

# TRAFFIC

# OPERATIONS

# STANDARDS



JANUARY 1978

TRAFFIC OPERATIONS  
STANDARD INDEXES  
FLORIDA DEPARTMENT OF TRANSPORTATION

INDEX NO. DESCRIPTION

LIGHTING

- \* 12200 Light Pole Pilaster Details (2 Sheets)
  - \* 17341-A External Lighting For Signs
- LIGHTING SUPPORT FOR OVERHEAD SIGN STRUCTURES

SIGNING & MARKINGS

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- \* 9535 Standard Roadside Sign Break-Away Panel Detail - Aluminum (Sheet 1 of 4)
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- \* 9535 Standard Roadside Sign Break-Away Panel Detail - Steel (Sheet 3 of 4)
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- \* 17302-A Typical Sections For Single Column Sign Placement
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- \* 17350-A Signing For Motorist Services
- 17351 Typical Welcome Center Signing (2 Sheets)
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- \* 17353 Object Markings For Impact Attenuators (4 Sheets)
- \* 17355 Special Sign Details
- 17356 SPAN WIRE MOUNTING DETAILS

INDEX NO. DESCRIPTION

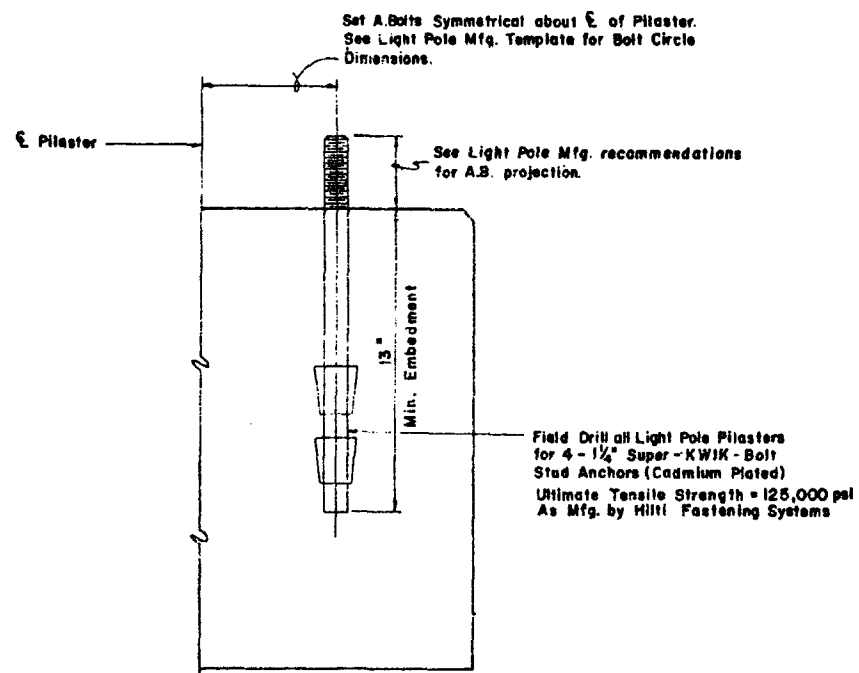
- \* 9821 Prestressed Concrete Poles
- O 17710 Signalization Bid Item Numbers (3 sheets)
- 17721 Conduit Installation Detail (2 Sheets)
- \* 17727 Span Wire Assemblies signal cable and span wire installation
- X 17730 Pull Box Installation Details
- X 17736 Electric Power Service
- 17841 Controller Cabinet Mounting Cabined Installation Details
- \* 17881 Advance Warning For R/R Crossing (2 Sheets)
- \* 17882 Railroad Grade Crossing Traffic Control Devices (2 Sheets)
- \* 17890 ~~Drawbridge Signs (3 Sheets)~~  
Traffic Control Devices For Movable Span Bridges

PAKWA  
A.O.P.

- O 17733 Aerial Interconnect
- O 17764 Pedestrian Control Signals Installation Details
- O 17784 Pedestrian Detector Assembly Installation Details
- O 17730A Pull Box Installation Details
- O 17736A Electric Power Service

\* REVISED  
O NEW  
X DELETED

P.O. NO.	DATE	PROJECT NO.	SCALE	SHEET NO.
3	FLA.			



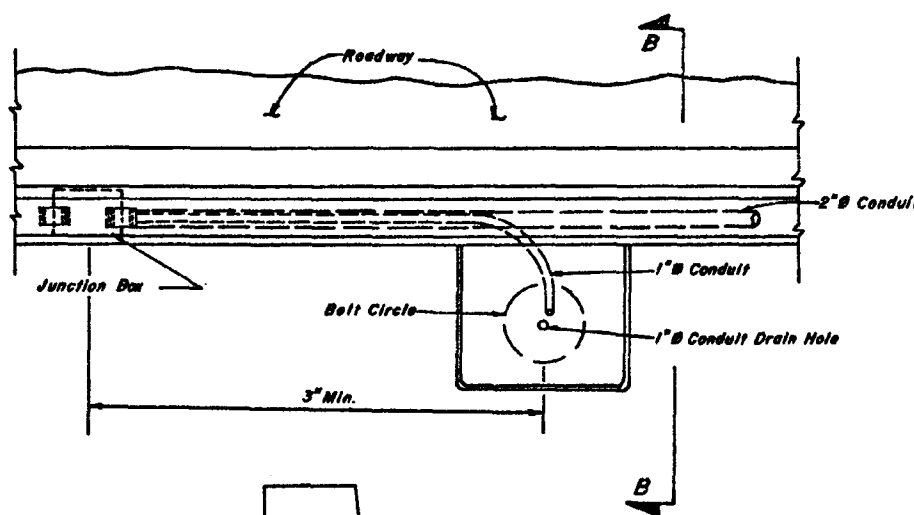
**LIGHT POLE PILASTER**

Showing Post Installation of Anchor Bolts

Field Drill all Light Pole Pilasters for 4 - 1/2" Super-Kwik-Bolt Stud Anchors (Cadmium Plated) Ultimate Tensile Strength = 125,000 psi As Mfg. by Hill Fastening Systems

**NOTES**

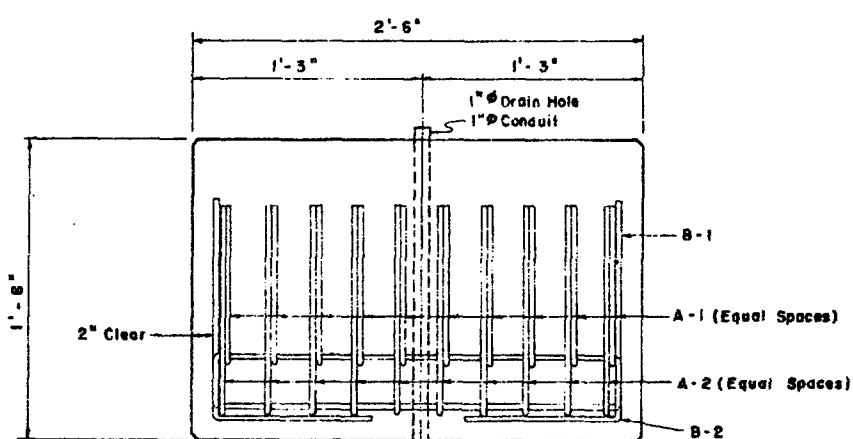
1. Material requirements for Concrete and Reinforcing Steel for Pilaster shall meet the same requirements as that for the Bridge Superstructure.
2. Bars A1 & A2 shall be spaced with proper clearance and shall be tied to the main superstructure steel prior to placing the concrete.
3. Top of Pilaster shall be finished Level.
4. For Details not Shown, See Sheet 2 of 2, Index No. 12200.



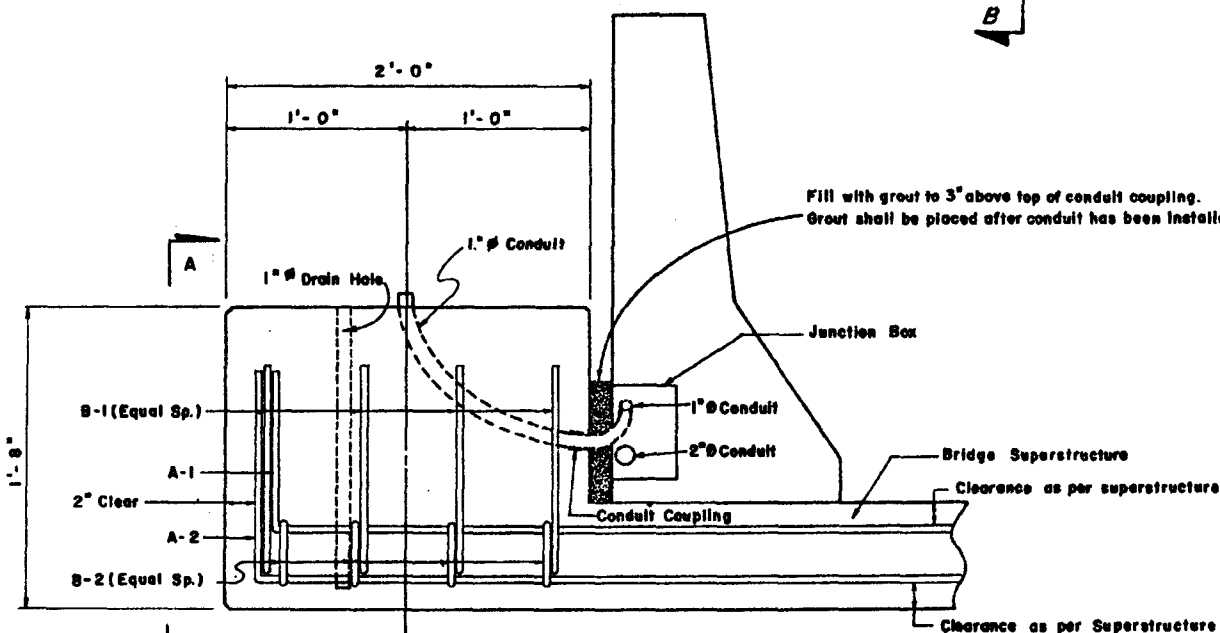
BILL OF REINFORCING STEEL *				
MARK	SIZE	NO. REQ'D	LENGTH	BENDING
A1	#6	10	6'-0"	See Diagram
A2	#6	10	6'-4"	" "
B1	#6	4	4'-10"	" "
B2	#5	4	4'-9"	" "

\* Quantities and Bill of Reinforcing Steel are for one Pilaster

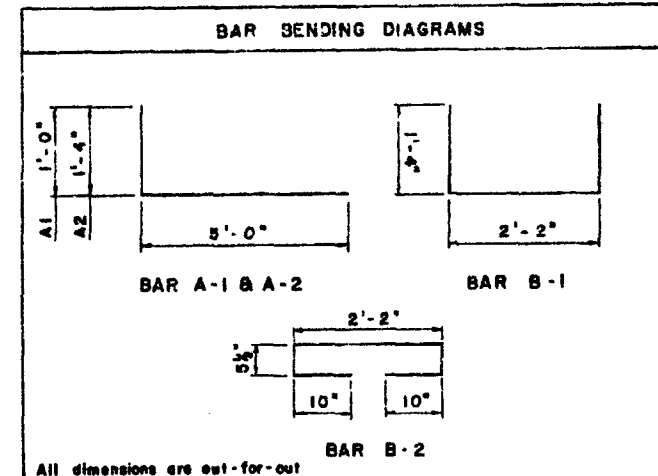
ESTIMATED QUANTITIES *		
ITEM	UNIT	QUANTITIES
Class II Concrete	Cu. Yd.	.31
Reinforcing Steel	Lbs.	211



VIEW A-A



SECTION B-B

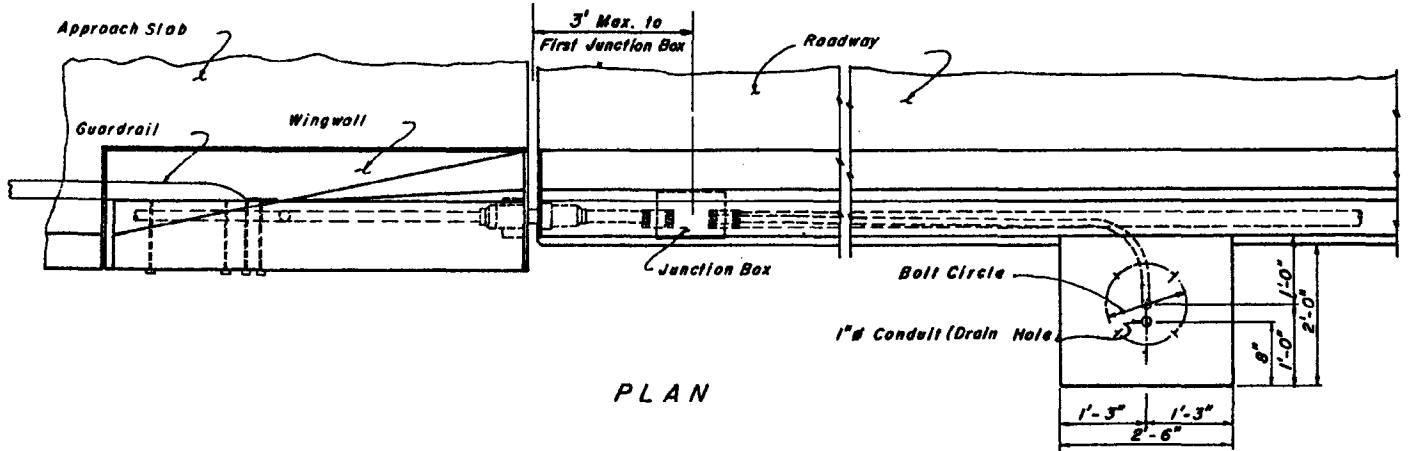


All dimensions are out-for-out

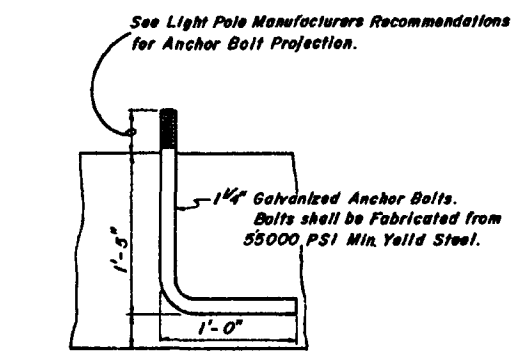
**LIGHT POLE PILASTER**  
Showing Dimensions & Reinforcing Steel

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
STRUCTURES  
**LIGHT POLE PILASTER DETAILS**

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.																				
Date	Description																							
		<table border="1"> <tr> <th>Name</th> <th>Date</th> </tr> <tr> <td>Designed by B. B.</td> <td>3-77</td> </tr> <tr> <td>Checked by CWB</td> <td>3-77</td> </tr> <tr> <td>Quantity by B. B.</td> <td>3-77</td> </tr> <tr> <td>Checked by CWB</td> <td>3-77</td> </tr> <tr> <td>Supervised by A. J. H.</td> <td></td> </tr> </table>		Name	Date	Designed by B. B.	3-77	Checked by CWB	3-77	Quantity by B. B.	3-77	Checked by CWB	3-77	Supervised by A. J. H.		<table border="1"> <tr> <th colspan="2">APPROVED BY</th> </tr> <tr> <td colspan="2">[Signature]</td> </tr> <tr> <td>Drawing No.</td> <td>Index No.</td> </tr> <tr> <td>1 of 2</td> <td>12200</td> </tr> </table>	APPROVED BY		[Signature]		Drawing No.	Index No.	1 of 2	12200
Name	Date																							
Designed by B. B.	3-77																							
Checked by CWB	3-77																							
Quantity by B. B.	3-77																							
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APPROVED BY																								
[Signature]																								
Drawing No.	Index No.																							
1 of 2	12200																							

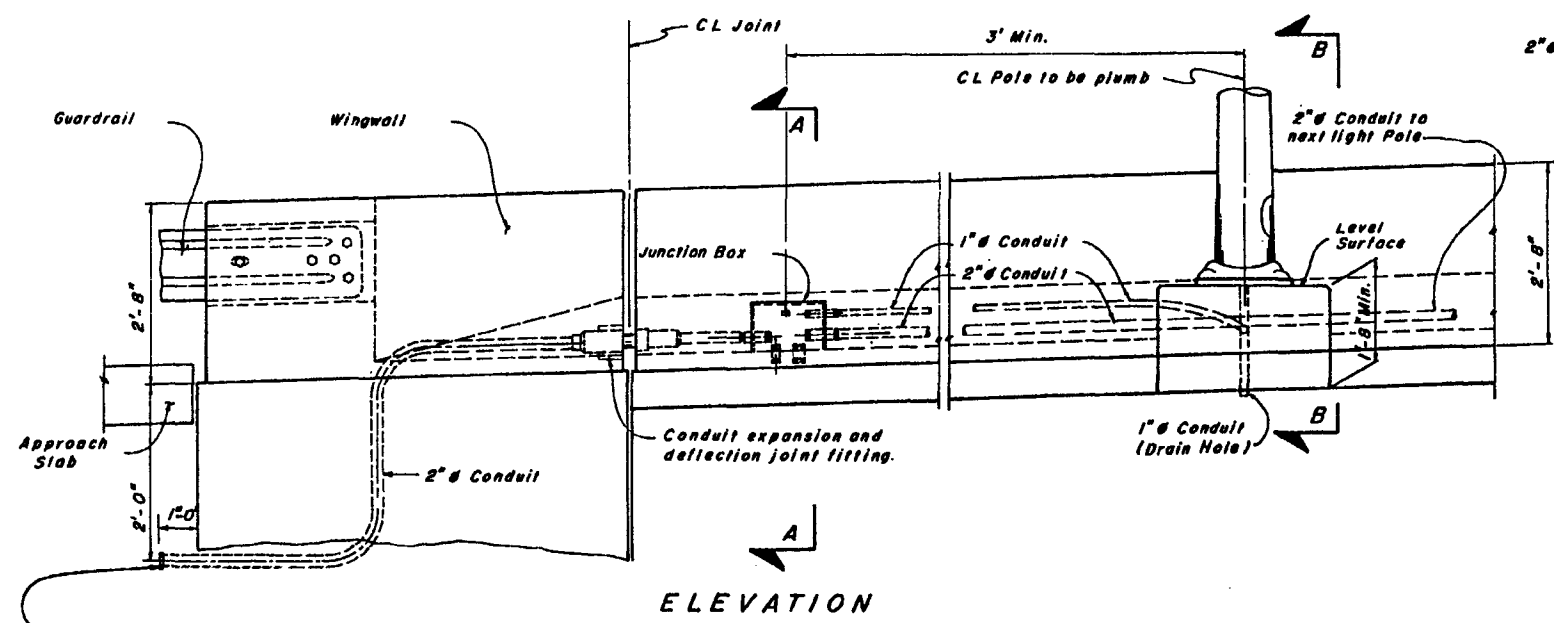


PLAN

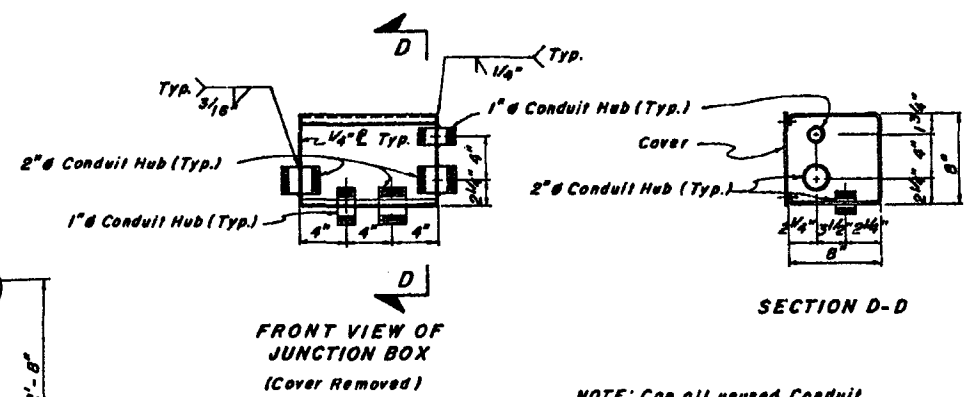


ANCHOR BOLT DETAIL

- NOTES**
1. Junction Boxes are to be fabricated from steel conforming to A.S.T.M. A-36 and Hot-Dipped Galvanized after fabrication.
  2. The bid price for Class II Concrete Substructure or Superstructure shall include all electrical conduit, conduit expansion couplings, Junction Boxes and miscellaneous mounting hardware necessary for complete installation of electrical work on the abutment or slab where such items occur.
  3. Payment: Concrete and Reinforcing Steel to be included in the Contract Unit Price for Class II Concrete (Superstructure) and Reinforcing Steel (Superstructure). See Sheet 1 of 2 Index 12200 for quantities for one Pilaster.
  4. For location of additional Junction Boxes required for under deck lighting Etc: See Roadway Lighting Plans.
  5. For Section B-B, See Sheet 1 of 2 Index 12200.
  6. For Details not shown, see Sheet 1 of 2 Index 12200.
  7. When Light Poles are part of the Construction Contract, the Anchor Bolts are Optional Stud or Cast in place. When Light Poles are not part of the Construction Contract, Stud Anchors shall be installed by the Lighting Contractor at the time the Poles are installed.
  8. A Junction box shall be mounted a Maximum of 3' from the Wingwall on each end of the Bridge.
  9. Install Junction Box at each Light Pole on Structure. (See Detail This Sheet)



ELEVATION

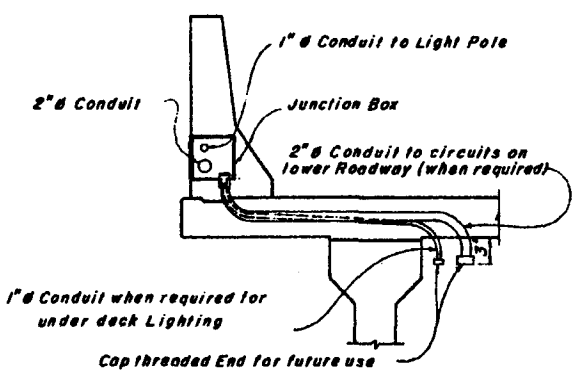


FRONT VIEW OF JUNCTION BOX (Cover Removed)

SECTION D-D


NOTE: Cap all unused Conduit.

When lighting installation is not included in contract, conduit is to be stubbed out & capped as noted.



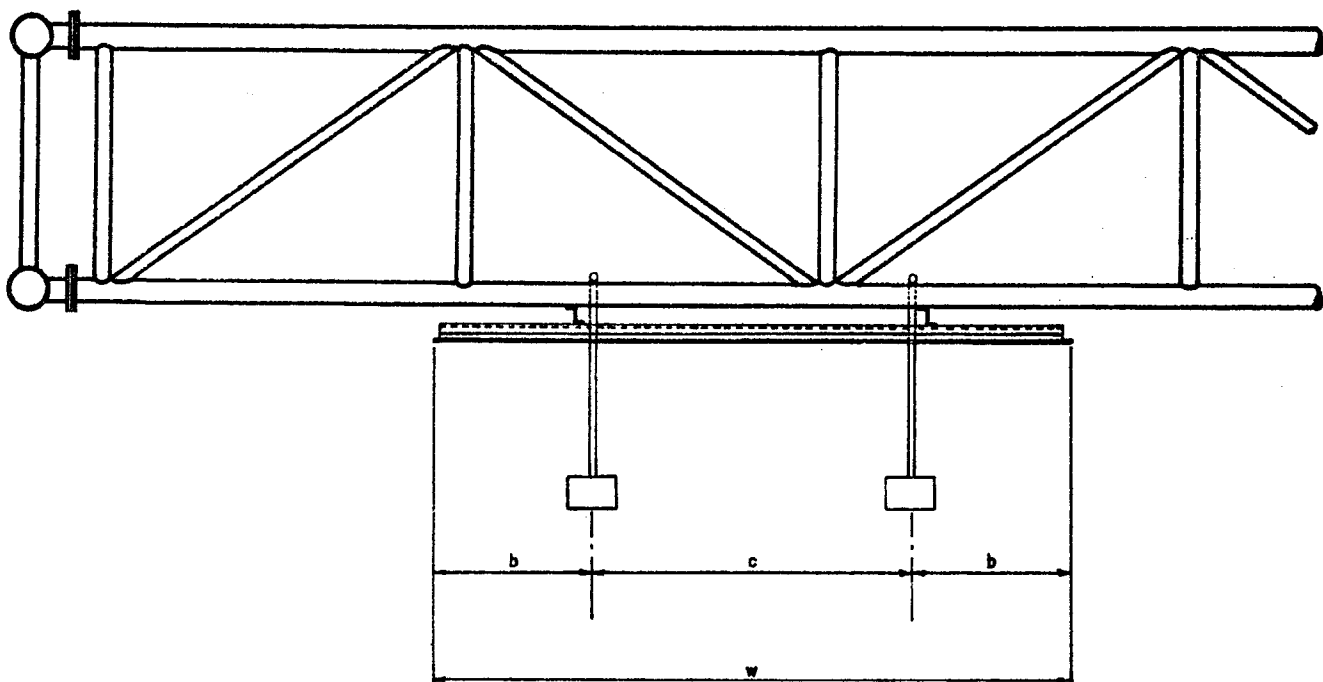
SECTION A-A

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
LIGHT POLE PILASTER DETAILS

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
1	Change Termination of Conduit.			
DESIGNED BY	DATE	APPROVED BY		
Checked by	1-74	 Deputy Design Engineer, Structures		
Quantity by	1-74			
Checked by				
Quantity by				
SQUARED BY		2 of 2	12200	

### SIGN LIGHTING INSTALLATION

The Roadway Lighting Contractor shall provide a means for sign service entry into a pole base or a pull-box installed in Lighting circuit, and loop of Lighting circuit conductors for connection by Sign Contractor. The sign contractor shall furnish and install luminaires, fused safety switches, conduit, conductors, and all other electrical equipment necessary for connection to Roadway Lighting circuit as provided by Roadway Lighting Contractor. Compression type connectors properly taped and waterproofed shall be used. See Roadway Lighting Plans for sign service locations.



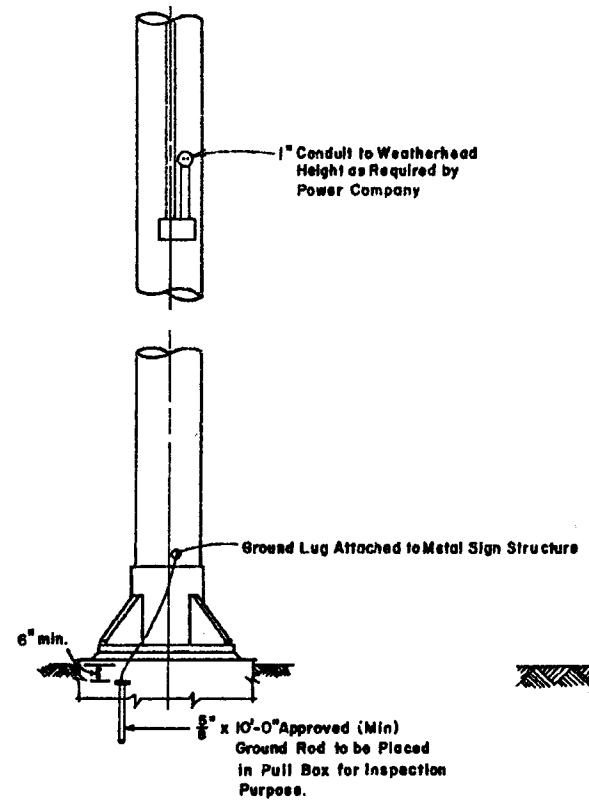
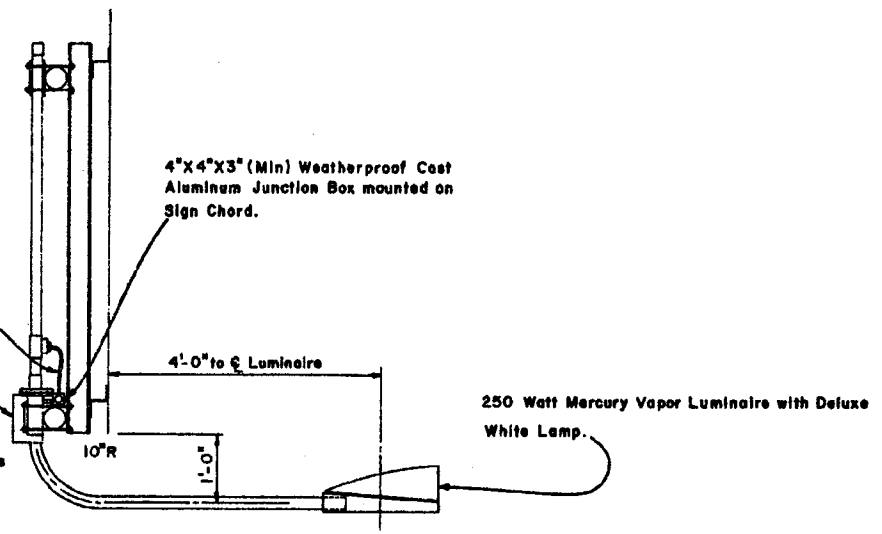
WIDTH OF SIGN FACE	10'-0" or LESS	10'-1" to 21'-0"	21'-1" to 32'-0"	32'-1" to 43'-0"
NUMBER OF FIXTURES	ONE	TWO	THREE	FOUR
EQUATIONS FOR PLACING FIXTURES ALONG SIGN WIDTH	$W = 2b$ $c = 0$	$W = 2b + c$ $c = 2.2b$	$W = 2b + 2c$ $c = 2.2b$	$W = 2b + 3c$ $c = 2.2b$

#### PLACEMENT OF SIGN LIGHTS

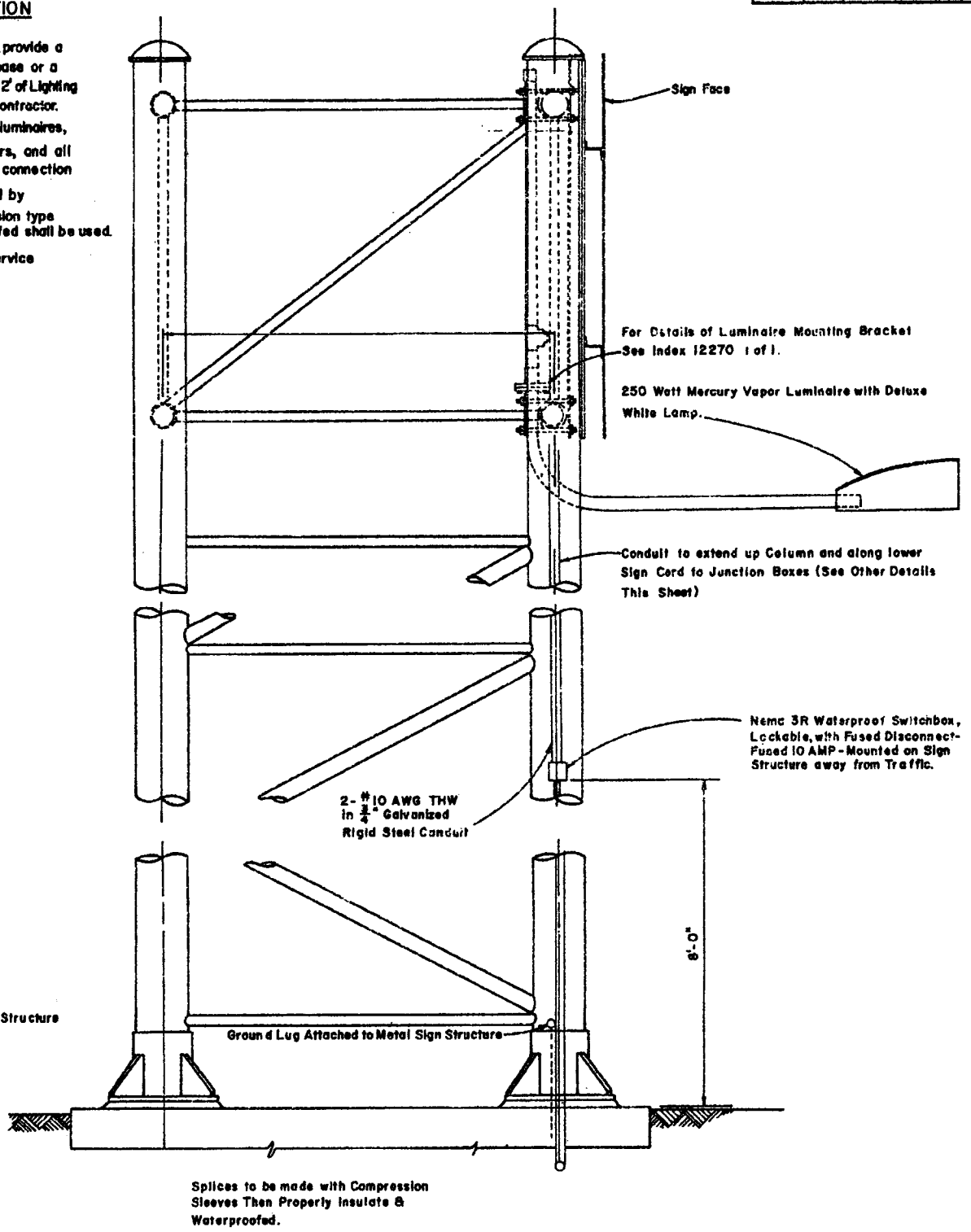
- 1-Luminaire shall be mounted so that the Lamp Center is 4'-3" in Front of the Sign Face.
- 2-Luminaire shall be mounted so that the back of the Fixture is Placed 1'-0" below the Bottom Edge of the Sign Face
- 3-Luminaires from manufacturers who recommended that their Fixture be Tilted shall be Mounted on a Bracket which Provides this Recommended Tilt.
- 4-Photometric Data For The Mercury Vapor Luminaire Proposed for Sign Lighting shall be Submitted for Approval to the Lighting Engineer Florida Department of Transportation.

Use  $\frac{3}{4}$ " Liquid Tight Flexible Conduit from Junction Box to Ballast and from Junction Box to Tee in Luminaire Bracket. Conduit shall be of Sufficient Length to allow Rotation of Luminaire Bracket 90° in Either Direction.

Ballast shall be mounted to Sign Chord with Stainless Steel Band. Bracket for Ballast to be fabricated from Galvanized Steel Plate for Steel Sign Structures and Aluminum Plate for Aluminum Sign Structures. (Submit Data Required)

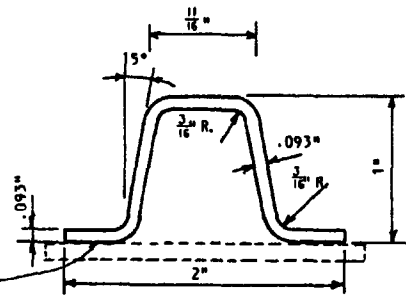


PLAN OVERHEAD POWER SUPPLY

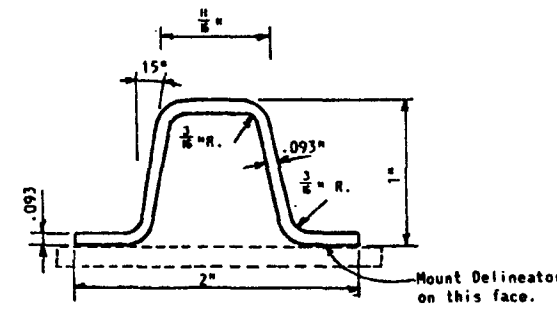


Splices to be made with Compression Sleeves Then Properly Insulate & Waterproofed.

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			
EXTERNAL LIGHTING FOR SIGNS (MERCURY VAPOR)			
ROAD NO.	COUNTY	PROJECT NO.	
DESIGNED BY	DATE	APPROVED BY	
CHECKED BY			
QUANTITIES BY			
SUPERVISOR BY			
DRAWING NO.		INDEX NO.	
1 of 1		17341-A	

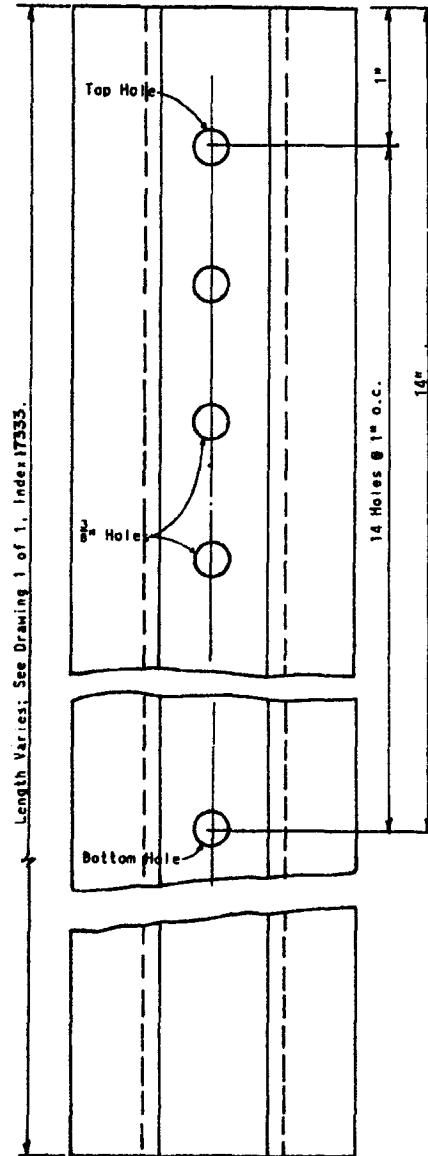


NOTE: Dimensions shown do not include galvanizing.

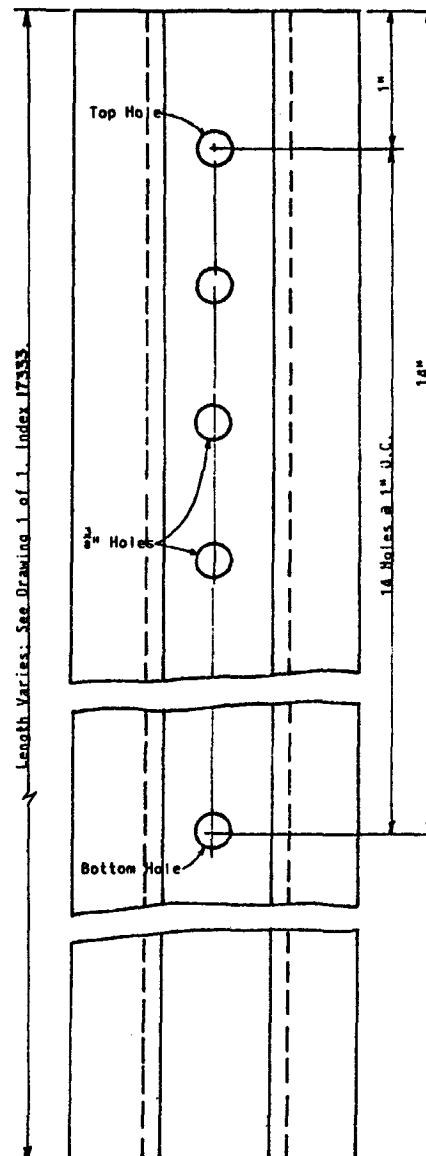


Mount Delineator on this face.

Mount Delineator on this face.



**GALVANIZED STEEL**  
APPROX. WEIGHT PER FOOT=1.0 Lbs.



**ALUMINUM**  
APPROX. WEIGHT PER FOOT=0.35 lbs.

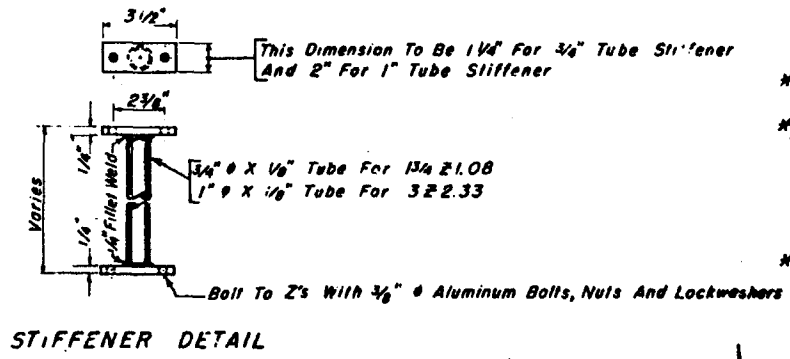
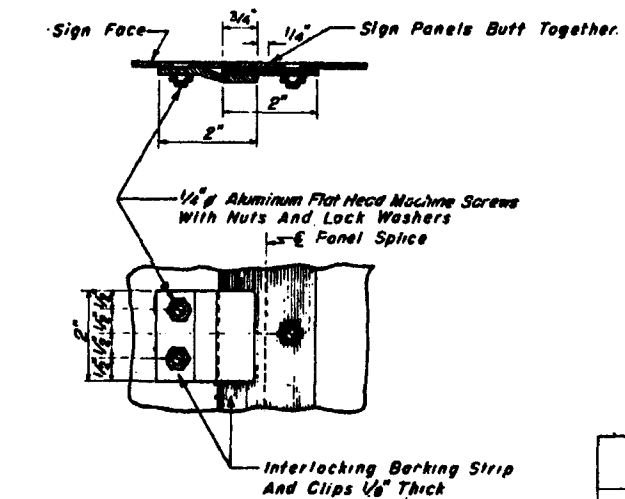
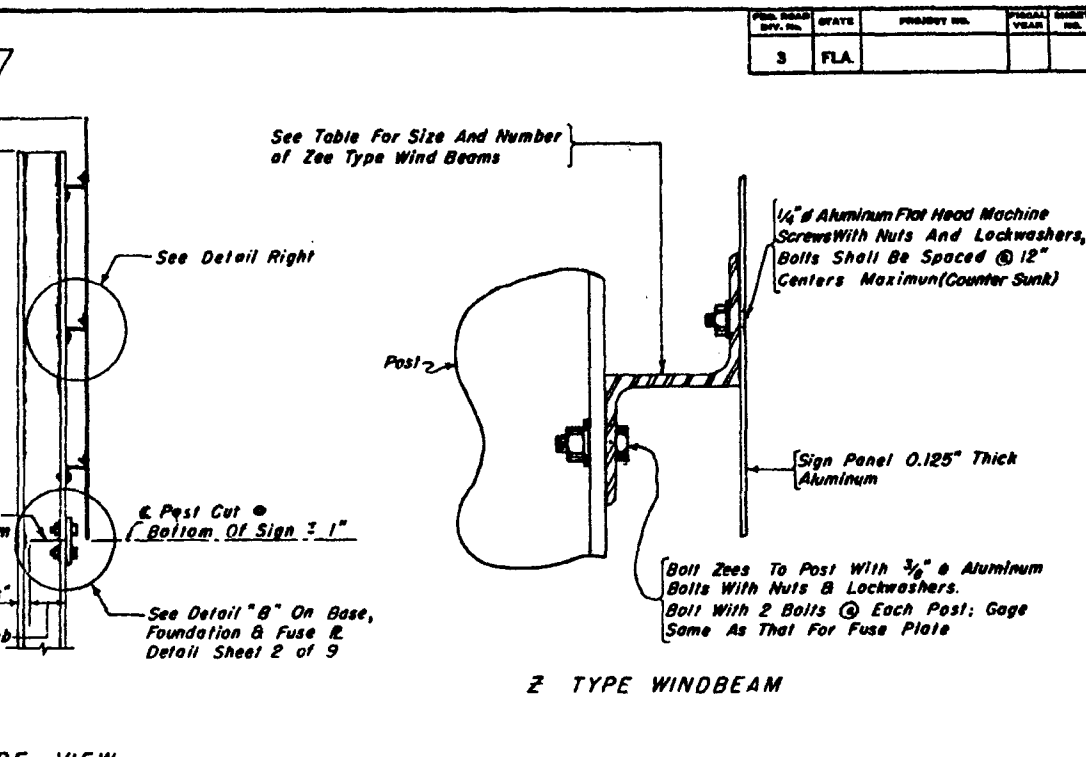
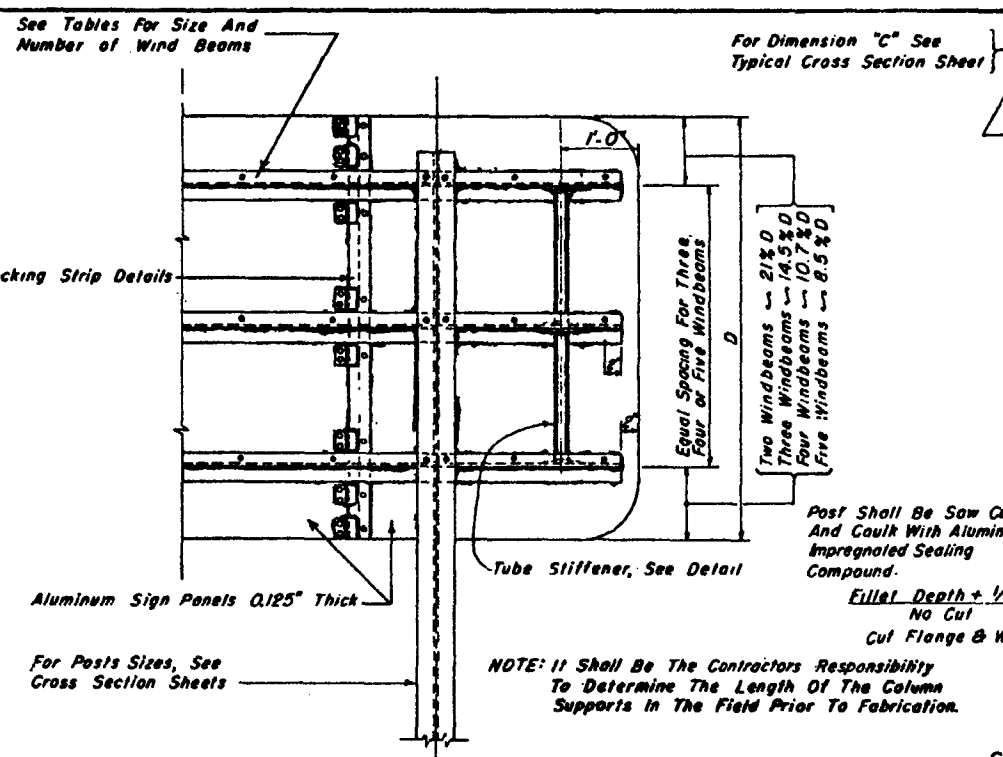
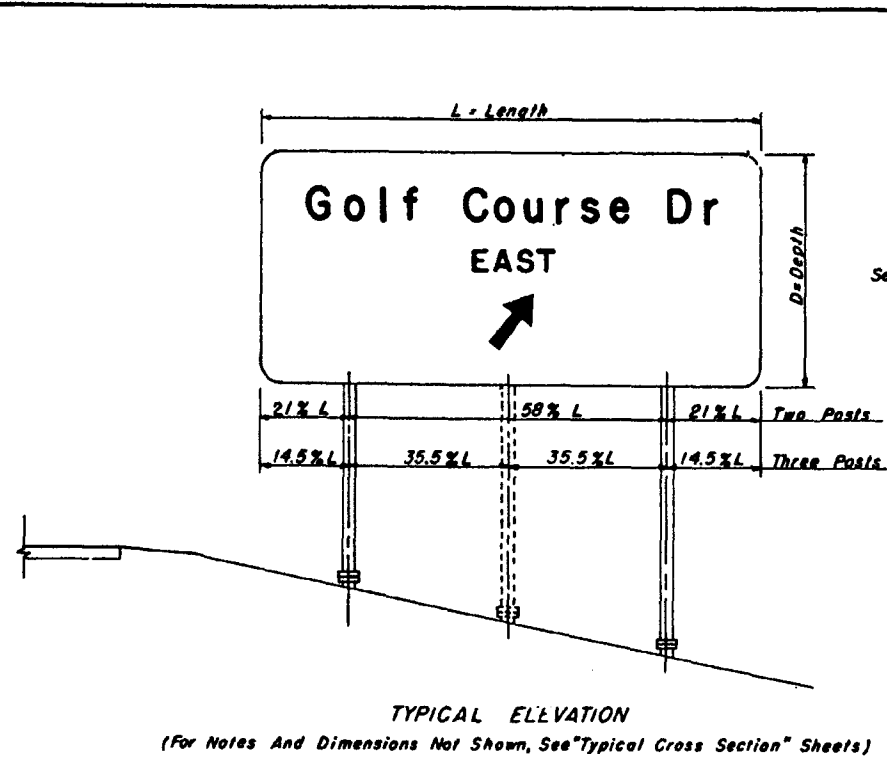
**GENERAL NOTES**

**MATERIALS**

- STEEL: Structural, Intermediate or hard grade (Rail Steel acceptable).
- ALUMINUM: Alloy 6061-T6
- HOLES: Holes for 1/2" diameter bolts on one inch centers.
- TOLERANCES: Thickness, ± 5 %, dimensions, ± .01"
- LENGTH: It shall be the Contractor's responsibility to determine the length of the delineator supports in the field prior to fabrication. See reference Drawing 1 of 1, Index 17333.
- MATERIAL STRESSES: All allowable stresses are in accordance with Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O. 1975.

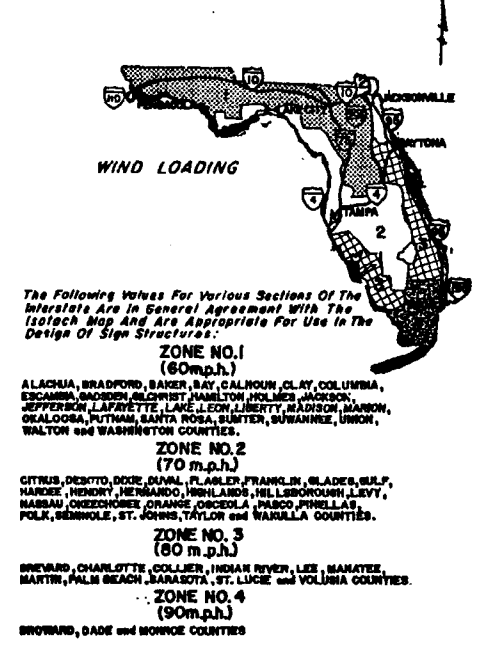
**STATE ROAD DEPARTMENT OF FLORIDA  
BRIDGE DIVISION  
SIGN POSTS FOR DELINEATORS**

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description	Revised	Date	APPROVED BY
9-65	Revised Calculated Weights	Checked by	C.E.S. 11-60	T.W. Jensen Assistant State Highway Engineer
11-69	Checked Spec. Data Revised to 176-B	Checked by	N.W.R. 11-60	
8-74	INDEX 17333 ADDED	Checked by		
8-76	Design Spec. Data Rev. to 1975	Checked by		Drawing No.
8-77	INDEX 17333 ADDED	Traced by	R.C. B. 8-87	1 of 1
				Index No. 7024



SIZE OF WIND BEAMS		
SIZE OF ZEE	LENGTH OF SIGN FOR 2 POSTS	LENGTH OF SIGN FOR 3 POSTS
1 3/4 Z 1.08	0' - 14'-0"	14'-1" - 20'-0"
3 Z 2.33	14'-1" - 27'-0"	20'-1" - 38'-0"
3 Z 3.38	Over 27'	Over 38'

NUMBER OF WIND BEAMS FOR GIVEN DEPTH & WIND		
WIND	NO BEAMS	MAX DEPTH
70	2	9'-0"
70	3	13'-0"
70	4	17'-6"
70	5	22'-3"
80	2	8'-3"
80	3	11'-9"
80	4	15'-9"
80	5	20'-0"
90	2	7'-3"
90	3	10'-6"
90	4	14'-3"
90	5	18'-0"
60	2	10'-3"
60	3	14'-9"
60	4	20'-0"
60	5	25'-3"



**GENERAL NOTES**

**DESIGN SPECIFICATION:** Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O. 1973.

**\*SHEETS AND PLATES:** Material Used Shall Meet The Requirements of Aluminum Association Alloy 6061-T6 And ASTM Specification B-209. Sheets Are To Be Degreased, Etched, Neutralized And Treated With Alodine 1200, Iridite 14-2, Banderite 721, or Equal. No Stenciling Permitted on Sheets.

**\*MATERIALS:** All Aluminum Materials Shall Meet The Requirements of The Aluminum Association Alloy 6061-T6 And Also The Following ASTM Specifications For The Following, Sheet And Plates B209; Extruded Tube, Bars, Rods & Shapes B221 And Standard Structural Shapes B308.

**WELDING RODS:** Aluminum Association Alloy No 5556 Filler Wire

**TOLERANCE:** All Above Materials Shall Be In Keeping With The ASTM Specifications Governing

**STEEL BOLTS, NUTS & WASHERS:** All Steel Bolts, Nuts And Washers Shall Meet The Requirements of ASTM A325 And Shall Be Hot Dipped Galvanized In Accordance With ASTM Specification A-153.

**\*ALTERNATE MATERIAL:** Material used for Sheet and Plate shall also meet the requirements of Aluminum Assoc. Alloy 5154-H38 and A.S.T.M. Specifications B209. Material used for Extruded Bars, Rods, Shapes and Tubes shall also meet the requirements of Aluminum Assoc. Alloy 6351-T5 and A.S.T.M. Specification B221.

**BASE CONNECTION:** High Strength Bolts in The Base Connection Shall Be Tightened Only To The Torque Shown in The Table. Overtightened Base Connections Will Not Be Accepted.

**ALUMINUM BOLTS, NUTS & LOCKWASHERS:** Aluminum Bolts Shall Meet The Requirements of Aluminum Association Alloy 2024-T4 Or 6061-T6 (ASTM Spec. B-211). The Bolts Shall Have An Anodic Coating of At Least 0.0002" Thick And Be Chromate Sealed. Lockwashers Shall Meet The Requirements of Aluminum Association Alloy 7075-T6 (ASTM Specification B-221). Nuts Shall Meet The Requirements of Aluminum Association Alloy 6262-T9 Or 6061-T6

**SIGN FACE:** All Sign Face Corners Shall Be Rounded. See Sign Layout Sheet.

**MATERIAL STRESSES:** All Allowable Stresses Are In Accordance With The Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O. 1973, For All Materials Shown in The Plans.

**DESIGN WIND LOAD:** Signs Shall Be Designed To Withstand A Wind Load of \_\_\_\_\_ Miles Per Hour on Flat Sign Area. The Allowable Working Stresses Shall Be Increased By 40% For Combination Dead Load And Wind Load

**SHOP DRAWINGS:** When Ground Signs Supports are Fabricated in accordance with these Plans, NO SHOP DRAWINGS are Required. In the Event the Column Length Exceeds 2 ft. Above the Length as shown in the Plans, SHOP DRAWINGS WILL BE REQUIRED for Those Signs Only for Approval. However, Shop Drawings for Sign Panels, Messages, Lettering and Quantities shall be Submitted to Traffic Operations for Approval.

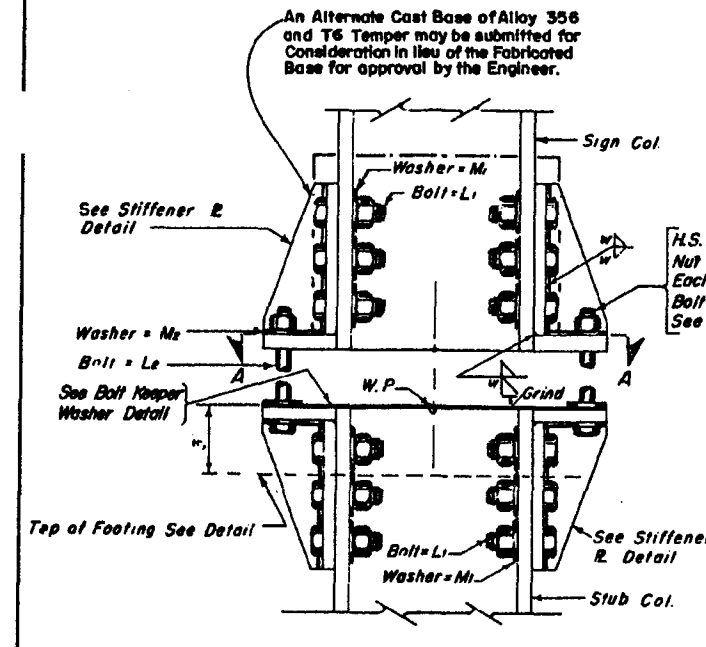
**FABRICATOR NOTE IMPORTANT**  
All Stiffened Base Plate Flanges And Fuse Plates Shall Be Bolted To Posts Using High Strength Bolts. Bolts Shall Be Tightened in The Shop Following A Method Approved By The Engineer. Tightening Shall Be To Such A Degree So As To Obtain The Following Minimum Residual Tension in Each Bolt:

**HIGH STRENGTH BOLTS (A-325)**  
BOLT SIZE      MIN. RES. BOLT TENSION

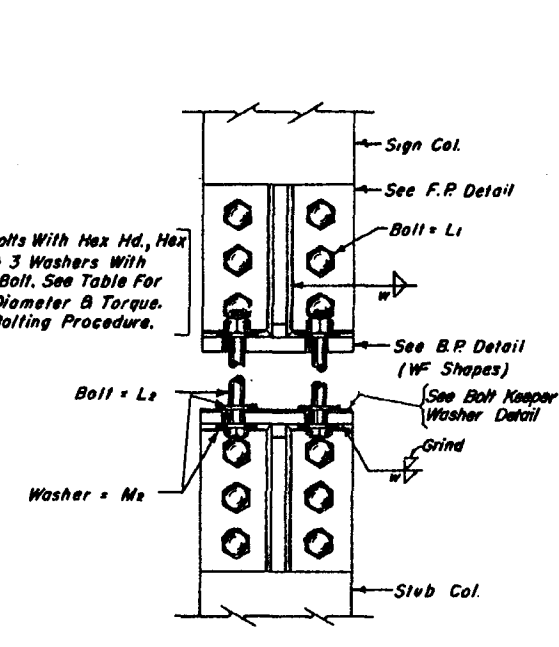
3/4"	19,200 Lbs.
7/8"	28,400 Lbs.
1"	36,050 Lbs.
1 1/8"	47,250 Lbs.
1 1/2"	56,450 Lbs.
1 3/4"	71,700 Lbs.

ALUMINUM			
STATE ROAD DEPARTMENT OF FLORIDA			
BRIDGE DIVISION			
STANDARD ROADSIDE SIGN BREAK-AWAY PANEL DETAIL			
REV. NO.	REV. DESCRIPTION	DATE	APPROVED BY
12-71	REV. LENGTH OF WIND BEAMS		
6-75	REV. SHOP DET. NO. 6		
3-74	REV. ROUND HD. BOLTS TO FIRM HD. LOCK WASHERS		
1-76	REV. WIND LOADING		
6-76	REV. WIND PRESSURE REDUCTION NOTE REMOVED		
3-89	CHANGED WIND LOADING SUMMARY		
10-89	REV. MATERIAL ALLOW NOTE		

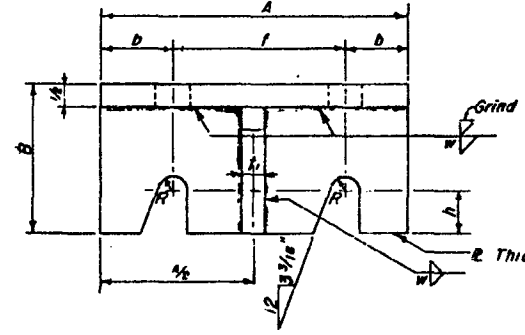
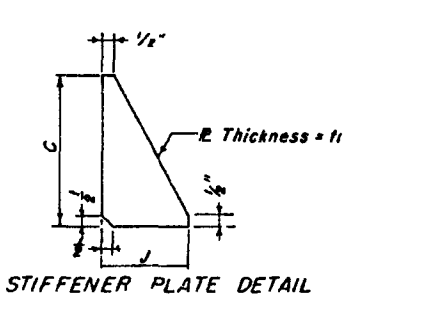
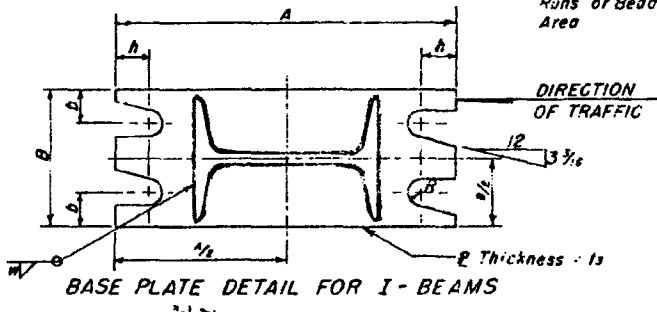
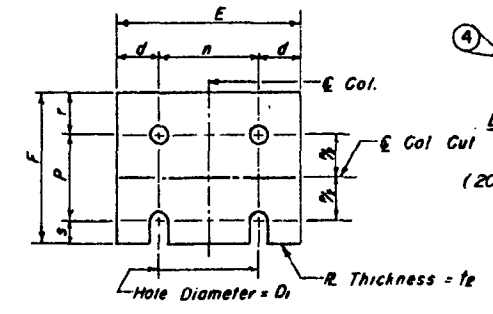
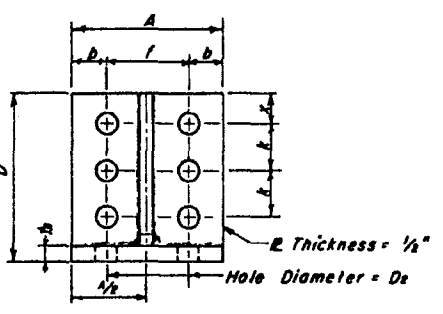
ROAD NO.	COUNTY	PROJECT NO.



SIGN COL & STUB COL. ELEVATION WF SHAPES

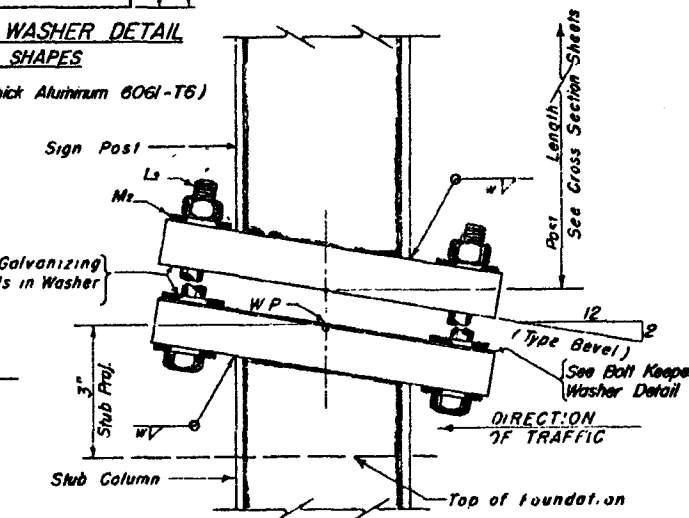


SIGN COL & STUB COL. SIDE ELEVATION

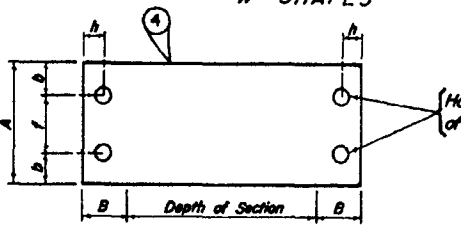


BASE PLATE DETAIL FOR WF SHAPES

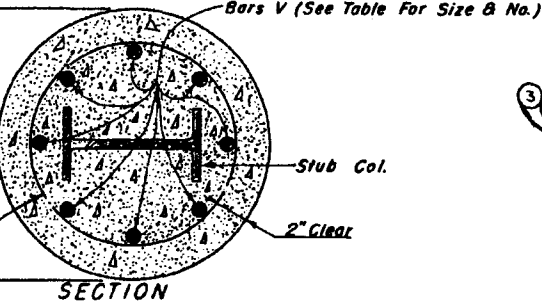
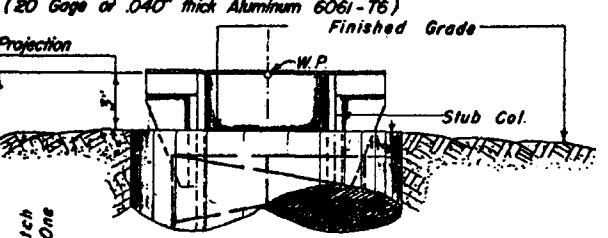
**BOLT KEEPER WASHER DETAIL I-BEAM SHAPES**  
(20 Gage or .040" thick Aluminum 6061-T6)



SIGN COL & STUB COL. ELEVATION I-BEAM SHAPES



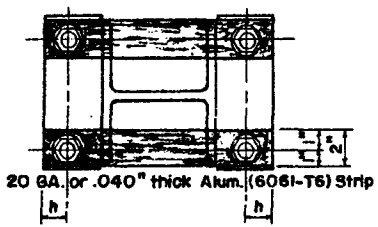
BOLT KEEPER WASHER DETAIL WF SHAPES



FOUNDATION DETAIL

NOTE: To Prevent Galvanic Corrosion, Reinforcing Steel Shall Not Be in Contact With The Aluminum Stud Column.

- PROCEDURE FOR ASSEMBLY OF BASE CONNECTION: FOR BOLTS L<sub>z</sub>**
1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
  2. Shim as required to plumb post. (See Shim Detail)
  3. Tighten all bolts the maximum possible with 12" to 15" wrench to bed washers and shims and to clean bolt threads then loosen each bolt in turn and retighten in a systematic order to the prescribed torque (See Table)
  4. Burr threads at junction with nut using a center punch to prevent nut loosening.



SECTION	DIMENSION	BASE CONNECTION DATA TABLE												FUSE PLATE DATA TABLE											FOUNDATION DATA TABLE																						
		A	B	C	D	J	L	BOLT SIZE & TORQUE (L <sub>z</sub> )	M <sub>1</sub>	M <sub>2</sub>	D <sub>2</sub>	R	X	b	f	h	k	l	t <sub>3</sub>	w	BOLT SIZE	E	F	P	D <sub>1</sub>	d	r	s	t <sub>1</sub>	DIA.	DEPTH	STUB LENGTH	REINFORCING BARS V"														
3I	1.96	7 1/2	3"									1 1/2"	1 1/2"	3/4"	3/4"	1"	3/4"	2 1/4"	2"	1 1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1" - 6"	1" - 6"	1" - 6"	8 - 4					
4I	2.64	7 1/2	3"									1 1/2"	1 1/2"	3/4"	3/4"	1"	3/4"	2 1/4"	2"	1 1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	1" - 6"	1" - 6"	1" - 6"	8 - 4					
6W	4.16	4"	3 1/2"	5"	5 1/2"	2 1/2"	3/8" B	3/4" - 640 lb	1 1/2"	1 1/2"	3/4"	3/8"	1"	3/4"	2 1/4"	2"	1 1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	2' - 0"	2' - 0"	2' - 0"	8 - 4			
8W	5.90	5 1/2"	3 1/2"	5"	5 1/2"	2 1/2"	3/8" B	3/4" - 640 lb	1 1/2"	1 1/2"	3/4"	3/8"	1"	3/4"	2 1/4"	2"	1 1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	2' - 0"	3' - 3"	2' - 6"	8 - 5		
8W	8.32	6 1/2"	3 1/2"	6 1/2"	7 1/2"	2 1/2"	3/8" B	3/4" - 640 lb	1 1/2"	1 1/2"	3/4"	3/8"	1"	3/4"	2 1/4"	2"	1 1/2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	2' - 0"	4' - 6"	2' - 6"	8 - 7	
10W	11.41	8"	3 1/2"	8"	8 1/2"	2 1/2"	3/8" B	3/4" - 940 lb	2"	1 3/4"	3/4"	3/8"	1 1/4"	3/4"	2 3/4"	2 1/4"	2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3' - 0"	6' - 3"	3' - 0"	8 - 10	
12W	13.84	8"	3 1/2"	8 1/2"	9 1/2"	3"	1" B	3/4" - 940 lb	2 1/4"	1 3/4"	3/4"	3/8"	1 1/2"	3/4"	2 3/4"	2 1/4"	2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3' - 0"	8' - 0"	3' - 6"	9 - 11	
12W	18.34	10"	3 1/2"	10"	10 1/2"	3 1/2"	1" B	3/4" - 1290 lb	2 1/2"	2"	3/4"	3/8"	1 3/4"	3/4"	3"	2 1/2"	2"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	2' - 0"	10' - 9"	4' - 0"	15 - 11

NOTE: Sections Shown Are For Installation On Right Shoulder And In Gore. Plate Slot Bevels Are Opposite Hand From That Shown For Installations In The Median.

