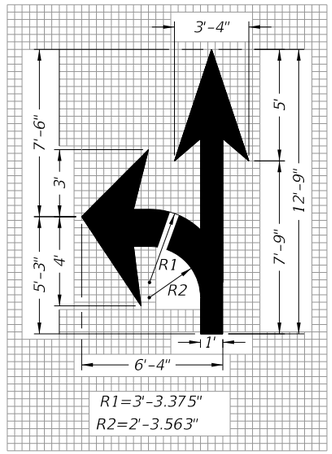
Route Shield for Arterials and Collectors (Interstate Route Shield Shown; U.S. and State Route Shield Similar)

72 S.F.



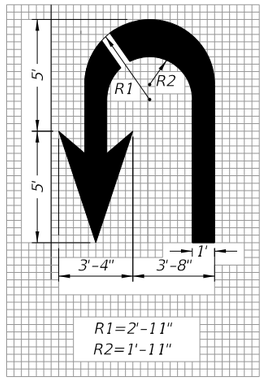
Wrong-Way Arrow

24 S.F.



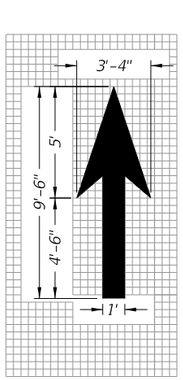
Turn and Through Lane-Use Arrow

29 S.F.



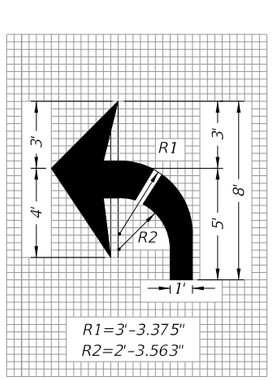
U Turn Lane-Use Arrow

27 S.F.



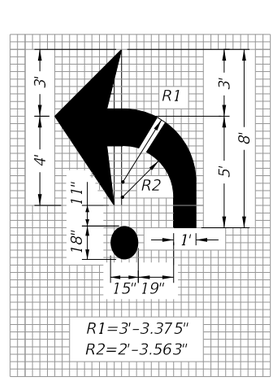
Through Lane-Use Arrow

12 S.F.



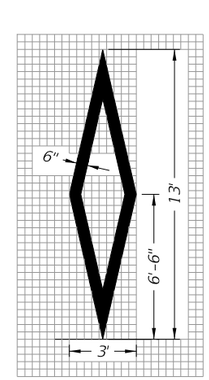
Turn Lane-Use Arrow (Left Turn Shown - Right Turn Similar)

17 S.F.



Roundabout Approach Arrow

19 S.F.



Preferential Lane Symbol

11 S.F.

NOTES FOR PAVEMENT MESSAGES:

1. When an arrow or another pavement message is used with a pavement message, maintain a minimum distance of "S" between items, measured from the base of each item. See the Pavement Message Spacing Table for "S" value.
2. Place all pavement messages 25' back from the stop line.
3. Dimensions are within 1" ±.
4. All grids are 4" x 4".
5. All pavement messages must be white except route shields.
6. Increase width of route shield for routes with three digits.

PAVEMENT MESSAGE SPACING TABLE	
Posted Speed (mph)	Distance "S" (feet)
≤ 25	40
30 - 35	56
40 - 45	72
≥ 50	88

PAVEMENT MESSAGE AND ARROW DETAILS

GENERAL NOTE:

1. See Index 509-070 for pavement markings at railroad crossings.

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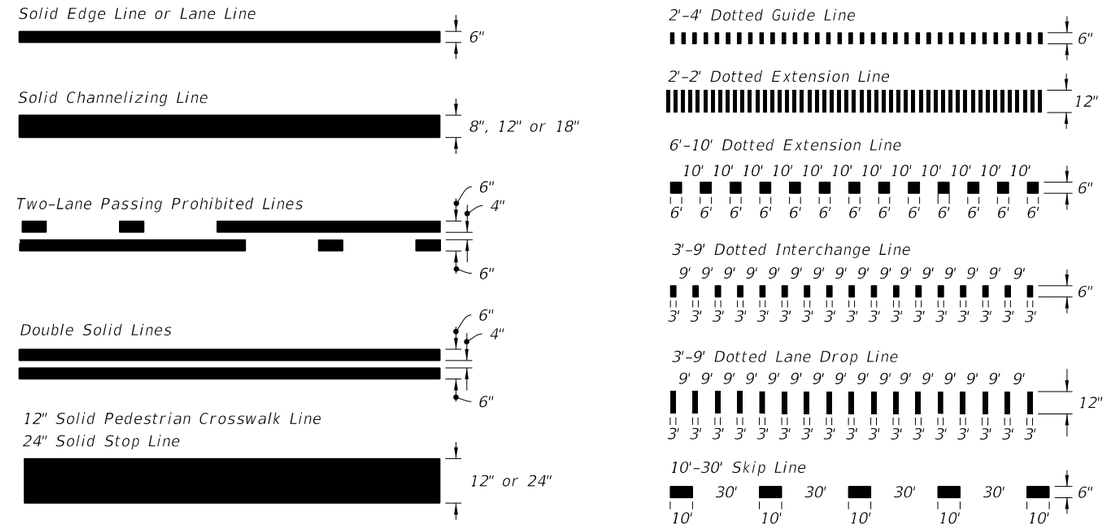
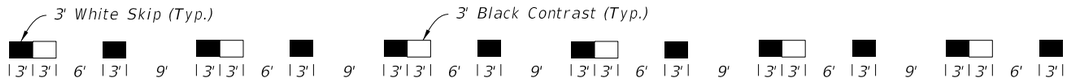


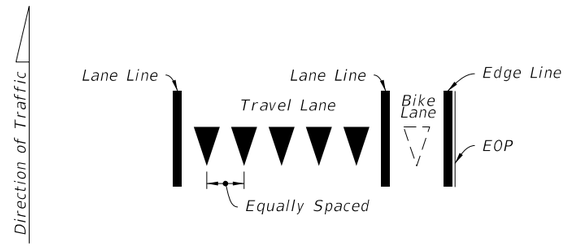
PAVEMENT MARKING LINES

10'-30' SKIP LINE WITH SHADOW MARKINGS



DOTTED LINE WITH ALTERNATING SHADOW MARKINGS

(3'-9' Dotted Line Shown, Other Dotted Lines Similar)

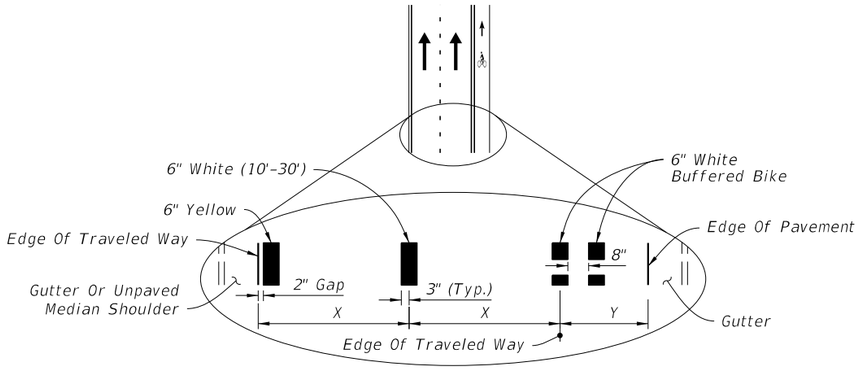


Yield Lines consist of five - 18" X 27" white triangles which face traffic. Equally space triangles within traffic lane. When a bike lane is present, add one additional triangle in the center of the bike lane.

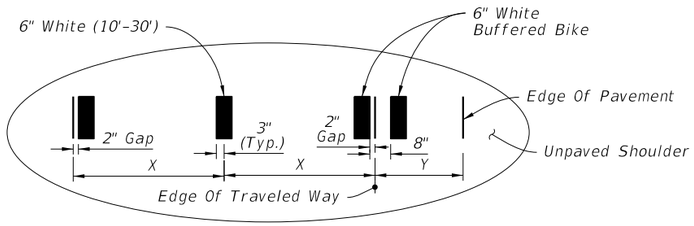
YIELD LINES

11/12/2019 11:17:47 AM

LAST REVISION	REVISION	DESCRIPTION:				
11/01/19			FDOT FY 2020-21 STANDARD PLANS	PAVEMENT MARKINGS	INDEX 711-001	SHEET 2 of 13



CURB AND GUTTER

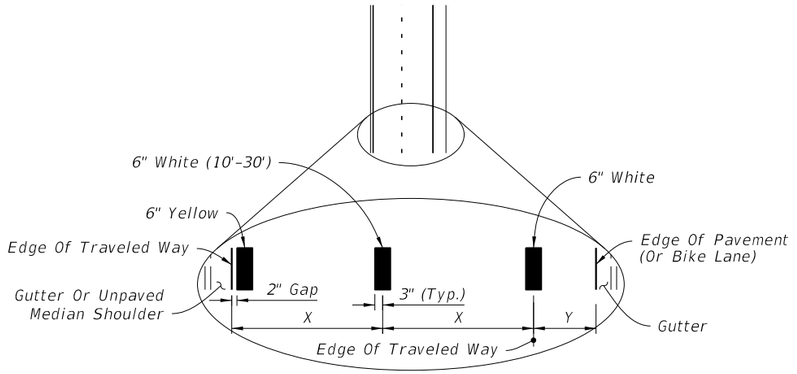


FLUSH SHOULDER

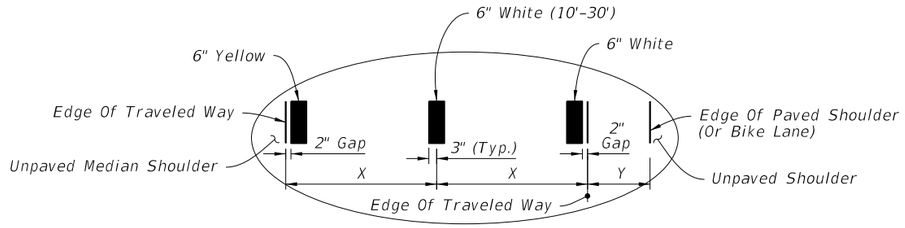
X = LANE WIDTH (FT.)

Y = BUFFERED BIKE LANE WIDTH (FT.)

STRIPING FOR BUFFERED BIKE LANE



CURB AND GUTTER

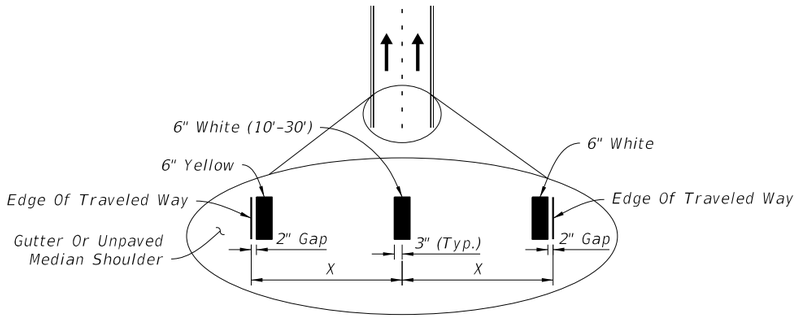


FLUSH SHOULDER

X = LANE WIDTH (FT.)

Y = PAVED SHOULDER / BIKE LANE

STRIPING WITH SHOULDER OR NON-BUFFERED BIKE LANE



X = LANE WIDTH (FT.)

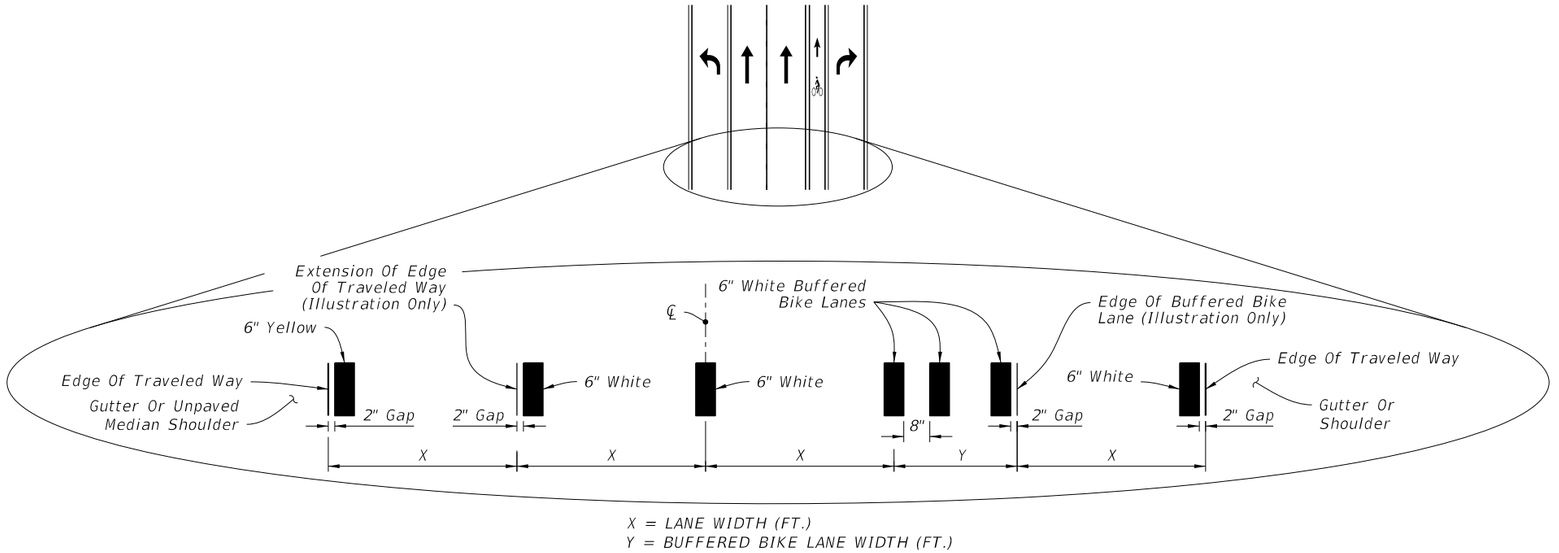
STRIPING WITH NO SHOULDER OR BIKE LANE

NOTES:

1. Lane widths (X) may not be same for each lane in the section.
2. For placement of RPMs, see Index 706-001.

PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

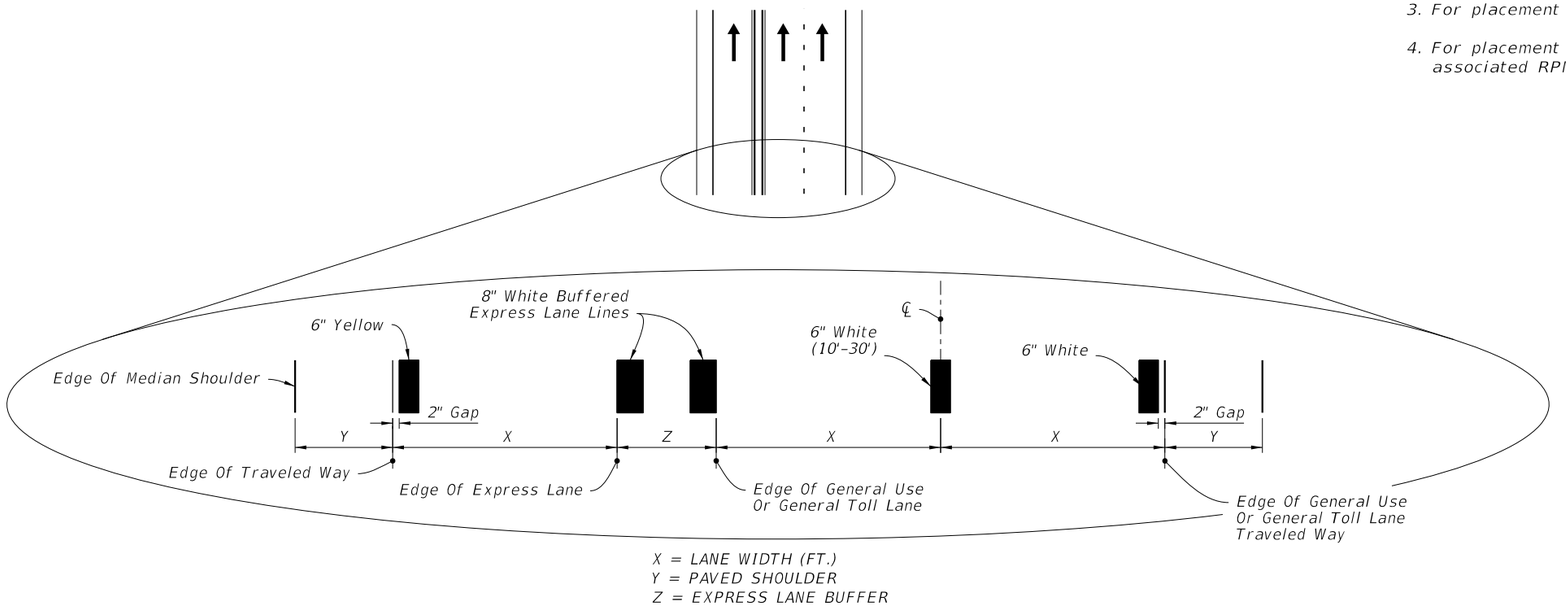
10/29/2019 8:24:25 AM



INTERSECTION APPROACH STRIPING WITH TURN LANES AND BUFFERED BIKE LANE KEY HOLE

NOTES:

1. Lane widths (X) may not be same for each lane in the section.
3. For placement of RPMs, see Index 706-001.
4. For placement of Express Lane markers and associated RPMs, see the Plans.



BUFFERED EXPRESS LANE STRIPING

PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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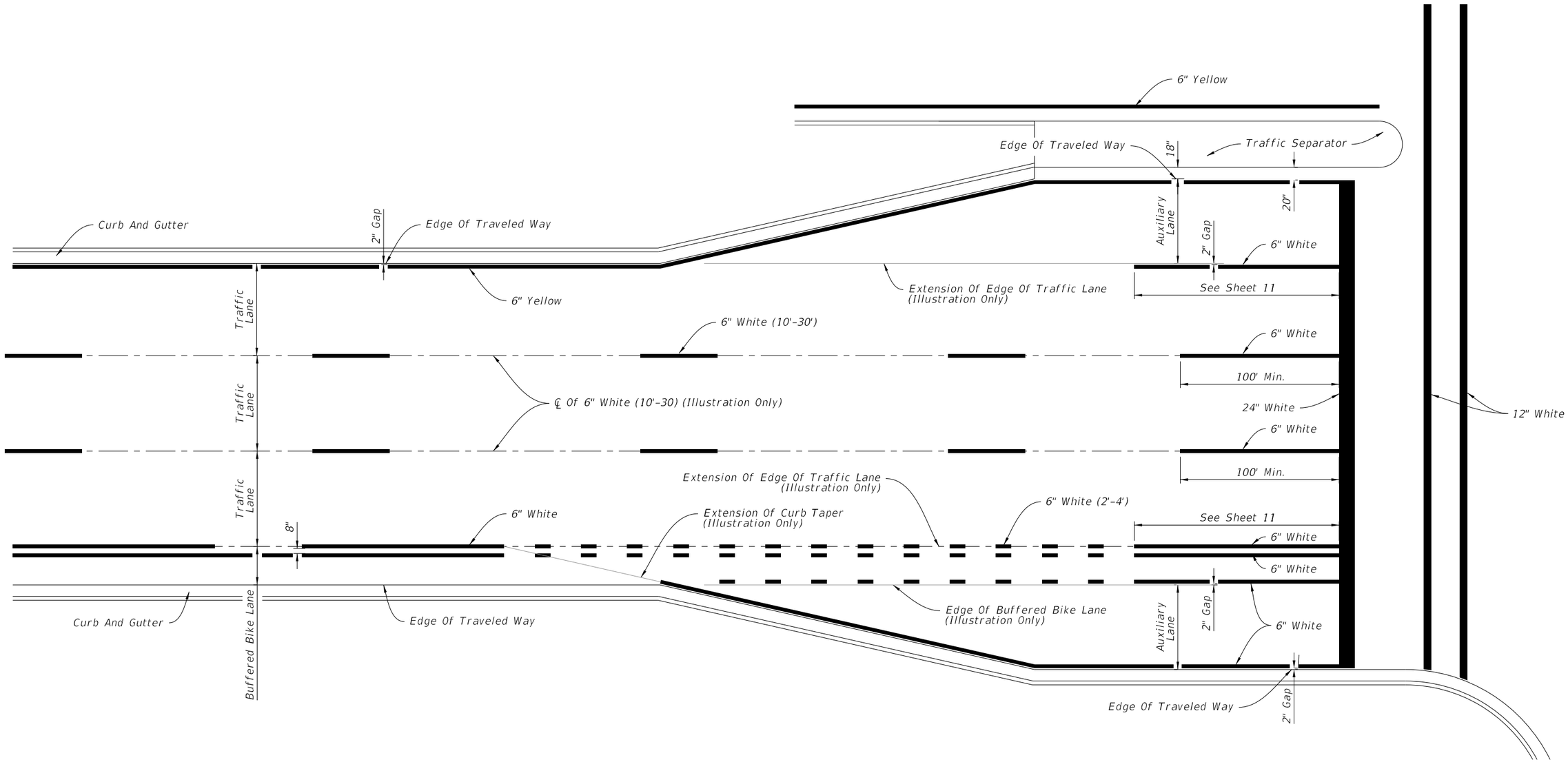

CURB AND GUTTER SHOWN

PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

LAST REVISION	REVISION	DESCRIPTION:				
11/01/19			FY 2020-21 STANDARD PLANS	PAVEMENT MARKINGS	INDEX 711-001	SHEET 5 of 13

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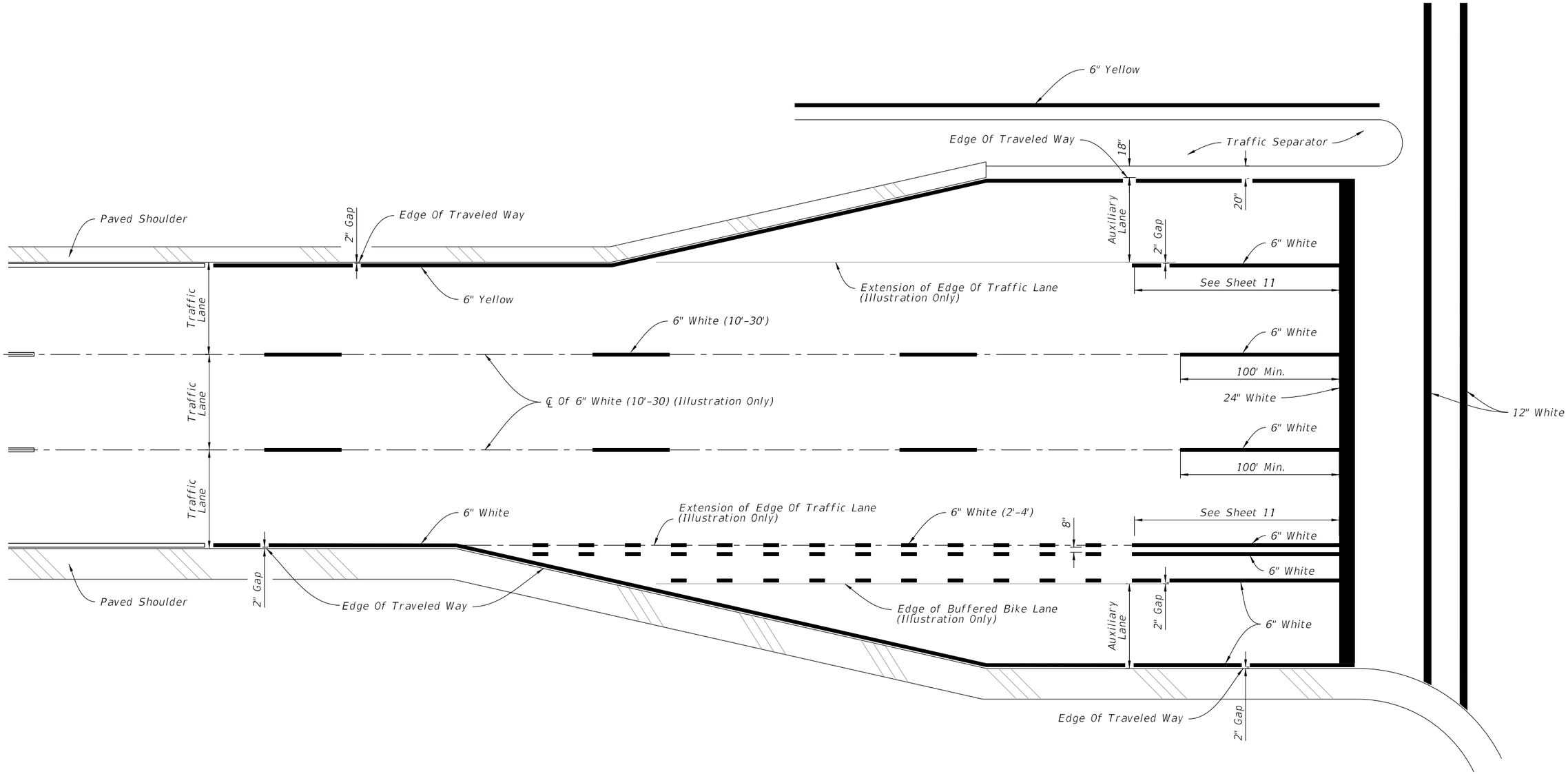
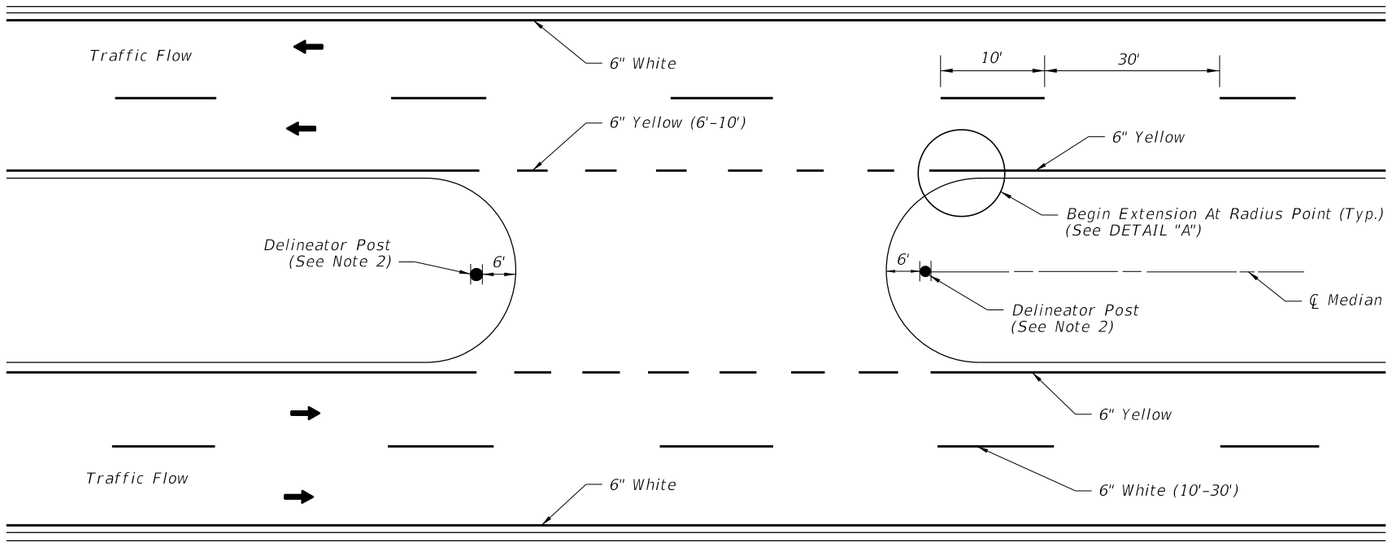


FLUSH SHOULDER SHOWN

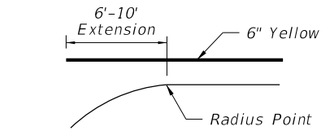
PLACEMENT OF LONGITUDINAL PAVEMENT MARKINGS

10/29/2019 8:24:36 AM

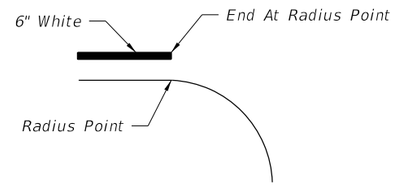
LAST REVISION	REVISION	DESCRIPTION:				
11/01/19			FY 2020-21 STANDARD PLANS	PAVEMENT MARKINGS	INDEX 711-001	SHEET 6 of 13



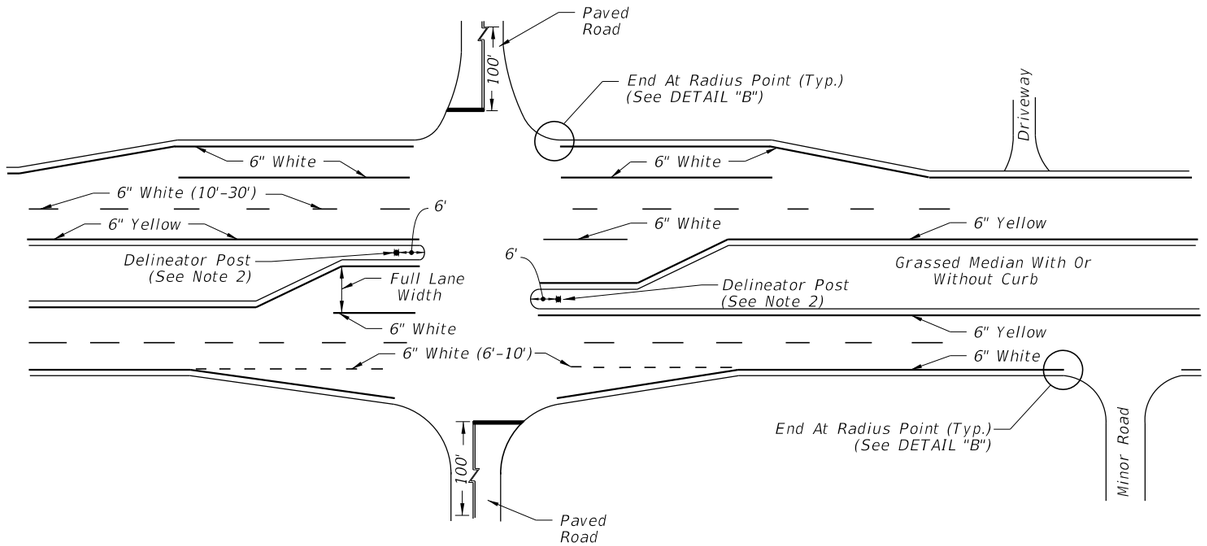
PAVEMENT MARKINGS AND DELINEATORS FOR MEDIAN CROSSOVER

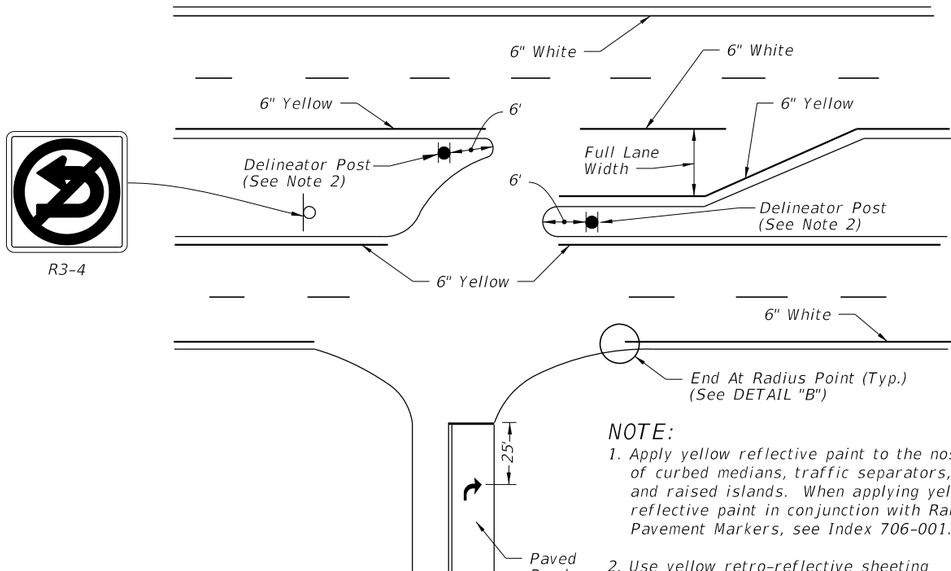


DETAIL "A"



DETAIL "B"





NOTE:

1. Apply yellow reflective paint to the noses of curbed medians, traffic separators, and raised islands. When applying yellow reflective paint in conjunction with Raised Pavement Markers, see Index 706-001.
2. Use yellow retro-reflective sheeting on both sides of the delineator. Install the post so that the top is 4' above the grade at the edge of the pavement.
3. Extend double yellow centerlines 100' back from intersection on all approaches or 50' for unmarked cross roads.