ALUMINUM-BASE, FOUNDATION & FUSE & DETAILS

STATE ROAD DEPARTMENT OF FLORIDA  
BRIDGE DIVISION

STANDARD ROADSIDE SIGN  
BREAK-AWAY POST DETAILS

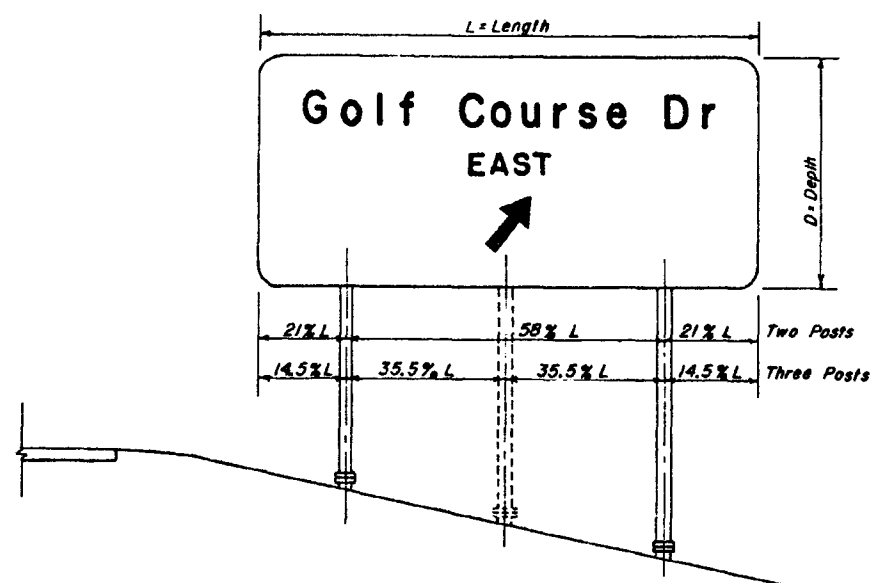
REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
6-17-67	Rev. 501 Sign, Drawn & Dia.			
6-22-68	Bolt Keeper Washer Detail Added			
6-7-70	Rev. 501 Sign, Drawn & Dia.			
6-7-70	Class 1 Concrete Added			
6-7-70	Alternative Bolt Keeper Washer Added			
6-76	Design Spec. Rev. to 1976			

Checked by	Date	APPROVED BY
Checked by	H.M.J.	1-67
Checked by	C.W.B.	1-67

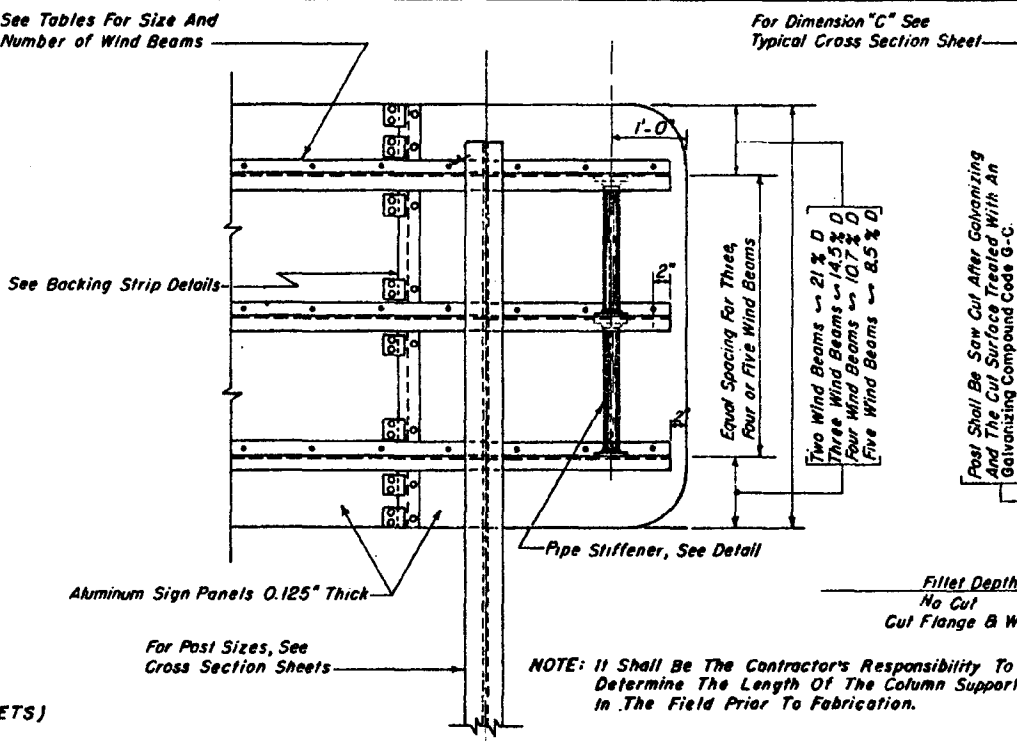
Drawing No. 2 of 4

Index No. 9535

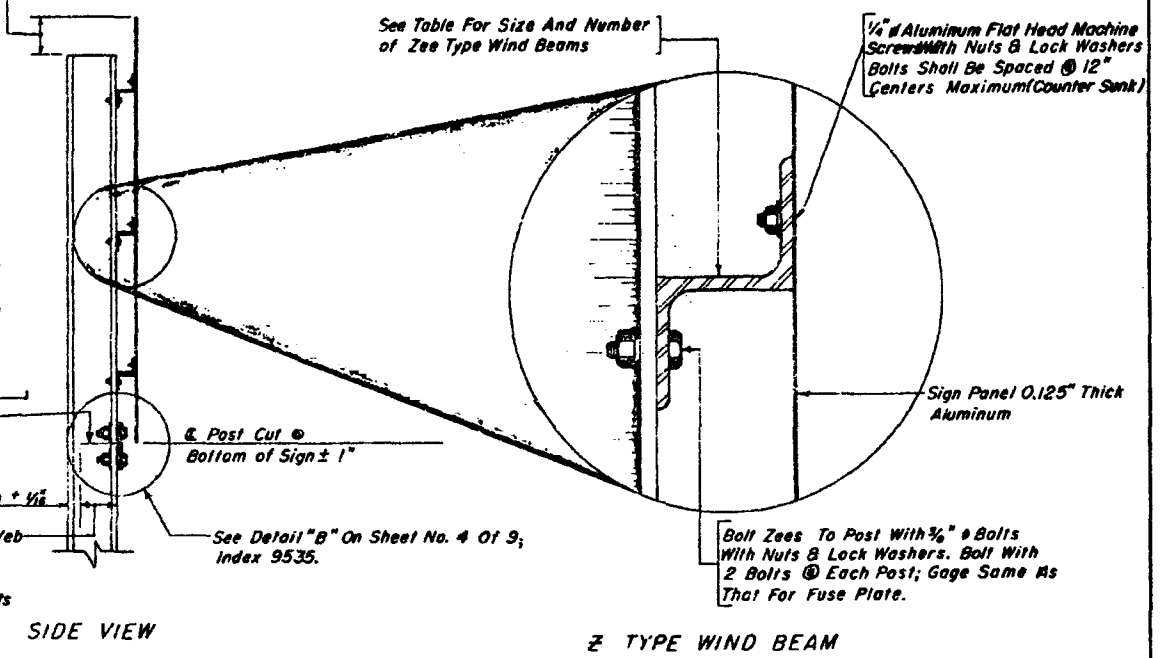




TYPICAL ELEVATION  
(FOR NOTES AND DIMENSIONS NOT SHOWN, SEE "TYPICAL CROSS SECTION" SHEETS)



PARTIAL REAR ELEVATION



SIDE VIEW

Z TYPE WIND BEAM

GENERAL NOTES

**DESIGN SPECIFICATION:** Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A. A. S. H. O. 1975. For Welded Highway and Railroad Bridges" A. W. S., Latest Edition.

**DESIGN LOADS:** Signs shall be designed to withstand a wind load of \_\_\_\_\_ Miles Per Hour on the flat sign area. The allowable working stress shall be increased by 40% for combination dead load and wind load.

**STRUCTURAL STEEL:** All structural steel shall meet the requirements of A. S. T. M. A-36.

**STEEL BOLTS, NUTS AND LOCK WASHERS:** Steel bolts, nuts and lock washers shall meet the following A. S. T. M. requirements; High strength bolts, nuts and washers A. S. T. M. A-325; All other steel bolts, nuts and washers, A. S. T. M. A-307.

**GALVANIZING OR METALIZING:** All steel shapes, angles, tees, plates, bolts, nuts and washers shall be hot dip galvanized or metalized after fabrication hot dip galvanizing shall be in accordance with the requirements of A. S. T. M. A-123 and/or 4-153.

**SIGN PANELS:** The material used shall meet the requirements of the Aluminum Association Alloy, 6061-T6 and A. S. T. M. Specification B209. The sheets are to be degreased, etched, neutralized and treated with Alodine 1200, Iridite 14-2, Bonderite 721, or equal. No stenciling permitted on sheets.

**ALUMINUM BOLTS, NUTS AND LOCK WASHERS:** Aluminum bolts shall meet the requirements of the Aluminum Association Alloy 2024-T4 or 6061-T6 (A. S. T. M. Specification B-211). The bolts shall have an anodic coating of at least 0.0002" thick and be chromate sealed. Lock washers shall meet the requirements of Aluminum Association Alloy 7075-T6 (A. S. T. M. Specification B-221). Nuts shall meet the requirements of Aluminum Association Alloy 6262-T9 or 6061-T6.

**TOLERANCE:** All above materials shall be in keeping with the A. S. T. M. specifications governing.

**MATERIAL STRESSES:** All allowable stresses are in accordance with the standard specifications for structural supports for highway signs, luminaires and traffic signals. A. A. S. H. O. 1975. For all materials shown in the plans.

**SHOP DRAWINGS:** See Shop Drawing Note Sheet 1 of 4, 9535.

**BASE CONNECTION:** High strength bolts in the base connection shall be tightened only to the torque shown in the table. Overtightened base connections will not be accepted.

**FRICTION FUSE PLATE:** Notched steel fuse plates shall conform to the requirements of A. S. T. M. Specification A-36. All holes shall be drilled. All plate cuts shall, preferably, be saw cuts; however, flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.

**SIGN FACE:** All sign face corners shall be rounded. See sign layout sheet.

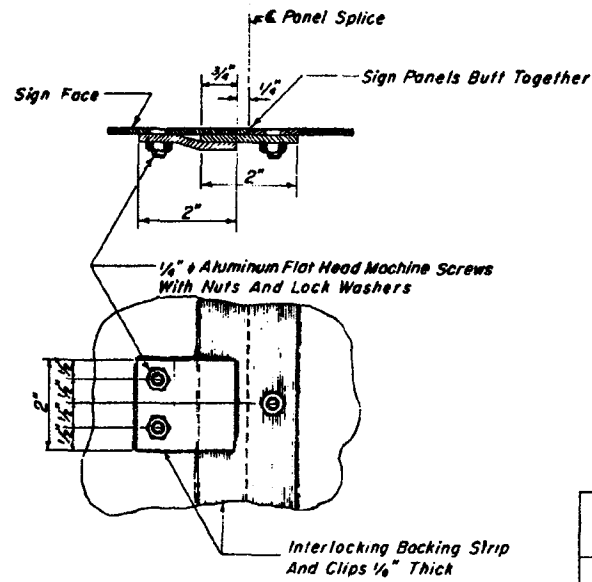
**ALUMINUM MATERIALS:** All aluminum materials other than bolts, nuts and lock washers shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the following A. S. T. M. specifications for the following; Sheet and plates B209; Extruded tube, bars, rod and shapes B221 and standard structural shapes B308.

**FABRICATOR NOTE, IMPORTANT**  
All friction fuse bolts shall be tightened in the shop following a method approved by the engineer. Tightening shall be to such degree as to obtain the following minimum residual tension in each bolt, (See table below).

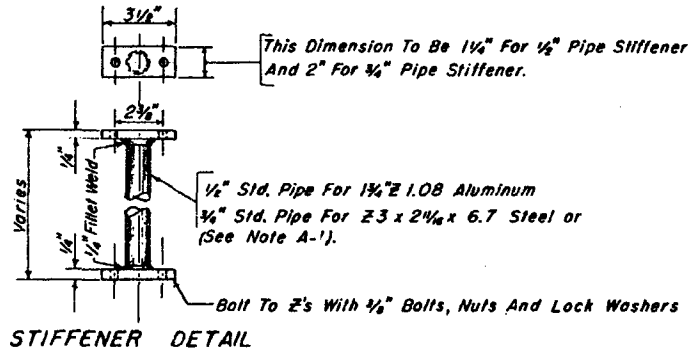
**NOTE A-1**  
At the contractor's option, aluminum zeos and stiffener may be used in lieu of structural steel zeos and stiffeners. See drawing No. 1 of 4, index No. 9535. For aluminum zee and stiffener.

HIGH STRENGTH BOLTS (A-325)  
MINIMUM RESIDUAL TENSION

BOLT SIZE	TENSION
3/8"	19,200 Lbs.
3/4"	28,400 Lbs.
1"	47,250 Lbs.
1 1/8"	56,450 Lbs.
1 1/4"	71,700 Lbs.
1 3/8"	85,450 Lbs.



BACKING STRIP DETAIL  
(Maximum Spacing Of Clips 12")

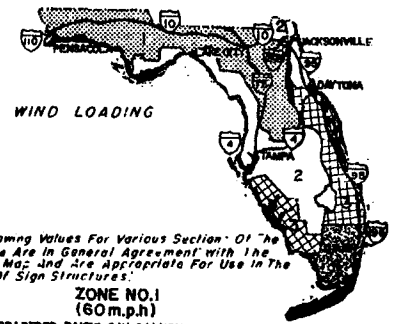


STIFFENER DETAIL

WIND	NO BEAMS	MAX. DEPTH
70	2	9'-0"
70	3	13'-0"
70	4	17'-6"
70	5	22'-3"
80	2	8'-3"
80	3	11'-9"
80	4	15'-9"
80	5	20'-0"
90	2	7'-3"
90	3	10'-6"
90	4	14'-3"
90	5	18'-0"
60	2	10'-3"
60	3	14'-9"
60	4	20'-0"
60	5	25'-3"

SIZE OF ZEE	LENGTH OF SIGN FOR 2 POSTS	LENGTH OF SIGN FOR 3 POSTS
1 1/2" Z 1.08	0' - 14'-0"	14'-1" to 20'-0"
Z 3 x 2 1/4 x 6.7	14'-1" to 27'-0"	20'-1" to 38'-0"
Z 3 x 2 1/8 x 9.8	Over 27'	Over 38'

\*NOTE: Aluminum Zee No Steel Equivalent Available.



The following values for various sections of the interstate are in general agreement with the Interach Map and are appropriate for use in the design of sign structures.

**ZONE NO. 1 (60 m.p.h.)**  
ALACHUA, BRADFORD, BAKER, BAY CALHOUN, CLAY, COLUMBIA, ESCAMBIA, GADSDEN, GULF, HAMILTON, HOLMES, JACKSON, JEFFERSON, LAFAYETTE, LAKE, LEON, LIBERTY, MADISON, MANNING, OKALOOSA, PUTNAM, SANTA ROSA, SUMTER, SUWANNEE, UNION, WALTON and WASHINGTON COUNTIES.

**ZONE NO. 2 (70 m.p.h.)**  
CITRUS, DEBOTO, DIXIE, DUVAL, FLAGLER, FRANKLIN, GLADES, GULF, HARDEE, HENRY, HERNANDO, HIGHLANDS, HILLSBOROUGH, LEVY, NASSAU, ORANGE, ORANGE, POLK, SEMINOLE, ST. JOHNS, TAYLOR and WALKER COUNTIES.

**ZONE NO. 3 (80 m.p.h.)**  
BREVARD, CHARLOTTE, COLLIER, INDIAN RIVER, LEE, MAHATTEE, MARTIN, PALM BEACH, SARASOTA, ST. LUCIE and VOLUSIA COUNTIES.

**ZONE NO. 4 (90 m.p.h.)**  
BROWARD, DADE and MONROE COUNTIES.

REV. NO.	REV. DESCRIPTION	DATE	REVISED BY	DATE	APPROVED BY
12-71	REV. LENGTH OF WIND BEAMS				
9-72	REV. METALIZING NOTE	6-19-68			
7-73	REV. METALIZING NOTE				
8-73	REV. SHOP DRAWING NOTE				
5-74	REV. ROUND HO. BOLTS TO PLAT HO. BOLTS				
1-76	REV. WIND LOADING	3-69			
6-76	Design Spec. Code Rev. to 1976				

ROAD NO.	COUNTY	PROJECT NO.

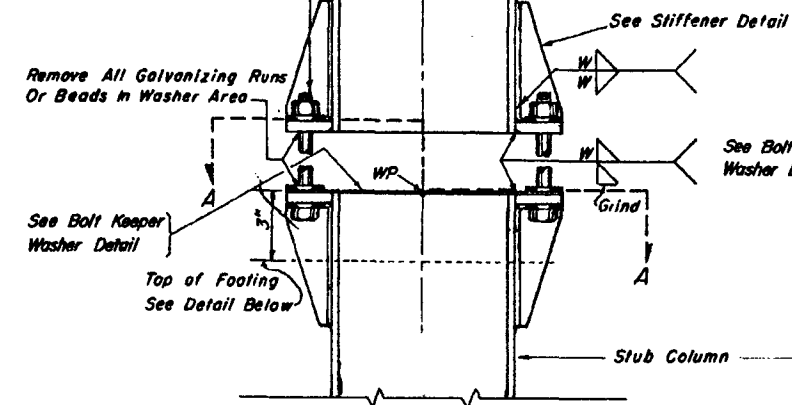
STATE ROAD DEPARTMENT OF FLORIDA  
BRIDGE DIVISION

STANDARD ROADSIDE SIGN  
BREAK-AWAY PANEL DETAIL

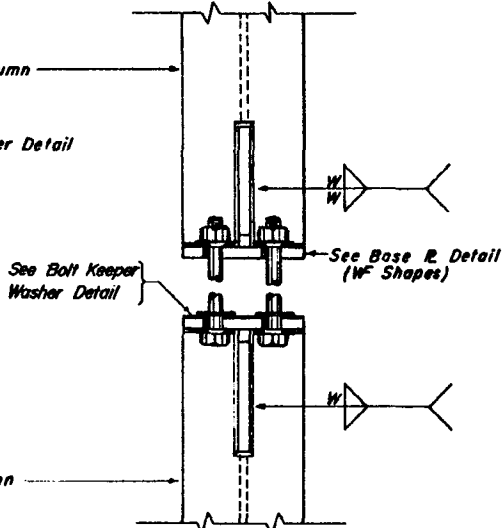
Detailed by: H.M.J. 1-67  
Checked by: G.W.B. 1-67  
Quantity by: \_\_\_\_\_  
Checked by: \_\_\_\_\_  
Traced by: \_\_\_\_\_

Drawing No. 3 of 4  
Index No. 9535

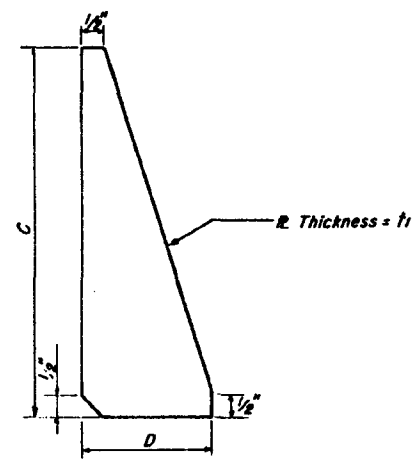
5 Bolts With Hex Head, Hex Nut & 3 Washers With Each Bolt See Table For Bolt Diameter And Torque. See Bolting Procedure.



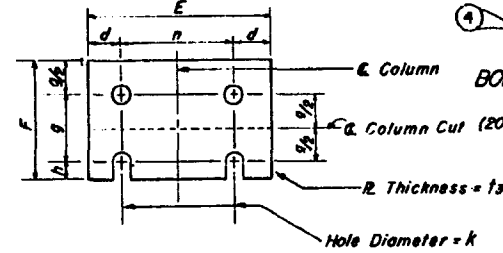
SIGN COL & STUB COL ELEVATION WF SHAPES



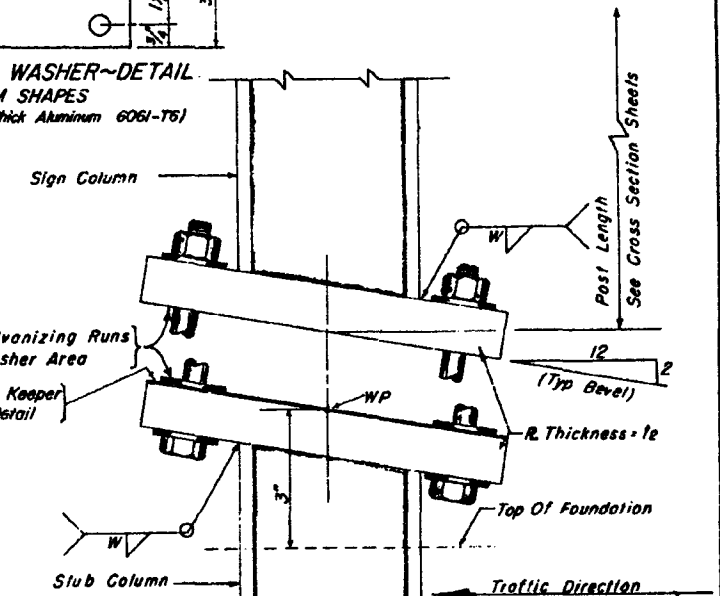
SIGN COL & STUB COL ELEVATION WF SHAPES



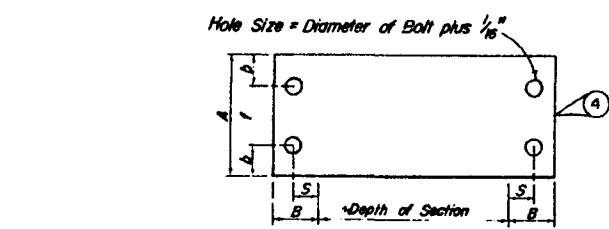
STIFFENER PLATE DETAIL



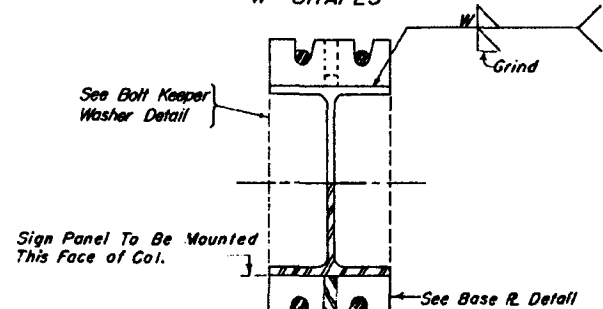
FUSE PLATE DETAIL



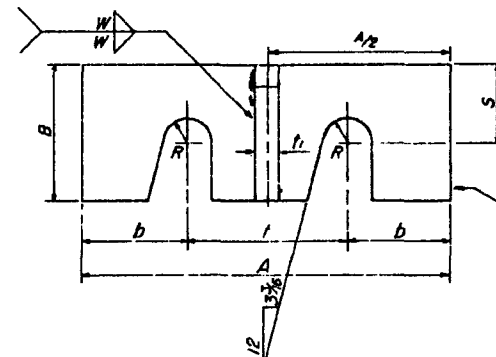
SIGN COL & STUB COL ELEVATION I-BEAM SHAPES



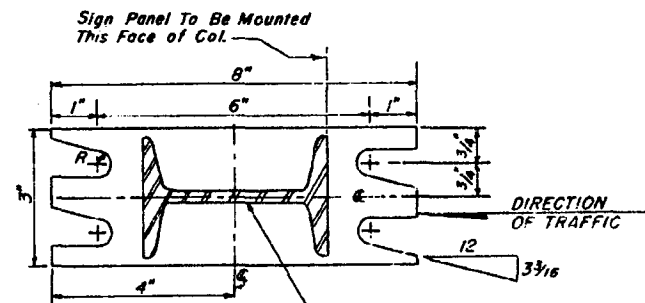
BOLT KEEPER WASHER DETAIL (20 Gage or D40 Thick Aluminum 6061-T6)



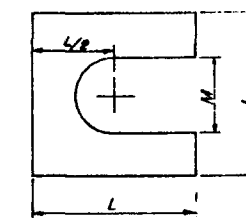
SECTION A-A



BASE PLATE DETAIL WF SHAPES



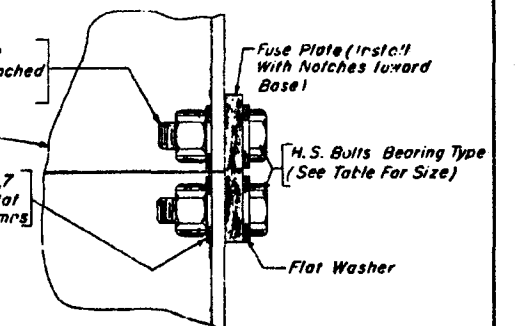
BASE PLATE I-BEAMS



SHIM DETAIL

Furnish 2-.012"± Thick & 2-.032"± Thick Shims Per Post

Flange Holes For Fuse Plate Shall Be Drilled Or Sub-Punched And Reamed.



DETAIL "B" FUSE PLATE (See Fabrication Note On Sheet Drawing No. 3 of 4 Index No. 9535)

NOTE: Sections Shown Are For Installation On Right Shoulder And In Gore. Plate Slot Bevels Are Opposite Hand From That Shown For Installations In The Median.

DIMENSION SECTION	BASE CONNECTION DATA											FUSE PLATE DATA										FOUNDATION DATA				SHIM	
	A	B	C	D	Bolt Size & Torque	R	b	f	s	t <sub>1</sub>	t <sub>2</sub>	W	E	n	d	F	g	h	k	t <sub>3</sub>	Bolt Size	Dia	Depth	Stub Length	Reinf. Bars V	L	M
3 I 5.7					5/8" - 640#	1/2"					1"	1 1/4"	3"	1 1/2"	3/4"	4 1/2"	2 1/4"	3/4"	1 1/2"	1/2"	3/8"	1'-6"	1'-6"	1'-6"	8-#4	1 1/2"	1 1/2"
4 I 7.7					5/8" - 640#	1/2"					1"	1 1/4"	3 1/2"	1 1/2"	3/4"	4 1/2"	2 1/4"	3/4"	1 1/2"	1/2"	3/8"	1'-6"	2'-0"	2'-0"	8-#4	1 1/2"	1 1/2"
6 B 12	4"	2"	4"	2"	5/8" - 640#	3/4"	3/4"	2 1/4"	1 1/2"	1/2"	1 1/2"	4"	2 1/4"	3/4"	4 1/2"	2 1/4"	3/4"	1 1/2"	1/2"	3/8"	2'-0"	2'-9"	2'-3"	8-#5	1 1/2"	1 1/2"	
8 W 17	5 1/4"	2"	5 1/4"	2"	5/8" - 640#	1 1/2"	1 1/4"	2 3/4"	1 1/4"	1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	4 1/2"	2 1/4"	1/2"	1 1/2"	1/2"	3/8"	2'-0"	4'-0"	2'-9"	8-#7	1 1/2"	1 1/2"	
8 W 24	6 1/2"	2 1/4"	6 1/2"	2 1/4"	5/8" - 940#	1 1/2"	1 1/4"	3 1/4"	1 1/4"	1/2"	1 1/2"	6 1/4"	3 1/4"	1 1/4"	6 3/4"	3 1/4"	1/2"	1 1/2"	1/2"	3/8"	2'-0"	5'-6"	3'-3"	8-#9	1 1/2"	1 1/2"	
10 W 33	8"	2 1/2"	8"	2 1/2"	5/8" - 1290#	1 1/2"	1 1/4"	5 1/4"	1 1/2"	1/2"	1 1/2"	8"	4 1/4"	1 1/4"	7 1/4"	4"	1 1/2"	1 1/2"	1/2"	3/8"	2'-0"	7'-9"	3'-9"	9-#11	2"	1 1/2"	
12 W 40	8"	2 3/4"	8"	2 3/4"	1" - 1580#	1 1/2"	1 1/4"	5 1/4"	1 1/2"	1/2"	1 1/2"	8"	4"	2"	8 1/4"	4 1/4"	1 1/2"	1 1/2"	1/2"	3/8"	2'-0"	10'-0"	3'-6"	14-#11	2 1/4"	1 1/2"	
12 W 45	8"	3"	8"	3"	1" - 1580#	1 1/2"	1 1/4"	5 1/4"	1 1/2"	1/2"	1 1/2"	8"	4"	2"	8 1/4"	4 1/4"	1 1/2"	1 1/2"	1/2"	3/8"	2'-0"	10'-0"	4'-6"	14-#11	2 1/4"	1 1/2"	

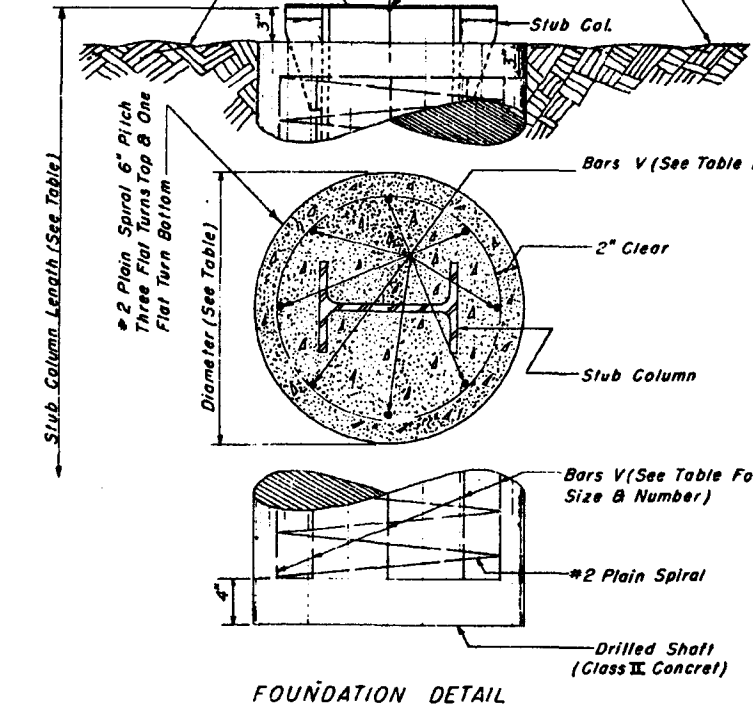
PROCEDURE FOR ASSEMBLY OF BASE CONNECTION

1. Assemble Post To Stub With Bolts And With One Flat Washer On Each Bolt Between Plates.
2. Shim As Required To Plumb Post (See Shim Detail)
3. Tighten All Bolts The Maximum Possible With 12" To 15" Wrench To Bed Washers And Shims And To Clean Bolt Threads Then Loosen Each Bolt In Turn And Retighten In A Systematic Order To The Prescribed Torque (See Table)
4. Burr Threads At Junction With Nut Using A Center Punch To Prevent Nut Loosening.

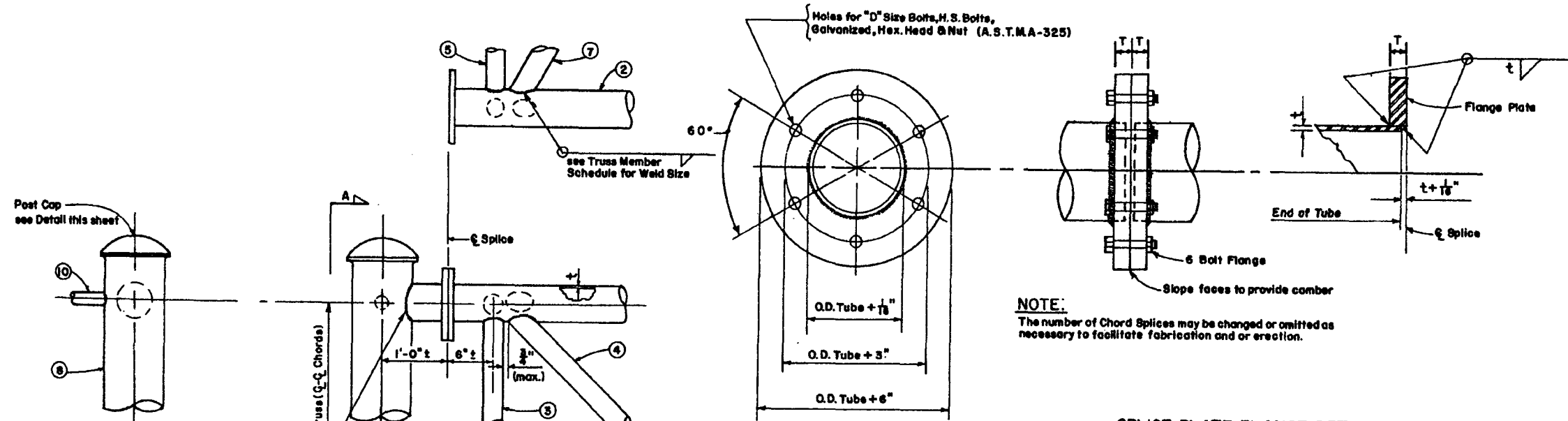
REVISIONS	
Date	Description
5-7-75	ORIGIN
6-7-75	Class & Concrete Added
5-76	Design Spec. Date Rev. to 1976

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
4-1-68	TORQUE			
4-1-68	SECTION & DIM.			
6-19-68	BOLT SIZE, TORQUE AND DIM.			
8-22-69	BOLT KEEPER WASHER ADDED			

STEEL BASE, FOUNDATION & FUSE & DETAILS				
STATE ROAD DEPARTMENT OF FLORIDA				
BRIDGE DIVISION				
STANDARD ROADSIDE SIGN				
BREAK-AWAY POST DETAILS				
APPROVED BY		PROJECT NO.		
Date	Name			
1-67	H.M.J.			
1-67	C.W.B.			
Drawing No. 4 of 4		Index No. 9535		



FOUNDATION DETAIL

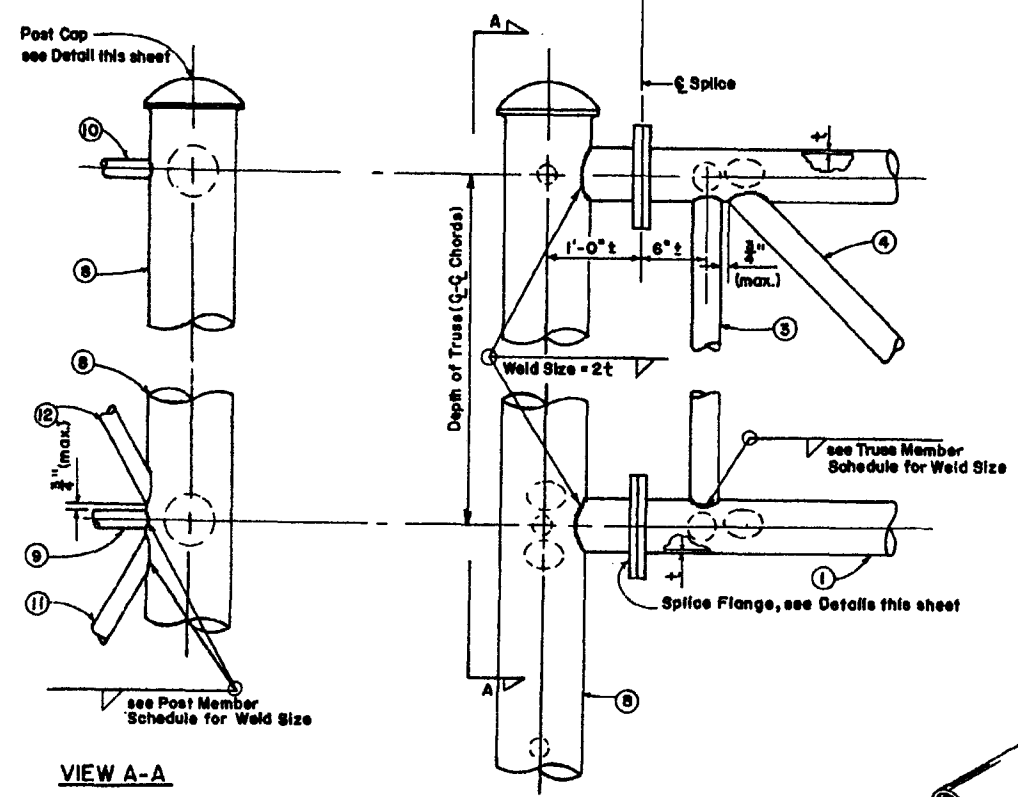


TUBE SIZE	T	BOLT SIZE "D"
2 1/4" x 1/8" to 6 1/2" x 1/4"	1 1/4"	3/8"
7" x 1/4" to 9" x 1/4"	1 1/4"	3/8"
7 1/2" x 5/16" to 9 1/2" x 5/16"	1 1/4"	7/8"

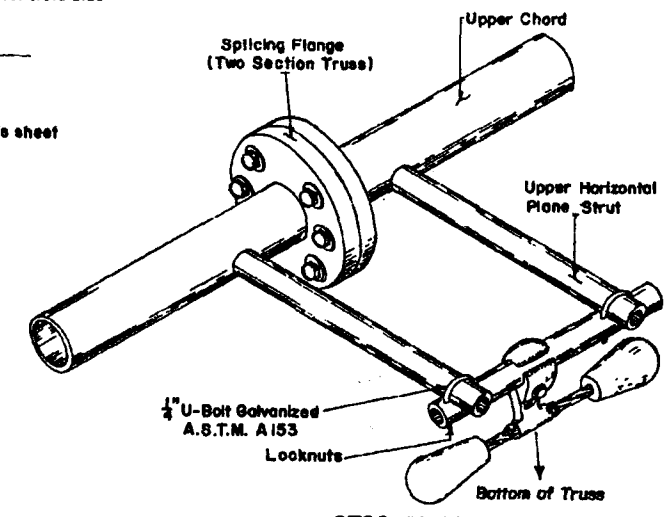
**SPLICE PLATE FLANGE DETAILS**  
 Aluminum Alloy 6061-T6 or 5154-H38 or Alloy 356-T7

**GENERAL NOTES**

- (1) For "General Notes" Covering Specifications and Materials, see Sheet 1 of 4 Index 9535
- (2) SHOP DRAWINGS: Contractor shall submit complete shop drawings before fabrication for approval.
- (3) COLUMN LENGTHS: It shall be the Contractor's responsibility to determine the length of column supports.



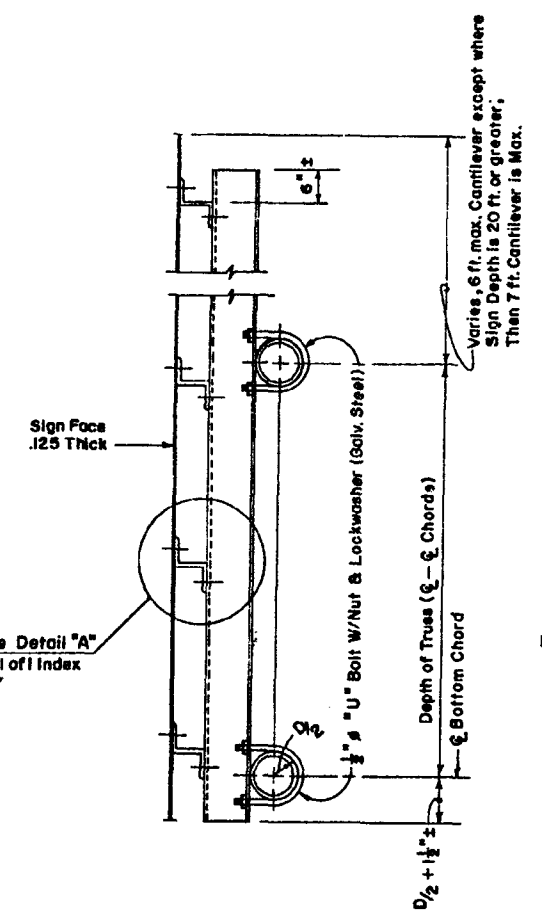
**VIEW A-A**



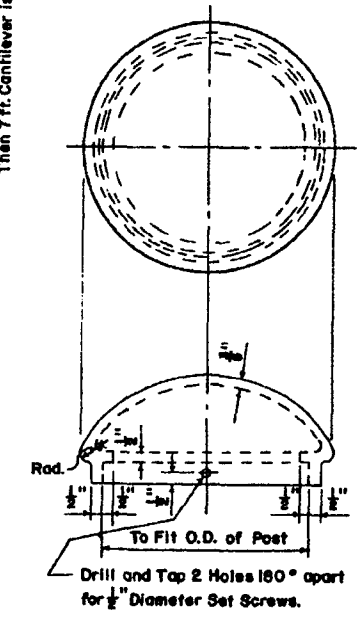
**STOCKBRIDGE-TYPE DAMPER**

Stockbridge-Type Damper Cat. 1708-200.1 damper placed at mid span or at the Contractor's option in lieu of this Stockbridge-Type Damper Sign Panels shall be attached at the time the structure is erected, or a temporary sign panel placed at time of erection or the overhead sign truss shall be wrapped in canvas.

TRUSS MEMBERS		POST MEMBERS	
THICKNESS	WELD SIZE	THICKNESS	WELD SIZE
1/8"	3/16"	1/8"	1/4"
3/16"	1/2"	3/16"	7/16"
1/4"	5/8"	1/4"	3/4"
5/16"	7/8"	5/16"	1"
3/8"	1"	3/8"	1 1/4"



**DETAIL OF SIGN FACE & TRUSS CONNECTION**  
 See Drawing 1 of 1 Index No. 11037



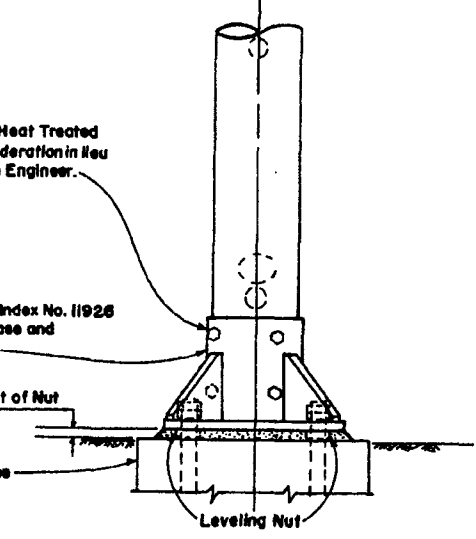
**POST CAP**  
 Aluminum Alloy 356-F

An Alternate Cast Base of Alloy 356 and Heat Treated to T6 Temper may be submitted for consideration in lieu of the Fabricated Base for approval by the Engineer.

See Drawing 1 of 1 Index No. 11926 For detail of Post Base and Anchor Bolts.

Minimum Grout = Height of Nut

Concrete Footing see Index No. 11201



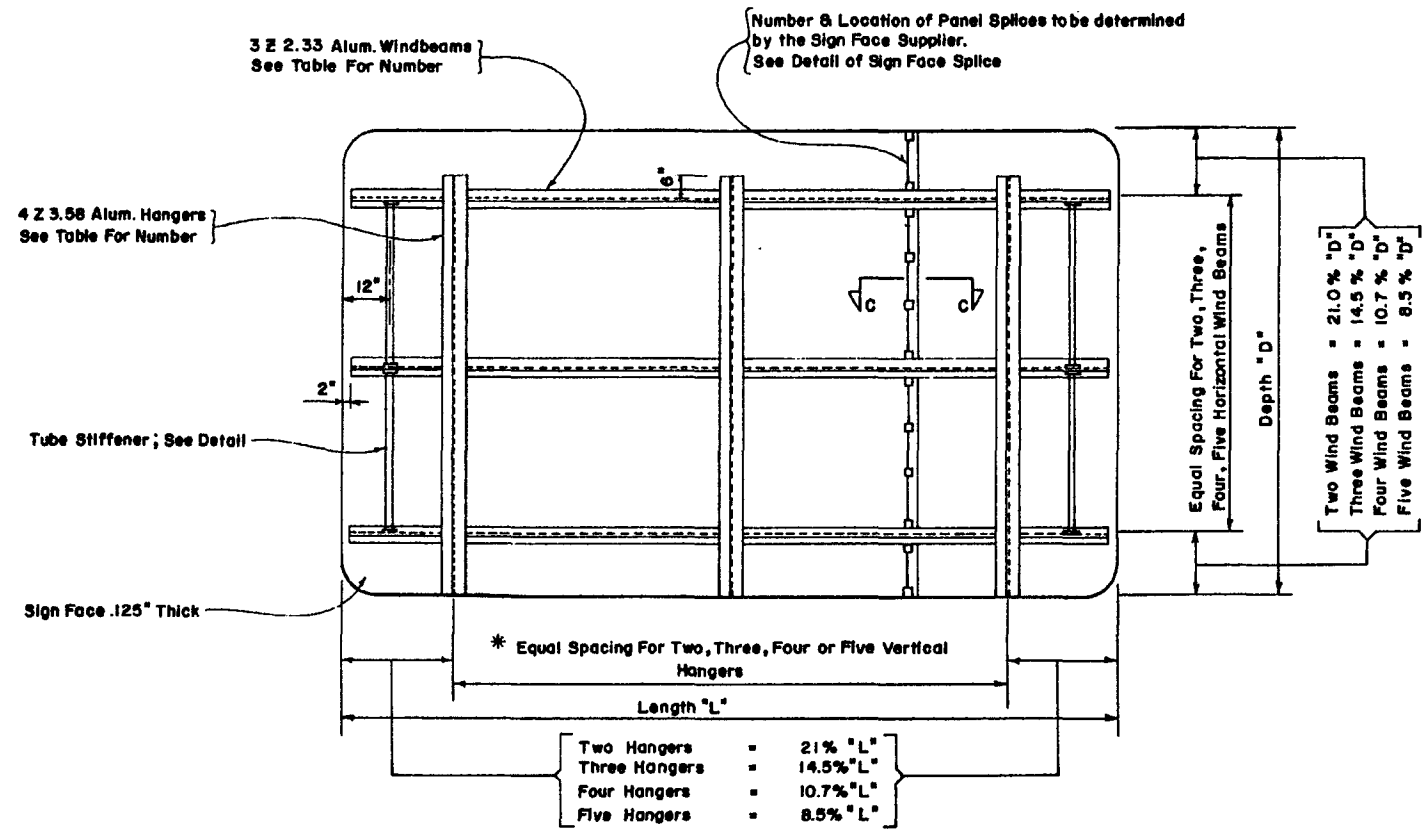
**ELEVATION**

**ALUMINUM TRUSSES ASSEMBLY DETAILS FOR TYPE A, B or C TRUSS**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES

**BRIDGE SPAN TRUSS FOR OVERHEAD SIGNS**

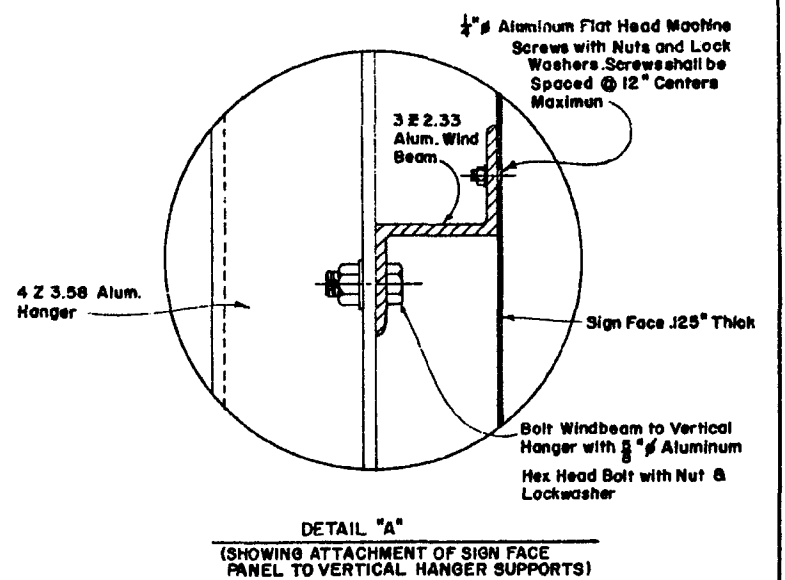
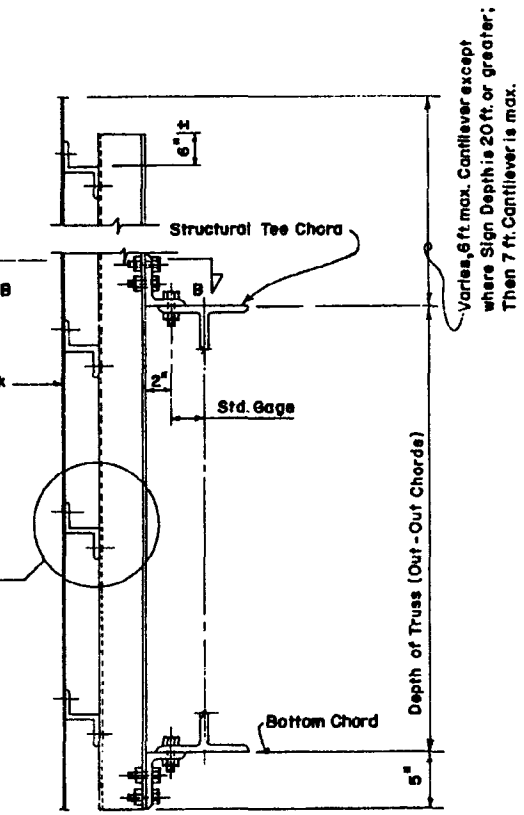
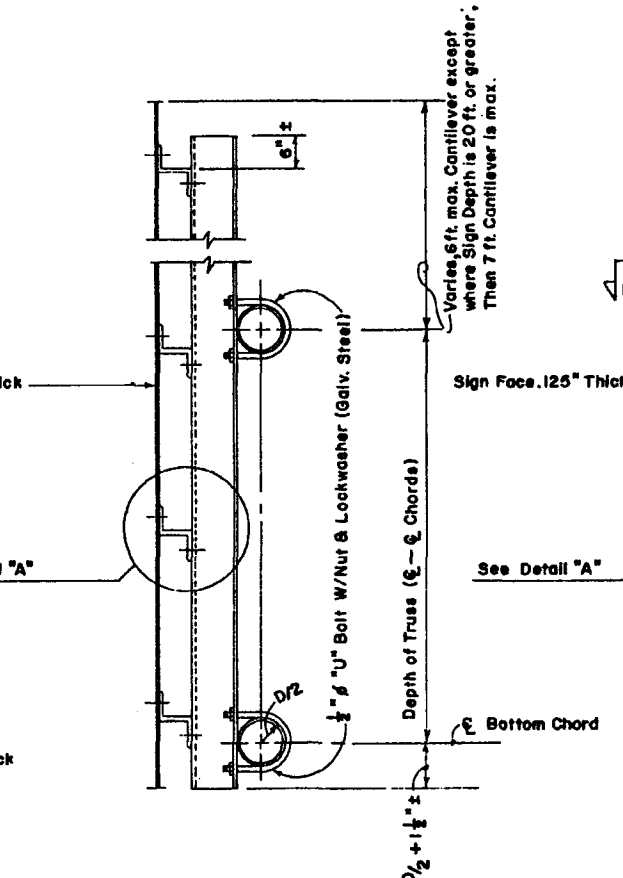
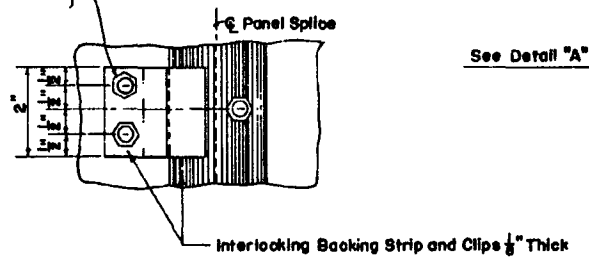
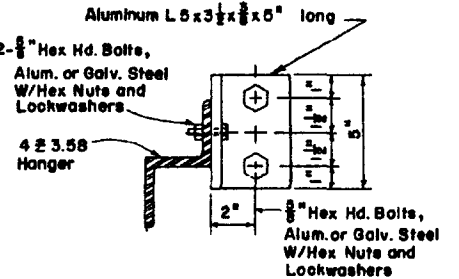
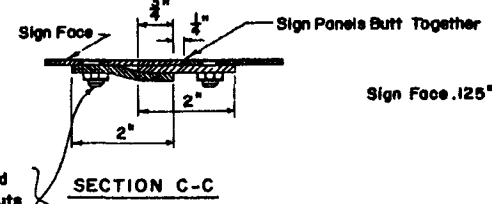
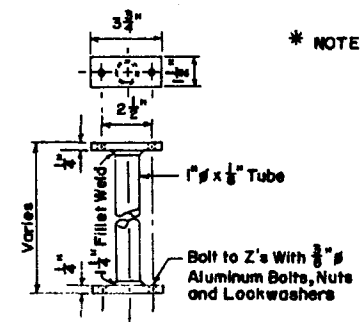
REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
4-72 Upper Col. Strut No. 10 Rev. to No. 9			
5-72 Sign Caps & Truss Connection			
8-74 INDEX 11435 ADDED			
DESIGNED BY HAV	DATE 11-71	APPROVED BY	
CHECKED BY CWB	DATE 11-71		
QUANTITY BY			
CHECKED BY		DRAWING NO. 1 of 1	INDEX NO. 10965
SUPERVISOR BY AJH			



Number of 3 Z 2.33 Horizontal Wind Beams for Sign Depth and Wind			Number of 4 Z 3.58 Vertical Hanger Beams for Sign Length			
WIND M.P.H.	NO. BEAMS	MAX. DEPTH	2 HANGERS SIGN LENGTH	3 HANGERS SIGN LENGTH	4 HANGERS SIGN LENGTH	5 HANGERS SIGN LENGTH
110	2	7'-3"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
110	3	10'-6"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
110	4	14'-3"	0 - 13'-0"	13'-1" - 18'-3"	18'-4" - 24'-9"	24'-10" - 31'-4"
110	5	18'-0"	0 - 13'-0"	13'-1" - 18'-3"	18'-4" - 24'-9"	24'-10" - 31'-4"
100	2	8'-3"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
100	3	11'-9"	0 - 15'-0"	15'-1" - 22'-3"	22'-4" - 30'-0"	30'-1" - 36'-0"
100	4	15'-8"	0 - 15'-0"	15'-1" - 22'-3"	22'-4" - 30'-0"	30'-1" - 36'-0"
100	5	20'-0"	0 - 11'-7"	11'-8" - 16'-4"	16'-5" - 22'-2"	22'-3" - 28'-0"
90	2	9'-0"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
90	3	13'-0"	0 - 15'-0"	15'-1" - 27'-3"	27'-4" - 37'-0"	
90	4	17'-6"	0 - 15'-0"	15'-1" - 27'-3"	27'-4" - 37'-0"	
90	5	22'-6"	0 - 14'-3"	14'-4" - 20'-0"	20'-1" - 27'-0"	27'-1" - 34'-3"
80	2	10'-3"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
80	3	14'-9"	0 - 15'-0"	15'-1" - 30'-0"	30'-1" - 45'-0"	
80	4	20'-0"	0 - 15'-0"	15'-1" - 25'-9"	25'-10" - 34'-10"	

**TYPICAL SIGN FACE ELEVATION FOR O.H. TRUSS**

\* NOTE: SPACING OF VERTICAL HANGERS MAY BE VARIED SLIGHTLY OR AS NECESSARY TO CLEAR THE TRUSS STRUTS AND DIAGONALS AT PANEL POINTS.



**GENERAL NOTES**

(1) For "General Notes" Covering Specification, Materials and Wind Loads; see Sheets 1 of 4 and 3 of 3; Index 9535

**DETAILS OF SIGN FACE & TRUSS CONNECTION**

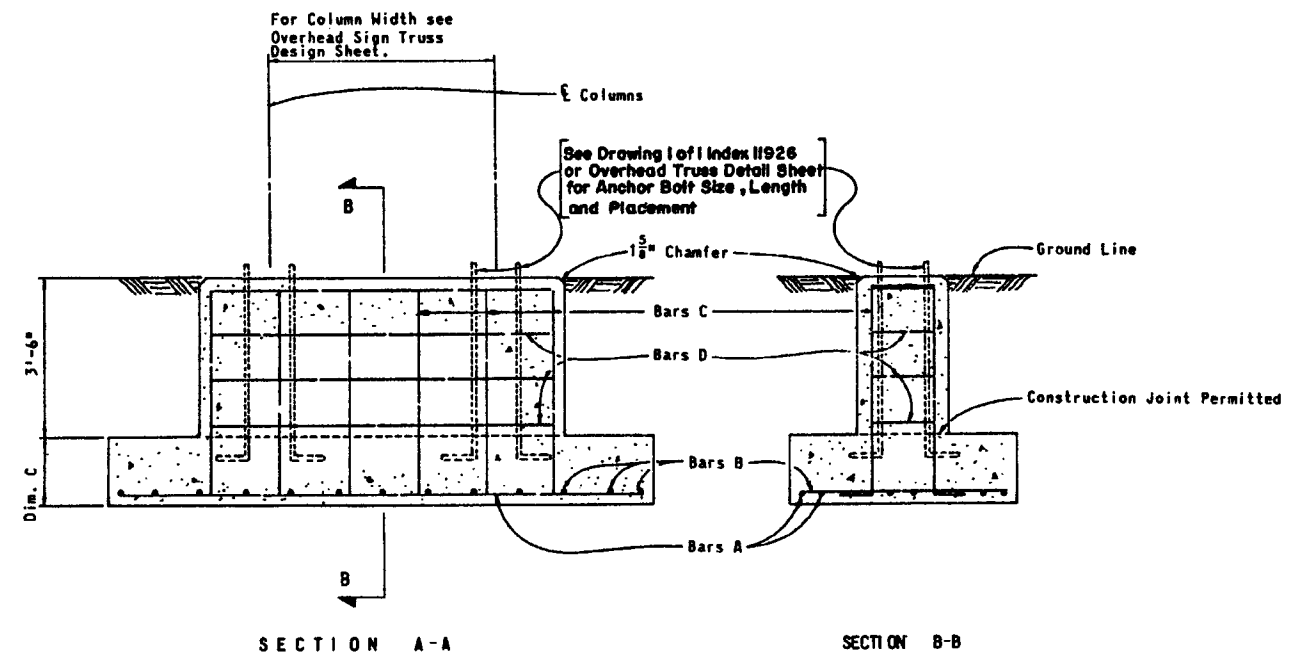
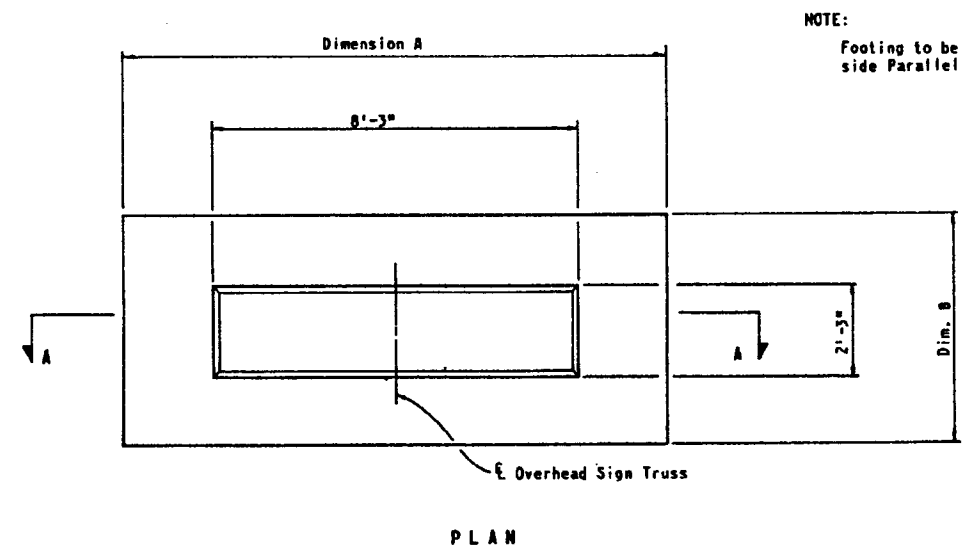
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
STRUCTURES

FOR ALUMINUM & STEEL OVERHEAD SIGN STRUCTURES

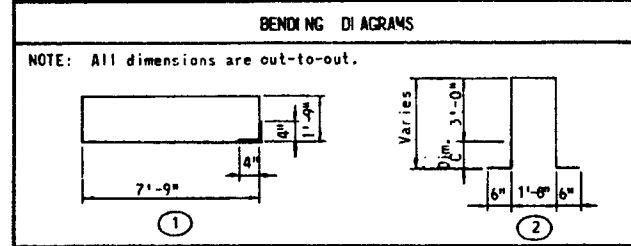
REVISED	DESCRIPTION	DATE	DESIGNED BY	CHECKED BY	DATE	APPROVED BY
3-74	(Rev. Round HD Bolts to Flat HD. Mach Screws)		C.W.B.	A.J.H.	5-72	T. Albin
5-78	REV. WIND LOADING				5-72	

1 of 1      11037

FOOTING DESIGNATION	FOOTING DIMENSIONS			BILL OF VARYING REINFORCING							
	DIMENSIONS			BARS A				BARS B			
	A	B	C	SIZE	LENGTH	SPACING	NO. REQ'D.	SIZE	LENGTH	SPACING	NO. REQ'D.
T-1	9'-0"	3'-6"	1'-6"	6	8'-6"	9"	5	6	3'-0"	17"	7
T-2	11'-6"	4'-3"	1'-6"	6	11'-0"	9"	6	5	3'-9"	12"	12
T-3	13'-0"	5'-0"	1'-6"	6	12'-6"	9"	7	6	4'-6"	15"	11
T-4	14'-6"	5'-6"	1'-6"	7	14'-0"	12"	6	5	5'-0"	12"	15
T-5	15'-6"	6'-0"	1'-9"	8	15'-0"	11"	7	5	5'-6"	12"	16
T-6	16'-6"	6'-3"	1'-9"	8	16'-0"	11 1/2"	7	5	5'-9"	12"	17
T-7	17'-6"	6'-6"	1'-9"	8	17'-0"	12"	7	5	6'-0"	12"	18
T-8	18'-6"	6'-9"	1'-9"	7	18'-0"	7 1/2"	11	5	6'-3"	12"	19
T-9	19'-0"	7'-3"	1'-9"	8	18'-6"	9"	10	6	6'-9"	17"	14
T-10	19'-6"	7'-9"	1'-9"	8	19'-0"	7 1/4"	13	5	7'-3"	12"	20
T-11	20'-0"	7'-9"	2'-0"	8	19'-6"	7 1/4"	13	6	7'-3"	18"	14
T-12	20'-6"	8'-0"	2'-0"	10	20'-0"	12"	9	5	7'-6"	12"	21
T-13	21'-0"	8'-3"	2'-0"	8	20'-6"	7 1/4"	13	5	7'-9"	10 1/2"	25
T-14	21'-6"	8'-6"	2'-0"	10	21'-0"	12"	9	5	8'-0"	12"	22
T-15	22'-0"	8'-9"	2'-0"	10	21'-6"	11"	10	5	8'-3"	10 1/2"	25
T-16	22'-6"	9'-0"	2'-0"	8	22'-0"	6"	18	5	8'-6"	12"	23
T-17	23'-0"	9'-0"	2'-0"	10	22'-6"	8 1/2"	13	5	8'-6"	10"	28
T-18	23'-6"	9'-3"	2'-0"	10	23'-0"	8 3/4"	13	5	8'-9"	12"	24
T-19	24'-0"	9'-3"	2'-0"	11	23'-6"	8 3/4"	13	5	8'-9"	11 1/4"	25
T-20	24'-6"	9'-6"	2'-0"	11	24'-0"	9"	13	5	9'-0"	12"	25
T-21	25'-0"	9'-6"	2'-0"	11	24'-6"	9"	13	6	9'-0"	14"	22
T-22	25'-0"	9'-9"	2'-0"	11	24'-6"	9 1/4"	13	6	9'-3"	14"	22
T-23	25'-0"	10'-0"	2'-0"	11	24'-6"	9 1/2"	13	6	9'-6"	14"	22
T-24	25'-6"	9'-9"	2'-0"	10	25'-0"	6 5/8"	17	5	9'-3"	12"	26
T-25	25'-6"	10'-0"	2'-0"	10	25'-0"	6"	20	5	9'-6"	12"	26
T-26	26'-0"	9'-9"	2'-0"	11	25'-6"	6 5/8"	17	6	9'-3"	18"	18
T-27	26'-0"	10'-0"	2'-0"	10	25'-6"	6"	20	6	9'-6"	18"	18
T-28	26'-6"	10'-0"	2'-0"	10	26'-0"	6"	20	5	9'-6"	12"	27
T-29	27'-0"	10'-0"	2'-0"	10	26'-6"	6"	20	5	9'-6"	13 1/4"	25
T-30	27'-6"	10'-0"	2'-0"	11	27'-0"	6"	20	5	9'-6"	12"	28
T-31	28'-0"	9'-9"	2'-0"	11	27'-6"	6 1/2"	18	5	9'-3"	10"	34
T-32	28'-0"	10'-0"	2'-0"	11	27'-6"	6"	20	5	9'-6"	10"	34
T-33	28'-6"	9'-9"	2'-0"	10	28'-0"	4 3/4"	25	5	9'-3"	12"	29
T-34	28'-6"	10'-0"	2'-0"	11	28'-0"	6"	20	5	9'-6"	12"	29
T-35	29'-0"	9'-9"	2'-0"	10	28'-6"	4 5/8"	25	6	9'-3"	18"	20
T-36	29'-0"	10'-0"	2'-0"	11	28'-6"	6"	20	6	9'-6"	18"	20
T-37	29'-6"	9'-9"	2'-0"	10	29'-0"	4 5/8"	25	5	9'-3"	12"	30
T-38	29'-6"	10'-0"	2'-0"	11	29'-0"	6"	20	5	9'-6"	12"	30
T-39	30'-0"	9'-9"	2'-0"	11	29'-6"	5 1/2"	21	6	9'-3"	14 3/4"	25
T-40	30'-0"	10'-0"	2'-0"	11	29'-6"	5 7/8"	22	6	9'-6"	14 3/4"	25



- NOTES:
- All Reinforcing Steel shall have a 3" Minimum of Concrete Cover and shall be of Grade 60.
  - All exposed edges to be Chamfered 3/4" unless otherwise shown.
  - All Concrete shall be Class II. The Minimum Specified Compressive Strength at 28 days ( $f'_c$ ) shall be 3,000 p.s.i.
  - If Contractor elects to furnish a cast base in lieu of D.O.T. Standard Detail, he shall furnish an Anchor Bolt Spacing Plan for field use.



BILL OF CONSTANT REINFORCING

MARK	SIZE	LENGTH	NO. REQ'D.	DIAGRAM NO.
C	4	VARIES	6	(2)
D	4	19'-8"	4	(1)

OVERHEAD TYPE A, B or C TRUSSES

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES

FOOTINGS FOR OVERHEAD SIGN TRUSSES

ROAD NO.	COUNTY	PROJECT NO.

REVISIONS	DATE	DESCRIPTION
7-73		Class II Concrete Added
8-73		Rev. TITLE
9-74		Rev. Anchor Bolt Hole

Designed by	D.K.S.	Date	4/73
Checked by	C.W.B.	Date	4/73
Quantity by			
Checked by			
Supervised by	A.J.H.		

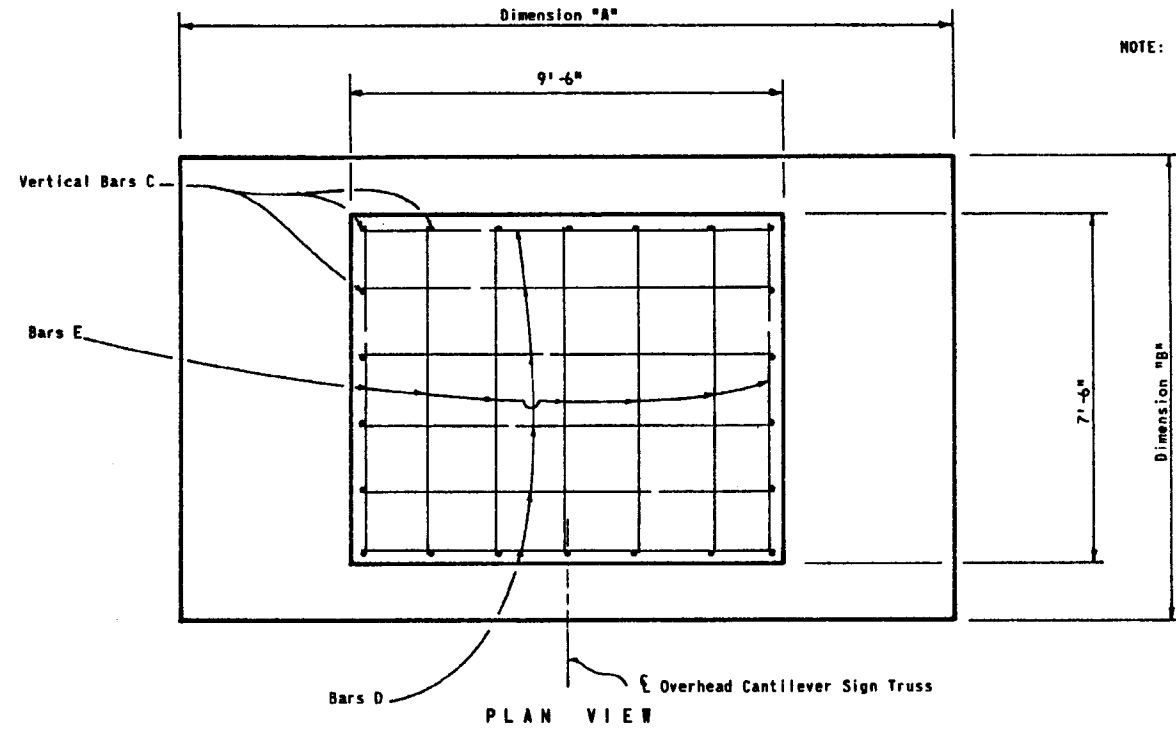
APPROVED BY

1 of 2

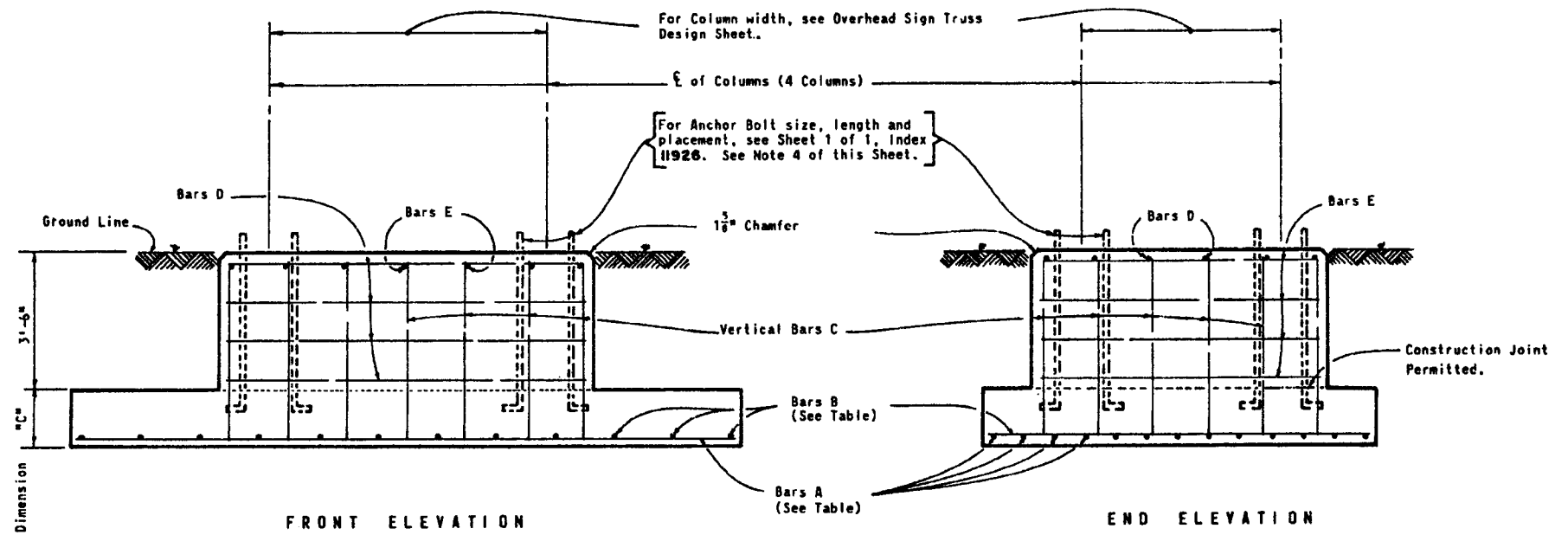
11,201

FOOTING DESIGNATION	FOOTING DIMENSION			BILL OF VARYING REINFORCING							
	DIMENSION			BARS A				BARS B			
	A	B	C	SIZE	LENGTH	SPACING	NO. REQ'D.	SIZE	LENGTH	SPACING	NO. REQ'D.
C-1	10'-0"	8'-6"	1'-6"	5	9'-6"	6"	17	5	8'-0"	9 1/2"	13
C-2	11'-0"	8'-6"	1'-6"	7	10'-6"	12"	9	6	8'-0"	14"	10
C-3	12'-0"	9'-3"	1'-6"	6	11'-6"	8 1/4"	13	5	8'-9"	11 1/2"	13
C-4	13'-0"	9'-9"	1'-6"	6	12'-6"	9 3/4"	13	6	9'-3"	15"	11
C-5	14'-0"	9'-9"	1'-6"	6	13'-6"	9 3/4"	13	6	9'-3"	18"	10
C-6	15'-0"	10'-0"	1'-6"	6	14'-6"	9 1/2"	13	6	9'-6"	14 1/2"	13
C-7	16'-0"	10'-0"	1'-6"	7	15'-6"	9 1/2"	13	5	9'-6"	11 5/8"	17
C-8	17'-0"	9'-9"	1'-6"	8	16'-6"	9 3/4"	13	6	9'-3"	18"	12
C-9	17'-6"	9'-9"	1'-9"	8	17'-0"	9 3/4"	13	5	9'-3"	12"	18
C-10	18'-0"	10'-0"	1'-9"	8	17'-6"	9 1/2"	13	5	9'-6"	10"	22
C-11	19'-0"	10'-0"	1'-9"	7	18'-6"	7 1/4"	17	6	9'-6"	17"	14
C-12	20'-0"	9'-9"	1'-9"	9	19'-6"	9 1/4"	13	6	9'-3"	18"	14
C-13	20'-6"	9'-9"	1'-9"	8	20'-0"	6 15/16"	17	5	9'-3"	12"	21
C-14	21'-0"	10'-0"	1'-9"	8	20'-6"	6"	20	5	9'-6"	10 1/4"	25
C-15	22'-0"	9'-9"	1'-9"	9	21'-6"	6 15/16"	17	5	9'-3"	10 3/4"	25
C-16	22'-6"	10'-0"	1'-9"	9	22'-0"	6"	20	5	9'-6"	12"	23
C-17	23'-0"	10'-0"	1'-9"	9	22'-6"	6"	20	5	9'-6"	10"	28
C-18	24'-0"	9'-9"	1'-9"	10	23'-6"	6 15/16"	17	5	9'-3"	11 3/4"	25
C-19	24'-0"	9'-9"	2'-0"	10	23'-6"	6 15/16"	17	5	9'-3"	11 3/4"	25
C-20	24'-6"	9'-9"	2'-0"	10	24'-0"	6 15/16"	17	5	9'-3"	12"	25
C-21	24'-6"	10'-0"	2'-0"	9	24'-0"	6"	20	5	9'-6"	12"	25
C-22	25'-0"	10'-0"	2'-0"	10	24'-6"	6"	20	6	9'-6"	14"	22
C-23	25'-6"	9'-9"	2'-0"	9	25'-0"	4 5/8"	25	5	9'-3"	12"	26
C-24	25'-6"	10'-0"	2'-0"	10	25'-0"	6"	20	5	9'-6"	12"	26
C-25	26'-0"	9'-9"	2'-0"	9	25'-6"	4 5/8"	25	6	9'-3"	18"	18
C-26	26'-0"	10'-0"	2'-0"	10	25'-6"	6"	20	6	9'-6"	18"	18
C-27	26'-6"	9'-9"	2'-0"	11	26'-0"	6 15/16"	17	5	9'-3"	12"	27
C-28	26'-6"	15'-0"	2'-0"	10	26'-0"	6"	20	5	9'-6"	12"	27
C-29	27'-0"	9'-9"	2'-0"	11	26'-6"	6 15/16"	17	6	9'-3"	16 11/16"	20
C-30	27'-0"	10'-0"	2'-0"	11	26'-6"	6"	20	6	9'-6"	16 11/16"	20
C-31	27'-6"	9'-9"	2'-0"	10	27'-0"	4 5/8"	25	5	9'-3"	12"	28
C-32	27'-6"	10'-0"	2'-0"	11	27'-0"	6"	20	5	9'-6"	12"	28
C-33	28'-0"	9'-9"	2'-0"	10	27'-6"	4 5/8"	25	5	9'-3"	10"	34
C-34	28'-0"	10'-0"	2'-0"	11	27'-6"	6"	20	5	9'-6"	10"	34
C-35	28'-6"	9'-9"	2'-0"	10	28'-0"	4 5/8"	25	5	9'-3"	12"	29
C-36	28'-6"	10'-0"	2'-0"	11	28'-0"	6"	20	5	9'-6"	12"	29
C-37	29'-0"	9'-9"	2'-0"	10	28'-6"	4 5/8"	25	6	9'-3"	18"	20
C-38	29'-0"	10'-0"	2'-0"	10	28'-6"	4 5/8"	25	6	9'-6"	18"	20
C-39	29'-6"	9'-9"	2'-0"	10	29'-0"	4 5/8"	25	5	9'-3"	12"	30
C-40	29'-6"	10'-0"	2'-0"	11	29'-0"	4 3/4"	25	5	9'-6"	12"	30

BILL OF CONSTANT REINFORCING			
MARK	SIZE	LENGTH	NO. REQ'D.
C	4	3'-0"+Dim.C	22
D	4	9'-0"	12
E	4	7'-0"	13

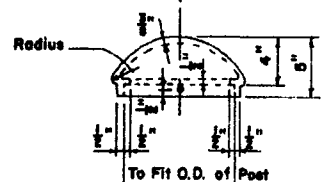
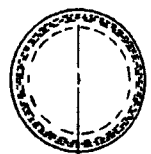


NOTE: Footing to be placed with longest side (Dim. A) parallel to Roadway.



- NOTES:
- All Reinforcing Steel shall have a 3" Minimum of Concrete Cover and shall be of Grade 60.
  - All exposed edges to be Chamfered 3/8" unless otherwise shown.
  - All Concrete shall be Class II. The Minimum Specified Compressive Strength at 28 days (f'c) shall be 3,000 p.s.i.
  - If Contractor elects to furnish a cast base in lieu of D.O.T. Standard Detail, he shall furnish an Anchor Bolt Spacing Plan for field use.

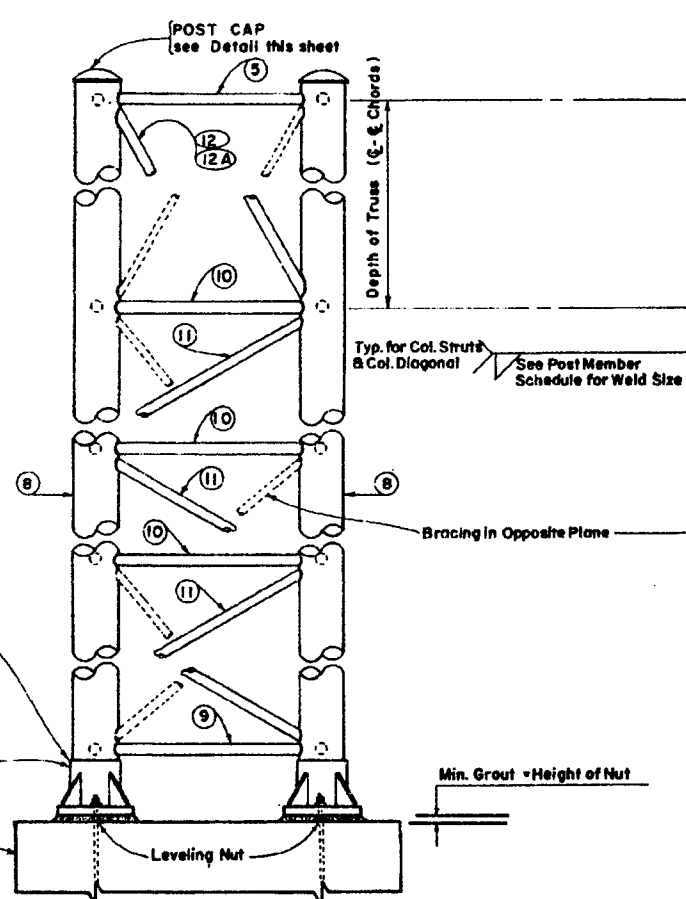
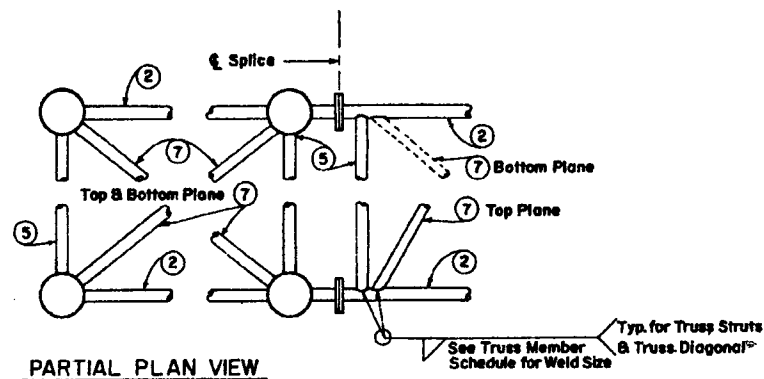
OVERHEAD CANTILEVER TRUSSES			
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
FOOTINGS FOR OVERHEAD SIGN TRUSSES			
REVISED	ROAD NO.	COUNTY	PROJECT NO.
7-73 Class II Concrete Added			
8-73 Rev Anchor Bolt Note			
8-73 Rev TITLE	Designed by	D.K.S.	4/73
11-73 Rev Footing Dimension & Bill of Constant Reinforcing	Checked by	C.W.B.	4/73
	Quantity by		
	Checked by		
	Reported by	A.J.H.	
	Drawn by		
	Scale		
	Sheet No.	2 of 2	
	Date		11, 201
	APPROVED BY	<i>T. All</i>	



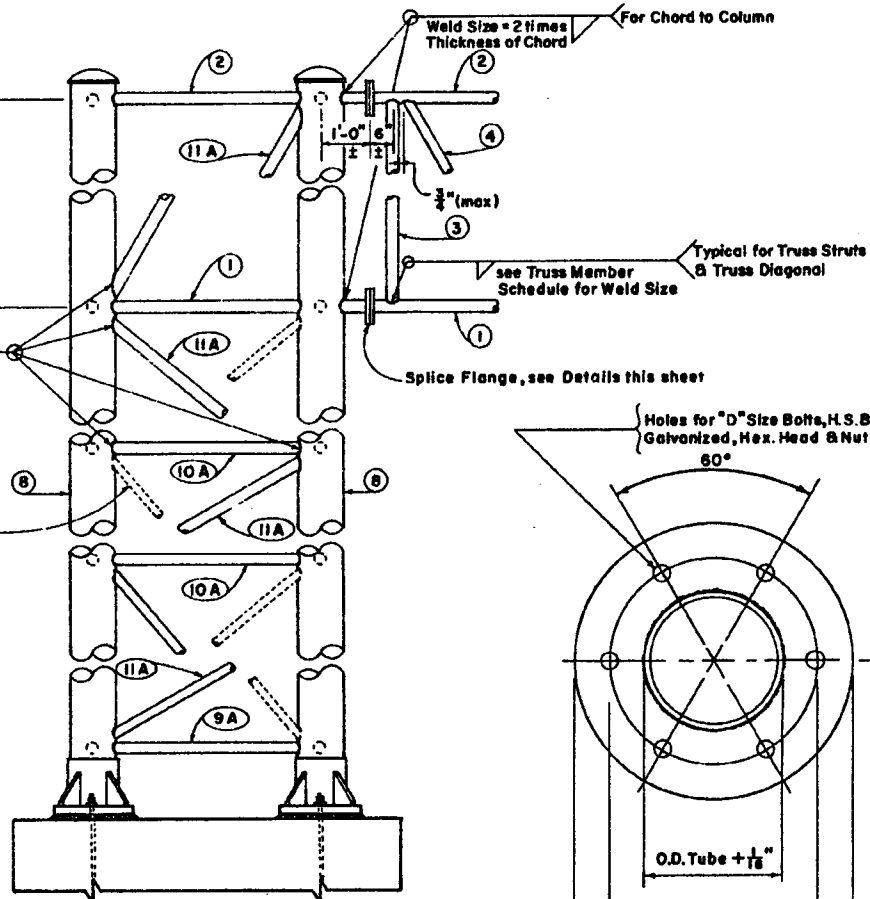
Drill 2 Top Holes 180° apart for 1/2" Dia. set screws.

**POST CAP**  
Aluminum Alloy 356-F

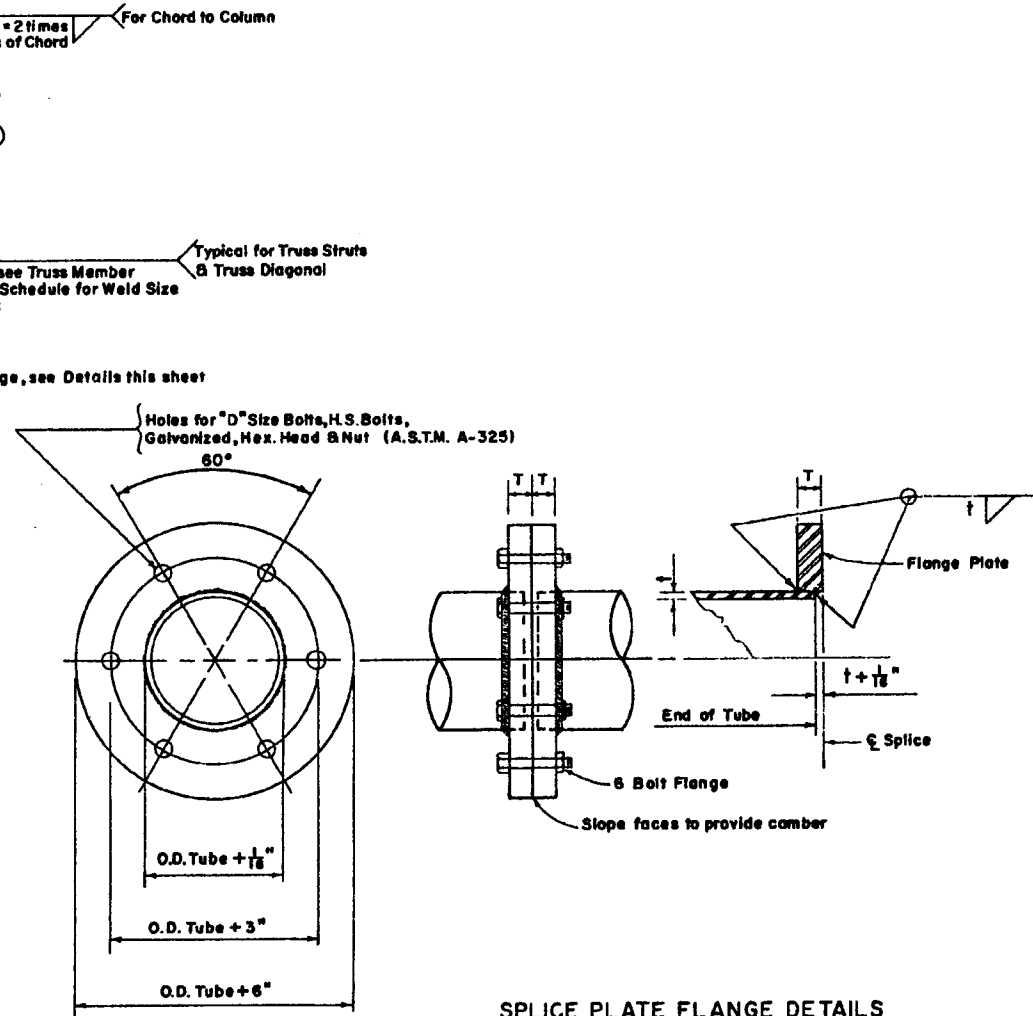
SCHEDULE FILLET WELD SIZE			
TRUSS MEMBERS		POST MEMBERS	
THICKNESS	WELD SIZE	THICKNESS	WELD SIZE
1/8"	3/16"	1/8"	1/4"
3/16"	1/4"	3/16"	3/16"
1/4"	5/16"	1/4"	3/8"
		5/16"	1/2"
		3/8"	3/4"
		1/2"	3/4"



**END VIEW**



**PARTIAL ELEVATION**



**SPLICE PLATE FLANGE DETAILS**  
Aluminum Alloy 6061-T6 or 5154-H38 or Alloy 356-T6

For Detail of Aluminum Base Pl. & Anchor Bolt, See Drawing 1 of 1, Index No. 11926.

An Alternate Cast Base of Alloy 356 and T6 Temper may be submitted for Consideration in lieu of the Fabricated Base for approval by the Engineer.

Concrete Footing see Index No. 11201

Min. Grout = Height of Nut

**GENERAL NOTES**

- (1) For "General Notes" Covering Specifications and Materials, see Sheet 1 of 4 Index 9535
- (2) SHOP DRAWINGS: Contractor shall submit complete shop drawings before fabrication for approval.
- (3) COLUMN LENGTHS: It shall be the Contractor's responsibility to determine the length of Column Supports.
- (4) DETAIL of SIGN FACE & TRUSS CONNECTION: see Drawing 1 of 1 Index No. 11037
- (5) FOR WALKWAY DETAILS: See Drawing 1 of 2 Index No. 11144

TUBE SIZE	T	BOLT SIZE "D"
2 3/4" x 1/8" to 6 1/2" x 1/4"	1 1/2"	3/8"
7" x 1/4" to 9" x 1/4"	1 1/2"	3/4"
7 1/2" x 5/16" to 9 1/2" x 5/16"	1 1/2"	7/8"

REVISIONS			
Date	Description	By	Appr'd
3-73	DIMENSION E ADDED	HAV	3-73
6-76	Base & Anchor Bolt Details Added	CWB	3-73
3-77	Walkway Detail Note Added		

Designed by	HAV	3-73
Checked by	CWB	3-73
Quantity by		
Checked by		
Submitted by	AJH	

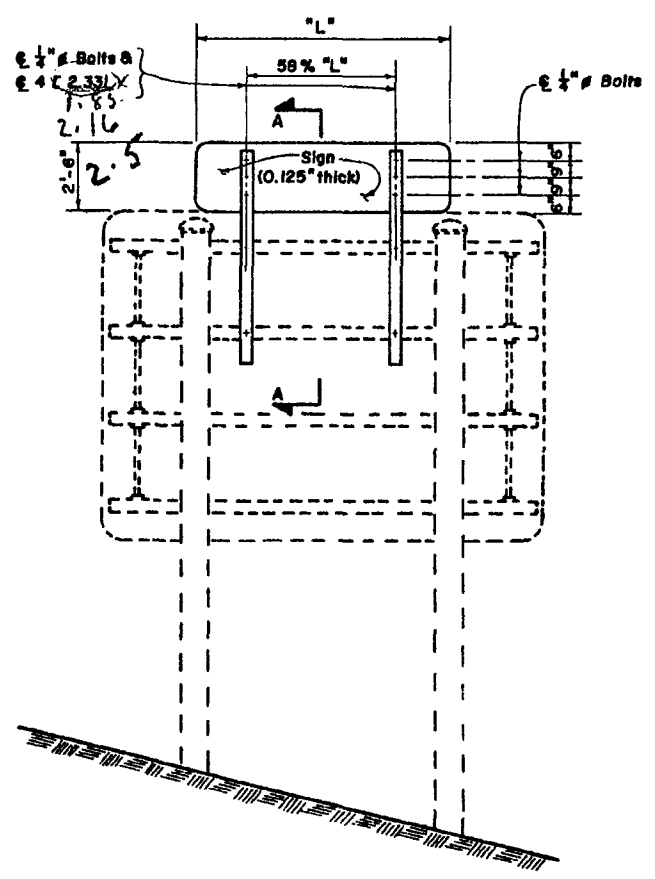
  

APPROVED BY	<i>T. al...</i>
Sheet No.	1 of 1
Index No.	11226

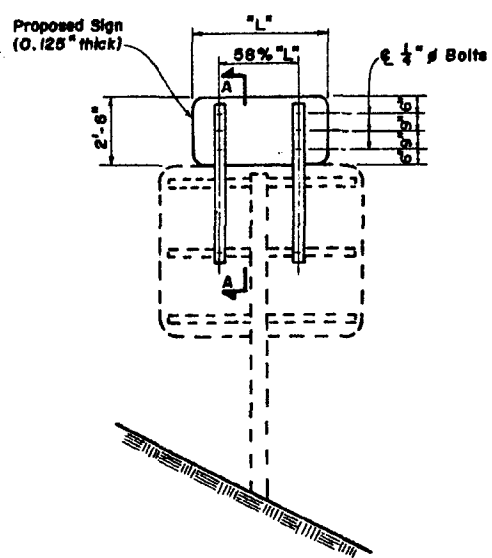
ALUMINUM CANTILEVER  
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
STRUCTURES

TRUSSES FOR OVERHEAD SIGNS

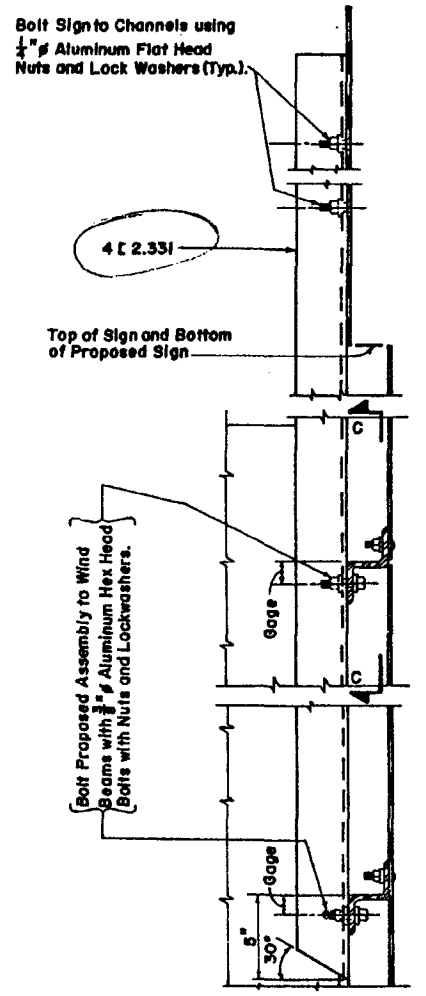
ROAD NO.	COUNTY	PROJECT NO.



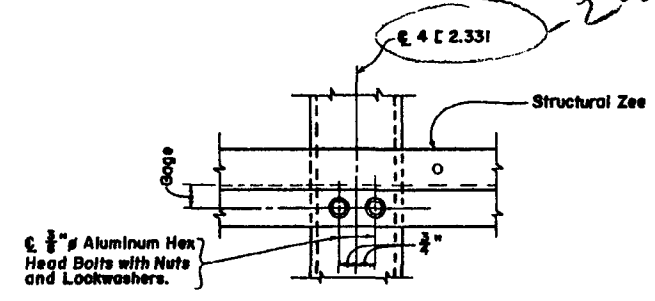
**ELEVATION**  
(Showing Mounting of Proposed Assembly to Type "A" or "B" Ground Sign)



**ELEVATION**  
(Showing Mounting of Proposed Assembly to Type "C" Ground Sign)



**SECTION A-A**



**SECTION C-C**

**GENERAL NOTES**

**DESIGN SPECIFICATION:** Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, A.A.S.H.O., 1975

**SHEETS AND PLATES:** Material used shall meet the requirements of Aluminum Association Alloy 6061-T6 and ASTM Specification B-209. Sheets are to be degreased, etched, neutralized and treated with Alodine 1200, Iridite 14-2, Bonderite 721, or equal. No stenciling permitted on Sheets.

**MATERIALS:** All Aluminum Materials shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the following ASTM Specifications for the following; Sheet and Plates B-209; Extruded Shapes B-221 and Standard Structural Shapes B-308.

**ALUMINUM BOLTS, NUTS & LOCKWASHERS:** Aluminum Bolts shall meet the requirements of Aluminum Association Alloy 2024-T4 or 6061-T6 (ASTM Spec. B-211). The Bolts shall have an Anodic Coating of at least 0.0002" thick and be Chromate Sealed. Lockwashers shall meet the requirements of Aluminum Association Alloy 7075-T6 (ASTM Specification B-221). Nuts shall meet the requirement of Aluminum Association Alloy 6262-T9 or 6061-T6.

**SIGN FACE:** All Sign Face Corners shall be rounded. See Sign Layout Sheet for Dimension "L" and Sign Face Details.

**MATERIAL STRESSES:** All allowable stresses are in accordance with the Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, A.A.S.H.O., 1975, for all materials shown in the Plans.

**SHOP DRAWINGS:** Prior to fabrication, the Contractor shall submit complete shop drawings for approval.

**OVERHEAD SIGNS:** For Details to mount Proposed Assembly to Overhead Signs refer to Details for mounting to Type "A" or "B" Ground Signs.

**INTERCHANGE AND EXIT NUMBERING FOR SIGNS WITH HORIZONTAL WIND BEAMS**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
DETAILS FOR MOUNTING EXIT NUMBERING PANELS TO HIGHWAY SIGNS			
ROAD NO.	COUNTY	PROJECT NO.	
REVISIONS		APPROVED BY	
Date	Description	Name	Date
5-76	Design Spec. Date Rev. to 1975 & Revised Sign - Structure Structures Details.	RDS	7-75
		Checked by	AJH 7-75
		Checked by	
		Checked by	
		Supervised by	
		Drawing No.	Sheet No.
		1 of 1	11671



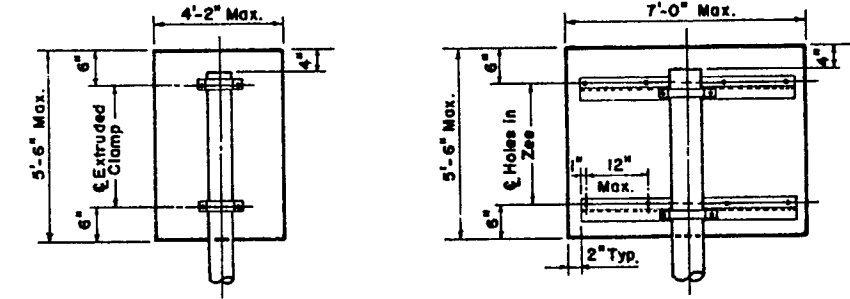








Table with columns for COL. SIZE, HEIGHT (FT.), and SIGN IDENTIFICATION NUMBER. It includes technical diagrams for SIGN PANEL DETAILS (TYPE I and II BRACKET), SLIP BASE DETAILS, and SLEEVE & BASE PLATE DETAILS. The table also contains general notes, slip base notes, and project information including '90 M.P.H. WIND LOADING' and 'STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES'.

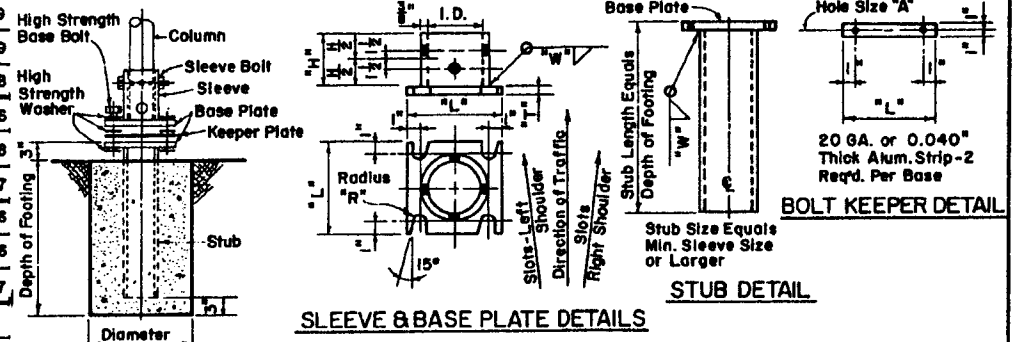


SIGN PANEL DETAILS TYPE I BRACKET SIGN PANEL DETAILS TYPE II BRACKET

GENERAL NOTES

1- For Sign Identification Numbers See Sheet Titled "Sign Profile and Identification Numbers"... 2- All Columns in the Table Are Aluminum Tube, Given as Outside Diameter Times the Wall Thickness...

Table with columns for COLUMN SIZE, SLEEVE I.D. (MAX), SLEEVE WALL \*T, SLEEVE HEIGHT, WELD W, BASE PLATE LxLxT, RADIUS R, BASE BOLT SIZE, BASE BOLT TORQUE FT-LBS, HOLE SIZE A.



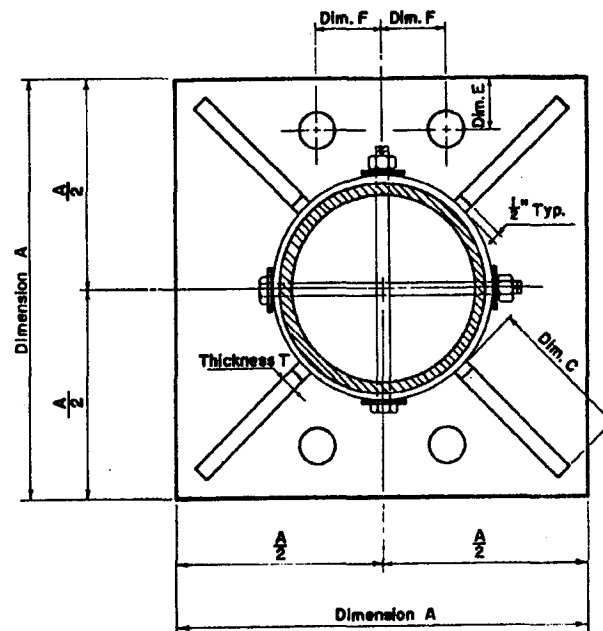
Base Detail, Slip Base Notes, and project information including '90 M.P.H. WIND LOADING', 'STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES', and 'SINGLE COLUMN GROUND SIGNS'.

SLIP BASE NOTES

1- Inside Diameter (I.D.) of Sleeve to be no more than 1/8 Larger than Outside Diameter (O.D.) of Column. 2- Sleeve Bolts to be 1/2 with Locknuts, Steel A.S.T.M.-A307 Galvanized or Aluminum Assoc. Alloy 2024-T4 or 6061-T6 (ASTM B-211).

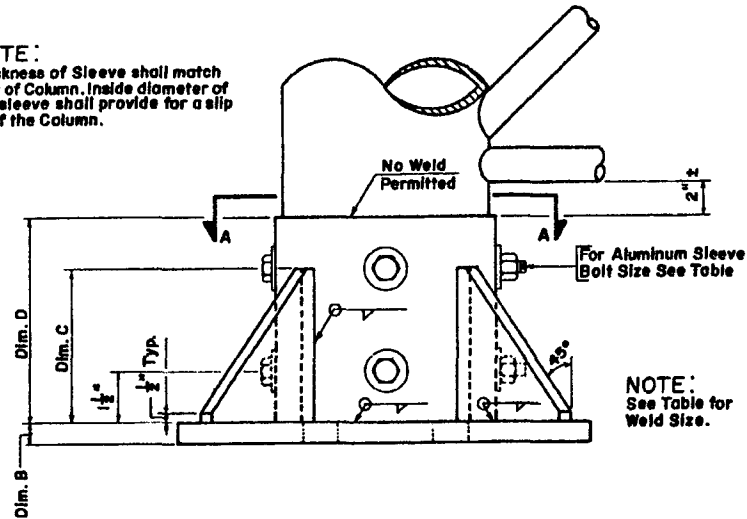
COLUMN SIZE (O.D. x WALL)	PLATE SIZE A	PLATE THICKNESS B	F I N S		FILLET WELD SIZE	SLEEVE HEIGHT DIMENSION D	ANCHOR BOLT LOCATION		ANCHOR BOLT DIAMETER	ANCHOR BOLT DIAMETER & LENGTH	DIMENSION M (NOMINAL)	SLEEVE BOLT DIAMETER
			THICKNESS T	DIMENSION C			DIMENSION E	DIMENSION F				
12" x 1/2"	2'-0"	1 3/8"	1 1/2"	9"	7/16"	1'-0"	3"	3 1/2"	2 5/8"	2 1/2" x 6'-6"	9 3/4"	7/8"
12" x 1/2"	1'-11"	1 1/2"	1 1/2"	8"	7/16"	1'-0"	3"	3 1/2"	2 5/8"	2" x 5'-10"	9"	3/4"
12" x 3/4"	1'-10"	1 1/2"	1"	7 1/2"	7/16"	1'-0"	3"	3 1/2"	2 5/8"	2" x 5'-10"	9"	3/4"
12" x 1"	1'-9"	1"	1"	7 1/2"	7/16"	1'-0"	2"	3 1/2"	2 1/8"	1 3/4" x 5'-1"	7 3/4"	3/4"
11" x 1/2"	1'-10"	1 1/2"	1"	8"	7/16"	1'-0"	2"	3 1/2"	2 5/8"	2" x 5'-10"	9"	3/4"
11" x 3/4"	1'-8"	1"	1"	7"	7/16"	1'-0"	2"	3 1/2"	2 1/8"	1 3/4" x 5'-1"	7 3/4"	3/4"
11" x 1"	1'-7"	1"	7/8"	6 1/2"	3/8"	1'-0"	2"	3 1/2"	1 13/16"	1 1/2" x 4'-4"	6 1/2"	3/4"
10 1/2" x 1/2"	1'-9"	1"	1"	7 1/2"	7/16"	1'-0"	2"	3 1/2"	2 1/8"	1 3/4" x 5'-1"	7 3/4"	3/4"
10 1/2" x 3/4"	1'-7"	1"	7/8"	6 1/2"	7/16"	1'-0"	2"	3 1/2"	2 1/8"	1 3/4" x 5'-1"	7 3/4"	3/4"
10 1/2" x 1"	1'-6"	7/8"	3/4"	6"	3/8"	11"	2"	3"	1 13/16"	1 1/2" x 4'-4"	6 1/2"	3/4"
10" x 1/2"	1'-8"	1"	1"	7"	7/16"	11"	2"	3"	2 1/8"	1 3/4" x 5'-1"	7 3/4"	3/4"
10" x 3/4"	1'-7"	1"	7/8"	7"	3/8"	11"	2"	3"	1 13/16"	1 1/2" x 4'-4"	6 1/2"	3/4"
10" x 1"	1'-6"	7/8"	3/4"	6"	3/8"	11"	2"	3"	1 13/16"	1 3/8" x 4'-0"	6 1/4"	3/4"
9 1/2" x 1/2"	1'-7"	1"	7/8"	7"	7/16"	11"	2"	3"	2 1/8"	1 3/4" x 5'-1"	7 3/4"	3/4"
9 1/2" x 3/4"	1'-6"	7/8"	3/4"	6 1/2"	3/8"	11"	2"	3"	1 13/16"	1 1/2" x 4'-4"	6 1/2"	3/4"
9 1/2" x 1"	1'-5"	7/8"	3/4"	6"	3/8"	11"	2"	3"	1 13/16"	1 3/8" x 4'-0"	6 1/4"	3/4"
9" x 1/2"	1'-7"	1"	7/8"	7"	7/16"	10"	2"	3"	1 13/16"	1 1/2" x 4'-4"	6 1/2"	3/4"
9" x 3/4"	1'-6"	7/8"	3/4"	6 1/2"	3/8"	10"	2"	3"	1 13/16"	1 3/8" x 4'-0"	6 1/4"	3/4"
9" x 1"	1'-5"	7/8"	3/4"	6"	3/8"	10"	2"	3"	1 13/16"	1 1/4" x 3'-8"	5 3/4"	3/4"
8 1/2" x 1/2"	1'-7"	1"	7/8"	7"	7/16"	10"	2"	3"	1 13/16"	1 1/2" x 4'-4"	6 1/2"	3/4"
8 1/2" x 3/4"	1'-6"	7/8"	3/4"	6 1/2"	3/8"	10"	2"	3"	1 13/16"	1 3/8" x 4'-0"	6 1/4"	3/4"
8 1/2" x 1"	1'-4"	7/8"	3/4"	5 3/4"	3/8"	10"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
8" x 1/2"	1'-6"	7/8"	3/4"	6"	3/8"	9 1/2"	2"	3"	1 13/16"	1 3/8" x 4'-0"	6 1/4"	3/4"
8" x 3/4"	1'-5"	7/8"	3/4"	6"	3/8"	9 1/2"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
8" x 1"	1'-4"	7/8"	3/4"	5 3/4"	3/8"	9 1/2"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
7 1/2" x 1/2"	1'-6"	7/8"	3/4"	6"	3/8"	9"	2"	3"	1 13/16"	1 3/8" x 4'-0"	6 1/4"	3/4"
7 1/2" x 3/4"	1'-5"	7/8"	3/4"	6"	3/8"	9"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
7 1/2" x 1"	1'-3"	7/8"	3/4"	5 1/2"	3/8"	9"	2"	2 1/4"	1 7/8"	1 1/2" x 3'-4"	5 1/2"	3/4"
7" x 1/2"	1'-5"	7/8"	3/4"	6"	3/8"	9"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
7" x 3/4"	1'-4"	7/8"	3/4"	5 3/4"	3/8"	9"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
7" x 1"	1'-3"	7/8"	3/4"	5 1/2"	3/8"	9"	2"	2 1/4"	1 7/8"	1 1/2" x 3'-4"	5 1/2"	3/4"
6 1/2" x 1/2"	1'-4"	7/8"	3/4"	5 3/4"	3/8"	8"	2"	2 1/2"	1 7/8"	1 1/4" x 3'-8"	5 3/4"	3/4"
6 1/2" x 3/4"	1'-3"	7/8"	3/4"	5 1/2"	3/8"	8"	2"	2 1/4"	1 7/8"	1 1/2" x 3'-4"	5 1/2"	3/4"
6 1/2" x 1"	1'-2"	7/8"	3/4"	5 1/4"	3/8"	8"	2"	2"	1 7/8"	1" x 2'-11"	5"	3/4"
6" x 1/2"	1'-3"	7/8"	3/4"	5 1/2"	3/8"	8"	2"	2 1/4"	1 7/8"	1 1/2" x 3'-4"	5 1/2"	3/4"
6" x 3/4"	1'-3"	7/8"	3/4"	5 1/2"	3/8"	8"	2"	2 1/4"	1 7/8"	1 1/2" x 3'-4"	5 1/2"	3/4"
6" x 1"	1'-2"	7/8"	3/4"	5 1/4"	3/8"	8"	2"	2"	1 7/8"	1" x 2'-11"	5"	3/4"
5 1/2" x 1/2"	1'-3"	7/8"	3/4"	5 1/2"	3/8"	7"	2"	2"	1 7/8"	1 1/2" x 3'-4"	5 1/2"	3/4"
5 1/2" x 3/4"	1'-1"	7/8"	3/4"	5"	3/8"	7"	1 3/4"	1 3/4"	1 7/8"	7/8" x 2'-7"	4 3/4"	3/4"
5" x 1/2"	1'-2"	7/8"	3/4"	5 1/4"	3/8"	7"	2"	2"	1 7/8"	1" x 2'-11"	5"	3/4"
5" x 3/4"	1'-1"	7/8"	3/4"	5"	3/8"	7"	1 3/4"	1 3/4"	1 7/8"	7/8" x 2'-7"	4 3/4"	3/4"
4 3/4" x 1/2"	1'-0"	7/8"	3/4"	4 3/4"	3/8"	7"	1 3/4"	1 3/4"	1 7/8"	7/8" x 2'-7"	4 3/4"	3/4"
4 1/2" x 1/2"	1'-0"	1/2"	1/2"	4 3/4"	1/8"	7"	1 3/4"	1 1/2"	1 7/8"	3/4" x 2'-3"	4 1/2"	1/2"
4 1/2" x 3/4"	1'-0"	1/2"	1/2"	4 3/4"	1/8"	7"	1 3/4"	1 1/2"	1 7/8"	3/4" x 2'-3"	4 1/2"	1/2"
4" x 1/2"	1'-0"	1/2"	1/2"	4 3/4"	1/8"	7"	1 3/4"	1 1/2"	1 7/8"	3/4" x 2'-3"	4 1/2"	1/2"

NOTE: For Column Size not Tabulated use next Larger Diameter and Wall Thickness.



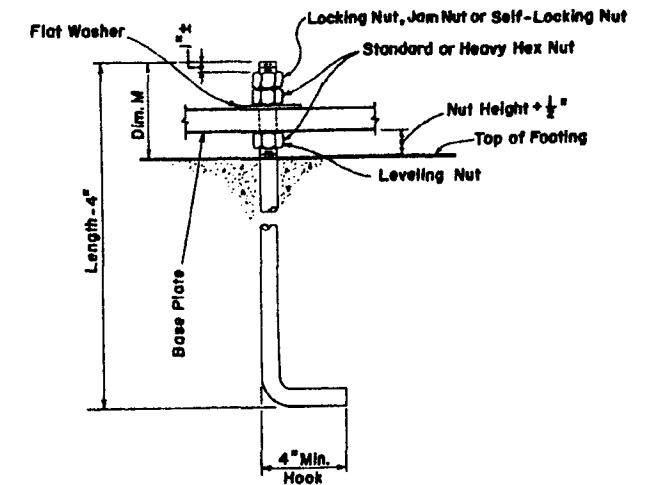
SECTION A-A

NOTE: Thickness of Sleeve shall match that of Column. Inside diameter of the sleeve shall provide for a slip fit of the Column.



ELEVATION

NOTE: See Table for Weld Size.



ANCHOR BOLT DETAIL

**SPECIFICATIONS**

**EXTRUDED TUBING:** The material used shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the A.S.T.M. Specifications B-221.

**WELDING RODS:** Aluminum Association Alloy No. 5556 Filler Wire.

**TOLERANCE:** All above materials shall be in keeping with the A.S.T.M. Specifications.

**ALUMINUM BOLTS, NUTS, AND LOCKWASHERS:** Aluminum Bolts shall meet the requirements of the Aluminum Association Alloy 2024-T4 or 6061-T6 (A.S.T.M. Specification B-211). The Bolts shall have an anodic coating at least 0.0002" thick and Chromate Sealed Lockwashers shall meet the requirements of the Aluminum Association Alloy 7075-T6 (A.S.T.M. Specification B-221). Nuts shall meet the requirements of the Aluminum Association Alloy 6262-T9 or 6061-T6.

**MATERIAL STRESSES:** All allowable stresses are in accordance with the "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals," A.A.S.H.O., 1975 and approved revisions for all materials shown on the Plans.

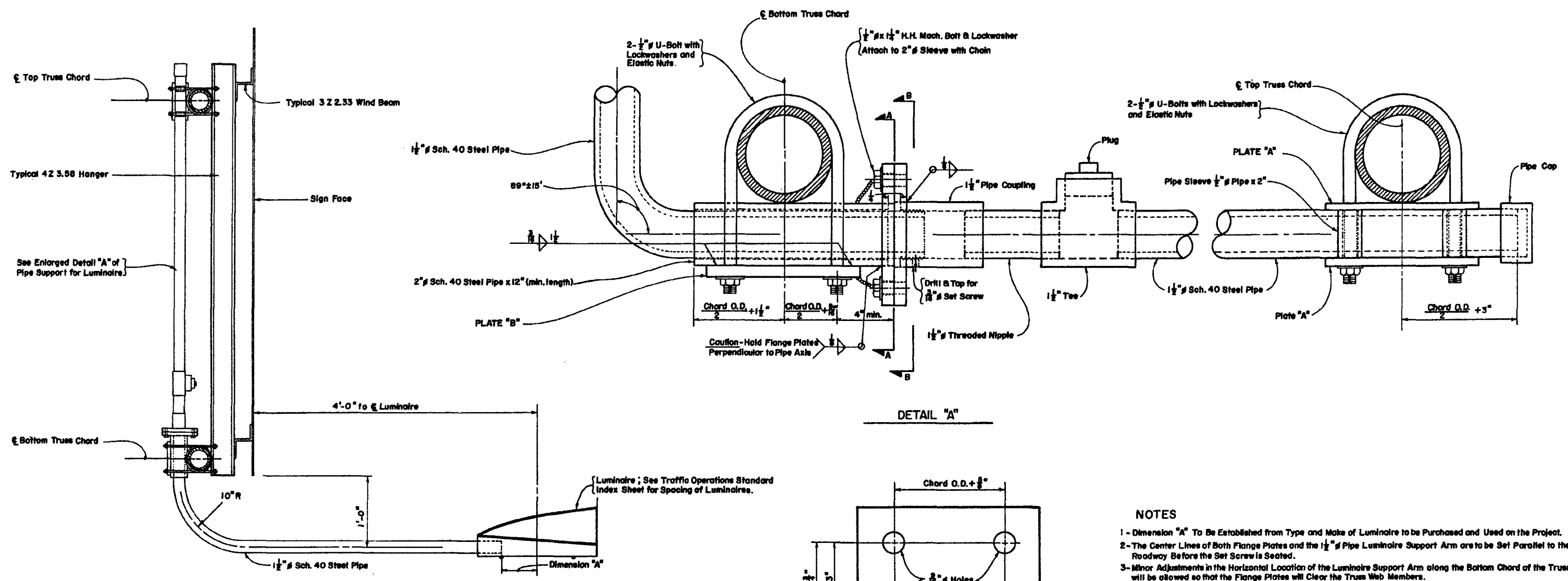
**SHEETS AND PLATES:** The material used shall meet the requirements of the Aluminum Association Alloy 6061-T6 and also the A.S.T.M. Specifications B-209.

**SHOP DRAWINGS:** The Contractor shall submit complete Shop Drawings before fabrication for approval by the Engineer.

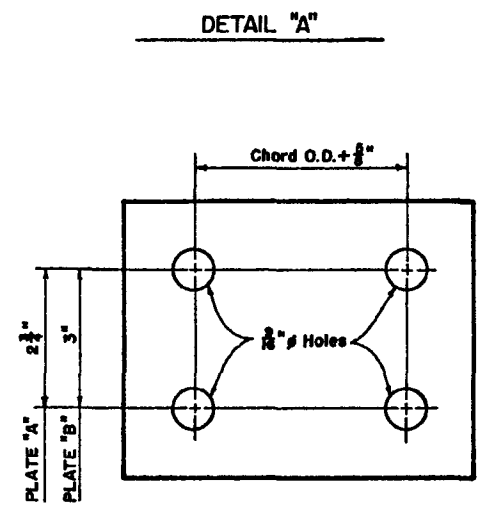
**STEEL BOLTS, NUTS & LOCKWASHERS:** All Anchor Bolts, Nuts and Lockwashers shall meet the requirements of A.S.T.M. Specification A-307 and shall be hot dip galvanized in accordance with the requirements of A.S.T.M. Specification A-153.

BASES FOR OVERHEAD BRIDGE TRUSS  
4 POST CANTILEVER TRUSS  
SINGLE POST CANTILEVER

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
		Approved By: <i>T. All</i> Designed by: HAV 5-76 Checked by: CWB 6-76 Quantity by: Checked by: Supervised by: AJH		1 of 1 11926



SECTION THROUGH SIGN SUPPORT AT LUMINAIRE

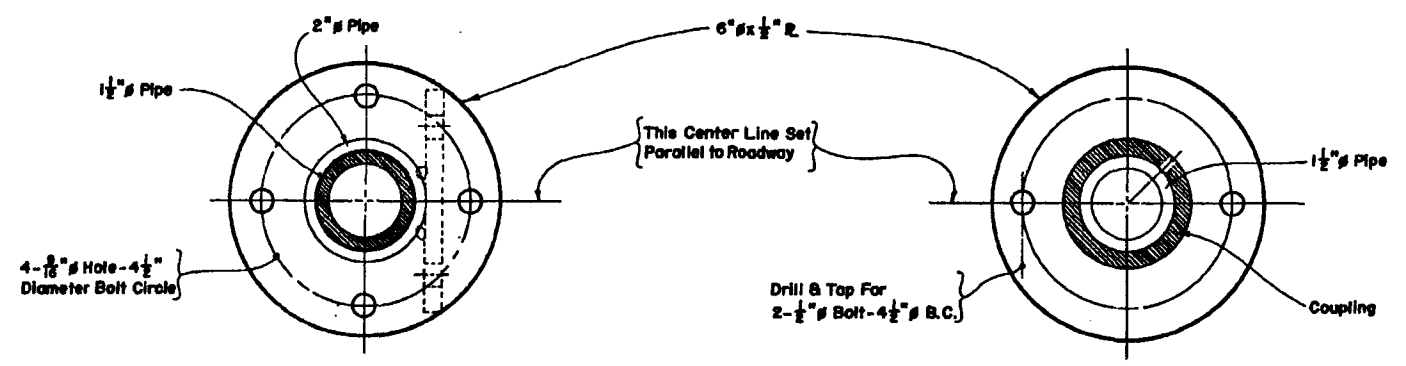


DETAIL "A"

NOTES

- 1 - Dimension "A" To Be Established from Type and Make of Luminaire to be Purchased and Used on the Project.
- 2 - The Center Lines of Both Flange Plates and the 1 1/2" Pipe Luminaire Support Arm are to be Set Parallel to the Roadway Before the Set Screw is Seated.
- 3 - Minor Adjustments in the Horizontal Location of the Luminaire Support Arm along the Bottom Chord of the Truss will be allowed so that the Flange Plates will Clear the Truss Web Members.
- 4 - All Steel Pipe shall meet the Strength Requirements or ASTM Specification A-53 Grade "A" or Grade "B". Steel Plates shall meet the Requirements of A-36 and Bolts, Nuts and Washers shall meet the Requirements of ASTM A307.
- 5 - All items shall be Hot Dip Galvanized after Fabrication in Accordance with the Requirements of ASTM A123 and/or A153.
- 6 - Luminaire Support Arm shall be free to rotate in a clockwise or counter clockwise direction. When service or maintenance is required for Sign Face or Vertical Face of Truss; Support Arm shall be capable of being locked in a Position 90° from Parallel to the Roadway for Unobstructed Working Clearance.

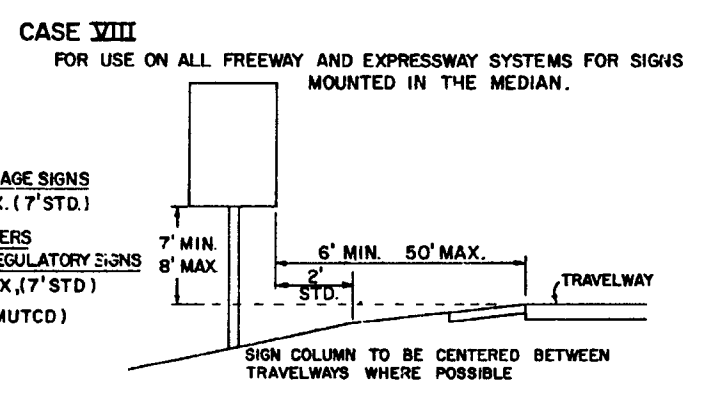
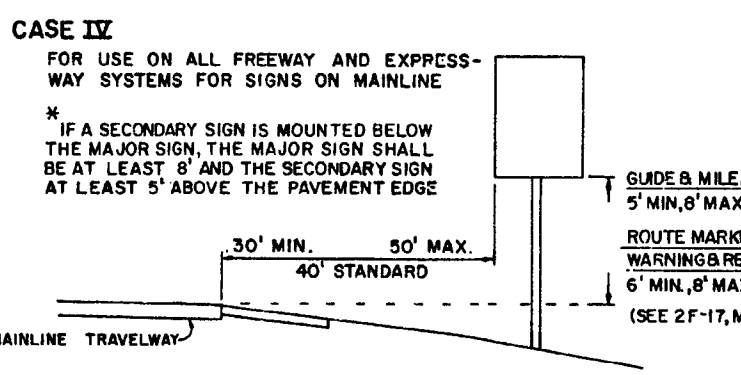
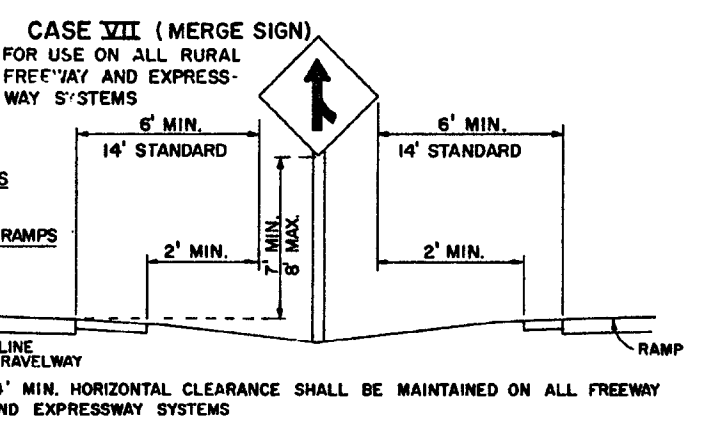
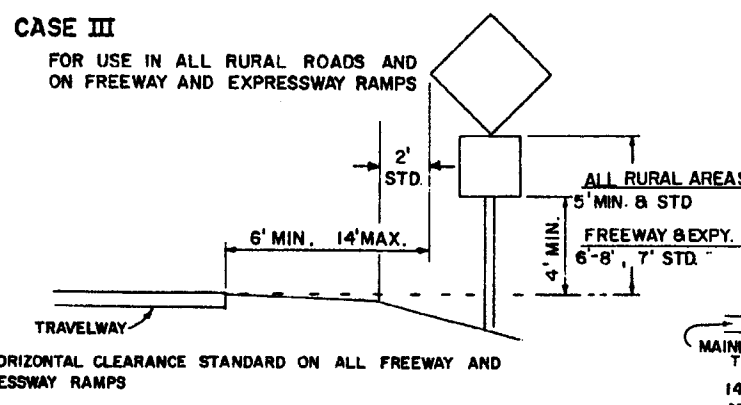
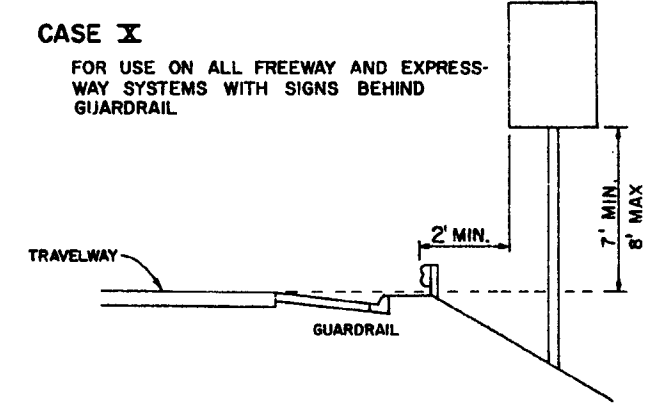
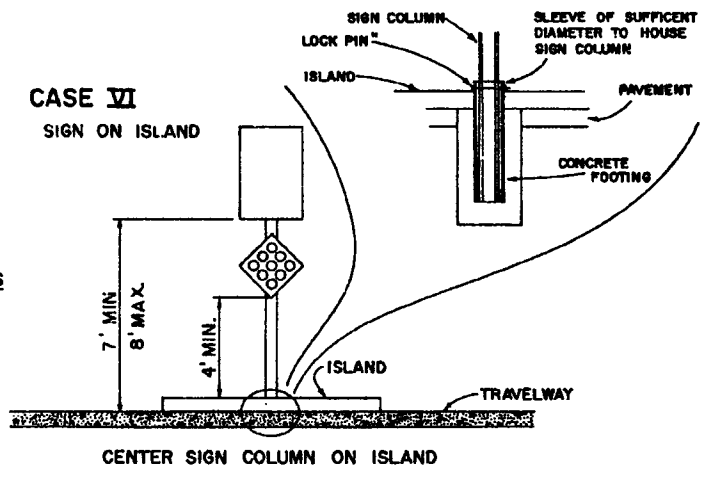
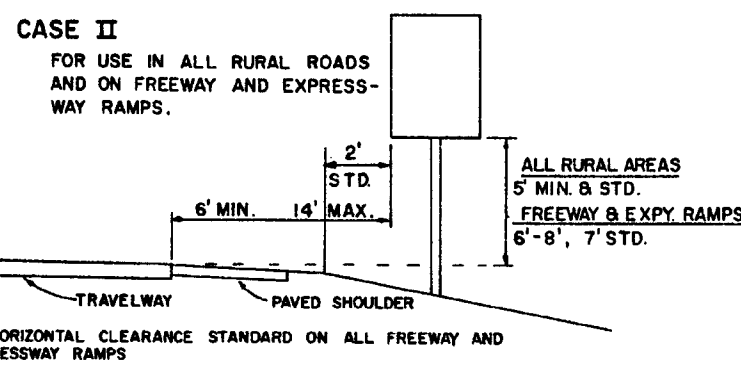
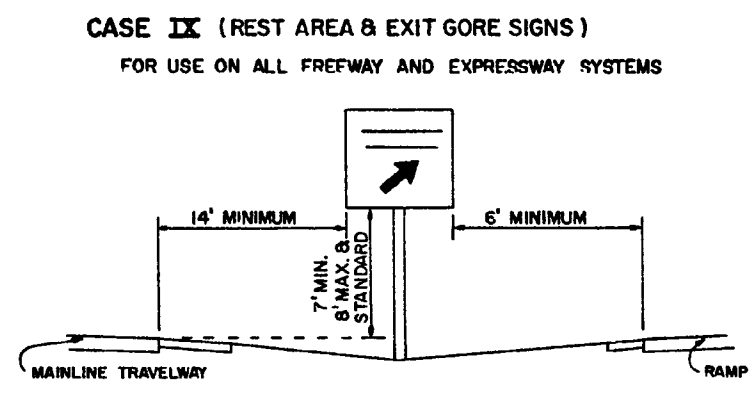
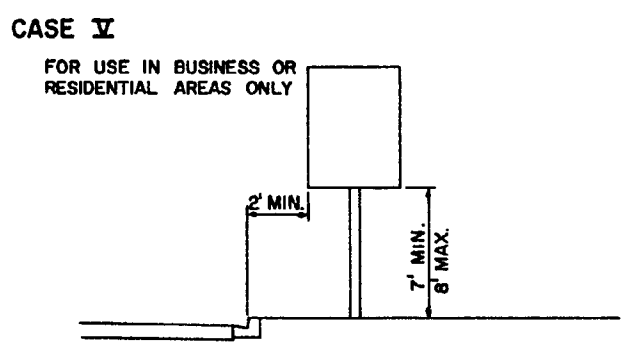
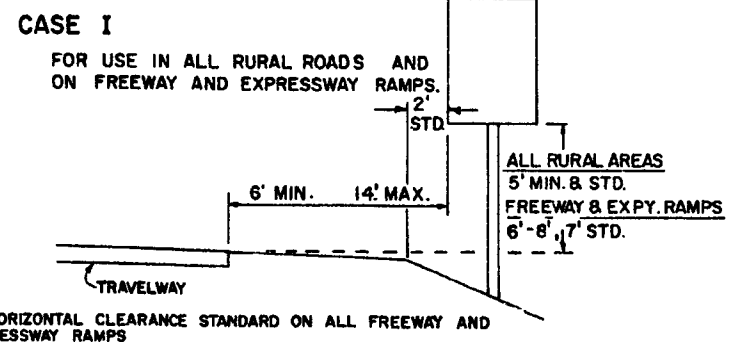
PLATE "A" Chord O.D. + 2 1/2" x 1/2" x 4 3/8"  
 PLATE "B" Chord O.D. + 2 1/2" x 3/8" x 5"



SECTION A-A

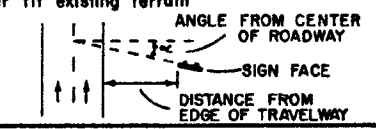
SECTION B-B

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
LIGHTING SUPPORT FOR OVERHEAD SIGN STRUCTURES			
REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
Date	Description		
		APPROVED BY	
Designed by	CK	Date	6-77
Checked by	CWB	Date	6-77
Quantity by		APPROVED BY <i>T. J. ...</i> District Design Engineer, Structures	
Checked by		Drawing No.	1 of 1
Supervised by	AJH	Index No.	12270



**GENERAL NOTES:**

- The typical sections shown hereon serve as a guide for use in locating the traffic signs required under various roadside conditions. For size and details of sign construction and footing, refer to the appropriate standard index drawing for roadside sign.
- It shall be the CONTRACTORS responsibility to verify the length of sign supports in the field prior to fabrication
- SIGN DISTANCE FROM EDGE OF ROADWAY
- to avoid the possibility of specular reflection.
- Horizontal clearance may be altered in the field by the PROJECT ENGINEER to better fit existing terrain



SIGN DISTANCE FROM EDGE OF ROADWAY	ANGLE
LESS THAN 20'	0°
≤ 20'	3°
≤ 40'	4°
≤ 50'	5°

(SEE ILLUSTRATION)

Where lanes divide or on curves, sign faces shall be oriented so as to be most effective both day and night, and

REVISIONS		
DATE	INITIALS	DESCRIPTION
11 / 75	WB-KRRM	MTG. HT + OTHER CLARIFICATIONS
1-27-76	WB-KR-RM	REVISE SPACING

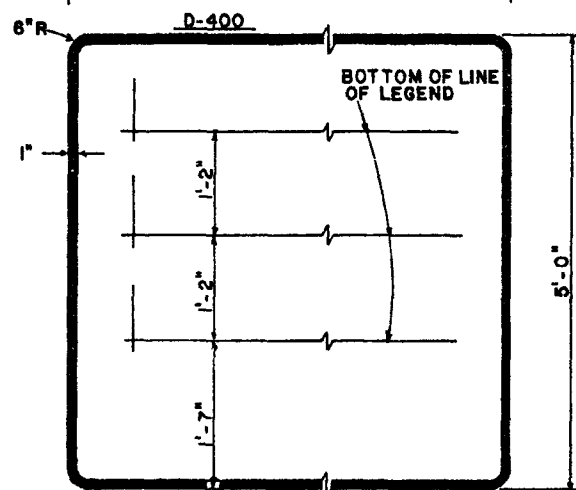
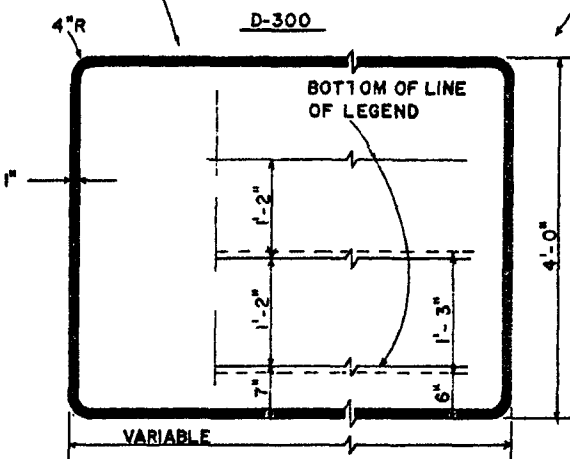
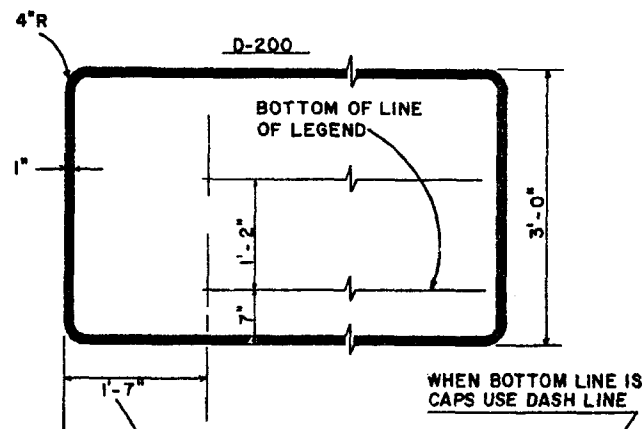
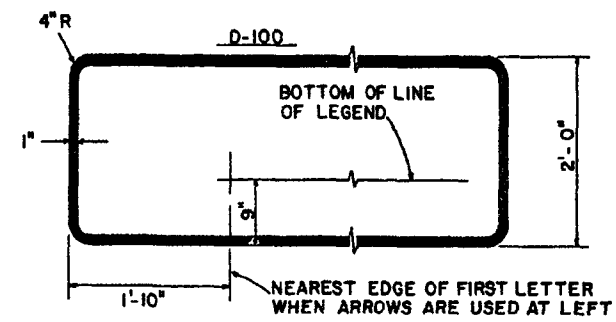
APPROVED BY F.H.W.A 2-12-76

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL SECTIONS FOR ONE COLUMN SIGN PLACEMENT			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
G.W.	3-75	BY <i>Rudolph Magaly</i> DEPUTY TRAFFIC OPERATIONS ENGR.	
DETAILED BY		APPROVED	
CHECKED BY		BY <i>J. P. ...</i> STATE TRAFFIC OPERATIONS ENGR.	
QUANTITIES BY		DRAWING NO.	INDEX NO.
CHECKED BY		1 of 1	17302 A
SUPERVISED BY	K.R.	3-75	

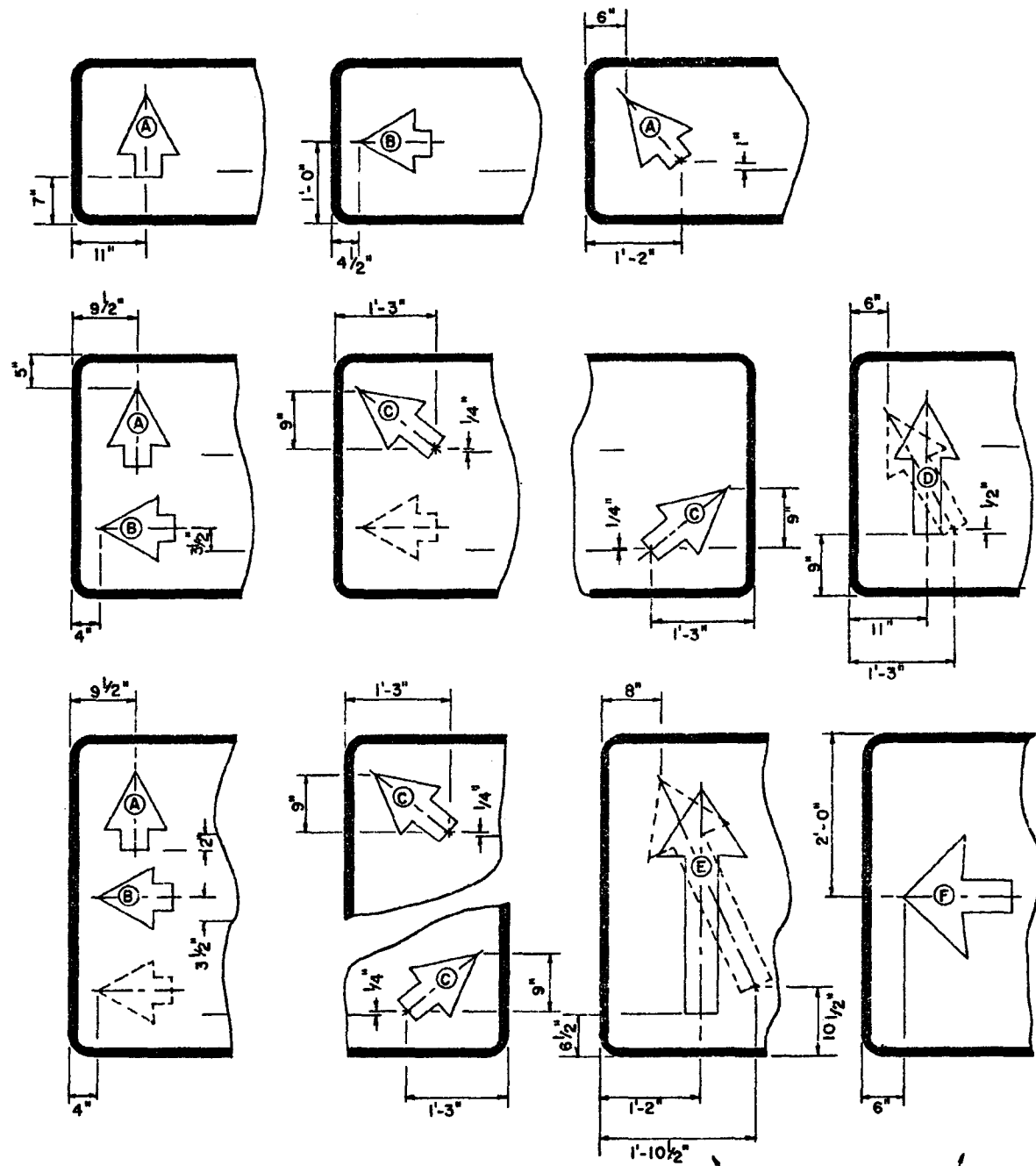


# SIGN SIZES & LEGEND LOCATIONS

(8" UPPER CASE, 6" LOWER CASE LOOP HEIGHT)  
BUREAU OF PUBLIC ROADS



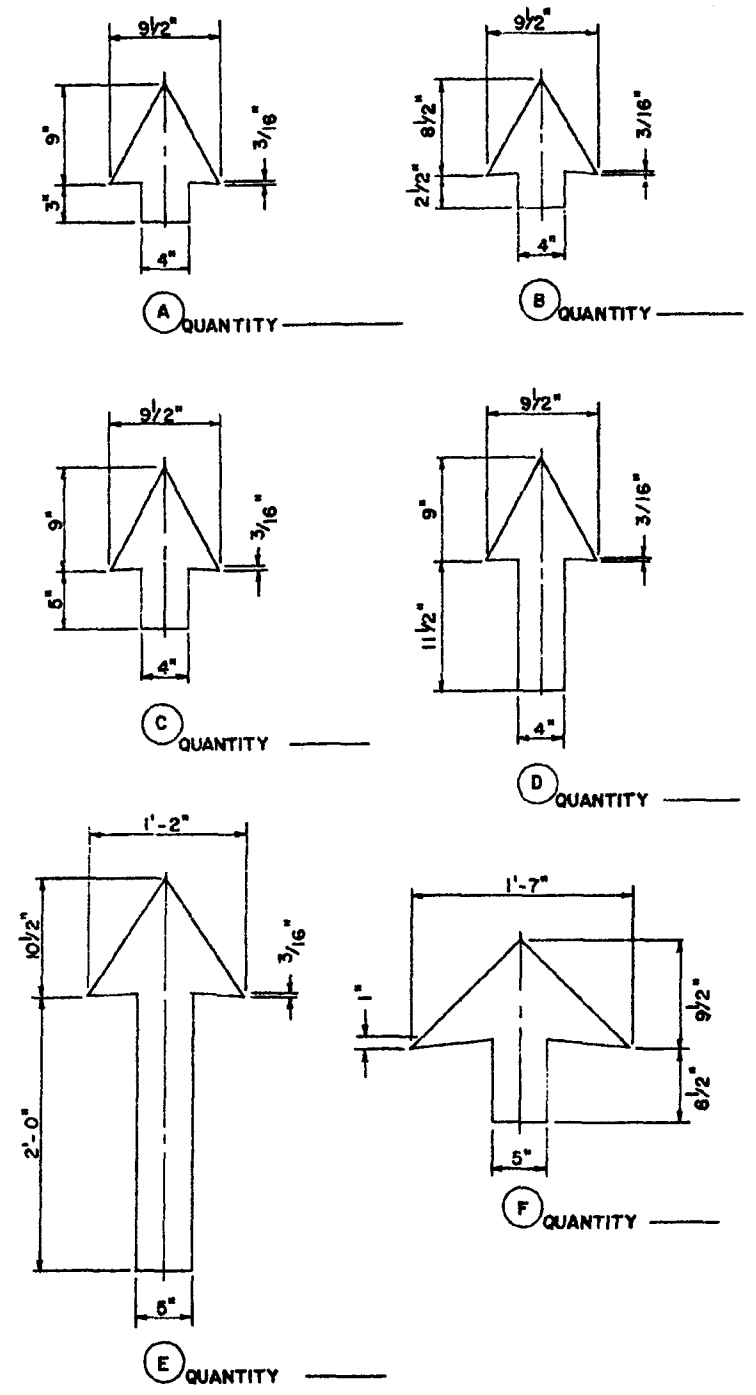
# TYPICAL ARROW LOCATIONS—100-200-300-400



THESE ARROWS ARE TO BE USED WHEN U.S. SHIELD OR FLORIDA SYMBOL IS REQUIRED ON SIGN PANEL.