PAVEMENT MARKINGS FOR INTERSECTIONS WITH MAJOR AND MINOR ROADS

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LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
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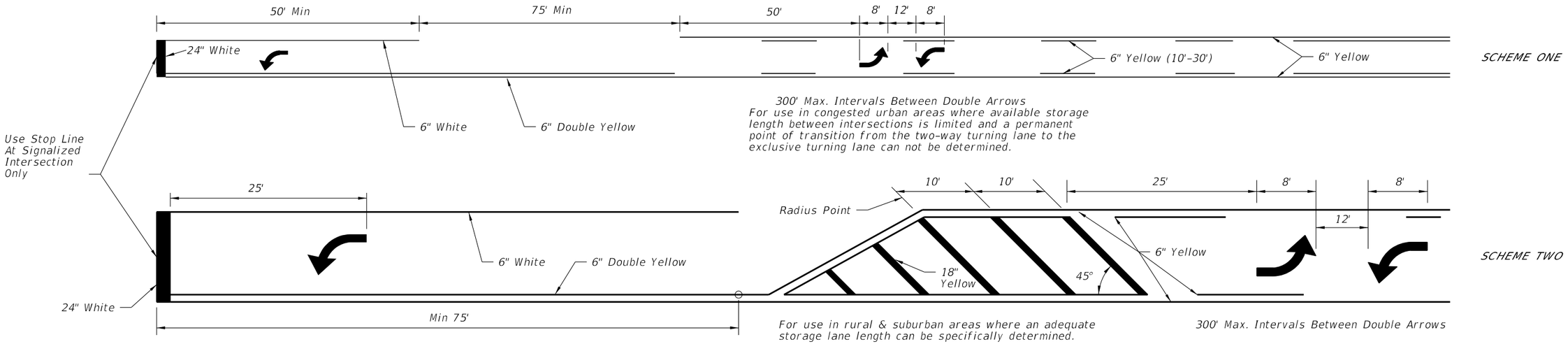
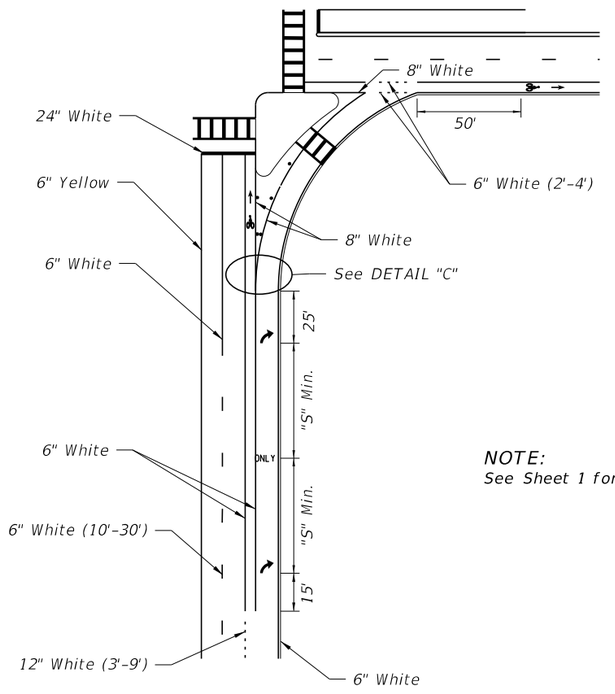
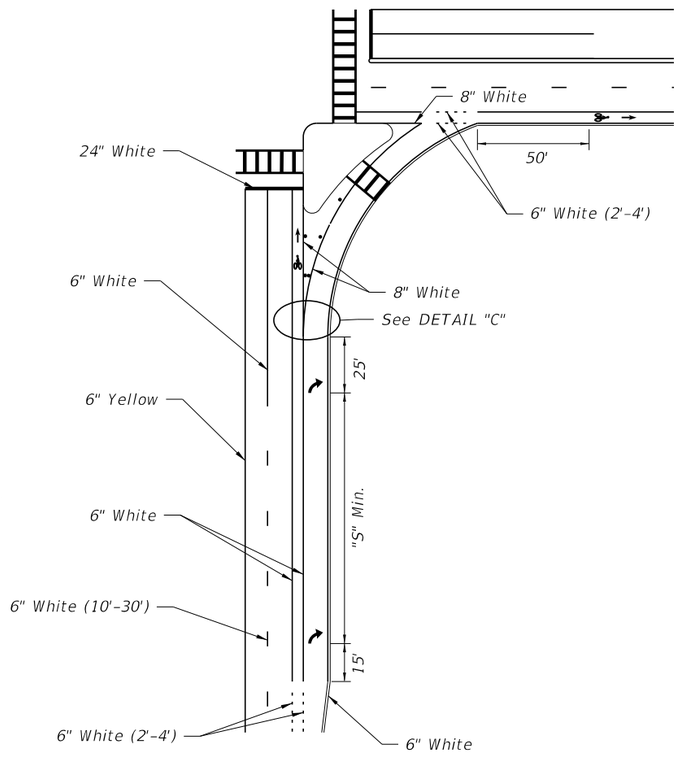


TWO WAY LEFT TURN LANE
(With Single Lane Left Turn Channelization)

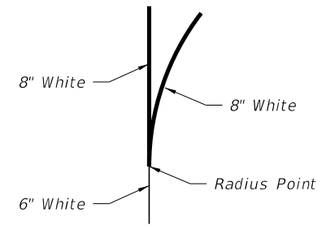


NOTE:
See Sheet 1 for "S" value.

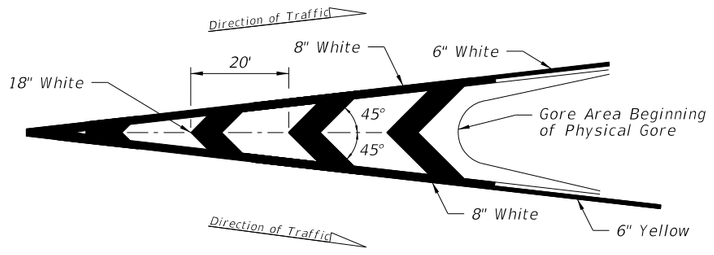
RIGHT TURN LANE DROP AND ISLAND DETAILS
LEFT TURN LANE DROP IS MIRROR IMAGE



RIGHT TURN LANE AND ISLAND DETAILS



DETAIL "C"



TRAFFIC CHANNELIZATION AT GORE

NOTE:
See Sheet 1 for "S" value.

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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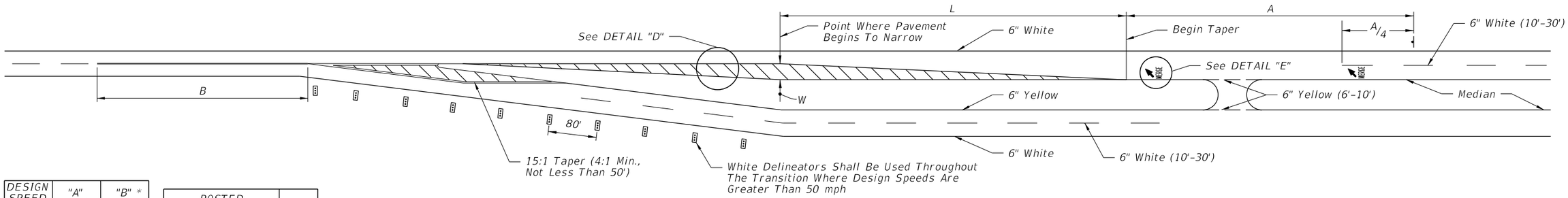


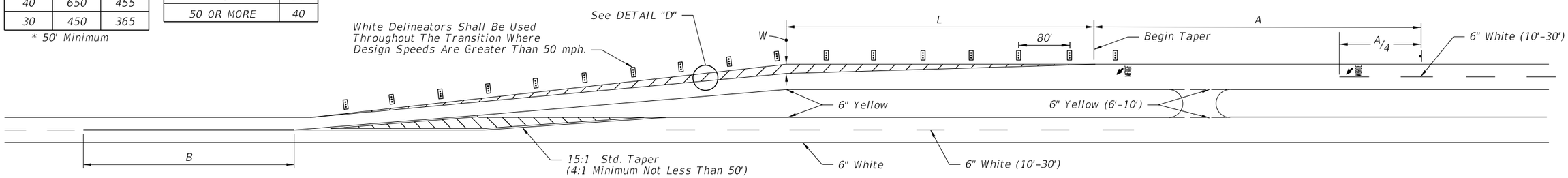
DESIGN SPEED (MPH)	"A" (FT.)	"B" * (FT.)
60	---	640
55	950	595
50	850	550
45	750	500
40	650	455
30	450	365

* 50' Minimum

POSTED SPEED LIMIT MPH	"Y" (FT.)
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

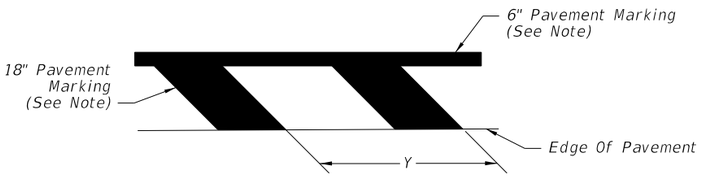
DESIGN SPEED 'S' (MPH)	Length 'L' (FT.)
40 or Less	$L = WS^2/60$
45 or Greater	$L = WS$

LEFT ROADWAY CENTERED ON EXISTING ROADWAY



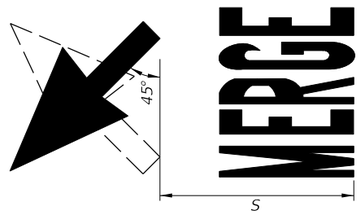
RIGHT ROADWAY CENTERED ON EXISTING ROADWAY

SCHEMES FOR TRANSITION - 2 LANE / 4 LANE ROADWAY



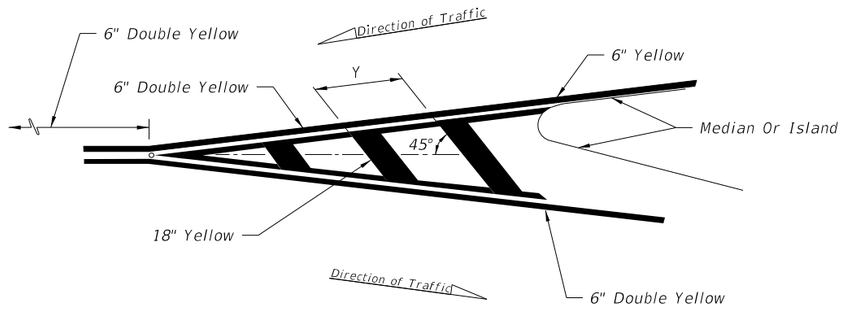
NOTE:
Make pavement markings yellow for left roadway centered on existing roadway. Right roadway centered on existing roadway is similar with white pavement markings.

DETAIL "D"



NOTE: See Sheet 1 for "S" value.

DETAIL "E"



MARKINGS FOR TRAFFIC SEPARATION

LAST REVISION	REVISION	DESCRIPTION:	FY 2020-21 STANDARD PLANS	PAVEMENT MARKINGS	INDEX	SHEET
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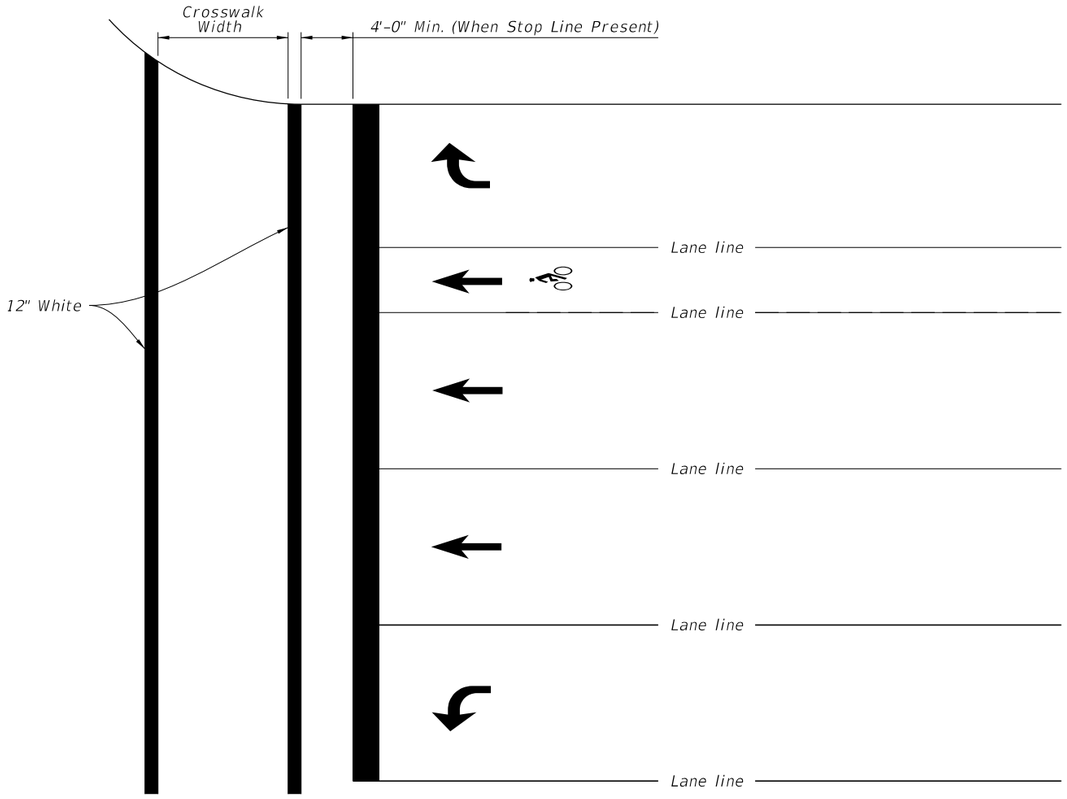
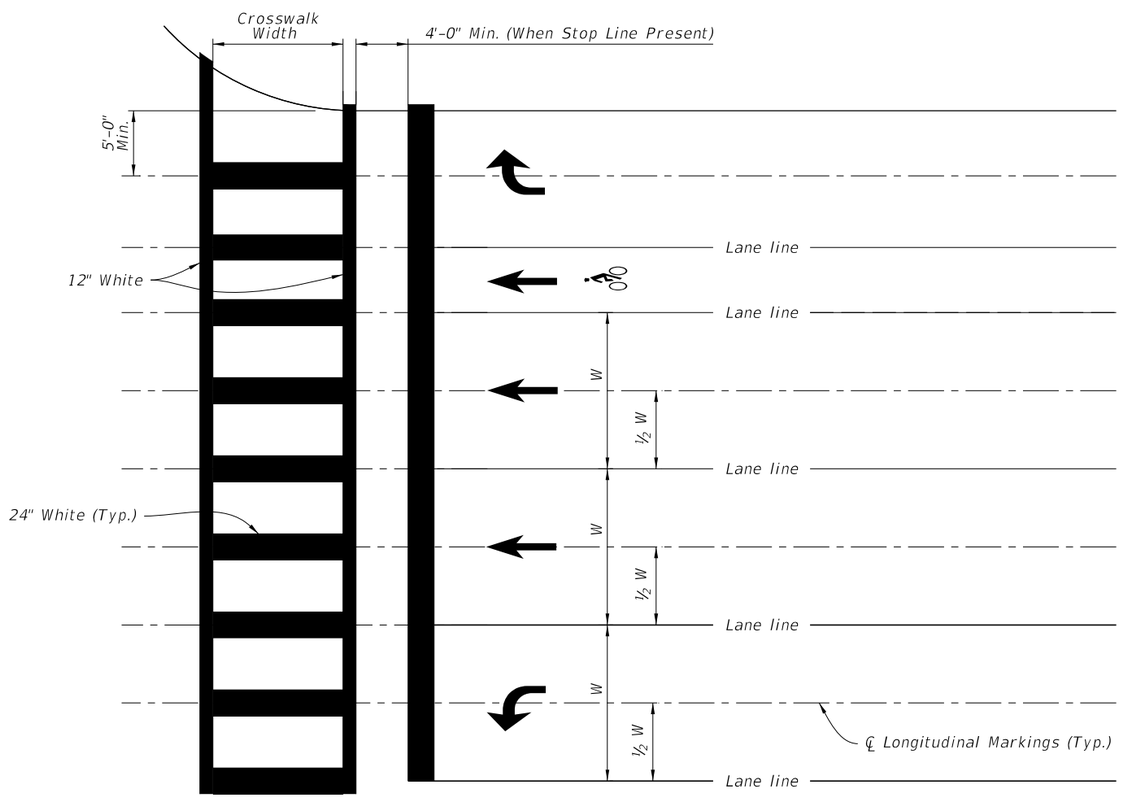


STANDARD CROSSWALK DETAILS



SPECIAL EMPHASIS CROSSWALK DETAILS

NOTES:

1. For crosswalk width, exceed width of the adjacent sidewalk, but do not make width less than 6' for intersection crosswalks and 10' for midblock crosswalks. Measure width from the inside of the transverse crosswalk markings.

2. When the Special Emphasis Crosswalk is not perpendicular to the lane lines, make the longitudinal markings parallel to the lane lines.

3. Refer to Index 522-002 when Curb Ramps are present.

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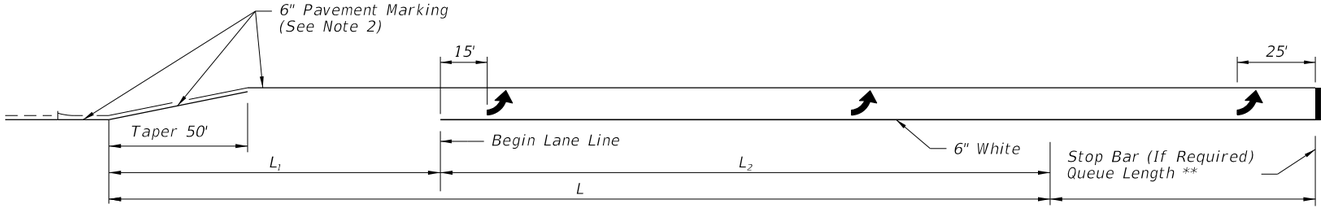
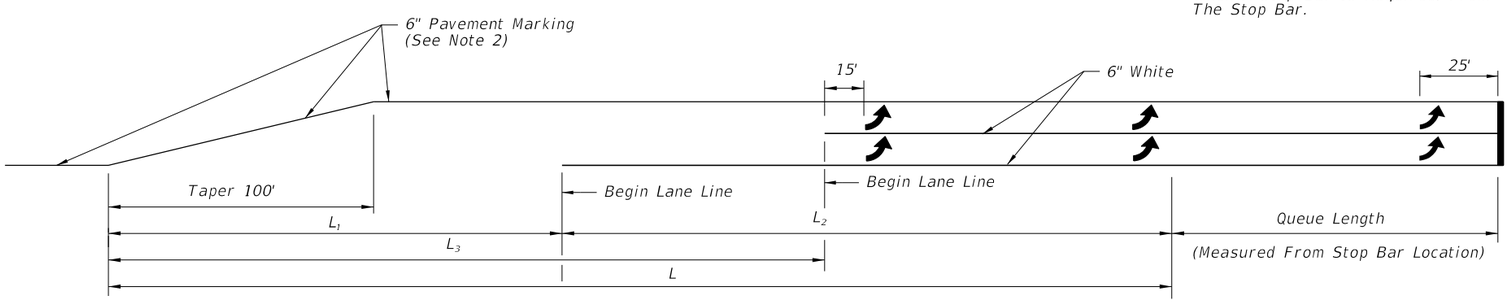
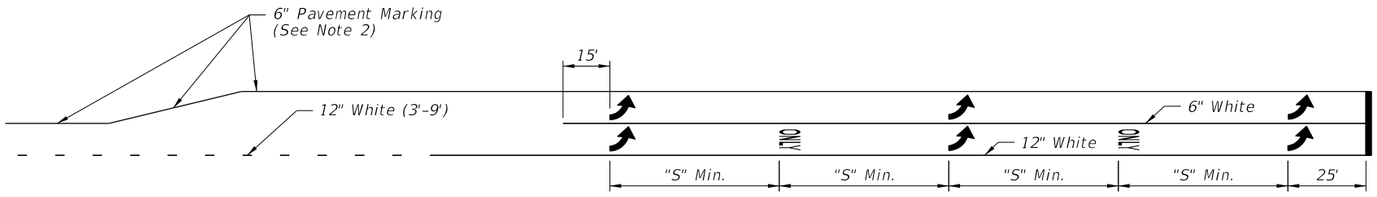


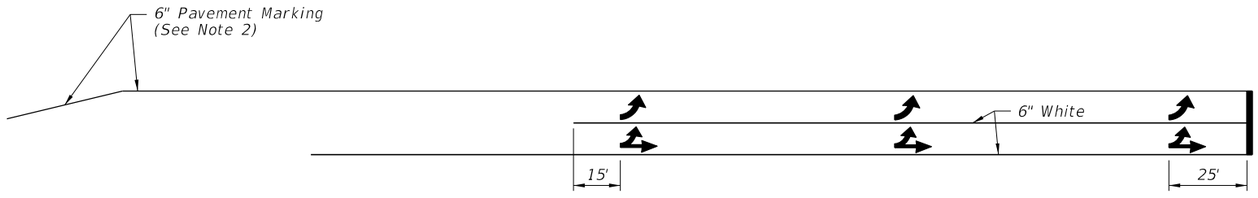
SINGLE LEFT TURNS

** Queue Length Is Measured From The Median Nose Radial Point Or, When A Stop Bar Is Required, From The Stop Bar.





Through Lane Becomes Exclusive Left Turn



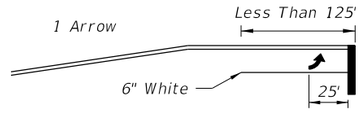
Through Lane Becomes Optional Left Turn

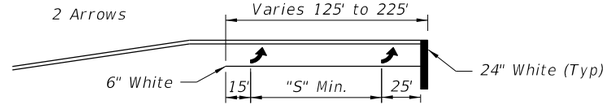
DOUBLE LEFT TURNS

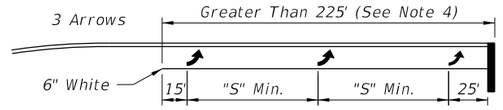
TURN LANES ◦ CURBED AND UNCURBED MEDIANS

Posted Speed (mph)	Clearance Distance L_1	URBAN CONDITIONS			RURAL CONDITIONS		
		Brake To Stop Distance L_2	Total Decel. Distance L	Clearance Distance L_3	Brake To Stop Distance L_2	Total Decel. Distance L	Clearance Distance L_3
≤30	70'	75'	145'	110'	— —	— —	— —
35	80'	75'	155'	120'	— —	— —	— —
40	85'	100'	185'	135'	— —	— —	— —
45	105'	135'	240'	160'	185'	290'	160'
50	125'	— —	— —	— —	225'	350'	195'
55	145'	— —	— —	— —	260'	405'	230'
≥60	170'	— —	— —	— —	290'	460'	270'

NOTE: When installing lane lines for turn lanes, use the dimensions in the Plans, or use the above values for turn lanes not dimensioned in the Plans.





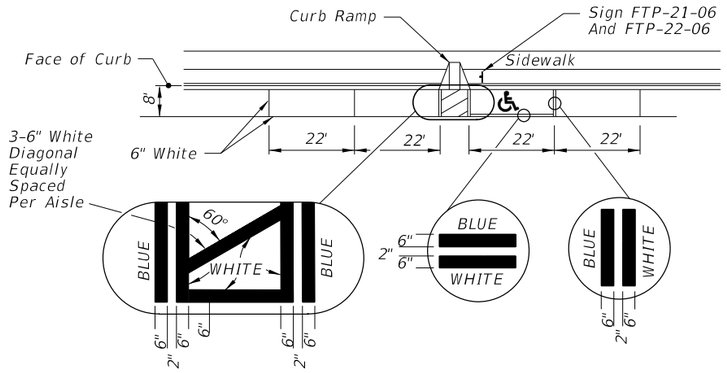


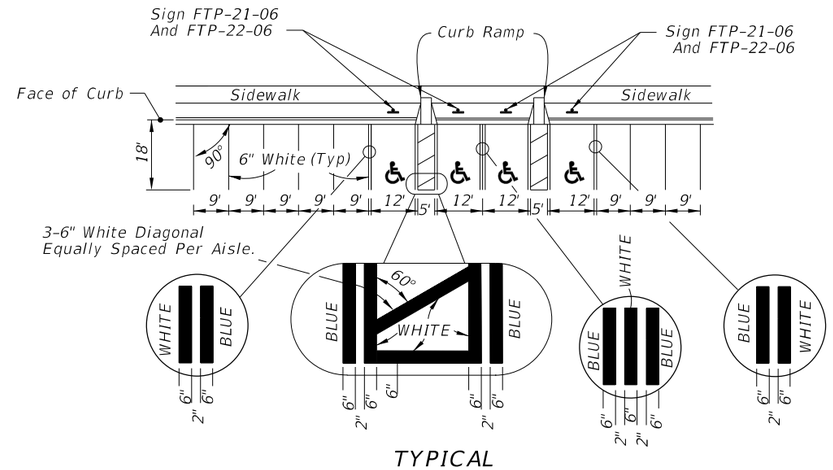
ARROW SPACING

NOTES:

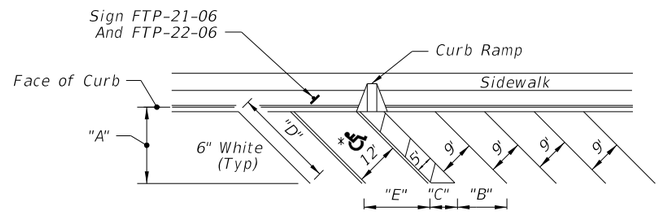
1. This Index also applies to right turn lanes.
2. Make pavement marking yellow for left-turn lanes and white for right-turn lanes.
3. See Sheet 1 for "S" value.
4. Space arrows evenly between the first and last arrow with a minimum spacing of "S" between arrows.
5. For turn lanes greater than 225' in length, use a minimum of three arrows. Use additional arrows in accordance with the Plans or as directed by the Engineer. Space arrows evenly throughout the available length with a minimum spacing of "S" between arrows.