- (1) WHEN ARROW APPEAR AT LEFT OF MESSAGE, MESSAGE TO BEGIN AS SHOWN.
- (2) A, 9" MIN IS REQUIRED FROM EDGE OF SIGN TO NEAREST EDGE OF FIRST LETTER WHEN ARROWS APPEAR AT RIGHT OF MESSAGE.
- (3) DETAILS OF ARROWS ON ONE END OF PANEL MAY BE USED ON OPPOSITE END ALSO.
- (4) THE LEGEND ON THESE SIGNS MAY BE EITHER DETACHABLE OR SCREENED COPY.
- (5) BACKGROUND OVERALL REFLECTORIZED WHITE, LEGEND AND BORDER BLACK.

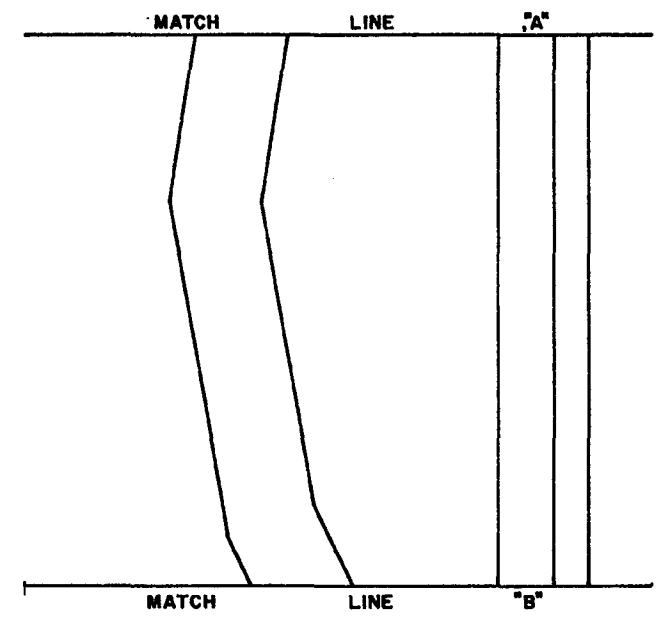
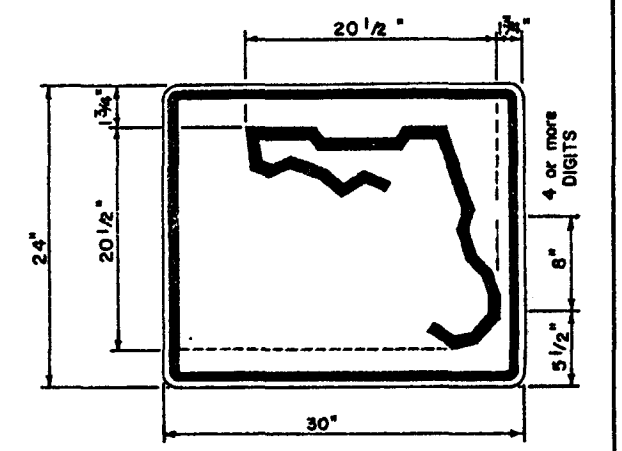
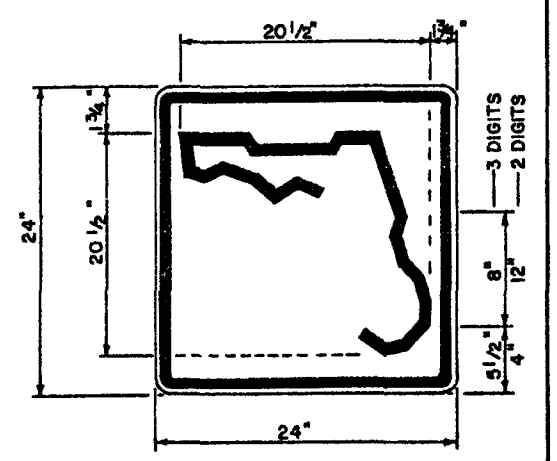
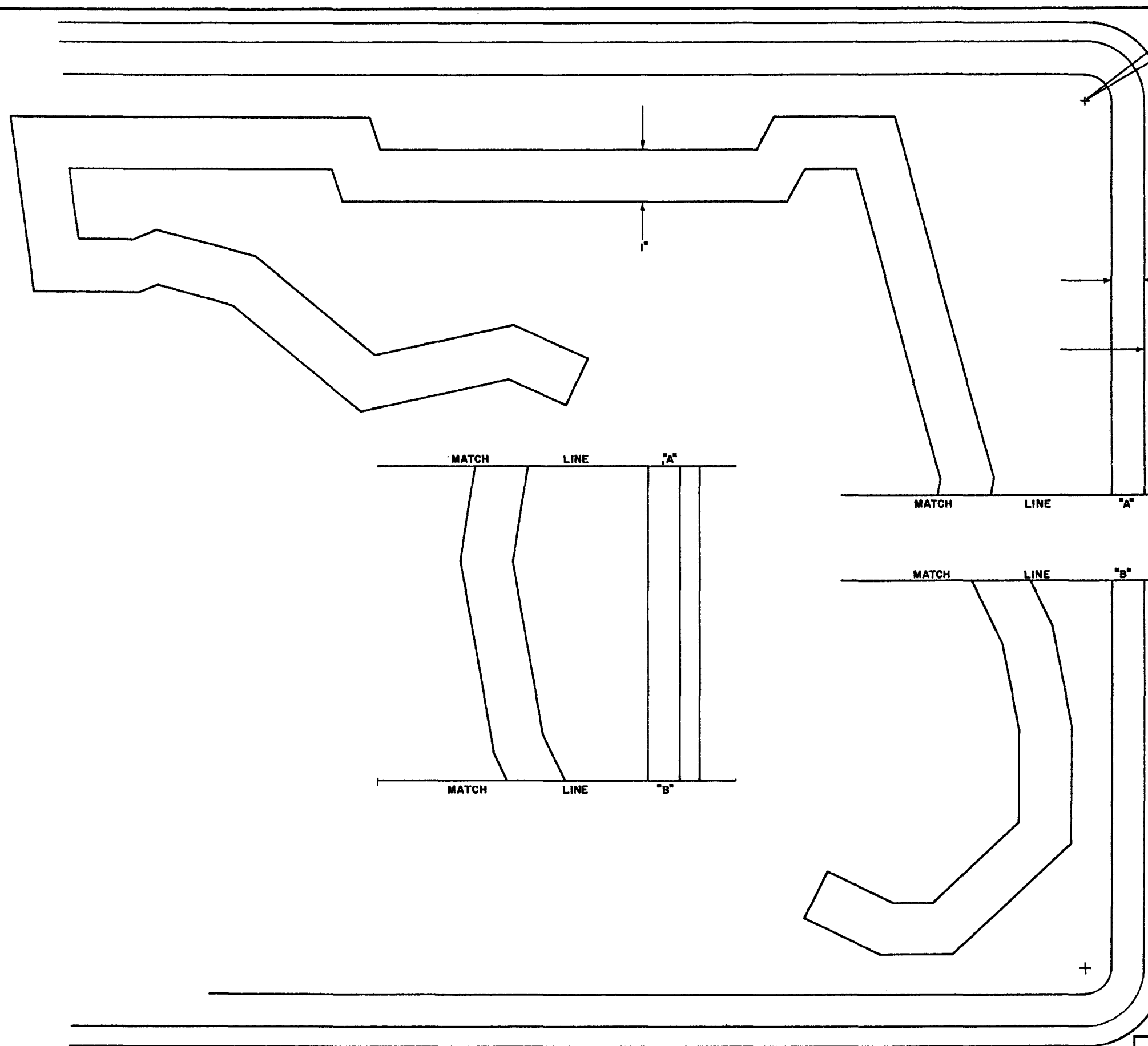
STATE PROJ. NO.	SHEET NO.
-----------------	-----------



## FLORIDA DEPARTMENT OF TRANSPORTATION Traffic Operations

### DESTINATION SIGN LAYOUT

REVISIONS		INITIALS	DATES	Recommended for approval
Dates	Descriptions	Checked by	T.L.	10-4-76
10-4-76	REDRAFTED	Checked by	K.R.	10-4-76
		Quantities by		Approved by
		Checked by		State Traffic Operations Engr.
		Supervised by	K.R.	DRAWING NO. 1 of 1
				INDEX NO. 17307



**NUMERAL SIZE**  
 1 or 2 DIGITS 12" SERIES "C" - 24" x 24"  
 3 DIGITS 8" SERIES "B" - 24" x 24"  
 4 DIGITS 8" SERIES "B" - 24" x 30"  
 MORE THAN 4 DIGITS 8" SERIES "B" - 24" x 30"

**NOTE**  
 ALL STATE ROUTE MARKERS AND AUXILIARIES SHALL HAVE BLACK OPAQUE LEGEND AND BORDER WITH WHITE REFLECTIVE BACKGROUND

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
24" FLORIDA ROUTE MARKER OTHER THAN INTERSTATE			
REVISIONS	INITIALS	DATES	
	DESCRIPTION		
	DETAILED BY	G.W.	1-28-'77
	CHECKED BY		
	QUANTITIES BY		
	CHECKED BY		
	SUPERVISED BY	K. RANSON	
APPROVED		BY <i>R. Magada</i> 1/30/77 STATE TRAFFIC OPERATIONS ENGR.	
DRAWING NO.		INDEX NO.	
1 of 1		17309A	

# FLORIDA'S

# TURNPIKE

3" R. TYPICAL

8 1/8"

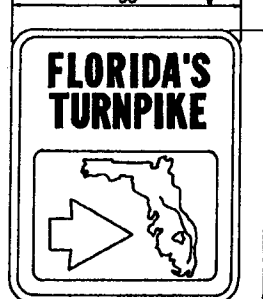
14 1/2"

16"

1" TYPICAL

30"

MATCH LINE SEE SHEET 2 of 2



TYPE "B" ARROW  
(ARROW POSITION AS INDICATED  
ON SIGNING PLANS.)

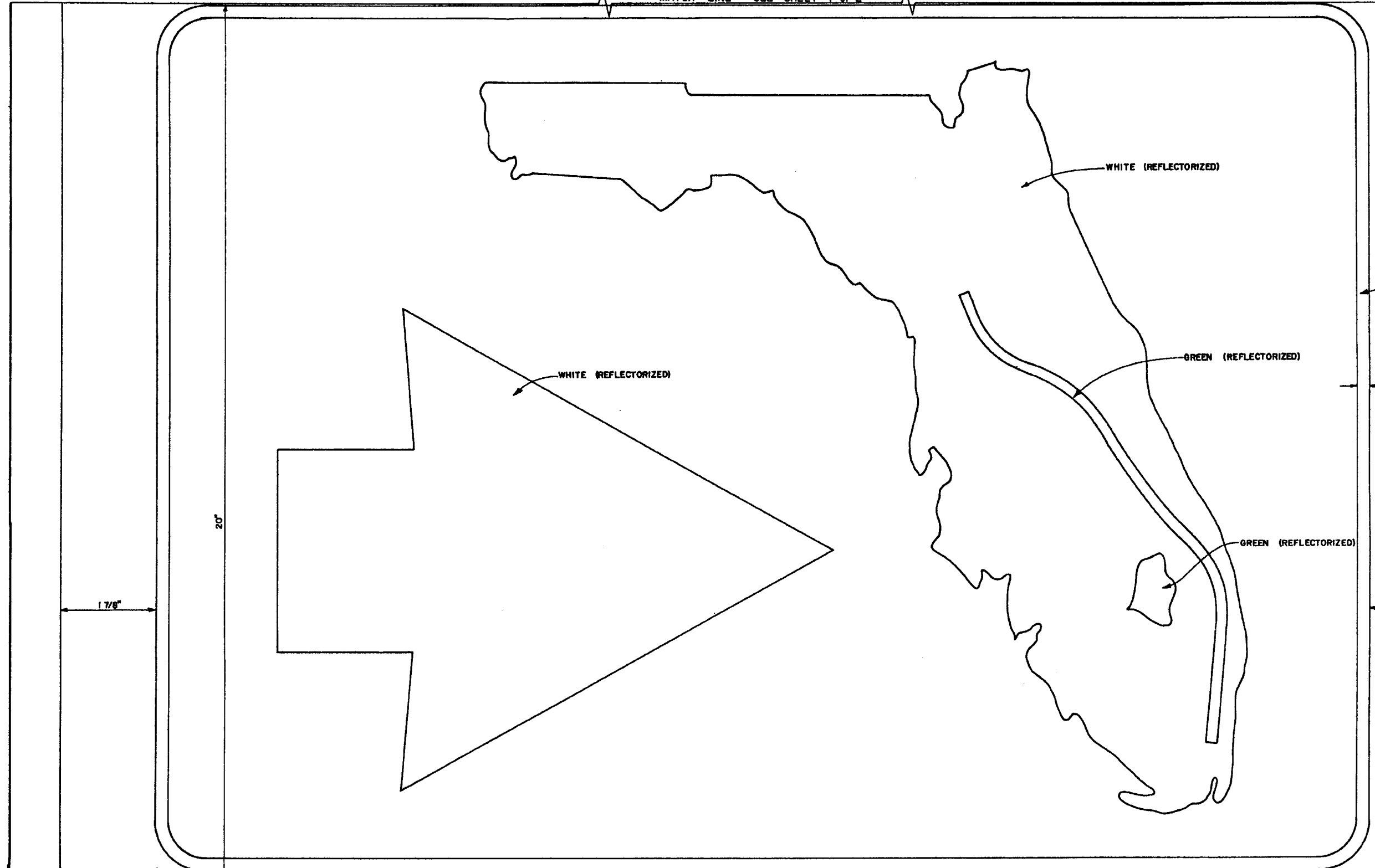
GREEN REFLECTORIZED BACKGROUND WITH  
WHITE REFLECTORIZED LEGEND AND BORDER.  
SIGN LAYOUT AS INDICATED ON SHEETS 1 & 2 OF 2

- ARROW VERTICAL ↑ QUANTITY —
- ARROW 45° LEFT ↙ QUANTITY —
- ARROW 45° RIGHT ↘ QUANTITY —
- ARROW LEFT ← QUANTITY —
- ARROW RIGHT → QUANTITY —
- NO ARROW QUANTITY —

REVISIONS		
DATE	INITIALS	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
DETAIL LAYOUT OF TYPE C SIGN FLORIDA'S TURNPIKE TRAILBLAZER			
INITIALS	DATE	RECOMMENDED FOR APPROVAL	
		BY _____ DEPUTY TRAFFIC OPERATIONS ENGR.	
		APPROVED	
		BY _____ STATE TRAFFIC OPERATIONS ENGR.	
		DRAWING NO.	INDEX NO.
		1 of 2	17313

MATCH LINE SEE SHEET 1 of 2

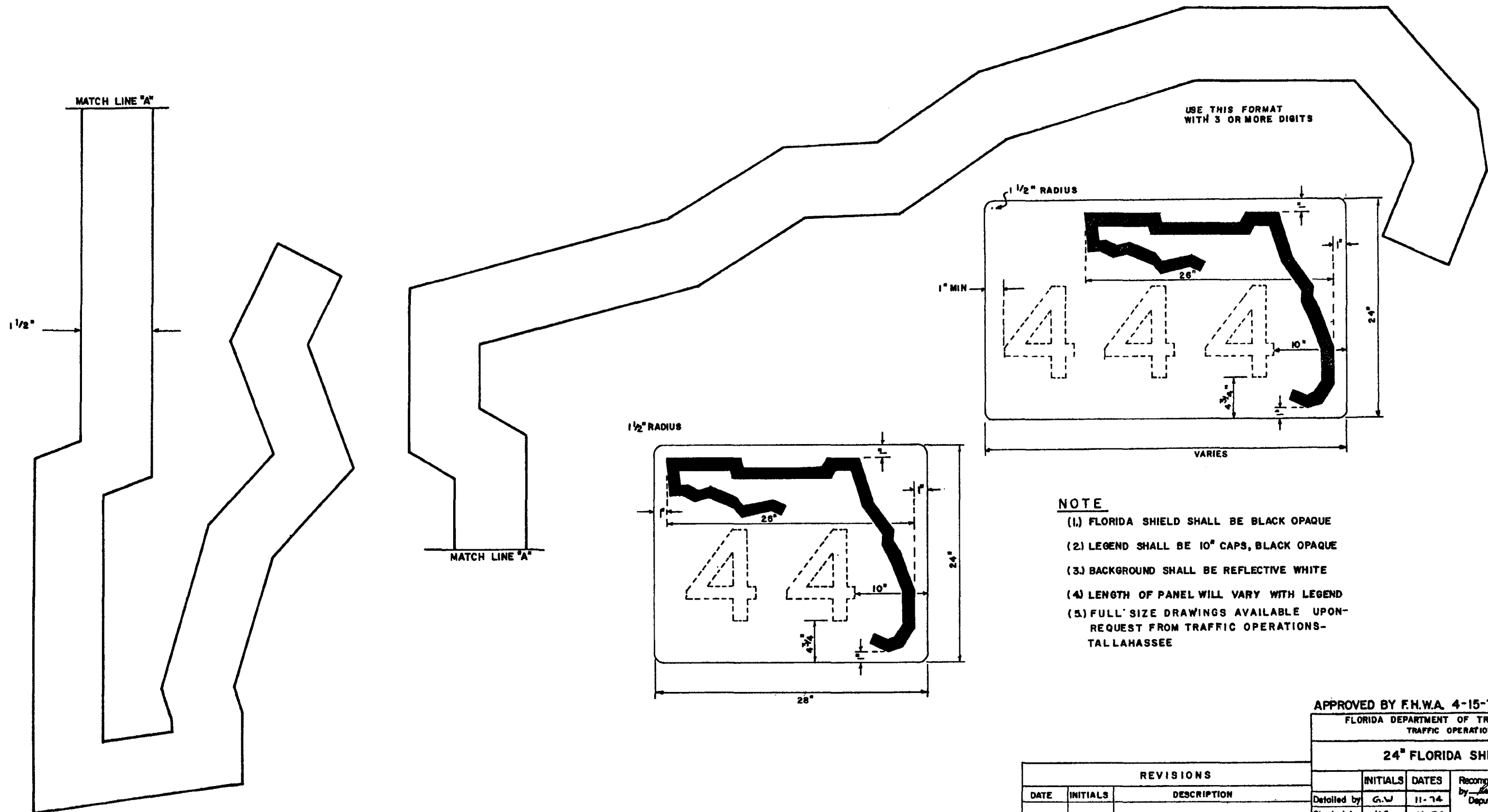


FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

**DETAIL LAYOUT OF TYPE C SIGN  
FLORIDA'S TURNPIKE TRAILBLAZER**

REVISIONS		
DATE	INITIALS	DESCRIPTION

INITIALS	DATE	RECOMMENDED FOR APPROVAL
DETAILED BY M.F.M.	4-75	BY DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY K.R.	4-75	APPROVED
QUANTITIES BY		BY
CHECKED BY		STATE TRAFFIC OPERATIONS ENGR.
SUPERVISED BY K.R.	4-75	DRAWING NO. 2 of 2 INDEX NO. 17313

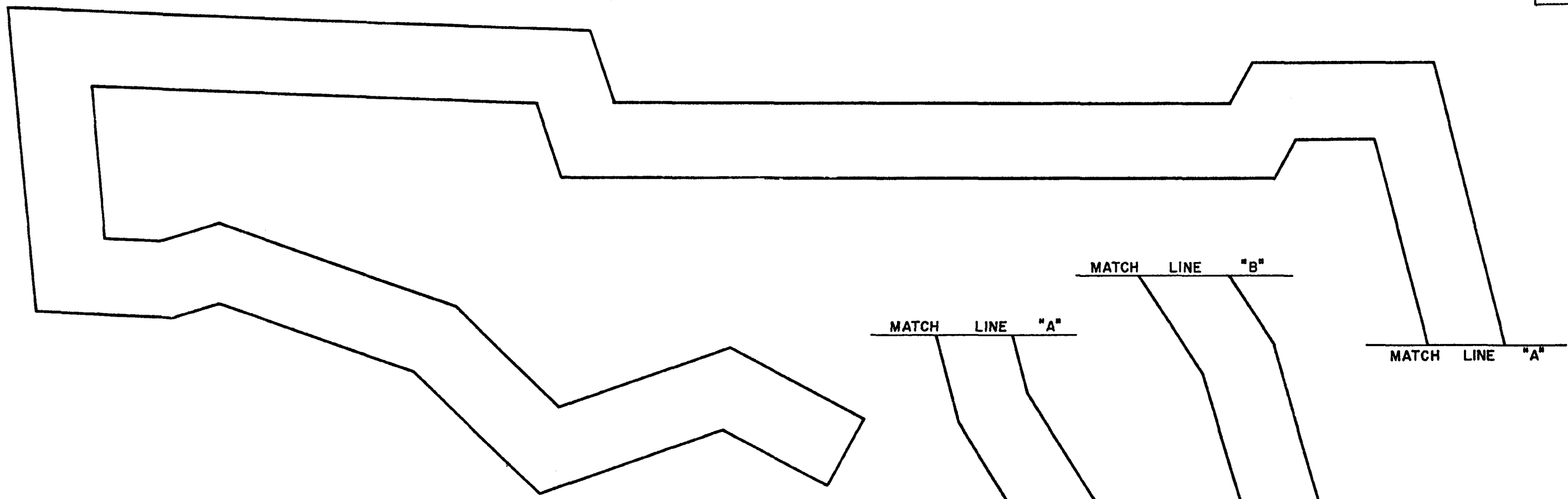


- NOTE**
- (1) FLORIDA SHIELD SHALL BE BLACK OPAQUE
  - (2) LEGEND SHALL BE 10° CAPS, BLACK OPAQUE
  - (3) BACKGROUND SHALL BE REFLECTIVE WHITE
  - (4) LENGTH OF PANEL WILL VARY WITH LEGEND
  - (5) FULL SIZE DRAWINGS AVAILABLE UPON REQUEST FROM TRAFFIC OPERATIONS-TALLAHASSEE

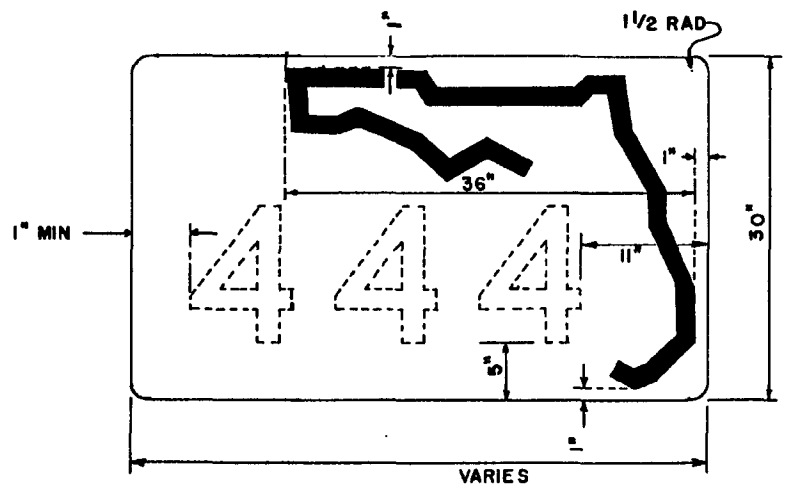
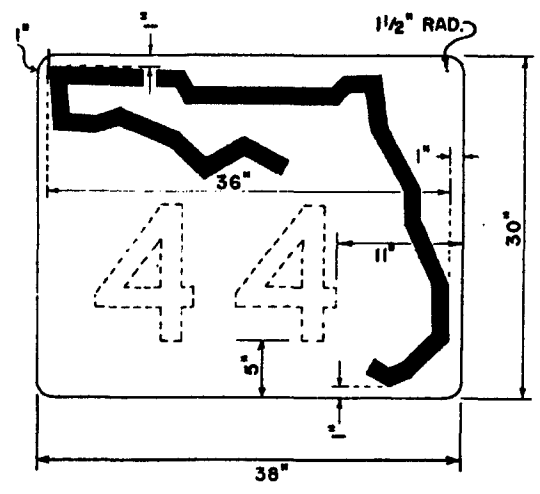
APPROVED BY F.H.W.A. 4-15-75  
 FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS

**24" FLORIDA SHIELD**

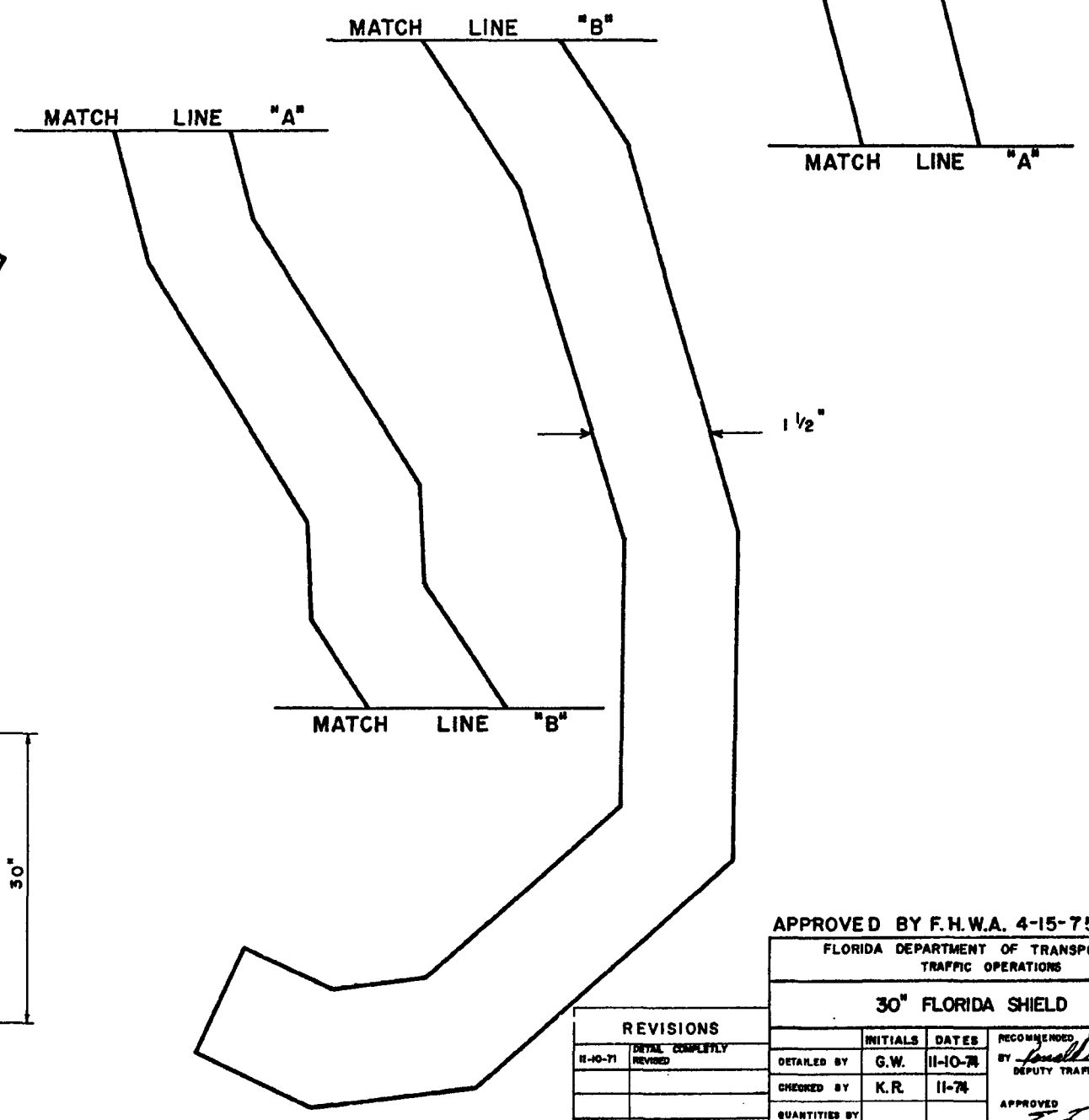
REVISIONS			INITIALS	DATES	Recommended for approval by <i>Donald S. Boggs</i> 3/27/75 Deputy Traffic Operations Eng.
DATE	INITIALS	DESCRIPTION			
			Detailed by G.W.	11-74	Approved by <i>[Signature]</i> 4/1/75 State Traffic Operations Eng.
			Checked by K.R.	11-74	
			Checked by		DRAWING NO. 1 of 1 INDEX NO. 17315
			Supervised by K.R.	11-74	



**NOTE:**  
 (1.) FLORIDA SHIELD SHALL BE BLACK OPAQUE  
 (2.) LEGEND SHALL BE 12" CAPS, BLACK OPAQUE  
 (3.) PANEL BACKGROUND SHALL BE REFLECTIVE WHITE  
 (4.) LENGTH OF PANEL WILL VARY WITH LEGEND  
 (5.) FULL SIZE DRAWINGS AVAILABLE UPON REQUEST-  
 FROM TRAFFIC OPERATIONS-TALLAHASSEE



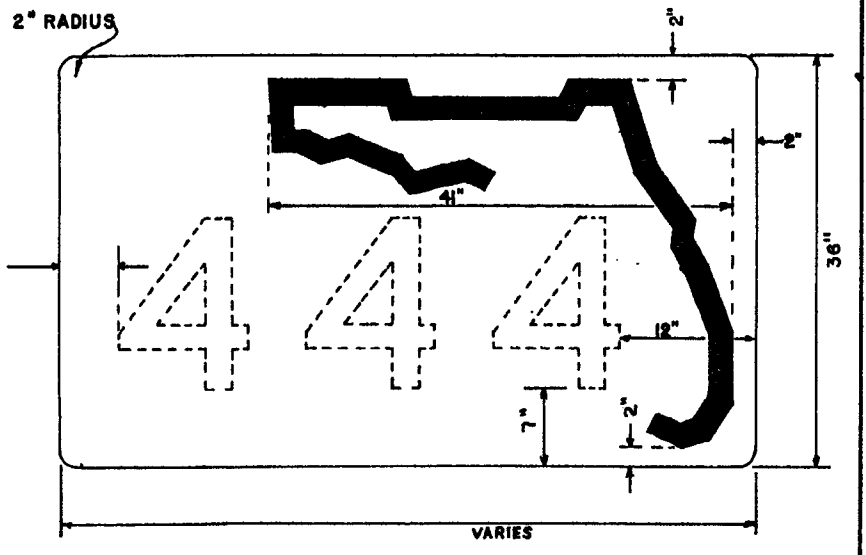
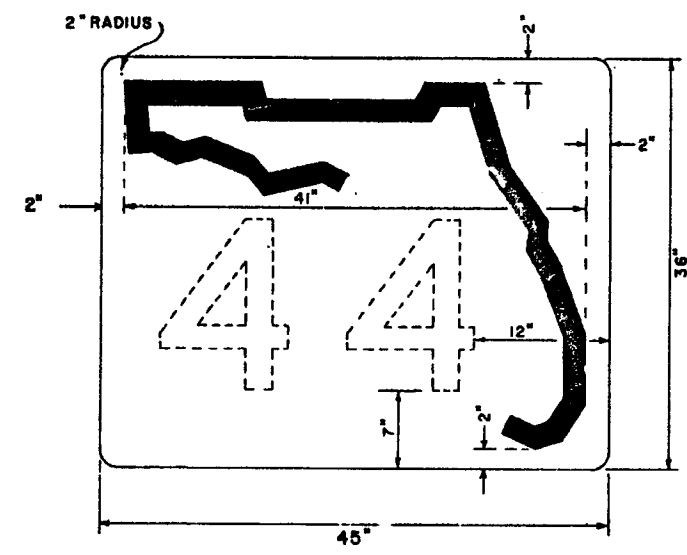
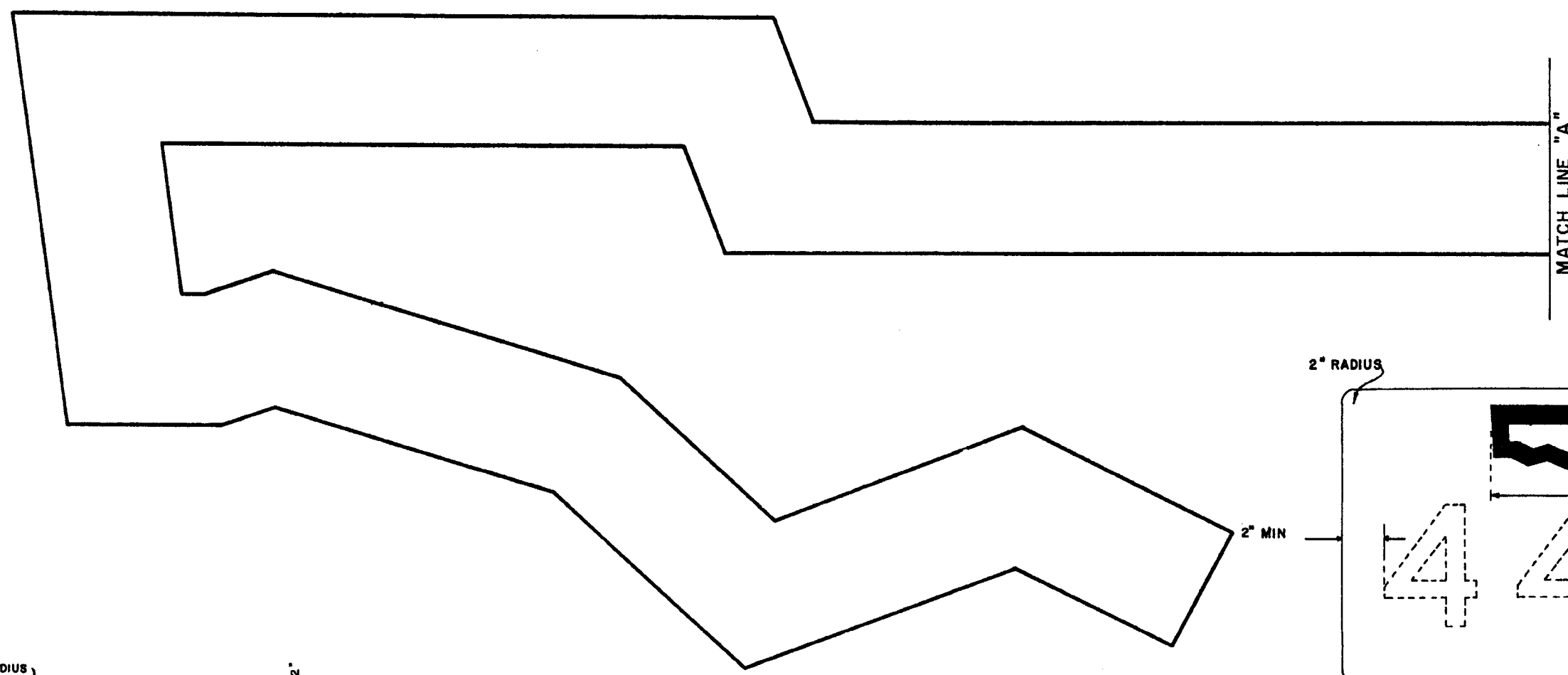
USE THIS FORMAT WITH  
 3 OR MORE DIGITS



APPROVED BY F.H.W.A. 4-15-75

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
<b>30" FLORIDA SHIELD</b>			
	INITIALS	DATE	RECOMMENDED FOR APPROVAL
REVISIONS			
11-10-71	DETAIL COMPLETELY REVISED		
DETAILED BY	G.W.	11-10-74	BY <i>Donald E. Magaha</i> DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY	K.R.	11-74	
QUANTITIES BY			
CHECKED BY			
SUPERVISED BY	K.R.	11-74	BY <i>[Signature]</i> STATE TRAFFIC OPERATIONS ENGR.
			DRAWING NO. 17316
			INDEX NO. 1 of 1

REVISIONS	INITIALS	DATE	RECOMMENDED FOR APPROVAL



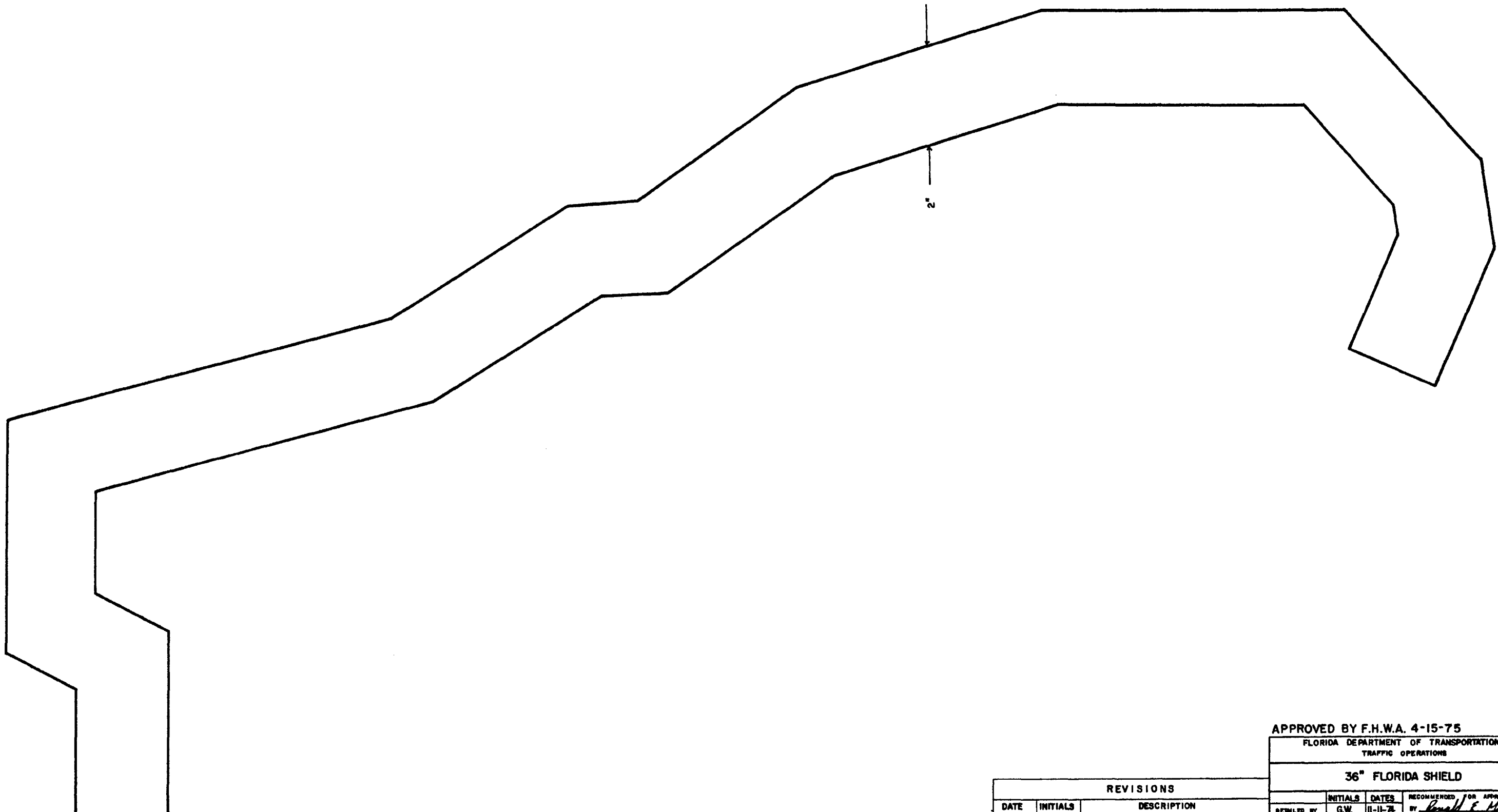
- NOTE:**
- (1.) FLORIDA SHIELD SHALL BE BLACK OPAQUE
  - (2.) LEGEND SHALL BE 15" CAPS, BLACK OPAQUE
  - (3.) BACKGROUND SHALL BE REFLECTIVE WHITE
  - (4.) LENGTH OF PANEL WILL VARY WITH LEGEND
  - (5.) FULL SIZE DRAWINGS AVAILABLE UPON REQUEST- FROM TRAFFIC OPERATIONS- TALLAHASSEE

USE THIS FORMAT WITH 3 OR MORE DIGITS

APPROVED BY F.H.W.A. 4-15-75

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
36" FLORIDA SHIELD			
RECOMMENDED FOR APPROVAL	INITIALS	DATES	BY
DETAILED BY	G.W.	11-11-74	<i>Ronald E. Magallon</i> DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY	K.R.	11-74	
APPROVED			BY <i>Earl L. Duncan</i> 11/22 STATE TRAFFIC OPERATIONS ENGR.
QUANTITIES BY			
CHECKED BY			
SUPERVISED BY	K.R.	11-74	
DRAWING NO.	INDEX NO.		
1 of 2	17317		

REVISIONS		
DATE	INITIALS	DESCRIPTION



APPROVED BY F.H.W.A. 4-15-75

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

36" FLORIDA SHIELD

REVISIONS		
DATE	INITIALS	DESCRIPTION

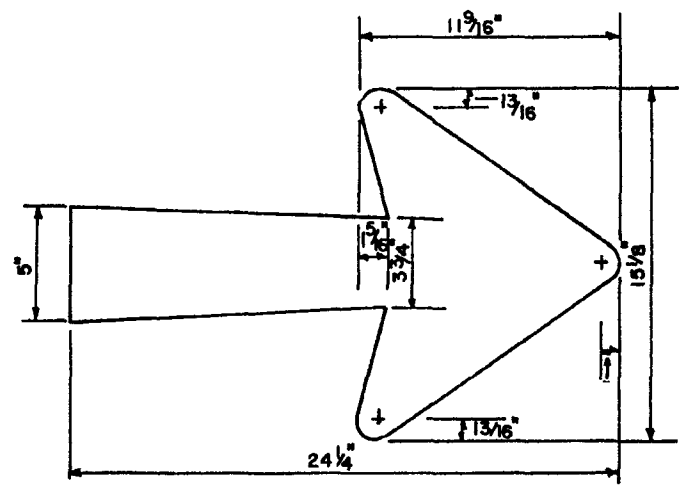
INITIALS	DATE	RECOMMENDED FOR APPROVAL
G.W.	11-11-74	BY <i>Ronald E. Magala</i> DEPUTY TRAFFIC OPERATIONS ENGR.
K.R.	11-74	APPROVED BY <i>E.L. Owen</i> STATE TRAFFIC OPERATIONS ENGR.
K.R.	11-74	DRAWING NO. 2 of 2 INDEX NO. 17317

MATCH LINE "A"

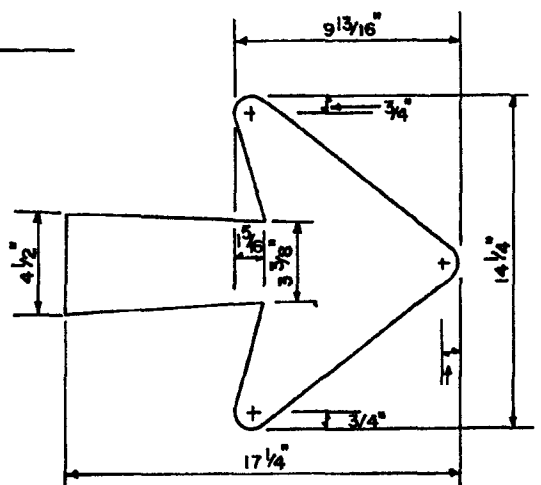


FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

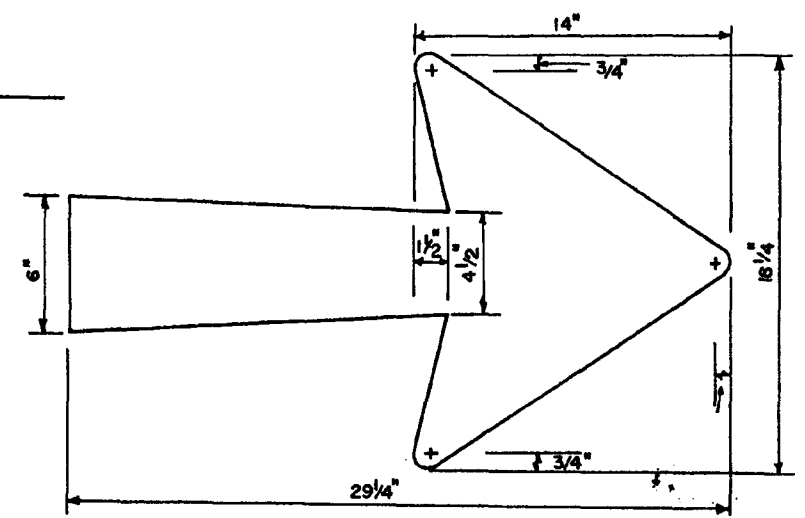
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QUANTITY \_\_\_\_\_



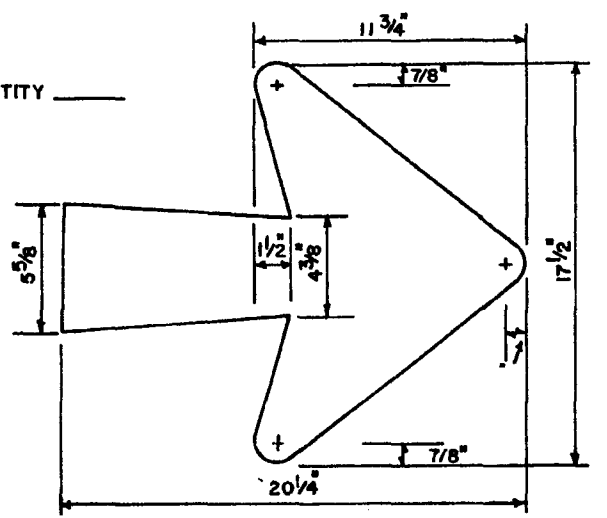
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QUANTITY \_\_\_\_\_



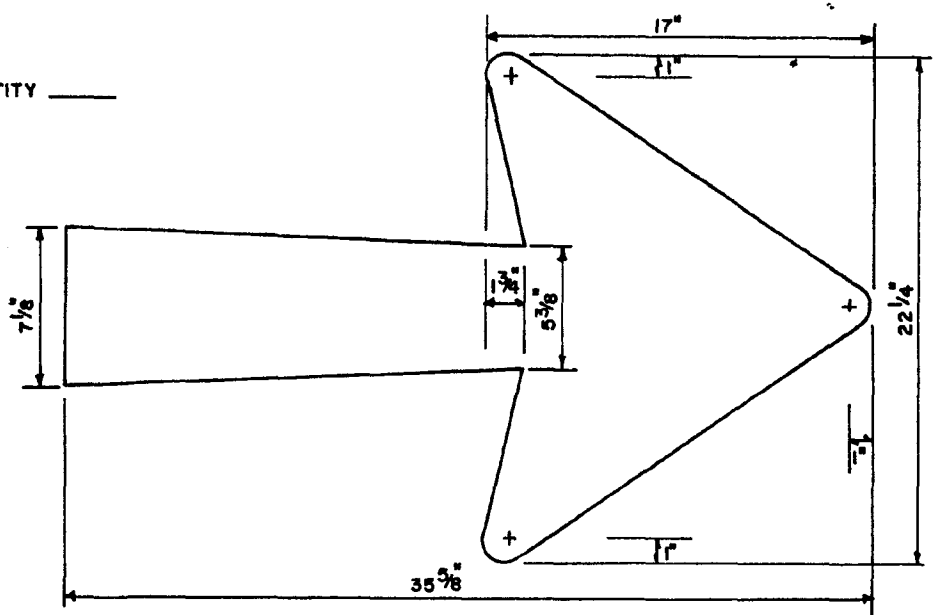
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QUANTITY \_\_\_\_\_



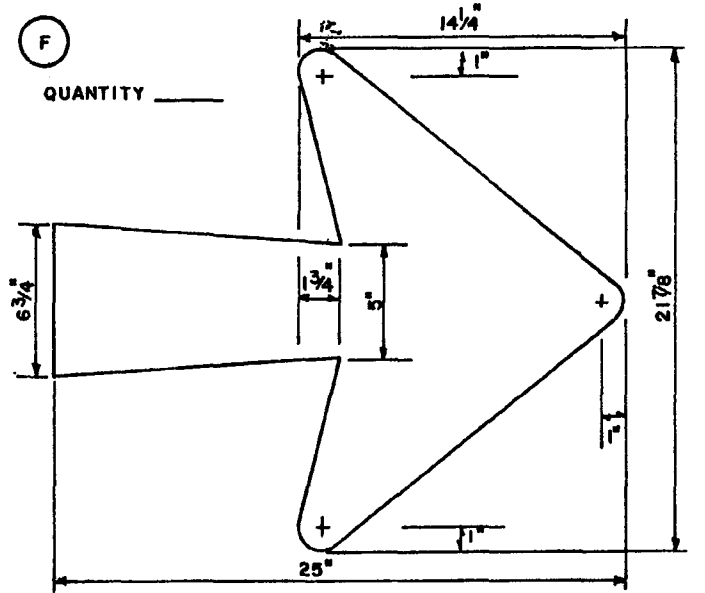
**D**  
QUANTITY \_\_\_\_\_



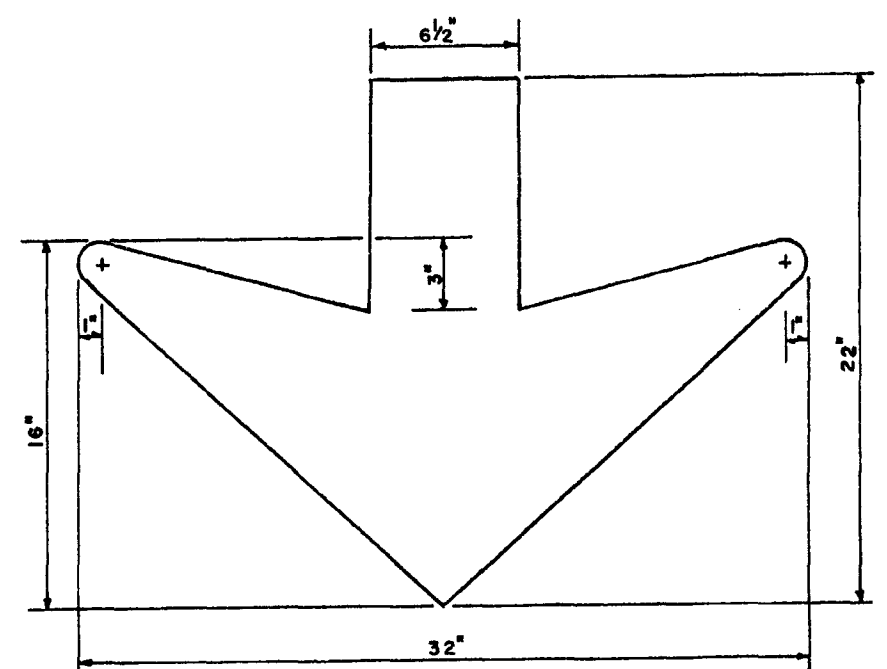
**E**  
QUANTITY \_\_\_\_\_



**F**  
QUANTITY \_\_\_\_\_



**G**  
QUANTITY \_\_\_\_\_

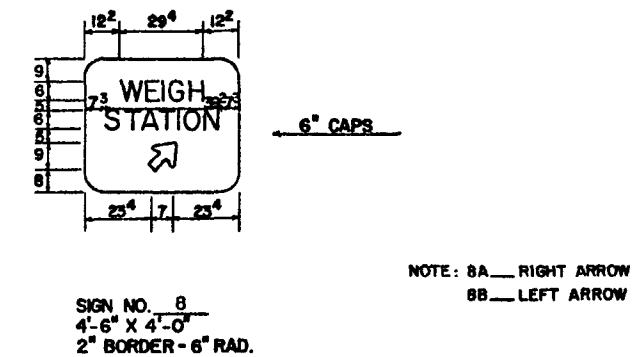
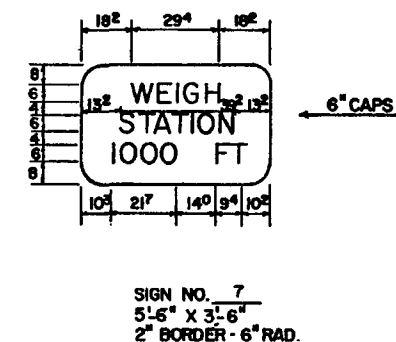
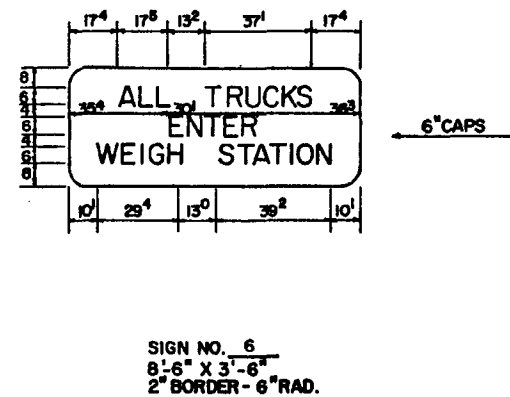
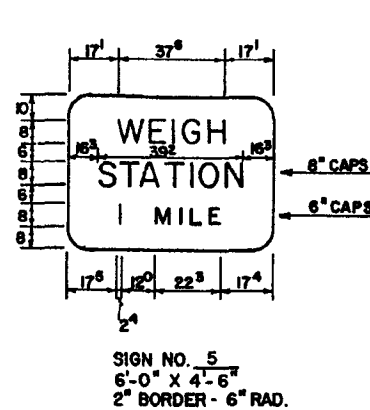
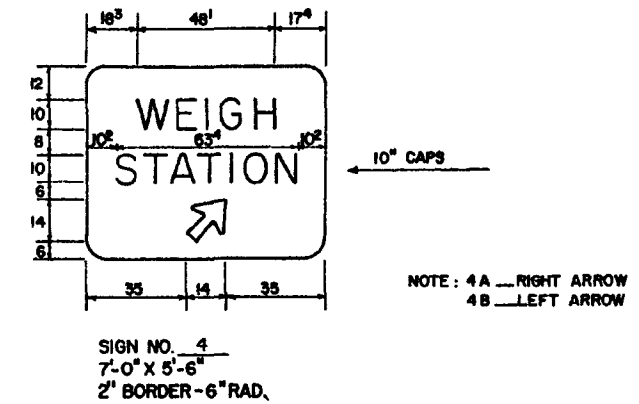
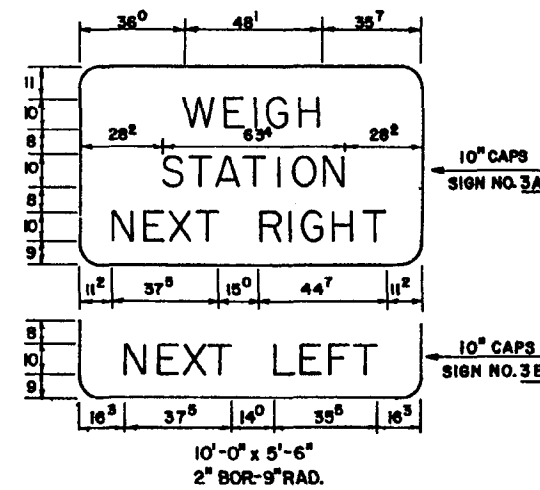
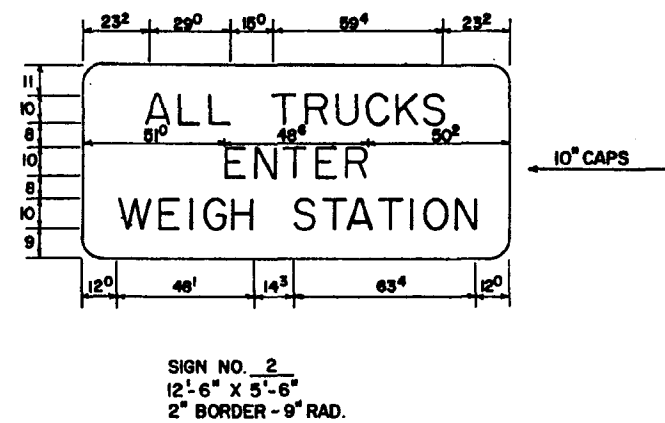
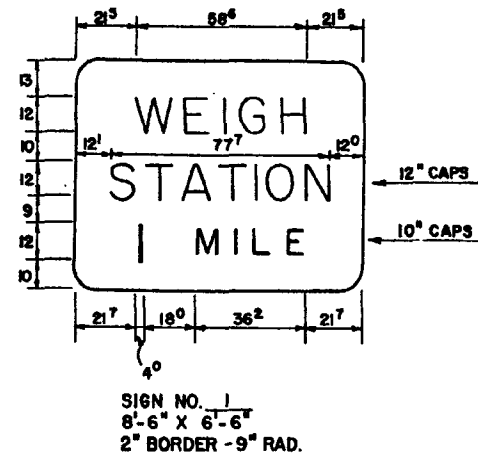


APPROVED BY FHWA 6-9-71

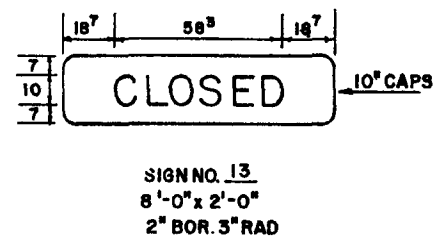
STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS  
ARROW LAYOUTS AND QUANTITIES  
FOR GROUND & OVERHEAD SIGNS

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
6-7-66	Index no. change 7326 to 17320			
Checked by		Name	Date	Recommended For Approval by
Checked by		K.G.B.	4-25-62	APPROVED BY
Checked by				
Checked by				
Traced by		K.G.B.	4-25-62	Drawing No. 1 of 1
				Index No. 17320

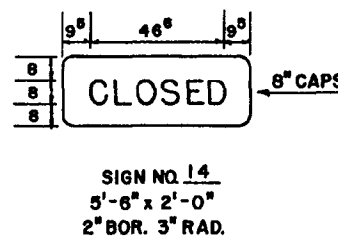
## FOR FREEWAY USE



## FOR OTHER THAN FREEWAY USE



NOTE  
SIGN NO. 13 TO BE USED WITH SIGNS NO. 3A, 3B, 11A AND 11B.



NOTE  
SIGN NO. 14 TO BE USED WITH SIGN NO. 7

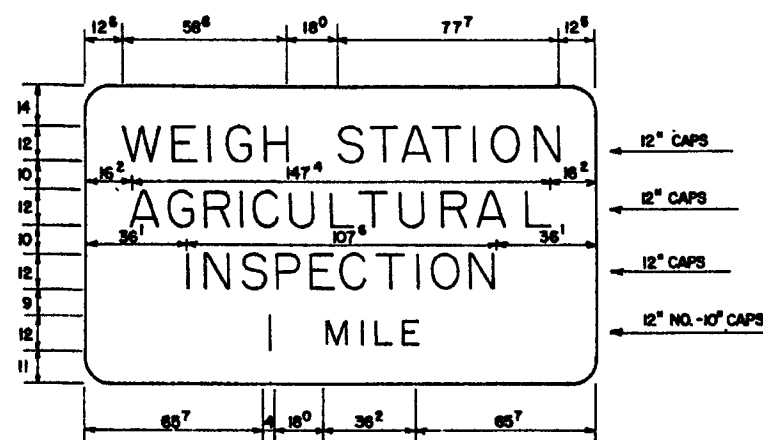
**NOTE:**

ALL SIGNS TO HAVE GREEN REFLECTORIZED BACKGROUND WITH WHITE LEGEND AND BORDER EXCEPT SIGNS NOS. 2 & 6 WHICH SHALL HAVE WHITE BACKGROUND WITH BLACK LEGEND AND BORDER

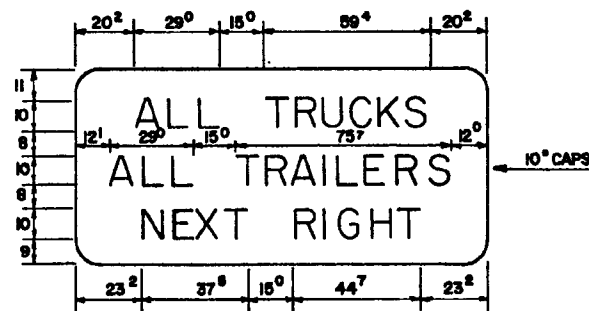
ALL DIMENSIONS SHOWN ARE IN INCHES AND EIGHTHS

REVISIONS		
DATE	INITIALS	DESCRIPTION

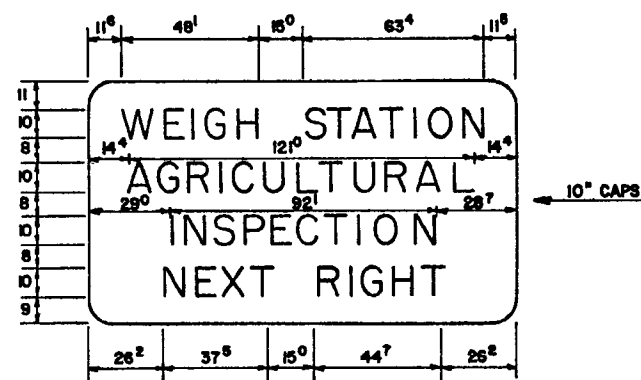
APPROVED BY F.H.W.A. 7-31-75			
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS			
DETAILED BY	INITIALS	DATE	RECOMMENDED FOR APPROVAL
CHECKED BY			BY <i>Ronald E. Magada</i> DEPUTY TRAFFIC OPERATIONS ENGR.
QUANTITIES BY			APPROVED
CHECKED BY			BY <i>[Signature]</i> STATE TRAFFIC OPERATIONS ENGR.
SUPERVISED BY	K.R.	1-75	DRAWING NO. 1 of 3 INDEX NO. 17328A



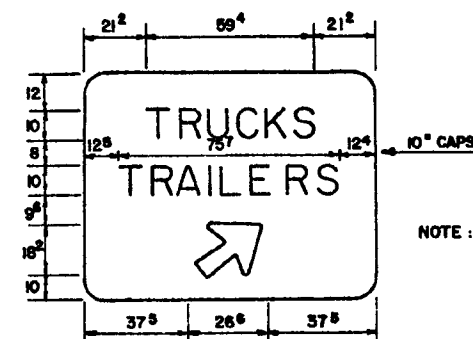
SIGN NO. 9  
15'-0" X 8'-6"  
2" BORDER - 9" RAD.