TURN LANE MARKINGS

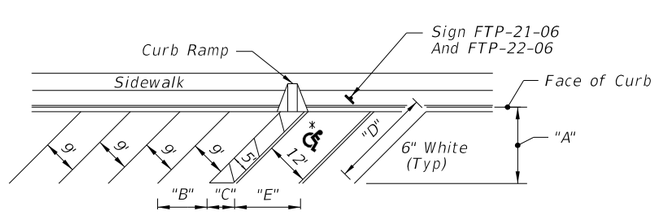




TYPICAL



FORWARD-IN PARKING

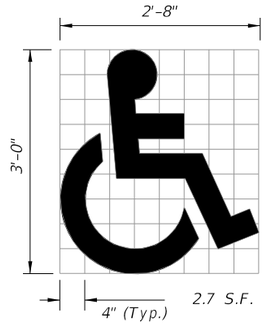


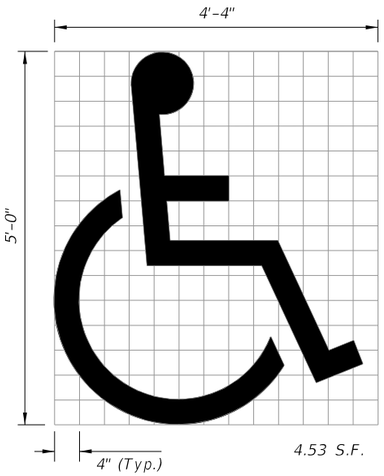
REVERSE-IN PARKING

*FOR ACCESSIBLE MARKINGS - SEE ABOVE

DIMENSIONS					
∠ θ	"A"	"B"	"C"	"D"	"E"
45°	17'-0"	12'-9"	7'-0"	24'-0"	17'-0"

PAVEMENT MARKING FOR PARKING



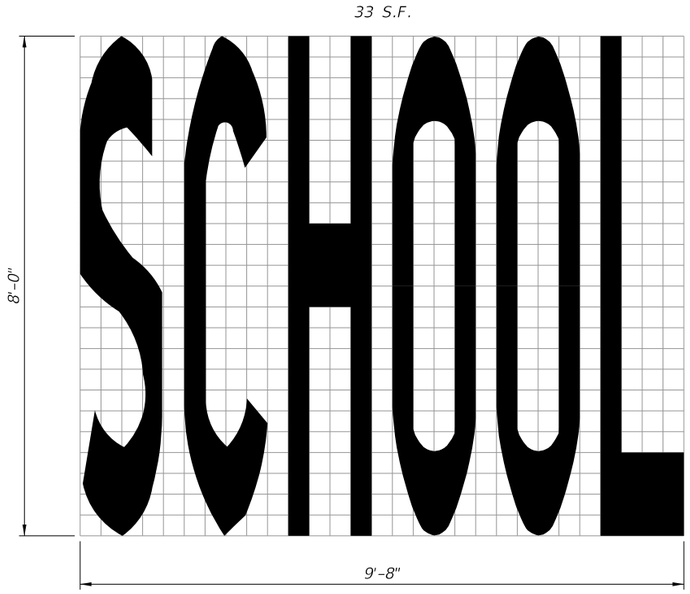


(See Note 6)

UNIVERSAL SYMBOL OF ACCESSIBILITY

NOTES:

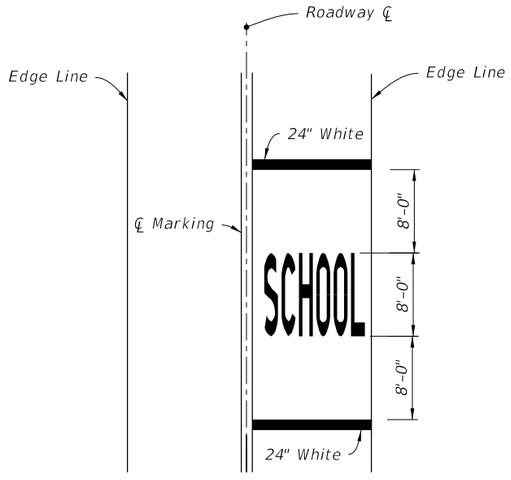
1. Dimensions are to the centerline of markings.
2. An Access Aisle is required for each accessible space when angle parking is used.
3. Criteria for pavement markings only, not public sidewalk curb ramp locations. For ramp locations refer to plans.
4. Tint blue pavement markings to match color 15180 of Federal Standards 595a.
5. Mount FTP-22-06 sign below the FTP-21-06 sign.
6. Use of the pavement symbol in accessible parking spaces is optional. When pavement symbol is used, the symbol is either 3'-0" or 5'-0" high and white in color.



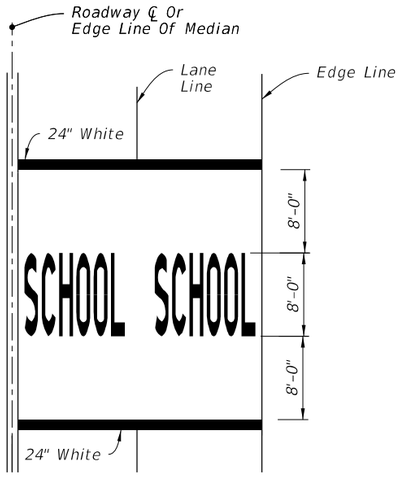
SCHOOL PAVEMENT MARKING

NOTES:

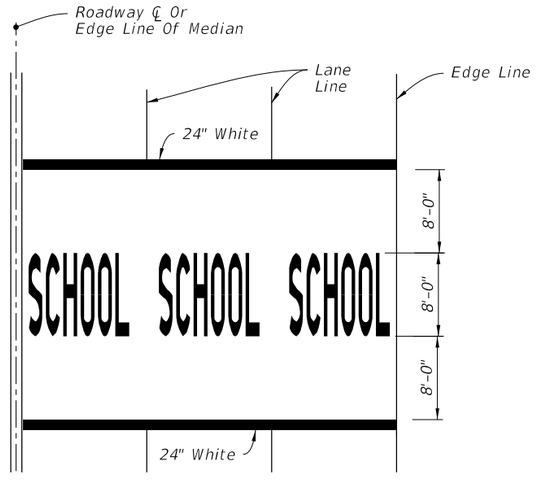
1. All grids are 4" x 4".
2. Pavement Marking Should Not Extend Into Opposing Lane.
3. Center School Pavement Marking in lane.



SINGLE-LANE APPROACH



TWO-LANE APPROACH



MULTI-LANE APPROACH
(Three or More)

MARKINGS FOR SCHOOL ZONES

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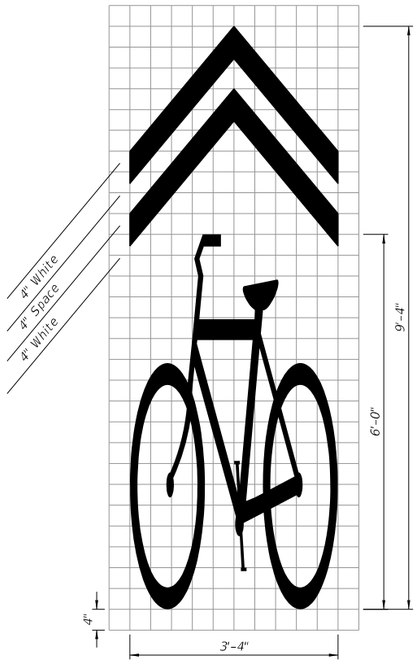
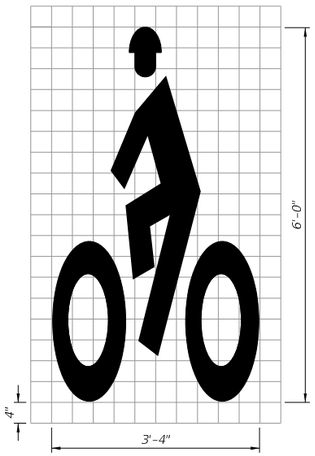
8.1 S.F.



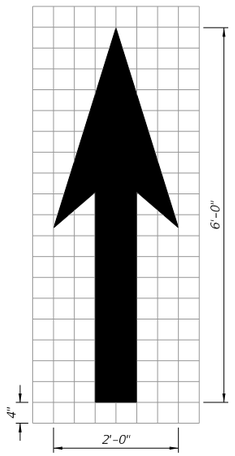
Shared Lane Marking (SLM)

6.3 S.F.



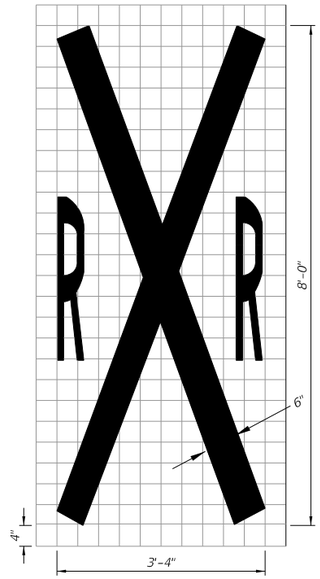
Helmeted Bicyclist Symbol

4.2 S.F.



Bike Lane Arrow

9.0 S.F.



Railroad Crossing
(For Shared Use Path Only)

NOTES:

1. All bicycle markings and pavement messages shall be White.
2. All bicycle markings shall be preformed thermoplastic.
3. All grids are 4" x 4".

STANDARD PAVEMENT MARKING MESSAGE LAYOUTS

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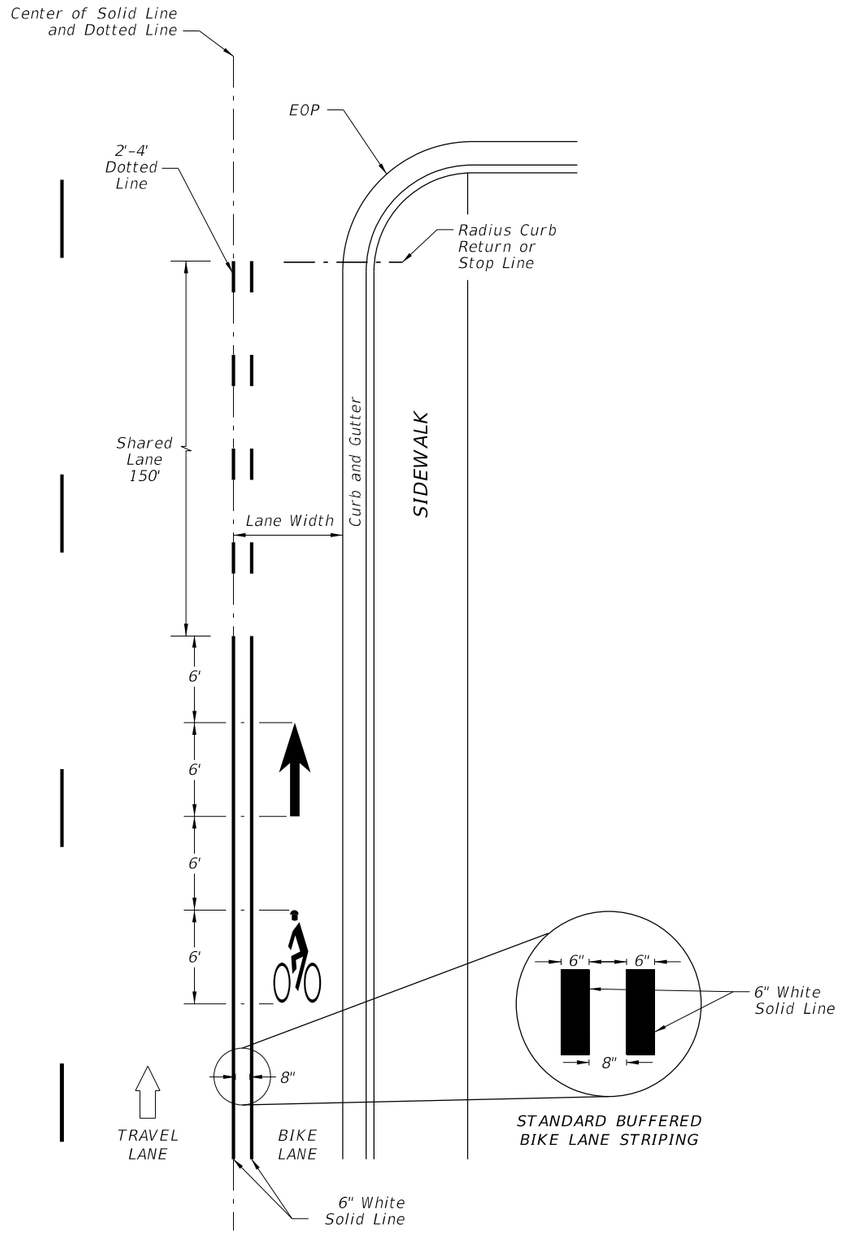
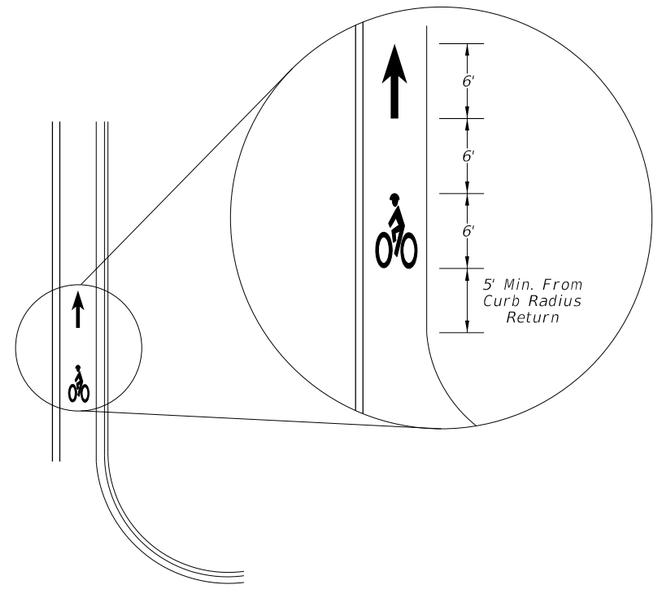
LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FDOT FY 2020-21 STANDARD PLANS	BICYCLE MARKINGS	711-002	1 of 2



STANDARD BUFFERED BIKE LANE STRIPING

APPROACH TO INTERSECTIONS DETAILS

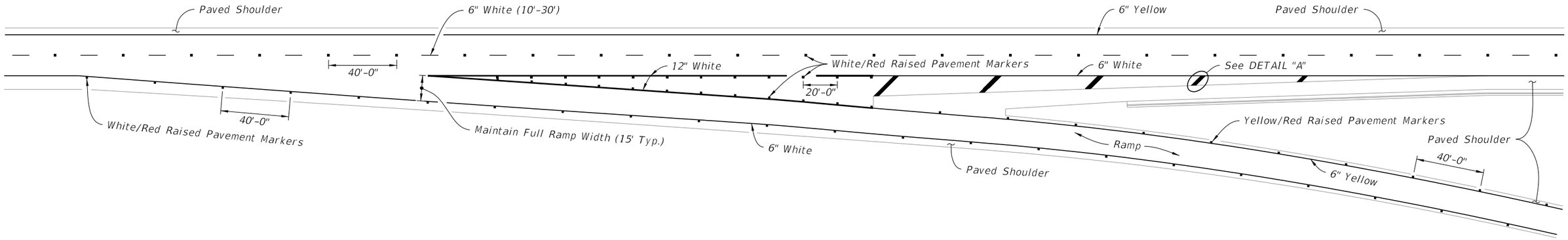


FAR SIDE OF INTERSECTION DETAIL

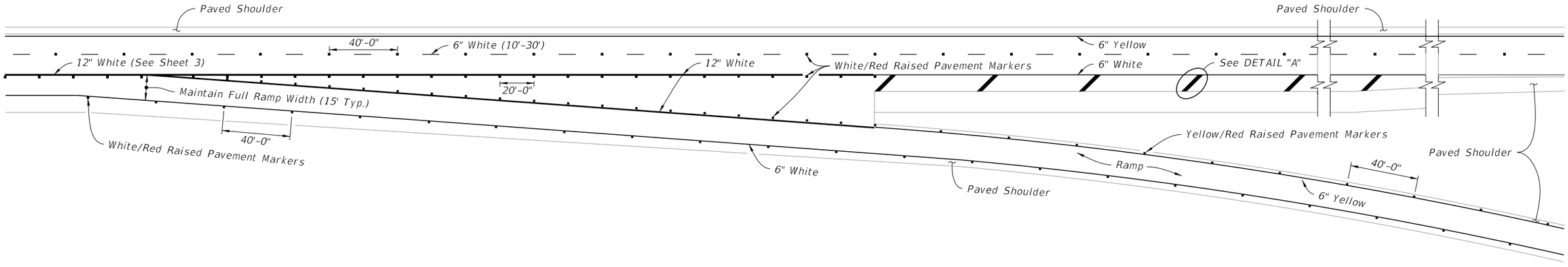
BUFFERED BIKE LANES

10/29/2019 8:24:43 AM

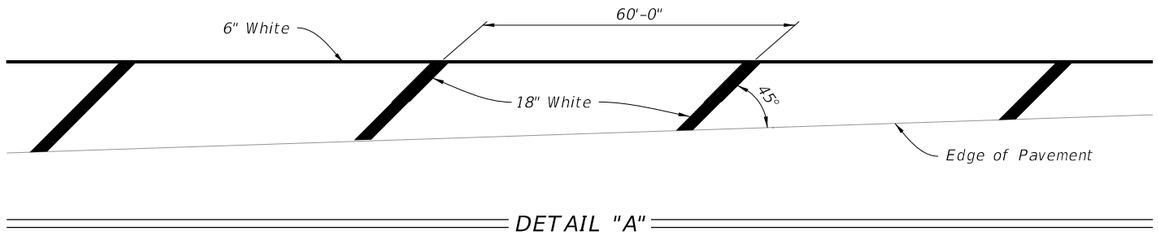
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	BICYCLE MARKINGS	INDEX	SHEET
11/01/17					711-002	2 of 2



TWO THRU LANES



THREE APPROACH LANES - TWO THRU LANES



DETAIL "A"

GENERAL NOTES:

1. Make the traffic face of the raised pavement marker (RPM) the same color as the pavement marking that it is supplementing.
2. See Index 706-001 for additional information on RPMs.

SINGLE LANE RAMPS - EXIT TERMINALS

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LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	INDEX	SHEET
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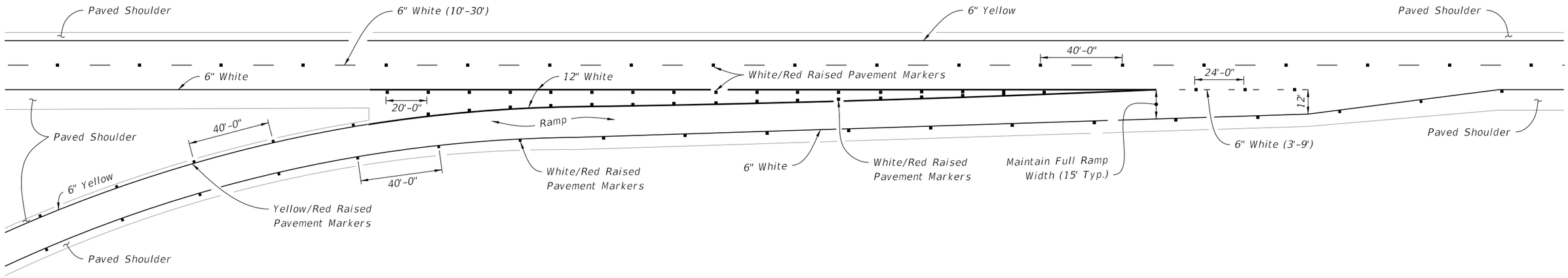
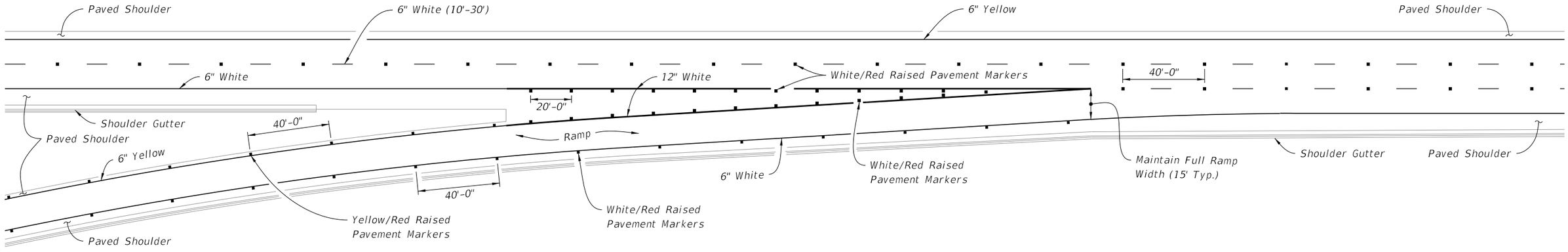


TAPER - TYPE ENTRANCE



PARALLEL - TYPE ENTRANCE

10/29/2019 8:24:45 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	INDEX	SHEET
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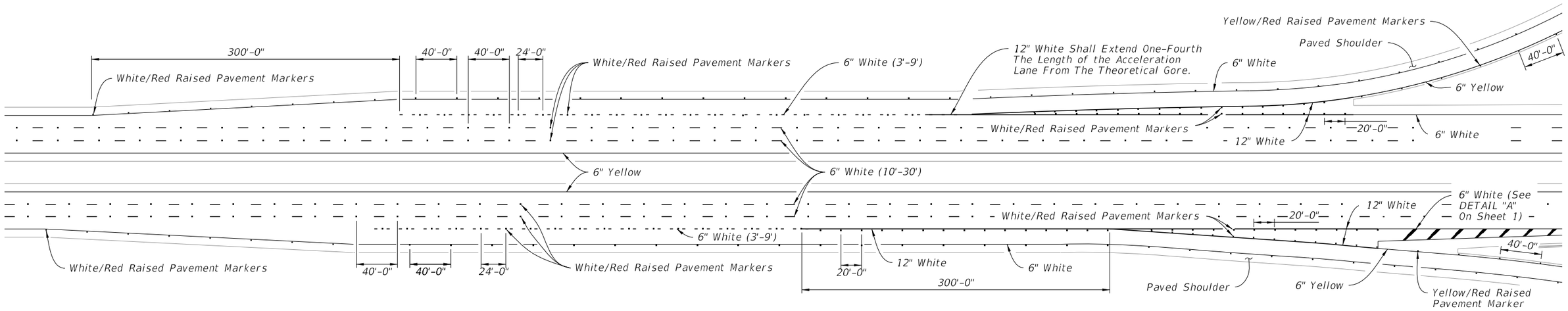
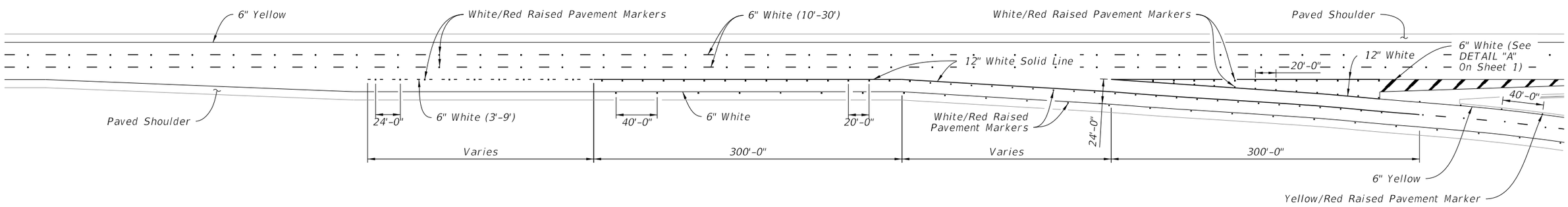
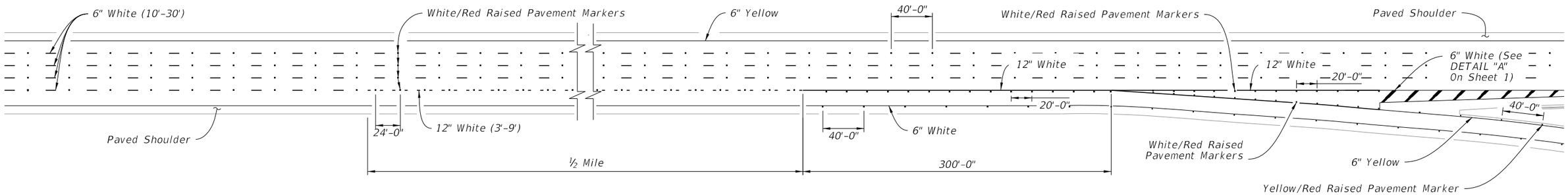


PARALLEL ACCELERATION AND DECELERATION LANE



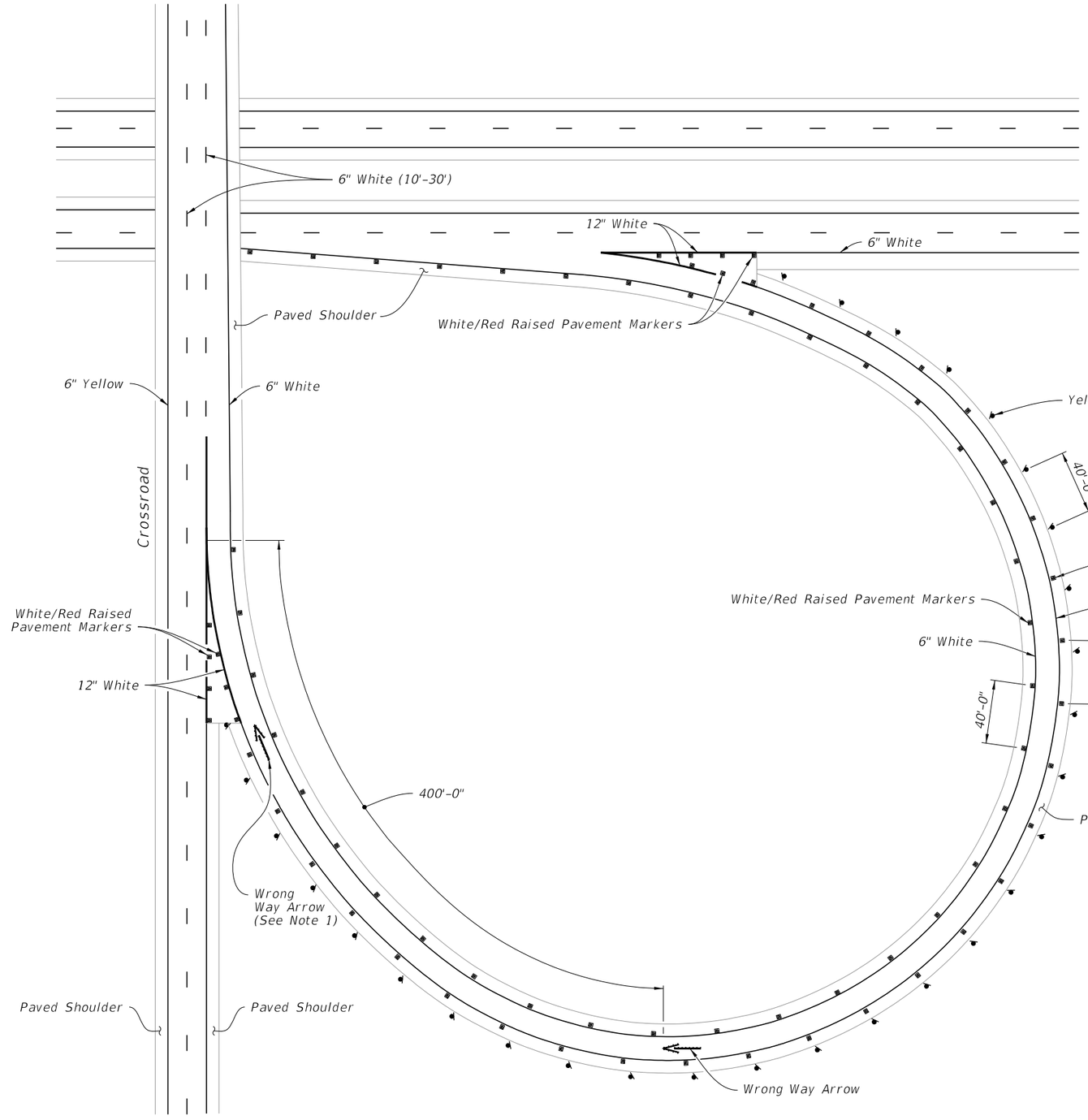
TYPICAL MARKINGS AT DUAL LANE EXITS



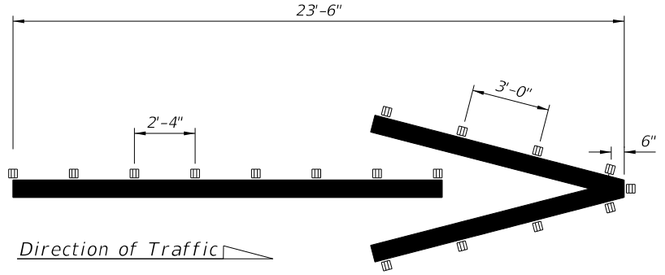
TYPICAL LANE DROP MARKINGS AT EXIT RAMPS

10/29/2019 8:24:45 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FDOT FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	711-003	3 of 7



TYPICAL CURVED EXIT RAMPS



WRONG WAY ARROW

DETAIL "B"

NOTES:

1. Place the Wrong Way Arrow at the physical gore or 100'-0" from the theoretical gore.
2. Post delineators spaced at 40' on curves of the entrance and exit of ramps. The spacing on the tangent portion of the ramp section is 300'-0". All delineators are to be setback 4' from shoulder break. Post delineators should not be discontinued in sections with guardrail.

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LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	INDEX	SHEET
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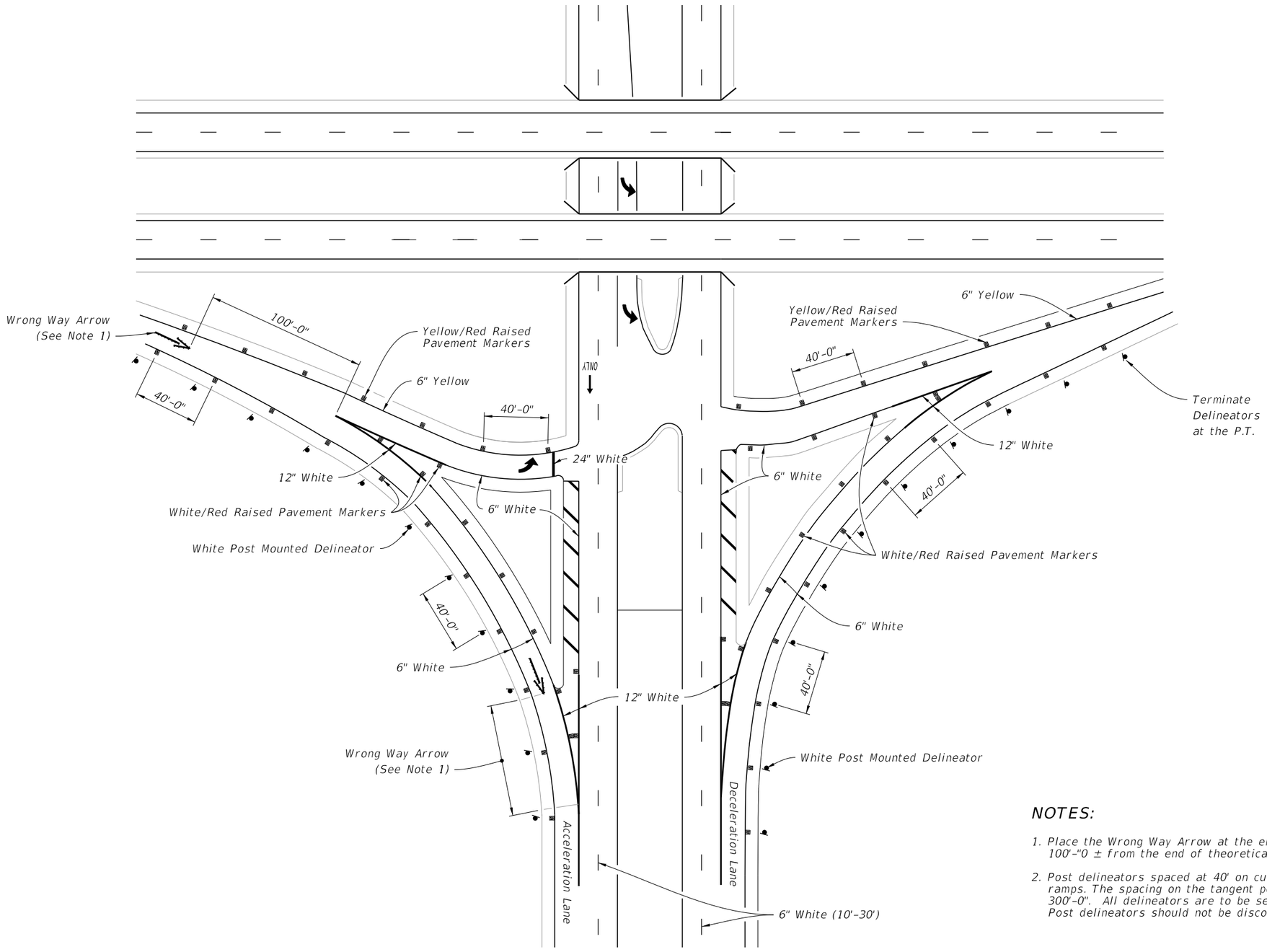

NOTES:

1. Place the Wrong Way Arrow at the end of the physical gore or 100'-"0 ± from the end of theoretical gore.
2. Post delineators spaced at 40' on curves of the entrance and exit of ramps. The spacing on the tangent portion of the ramp section is 300'-0". All delineators are to be setback 4' from shoulder break. Post delineators should not be discontinued in sections with guardrail.

TYPICAL INTERSECTION

10/29/2019 8:24:47 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	INDEX	SHEET
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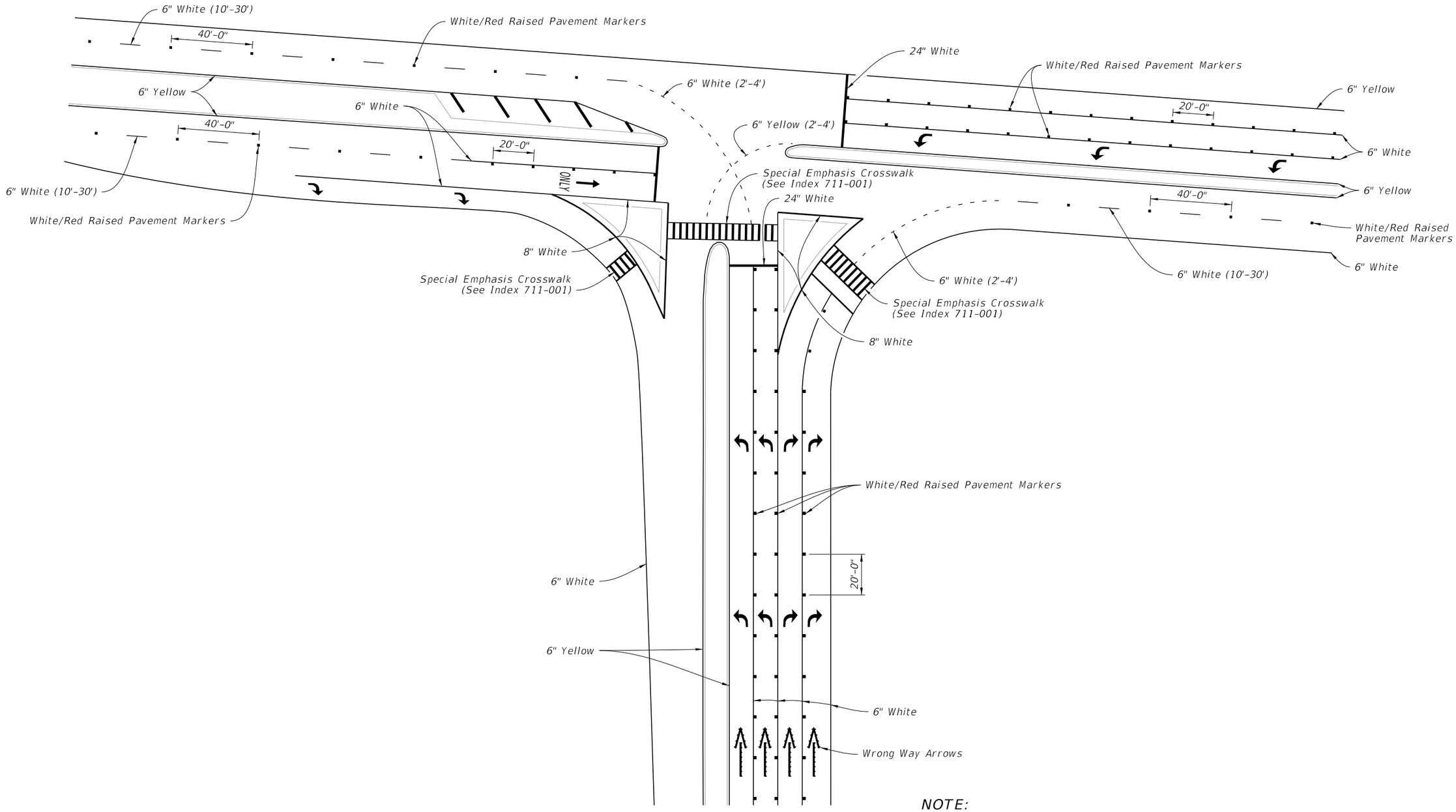

NOTE:

Do not place wrong way arrows in between consecutive directional arrows.

TYPICAL PARTIAL CLOVERLEAF/TRUMPET EXIT RAMP

10/29/2019 8:24:48 AM

LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	INDEX	SHEET
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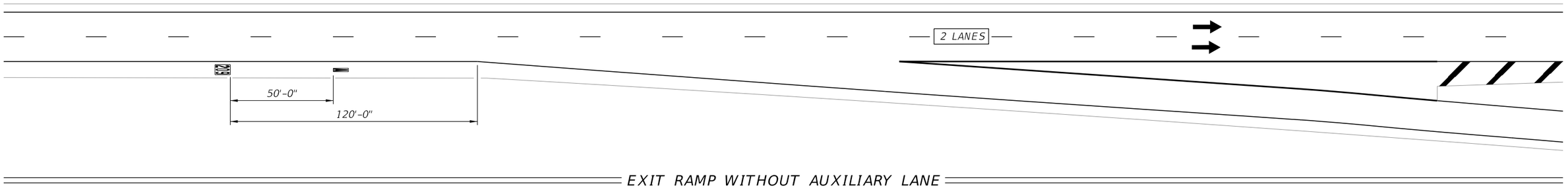
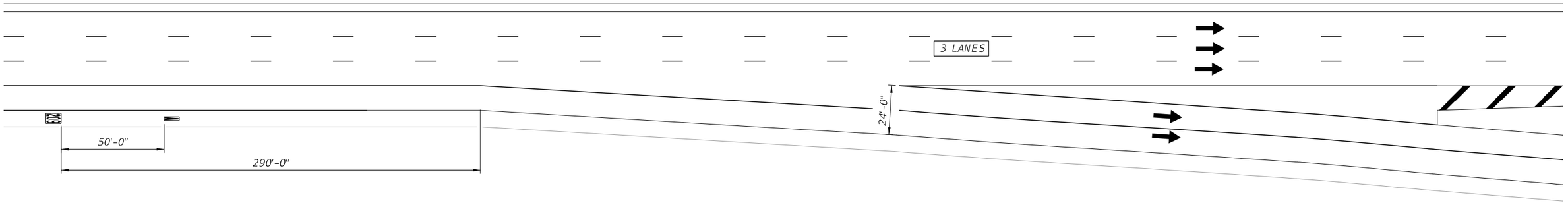
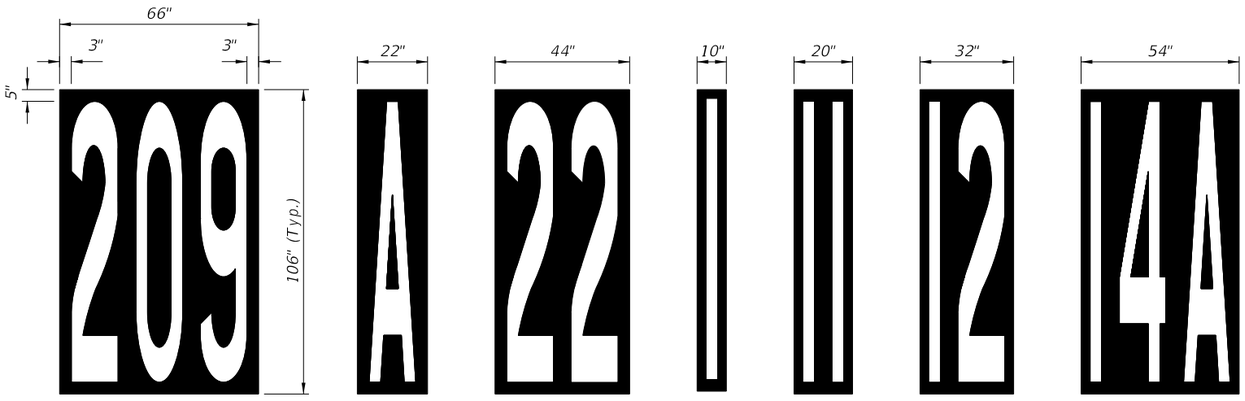


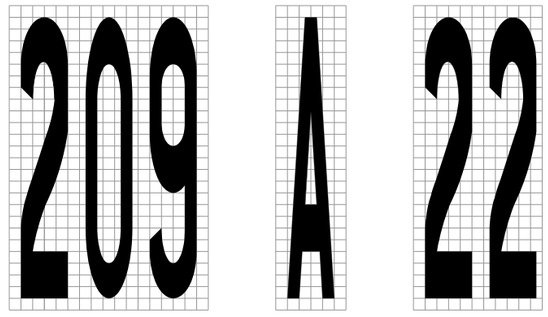
EXIT RAMP WITHOUT AUXILIARY LANE



EXIT RAMP WITH AUXILIARY LANE



MAT DIMENSIONS



MESSAGE SIZE AND SPACING

NOTES:

1. This Index shows layouts for 1, 2, and 3 digit numbers and letters.
2. The message consist of white letters and numbers with black contrasting material.
3. The "EXIT NUMBER" position remains the same distance from the beginning of taper regardless of the number of lines of information.
4. All Grids are 4" x4".

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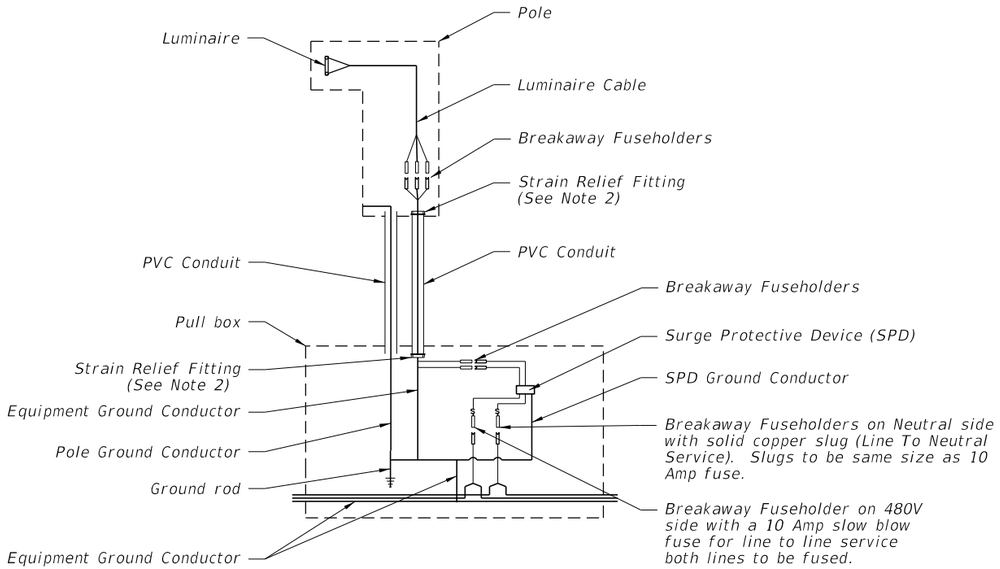
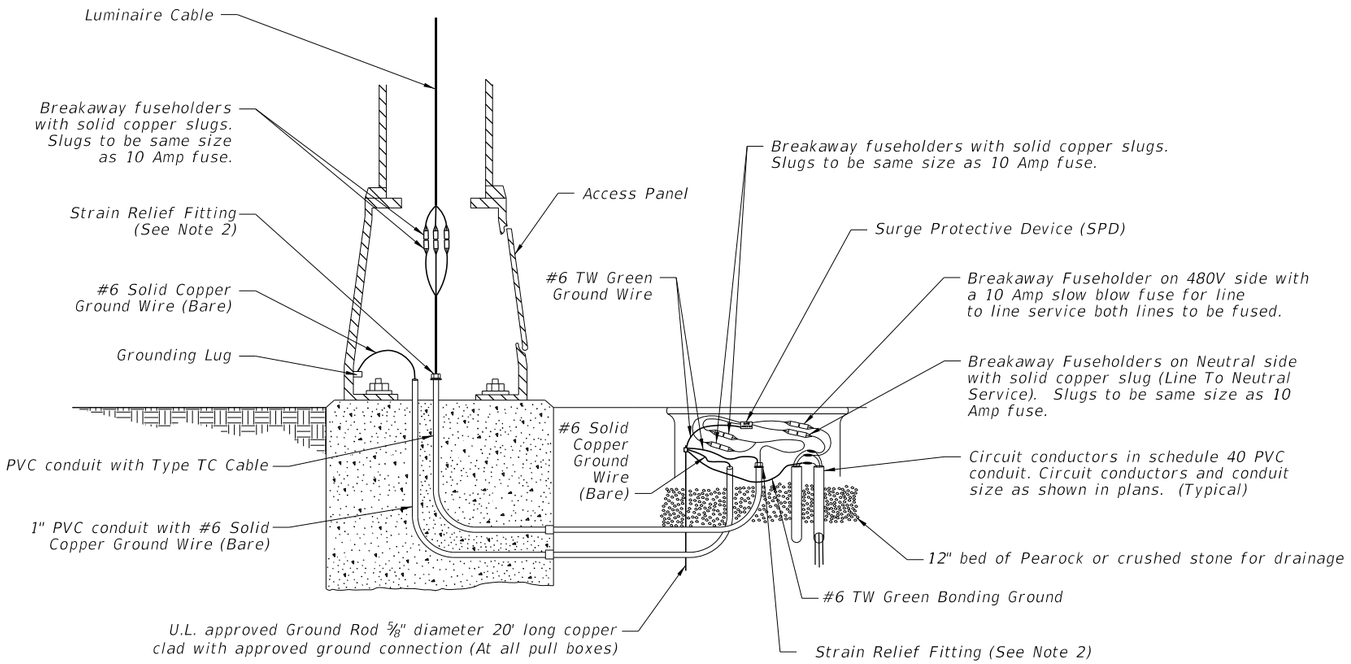
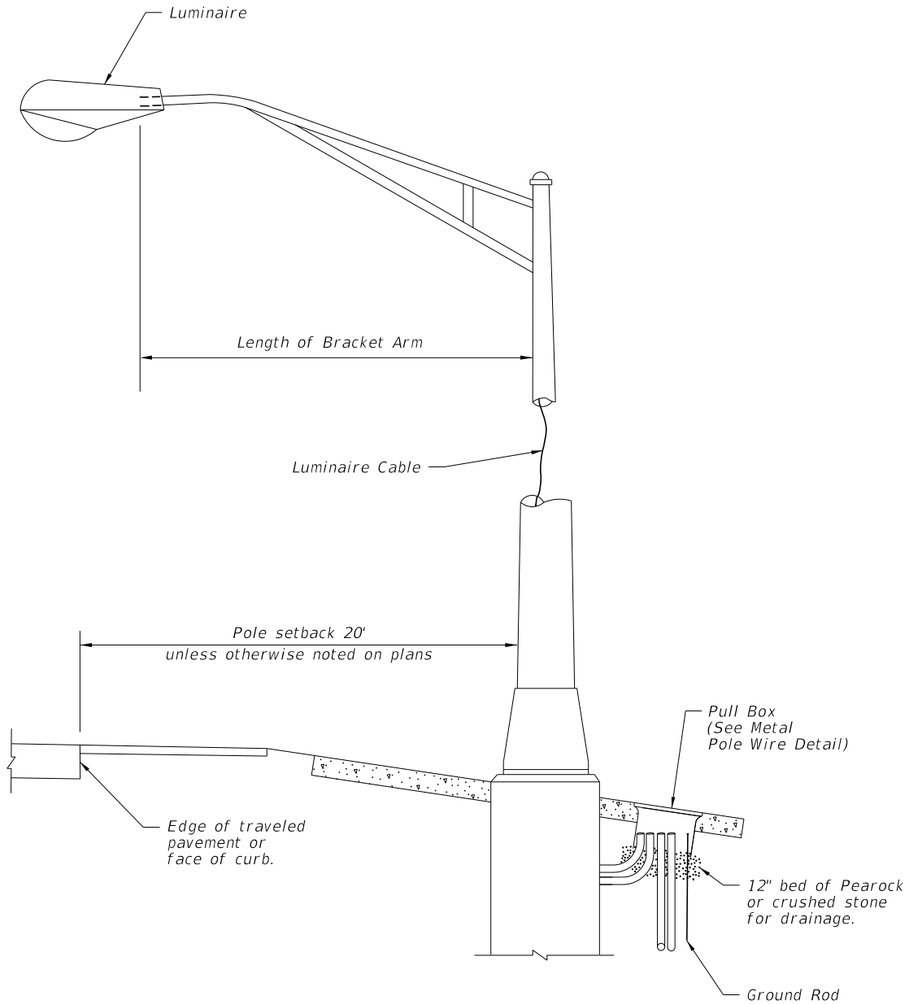
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	INTERCHANGE MARKINGS	INDEX	SHEET
11/01/17						711-003	7 of 7



WIRING DIAGRAM



METAL POLE WIRING DETAIL



METAL POLE DETAIL

NOTES:

1. Barrier wall or bridge mounted poles: The wiring shall be in accordance with Specification 992.

2. Provide cable length to remove fuseholders from transformer base, pole base or pullbox for maintenance. Remove slack from the luminaire cable to provide tension on the fuseholders if the pole breaks away. Pull excess cable into pull box tighten strain relief fittings or cable clamps at both ends of conduit to prevent cable from slipping.

WIRING DETAILS

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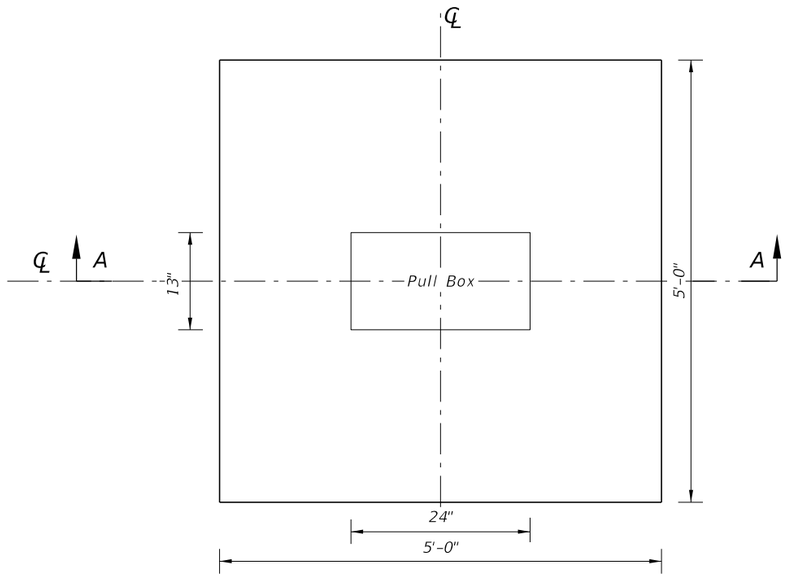
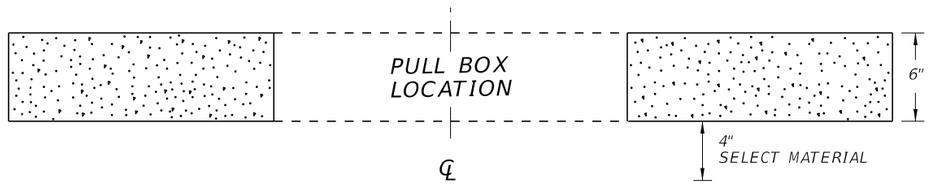
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	CONVENTIONAL LIGHTING	INDEX	SHEET
11/01/17					715-001	1 of 3

NOTES:

1. Use compacted select material in accordance with Index 120-001.
2. Concrete shall be Class NS with a minimum strength at 28 days of f'c=2.5 ksi.
3. Outside edge of slab shall be cast against formwork.
4. The pull box shown is 13" x 24"; others approved under Specification 635 may be used.
5. Slabs to be placed around all Poles and Pull Boxes in rural locations. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans.
6. Concrete for slabs around pull boxes shall be included in the price of pull box.



SLAB DIMENSIONS



SECTION A-A

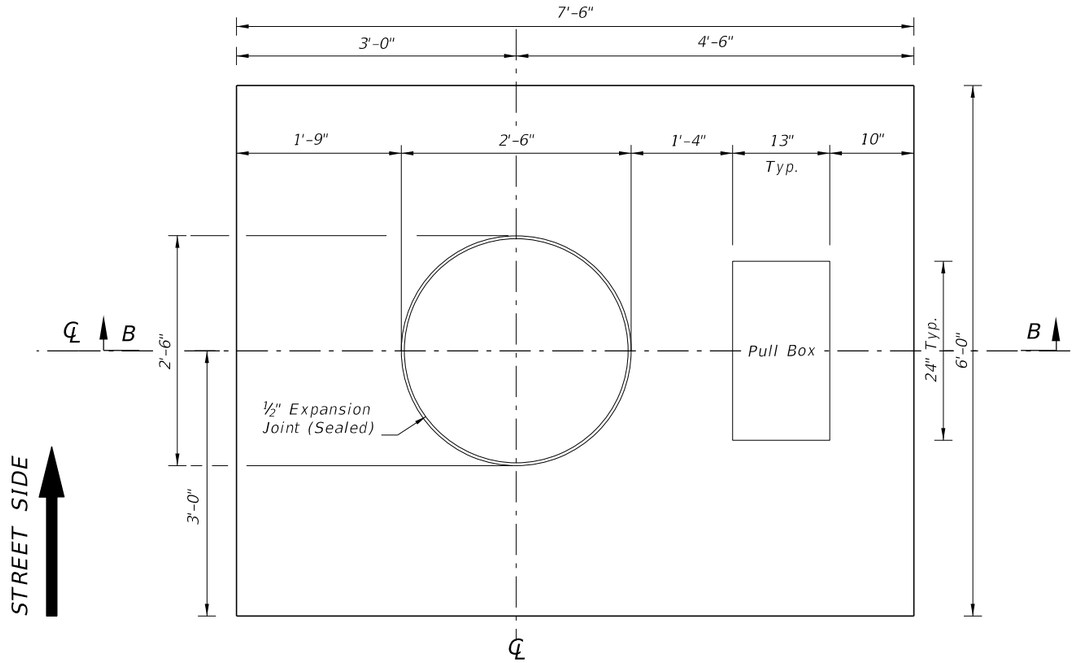
SLAB DETAILS FOR INTERMEDIATE PULLBOX LOCATIONS

10/29/2019 8:24:49 AM

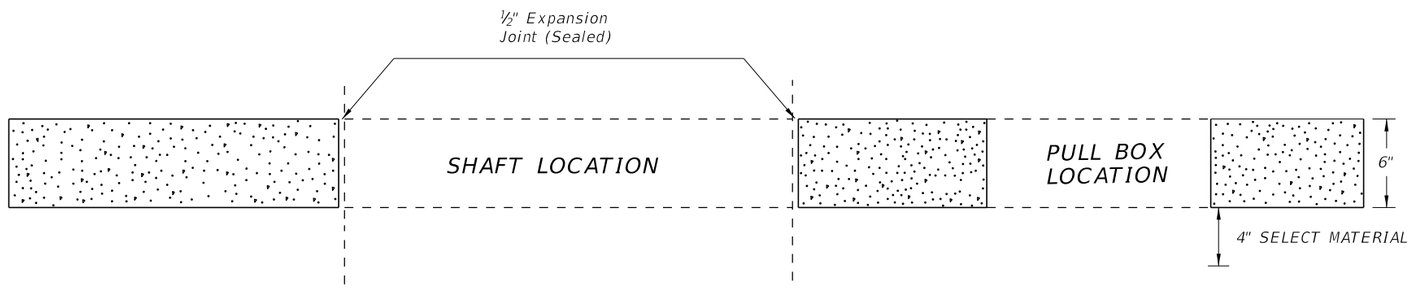
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	CONVENTIONAL LIGHTING	INDEX	SHEET
11/01/17						715-001	2 of 3

NOTES:

1. Use compacted select material in accordance with Index 120-001.
2. Concrete shall be Class NS with a minimum strength at 28 days of f'c=2.5 ksi.
3. Outside edge of slab shall be cast against formwork.
4. The pull box shown is 13" x 24"; others approved under Specification 635 may be used.
5. Slabs to be placed around all Poles and Pull Boxes. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans.
6. Concrete for slabs around poles and pull boxes shall be included in the price of pole or pull box.
7. The expansion joint shall consist of ½" of closed-cell polyethylene foam expansion material. The top ½" of expansion material shall be removed after pouring the slab and sealed with an APL approved Type A sealant meeting the requirements of Specification 932.



SLAB DIMENSIONS



SECTION B-B

SLAB DETAILS FOR POLE AND PULL BOX LOCATIONS

10/29/2019 8:24:50 AM

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/17			FDOT FY 2020-21 STANDARD PLANS	CONVENTIONAL LIGHTING	715-001	3 of 3

GENERAL NOTES:

1. Poles are designed to support the following:
   A. Luminaire Effective Projected Area (EPA): 1.55 SF
   B. Weight: 75 lb.