SIGN NO. 10A  
12'-0" X 5'-6"  
2" BORDER - 9" RAD.

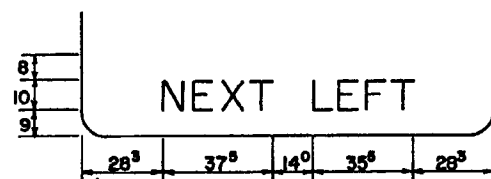


SIGN NO. 11A  
12'-6" X 7'-0"  
2" BORDER - 9" RAD.

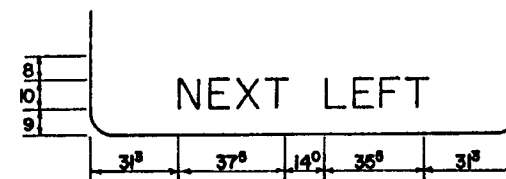


SIGN NO. 12  
8'-6" X 6'-6"  
2" BORDER - 9" RAD.

NOTE: 12A — RIGHT ARROW  
12B — LEFT ARROW



SIGN NO. 10B  
12'-0" X 5'-6"  
2" BORDER - 9" RAD.



SIGN NO. 11B  
12'-6" X 7'-0"  
2" BORDER - 9" RAD.

NOTE

ALL SIGNS SHALL HAVE GREEN REFLECTORIZED BACKGROUND WITH WHITE LEGEND AND BORDER, EXCEPT SIGNS 10A & 10B WHICH SHALL HAVE A WHITE BACKGROUND WITH BLACK LEGEND AND BORDER.

ALL DIMENSIONS SHOWN ARE IN INCHES AND EIGHTHS

APPROVED BY F.H.W.A. 7-3-75

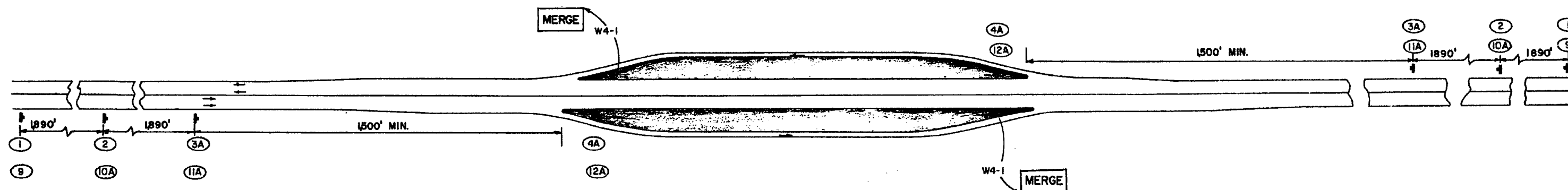
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

TYPICAL SIGNING FOR  
TRUCK WEIGH AND INSPECTION STATIONS

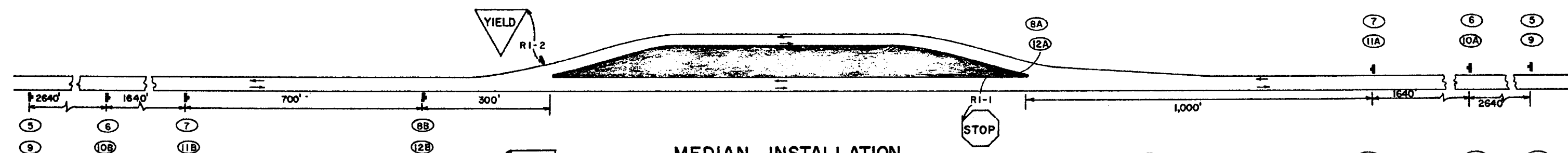
REVISIONS		
DATE	INITIALS	DESCRIPTION

DETAILED BY	M.F.M.	1-75	RECOMMENDED FOR APPROVAL
CHECKED BY	K.R.	1-75	BY <i>Russell E. Magolda</i> DEPUTY TRAFFIC OPERATIONS ENGR.
QUANTITIES BY			APPROVED
DRAWN BY			BY <i>J. Deane</i> STATE TRAFFIC OPERATIONS ENGR.
SUPERVISED BY	K.R.	1-75	DRAWING NO. 2 of 3 INDEX NO. 17328A

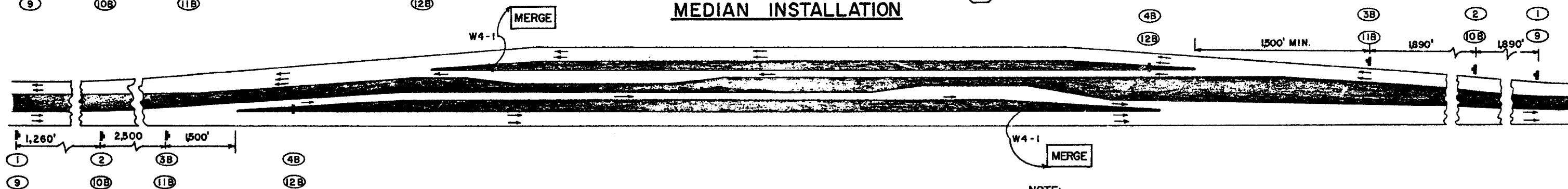
### 4-LANE DIVIDED INSTALLATION



### 2-LANE INSTALLATION



### MEDIAN INSTALLATION



NOTE:  
1) ALL SIGNS TO HAVE GREEN REFLECTORIZED BACKGROUND WITH WHITE LEGEND AND BORDER EXCEPT SIGNS NOS. RI-1, RI-2, & W4-1

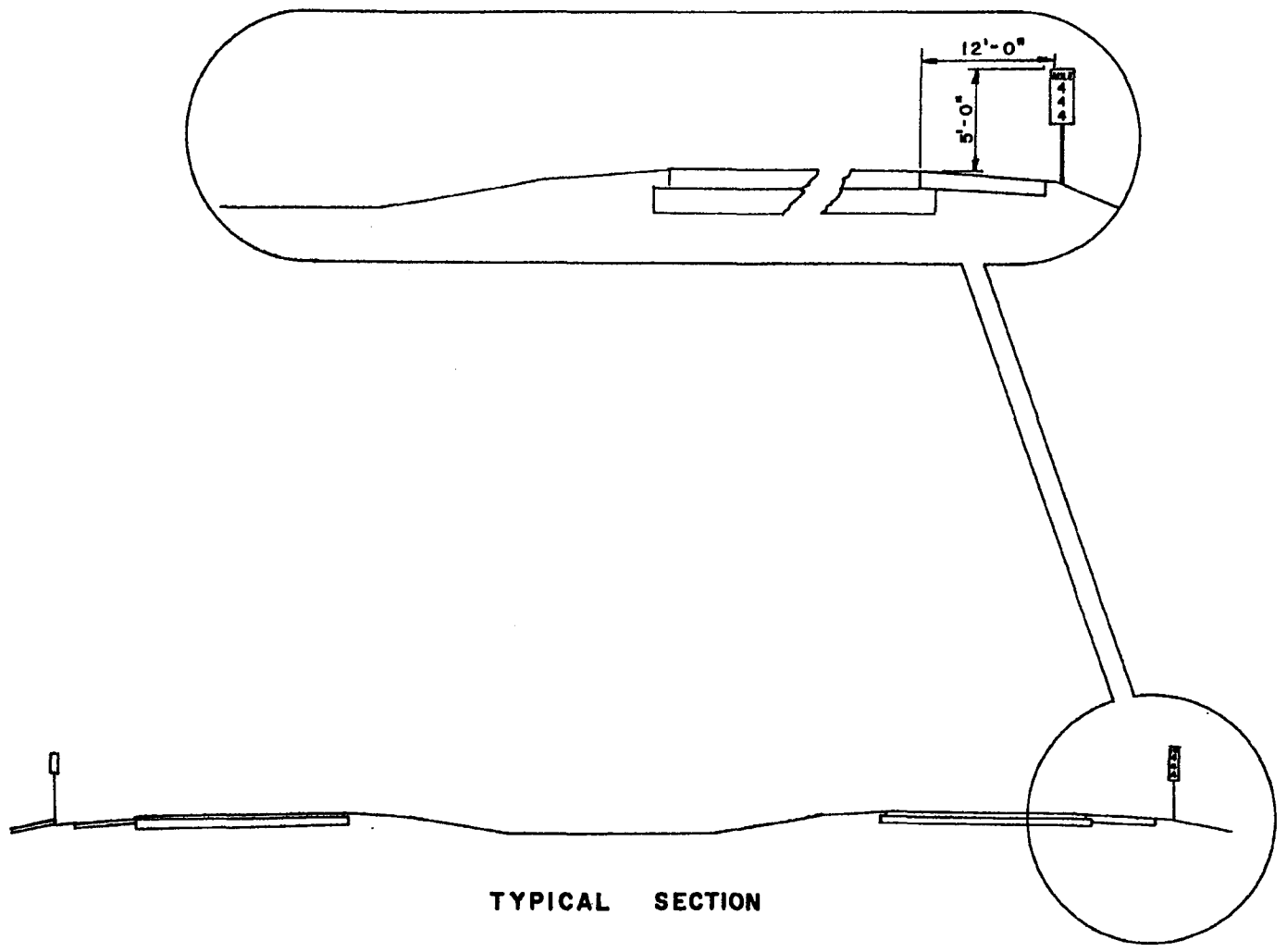
APPROVED BY F.H.W.A. 7-31-75

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

TYPICAL SIGNING FOR  
TRUCK WEIGH AND INSPECTION STATIONS

REVISIONS		
DATE	INITIALS	DESCRIPTION

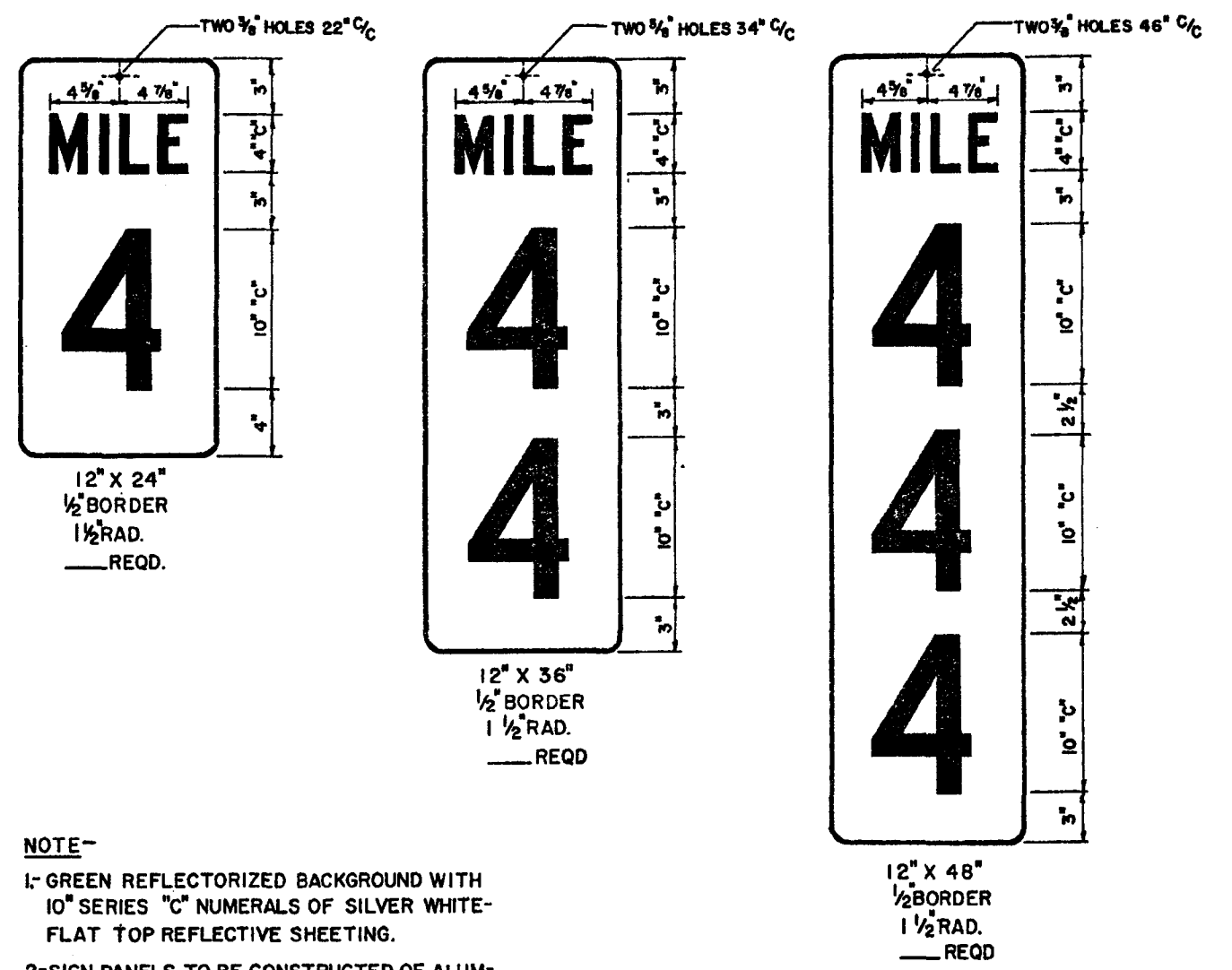
INITIALS	DATES	RECOMMENDED FOR APPROVAL
M.F.M.	1-75	BY <i>Ronald E. Magala</i> DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY	1-75	APPROVED
QUANTITIES BY		BY <i>[Signature]</i> 7/28/75 STATE TRAFFIC OPERATIONS ENGR.
CHECKED BY		
SUPERVISED BY	K.R. 1-75	DRAWING NO. 3 of 3 INDEX NO. 17328A



TYPICAL SECTION

**MILE POST INSTALLATION**

WHEN A MILE POST CANNOT BE INSTALLED WITHIN A MAXIMUM OF 50' OF ITS CORRECT LOCATION IT SHOULD BE OMITTED.



**NOTE-**

- 1- GREEN REFLECTORIZED BACKGROUND WITH 10" SERIES "C" NUMERALS OF SILVER WHITE-FLAT TOP REFLECTIVE SHEETING.
- 2- SIGN PANELS TO BE CONSTRUCTED OF ALUMINUM ALLOY 0.080 THICKNESS.
- 3- 4" SERIES "C" LETTERS

REVISIONS			FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
DATE	INITIALS	DESCRIPTION	MILE POST MARKER			
			INITIALS	DATE	RECOMMENDED FOR APPROVAL	
					BY _____	
					DEPUTY TRAFFIC OPERATIONS ENGR.	
					APPROVED	
					BY _____	
					STATE TRAFFIC OPERATIONS ENGR.	
					DRAWING NO.	INDEX NO.
					1 of 1	17329

### DELINEATOR LOCATION, APPLICATION & PLACEMENT

Delineators shall be mounted along the right side of the through interstate roadways, two feet beyond the outer edge of the roadway shoulder or the face of an unmountable curb, or in the line of guard rail. At interchanges, delineators shall be located along the outside of the curve of turning roadways, i.e., on the left side for right curving ramps and on the right for others, but this does not preclude their use on both sides of the turning roadway where needed for clear indication of the alignment. On speed change lanes the delineators shall be installed on the right for right hand connections, and on the left for left hand connections.

Delineators on posts assembled and erected in such a manner that the top of the reflective unit is approximately 4 feet above the near roadway edge, shall be placed continuously on all interstate roadways, except on those sections between interchanges where fixed source lighting is installed and in operation. Delineation is to be installed on all roadways at all interchanges, whether or not the interchanges are lighted.

The delineator reflector units shall be so positioned that they will be clearly visible for a distance of 1,000 feet during night time under normal weather and atmospheric conditions when illuminated by the upper beam of standard automobile headlights when the vehicle is located in the right hand lane approaching the delineator.

White reflector units shall mark the interstate roadways and amber shall mark the interchange ramps and the acceleration and deceleration lanes. The amber units shall be double or elongated vertically, and at the end of the acceleration lane there shall be placed a triple or correspondingly elongated amber delineator. Along the through roadways the delineator spacing shall be 520 feet except that spacing through interchange areas may be reduced.

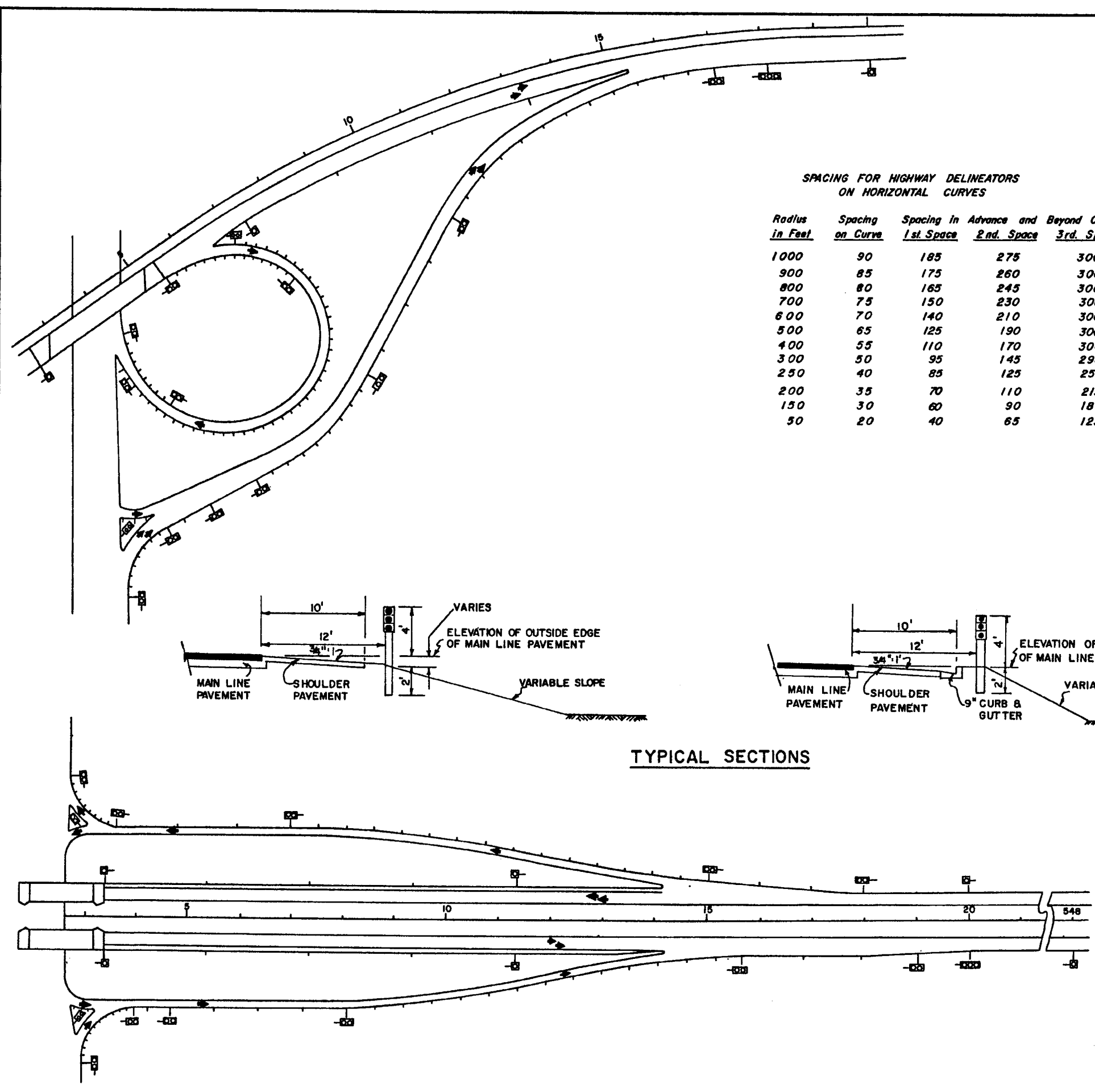
The amber delineators at interchanges shall be spaced at a maximum of 100 feet. Interchange ramp design is sufficiently varied that no single delineator spacing can fit every situation. The TABLE at the left gives the spacing values that should be employed as a guide to delineator spacing on interchange roadways.

**NOTE:**

Spacing for specific radii not shown may be interpolated from table or computed from the formula  $S = 3\sqrt{R-50}$ . The minimum spacing should be 20 ft. The spacing on curves should not exceed 300 ft. The spacing of the first delineator approaching a curve is 25, the second 35 and the third 65 but not to exceed 300 ft. if a spacing less than 300 ft. is used approaching the curve, the distance above should be shown accordingly.

#### SPACING FOR HIGHWAY DELINEATORS ON HORIZONTAL CURVES

Radius in Feet	Spacing on Curve	Spacing in Advance and Beyond Curve		
		1st. Space	2nd. Space	3rd. Space
1000	90	185	275	300
900	85	175	260	300
800	80	165	245	300
700	75	150	230	300
600	70	140	210	300
500	65	125	190	300
400	55	110	170	300
300	50	95	145	290
250	40	85	125	250
200	35	70	110	215
150	30	60	90	180
50	20	40	65	125

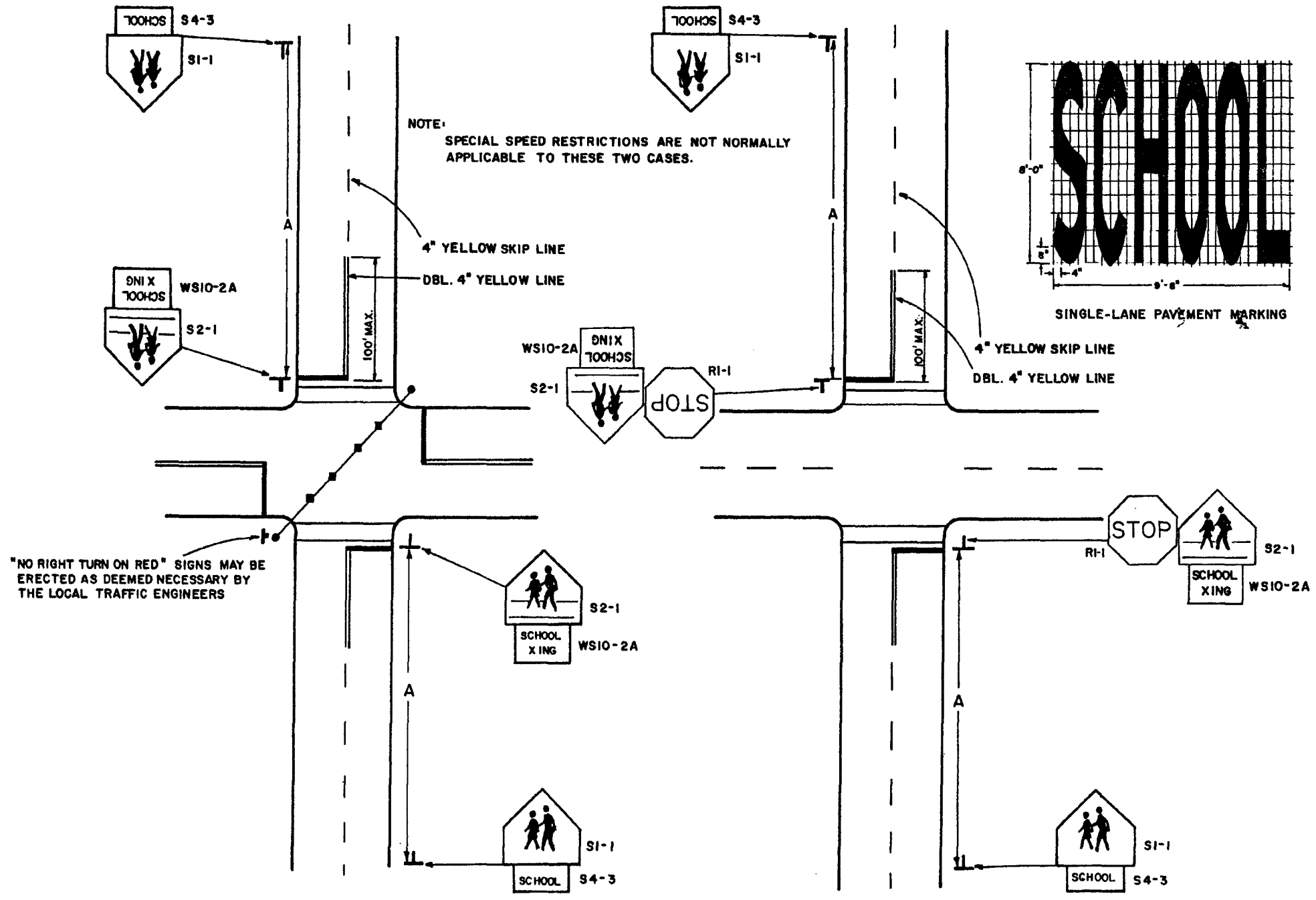


#### TYPICAL SECTIONS

REVISIONS		
DATE	INITIALS	DESCRIPTION
8-8-66		ADDED INDEX NO.
8-23-73		REVISED CHART AND NOTES

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL DELINEATOR INSTALLATION			
	INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY	K.R.	2-12-65	BY DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY			APPROVED
QUANTITIES BY			BY STATE TRAFFIC OPERATIONS ENGR.
CHECKED BY			DRAWING NO. INDEX NO.
SUPERVISED BY			1 of 1 17333

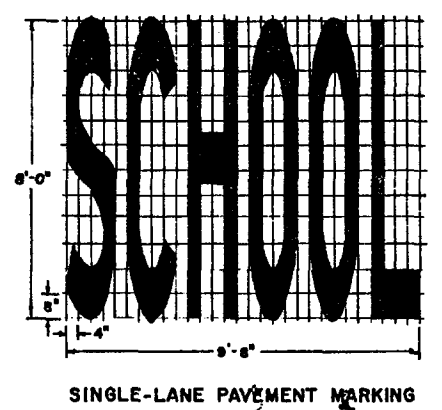
APPROACH SPEED (MPH)	DISTANCE A
25 TO 35	275 FT.
36 TO 45	350 FT.
46 TO 55	500 FT.
56 or Greater	575 FT.



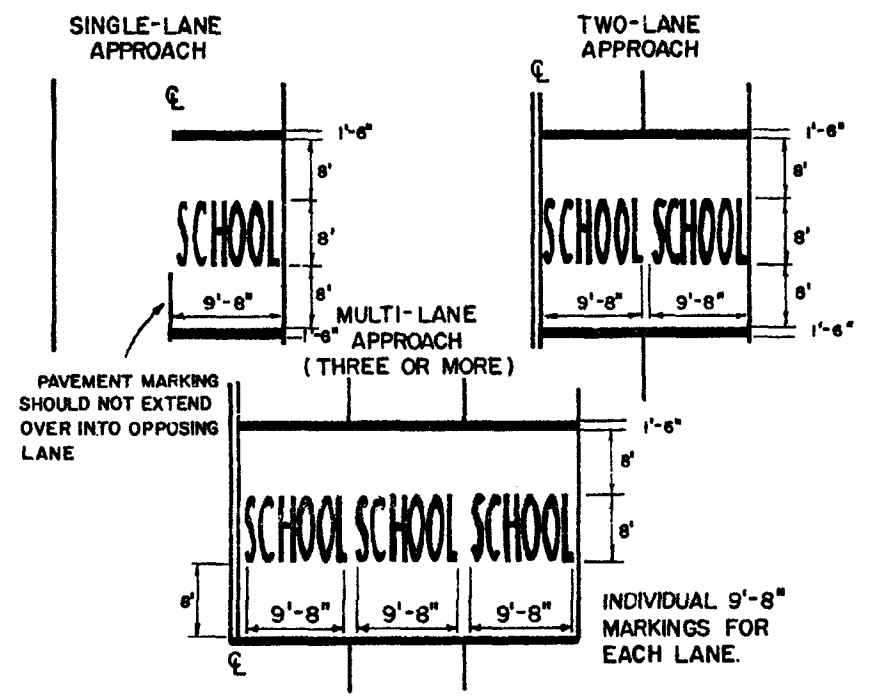
"NO RIGHT TURN ON RED" SIGNS MAY BE ERECTED AS DEEMED NECESSARY BY THE LOCAL TRAFFIC ENGINEERS

1. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK AT A SIGNALIZED INTERSECTION

2. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK AT A STOP CONTROLLED INTERSECTION



PAVEMENT MARKINGS



**NOTE**  
SIGNS ERECTED AT THE SIDE OF THE ROAD IN RURAL DISTRICTS SHALL BE MOUNTED AT A HEIGHT OF AT LEAST 5 FEET, MEASURED FROM THE BOTTOM OF THE SIGN TO THE LEVEL OF THE ROADWAY EDGE. IN BUSINESS, COMMERCIAL AND RESIDENTIAL DISTRICTS WHERE PARKING AND / OR PEDESTRIAN MOVEMENT IS LIKELY TO OCCUR OR WHERE THERE ARE OTHER OBSTRUCTIONS TO VIEW, THE CLEARANCE TO THE BOTTOM OF THE SIGN SHALL BE AT LEAST 7 FEET.

**NOTE**  
ALL SCHOOL SIGNS SHALL BE REFLECTORIZED

SEE SHEETS 5 AND 7 FOR DETAILED SIGN PANEL DESIGNS

APPROVED BY FHWA 9-9-76  
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION	Checked by	7-76
			Checked by	7-76
			Checked by	
			Supervised by	REM

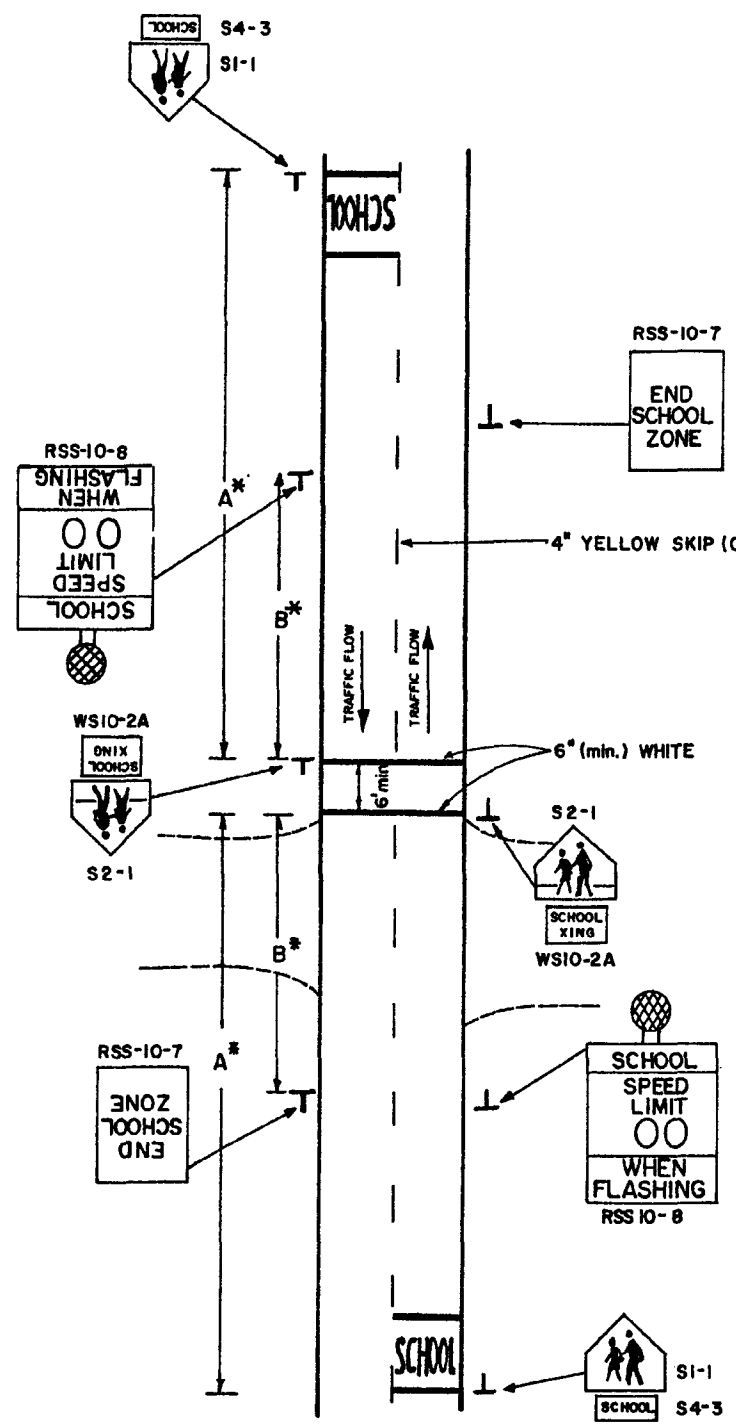
Approved by *R.E. Magaley*  
State Traffic Planning Engr.

DRAWING NO. 1 of 9  
INDEX NO. 17344B

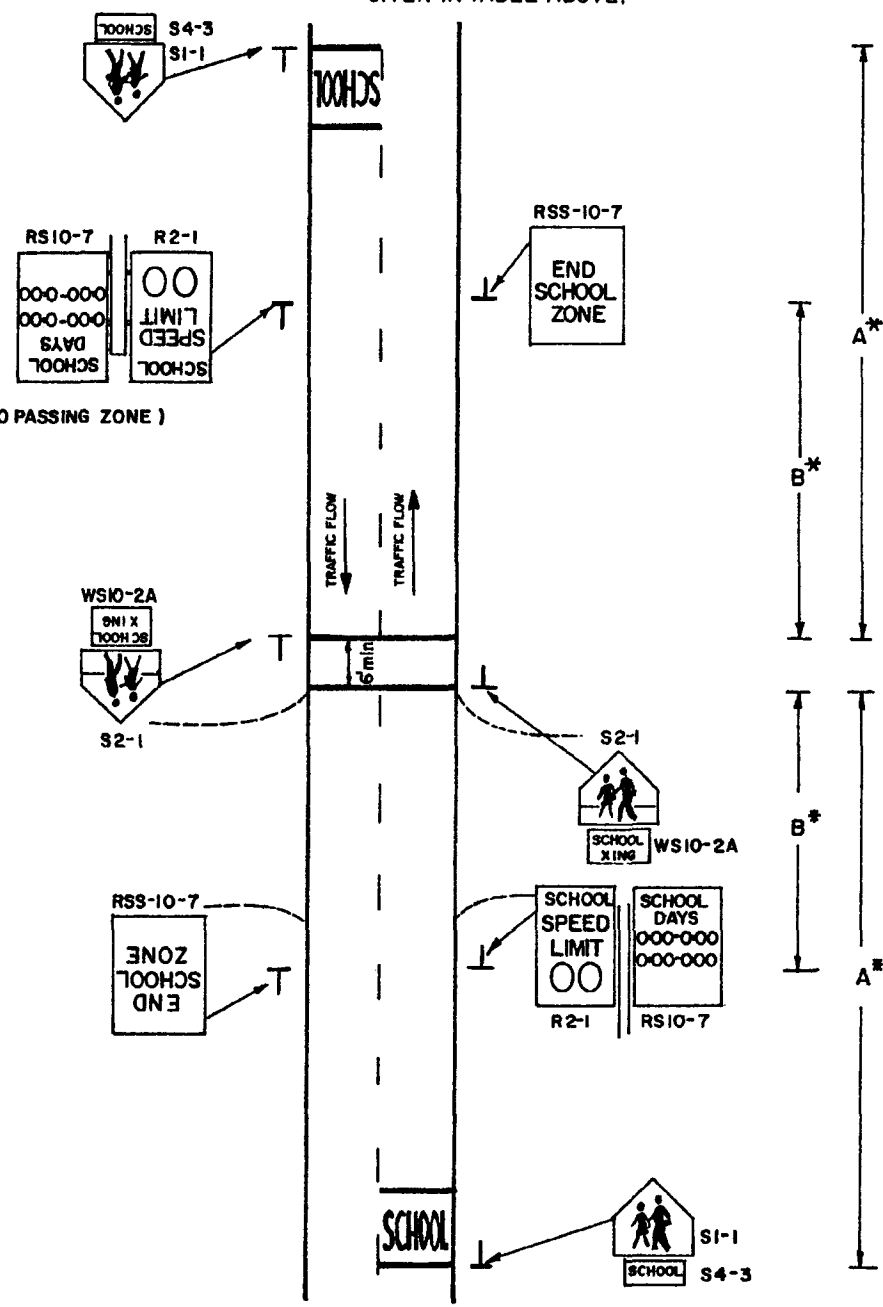
APPROACH SPEED MPH	SUGGESTED DISTANCE IN FEET	
	A	B
25 TO 35	275	50
36 TO 45	350	65
46 TO 55	500	80
56 OR GREATER	575	100

A & B DISTANCES SHALL BE INCREASED BY ADDING THE INTERSECTING STREET WIDTH (CURB RETURNS INCLUDED) TO DIMENSIONS GIVEN IN TABLE ABOVE.

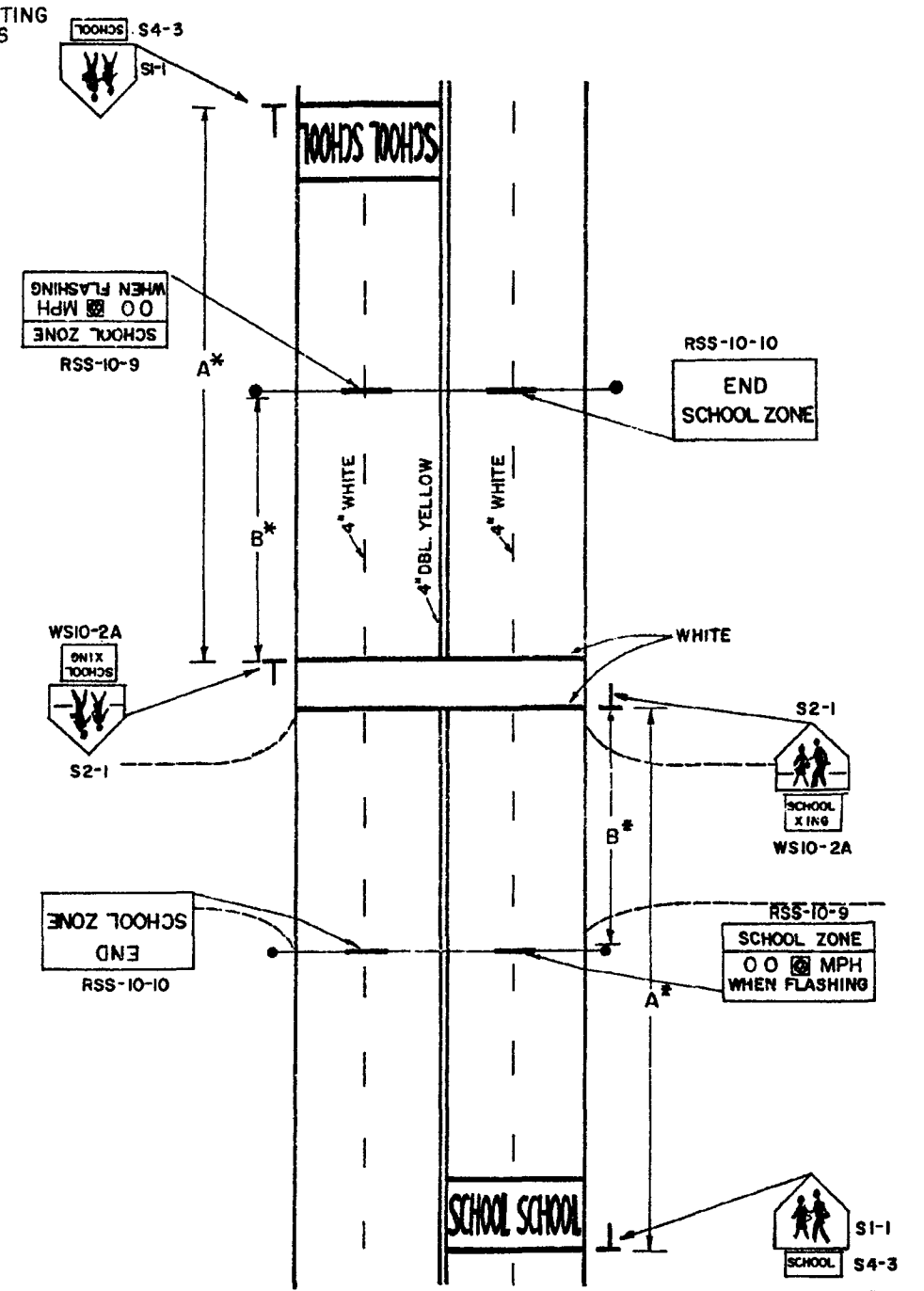
5. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK WITH OVERHEAD FLASHING BEACON SPEED LIMIT SIGNS  
(4 LANES UNDIVIDED-2 WAY TRAFFIC)  
(MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)



3. TRAFFIC CONTROL DEVICES WITH FLASHING BEACON FOR REDUCED SPEED ZONE AT A SCHOOL CROSSWALK  
(2 LANES - 2 WAY TRAFFIC)  
(MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)



4. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK (NO FLASHING BEACON)  
(2 LANES - 2 WAY TRAFFIC)  
(MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)



APPROVED BY FHWA 9-9-76

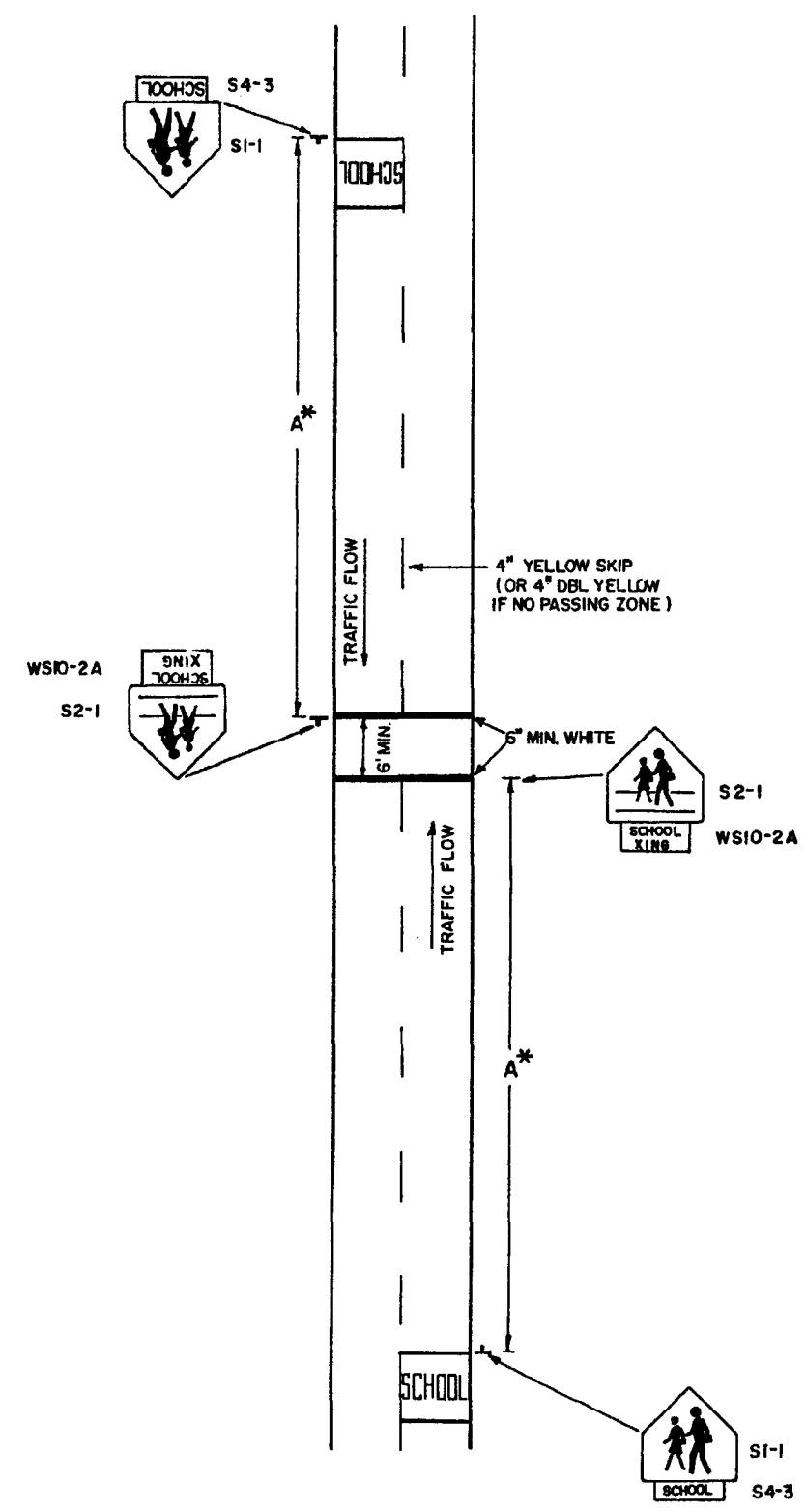
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

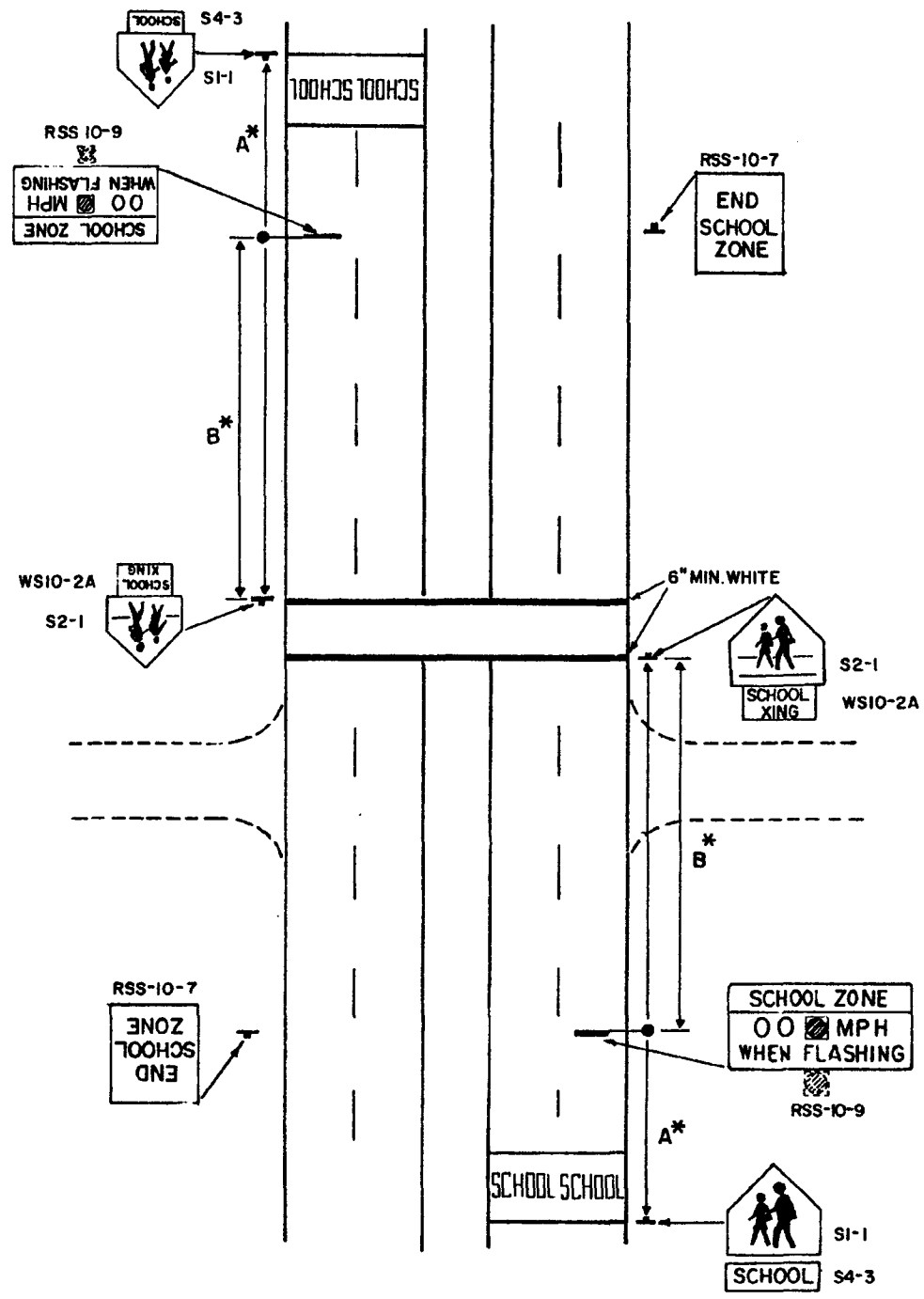
REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION	Designed by	7-76
			Checked by	7-76
			Quantities by	
			Checked by	
			Supervised by	

Approved by *R.E. Magedoff*  
State Traffic Operations Engr.  
DRAWING NO. 2 of 9 INDEX NO. 17344B





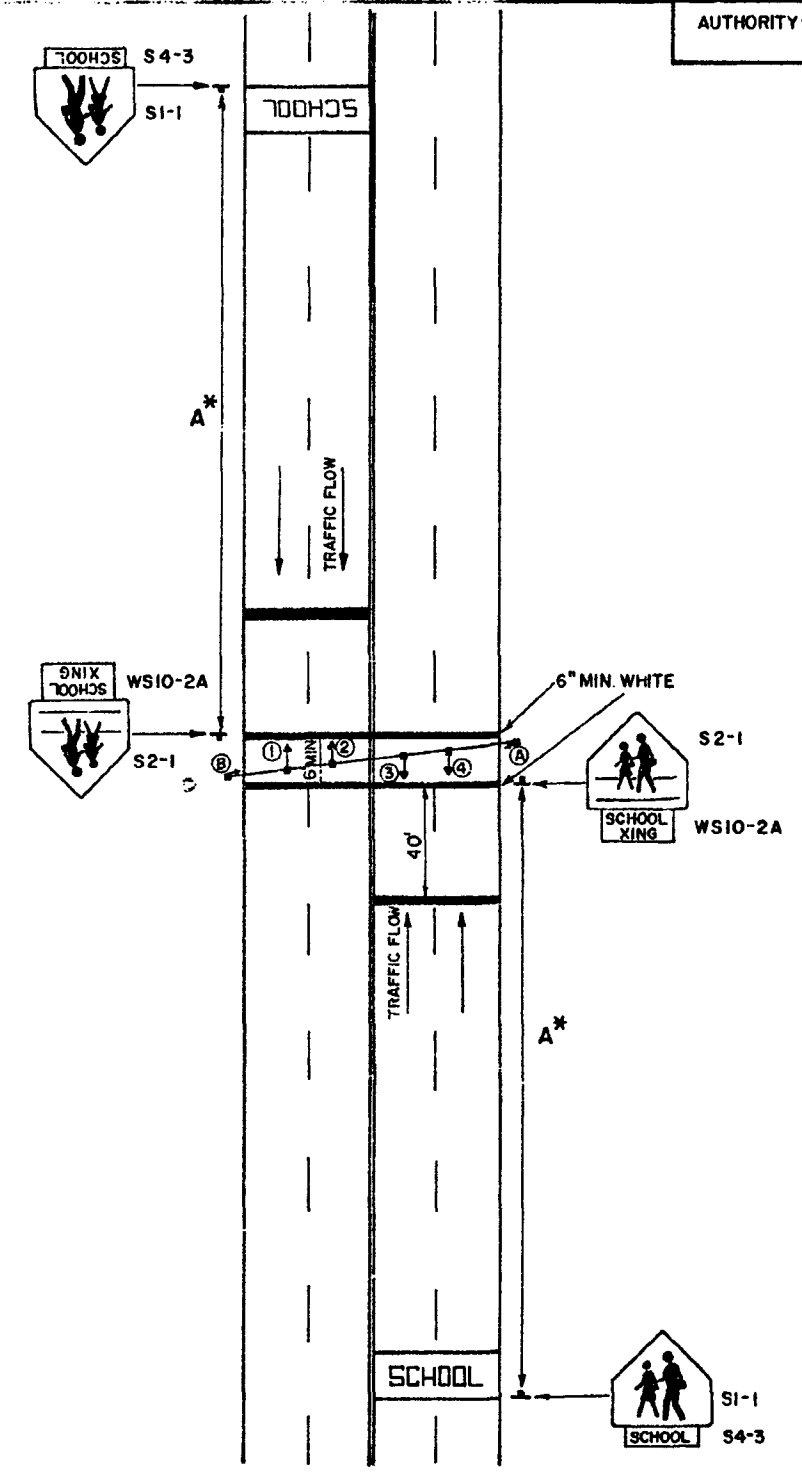
6. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK WITHOUT A SPEED REDUCTION (2 LANES - 2 WAY TRAFFIC)



7. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK WITH OVERHEAD FLASHING BEACON SPEED LIMIT SIGNS (4 LANES DIVIDED - 2 WAY TRAFFIC)

APPROACH SPEED MPH	SUGGESTED DISTANCE IN FEET	
	A	B
25 TO 35	275	50
36 TO 45	350	65
46 TO 55	500	80
56 OR GREATER	575	100

A\* & B\* DISTANCES SHALL BE INCREASED BY ADDING THE INTERSECTING STREET WIDTH (CURB RETURNS INCLUDED) TO DIMENSIONS GIVEN IN TABLE.



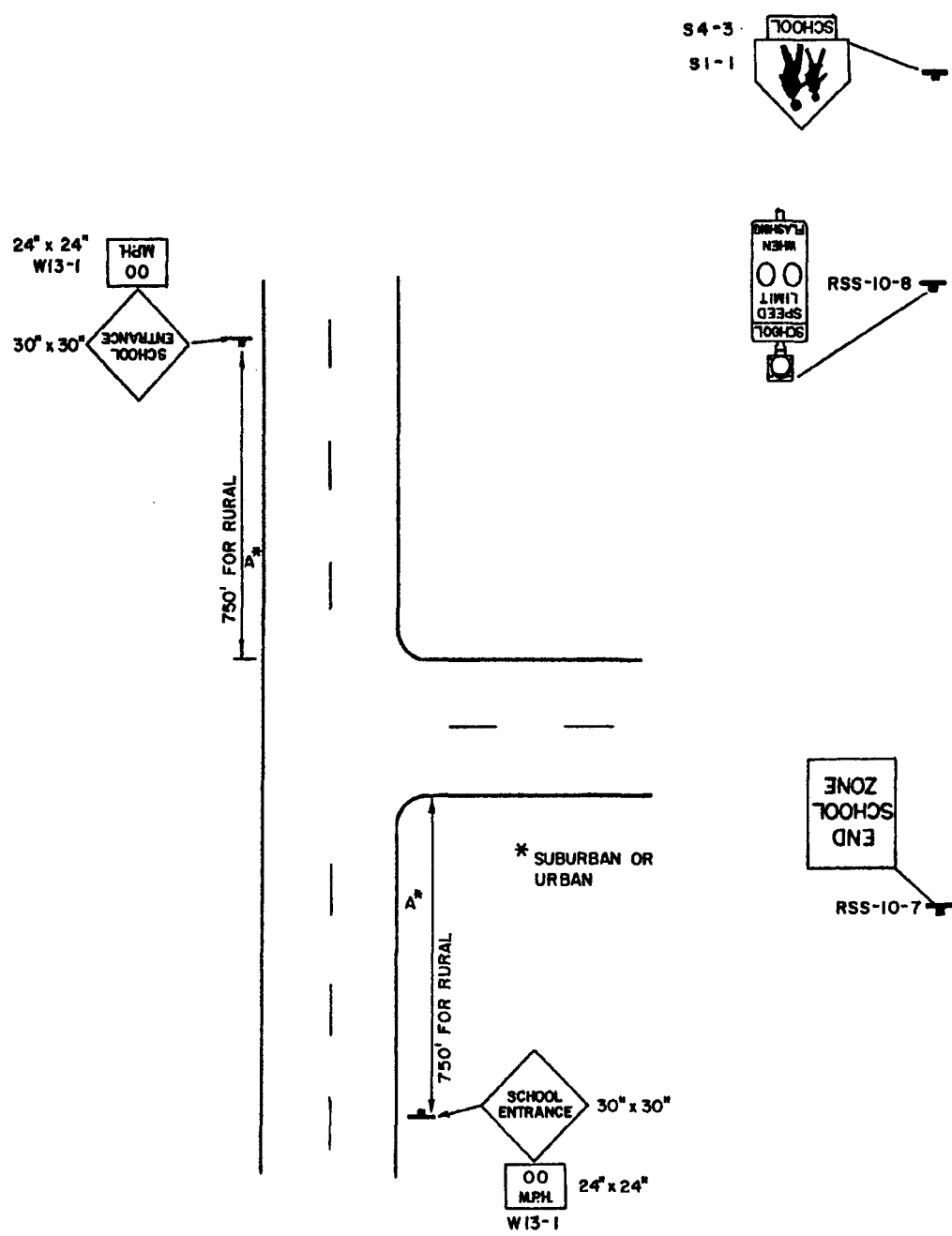
8. TRAFFIC CONTROL DEVICES FOR SIGNALIZED MIDBLOCK SCHOOL CROSSWALK

APPROVED BY FHWA 9-9-76  
 FLORIDA DEPARTMENT OF TRANSPORTATION  
 Traffic Operations

REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION	Detailed by	CEJ 7-76
			Checked by	KR 7-76
			Quantities by	
			Checked by	
			Supervised by	REM

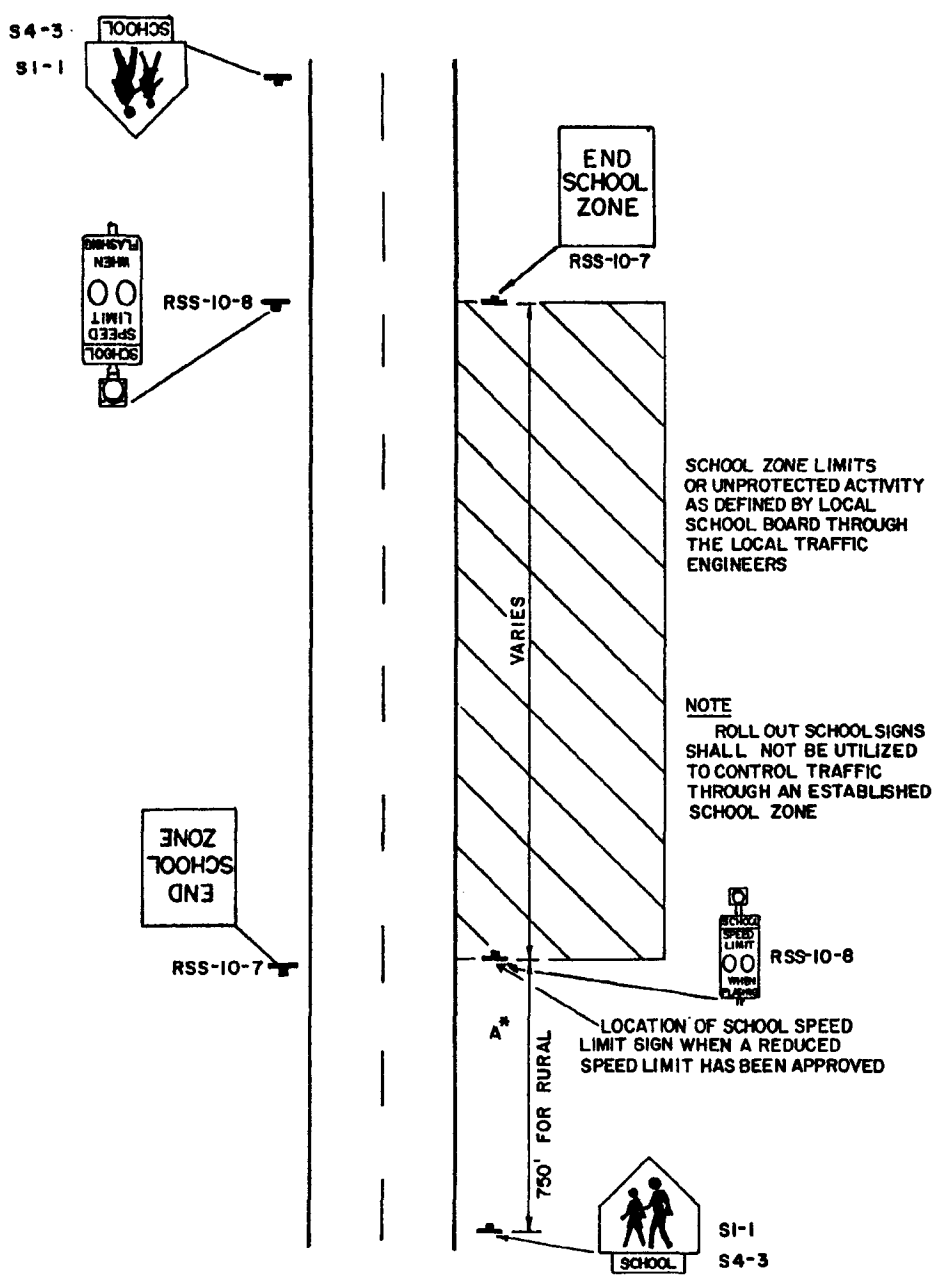
Approved by *K.E. Maguire*  
 State Traffic Operations Engr

DRAWING NO.	INDEX NO.
3 OF 9	17344 B

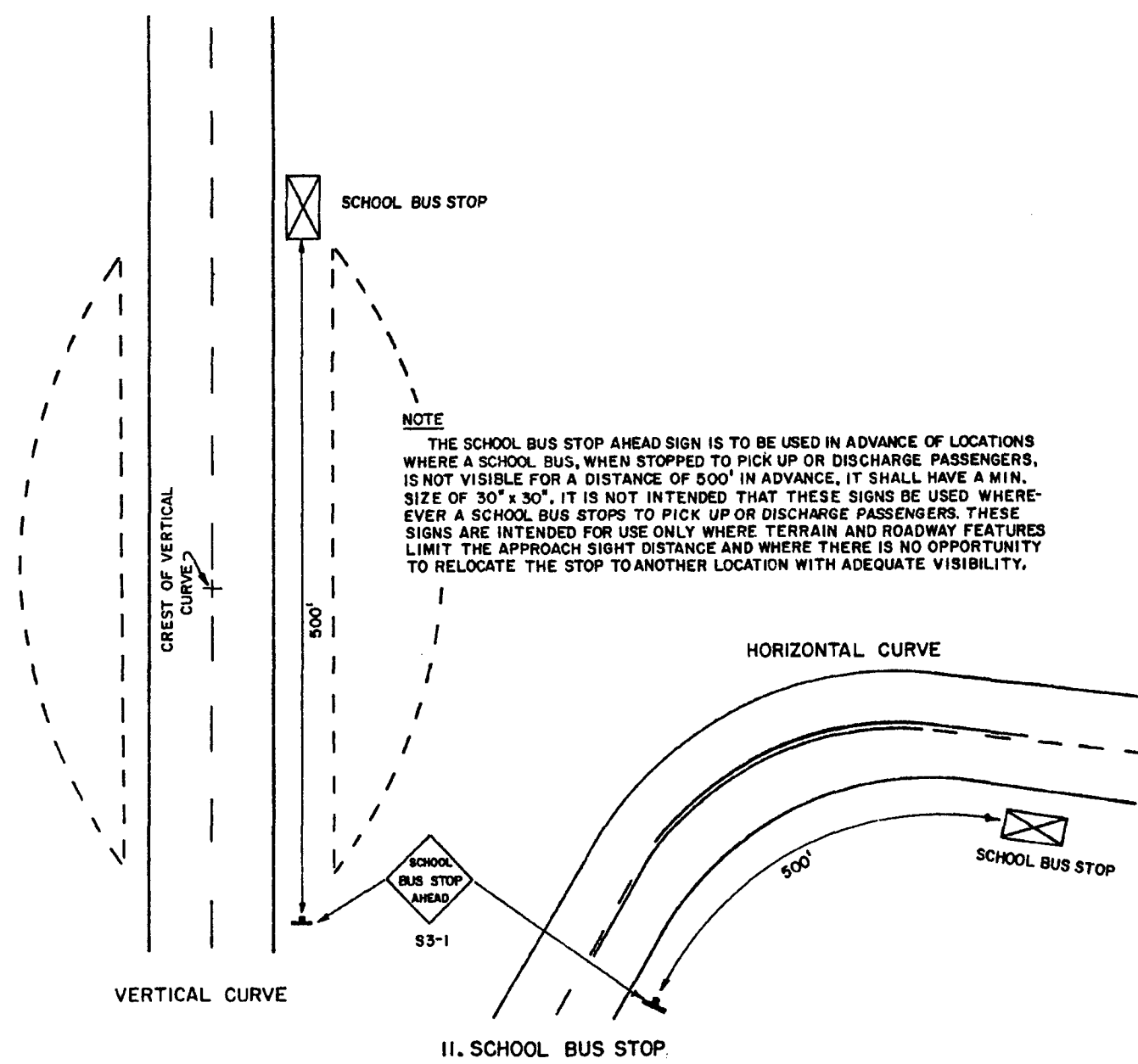


9. TRAFFIC CONTROL DEVICES AT SCHOOL ENTRANCES WHERE THERE ARE LITTLE OR NO WALKING STUDENTS

These Signs Are Intended For Use Only At Those Few Locations Where The School Entrance Is Not Evident To The Motorist, And Must Be Approved In Advance By The Responsible Traffic Engineering Authority.