2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not included in the Plans.

3. Materials:
   A. Pole, Pole Connection Extrusions and Arm Extrusions: ASTM B221, Alloy 6063-T6 or Alloy 6061-T6
   B. Bars, Plates, Stiffeners and Backer Ring: ASTM B221, Alloy 6063-T6
   C. Caps and Covers: ASTM B-26, Alloy 319-F
   D. Steel Bearing Plate: ASTM A709 or ASTM A36 Grade 36
   E. Aluminum Weld Material: ER 4043
   F. Transformer and Frangible Base Materials: ASTM B26 or ASTM B108, Alloy 356-T6
   G. Bolts, Nuts and Washers:
      a. Shoe Base Bolts: ASTM F3125, Grade A325, Type 1
      b. Nuts: ASTM A563 Grade DH Heavy-Hex
      c. Washer: ASTM F436 Type 1
   H. Anchor Bolts, Nuts, and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex
      c. Plate Washer: ASTM A36
   I. Stainless Steel Fasteners: ASTM F593 Alloy Group 2, Condition A, CW1 or SH1
   J. Nut Covers: ASTM B26 (319-F)
   K. Concrete: Class 1
   L. Reinforcing Steel: Specification 415

4. Fabrication:
   A. Weld Arm and Pole (Alloy 6063) in the T4 temper using 4043 filler. Age the Arm and Pole artificially to the T6 temper after welding.
   B. Transverse welds are only allowed at the base.
   C. Roadway Light Pole Taper: Taper as required to provide a round top O.D. of 6" and a base O.D. of 8" for 20' and 25' mounting heights and 10" O.D. for poles with 30' to 50' mounting heights. Portions of the pole near the base shoe and at the arm connections may be held constant to simplify fabrication.
   D. Median Barrier Mounted Light Pole Taper: Taper as required to provide a 6" O.D. round top with an 11" x 7" O.D. oblong base. Portions of the pole near the base and at the arm connections may be held constant at 11"x 7" oblong and 6" round respectively to simplify fabrication.
   E. Provide 'J', 'S' or 'C' hook at top of pole for electrical wires.
   F. Equip poles located on bridges, walls and concrete median barriers/Traffic Railings with a vibration damper.
   G. Perform all welding in accordance with AWS D1.2.
   H. Embedded Junction Box (EJB):
      a. Weld all seams continuously and grind smooth.
      b. Hot Dip Galvanize after Fabrication.
      c. Provide a watertight cover with neoprene gasket and secure cover with galvanized screws.
   I. For Median Barrier Mounted Aluminum Light Poles, the fabricator must demonstrate the ability to produce a crack free pole. The fabricator's Department-approved QC Plan must contain the following information prior to fabrication:
      a. Tests demonstrating a pole with a ¼" wall thickness achieves and ultimate moment capacity of 36 kip*ft in the strong axis and 30 kip*ft in the weak axis.
      b. Tests demonstrating a pole with a 5#16" wall thickness achieves an ultimate moment capacity of 44 kip*ft in the strong axis and 37 kip*ft in the weak axis.
      c. Test results showing the pole does not buckle at the shape transition area under the ultimate moment capacity loads.
      d. Complete details and calculations for the reinforced 4"x 6" (Min.) handhole located 1'-6" above the base plate.
   J. Identification Tag: (Submit details for approval.)
      a. 2" x 4" (Max.) aluminum identification tag.
      b. Locate on the inside of the transformer base and visible from the door opening.
      c. Secure to transformer base with ⅛" diameter stainless steel rivets or screws.
      d. Include the following information on the ID Tag:
         1. Financial Project ID
         2. Pole Height
         3. Manufacturer's Name

5. Coatings/Finish:
   A. Pole and Arm Finish: 50 grit satin rubbed.
   B. Galvanize Steel Bolts, Screws, Nuts and Washers: ASTM F2329
   C. Hot Dip Galvanize EJB and other steel items including poles and plate washers: ASTM A123

6. Construction:
   A. Foundation: Specification 455, except payment for the foundation is included in the cost of the pole.
   B. Frangible Base, Base Shoe, and Clamp:
      a. Certify that the Clamp, Frangible Transformer Base, and Base Shoe Design are capable of providing the required capacity.
      b. Certify the Base conforms to the current FHWA required AASHTO Frangibility Requirements, tested under NCHRP Report 350 Guidelines (e.g. Akron Foundry TB1-17).
      c. Do not erect pole without Luminaire attached.

7. Embedded Junction Box (EJB): Install EJBs per Note 4 and in accordance with Specification 635, as shown on the following Sheets.

8. Wind Speed by County:

   120 MPH
   Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

   140 MPH
   Bay, Citrus, De Soto, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lake, Levy, Manatee, Marion, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Sumter, Volusia, Walton and Washington Counties.

   160 MPH
   Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.

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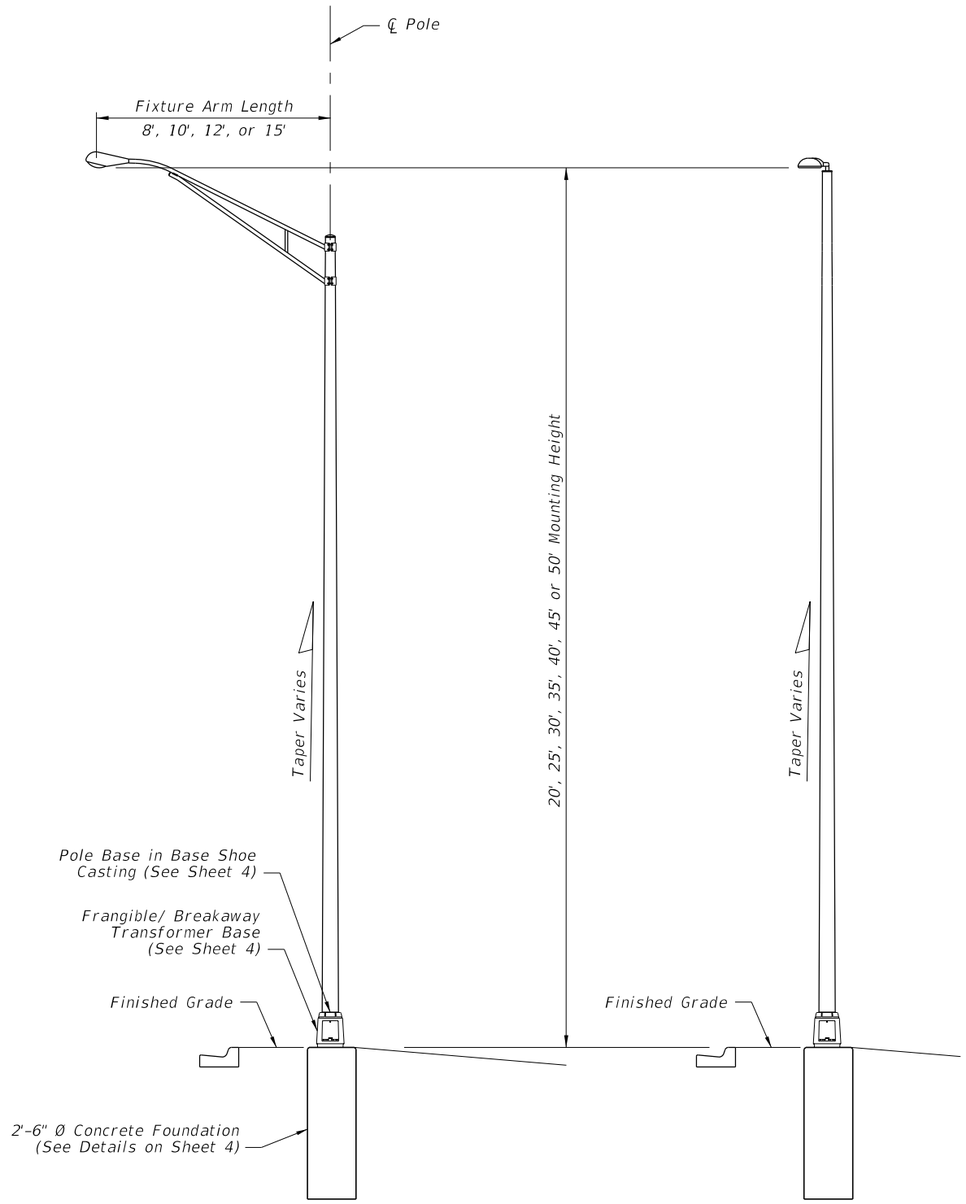
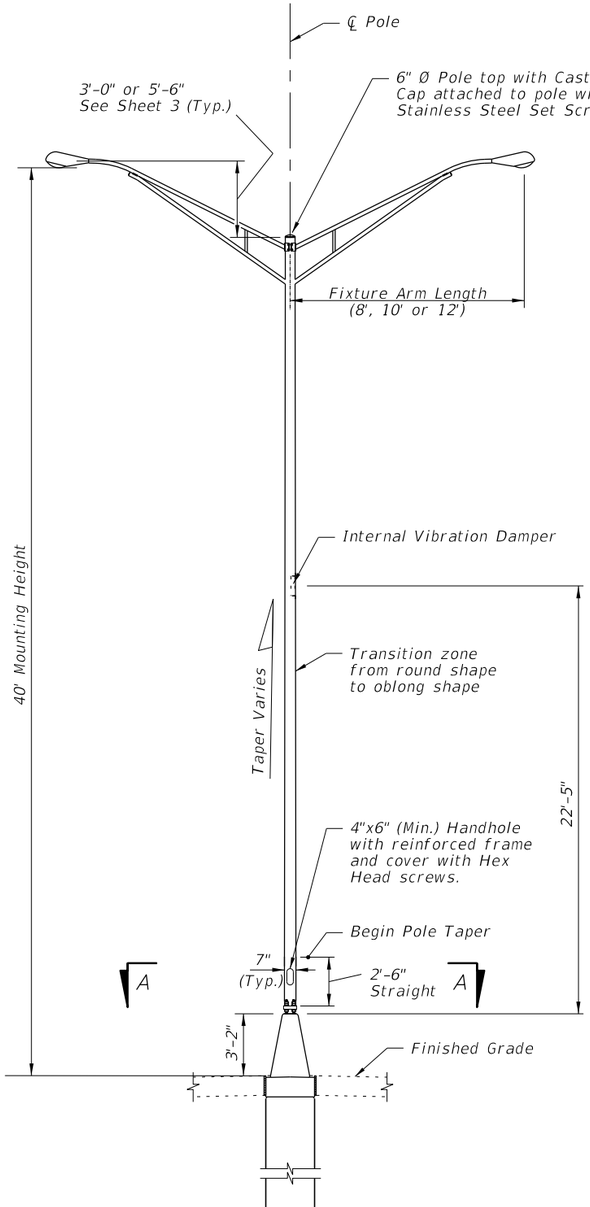
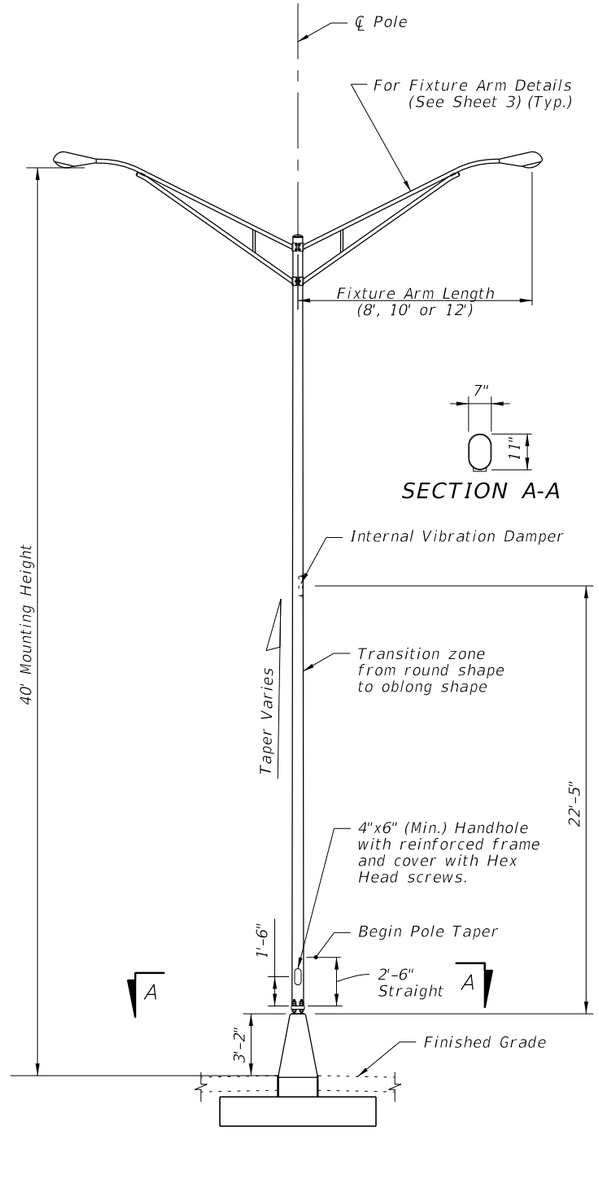


STANDARD ROADWAY ALUMINUM LIGHT POLE W/ARM



STANDARD ROADWAY ALUMINUM LIGHT POLE W/TOP MOUNT

MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON CYLINDRICAL FOUNDATION



MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE ON SPREAD FOOTING FOUNDATION

ELEVATIONS

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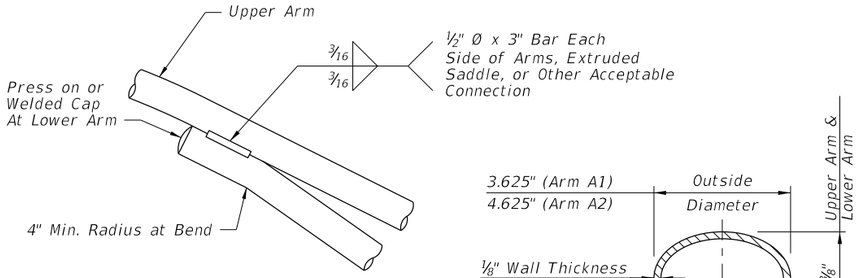
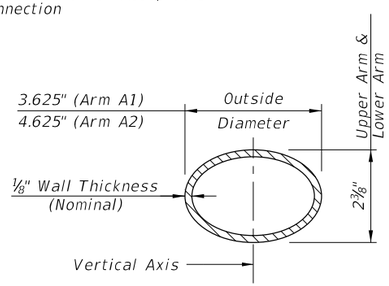
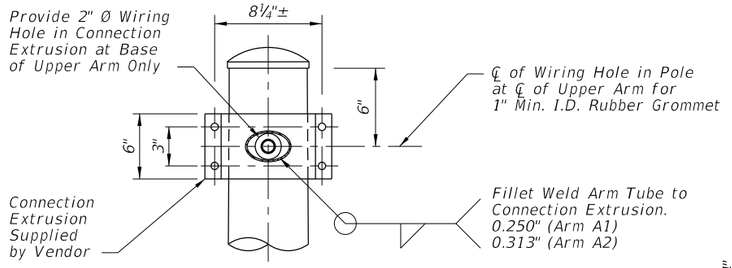
LAST REVISION	REVISION	DESCRIPTION:	FDOT FY 2020-21 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
11/01/19					715-002	2 of 8



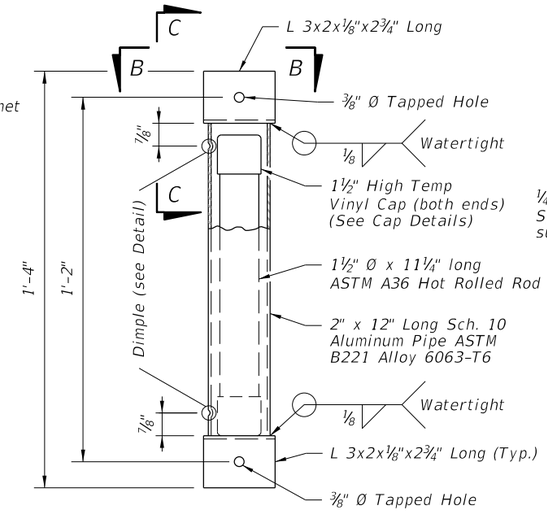
ARM CONNECTION DETAIL



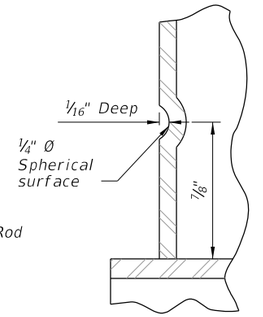
ARM SECTION



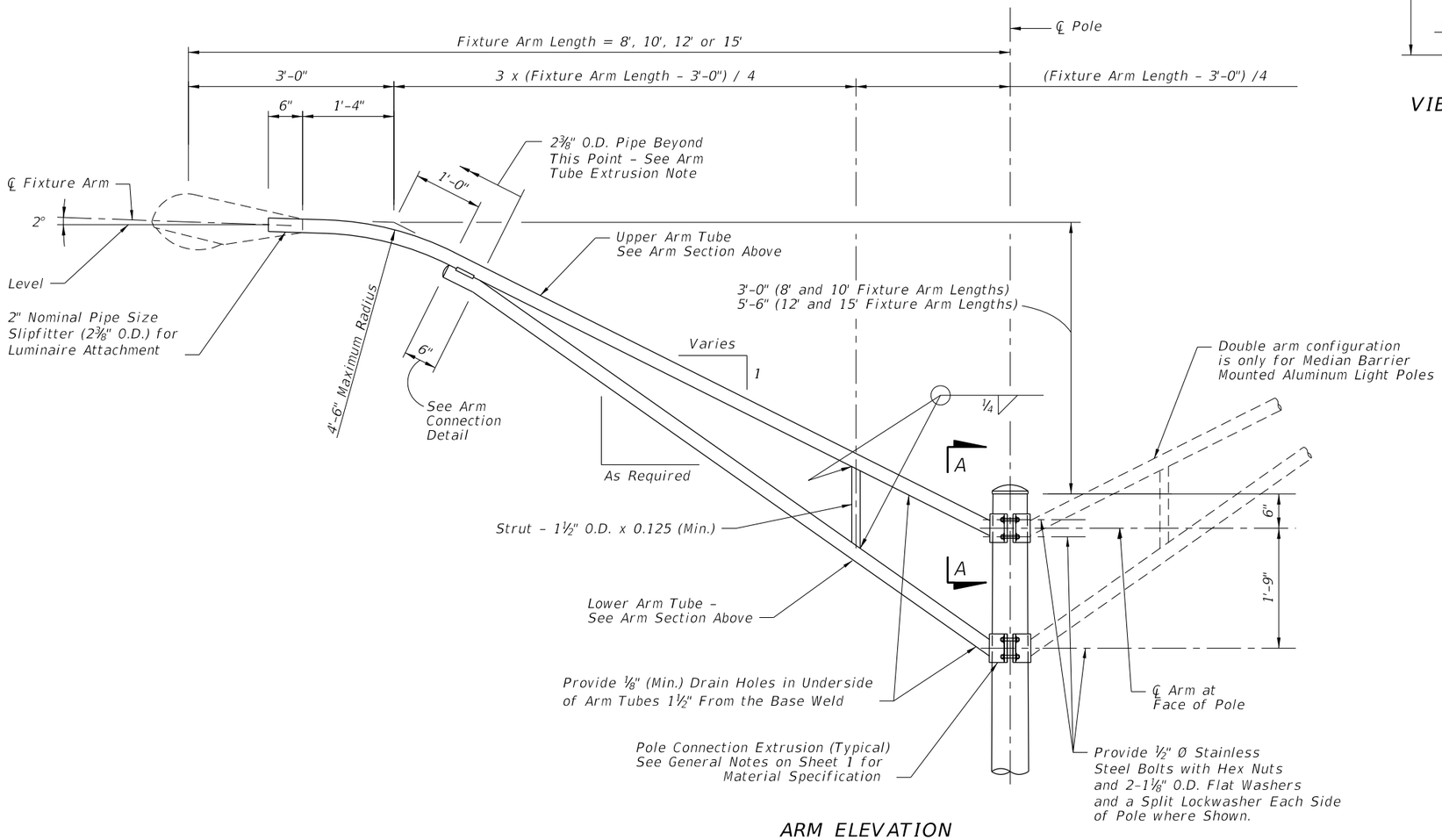
SECTION A-A
(Connection At Lower Arm Similar)



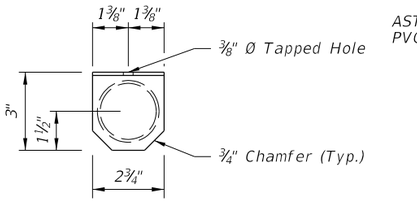
VIBRATION DAMPER ELEVATION



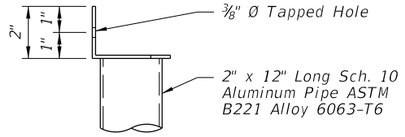
DIMPLE DETAIL



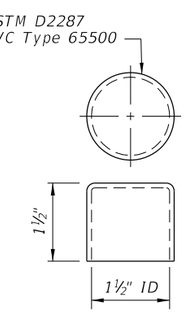
ARM ELEVATION



VIEW B-B



VIEW C-C



HIGH TEMP VINYL CAP DETAIL

ARM TUBE EXTRUSIONS NOTES:

At the pole connections, provide arm tube extrusions with dimensions as shown. Uniformly transition elliptical section to a cylindrical section at the arm connection.

The fabricator may substitute elliptical cross sections other than those tabulated, provided the section properties about the vertical axis and the area of the section equal or exceed that of the required section, and provide minimum wall thickness of ⅛" nominal and within the Aluminum Association Tolerances.

The outside diameter about the minor axis should be held at 2⅜" at the upper and lower arms.

ARM & DAMPER DETAILS

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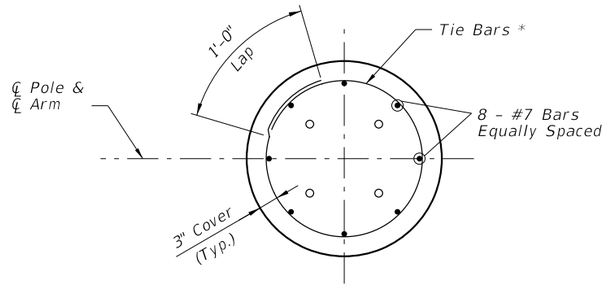
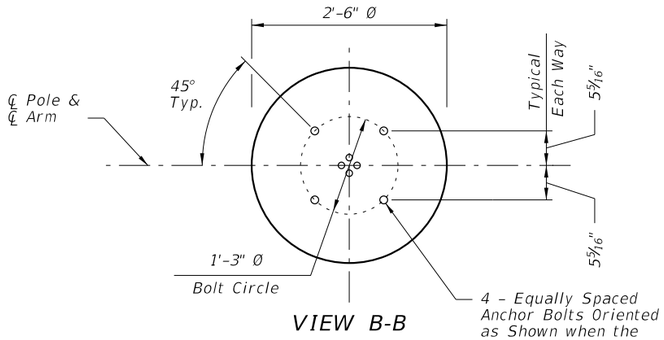
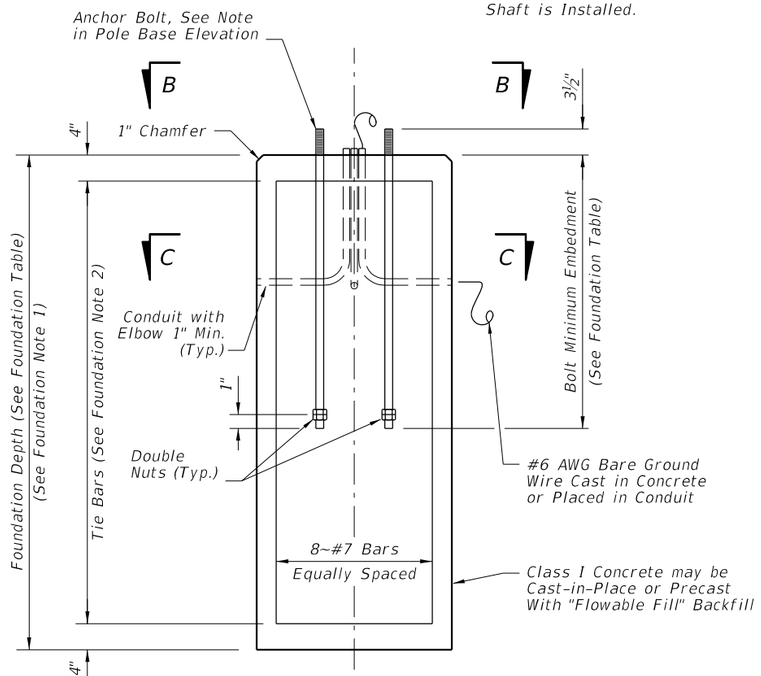
LAST REVISION	REVISION	DESCRIPTION:				
11/01/19			FY 2020-21 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002	SHEET 3 of 8



SECTION C-C



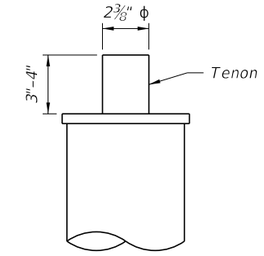
VIEW B-B



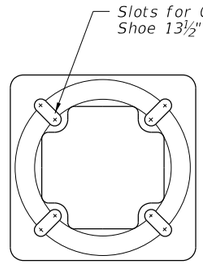
FOUNDATION NOTES:

1. Depths shown are for slopes equal to or flatter than 1:4. For slopes steeper than 1:4 and equal to or flatter than 1:2 add 2'-6" to foundation depths shown.
2. Foundation Tie Bars: #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

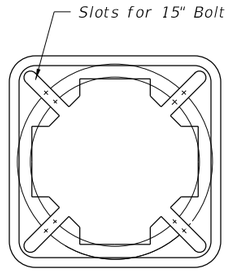
FOUNDATION



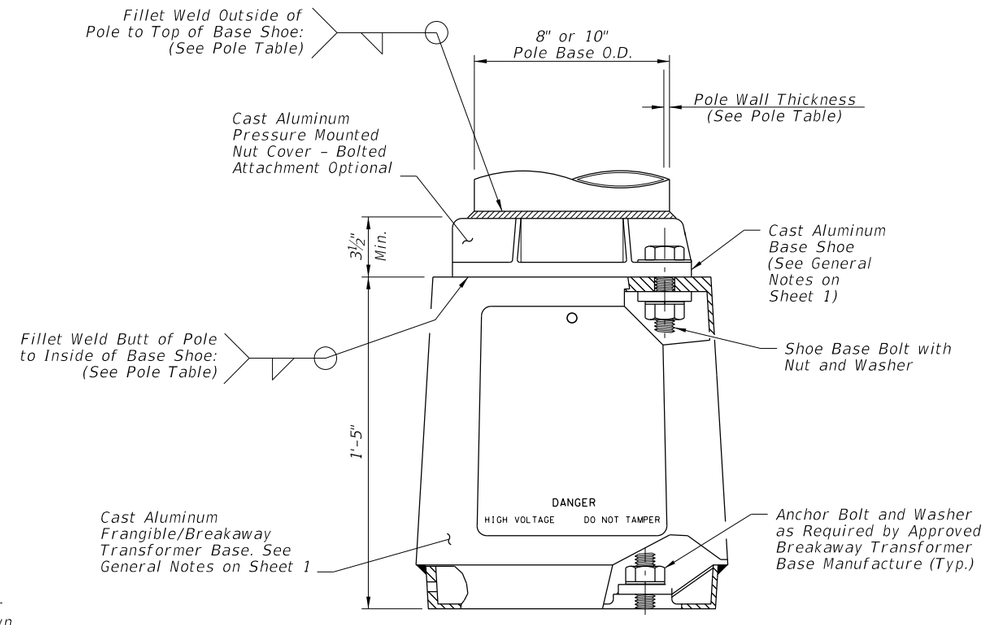
TOP MOUNT TENON



TOP VIEW TRANSFORMER BASE



BOTTOM VIEW TRANSFORMER BASE



POLE BASE ELEVATION

ARM-POLE TABLE

FOR STANDARD ALUMINUM LIGHT POLES WITH ARM

Assembly Height (ft)	Wind Speed and Arm Lengths (ft)				
	120 mph	140 mph		160 mph	
	8, 10, 12, 15	8, 10, 12	15	8, 10	12, 15
30	A1-P1	A1-P1	A2-P1	A1-P1	A2-P1
35					
40				A1-P2	A2-P2
45	A1-P2	A1-P2	A2-P2		
50				A1-P3	A2-P3

ARM POLE NOTES:

1. See ARM SECTION detail on Sheet 3 for all A1 and A2 Values.
2. See Pole Table for all P1, P2, and P3 values.
3. For Median Barrier Mounted Pole, Use Arm A1.
4. For 20' and 25' assembly heights use only 8' or 10' arm A1 with P0.

POLE TABLE

Pole	Pole Wall Thickness	Top of Base Shoe Weld	Inside of Base Shoe Weld
P0	0.156	3/16"	5/32"
P1	0.156	3/16"	5/32"
P2	0.250	1/4"	1/4"
P3	0.313	5/16"	5/16"

POLE NOTES:

1. Pole wall thicknesses shown are nominal and must be within the Aluminum Association tolerances.
2. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

TOP MOUNT POLE TABLE

FOR STANDARD ALUMINUM LIGHT POLES WITH TOP MOUNT

Assembly Height (ft)	Wind Speed and Arm Lengths (ft)		
	120 mph	140 mph	160 mph
20	Pole P0	Pole P0	Pole P0
25			
30	Pole P1	Pole P1	Pole P1
35			
40			Pole P2
45	Pole P2	Pole P2	
50			

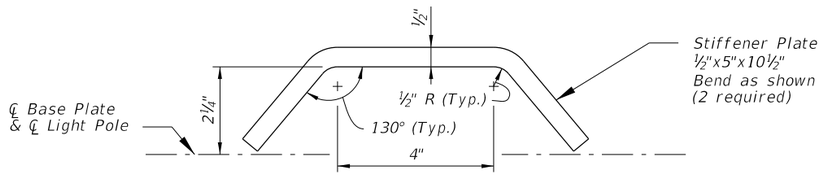
FOUNDATION TABLE

Pole	P0	P1	P2	P3
Depth	6'-0"	7'-0"	8'-0"	8'-0"
Bolt Min. Embedment	2'-6"	3'-6"	3'-6"	3'-6"

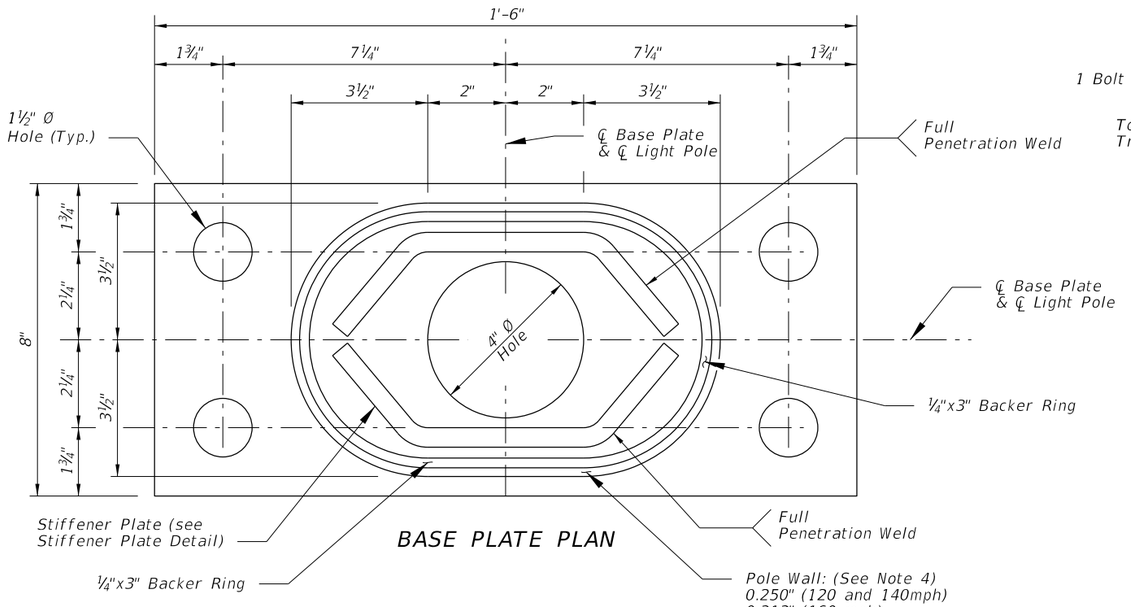
POLE AND BASE DETAILS FOR ROADWAY ALUMINUM LIGHT POLE

LAST REVISION	REVISION	DESCRIPTION:			
11/01/19			FY 2020-21 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002 / SHEET 4 of 8

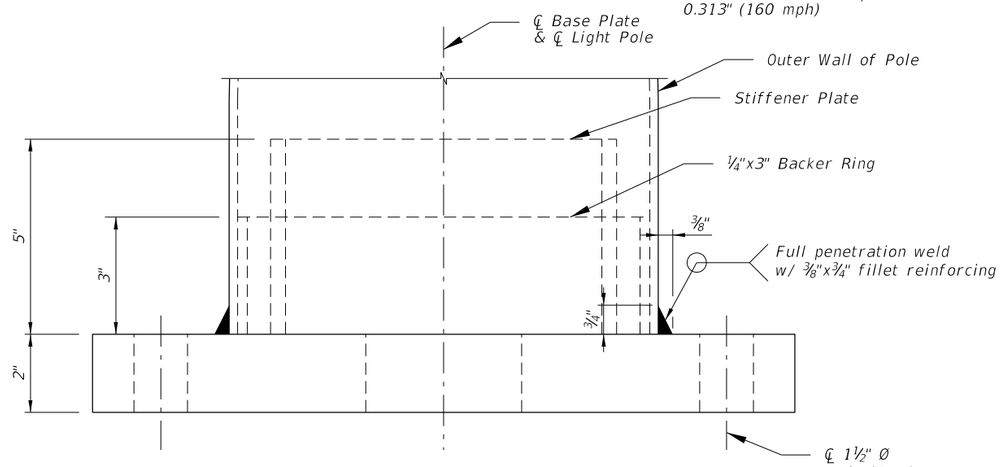
10/29/2019 8:24:55 AM



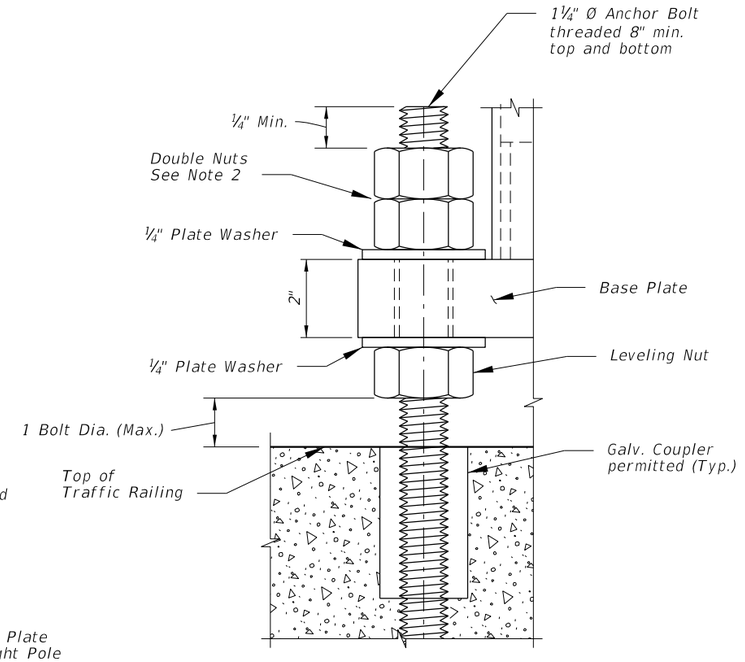
STIFFENER PLATE DETAIL



BASE PLATE PLAN



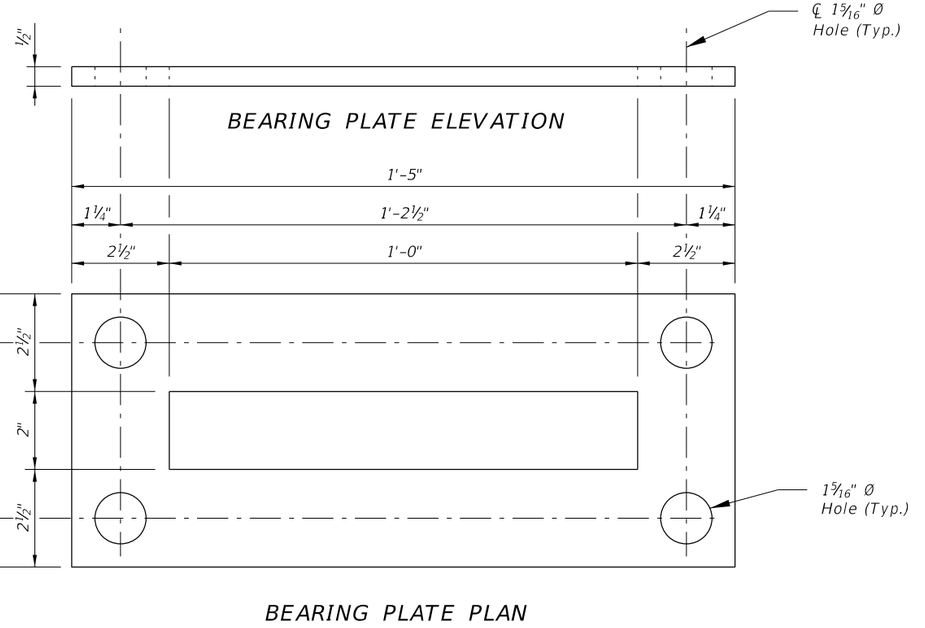
BASE PLATE ELEVATION



DETAIL 'A'

NOTE:

1. For locations of Bearing Plates, Base Plates and Detail 'A' see Sheets 6 & 7.
2. Double Nuts: The bottom hex nut may be substituted by a half-height 'jam' nut.
3. Provide individual nut covers (not shown) for each bolt.
4. Pole wall thicknesses shown are nominal and shall be within the Aluminum Association Tolerances. Thicker walls are permitted and tapered walls may be used in accordance with the minimum Aluminum Association thicknesses.

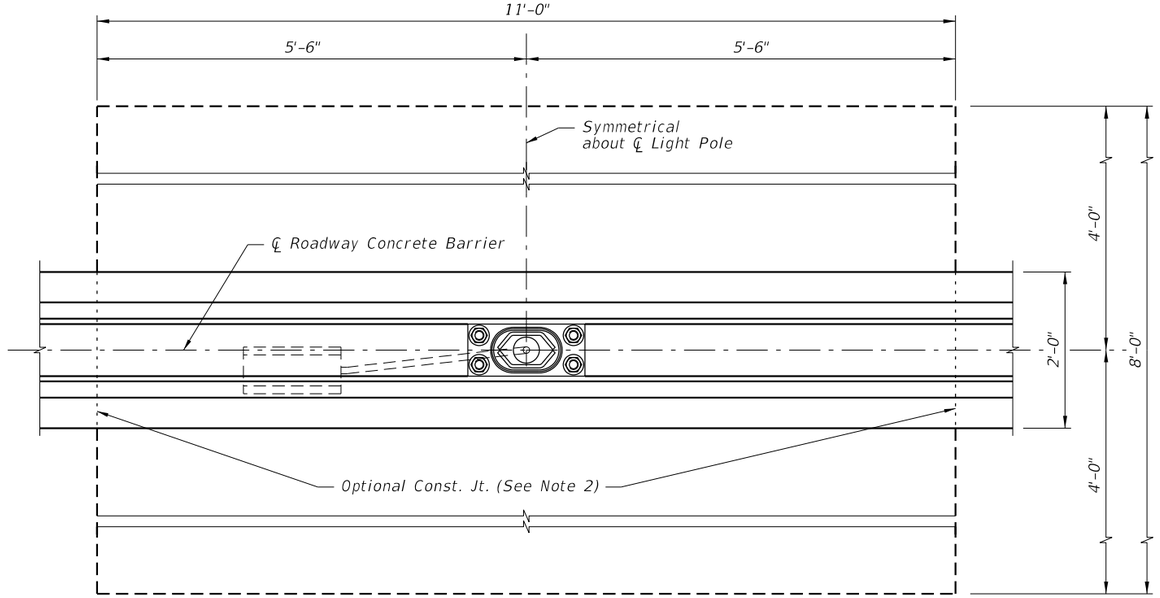


BEARING PLATE PLAN

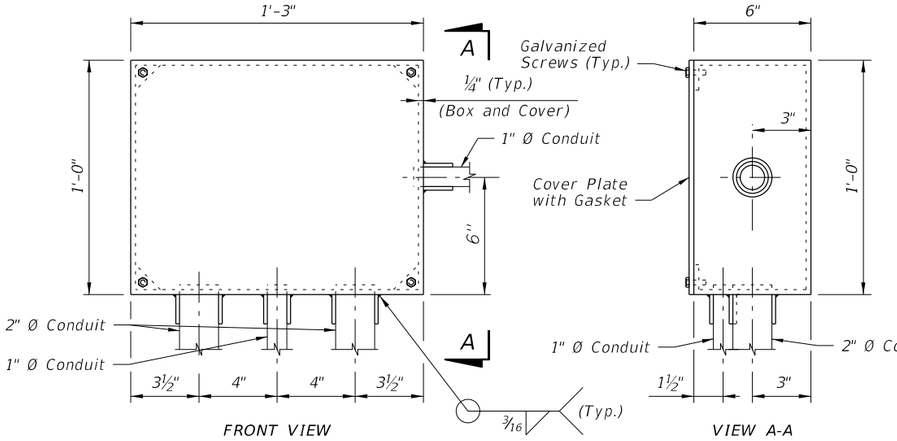
BASE PLATE DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

LAST REVISION	REVISION	DESCRIPTION:	FY 2020-21 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
04/03/18					715-002	5 of 8

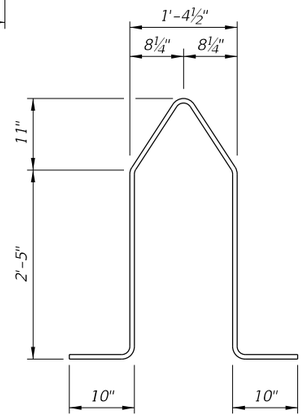
10/29/2019 8:24:57 AM



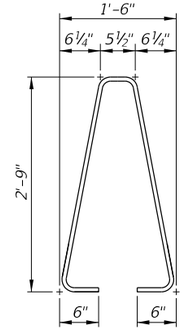
PLAN
(Reinforcing steel not shown)



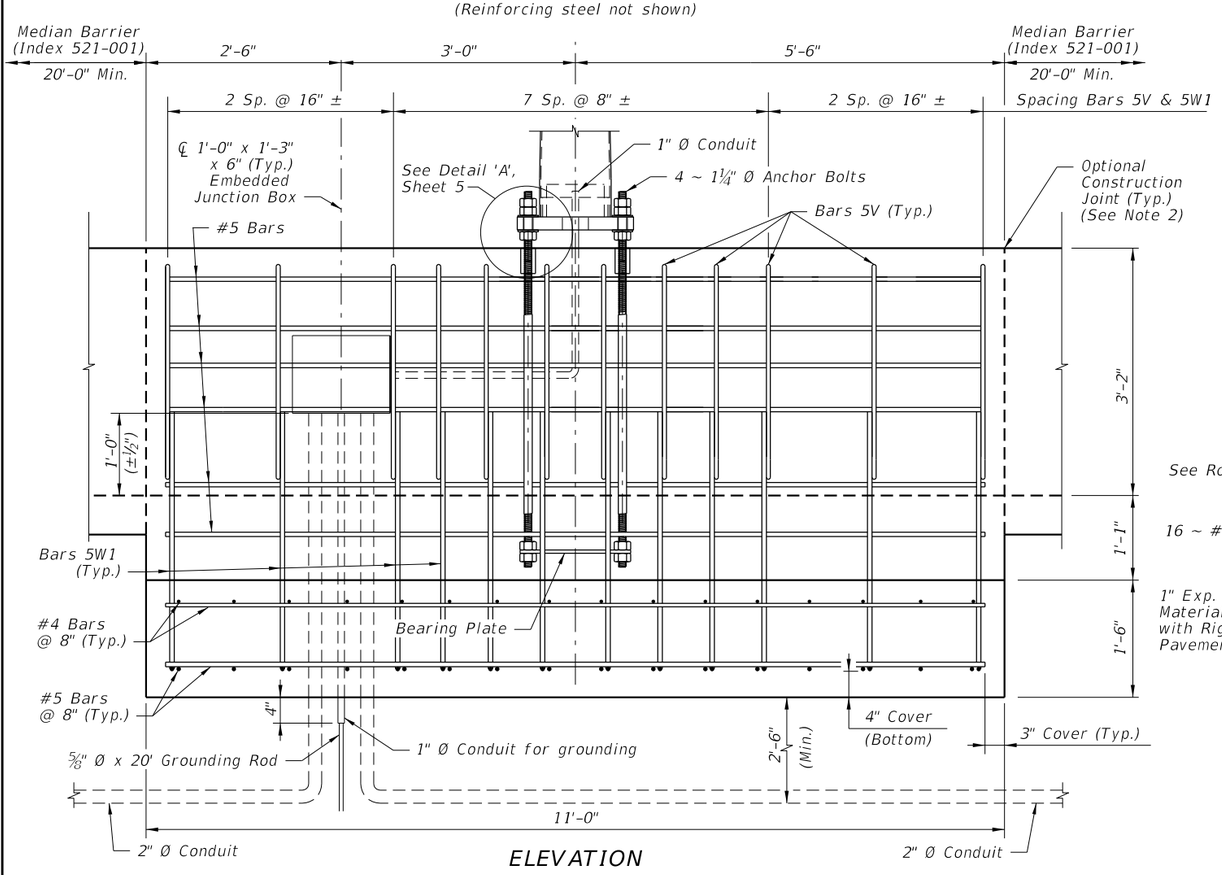
EMBEDDED JUNCTION BOX DETAILS



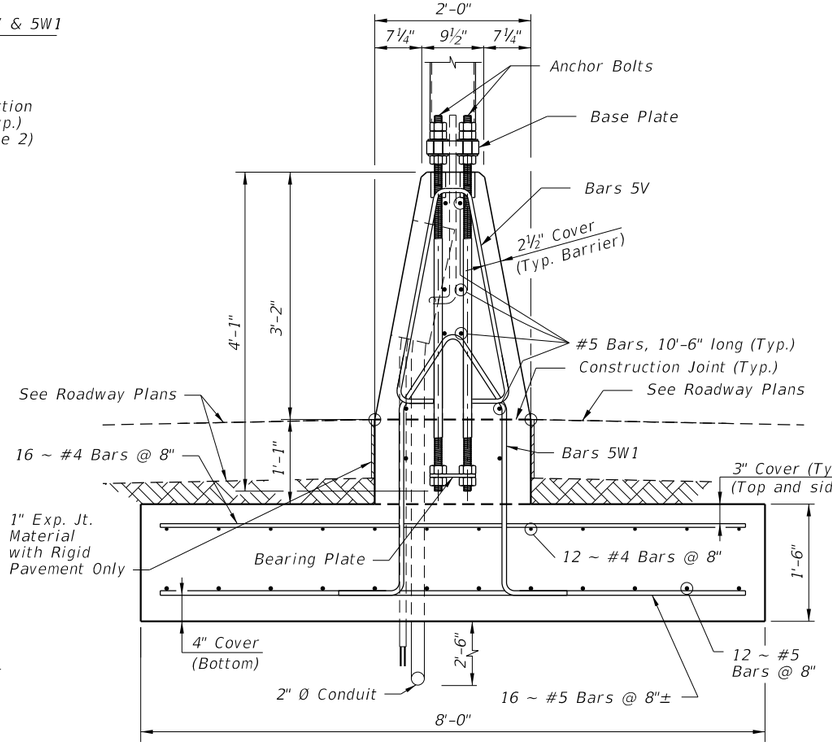
BAR 5W1



BAR 5V



ELEVATION



END VIEW

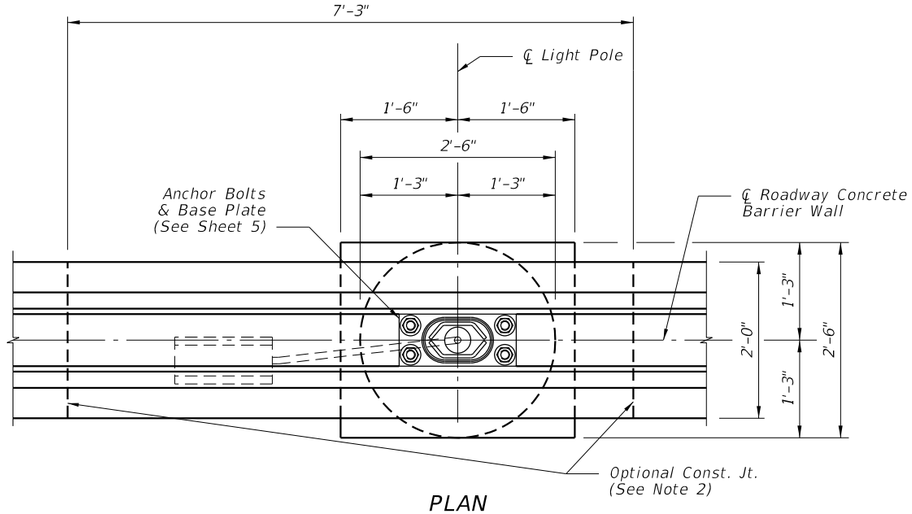
NOTES:

1. For Bearing Plate and Base Plate Details, see Sheet 5.
2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

SPREAD FOOTING DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

10/29/2019 8:24:58 AM

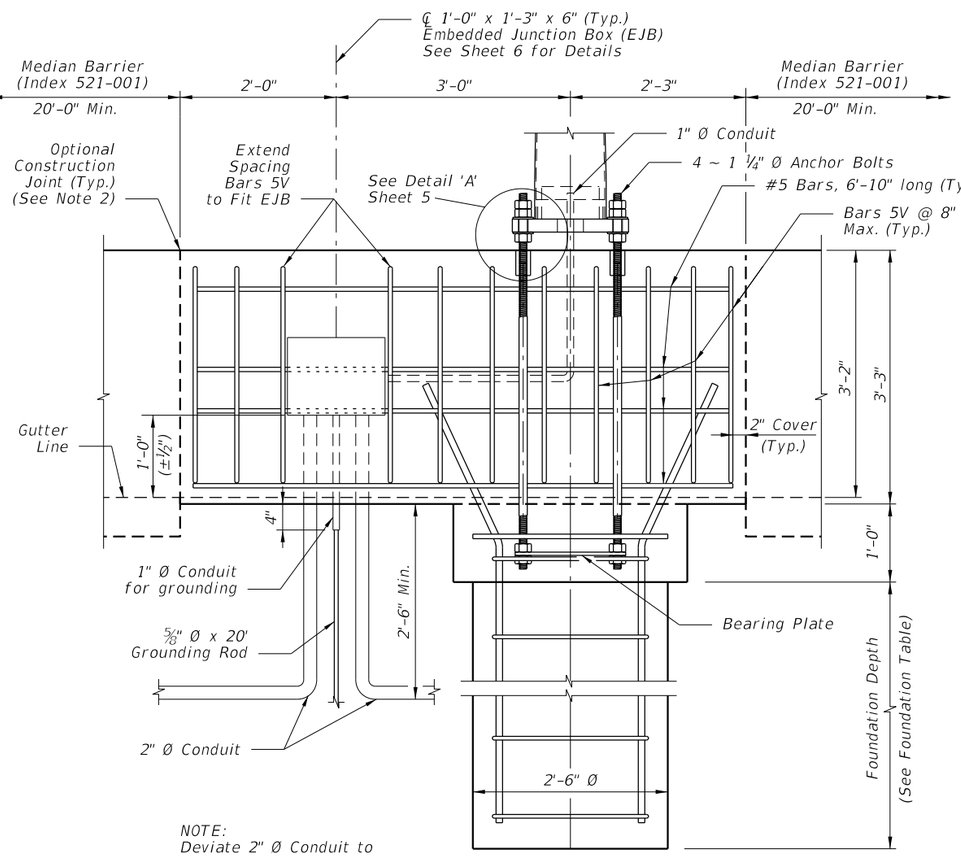
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX	SHEET
11/01/17						715-002	6 of 8



PLAN

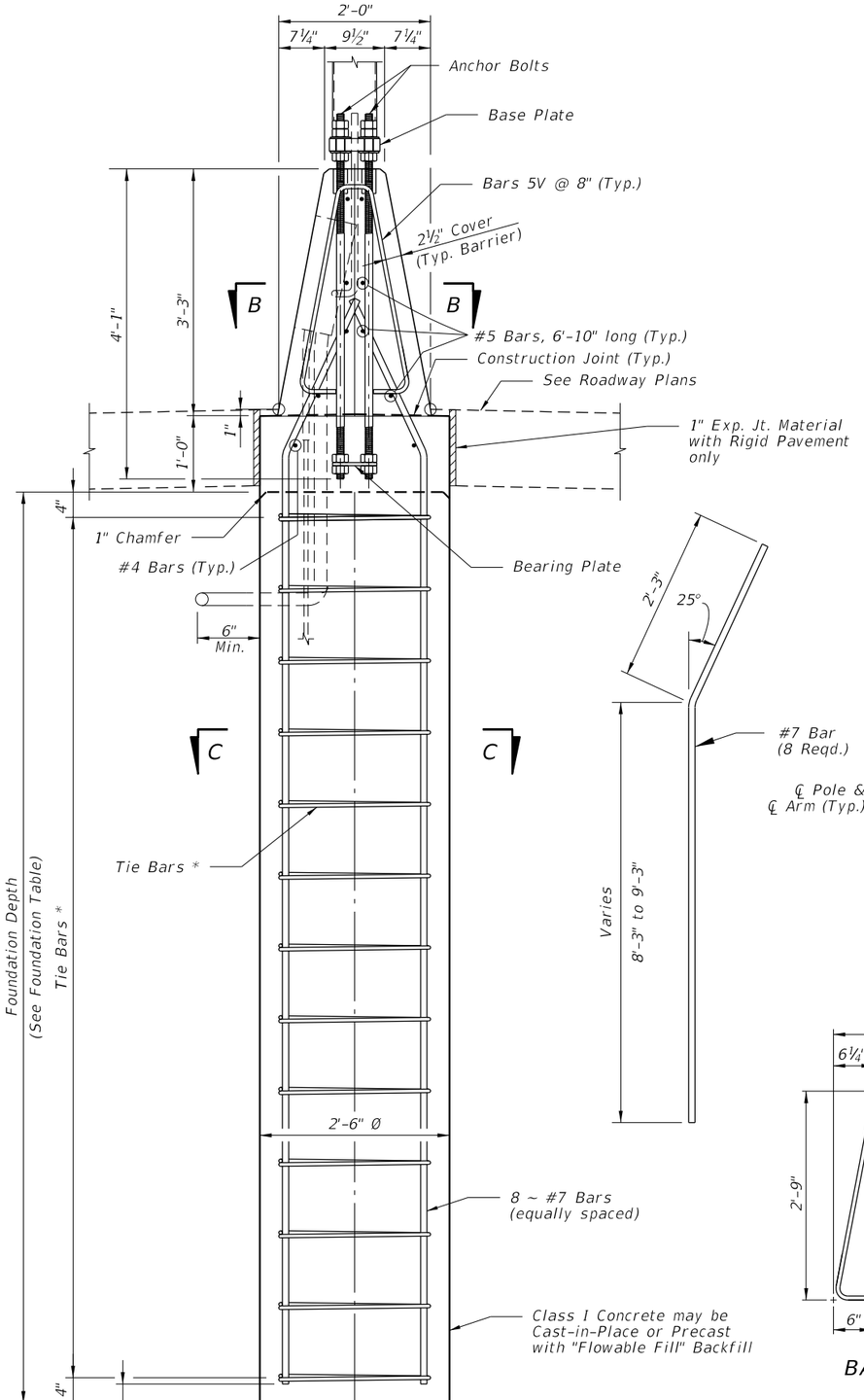
(Reinforcing steel not shown)

Provide dowel bars @ construction joint



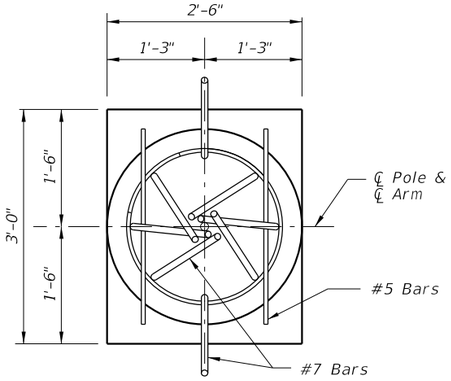
NOTE:
Deviate 2" Ø Conduit to avoid cylindrical foundation.

ELEVATION

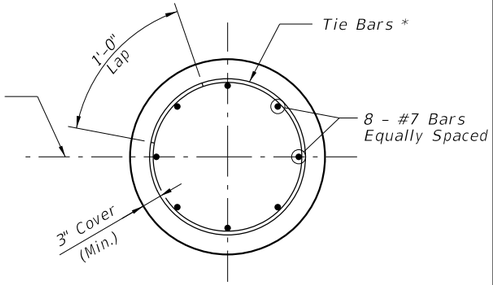


END VIEW

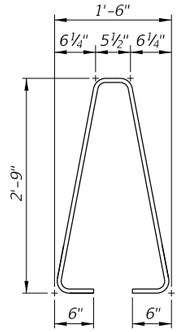
FOUNDATION TABLE		
WIND SPEED (MPH)	DESIGN MOUNTING HEIGHT (FT)	FOUNDATION DEPTH (FT)
120	40	8
140	40	9
160	40	9



VIEW B-B
(Anchor Bolts and Barrier Longitudinal Steel & Stirrups Not Shown)



SECTION C-C



BAR 5V

NOTES:

1. For Bearing Plate and Base Plate Details, see Sheet 5.
2. For connections to adjacent Median Barrier, use the Doweled Joint detail per Index 521-001. Alternatively, a continuous concrete pour or a construction joint may be substituted; these alternatives require the Median Barrier's longitudinal steel to lap a minimum of 2'-0" with the longitudinal steel shown herein.

* #4 Tie Bars @ 12" centers (max.) or D10 (or W10) spiral @ 6" pitch, 3 flat turns top and 1 flat turn bottom.