10. TRAFFIC CONTROL DEVICES FOR A TYPICAL SCHOOL ZONE FRONTING THE SCHOOL PROPERTY



APPROVED BY FHWA 9-9-76

FLORIDA DEPARTMENT OF TRANSPORTATION  
Traffic Operations

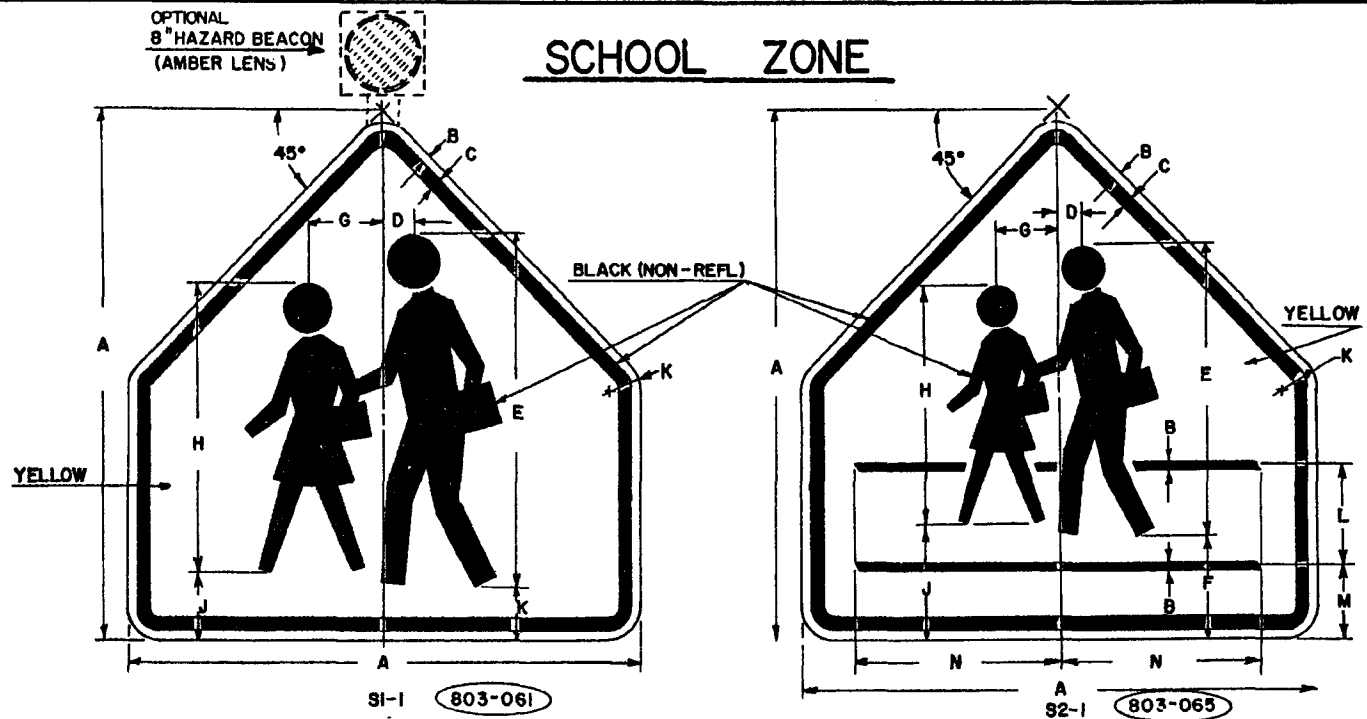
SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION	Detailed by	CEJ 7-76
			Checked by	KR 7-76
			Quantities by	
			Checked by	
			Supervised by	REM

Approved by *R. E. Magalaya* Traffic Eng.  
State Traffic Operations

DRAWING NO.	INDEX NO.
4 OF 9	17344 B

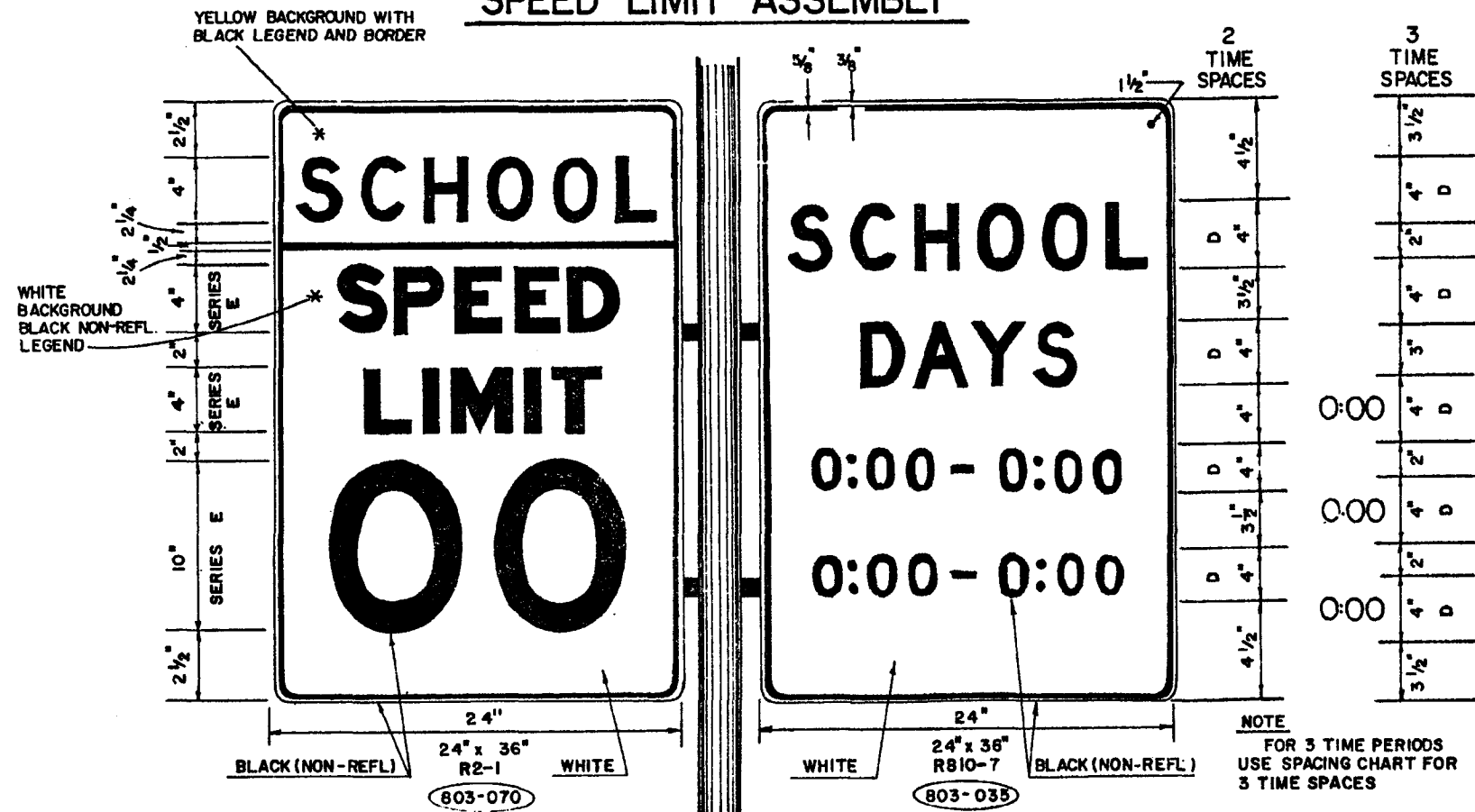
**SCHOOL ZONE**



SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	K
STD. & MIN.	30	1/2	3/4	2	20	3	4 1/2	16 1/2	3 3/4	1 7/8
EXPWY	36	5/8	7/8	2 1/2	24	3 1/2	5 3/8	20	4 1/2	2 1/4
SPECIAL	48	3/4	1 1/4	3 1/4	32	5	7 1/4	26 1/2	6	3

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M	N	
STD. & MIN.	30	1/2	3/4	1 1/4	16 1/2	6	3 3/4	13 1/2	6 1/2	1 7/8	5 3/4	4	12	
EXPWY	36	5/8	7/8	1 1/2	19 3/4	7 1/4	4 1/2	16 1/4	7 13/16	2 1/4	6 7/8	4 3/4	14 3/8	
SPECIAL	48	3/4	1 1/4	2	26 1/2	9 1/2	6	21 1/2	10 3/8	3	9 1/4	6 1/2	19 1/4	

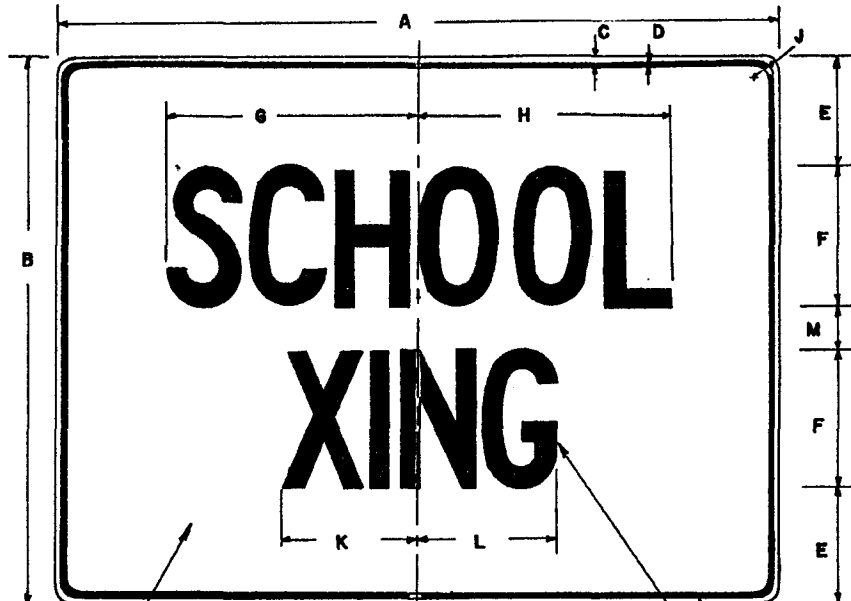
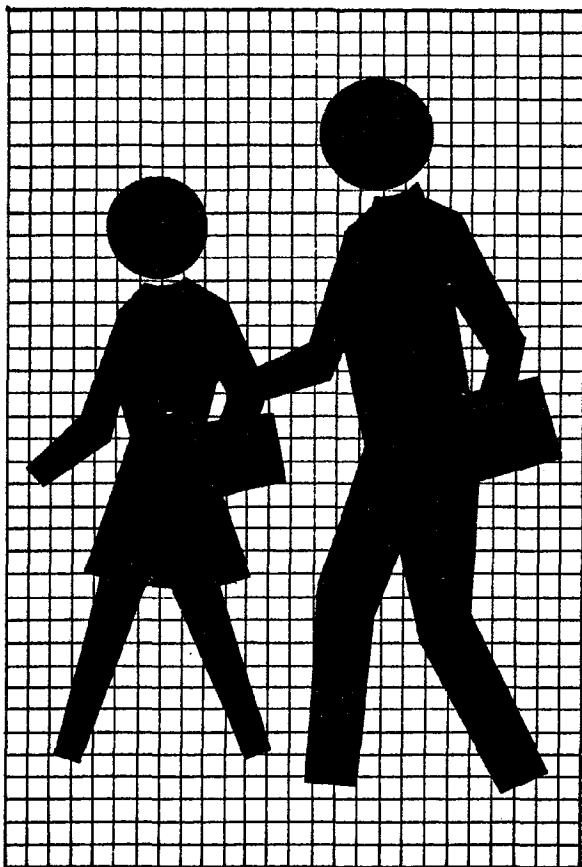
**SPEED LIMIT ASSEMBLY**



24" x 36" R2-1  
BLACK (NON-REFL) WHITE  
803-070

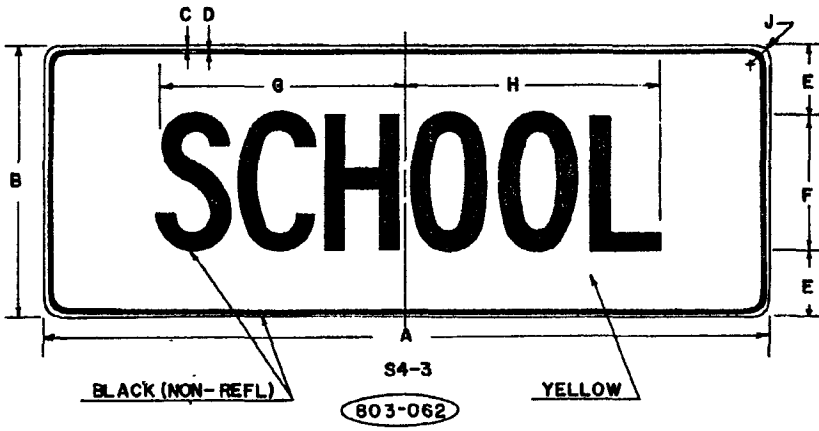
24" x 36" R810-7  
WHITE BLACK (NON-REFL)  
803-038

NOTE FOR 3 TIME PERIODS USE SPACING CHART FOR 3 TIME SPACES



SUPPLEMENTAL PANEL  
BLACK (NON-REFL)  
WS10-2A 803-068

SIGN	DIMENSIONS (INCHES)													
	A	B	C	D	E	F	G	H	J	K	L	M		
MIN.	24	18	5/8	5/8	4	4 1/2	10	10 1/4	1 1/2	5 9/16	6 1/4	2		
STD.	36	24	5/8	7/8	4 1/2	6 1/2	15	15 3/8	2 1/4	8	8	3		
SPECIAL	48	30	3/4	1 1/4	5	8 1/2	20	20 1/2	3	11 1/8	11 1/8	4		



S4-3  
BLACK (NON-REFL) YELLOW  
803-062

SIGN	DIMENSIONS (INCHES)									
	A	B	C	D	E	F	G	H	J	
MIN. & STD.	24	8	3/8	5/8	2	4 1/2	10	10 1/4	1 1/2	
EXPWY	36	12	5/8	7/8	3	6 1/2	15	15 3/8	2 1/4	
SPECIAL	48	16	3/4	1 1/4	4	8 1/2	20	20 1/2	3	

NOTE ALL SIGNS SHALL BE REFLECTORIZED

NOTE STANDARD SIZE SIGNS SHOULD BE USED WHENEVER POSSIBLE. MINIMUM SIZES MAY BE USED ONLY ON LOW VOLUME, LOW SPEED (LESS THAN 35 M.P.H.) STREETS. SPECIAL SIZES SHOULD BE USED ON EXPRESSWAY FACILITIES WHERE SPECIAL EMPHASIS IS NEEDED.

SPEED LIMIT THE VALUE OF THE ACTUAL SCHOOL ZONE SPEED LIMIT SHALL BE DETERMINED BY THE DISTRICT TRAFFIC OPERATIONS ENGINEER IN COOPERATION WITH LOCAL SCHOOL SUPERINTENDENTS. IN NO CASE SHALL IT BE LESS THAN THE 15 M.P.H. MINIMUM SET BY LAW.

000-000 MAINTENANCE PART NUMBER

APPROVED BY FHWA 9-9-76

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

**SCHOOL SIGNS & MARKINGS**

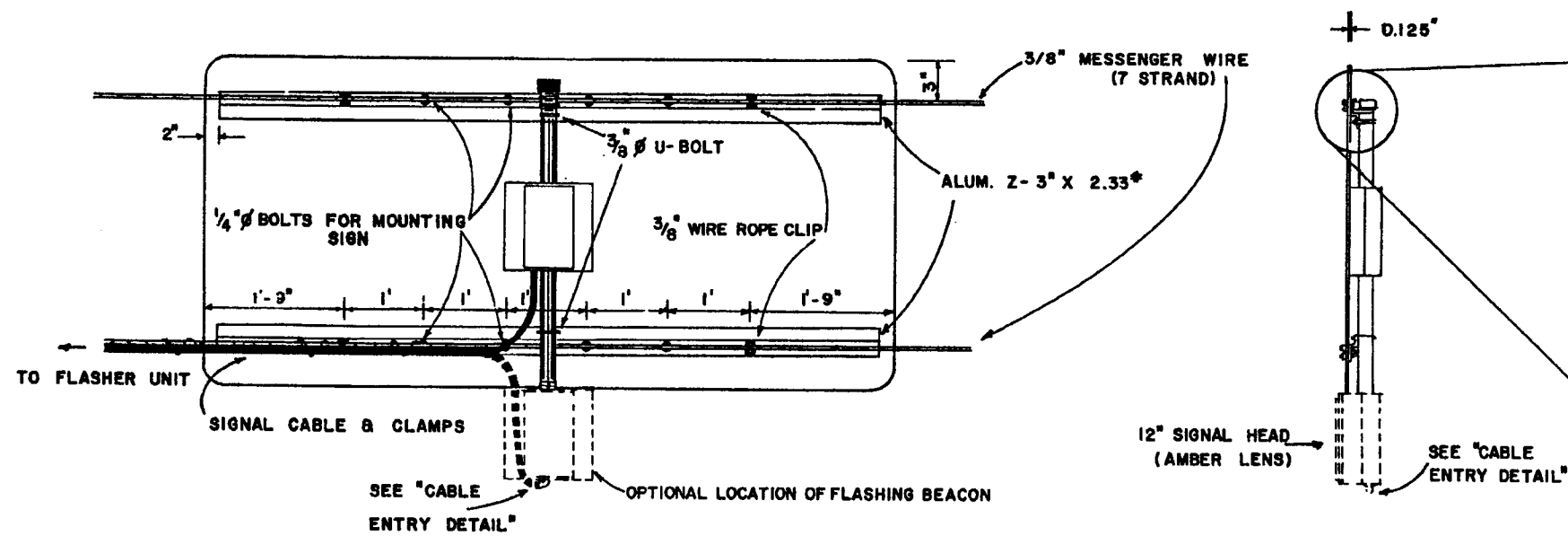
REVISIONS		INITIALS	DATE
DATE	BY	DESCRIPTION	
9/20/77	SWR	CHANGED SIGN DIMENSION	

DETAILED BY	CEJ	7-76
CHECKED BY	KR	7-76
QUANTITIES BY		
CHECKED BY		
SUPERVISED BY	REM	

APPROVED BY *R.E. Magaley*

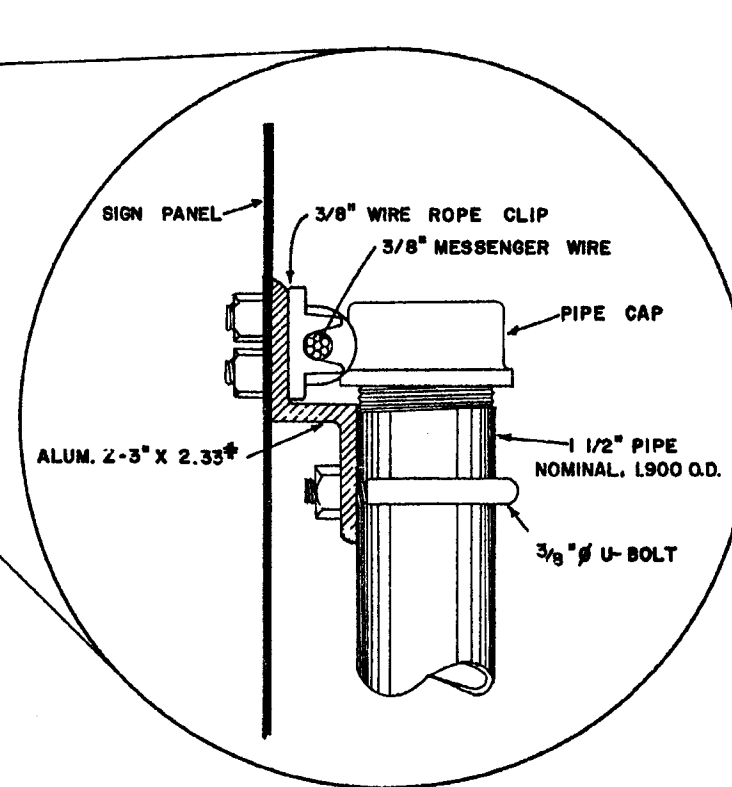
STATE TRAFFIC OPERATIONS ENGR.

DRAWING NO. 5 of 9 INDEX NO. 17344 B

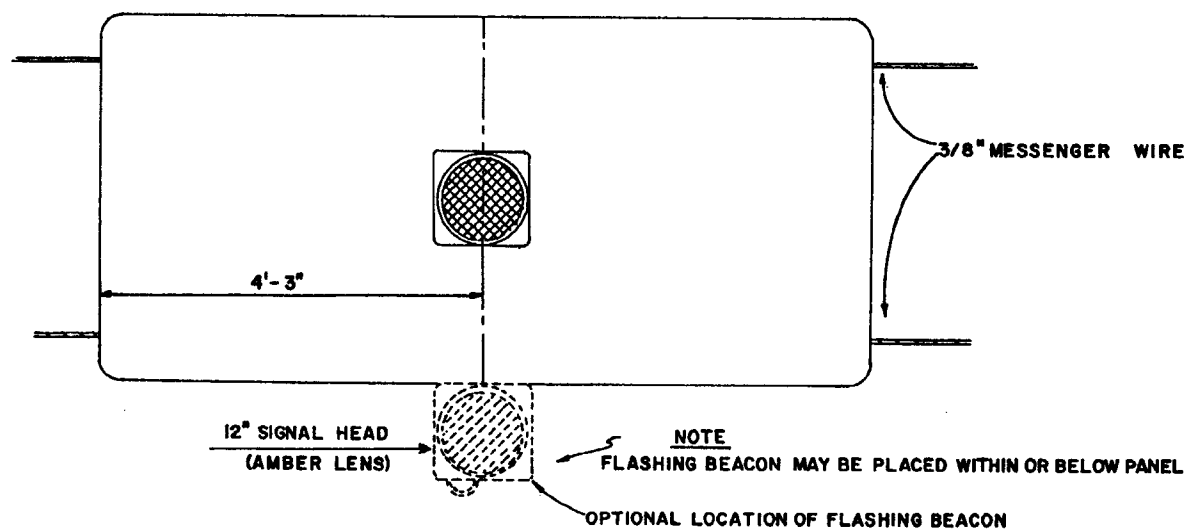


REAR VIEW

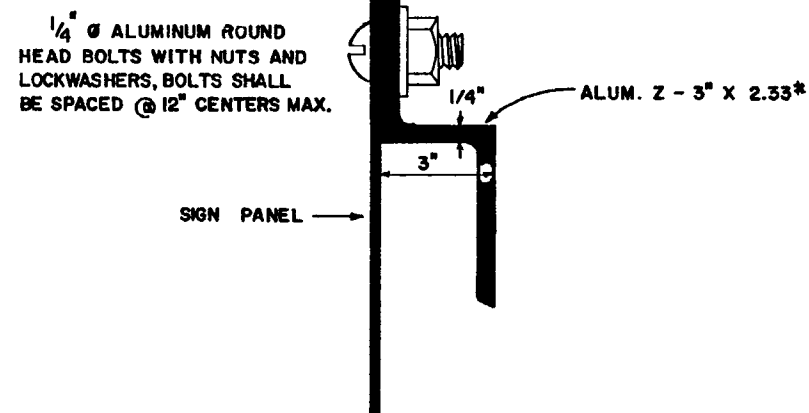
FLASHER UNIT AND CABINET TO BE PLACED ON THE STRAIN POLE SUPPORTING OVERHEAD SIGN ASSEMBLY OR ON SERVICE POLE



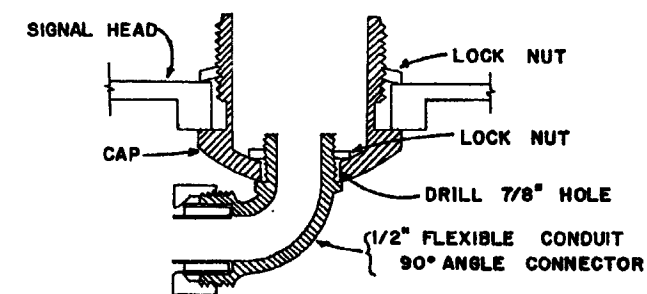
SUSPENSION DETAIL



FRONT VIEW



Z SECTION DETAIL



CABLE ENTRY DETAIL

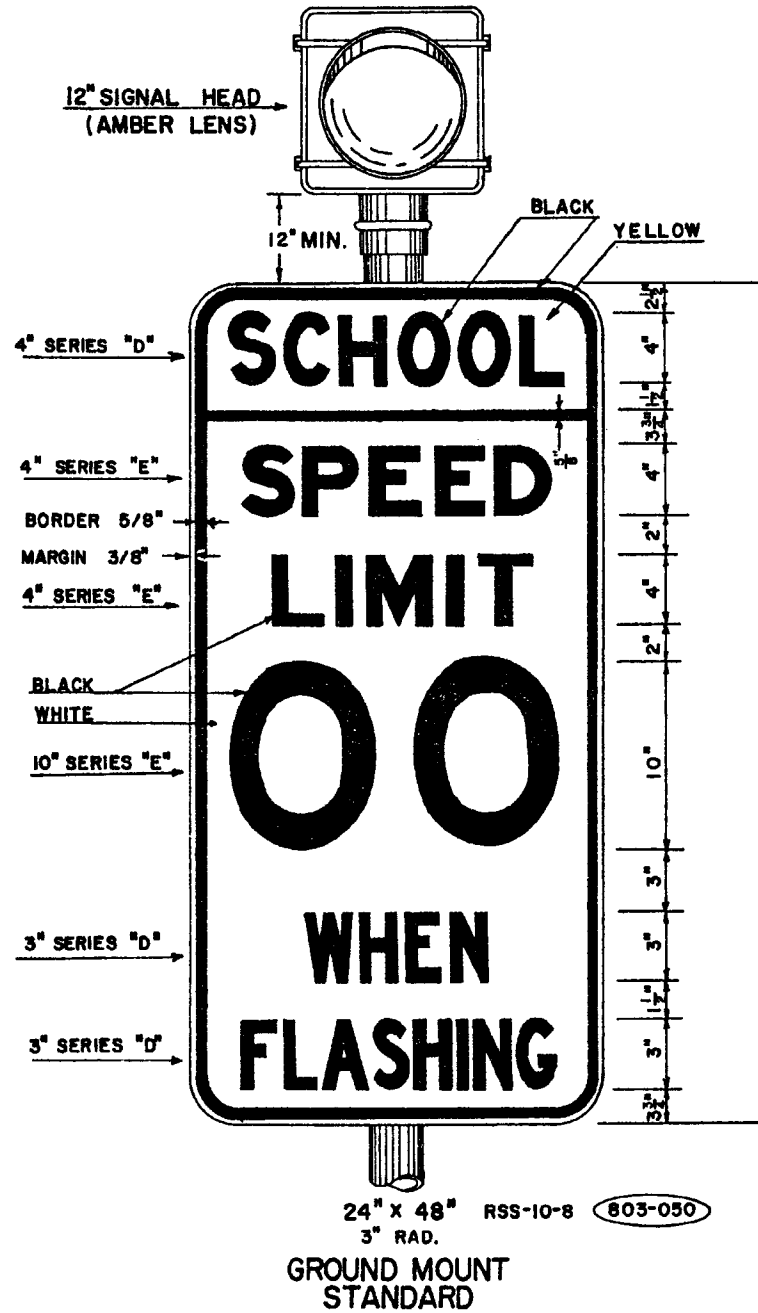
APPROVED BY FHWA 9-9-76.  
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

REVISIONS		INITIALS	DATES
DATE	BY	DESCRIPTION	

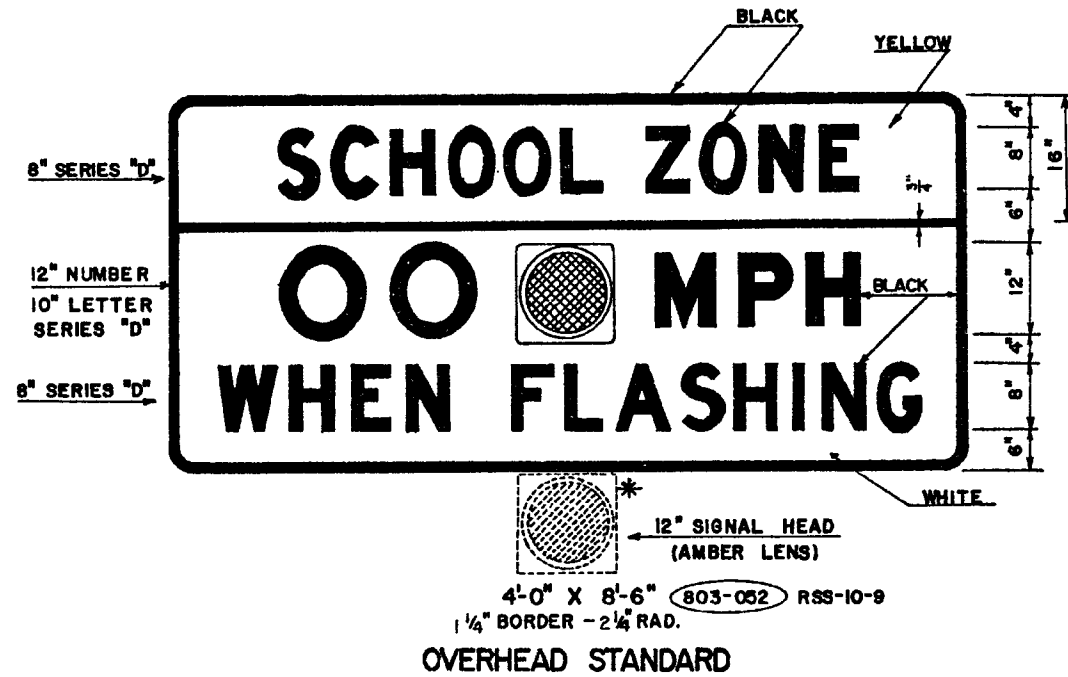
DETAILED BY CEJ 7-76	CHECKED BY KR 7-76	QUANTITIES BY	CHECKED BY	SUPERVISED BY REM	APPROVED BY <i>R.E. Magallon</i> STATE TRAFFIC OPERATIONS ENGR.	DRAWING NO. 6 of 9	INDEX NO. 17344 B
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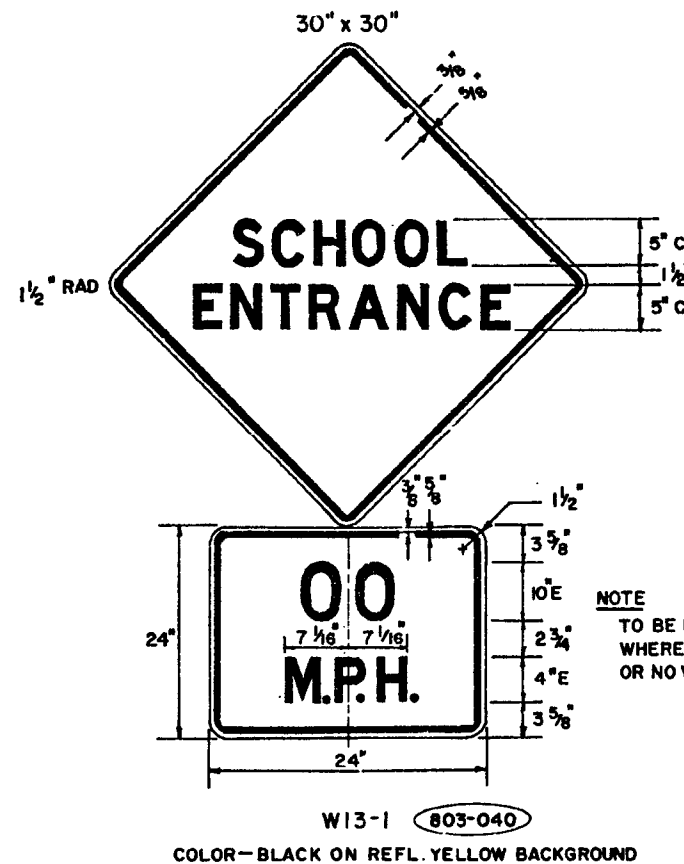
**NOTE**

EXISTING SCHOOL SPEED LIMIT SIGNS (GROUND MOUNT) UTILIZING A SINGLE 8" MIN. SIZE BEACON OR TWO 6" MIN. SIZE BEACONS INSIDE THE SIGN BORDER ARE CONSIDERED AS MEETING THE STANDARD. HOWEVER REPLACEMENT OR UPGRADING OF THESE SCHOOL SPEED LIMIT SIGNS SHALL CONFORM TO THE ABOVE STANDARD.

NUMERICAL SPEED LIMIT DISPLAYED SHALL BE THE LIMIT ESTABLISHED BY APPROPRIATE REGULATORY AUTHORITIES.



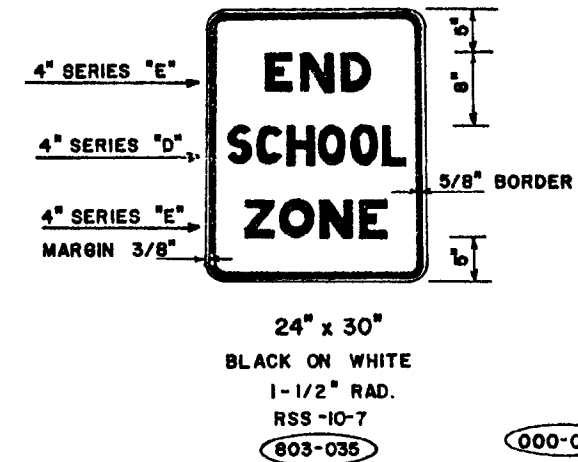
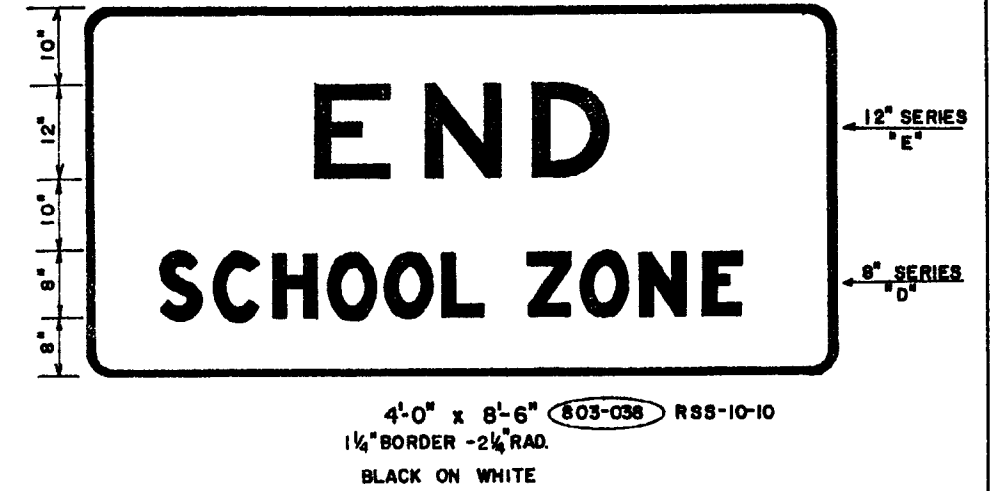
\* FLASHING BEACON MAY BE PLACED WITHIN OR BELOW PANEL



COLOR—BLACK ON REFL. YELLOW BACKGROUND

**NOTE**

TO BE USED AT SCHOOLS WHERE THERE ARE LITTLE OR NO WALKING STUDENTS.



000-000 MAINTENANCE PART NUMBER

**NOTE**

ALL SIGNS SHALL BE REFLECTORIZED

APPROVED BY FHWA 9-9-76

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

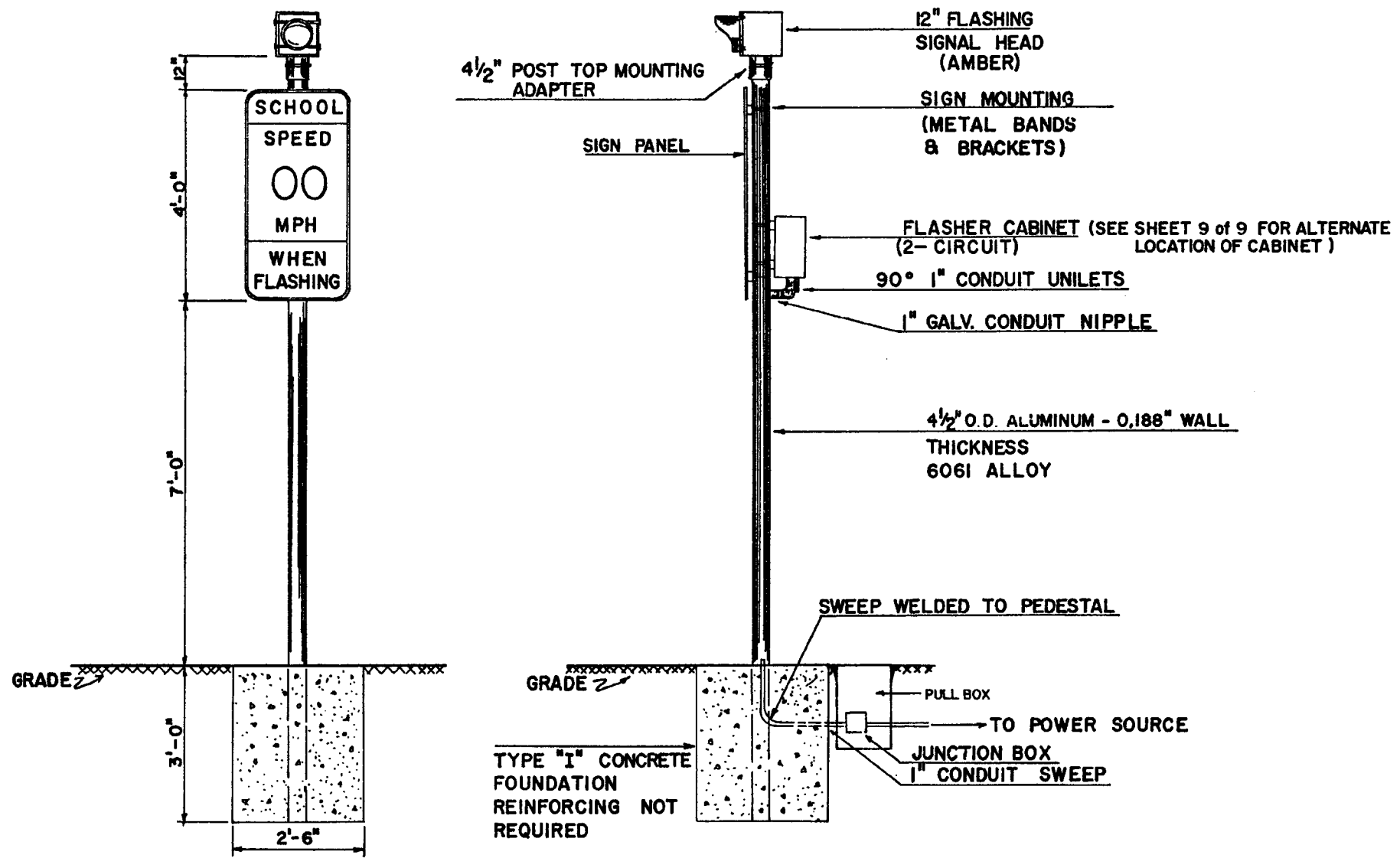
SCHOOL SIGNS & MARKINGS

REVISIONS		
DATE	INITIALS	DESCRIPTION

INITIALS	DATE
CEJ	7-76
KR	7-76

APPROVED BY *R.E. Magallon*  
STATE TRAFFIC OPERATIONS ENGR.  
DRAWING NO. 7 of 9 INDEX NO. 17344B

## DETAIL FOR GROUND MOUNT SCHOOL SPEED LIMIT SIGN



### FLASHING BEACON SIGN ASSEMBLY PAY ITEM NUMBERS

- 700-90 FLASHING BEACON SIGN ( ) ASSEMBLY
- 700-90-1 (GROUND MOUNT)
- 700-90-2 (OVERHEAD MOUNT)

THE ABOVE ITEMS INCLUDE THE COST OF ALL MATERIALS, LABOR, EQUIPMENT AND OTHER MISCELLANEOUS EXPENSES REQUIRED TO FURNISH AND INSTALL A COMPLETE FLASHING BEACON SIGN ASSEMBLY OF THE TYPE SPECIFIED

A FLASHING BEACON SIGN ASSEMBLY INCLUDES ALL SIGNS & BEACONS MOUNTED ON A SUPPORTING STRUCTURE, INCLUDING THE COMPLETE STRUCTURE, STRUCTURE FOUNDATIONS AND MISCELLANEOUS HARDWARE & ELECTRICAL CONNECTIONS. THE ASSEMBLY DOES NOT INCLUDE THE SIGN CONTROLLER & CABINET, TIME CLOCKS, ELECTRICAL POWER SERVICE ASSEMBLY, OR ANY CONDUIT, CABLE OR PULL BOXES BEYOND THE SIGN STRUCTURE FOUNDATION.

### GENERAL NOTES FOR FLASHING BEACON INSTALLATIONS

1. IT SHALL BE THE RESPONSIBILITY OF THE ENGINEER, BASED UPON SOIL CONDITIONS, TO DETERMINE IF CONCRETE FOUNDATIONS ARE REQUIRED. (COST OF CONCRETE FOUNDATION TO BE INCLUDED IN BID ITEM PROVIDED)
2. IF A CONCRETE FOUNDATION IS NOT REQUIRED, METHOD OF STABILIZATION IS TO BE DETERMINED BY THE ENGINEER AND AN APPROVED ANTI-TWIST DEVICE SHALL BE PROVIDED AND INSTALLED ON THE POST BELOW GRADE (COST OF DEVICE TO BE INCLUDED IN BID ITEM 700-90-1)
3. ONE (1) FLASHER UNIT AND CABINET TO BE USED WITH EACH SCHOOL ZONE UNLESS OTHERWISE PROVIDED ON THE INSTALLATIONS PLAN.
4. FLASHER-2 CIRCUIT -10 AMPERES EACH CIRCUIT. SOLID STATE DESIGN FOR PLUG-IN MOUNTING IN A WEATHER PROOF, VENTILATED ALUMINUM CABINET.
5. CABINET SHALL BE EQUIPPED WITH JACK PANEL, TERMINAL AND FUSE BLOCK, AND SHALL BE OF SUFFICIENT SIZE TO HOUSE ALL RELATED EQUIPMENT.
6. CABINET SHALL BE FURNISHED WITH A CYLINDER LOCK AND TWO (2) KEYS.
7. TIME CLOCK TO BE 7 DAYS, 24 HOUR DIAL WITH DAY OMIT ON ANY COMBINATION OF DAYS. TIME CLOCK TO BE SETTABLE IN 5 MINUTE INCREMENTS. MINIMUM ON AND OFF TIMES SETTABLE TO 15 MINUTES. A MINIMUM OF 4 ON-OFF CYCLES PER DAY AND A 10 HOUR RESERVE SPRING IS REQUIRED.

APPROVED BY FHWA 9-9-76

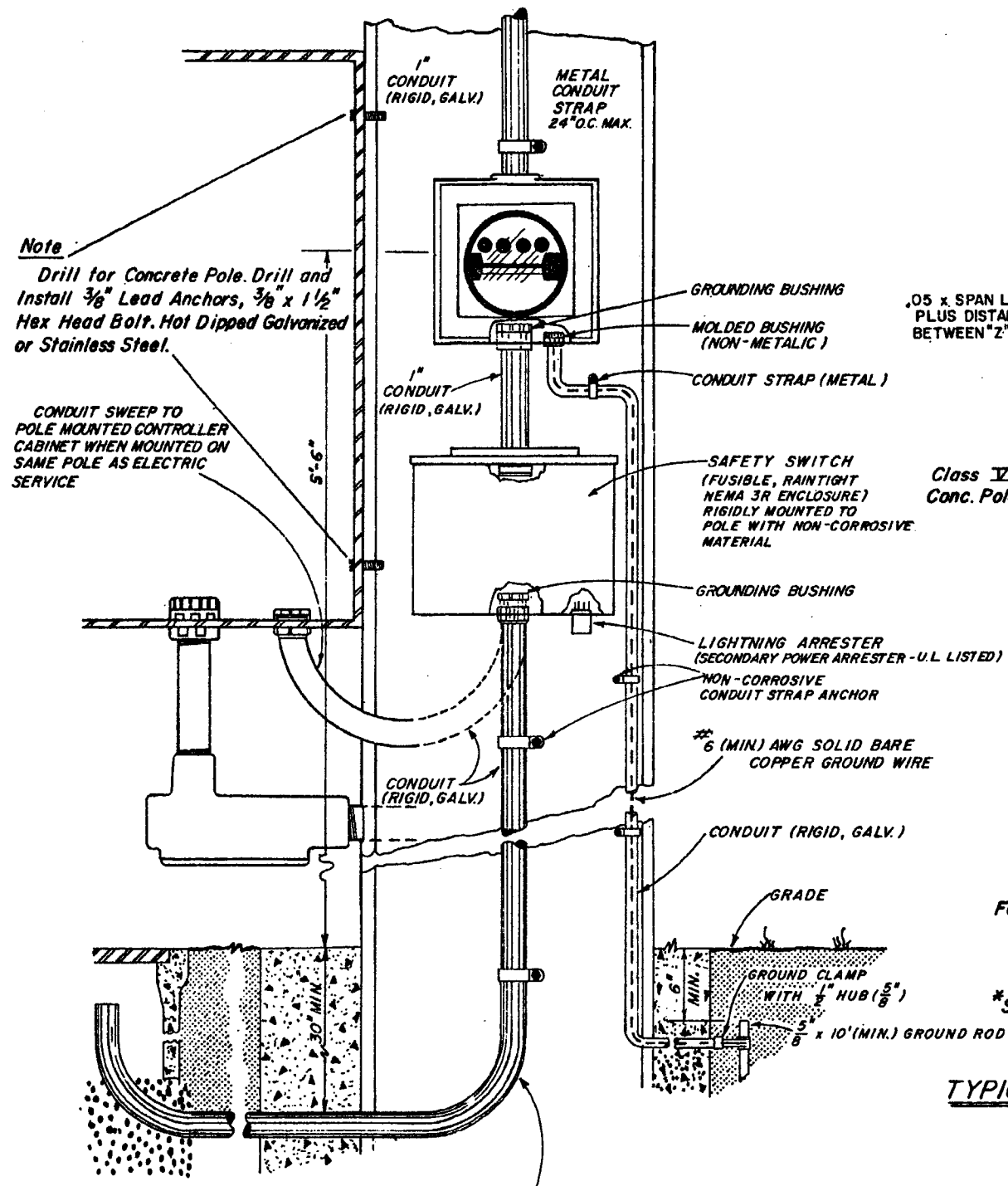
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

SCHOOL SIGNS & MARKINGS

REVISIONS			INITIALS	DATE
DATE	BY	DESCRIPTION		
			CEJ	7-76
			KR	7-76

APPROVED BY	<i>R. E. Magarvey</i>	STATE TRAFFIC OPERATIONS ENGR.
DRAWING NO.	8 of 9	INDEX NO.
		17344 B

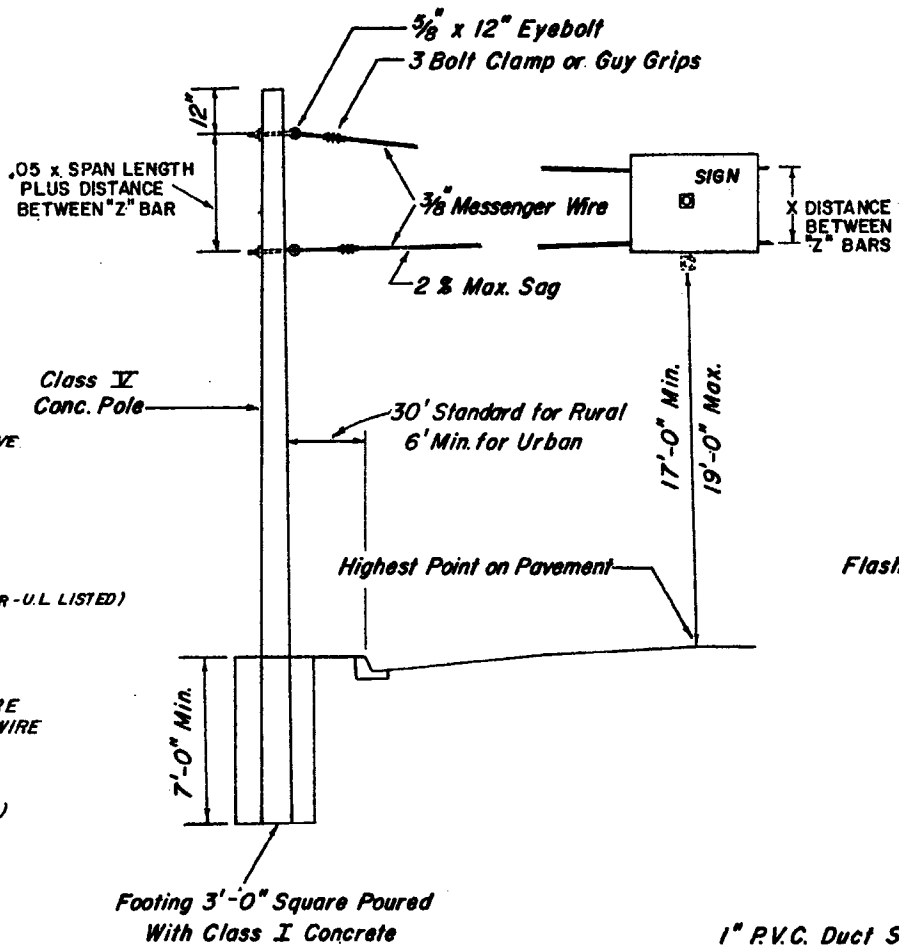


**Note**  
Drill for Concrete Pole. Drill and Install  $\frac{3}{8}$ " Lead Anchors,  $\frac{3}{8}$ " x  $1\frac{1}{2}$ " Hex Head Bolt. Hot Dipped Galvanized or Stainless Steel.

CONDUIT SWEEP TO POLE MOUNTED CONTROLLER CABINET WHEN MOUNTED ON SAME POLE AS ELECTRIC SERVICE

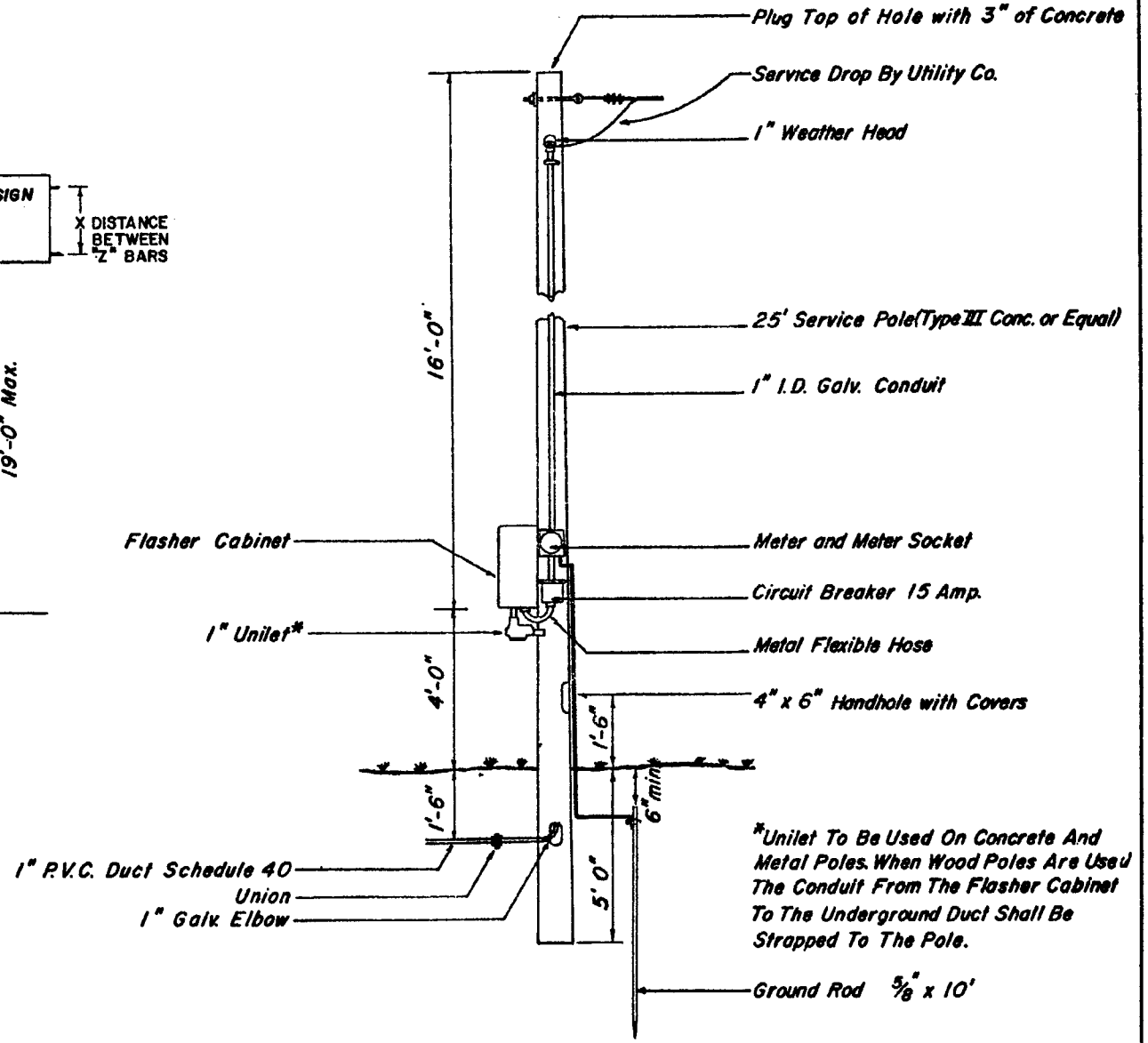
Conduit Sweep To Base Mounted Controller Cabinet, Or Pole Mounted Controller Cabinet When Mounted On Separate Pole From Electric Service

SERVICE DETAIL



TYPICAL INSTALLATION DETAIL

\*S=Span Length



TYPICAL SERVICE POLE WITH CABINET

\*Unilet To Be Used On Concrete And Metal Poles. When Wood Poles Are Used The Conduit From The Flasher Cabinet To The Underground Duct Shall Be Strapped To The Pole.

APPROVED BY FHWA 9-9-76

FLORIDA DEPARTMENT OF TRANSPORTATION  
Traffic Operations

SCHOOL SIGNS & MARKINGS

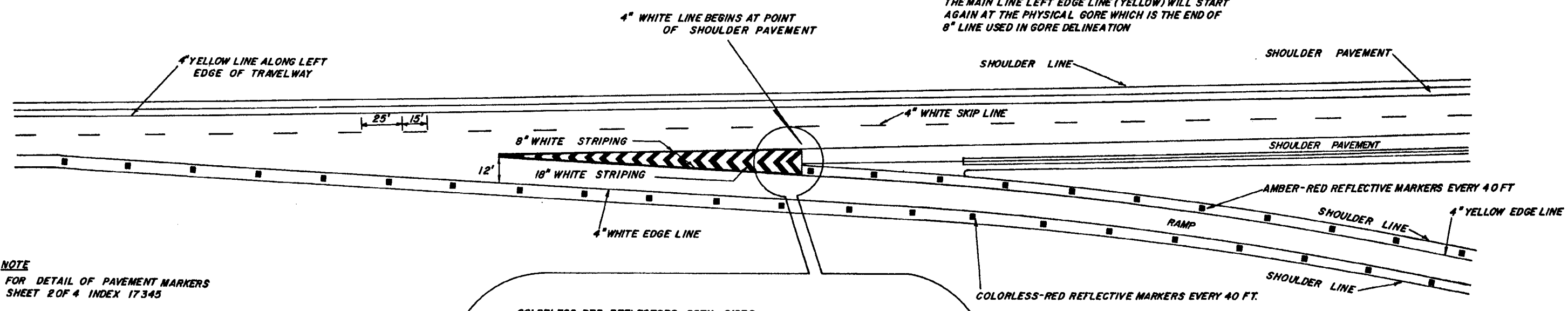
REVISIONS			INITIALS	DATES
DATE	BY	DESCRIPTION		
			Detailed by CEJ	7-76
			Checked by KR	7-76
			Quantities by	
			Checked by	
			Supervised by REM	

Approved by *R.E. Maganby*  
State Traffic Operations Engr.

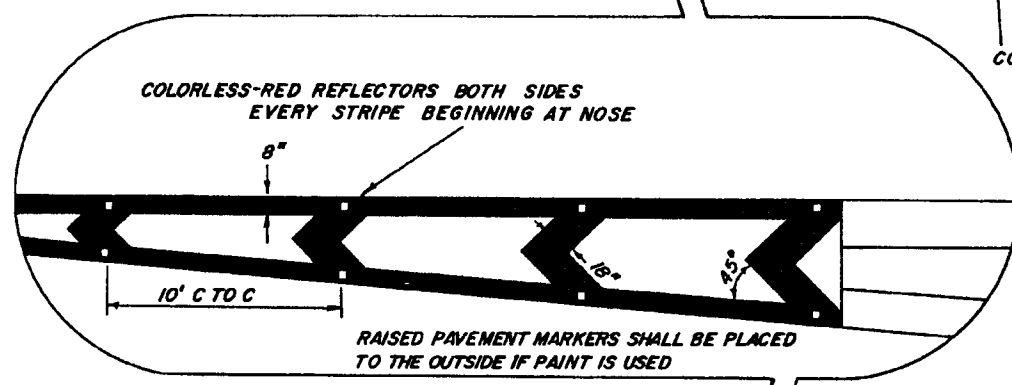
DRAWING NO. 9 OF 9  
INDEX NO. 17344 B

FED. ROAD DIST. NO.	STATE	PROJECT NO.	SHEET NO.
3	FLA.		

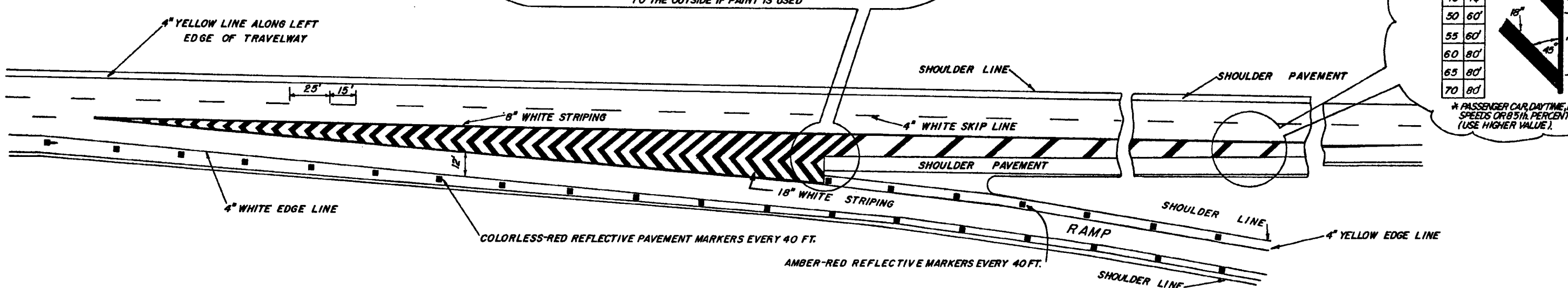
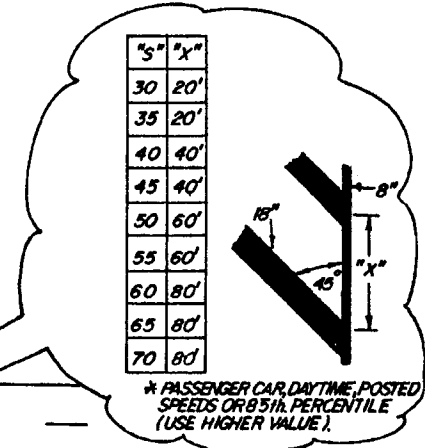
**MARKINGS FOR LEFT OFF-RAMPS**  
 THE LEFT EDGE LINE (YELLOW) WILL BE CONTINUOUS FROM THE MAIN LINE DOWN THE RAMP TO CROSS ROAD. THE MAIN LINE LEFT EDGE LINE (YELLOW) WILL START AGAIN AT THE PHYSICAL GORE WHICH IS THE END OF 8" LINE USED IN GORE DELINEATION



**NOTE**  
 FOR DETAIL OF PAVEMENT MARKERS  
 SHEET 2 OF 4 INDEX 17345



**NORMAL TAPERED EXIT**  
 (TWO THRU LANES)



**NOTE**  
 WHERE ANY LANE, AUXILIARY OR OTHER, WHICH HAS BEEN PROVIDED AS AN ESCAPE AREA, AND IS LESS THAN 1500 FT. IT SHOULD BE STRIPED AS AN EXIT ONLY AS SHOWN IN LOWER DETAIL

**NORMAL TAPERED EXIT ONLY**  
 (TWO THRU LANES-THREE APPROACH LANES)

APPROVED BY FHWA 4-20-76

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS

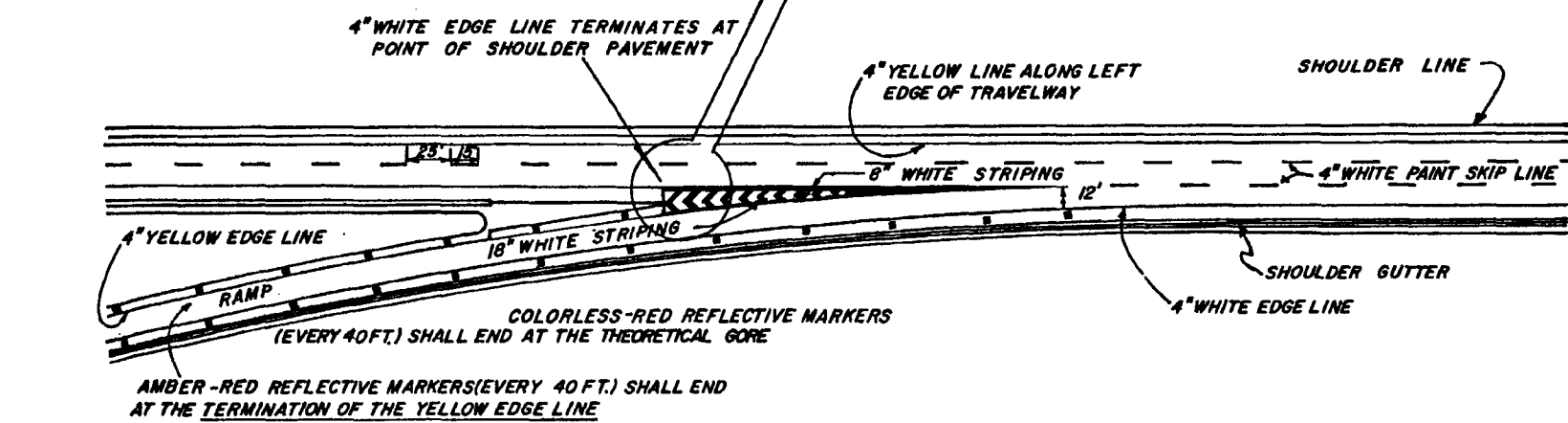
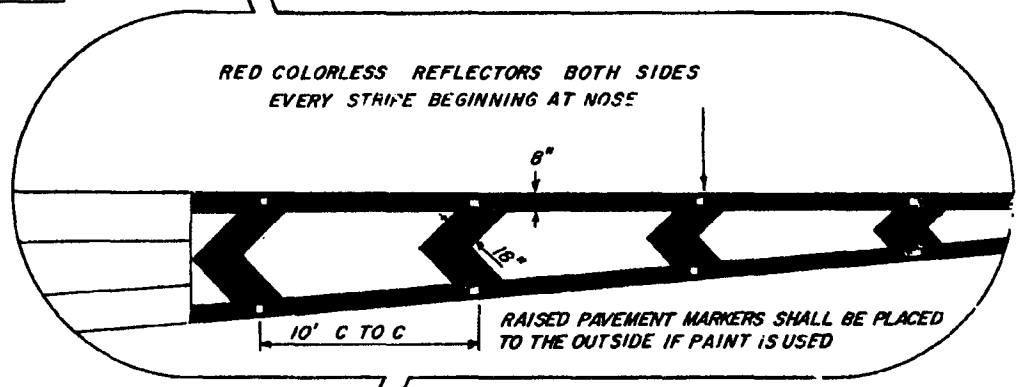
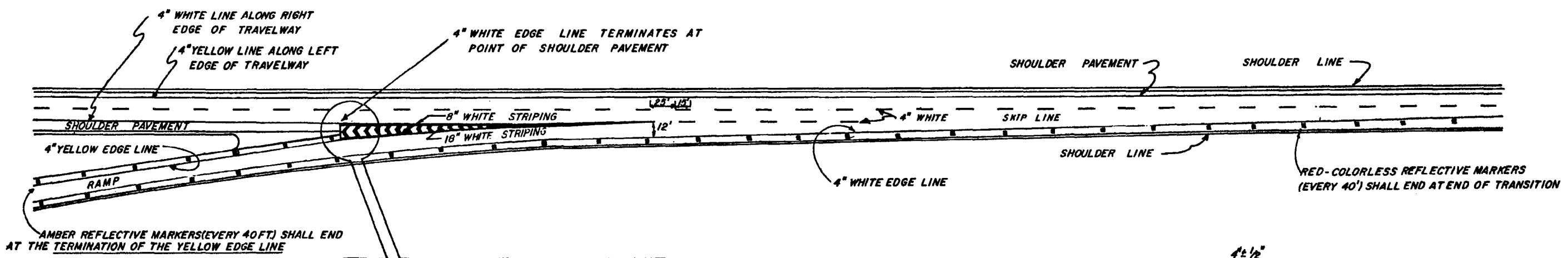
**INTERCHANGE MARKINGS**

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
6-75	REVISED GORE			
5-76	REVISED GORE			
Designed by		Checked by	Quantity by	Checked by
Supervised by		Recommended for Approval	Approved	Index No.
		BY <i>R.E. Maguire</i> 3/8/76	BY <i>[Signature]</i> 5/8/76	STATE TRAFFIC OPERATIONS ENGR
		1 OF 4	17345 A	

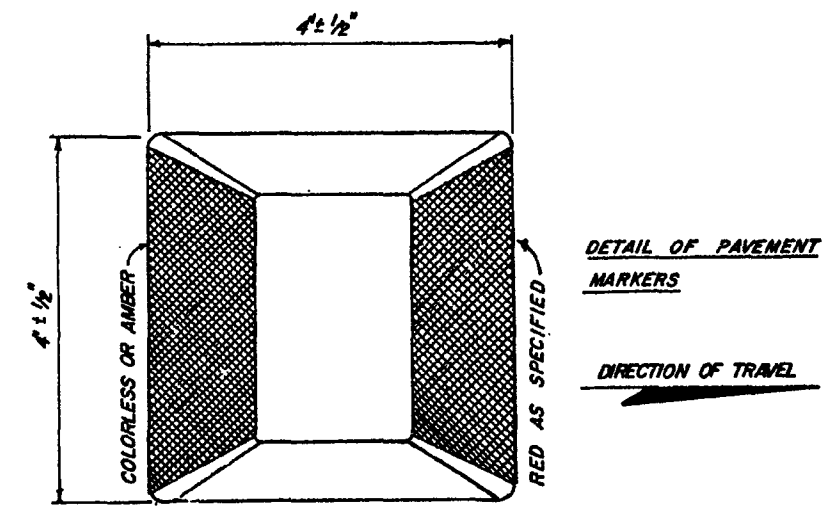


FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.
3	FLA.			