CYLINDRICAL FOUNDATION DETAILS FOR MEDIAN BARRIER MOUNTED ALUMINUM LIGHT POLE

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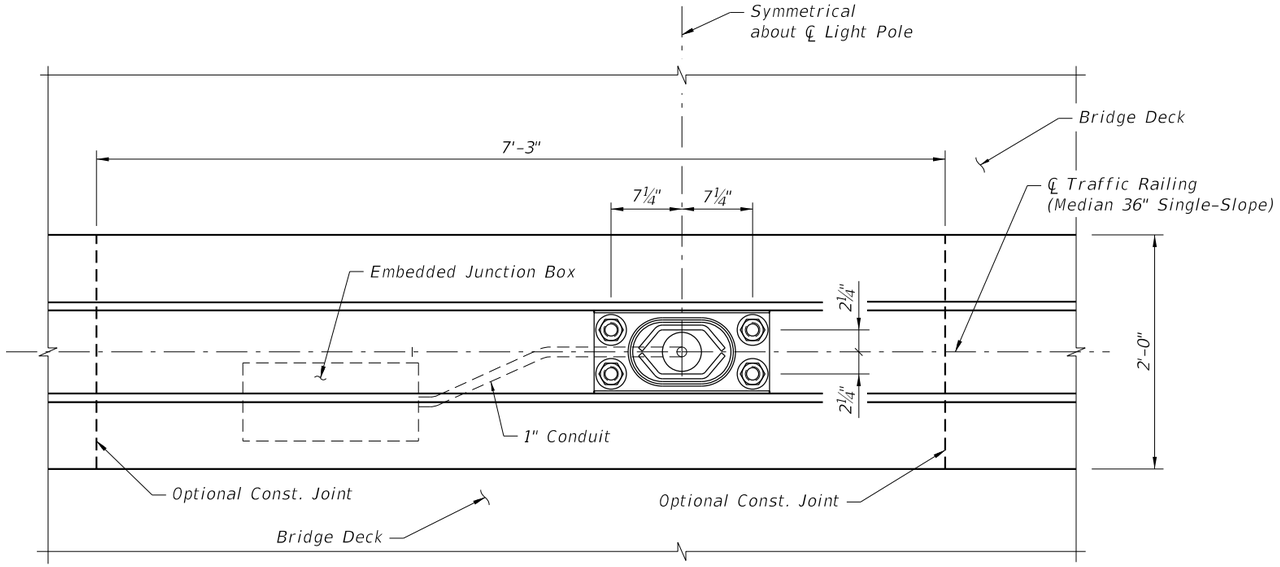
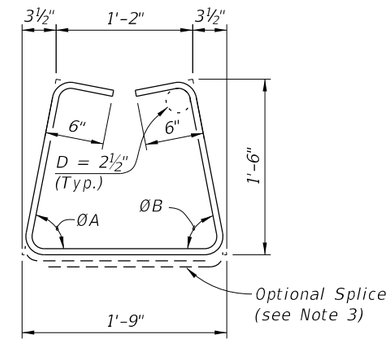
LAST REVISION	REVISION	DESCRIPTION:				
11/01/17			FDOT FY 2020-21 STANDARD PLANS	STANDARD ALUMINUM LIGHTING	INDEX 715-002	SHEET 7 of 8



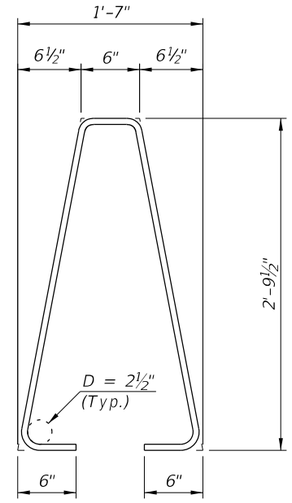
PLAN

(Reinforcing steel and 2" Ø Conduit not shown)

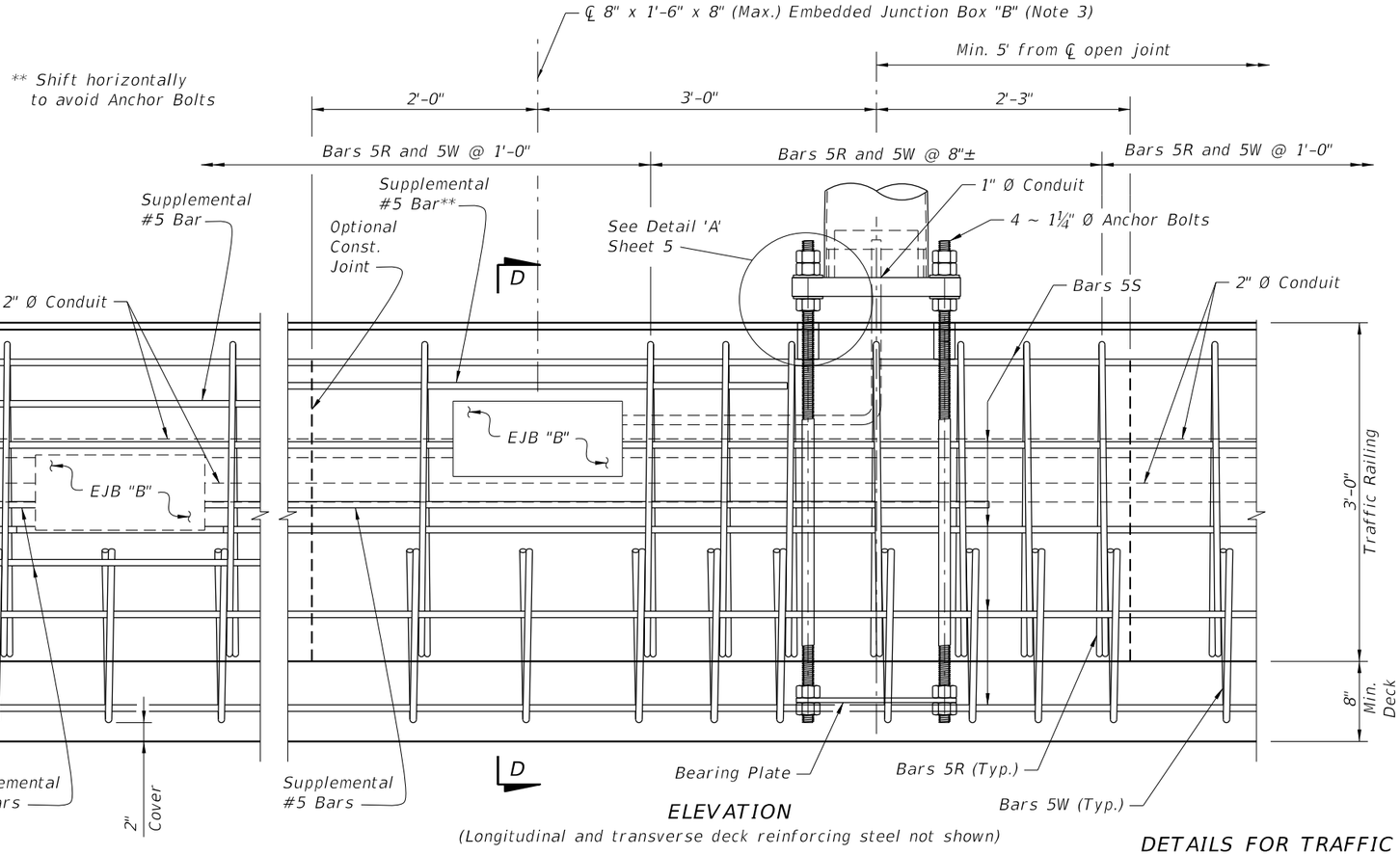
*At the Contractor's option, Bars 5W may be fabricated as a two piece bar with a 1'-2" lap splice at the bottom legs.



BAR 5W*

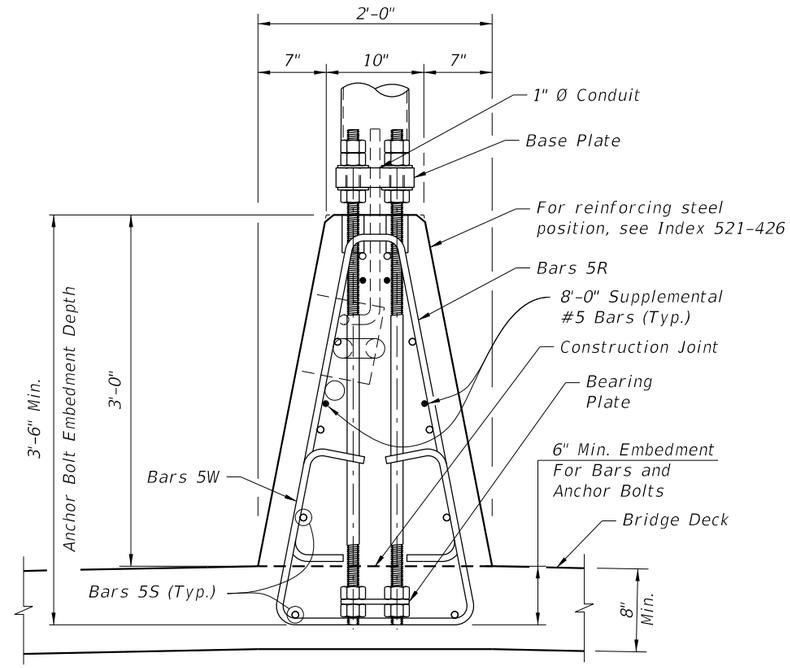


BAR 5R



ELEVATION

(Longitudinal and transverse deck reinforcing steel not shown)



SECTION D-D

(Longitudinal and transverse deck reinforcing steel not shown)

NOTES:

1. For Base Plate Details, Bearing Plate Details, and Detail 'A', see Sheet 5.
2. See Index 521-426 for details of adjacent Traffic Railing (Median 36" Single-Slope) and for angles ∅A and ∅B.
3. See Index 630-010 for Conduit, EJB and supplemental reinforcing details.

DETAILS FOR TRAFFIC RAILING (MEDIAN 36" SINGLE-SLOPE) MOUNTED ALUMINUM LIGHT POLE

HIGHMAST LIGHTING NOTES:

1. Poles are designed to support the following:
   A. One (1) cylindrical head assembly with a maximum effective projected area of 6 sf and 340 lbs (Max.)
   B. Eight (8) cylindrical luminaires with a maximum effective projected are of 1.5 sf and 77 lbs each.

2. Shop Drawings: This Index is considered fully detailed, only submit shop drawings for minor modifications not detailed in the Plans.

3. High Mast Structure Materials:
   A. Poles and Backing Rings:
      a. Less than 3/16": ASTM A1011 Grade 50, 55, 60 or 65
      b. Greater than or equal to 3/16": ASTM A572 Grade 50, 55, 60 or 65
      c. ASTM A595 Grade A (55 ksi yield) or Grade B (60 ksi yield)
   B. Steel Plates: ASTM A709 or ASTM A36
   C. Pole Caps: ASTM A1011 Grade 50, 55, 60, or 65 or ASTM B209
   D. Weld Metal: E70XX
   E. Stainless Steel Screws: AISI 316
   F. Anchor Bolts, Nuts and Washers:
      a. Anchor Bolts: ASTM F1554 Grade 55
      b. Nuts: ASTM A563 Grade A Heavy-Hex (5 per anchor bolt)
      c. Plate Washer: ASTM A36 (2 per anchor bolt)
   G. Nut Covers: ASTM B26 (319-F)
   H. Concrete: Class IV (Drilled Shaft)
   I. Reinforcing Steel: Specification 415

4. Fabrication:
   A. Welding:
      a. Specification Section 460-6.4 and
      b. AASHTO LRFD Specification for Structural Supports for Highway Signs, Luminaires, and Traffic Signals Section 14.4.4
   B. Poles:
      a. Round or 16-sided (Min.)
      b. Taper pole diameter at 0.14 inches per foot
      c. Pole shaft may be up to three sections (using telescopic field splices)
      d. Circumferentially welded pole shafts and laminated pole shafts are not permitted
      e. Fabricate Pole longitudinal seam welds (2 maximum) with 60 percent minimum penetration or fusion welds except as follows:
         i. Use a full-penetration groove weld within 6 inches of the circumferential tube-to-plate connection and
         ii. Use full-penetration groove welds on the female end section of telescopic (i.e., slip type) field splices for a minimum length of 42 inches.
   C. Identification Tag: (Submit details for approval)
      a. 2"x 4" (Max.) aluminum tag
      b. Locate on the inside of the pole and visible from the handhole
      c. Secure with 1/8" diameter stainless steel rivets or screws.
      d. Include the following information on the ID Tag:
         1. Financial Project ID
         2. Pole Type
         3. Pole Height
         4. Manufacturers' Name
         5. Yield Strength (Fy of Steel)
         6. Base Wall Thickness
   D. Except for Anchor Bolts, bolt hole diameters are bolt diameter plus 1/16" and anchor bolts holes are bolt diameter plus ½" (Max) prior to galvanizing.
   E. Hot Dip Galvanize after fabrication

5. Coating:
   A. Galvanize Anchor Bolts, Nuts and Washers: ASTM F2329
   B. Hot Dip Galvanize all other steel items including plate washers: ASTM A123

6. Construction:
   A. Foundation: Specification 455 Drilled Shaft, except that payment is included in the cost of the Structure.
   B. After Installation: Place wire screen between top of foundation and bottom of baseplate in accordance with Specification 649-6.

7. Wind Speed by County:

130 MPH
Alachua, Baker, Bradford, Calhoun, Clay, Columbia, Dixie, Duval, Gadsden, Gilchrist, Hamilton, Jackson, Jefferson, Lafayette, Leon, Liberty, Nassau, Madison, Putnam, Suwannee, Taylor, Union and Wakulla Counties.

150 MPH
Bay, Citrus, De Soto, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Holmes, Lake, Levy, Manatee, Marion, Okaloosa, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Santa Rosa, Seminole, St. Johns, Sumter, Volusia, Walton and Washington Counties.

170 MPH
Brevard, Broward, Charlotte, Collier, Escambia, Indian River, Lee, Martin, Miami-Dade, Monroe, Palm Beach, Sarasota and St. Lucie Counties.

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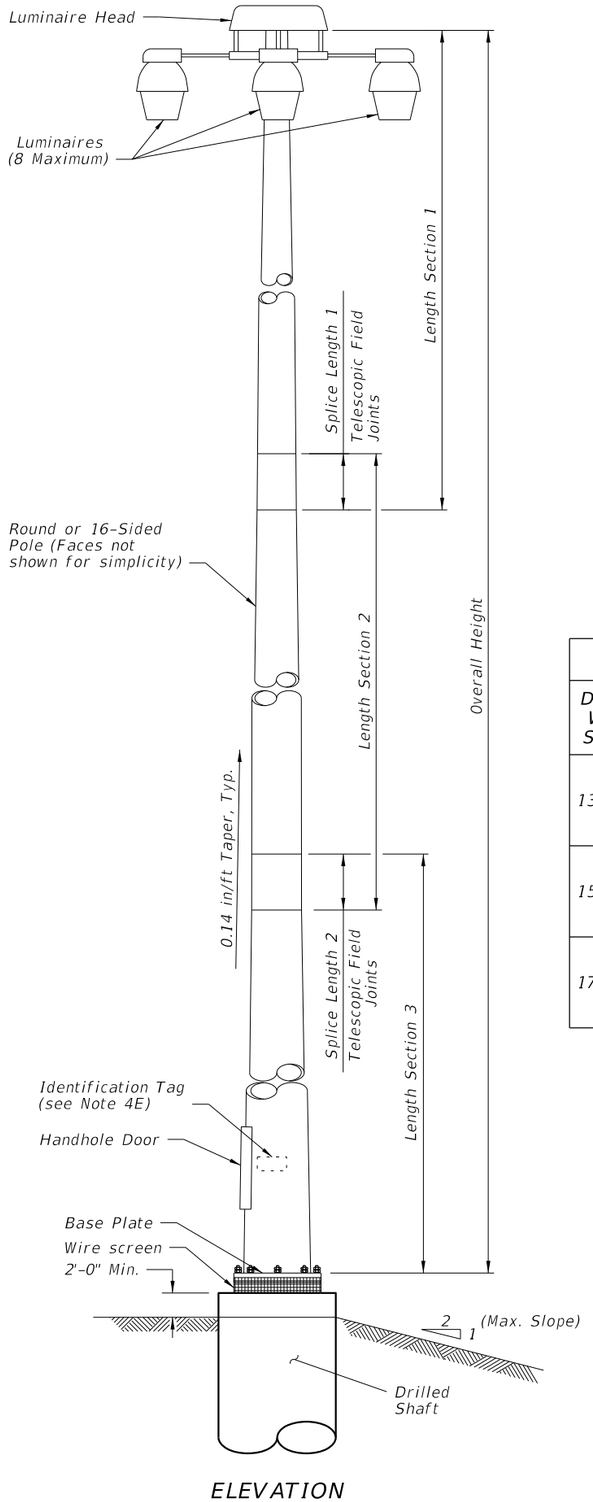
STANDARD POLE DESIGN NOTES

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/18			FY 2020-21 STANDARD PLANS	HIGH MAST LIGHTING	715-010	1 of 6



ELEVATION

POLE DESIGN TABLE*												
Design Wind Speed	Pole Overall Height (ft)	SECTION 1 (TOP)				SECTION 2				SECTION 3		
		Length	Wall Thickness (in.)	Minimum Splice Length 1	Base Dia. (in.)	Length	Wall Thickness (in.)	Minimum Splice Length 2	Base Dia. (in.)	Length	Wall Thickness (in.)	Base Dia. (in.)
130 mph	80	41'-0"	0.250	2'-0"	11	42'-0"	0.250	--	16	—	—	—
	100	23'-0"	0.179	2'-0"	10	41'-0"	0.250	2'-6"	15	43'-0"	0.250	20
	120	41'-0"	0.250	2'-0"	12	43'-0"	0.250	2'-9"	17	43'-0"	0.313	22
150 mph	80	41'-0"	0.250	2'-0"	11	42'-0"	0.313	--	16	—	—	—
	100	23'-0"	0.179	2'-0"	10	41'-0"	0.250	2'-6"	15	43'-0"	0.313	20
	120	41'-0"	0.250	2'-6"	16	43'-0"	0.250	3'-0"	21	44'-0"	0.375	26
170 mph	80	40'-0"	0.250	2'-3"	13	43'-0"	0.313	--	18	--	--	—
	100	23'-0"	0.250	2'-0"	11	42'-0"	0.313	2'-6"	16	44'-0"	0.375	21
	120	41'-0"	0.250	3'-0"	18	44'-0"	0.313	3'-6"	23	45'-0"	0.375	28

* Diameter Measured Flat to Flat

BASE PLATE AND BOLTS DESIGN TABLE							
Design Wind Speed	Pole Overall Height (ft)	Base Plate Diameter (in.)	Base Plate Thickness (in.)	Bolt Circle (in.)	No. Bolts	Bolt Diameter (in.)	Bolt Embedment (in.)
130 mph	80	30.0	3.000	23.0	8	1.75	38
	100	34.0	3.000	27.0	8	1.75	42
	120	38.0	3.875	30.0	8	2.00	48
150 mph	80	30.0	3.000	23.0	8	1.75	43
	100	36.0	3.875	28.0	8	2.00	47
	120	44.0	3.875	35.0	8	2.25	52
170 mph	80	32.0	3.000	25.0	8	1.75	47
	100	37.0	3.000	29.0	8	2.00	54
	120	46.0	3.875	37.0	10	2.25	58

SHAFT DESIGN TABLE				
Design Wind Speed	Pole Overall Height (ft)	Shaft Diameter	Shaft Length	Longitudinal Reinforcement
130 mph	80	4'-0"	13'-0"	14-#11
	100	4'-6"	14'-0"	16-#11
	120	4'-6"	16'-0"	16-#11
150 mph	80	4'-0"	14'-0"	14-#11
	100	4'-6"	16'-0"	16-#11
	120	5'-0"	18'-0"	18-#11
170 mph	80	4'-6"	15'-0"	16-#11
	100	4'-6"	17'-0"	16-#11
	120	5'-0"	20'-0"	18-#11

NOTE:
Shaft Design Table Shaft Length is based on level ground (flatter than 1:5). Increase the shaft depth in accordance with the Additional Shaft Depth Due to Ground Slope table for foundations with slopes 1:5 and steeper. Use the higher value for slope or diameter values that fall between those shown on the table.

ADDITIONAL SHAFT DEPTH DUE TO GROUND SLOPE		
Ground Slope	4'-0" Shaft Diameter	5'-0" Shaft Diameter
1:5	3'-0"	4'-0"
1:4	4'-0"	5'-0"
1:3	5'-0"	6'-0"
1:2	7'-0"	9'-0"

POLE DESIGN TABLES

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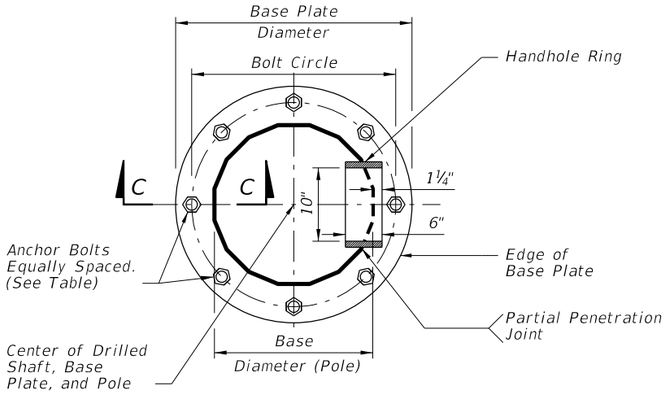
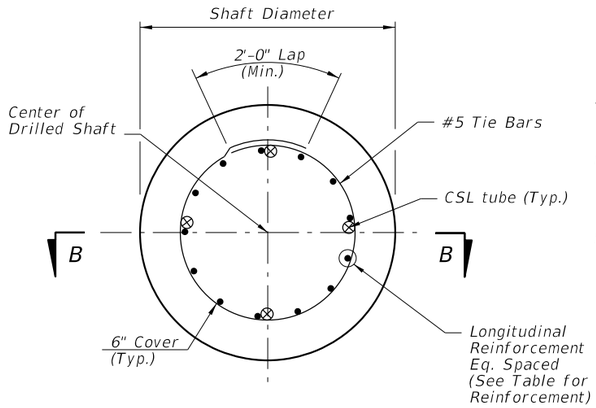
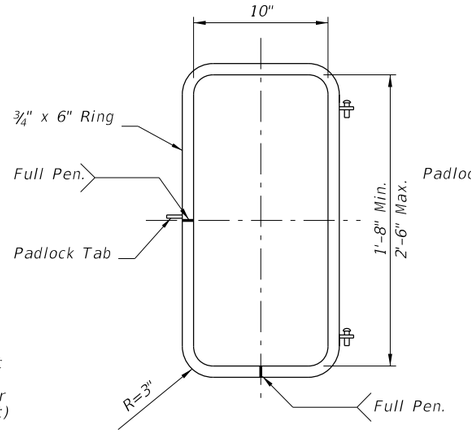


SECTION A-A

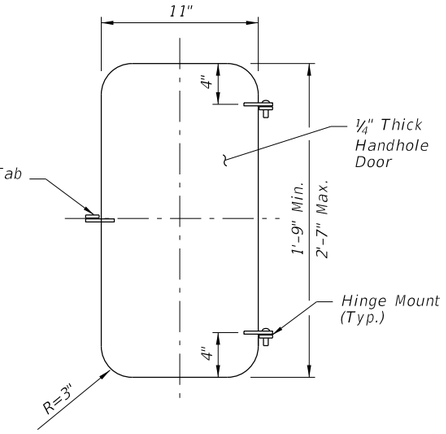


FOUNDATION PLAN

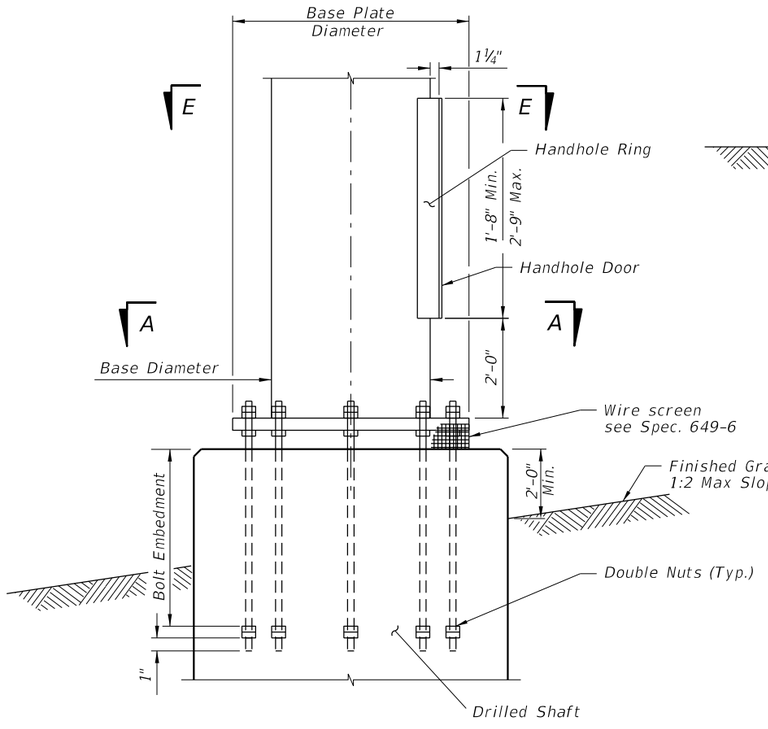
(Anchor Bolts and Conduits Not Shown)



HANDHOLE RING

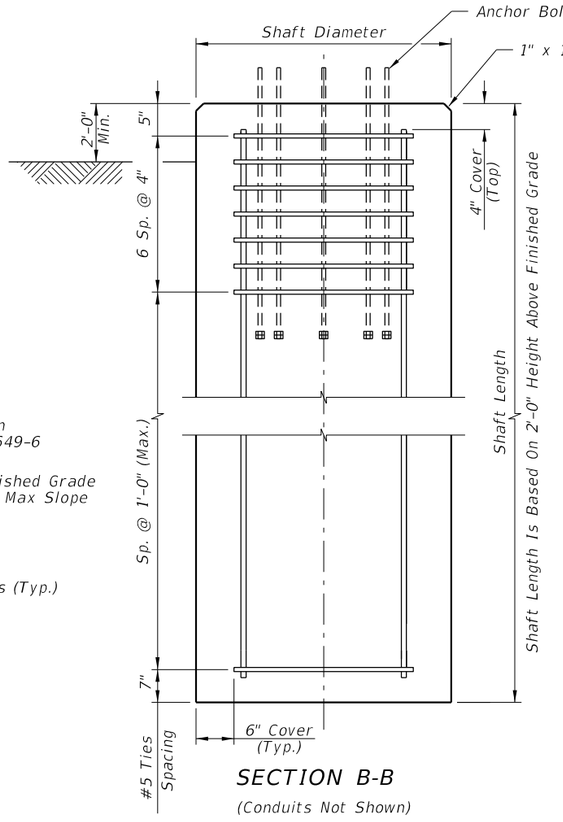


HANDHOLE DOOR



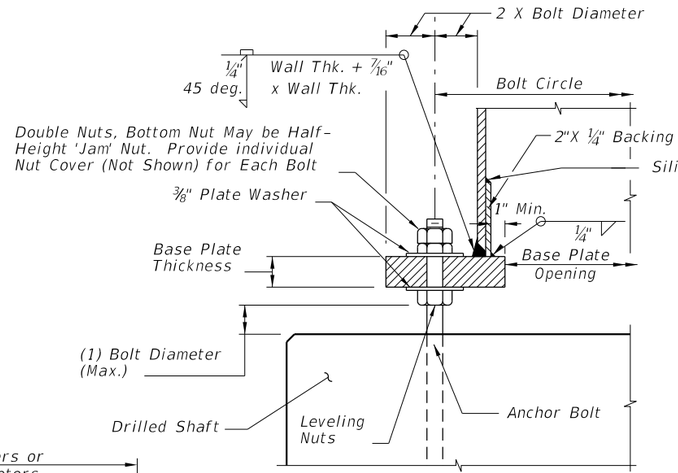
BASE PLATE AND ANCHORAGE ELEVATION

(Conduits Not Shown)

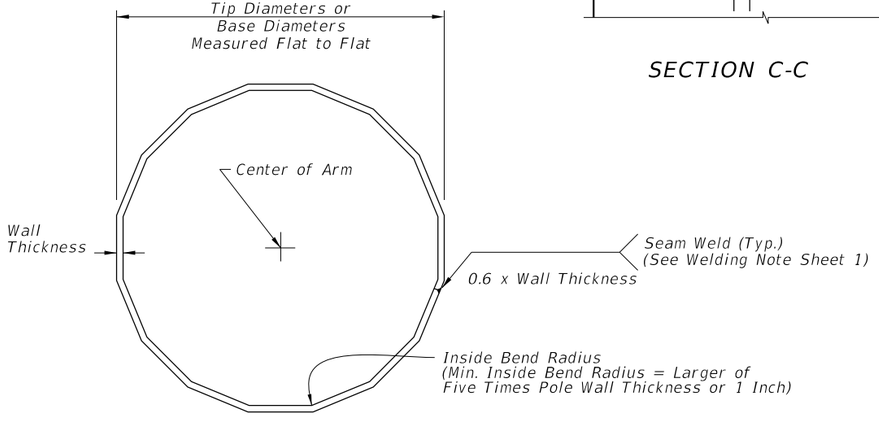


SECTION B-B

(Conduits Not Shown)