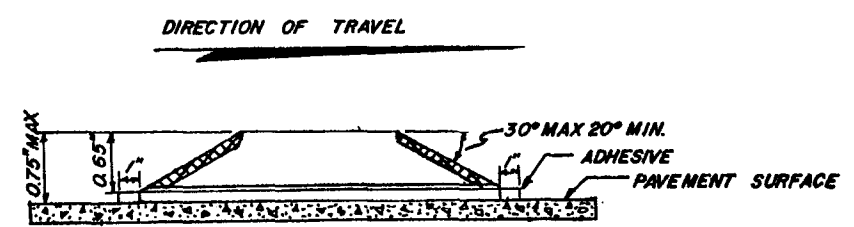
TWO THRU LANES



TWO THRU LANES - WITH ADDED LANE



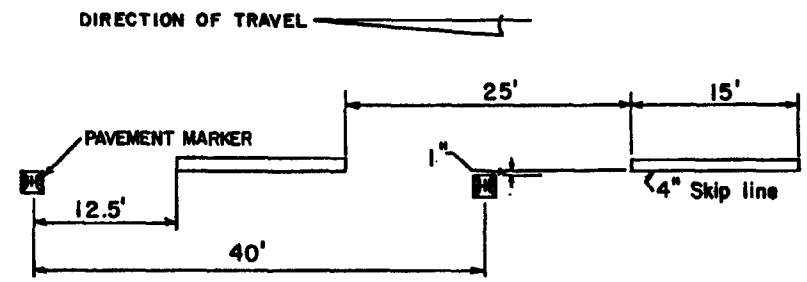
PLAN



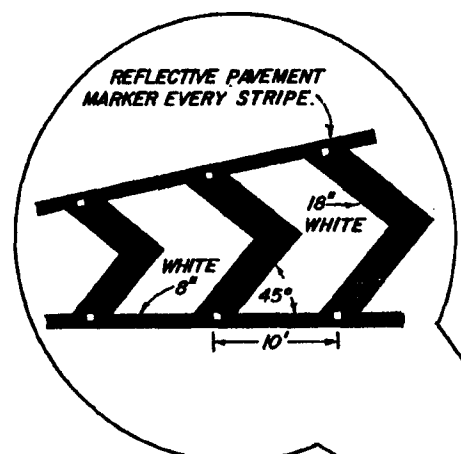
PROFILE

APPROVED BY FHWA 4-20-76

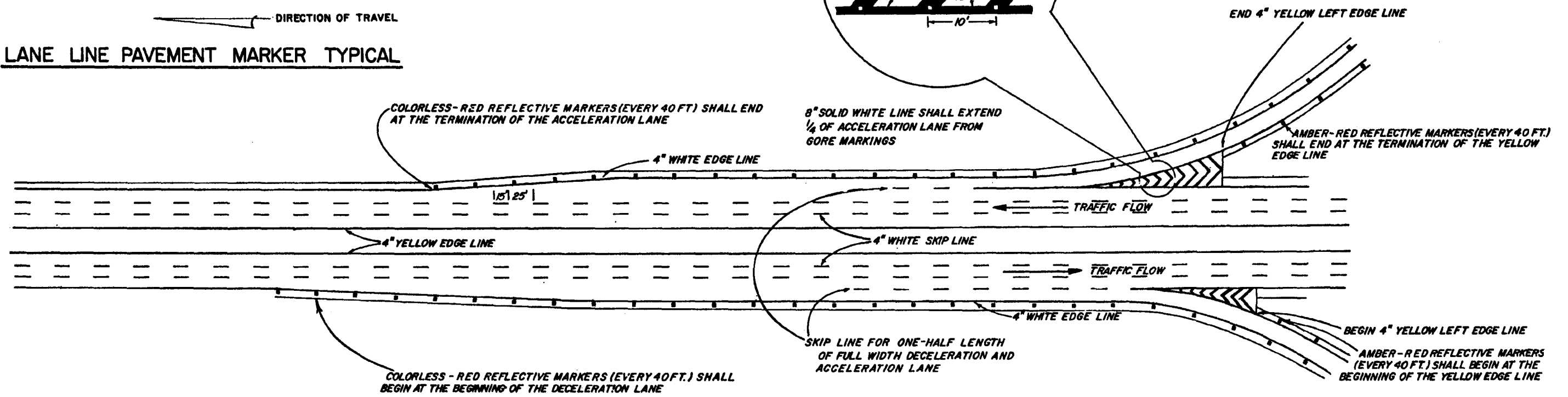
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS				
INTERCHANGE MARKINGS				
ROAD NO.	COUNTY			
	Name	Date	Recommended For Approval by	
Checked by			<i>R.S. Magada</i>	APPROVED BY
Quantities by				<i>[Signature]</i>
Checked by			State Traffic Operations No.	
Traced by			Drawing No.	Index No.
			2 of 6	10348A



**NOTE**  
LANE LINE PAVEMENT MARKERS TO BE USED ONLY WHEN CALLED FOR ON THE PLANS.



**LANE LINE PAVEMENT MARKER TYPICAL**



**PARALLEL ACCELERATION AND DECELERATION LANE**

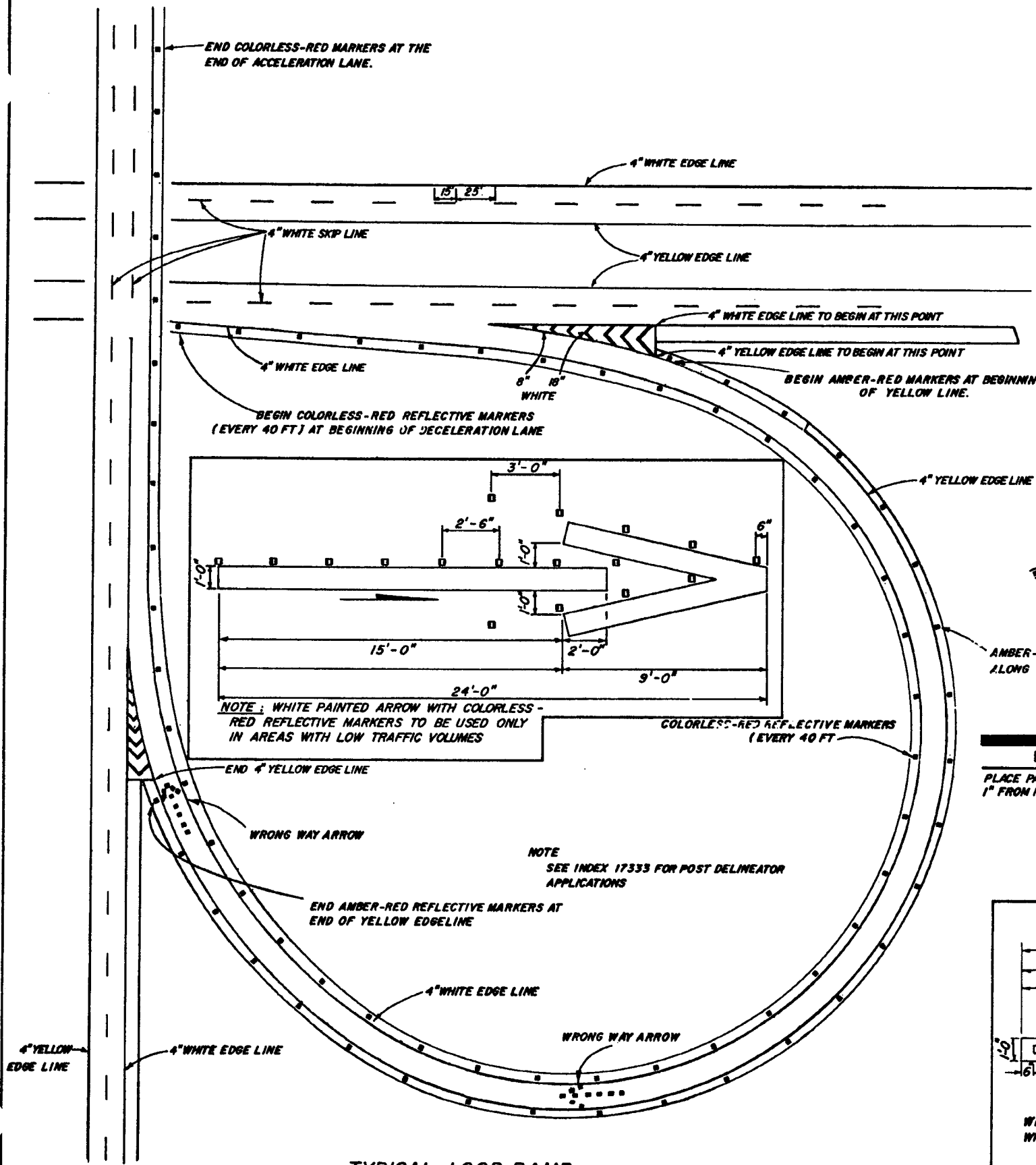
APPROVED BY FHWA 4-20-76

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

INTERCHANGE MARKINGS

ROAD NO. COUNTY

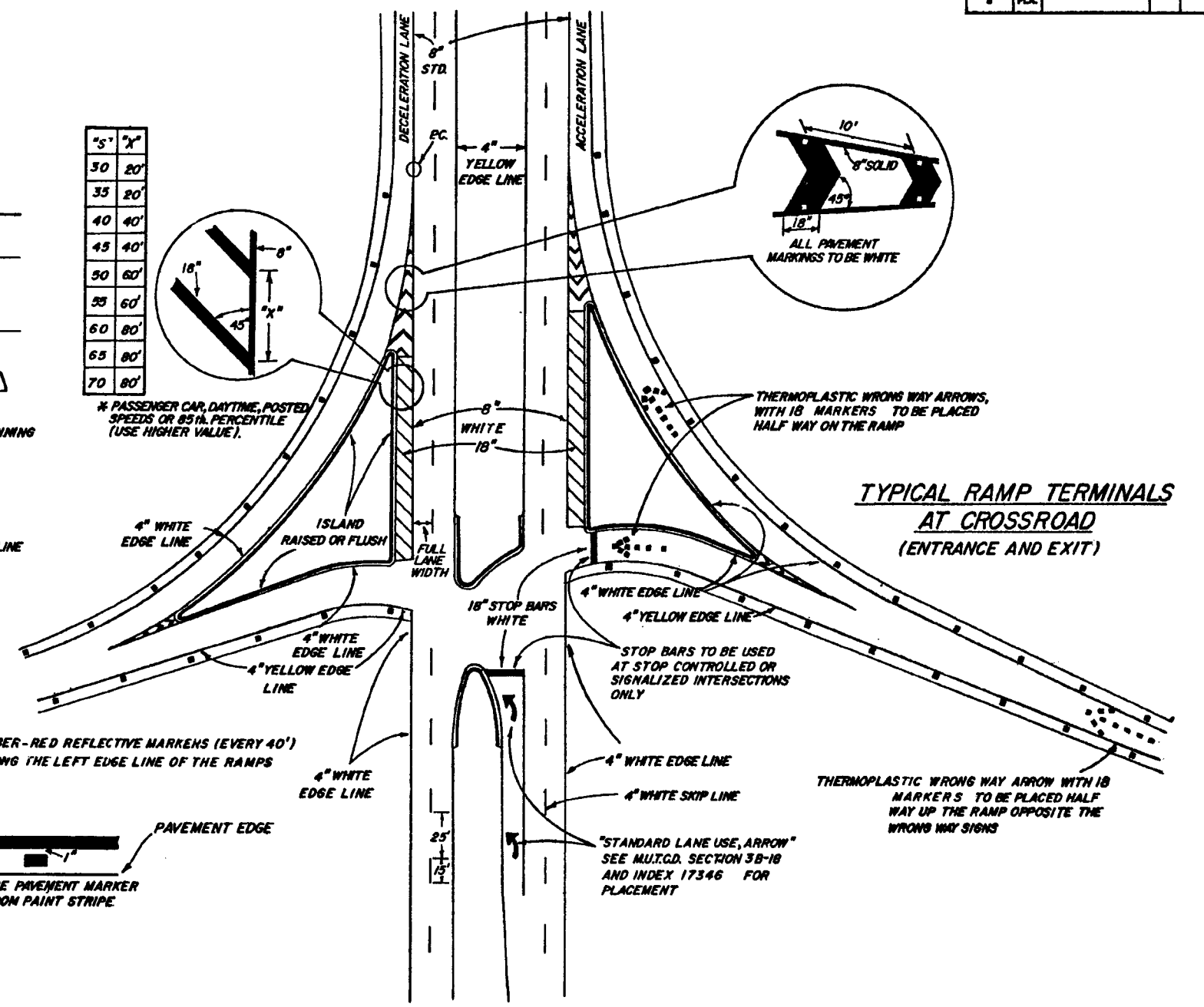
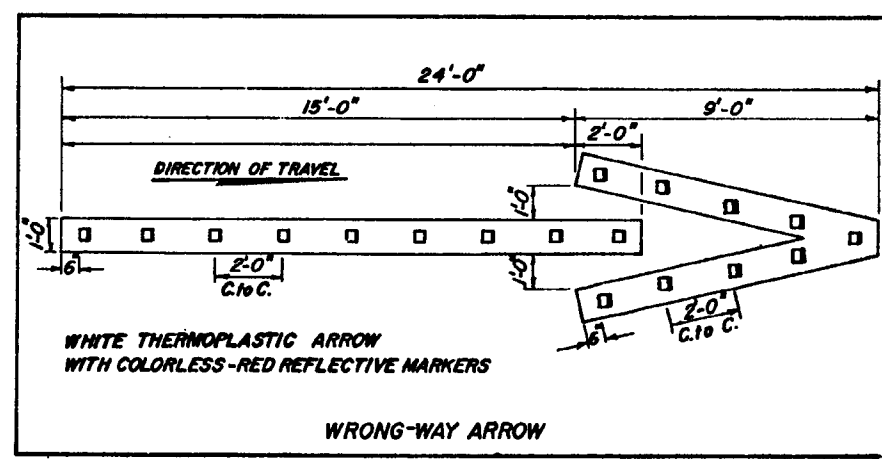
REVISIONS				INITIALS	DATES	Recommended for approval by <i>R.E. Nagales</i> Deputy Traffic Operations Engr.
Date	Description	Designed by	Checked by	Quantities by	Checked by	
6-75	LANE LINE PAVEMENT MARKER TYPICAL ADDED	<i>NRS</i>	<i>K.R.</i>			Approved by <i>[Signature]</i> State Traffic Operations Engr.
						DRAWING NO. 3 OF 4 DRAWING NO. 17345A



**TYPICAL LOOP RAMP**  
(ENTRANCE AND EXIT)

SP	YP
30	20'
35	20'
40	40'
45	40'
50	60'
55	60'
60	80'
65	80'
70	80'

\* PASSENGER CAR, DAYTIME, POSTED SPEEDS OR 85th PERCENTILE (USE HIGHER VALUE).



**TYPICAL RAMP TERMINALS**  
AT CROSSROAD  
(ENTRANCE AND EXIT)

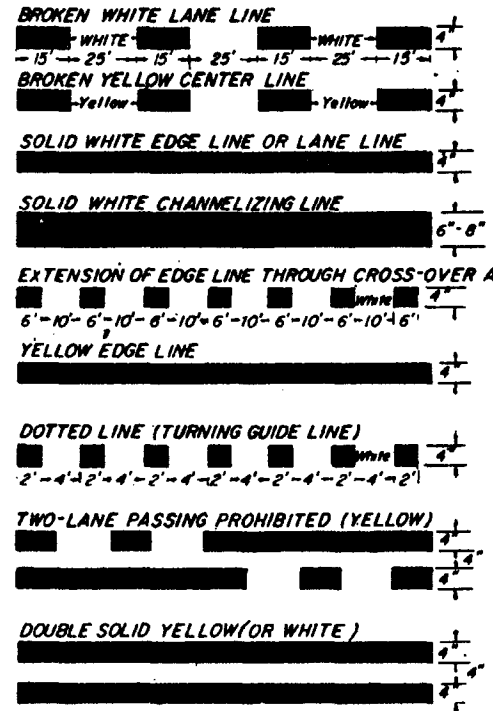
APPROVED BY FHWA 4-20-76

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

INTERCHANGE MARKINGS

ROAD NO. COUNTY

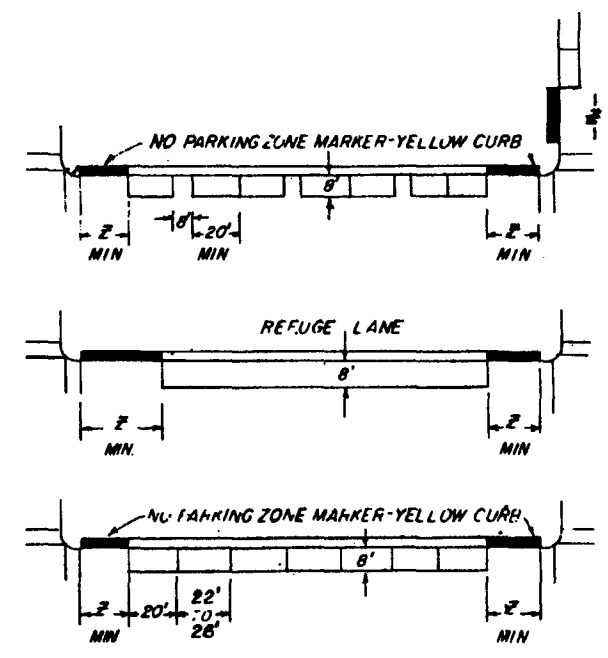
REVISIONS			INITIALS	DATE	Recommended for approval by <i>[Signature]</i> Deputy Traffic Operations Engr.  Approved by <i>[Signature]</i> State Traffic Operations Engr. Supervised by
Dates	Descriptions	Designed by			
7/77	Delete 4" White Skip-Line	Checked by	K.P.	3-6-77	
		Quantities by			
		Checked by			
		Supervised by			



**NOTE -**  
FOR DETAILS ON TEMPORARY LINES  
SEE MANUAL ON TRAFFIC CONTROLS  
AND SAFE PRACTICES, FIGURE 2.19

**BASIC COLOR RULE:**  
WHITE LINES SEPARATE FLOWS IN  
THE SAME DIRECTION  
YELLOW LINES SEPARATE FLOWS IN  
THE OPPOSITE DIRECTION

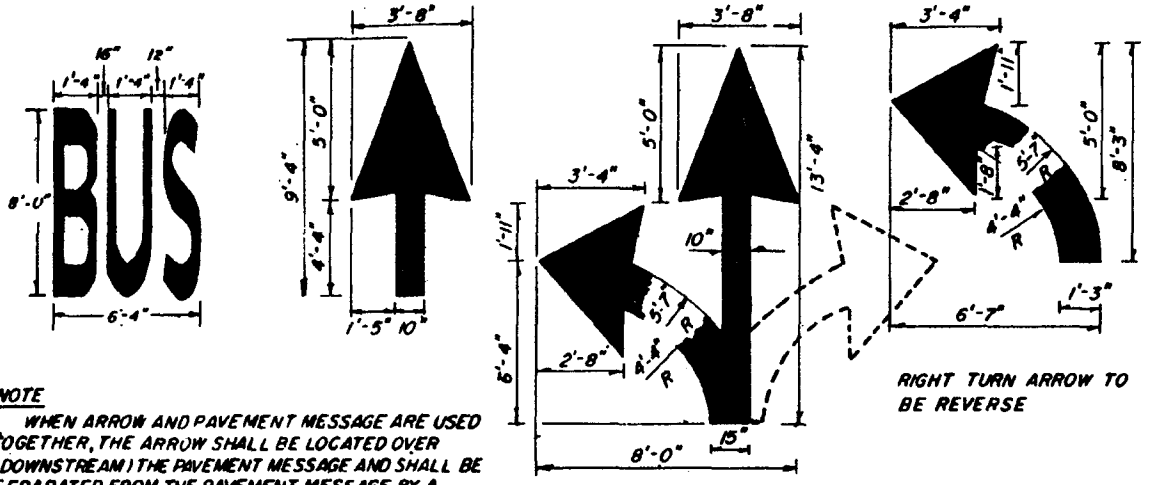
TYPES OF PERMANENT LONGITUDINAL LINES



PARKING RESTRICTION DISTANCE TABLE	
SPEED LIMIT	3
30 MPH OR LESS	30 FT.
35 MPH OR MORE	50 FT.

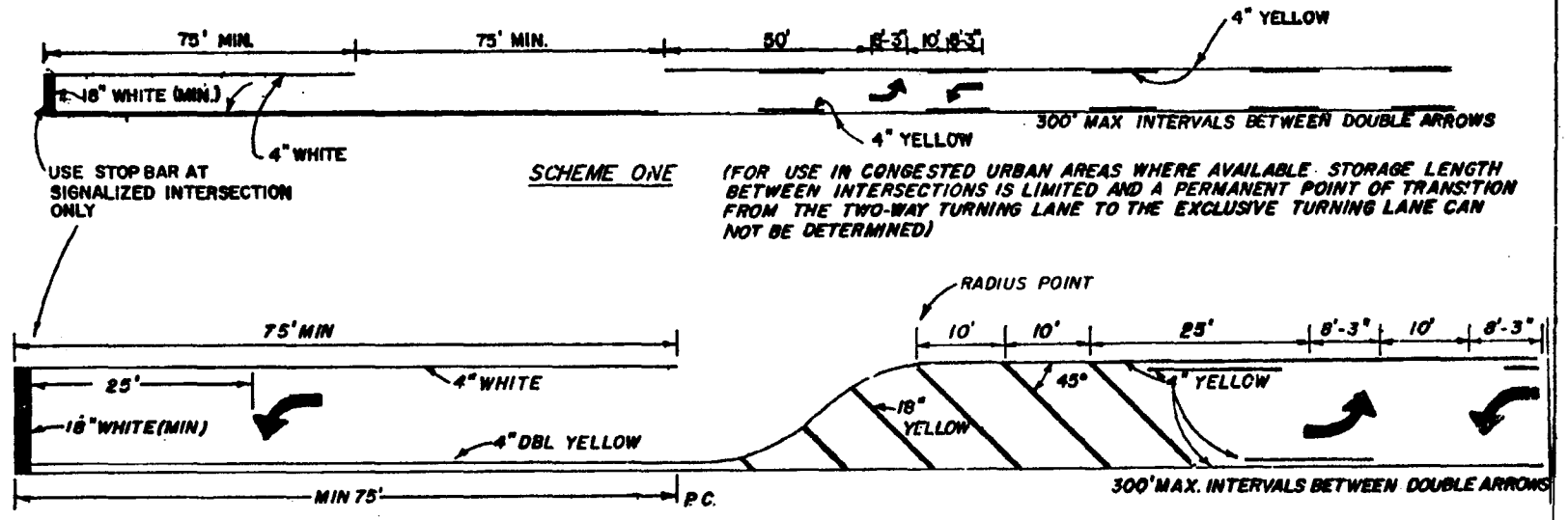
STANDARD FOR STATE PROJECTS  
AND STATE MAINTENANCE

ON STREET PARKING AND REFUGE LANE  
(ALL PARKING AND REFUGE LANE MARKINGS SHALL BE 4" WHITE)



**NOTE**  
WHEN ARROW AND PAVEMENT MESSAGE ARE USED TOGETHER, THE ARROW SHALL BE LOCATED OVER (DOWNSTREAM) THE PAVEMENT MESSAGE AND SHALL BE SEPARATED FROM THE PAVEMENT MESSAGE BY A DISTANCE OF 10 FEET

PAVEMENT ARROWS AND MESSAGES DETAILS



**TWO WAY LEFT TURN LANE**  
(WITH SINGLE LANE LEFT TURN CHANNELIZATION)

APPROVED BY FHWA 6-21-74

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

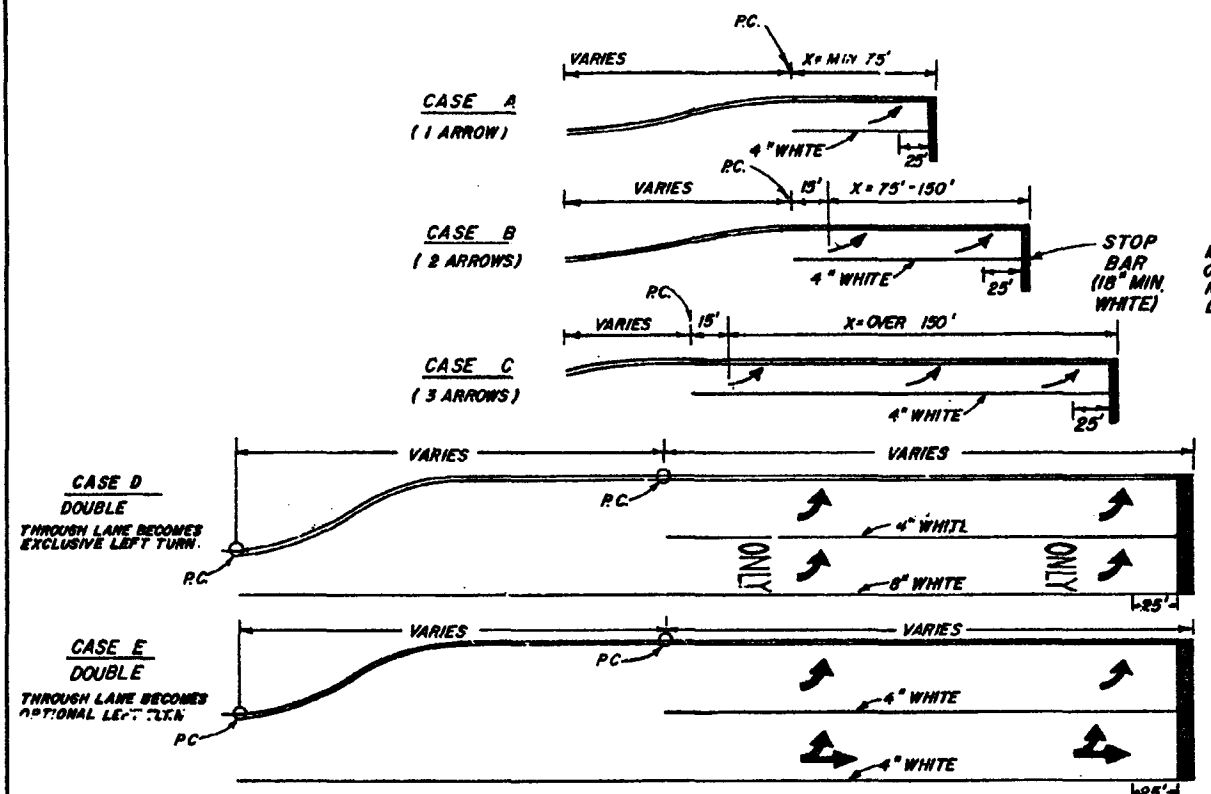
**SPECIAL MARKING AREAS**

REVISIONS		INITIALS	DATES
4/74	CHANGE 17346 TO 17346A	WB	1-4-74
6/74	Revised size of messages	KR	1-4-74

Recommended for approval by: *[Signature]*  
Deputy Traffic Operations Eng.

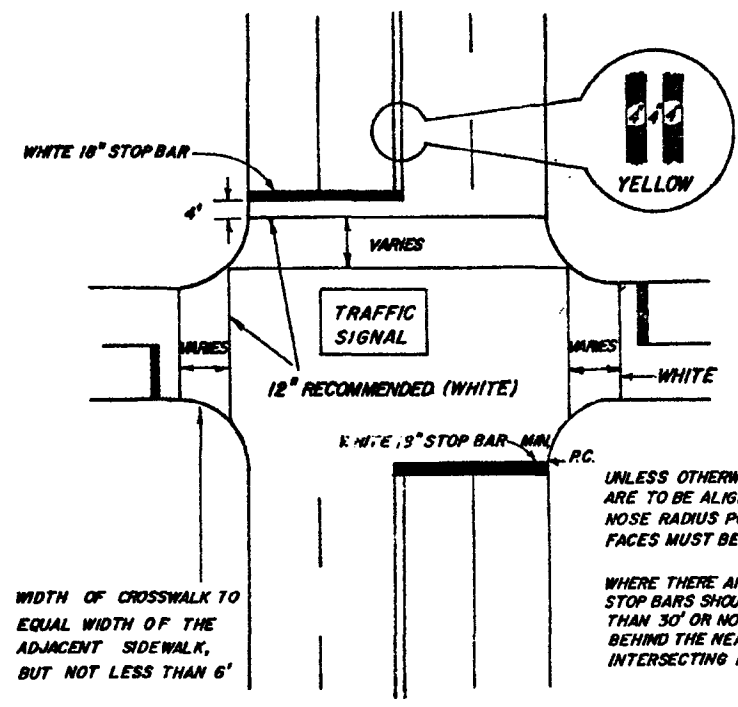
Approved by: *[Signature]*  
State Traffic Operations Eng.

DRAWING NO. 1 of 6 INDEX NO. 17346A



YELLOW LEFT TURN EDGE MARKING MAY BE USED ADJACENT TO RAISED CURB OR GRASS MEDIANS IF UNUSUAL ROAD GEOMETRICS MIGHT DECEIVE DRIVER AS TO LANE USE.

PAINTED LEFT TURN STORAGE LANES DETAILS (FOR STOP CONTROLLED OR SIGNALIZED INTERSECTIONS)

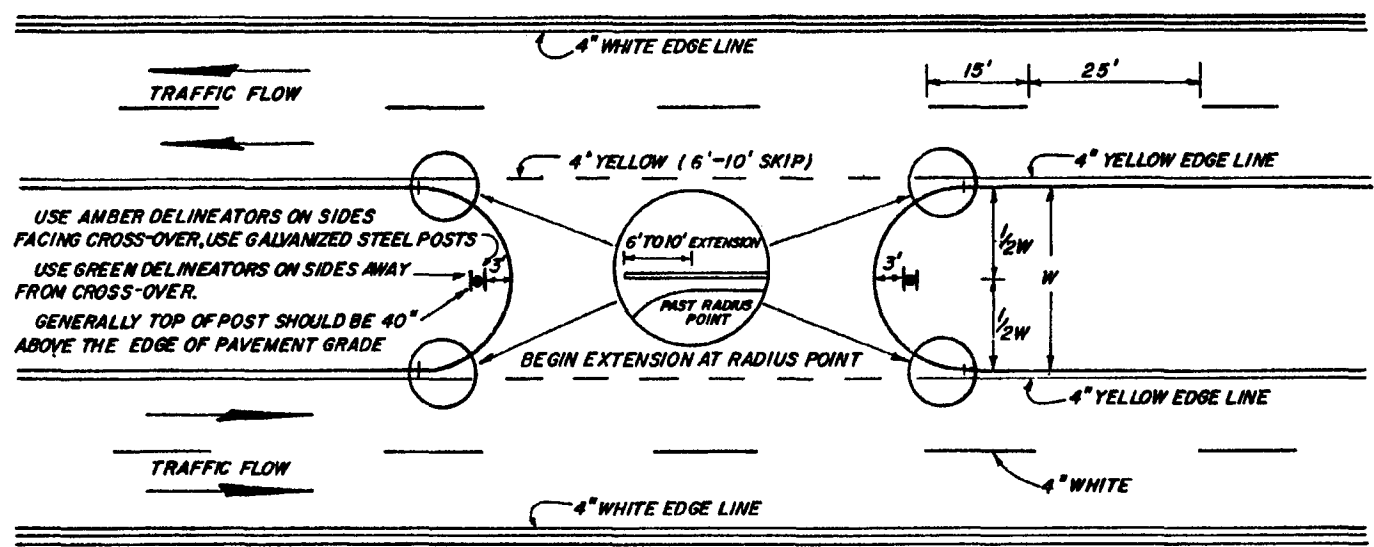


UNLESS OTHERWISE DIRECTED, STOP BARS ARE TO BE ALIGNED WITH THE MEDIAN NOSE RADIUS POINT. DISTANCE BETWEEN STOP BAR & ONE OF SIGNAL FACES MUST BE WITHIN AT LEAST 40' TO 120', MUT.C.D., 4B-12)

WHERE THERE ARE NO CROSSWALKS, STOP BARS SHOULD BE NO MORE THAN 30' OR NO LESS THAN 4' BEHIND THE NEAREST EDGE OF INTERSECTING ROADWAY (MUT.C.D., 3B-14).

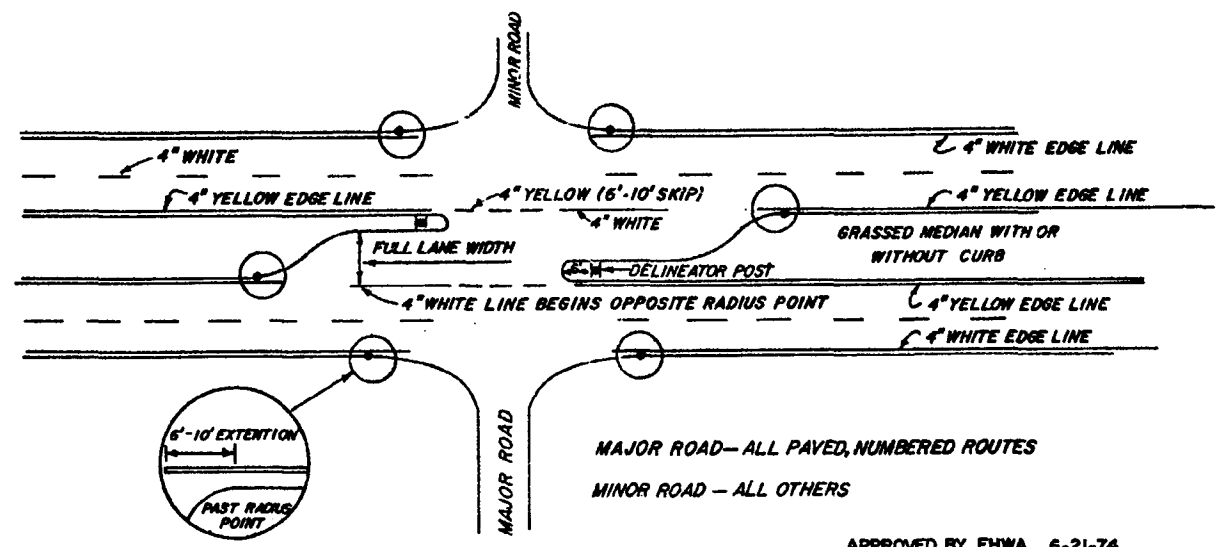
WIDTH OF CROSSWALK TO EQUAL WIDTH OF THE ADJACENT SIDEWALK, BUT NOT LESS THAN 6'

STOP BARS, CROSSWALKS AND DOUBLE CENTER LINES DETAILS



USE AMBER DELINEATORS ON SIDES FACING CROSS-OVER, USE GALVANIZED STEEL POSTS  
 USE GREEN DELINEATORS ON SIDES AWAY FROM CROSS-OVER.  
 GENERALLY TOP OF POST SHOULD BE 40" ABOVE THE EDGE OF PAVEMENT GRADE

PAVEMENT MARKINGS AND DELINEATORS FOR MEDIAN CROSS-OVER



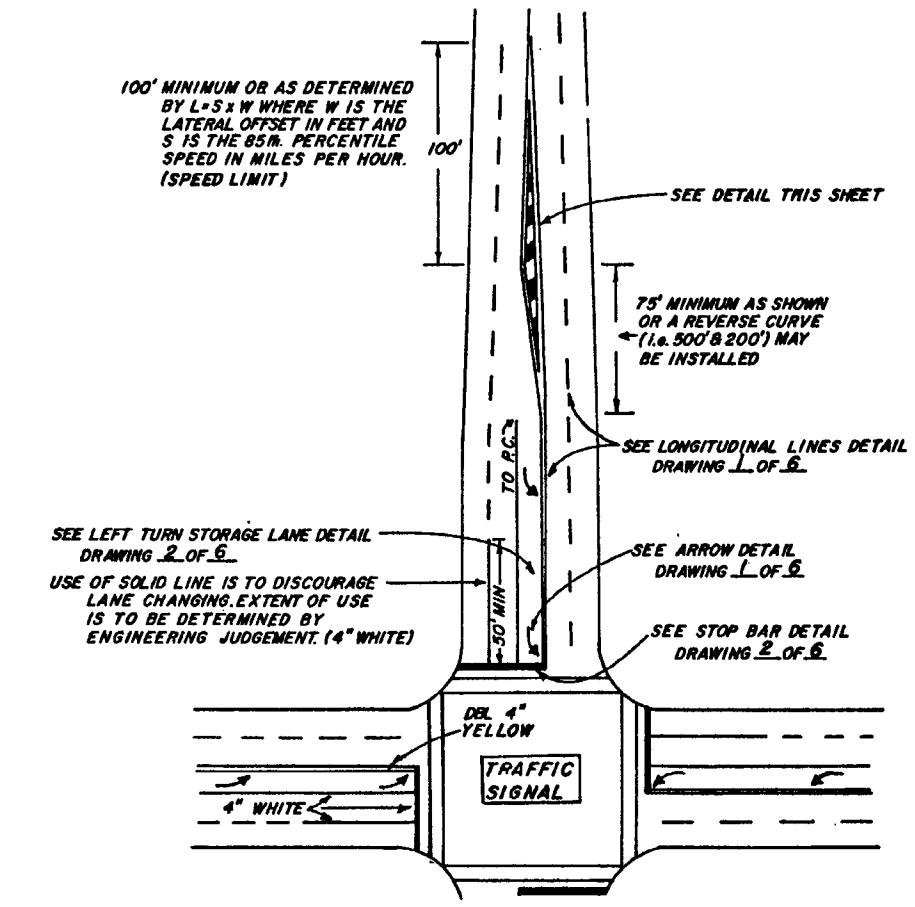
MAJOR ROAD - ALL PAVED, NUMBERED ROUTES  
 MINOR ROAD - ALL OTHERS

PAVEMENT MARKINGS FOR INTERSECTION WITH MAJOR AND MINOR ROADS

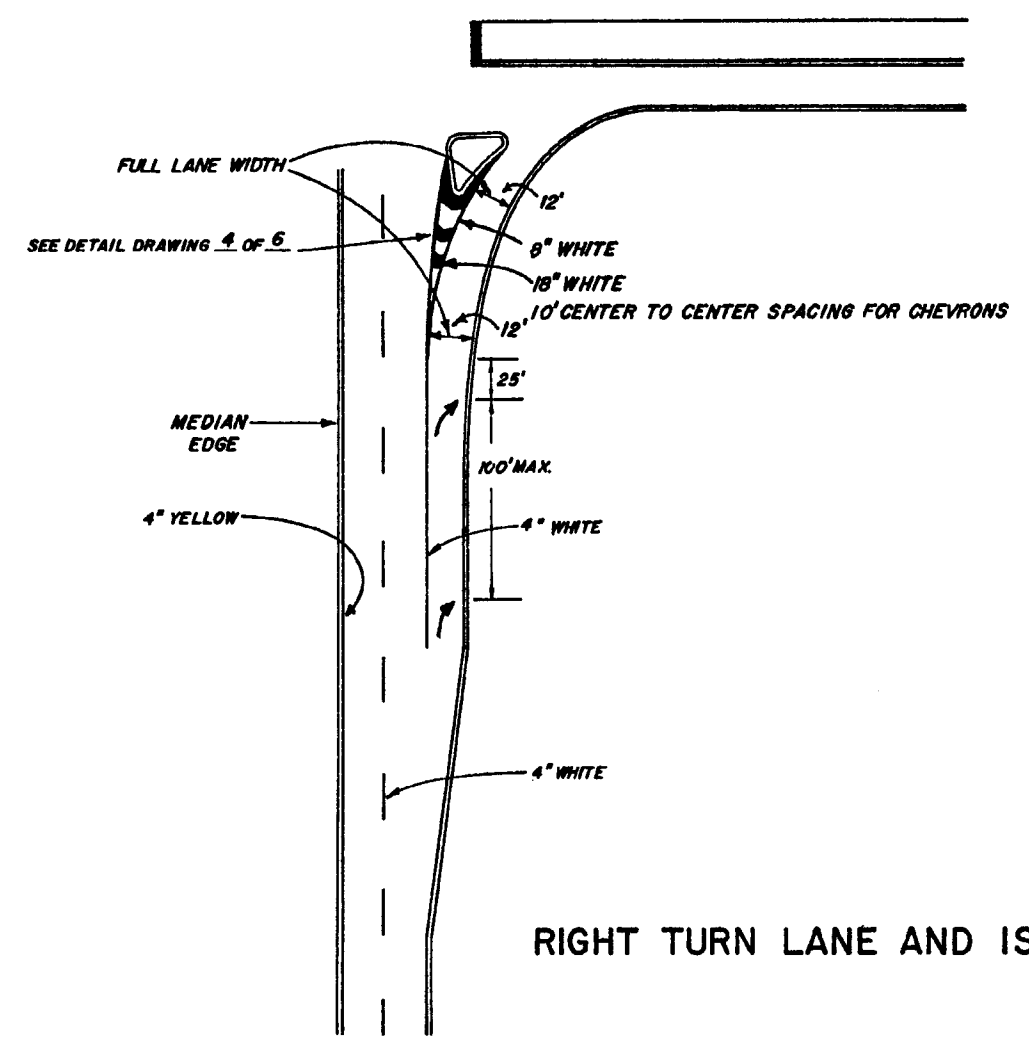
APPROVED BY FHWA 6-21-74

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS  
 SPECIAL MARKING AREAS

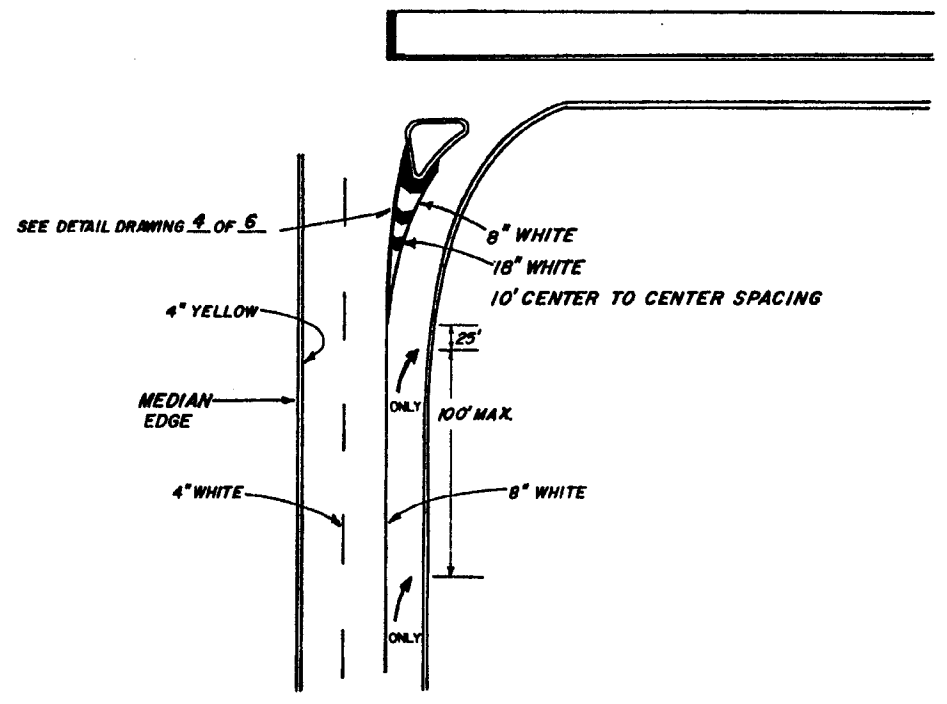
REVISIONS		INITIALS	DATES	Recommended for approval by <i>L. E. Magaly</i> Deputy Traffic Operations Engr. Approved by <i>E. J. Davis</i> State Traffic Operations Engr.	
Date	Description	Detailed by	Checked by		
7-74	CHANGE 17346 TO 17346A	Checked by	K/2		1-4-74
3/11	Update with White Stop Bar	Checked by			
		Supervised by			



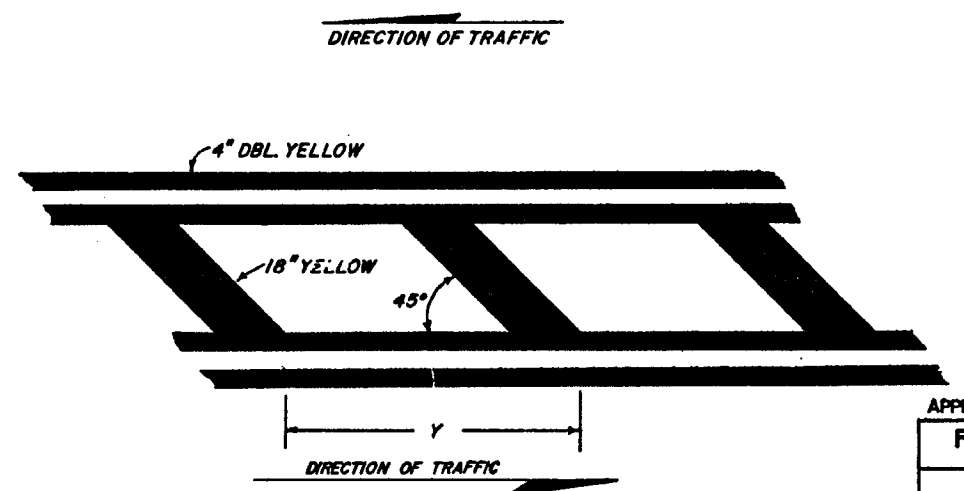
TYPICAL INTERSECTION 2 THRU LANES PLUS LEFT TURN LANE, WITH CROSSWALK



RIGHT TURN LANE AND ISLAND DETAILS



RIGHT TURN LANE (MUST TURN RIGHT) (A LANE DROP)



CHANNELIZATION MARKING DETAIL

POSTED(DAY) SPEED LIMIT M.P.H.	"V" FT.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

APPROVED BY FHWA 6-21-74

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

SPECIAL MARKING AREAS

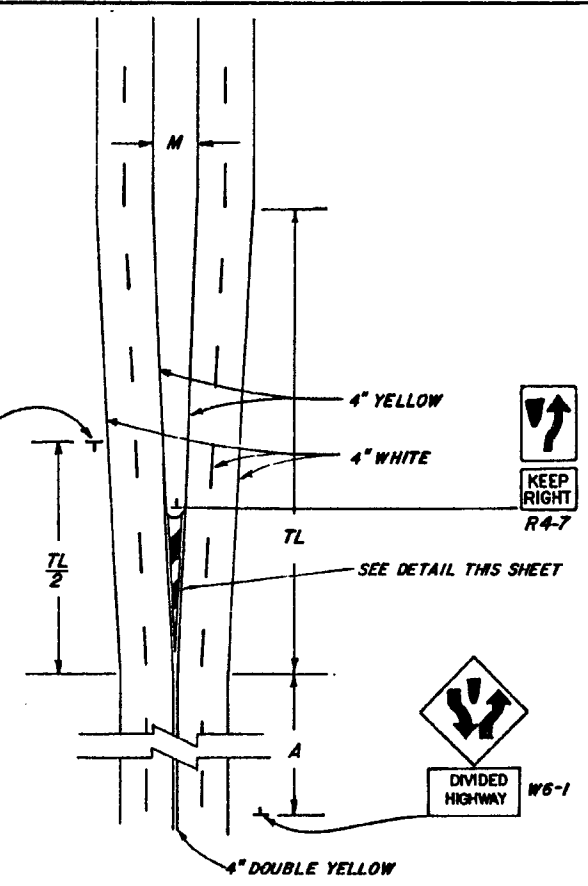
REVISIONS			INITIALS	DATE	Recommended for approval by <u>[Signature]</u> Deputy Traffic Operations Eng. Approved by <u>[Signature]</u> State Traffic Operations Eng.
Dates	Descriptions	Detailed by	W.B.	1-4-74	
4-74	CHANGE 17346 TO 17346A	Checked by	K.R.	1-4-74	
		Quantities by			
		Checked by			
		Supervised by			

DRAWING NO. 3 of 6 INDEX NO. 17346A

**TAPER LENGTH EQUATION**  
 $TL = \frac{M}{2} \times S$   
 TL-TAPER LENGTH(FT)  
 M-MEDIAN WIDTH(FT)  
 S-SPEED (MPH)



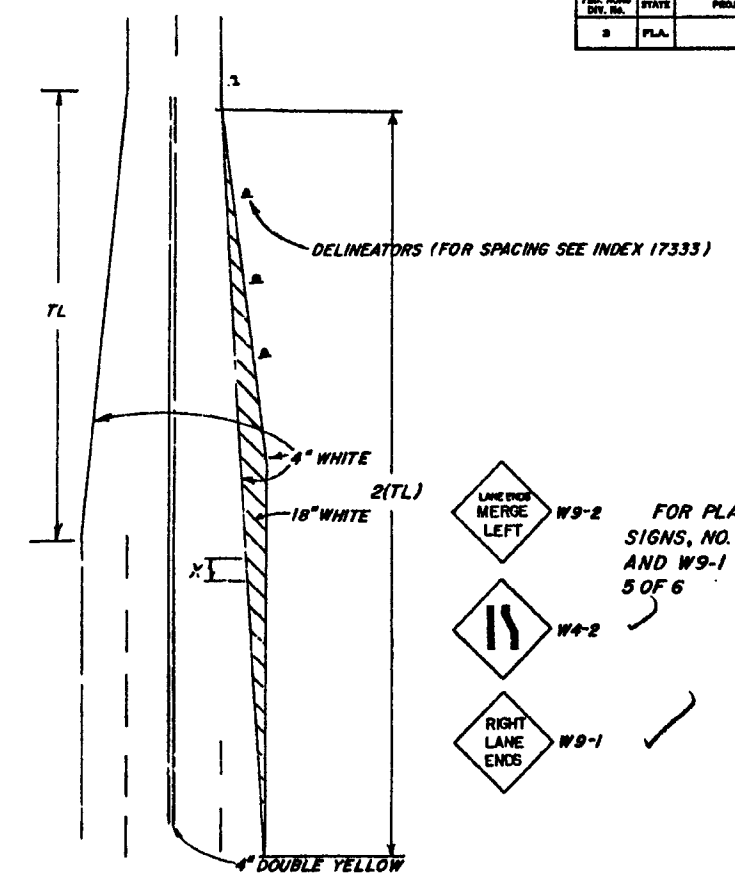
SPEED mph	A in ft.
70	6.70
60	4.75
50	3.50
40	2.75
30	2.00
URBAN	50 MIN.



**BEGINNING OF A DIVIDED HIGHWAY**

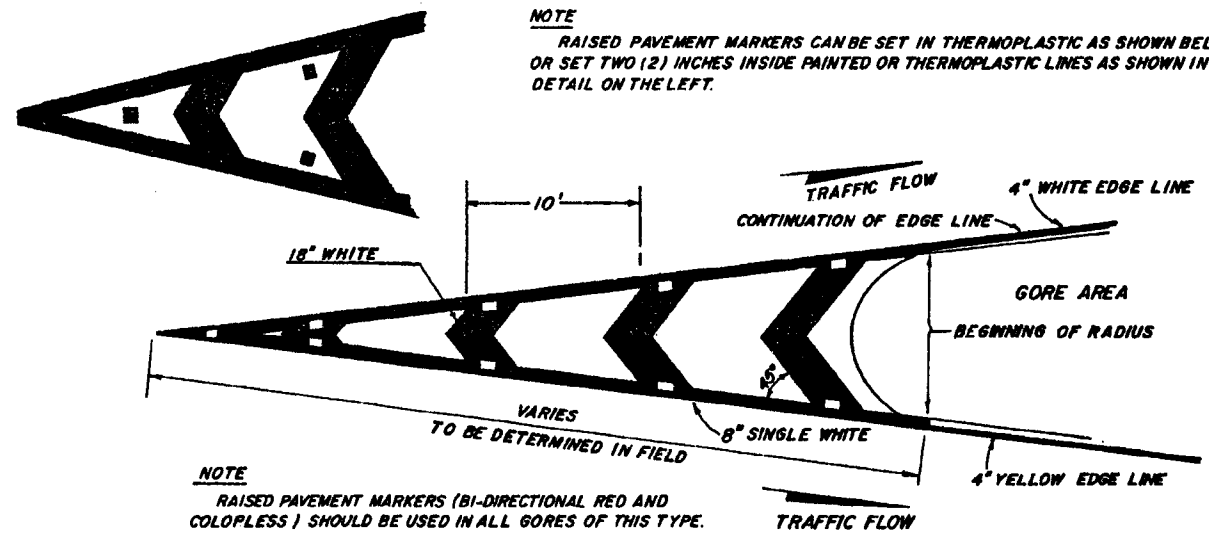
POSTED(DAY) SPEED LIMIT M.P.H.	"X" FT.
25 OR LESS	10
30	20
35	20
40	40
45	40
50	60
55	60
60 OR MORE	80

**TAPER LENGTH EQUATION**  
 $TL = 12S$   
 TL-TAPER LENGTH(FT)  
 S-SPEED(mph)

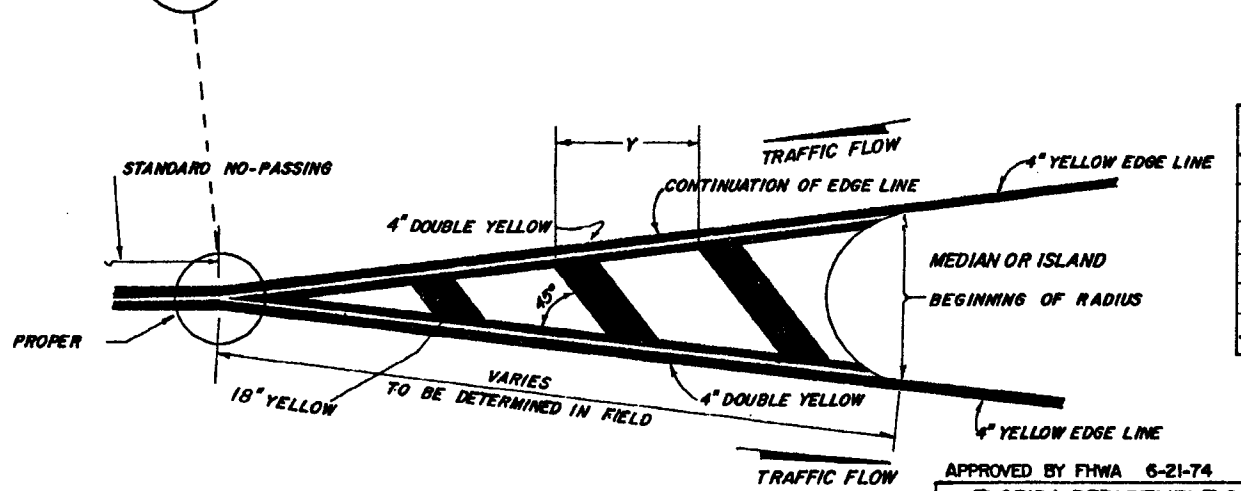


**4-LANE-2-LANE TRANSITION-NO MEDIAN**

**NOTE**  
 RAISED PAVEMENT MARKERS CAN BE SET IN THERMOPLASTIC AS SHOWN BELOW, OR SET TWO (2) INCHES INSIDE PAINTED OR THERMOPLASTIC LINES AS SHOWN IN DETAIL ON THE LEFT.



**PAVEMENT MARKINGS FOR TRAFFIC CHANNELIZATION AT GORE (TRAFFIC FLOWS IN SAME DIRECTION)**



POSTED(DAY) SPEED LIMIT M.P.H.	"Y" FT.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

**PAVEMENT MARKING FOR TRAFFIC SEPARATION (TRAFFIC FLOWS IN OPPOSITE DIRECTION)**

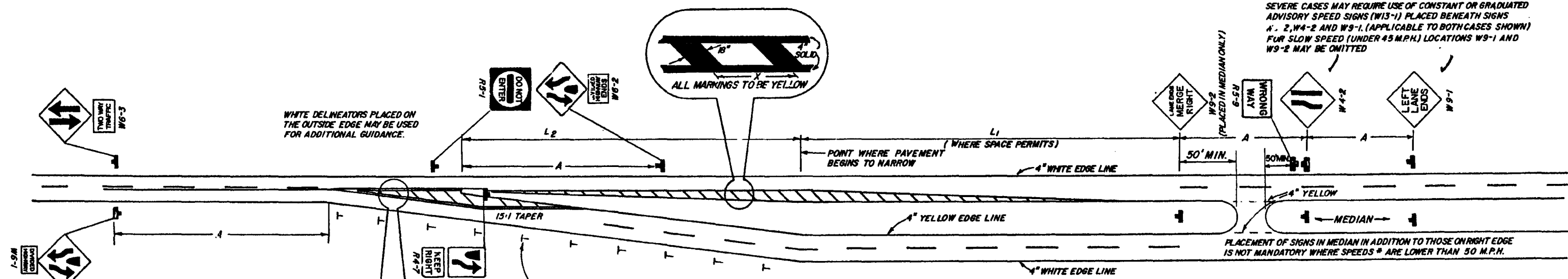
APPROVED BY FHWA 6-21-74

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS

**SPECIAL MARKING AREAS**

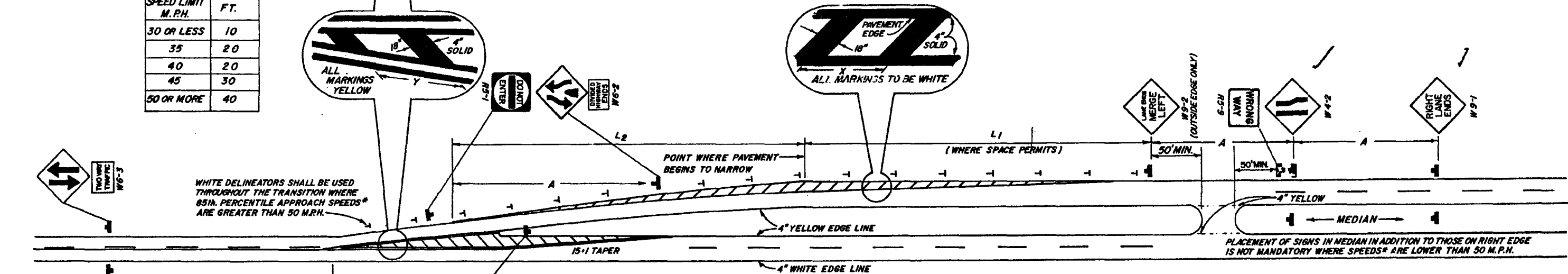
REVISIONS		INITIALS	DATES	Recommended for approval by <i>[Signature]</i> Deputy Traffic Operations Engr.  Approved by <i>[Signature]</i> State Traffic Operations Engr. Supervised by
Date	Description	Checked by	WB	
4-74	CHANGE 17346 TO 17346A	Checked by	KR	
		Quantities by		
		Checked by		

DRAWING NO. 4 of 6 INDEX NO. 17346A



SEVERE CASES MAY REQUIRE USE OF CONSTANT OR GRADUATED ADVISORY SPEED SIGNS (W13-1) PLACED BENEATH SIGNS W4-2, W4-2 AND W9-1. (APPLICABLE TO BOTH CASES SHOWN) FOR SLOW SPEED (UNDER 45 M.P.H.) LOCATIONS W9-1 AND W9-2 MAY BE OMITTED

POSTED (DAY) SPEED LIMIT M.P.H.	"y" FT.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40



SPEED (MPH)	TRANSITION DISTANCE L <sub>1</sub>							"X"
	LATERAL OFFSET (L <sub>1</sub> ÷ S × W)							
30	240	270	300	330	360	390	420	20
35	280	315	350	385	420	455	490	20
40	320	360	400	440	480	520	560	40
45	360	405	450	495	540	585	630	40
50	400	450	500	550	600	650	700	60
55	440	495	550	605	660	715	770	60
60	480	540	600	660	720	780	840	60
65	520	585	650	715	780	845	910	60
70	560	630	700	770	840	910	980	60

**PAVEMENT WIDTH TRANSITION (L<sub>2</sub>)**

ENDPOINTS OF L<sub>2</sub> ARE THE PHYSICAL NOSE AND POINT AT WHICH PAVED SURFACE BEGINS TO TAPER TO ONE LANE. ON NEWER ROADS L<sub>2</sub> WILL USUALLY BE SIMILAR TO L<sub>1</sub>, BUT ON OLDER ROADS MAY BE MUCH LESS. FOR THE RIGHT ROADWAY L<sub>2</sub> BEGINS AT POINT WHERE PAVEMENT WIDTH BEGINS TO NARROW AND CONTINUES TO POINT OF UNIFORM LANE WIDTH.

**NOTE**  
RAISED PAVEMENT MARKERS ON EDGE LINES THROUGH TRANSITION AREA ARE OPTIONAL.

SPEED (MPH)	"A" (FT)
70	600
60	475
50	350
40	275
30	200

\* PASSENGER CAR, DAYTIME POSTED SPEEDS OR 85th PERCENTILE (USE HIGHER VALUE)

**SCHEMES FOR TRANSITION FROM 2-LANE TO 4-LANE ROADWAY**

APPROVED BY FHWA 6-21-74  
**FLORIDA DEPARTMENT OF TRANSPORTATION**  
Traffic Operations  
**SPECIAL MARKING AREAS**

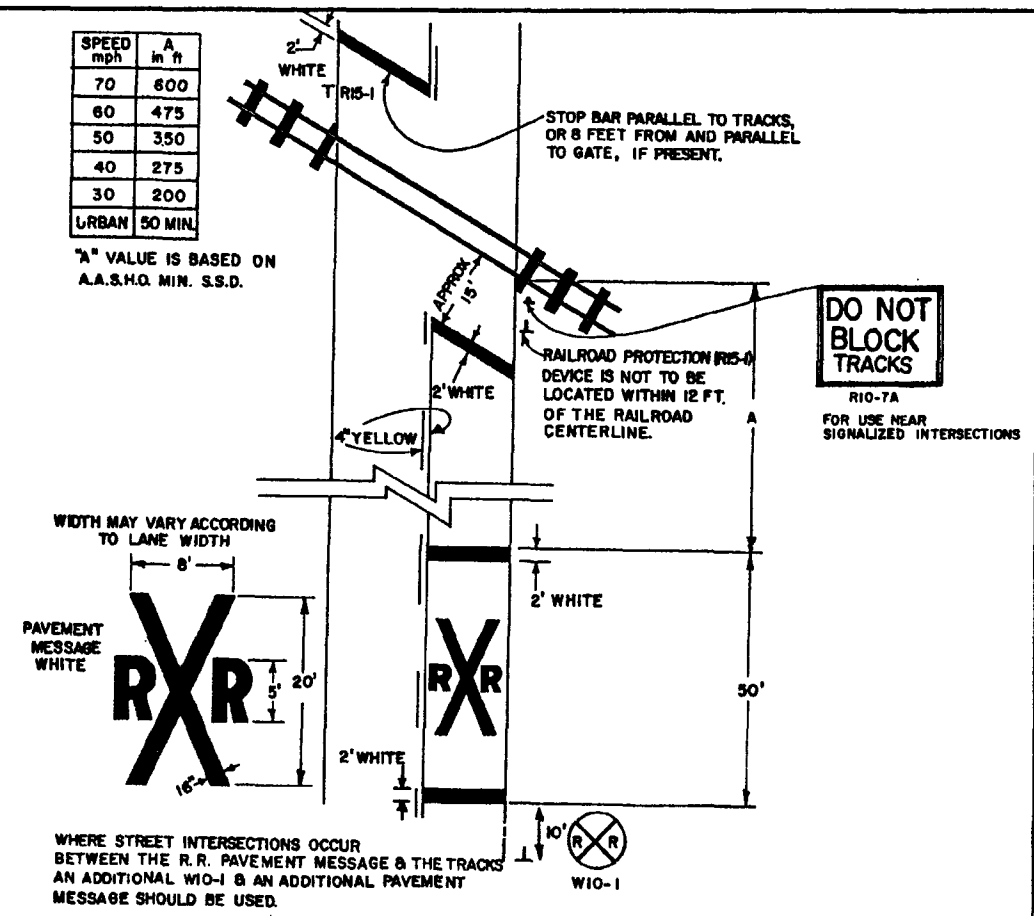
REVISIONS		INITIALS	DATES	Recommended for approval by <i>F. E. Magallon</i> Deputy Traffic Operations Engr. Approved by <i>[Signature]</i> State Traffic Operations Engr. Supervised by K R	
Date	Description	Designed by	WB		1-2-74
4-74	CHANGE 17346 TO 17346-A	Checked by	KR		4-74
		Quantities by			
		Checked by			

\* PASSENGER CAR, DAYTIME, POSTED SPEEDS OR 85th PERCENTILE (USE HIGHER VALUE).  
\*\* LATERAL OFFSET



SPEED mph	A in ft
70	600
60	475
50	350
40	275
30	200
URBAN	50 MIN

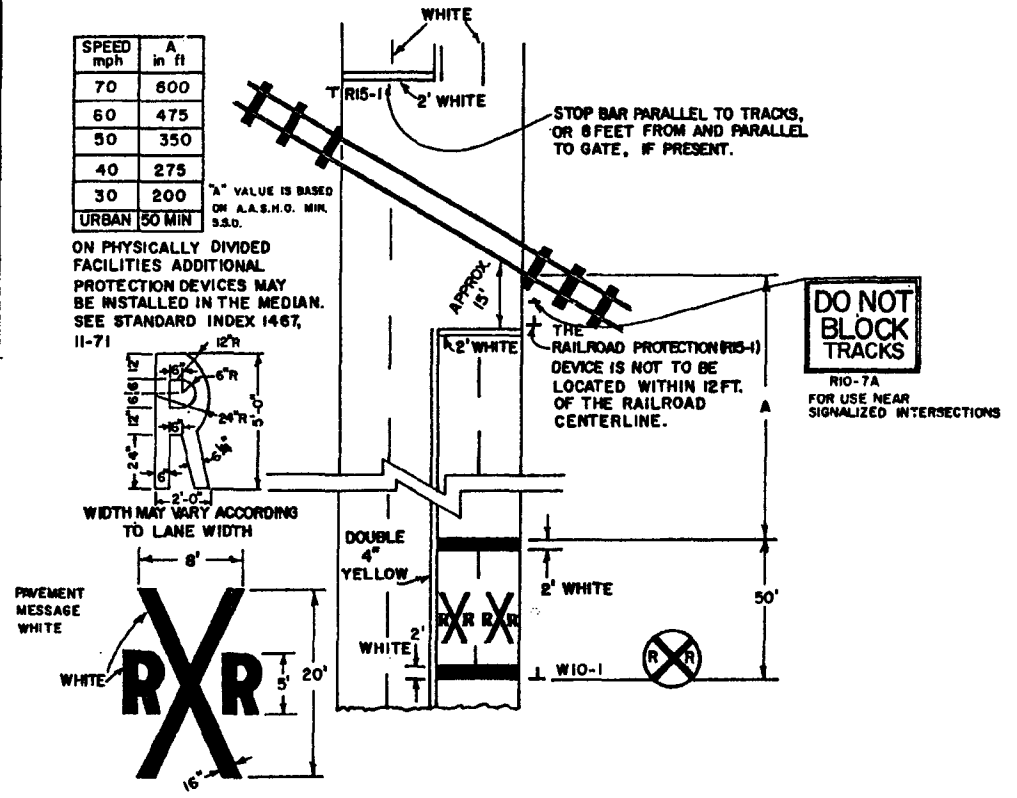
"A" VALUE IS BASED ON A.A.S.H.O. MIN. S.S.D.



RAILROAD CROSSING AT 2-LANE ROADWAY

SPEED mph	A in ft
70	600
60	475
50	350
40	275
30	200
URBAN	50 MIN

"A" VALUE IS BASED ON A.A.S.H.O. MIN. S.S.D.