SECTION C-C

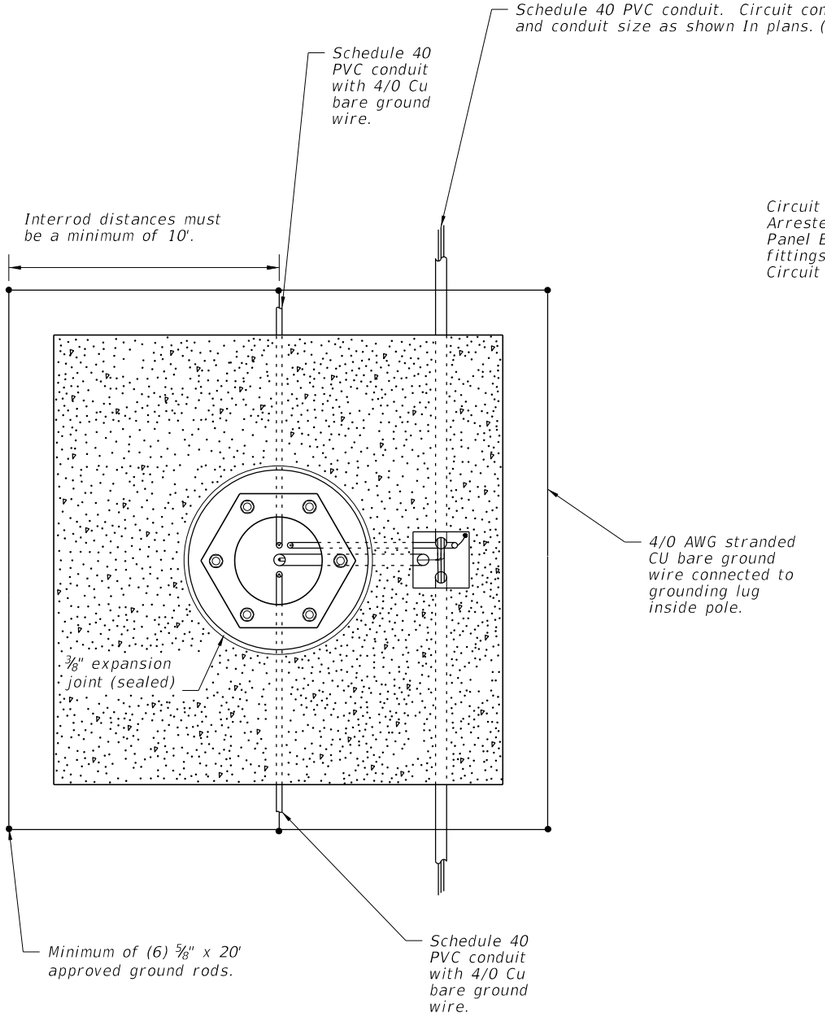


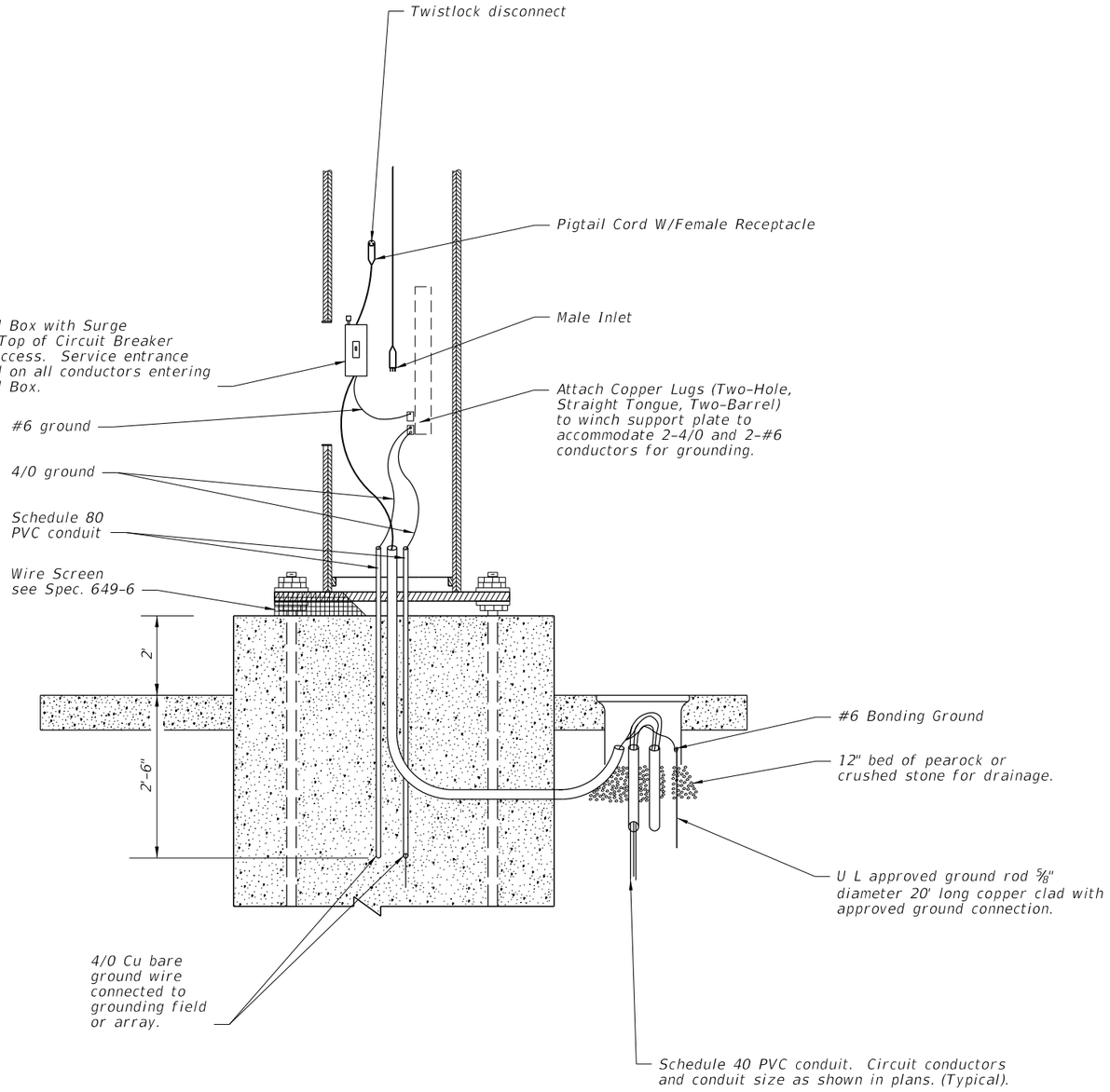
SECTION E-E

POLE FOUNDATION

LAST REVISION	REVISION	DESCRIPTION:			INDEX	SHEET
11/01/19			FDOT FY 2020-21 STANDARD PLANS	HIGH MAST LIGHTING	715-010	3 of 6

10/29/2019 8:25:07 AM





NOTES:

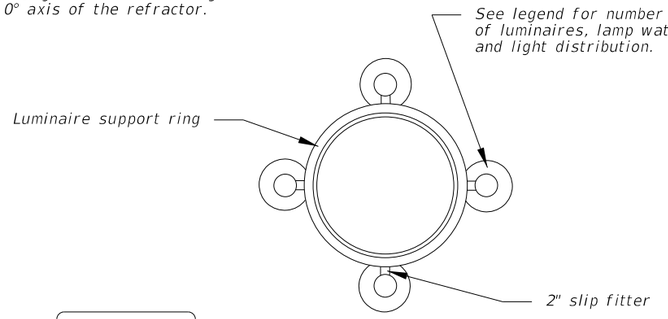
1. At all pull boxes and pole bases, ends of conduit shall be sealed in accordance with Specification 630.
2. Slabs to be placed around all Poles and Pull Boxes.
3. For Pull Boxes between Poles refer to Index 715-001.

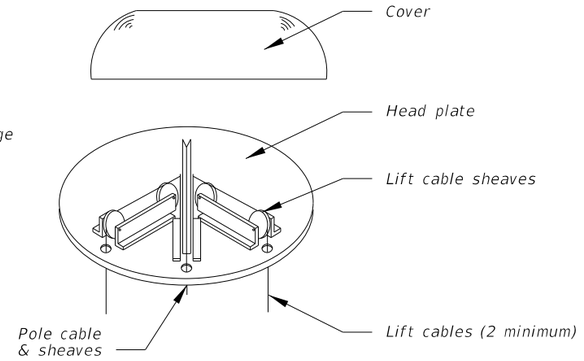
WIRING DETAILS

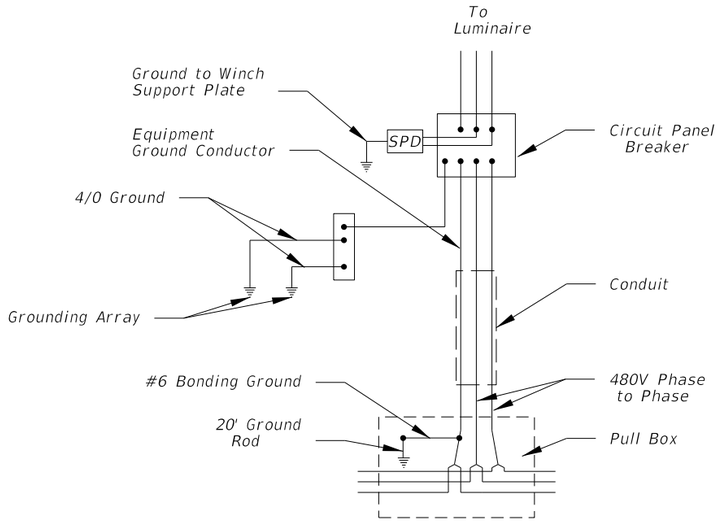
LAST REVISION	REVISION	DESCRIPTION:	FDOT	FY 2020-21 STANDARD PLANS	HIGH MAST LIGHTING	INDEX	SHEET
11/01/17						715-010	4 of 6

10/29/2019 8:25:08 AM

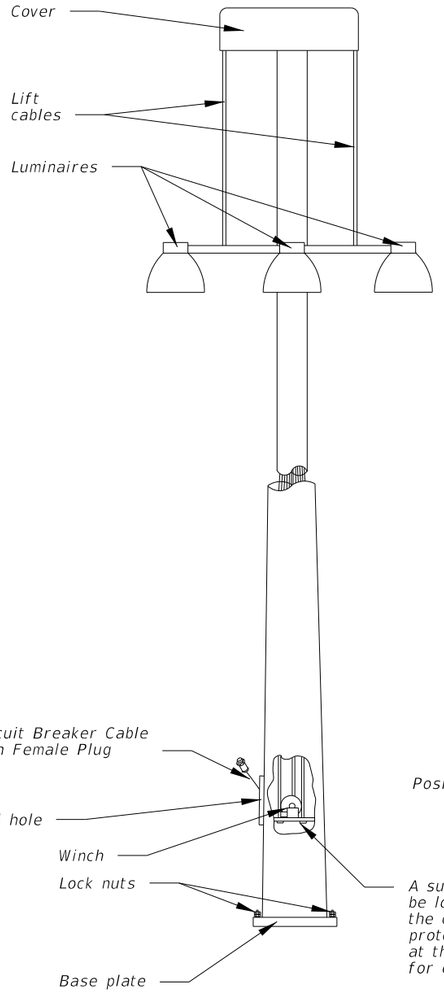
The contractor's attention is directed to those plan sheets detailing the mounting of luminaires at the pole top. Particular attention is directed to alignment of luminaire light distributions. Special attention must be exercised in the physical alignment of these luminaires to ensure that the approved photometric layout is physically produced at each lighting standard in the field. A marking shall be placed on the external face of the refractor to allow visual inspection of alignment. The marking shall correspond to the 0° axis of the refractor.

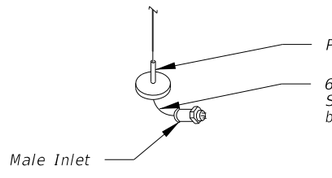


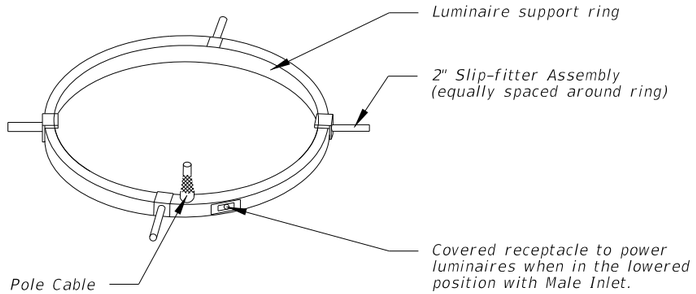


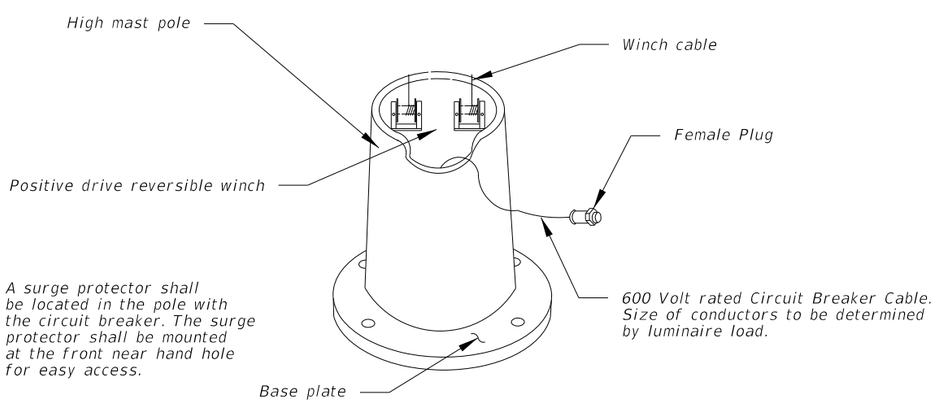


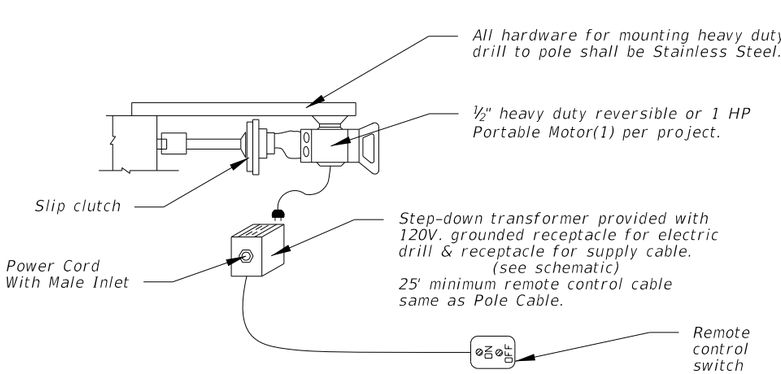
HIGH MAST POLE WIRING DIAGRAM

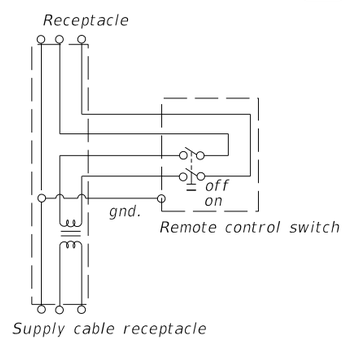












SCHEMATIC OF REMOTE AUXILIARY POWER UNIT

LOWERING DETAILS

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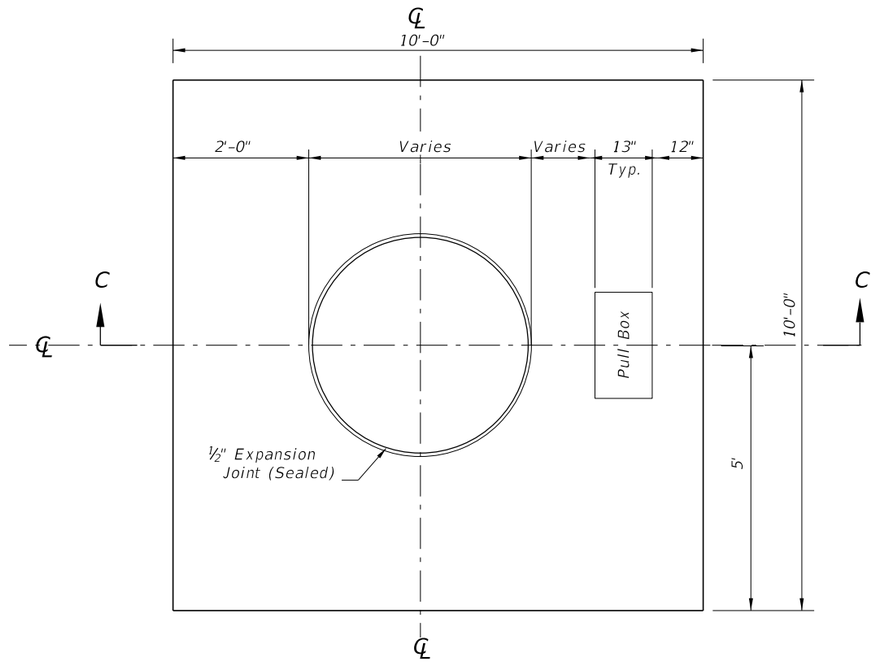
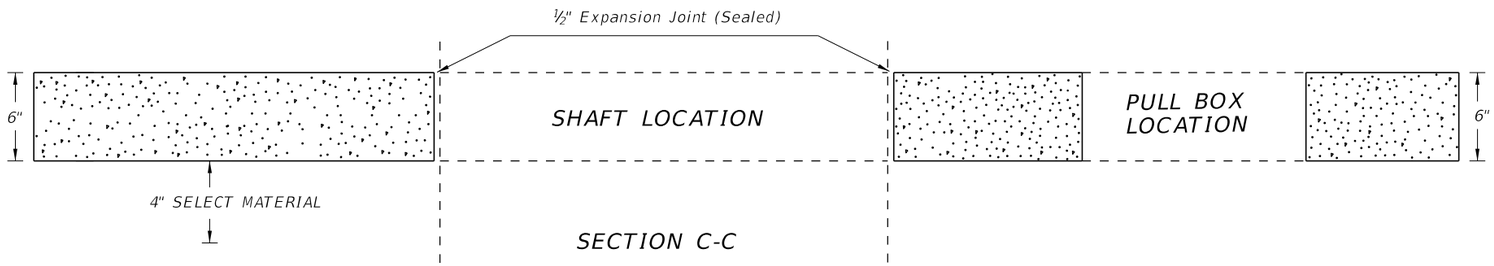
NOTES:

1. Use compacted select material in accordance with Index 120-001.
2. Concrete shall be Class NS with a minimum strength at 28 days of f'c=2.5 ksi.
3. Outside edge of slab shall be cast against formwork.
4. The pull box shown is 13" x 24"; others approved under Specification 635 may be used.
5. Slabs to be placed around all Poles and Pull Boxes. In urban areas or where space is limited slab dimensions may be adjusted as shown in the plans.
6. Concrete for slabs around poles and pull boxes shall be included in the price of pole or pull box.
7. The expansion joint shall consist of ½" of closed-cell polyethylene foam expansion material. The top ½" of expansion material shall be removed after pouring the slab and sealed with an APL approved Type A sealant meeting the requirements of Specification 932.



SLAB DIMENSIONS



SLAB DETAILS

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CROSSING SURFACES	
Type	Definition
C	Concrete
R	Rubber
RA	Rubber/Asphalt
TA	Timber/Asphalt

STOP ZONE FOR RUBBER CROSSING	
Design Speed (mph)	Zone Length (Distance From Stop)
45 Or Less	250'
50 – 55	350'
60 – 65	500'
70	600'

Notes:

1. Type R Crossings are NOT to be used for multiple track crossings within zones for an existing or scheduled future vehicular stop. Zone lengths are charted above.

2. Single track Type R Crossings within the zones on the chart may be used unless engineering or safety considerations dictate otherwise.

GENERAL NOTES

1. The Railroad Company will furnish and install all track bed (ballast), crossties, rails, crossing surface panels and accessory components. All pavement material, including that through the crossing, will be furnished and installed by the Department or its Contractor, unless negotiated otherwise.

2. When a railroad grade crossing is located within the limits of a highway construction project, a transition pavement will be maintained at the approaches of the crossing to reduce vehicular impacts to the crossing. The transition pavement will be maintained as appropriate to protect the crossing from low clearance vehicles and vehicular impacts until the construction project is completed and the final highway surface is constructed.

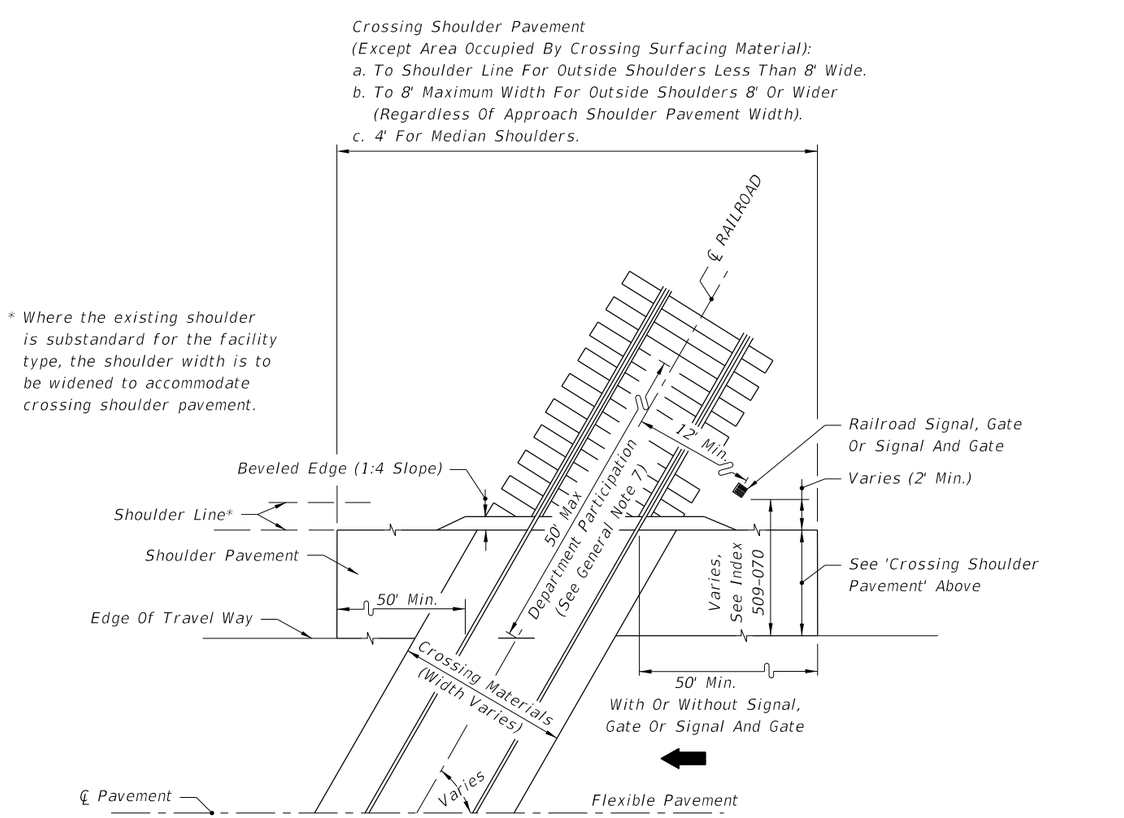
3. The Central Rail Office will maintain a list of currently used Railroad Crossing Products and will periodically distribute the current list to the District Offices as the list is updated.

4. The Railroad Company shall submit engineering drawings for the proposed crossing surface type to the Construction Project Engineer and/or the District Rail Office for concurrence along with the List of Railroad Crossing Products. The approved engineering drawings of the crossing surface type shall be made a part of the installation agreement.

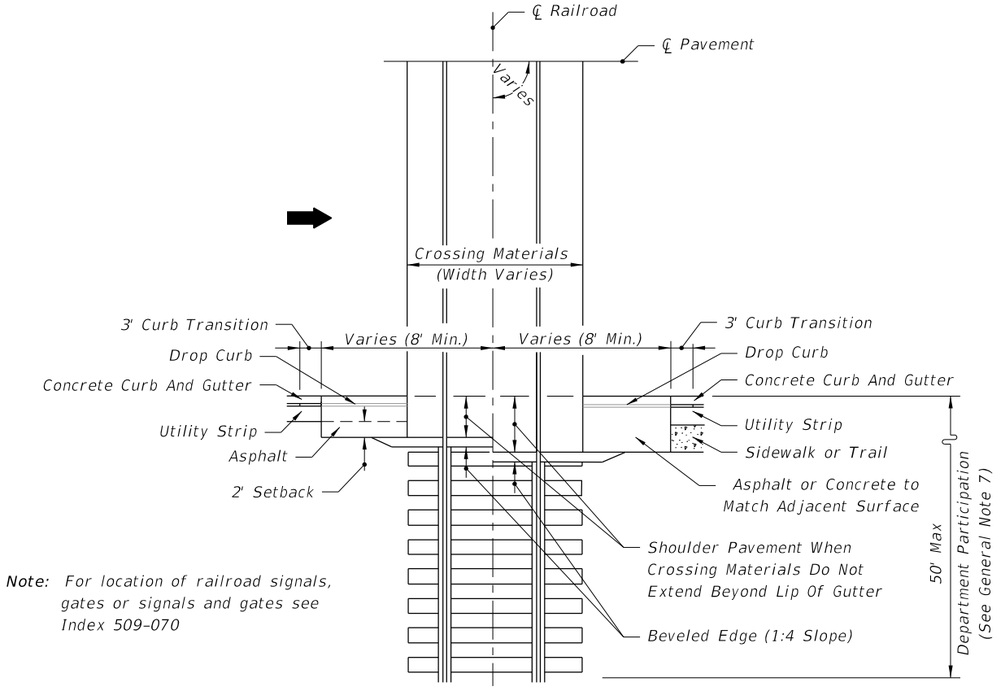
5. Sidewalks shall be constructed through the crossing between approach sidewalks of the crossing. Sidewalks shall be constructed with appropriate material to allow unobstructed travel through the crossing in accordance with ADA requirements.

6. Install pavement in accordance with the Specifications.

7. The Department will participate in crossing work, that requires adjustments to rail outside of the crossing, no more than 50 feet from the edge of the travel way.

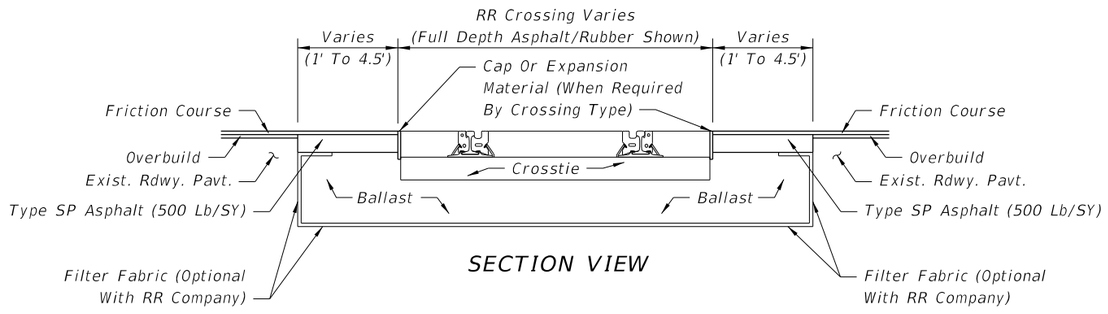


HALF PLAN
ROADWAYS WITH FLUSH SHOULDERS



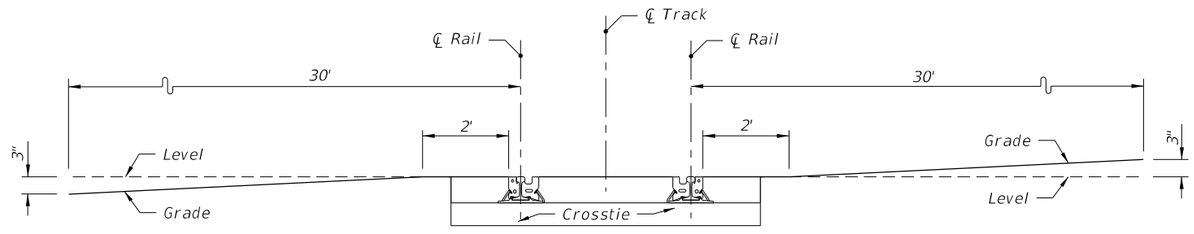
Note: For location of railroad signals, gates or signals and gates see Index 509-070

HALF PLAN
CURBED ROADWAYS



SECTION VIEW

TYPICAL CROSSING MATERIAL REPLACEMENT AT RR CROSSINGS



To prevent low-clearance vehicles from becoming caught on the tracks, the crossing surface should be at the same plane as the top of the rails for a distance of 2 feet outside the rails. The surface of the highway should also not be more than 3 inches higher or lower than the top of the nearest rail at a point 30 feet from the rail unless track superelevation makes a different level appropriate. Vertical curves should be used to traverse from the highway grade to a level plane at the elevation of the rails. Rails that are superelevated, or a roadway approach section that is not level, will necessitate a site specific analysis for rail clearances.

VERTICAL ROADWAY ALIGNMENT THROUGH A RAILROAD CROSSING

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