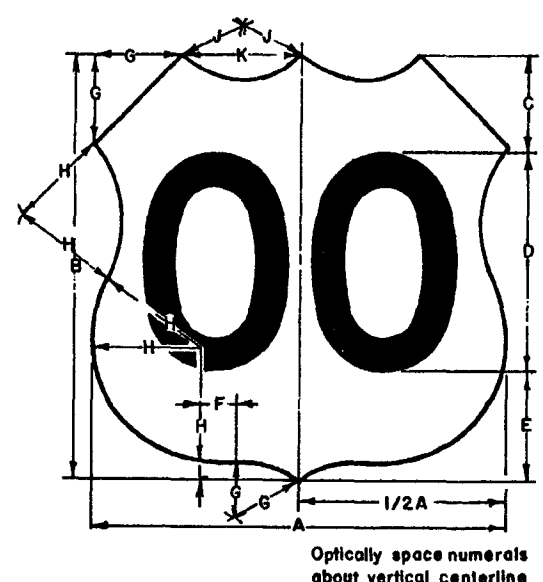
RAILROAD CROSSING AT 4-LANE ROADWAY

APPROVED BY FHWA 6-21-74

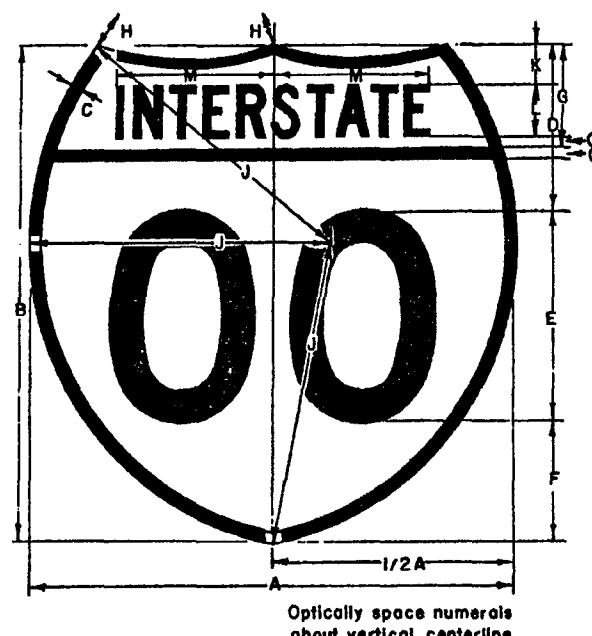
FLORIDA DEPARTMENT OF TRANSPORTATION  
Traffic Operations

SPECIAL MARKING AREAS

REVISIONS		INITIALS	DATES	Recommended for approval by
4-74	CHANGE 17346 TO 17346A	MFM	6-13-74	by <i>[Signature]</i> Deputy Traffic Operations Eng.
		KR	6-13-74	Approved by <i>[Signature]</i> State Traffic Operations Eng.
				Supervised by
		DRAWING NO.	INDEX NO.	
		6 of 6	17346A	



Optically space numerals about vertical centerline



Optically space numerals about vertical centerline

MI-4 U.S. ROUTE MARKER FOR GUIDE SIGN USE

SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
1,2-digits	24	24	5-1/2	12D	6-1/2	1	5	7	5	7	2
1,2-digits	36	36	8-1/4	18D	9-3/4	1-1/2	7-1/2	10-1/2	7-1/2	10-1/2	3
1,2-digits	48	48	11	24D	13	2	10	14	10	14	4
3-digits	30	24	5-1/2	12D	6-1/2	4	5	7	9	10	2
3-digits	45	36	8-1/4	18D	9-3/4	5-1/2	7-1/2	10-1/2	13-1/2	15	3
3-digits	60	48	11	24D	13	8	10	14	18	20	4

COLORS  
 LEGEND - BLACK (NON-REFL)  
 BACKGROUND - WHITE (REFL)

MI-1 INTERSTATE SHIELD FOR GUIDE SIGN USE

SIGN	DIMENSIONS (INCHES)												
	A	B	C	D	E	F	G	H	J	K	L	M	
1,2 digits	24	24	1/2	6-1/2	12D	5-1/2	5	15	15	2	2-1/2C	7-13/16	
1,2 digits	36	36	3/4	9-3/4	18D	8-1/4	7-1/2	22-1/2	22-1/2	3	3-3/4C	11-11/16	
1,2 digits	48	48	1	13	24D	11	10	30	30	4	5C	15-9/16	
3 digits	30	24	1/2	6-1/2	12D	5-1/2	5	24	17	2	2-1/2C	7-13/16	
3 digits	45	36	3/4	9-3/4	18D	8-1/4	7-1/2	36	25-1/2	3	3-3/4C	11-11/16	
3 digits	60	48	1	13	24D	11	10	48	34	4	5C	15-9/16	

COLORS  
 LEGEND TOP WHITE (REFL)  
 BOTTOM RED (REFL)  
 BLUE (REFL)

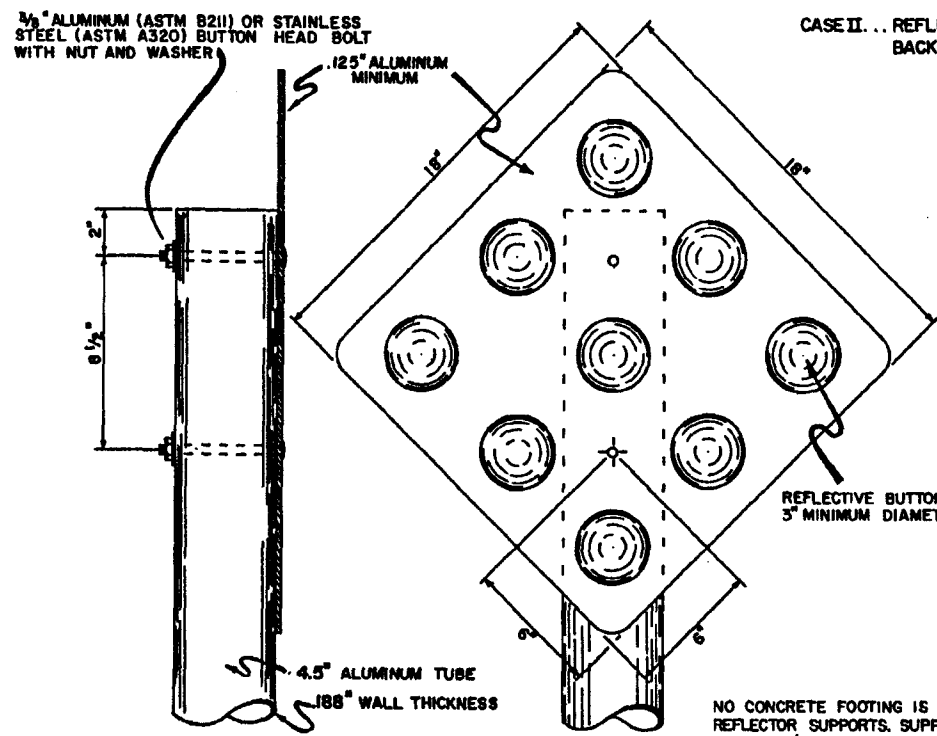
Approved by FHWA 7-18-74  
 FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS  
 SHIELDS FOR USE ON GUIDE SIGNS  
 ROAD NO. COUNTY

REVISIONS		INITIALS	DATES
Date	Descriptions	Designed by	5-24-74
		Checked by	
		Quantities by	
		Checked by	
		Supervised by	

Recommended for approval by  
 Deputy Traffic Operations Engr.  
 Approved by  
 State Traffic Operations Engr.  
 DRAWING NO. INDEX NO.  
 OF 17347

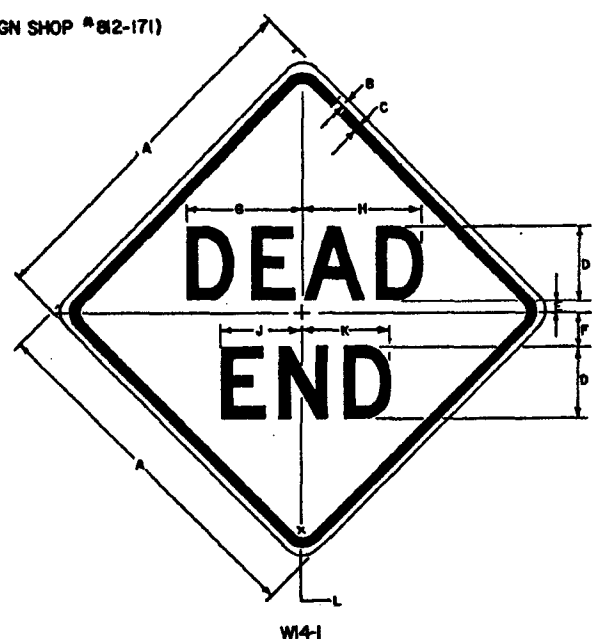
CASE I... REFLECTOR SHALL HAVE A YELLOW REFLECTIVE BACKGROUND, AND YELLOW REFLECTIVE BUTTONS. (SIGN SHOP #812-170)

CASE II... REFLECTOR SHALL HAVE A RED REFLECTIVE BACKGROUND, AND RED REFLECTIVE BUTTONS. (SIGN SHOP #812-171)



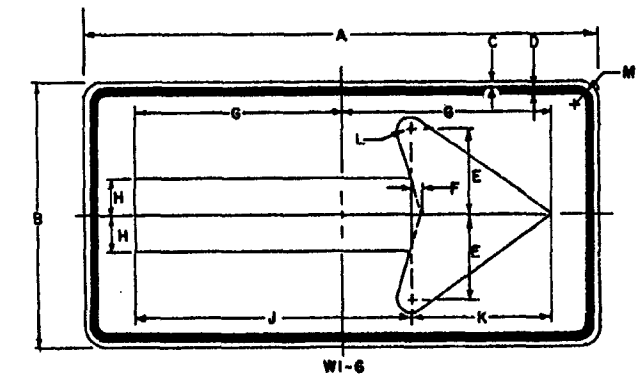
REFLECTIVE BUTTONS SHALL HAVE A 5" MINIMUM DIAMETER

NO CONCRETE FOOTING IS REQUIRED FOR REFLECTOR SUPPORTS. SUPPORTS SHALL BE DRIVEN 3' INTO THE GROUND.



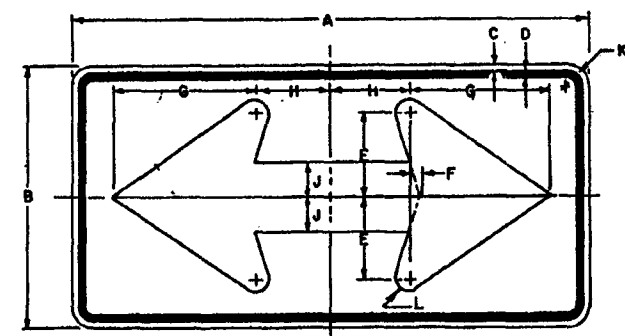
SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	24	3/8	5/8	5/8	1	2	2-1/4	2-3/8	5-5/8	2-1/4	1-1/2
STD.	30	1/2	3/4	6/8	1-1/2	2-1/2	2-3/4	3-1/4	6-5/8	2-1/2	1-7/8
SPECIAL	36	5/8	7/8	7/8	2	3	3-1/4	4-1/8	7-7/8	3-3/4	2-1/4

COLORS  
LEGEND - BLACK (NON-REFL.)  
BACKGROUND - YELLOW (R)



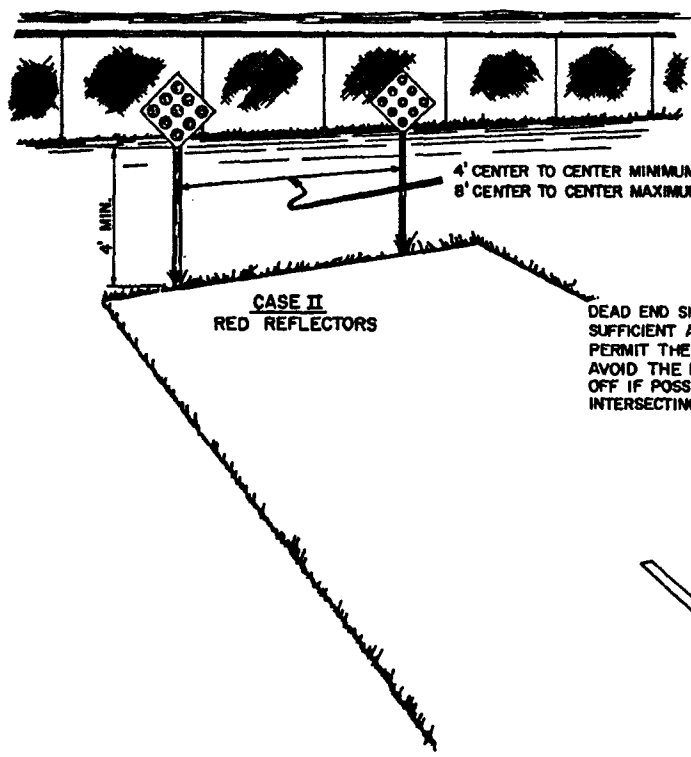
SIGN	DIMENSIONS (INCHES)											
	A	B	C	D	E	F	G	H	J	K	L	M
MIN.	24	18	3/8	5/8	5-5/8	3/4	14-5/8	2-1/2	10-1/8	10-1/8	1	1-1/2
STD.	48	24	1/2	3/4	7-1/2	1	19-1/2	3-1/4	23-5/8	13-3/8	1-5/8	1-7/8
SPECIAL	60	30	5/8	7/8	9-3/8	1-1/4	24-3/8	4	32-1/2	16-1/4	1-5/8	2-1/4

COLORS  
LEGEND - BLACK (NON-REFL.)  
BACKGROUND - YELLOW (REFL.)

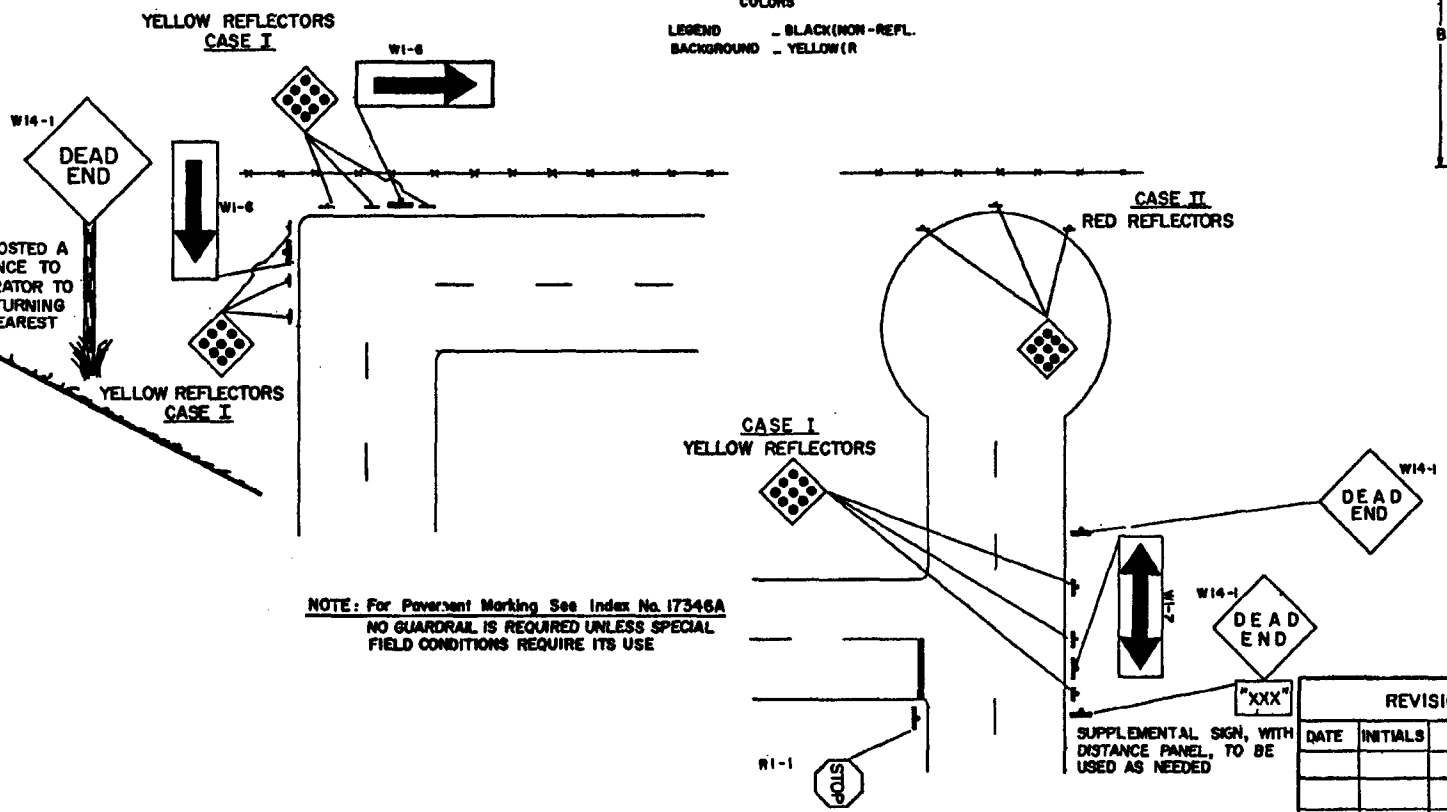


SIGN	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
MIN.	36	18	3/8	5/8	5-5/8	3/4	10-1/8	2-1/2	10-1/8	1	
STD.	48	24	1/2	3/4	7-1/2	1	13-3/8	3-1/4	17-1/8	1-5/8	
SPECIAL	60	30	5/8	7/8	9-3/8	1-1/4	18-1/4	4	21-1/4	1-5/8	

COLORS  
LEGEND - BLACK (NON-REFL.)  
BACKGROUND - YELLOW (REFL.)



DEAD END SIGN SHALL BE POSTED A SUFFICIENT ADVANCE DISTANCE TO PERMIT THE VEHICLE OPERATOR TO AVOID THE DEAD END BY TURNING OFF IF POSSIBLE, AT THE NEAREST INTERSECTING STREET



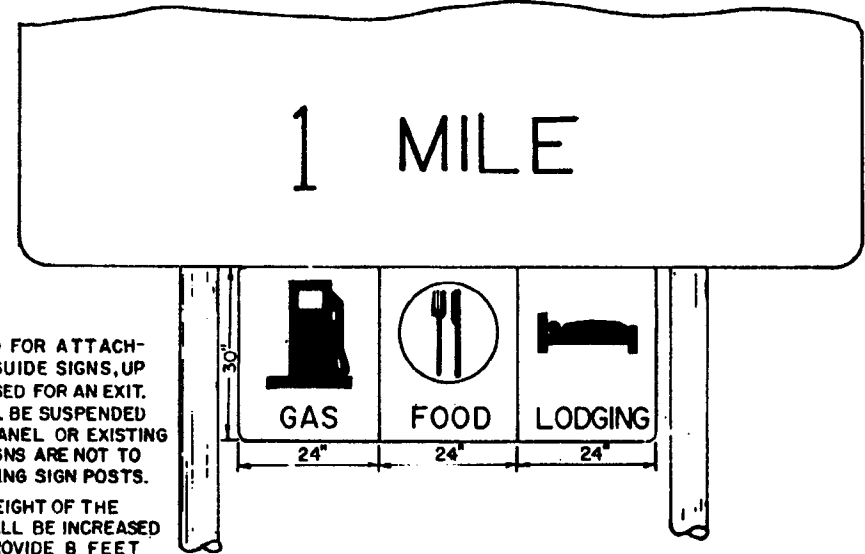
NOTE: For Pavement Marking See Index No. 17346A  
NO GUARDRAIL IS REQUIRED UNLESS SPECIAL FIELD CONDITIONS REQUIRE ITS USE

SUPPLEMENTAL SIGN, WITH DISTANCE PANEL, TO BE USED AS NEEDED

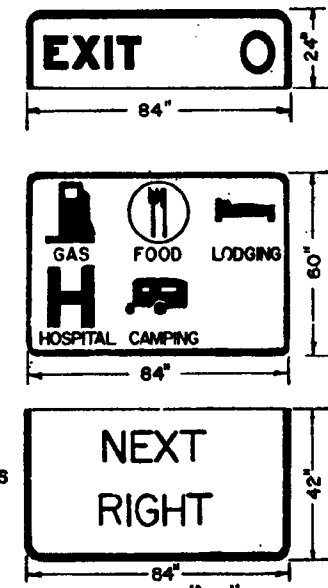
APPROVED BY F.H.W.A. 4-11-75

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TRAFFIC CONTROLS FOR STREET TERMINATIONS			
INITIALS	DATE	RECOMMENDED FOR APPROVAL	
DETAILED BY: GW	11-4-74	BY: <i>Ronald E. Magaly</i> DEPUTY TRAFFIC OPERATIONS ENGR.	
CHECKED BY:		APPROVED	
QUANTITIES BY:		BY: <i>E. J. Quinn</i> STATE TRAFFIC OPERATIONS ENGR.	
CHECKED BY: KR	11-4-74		
SUPERVISED BY: KR	11-4-74	BRAWING NO. 1 of 1	INDEX NO. 17349

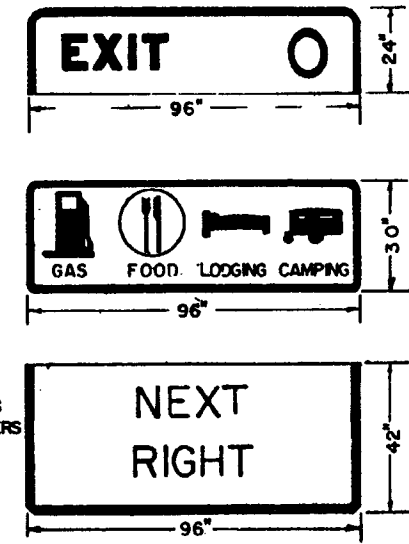
REVISIONS		
DATE	INITIALS	DESCRIPTION



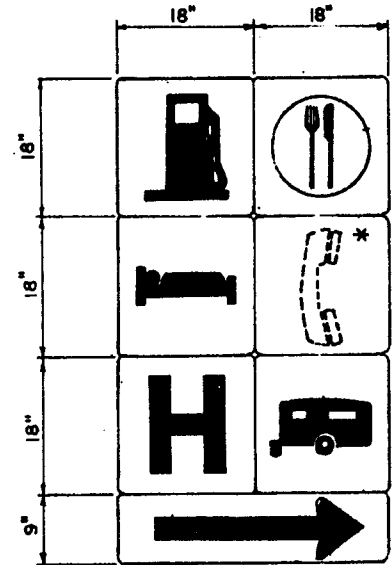
DETAIL "A"  
(1 TO 3 SYMBOLS)



DETAIL "B"  
(4 TO 6 SYMBOLS)



DETAIL "C"  
(4 SYMBOLS)



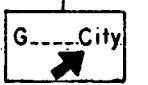
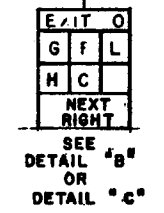
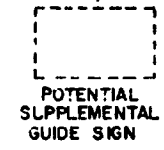
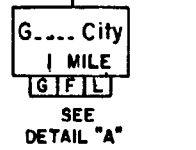
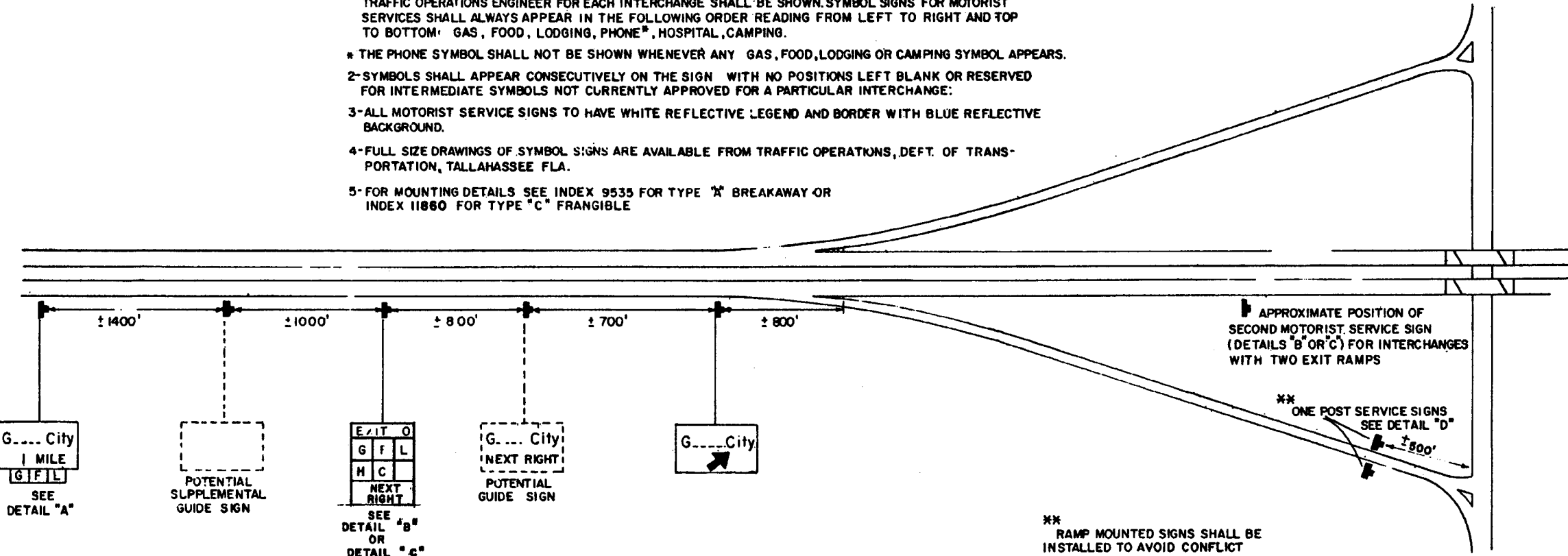
DETAIL "D"

**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 FEET BETWEEN THE LEVEL OF THE PAVEMENT EDGE AND THE BOTTOM OF THE GUIDE SIGN, PRIOR TO MOUNTING THE SUPPLEMENTARY PANEL.

**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."

**GENERAL NOTES**

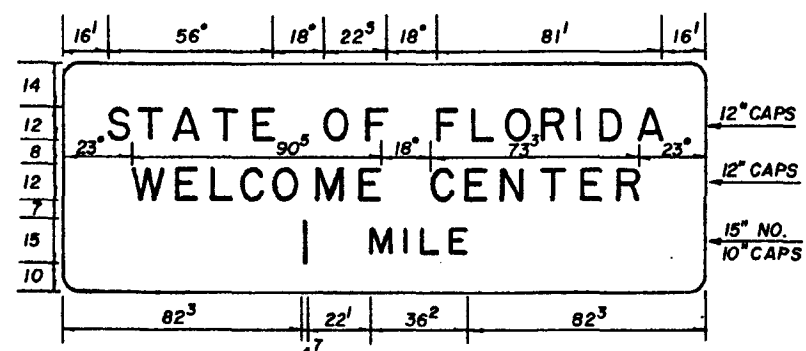
- 1- ONLY THOSE SERVICES MEETING CRITERIA ESTABLISHED BY THE DEPARTMENT AND APPROVED BY THE STATE TRAFFIC OPERATIONS ENGINEER FOR EACH INTERCHANGE SHALL BE SHOWN. SYMBOL SIGNS FOR MOTORIST SERVICES SHALL ALWAYS APPEAR IN THE FOLLOWING ORDER READING FROM LEFT TO RIGHT AND TOP TO BOTTOM: GAS, FOOD, LODGING, 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 REFLECTIVE LEGEND AND BORDER WITH BLUE REFLECTIVE BACKGROUND.
- 4- FULL SIZE DRAWINGS OF SYMBOL SIGNS ARE AVAILABLE FROM TRAFFIC OPERATIONS, DEPT. OF TRANSPORTATION, TALLAHASSEE FLA.
- 5- FOR MOUNTING DETAILS SEE INDEX 9535 FOR TYPE "A" BREAKAWAY OR INDEX 11860 FOR TYPE "C" FRANGIBLE



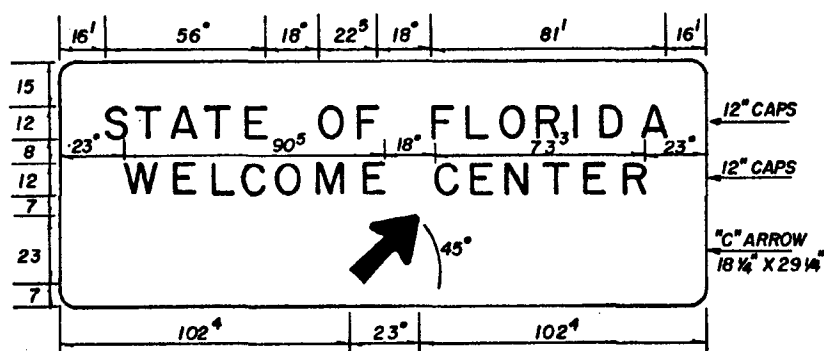
REVISIONS			INITIALS		DATES		RECOMMENDED FOR APPROVAL	
DATE	INITIALS	DESCRIPTION	BY	DATE	BY	DATE	BY	DATE
8-30-76	TL	RELOCATED SERVICE SIGNS	WB.	3-76	DEPUTY TRAFFIC OPERATIONS ENGR.			
9-27-76	TL	RELOCATED SIGN & ADD NOTE (Detail "D")	K.R.	3-76	APPROVED BY STATE TRAFFIC OPERATIONS ENGR.			
			SUPERVISED BY		K.R.		DRAWING NO. 1 of 1 INDEX NO. 17350A	

APPROVED BY FHWA 9-30-76  
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

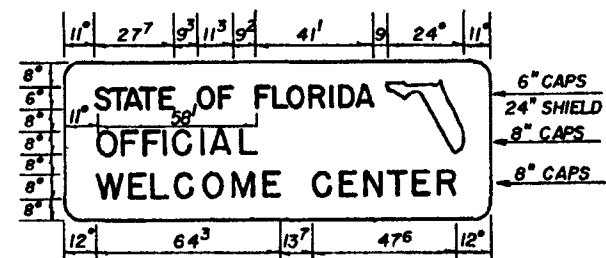
**SIGNING FOR MOTORIST SERVICES**



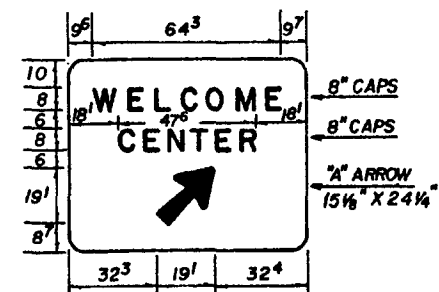
**SIGN NO. 1**  
6'-6" x 19'-0"  
3" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER



**SIGN NO. 2**  
7'-0" x 19'-0"  
3" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER

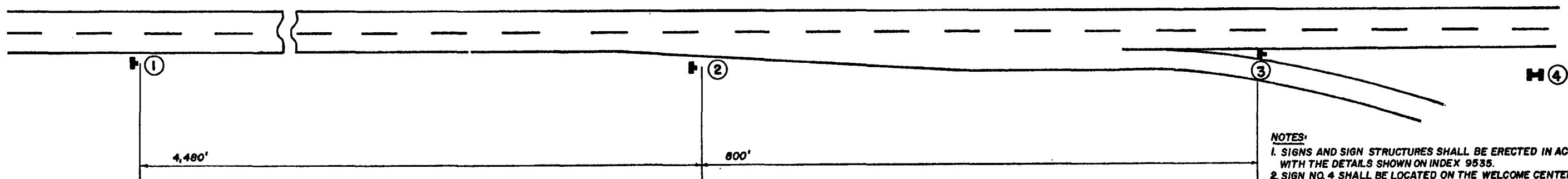


**SIGN NO. 4**  
4'-6" x 12'-6"  
2" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER  
ORANGE REFL. STATE SILHOUETTE  
(SIGN NO. 4 TO BE PAID FOR WITH FUNDS OTHER THAN D.Q.T.)



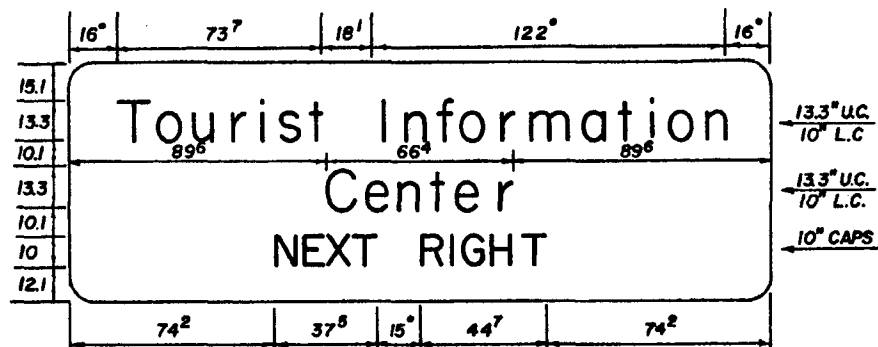
**SIGN NO. 3**  
5'-6" x 7'-0"  
2" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER

**NOTE**  
DISTANCE MESSAGE OF 1/2 MILE MAY BE USED TO KEEP THIS SIGN WITHIN THE STATE LINE.



**NOTES:**  
1. SIGNS AND SIGN STRUCTURES SHALL BE ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON INDEX 9535.  
2. SIGN NO. 4 SHALL BE LOCATED ON THE WELCOME CENTER GROUNDS IN PROXIMITY TO THE BUILDING AND AS FAR FROM THE MAIN LINE ROADWAYS AS POSSIBLE (2 SIGNS BACK TO BACK).  
3. SIGN NO. 1, 2 & 3 SHALL BE LOCATED ON LIMITED ACCESS HIGHWAYS ONLY.  
4. DETAIL OF FLORIDA SYMBOL IS AVAILABLE ON REQUEST FROM TRAFFIC OPERATIONS OFFICE OF D.O.T.

**NOTE:**  
ROADWAY NOT DRAWN TO SCALE  
DISTANCES SHOWN ARE APPROPRIATE FOR ADEQUATE DRIVER COMMUNICATION BUT MAY BE ALTERED SLIGHTLY IF FIELD CONDITIONS REQUIRE



**SIGN NO. 5**  
7'-0" x 20'-6"  
3" BOR. 9" RAD.

**NOTE:** SIGN SHALL HAVE BLUE REFLECTORIZED BACKGROUND WITH WHITE REFLECTORIZED LEGEND & BORDER. SIGN NO. 5 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)

APPROVED BY F.H.W.A. 8-1-75  
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

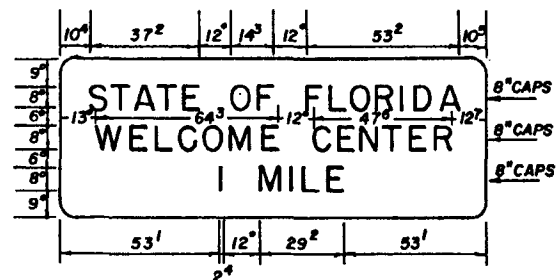
FOR LIMITED ACCESS HIGHWAYS

REVISIONS		
DATE	INITIALS	DESCRIPTION

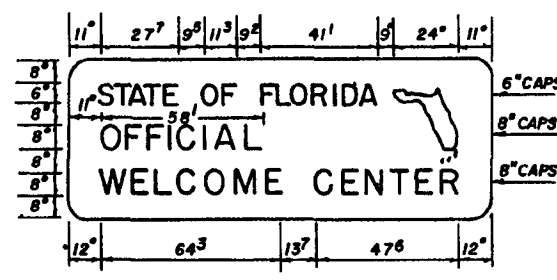
TYPICAL WELCOME CENTER SIGNING

INITIALS	DATES	RECOMMENDED FOR APPROVAL

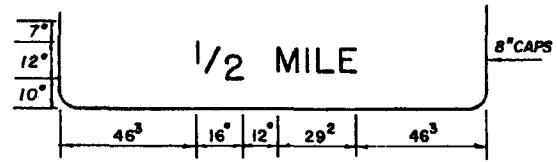
DRAWING NO. 1 OF 2 INDEX NO. 17351



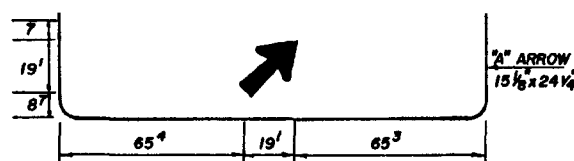
**SIGN NO. ZA**  
 4'-6" x 12'-6"  
 2" BOR.-9" RAD.  
 BLUE REFL. BACKGROUND  
 WHITE REFL. LEGEND & BORDER



**SIGN NO. 4**  
 4'-6" x 12'-6"  
 2" BOR.-9" RAD.  
 BLUE REFL. BACKGROUND  
 WHITE REFL. LEGEND & BORDER  
 ORANGE REFL. STATE SILHOUETTE  
 (SIGN NO. 4 TO BE PAID FOR WITH FUNDS OTHER THAN D.O.T.)



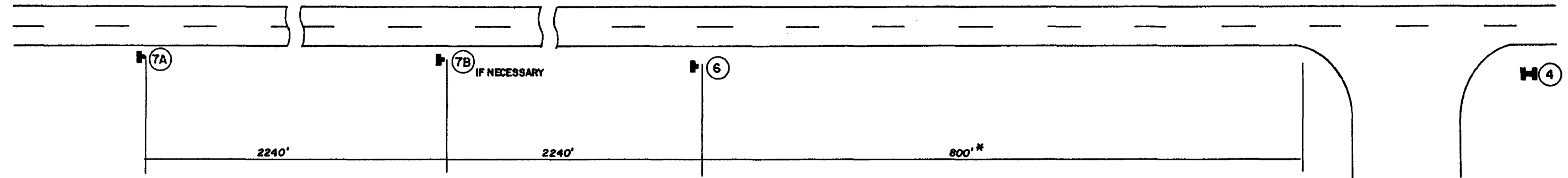
**SIGN NO. 7B**  
 5'-0" x 12'-6"  
 2" BOR.-9" RAD.



**SIGN NO. 6**  
 5'-6" x 12'-6"  
 2" BOR.-9" RAD.

**NOTES**

- (1) SIGNS AND SIGN STRUCTURES SHALL BE ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON INDEX 9535.
- (2) SIGN NO. 4 SHALL BE LOCATED ON THE WELCOME CENTER GROUNDS IN PROXIMITY TO THE BUILDING, AND AS FAR FROM THE MAIN LINE ROADWAYS AS POSSIBLE (2 SIGNS BACK TO BACK)
- (3) DETAIL OF FLORIDA SYMBOL IS AVAILABLE ON REQUEST FROM TRAFFIC OPERATIONS OFFICE OF D.O.T.



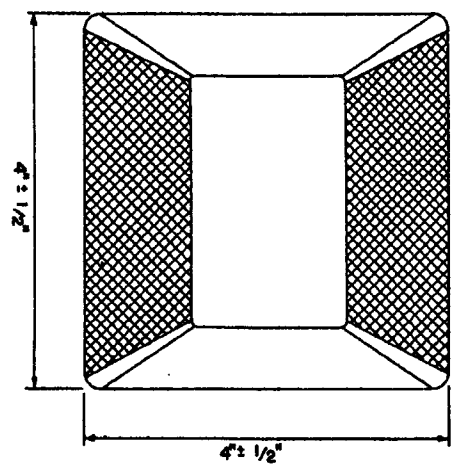
**NOTE**  
 ROADWAY NOT DRAWN TO SCALE

\* 800' MAXIMUM FOR RURAL CONDITIONS  
 50' MINIMUM FOR CONGESTED AREAS

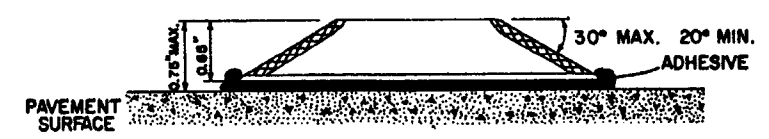
**NOTE**  
 EITHER ONE BUT NOT BOTH OF SIGNS 7A OR 7B SHOULD BE USED DEPENDING ON SPEED, ROADSIDE DEVELOPMENT & GEOMETRIC CONDITIONS.

REVISIONS		
DATE	INITIALS	DESCRIPTION

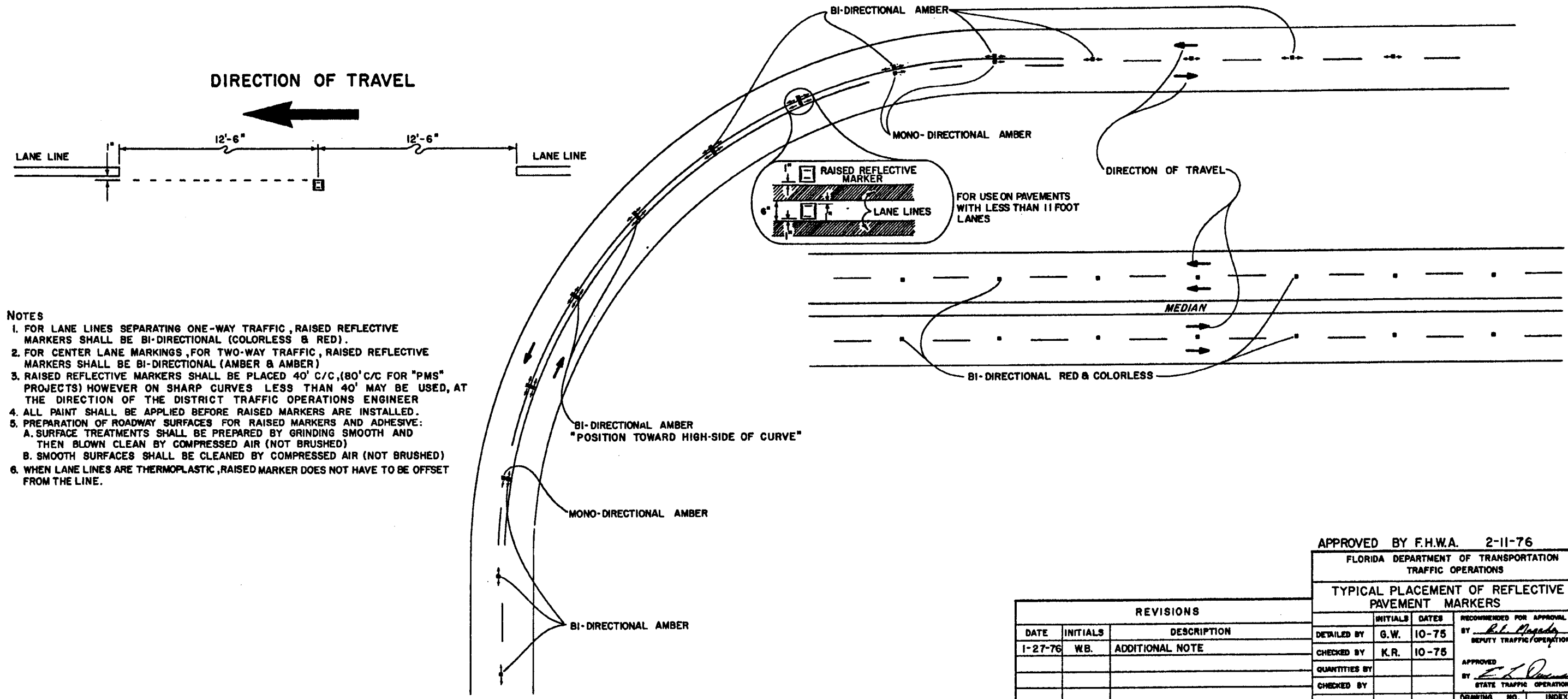
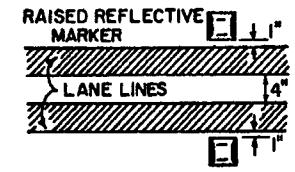
FOR PRIMARY HIGHWAYS			
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL WELCOME CENTER SIGNING			
	INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY	W.B.	6-75	By <i>R.E. Magallon</i> DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY			
QUANTITIES BY			
CHECKED BY			APPROVED By <i>E.T. ...</i> STATE TRAFFIC OPERATIONS ENGR.
SUPERVISED BY	K.R.	6-75	DRAWING NO. 2 OF 2 INDEX NO. 17351



**RAISED REFLECTIVE MARKER DETAIL**



FOR USE ON PAVEMENTS WITH 11 OR 12 FOOT LANES

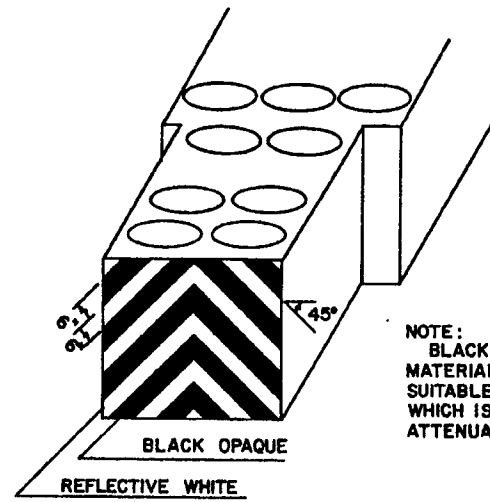
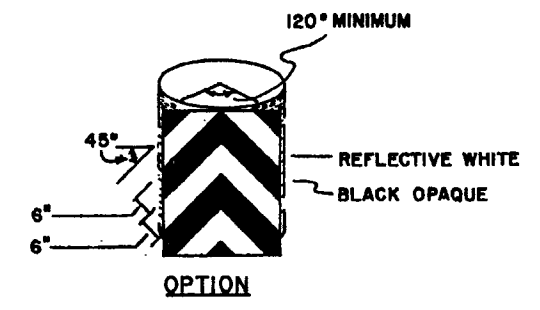
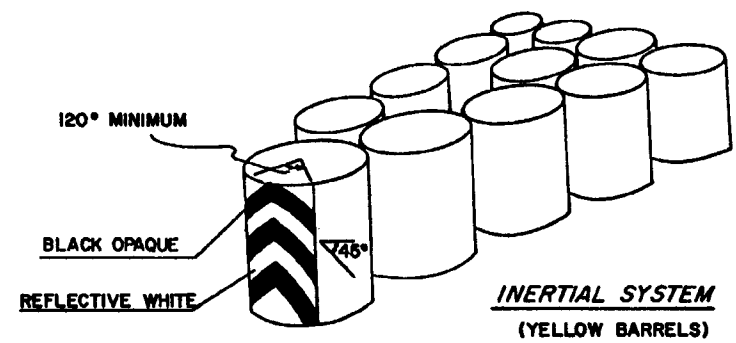


- NOTES**
1. FOR LANE LINES SEPARATING ONE-WAY TRAFFIC, RAISED REFLECTIVE MARKERS SHALL BE BI-DIRECTIONAL (COLORLESS & RED).
  2. FOR CENTER LANE MARKINGS, FOR TWO-WAY TRAFFIC, RAISED REFLECTIVE MARKERS SHALL BE BI-DIRECTIONAL (AMBER & AMBER)
  3. RAISED REFLECTIVE MARKERS SHALL BE PLACED 40' C/C, (80' C/C FOR "PMS" PROJECTS) HOWEVER ON SHARP CURVES LESS THAN 40' MAY BE USED, AT THE DIRECTION OF THE DISTRICT TRAFFIC OPERATIONS ENGINEER
  4. ALL PAINT SHALL BE APPLIED BEFORE RAISED MARKERS ARE INSTALLED.
  5. PREPARATION OF ROADWAY SURFACES FOR RAISED MARKERS AND ADHESIVE:
    - A. SURFACE TREATMENTS SHALL BE PREPARED BY GRINDING SMOOTH AND THEN BLOWN CLEAN BY COMPRESSED AIR (NOT BRUSHED)
    - B. SMOOTH SURFACES SHALL BE CLEANED BY COMPRESSED AIR (NOT BRUSHED)
  6. WHEN LANE LINES ARE THERMOPLASTIC, RAISED MARKER DOES NOT HAVE TO BE OFFSET FROM THE LINE.

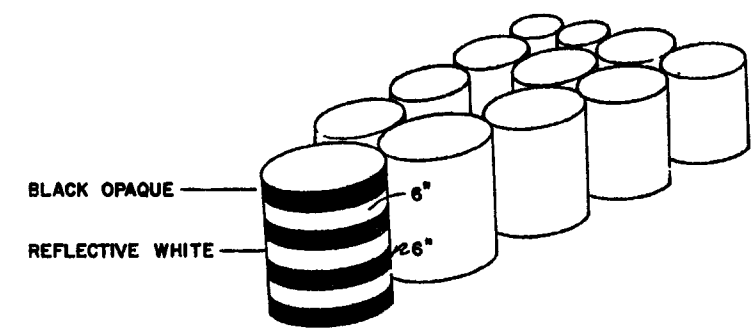
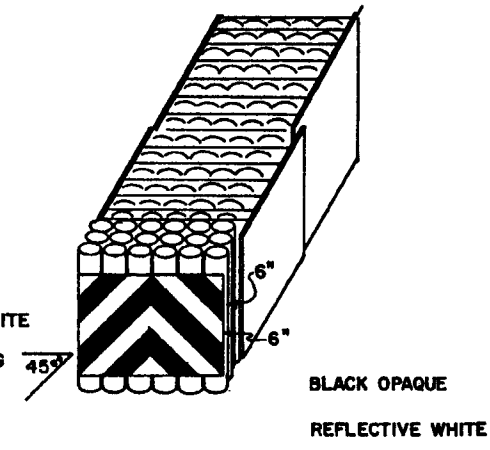
APPROVED BY F.H.W.A. 2-11-76

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL PLACEMENT OF REFLECTIVE PAVEMENT MARKERS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
DETAILED BY G.W.	10-75	BY <i>R.L. Magada</i> 1/17/76 DEPUTY TRAFFIC/OPERATIONS ENGR.	
CHECKED BY K.R.	10-75	APPROVED BY <i>E.L. [Signature]</i> 1/17/76 STATE TRAFFIC OPERATIONS ENGR.	
QUANTITIES BY		DRAWING NO.	INDEX NO.
CHECKED BY		1 of 1	17352
SUPERVISED BY K.R.	10-75		

REVISIONS		
DATE	INITIALS	DESCRIPTION
1-27-76	W.B.	ADDITIONAL NOTE



NOTE: BLACK OPAQUE AND REFLECTIVE WHITE MATERIALS SHALL BE APPLIED TO A SUITABLE WOOD OR ALUMINUM FACING WHICH IS FIRMLY ATTACHED TO THE ATTENUATOR (SEE NOTE 3)



NOTE: Striping may be circular around steel drums

**LIGHTWEIGHT CELLULAR CONCRETE**

**HYDRO CELL UNIT**

**STEEL DRUM**

**General Notes:**

1. The black and white object marking treatment shall be placed on the visible front (apex) unit or units, of all attenuators as shown above.
2. Pressure sensitive applied reflective white sheeting with black opaque stripes is an acceptable material application which may be supplied with the unit or by the contractor in the field.
3. The object markings may be applied directly to barrel units (steel drum or inertial) or they shall be applied to an aluminum facia (0.125 inches thick) or on painted exterior plywood (1/2 inches thick) in the case of cellular concrete, hydro cell unit, or other types of attenuator systems.
4. Physical Dimensions:
  - Height — The height of the object marker should be no less than 2/3 the height of the attenuators and preferable equal to the attenuator height.
  - Width — The width of flat surface object markers should be equal to the width of the attenuator nose.

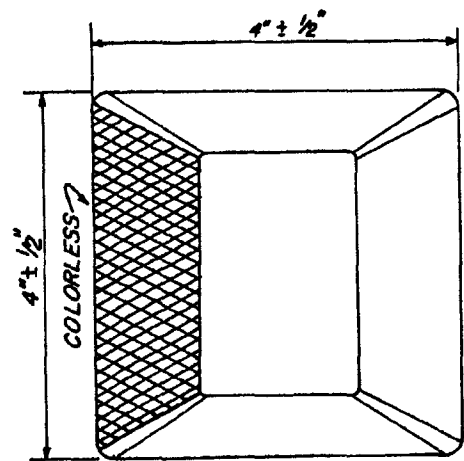
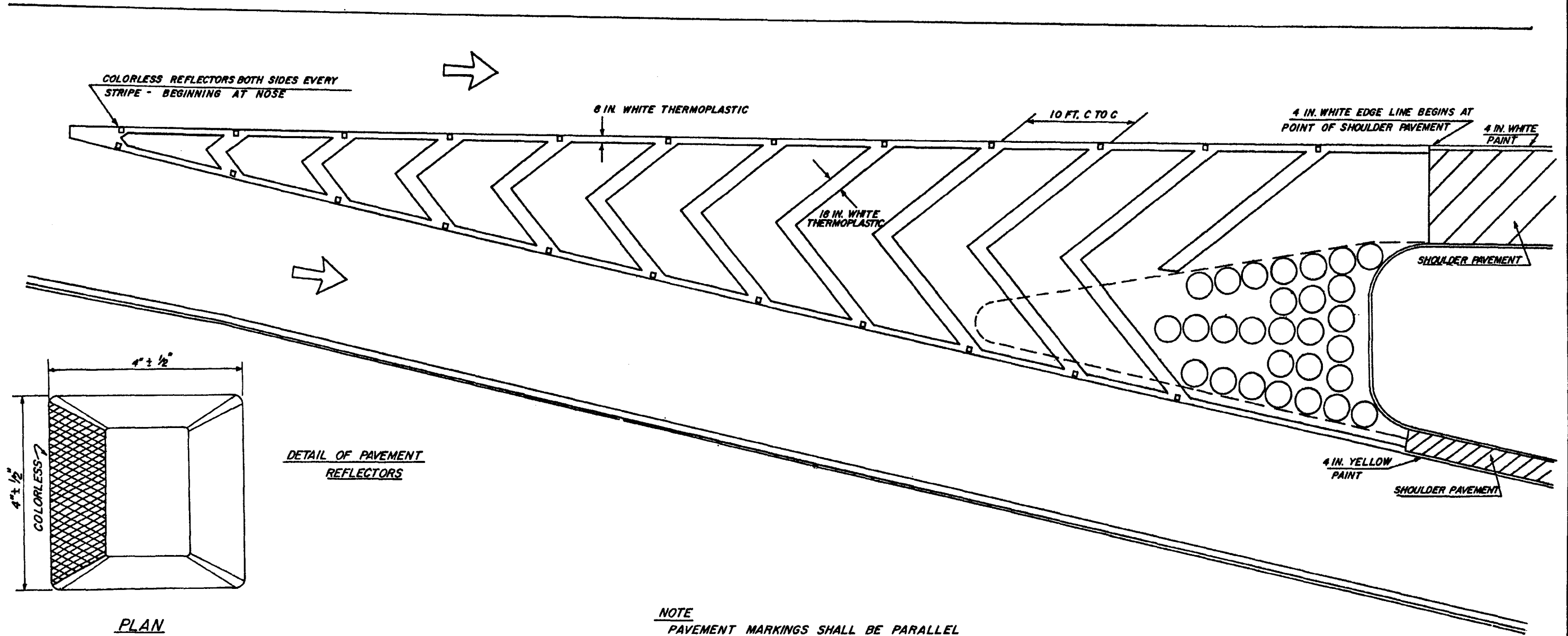
Object markers placed on barrels or drums should cover at least 120° for drums equal to or larger than 30" in diameter and at 180° for drums less than 30" in diameter.

**OBJECT MARKINGS**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION																																			
MARKINGS FOR ATTENUATION SYSTEMS																																			
ROAD NO.		COUNTY		PROJECT NO.																															
<table border="1"> <tr> <th>REVISIONS</th> <th>DATE</th> <th>DESCRIPTION</th> <th>DESIGNED BY</th> <th>DATE</th> <th>APPROVED BY</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>						REVISIONS	DATE	DESCRIPTION	DESIGNED BY	DATE	APPROVED BY																								
REVISIONS	DATE	DESCRIPTION	DESIGNED BY	DATE	APPROVED BY																														
1 of 4				17353																															



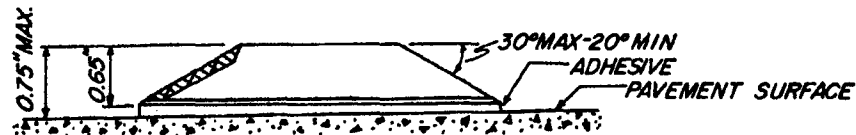
**NOTE**  
THE LENGTH, WIDTH AND NUMBER OF CHEVRONS VARIES WITH EACH INSTALLATION.



**DETAIL OF PAVEMENT REFLECTORS**

**PLAN**

**DIRECTION OF TRAVEL**



**PROFILE**

**NOTE**  
PAVEMENT MARKINGS SHALL BE PARALLEL WITH LANE LINES.

**PAVEMENT MARKINGS FOR INERTIAL SYSTEM**

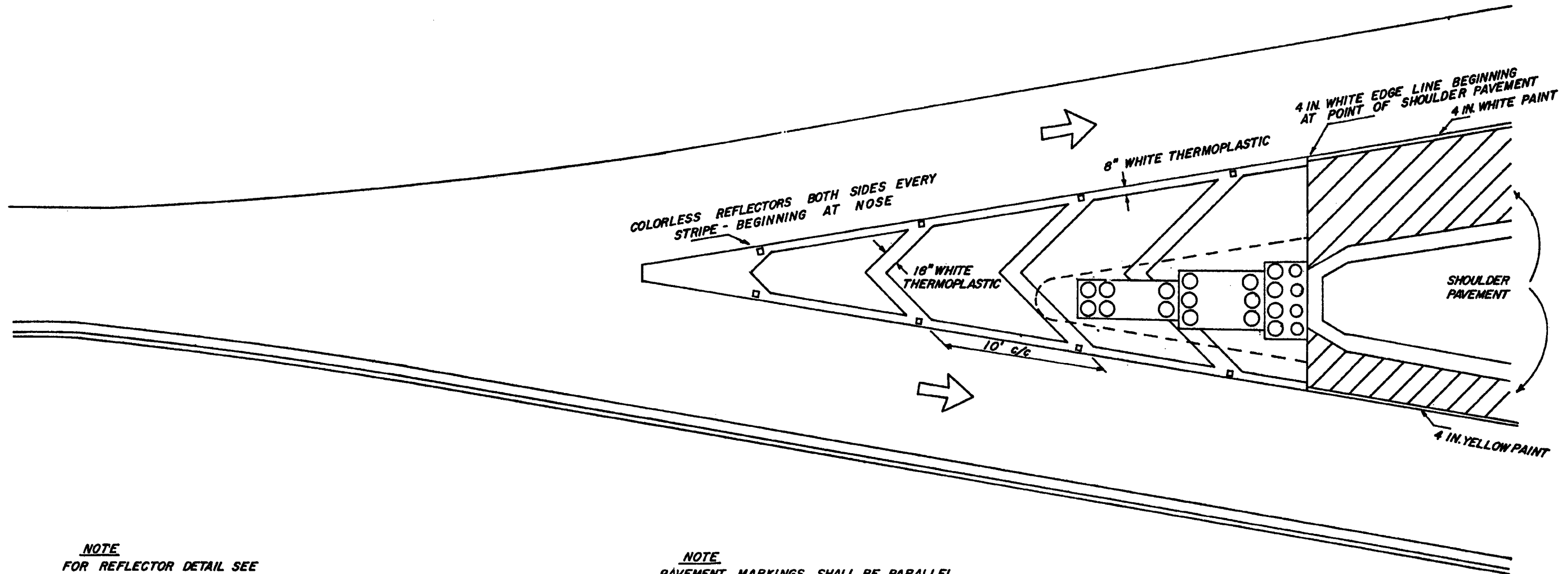
STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

**MARKINGS FOR ATTENUATIONS SYSTEMS**

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Descriptions			
	Defined by	Name	Date	Recommended For Approval by
	Checked by		10-76	APPROVED BY
	Overlaid by			
	Checked by			
	Traced by			



**NOTE**  
THE LENGTH, WIDTH AND NUMBER OF CHEVRONS VARIES WITH EACH INSTALLATION



**NOTE**  
FOR REFLECTOR DETAIL SEE  
DRAWING 2 of 4

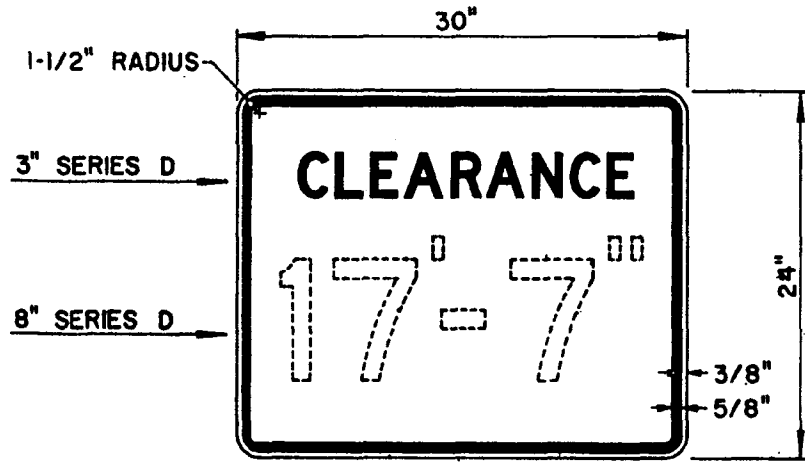
**NOTE**  
PAVEMENT MARKINGS SHALL BE PARALLEL  
WITH LANE LINES

PAVEMENT MARKING  
FOR LIGHTWEIGHT CELLULAR CONCRETE SYSTEM

STATE OF FLORIDA  
DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

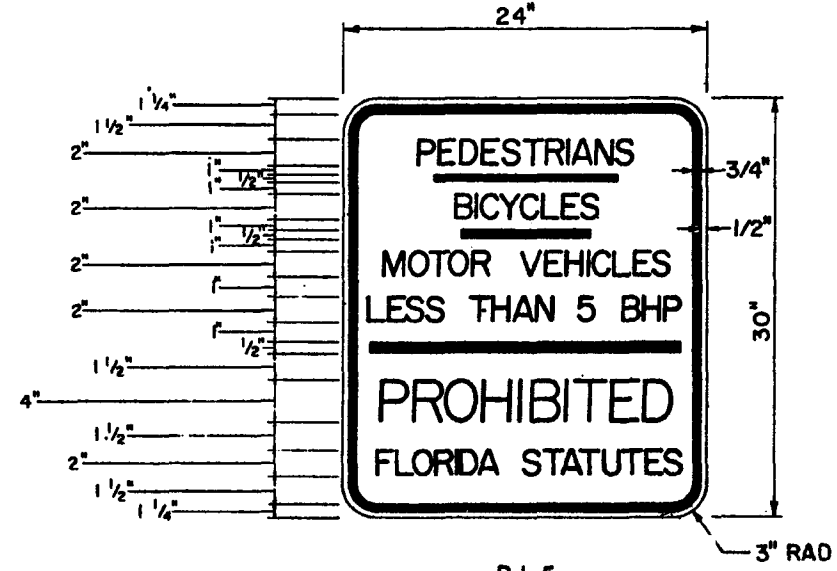
MARKINGS FOR  
ATTENUATIONS SYSTEMS

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
	Detalled by	Name	Date	Recommended For Approval by
	Checked by			APPROVED BY
	Quantities by			
	Checked by			
	Traced by			
				Drawing No 4 of 4
				Index No 17353



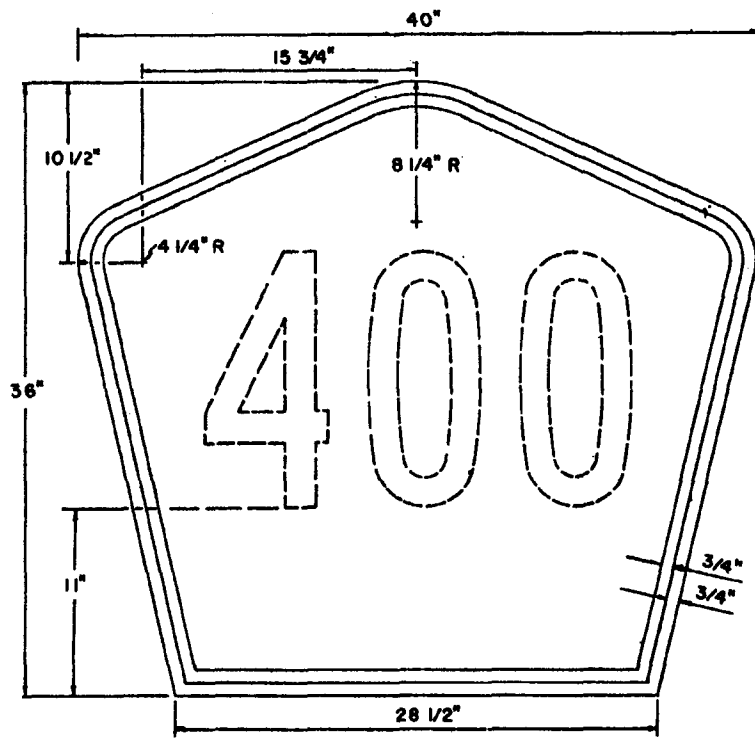
RDT-03

- NOTES:
1. THE COLOR OF THE SIGN SHALL BE HIGH INTENSITY SILVER-WHITE REFLECTORIZED BACKGROUND WITH BLACK OPAQUE BORDER AND LEGEND.
  2. STRUCTURES SPANNING A HIGHWAY WITH TRAFFIC IN OPPOSITE DIRECTIONS SHALL HAVE A SIGN FOR BOTH APPROACHES MOUNTED TO THE RIGHT OF THE DRIVER VIEWING THE SIGN.
  3. CLEARANCE SIGNS SHOULD BE MOUNTED FOUR FEET FROM RIGHT EDGE OF RIGHT GUIDE SIGN WHEN PRACTICAL.
  4. CLEARANCES SHOWN ON SIGN SHALL BE TO THE NEAREST WHOLE INCH. ANY FRACTION SHALL BE ROUNDED DOWN. (EXAMPLE 18'-8 7/8" SHALL BE SHOWN 18'-6")
  5. SIGNED CLEARANCE TO BE MEASURED FROM LOWEST POINT OF OVERHEAD STRUCTURE TO HIGHEST POINT OF TRAVELED ROADWAY.



RJ-5

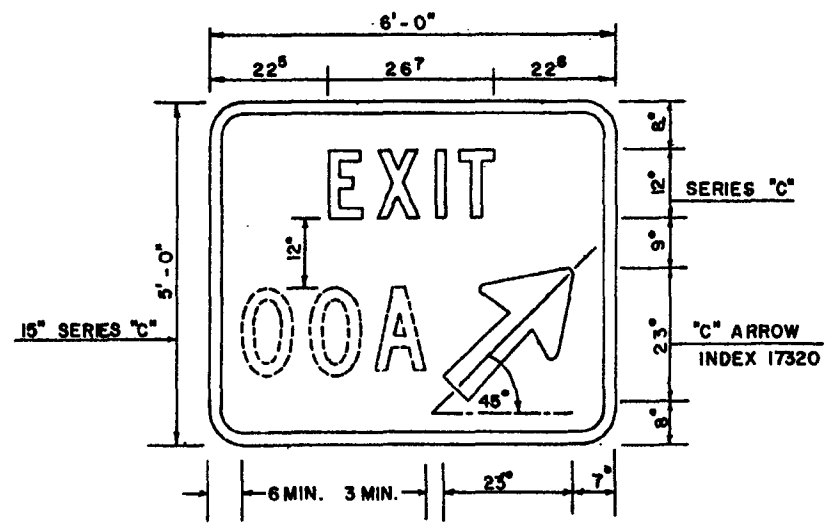
- NOTES:
1. THE COLOR OF THE SIGN SHALL BE HIGH INTENSITY SILVER-WHITE REFLECTORIZED BACKGROUND WITH BLACK OPAQUE BORDER AND LEGEND.
  2. LINES 1, 2, 3, 4, AND 6 ARE 2" SERIES "C".
  3. LINE 5 IS 4" SERIES "C".



MI-5 FOR GUIDE SIGN USE

FOR TWO DIGITS USE 15" SERIES D.  
FOR THREE DIGITS USE 15" SERIES B.

COLOR: YELLOW REFLECTORIZED LEGEND AND BORDER ON BLUE REFLECTORIZED BACKGROUND.



SIGN NO. (E5-1c)  
2" BORDER, 6" RADII

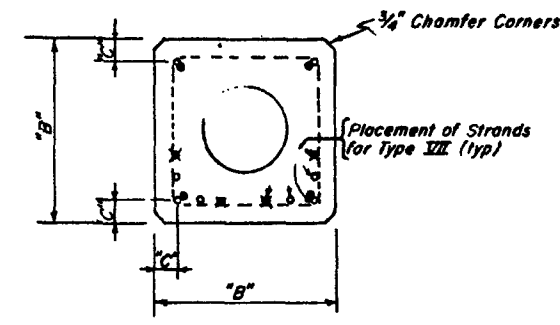
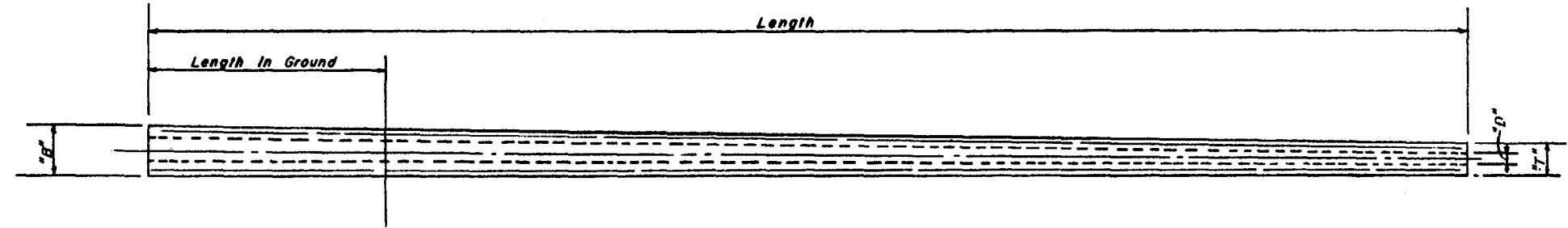
COLOR: WHITE ON GREEN.

THE EXIT NUMBER SHALL BE CENTERED IN THE SPACE PROVIDED ON SIGN PANEL

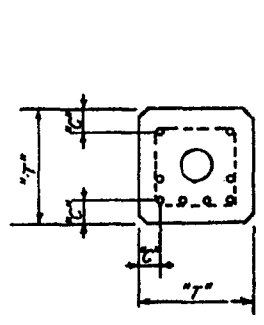
700-1-19

REVISIONS		
DATE	INITIALS	DESCRIPTION

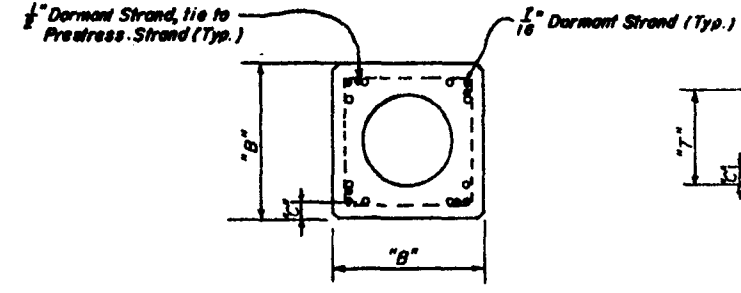
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
SPECIAL SIGN DETAIL			
	INITIALS	DATES	RECOMMENDED FOR APPROVAL
			BY <i>R. J. Magala</i>
			DEPUTY TRAFFIC OPERATIONS ENGR.
			APPROVED
			BY <i>R. J. Magala</i> 10/19/52
			STATE TRAFFIC OPERATIONS ENGR.
			DRAWING No.
			INDEX No.
			1 of 1 17356



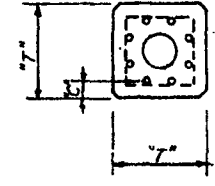
SECTION AT BOTTOM  
 TYPICAL SECTION FOR TYPE V, VI and VII  
 (STRANDS ECCENTRICALLY PLACED)



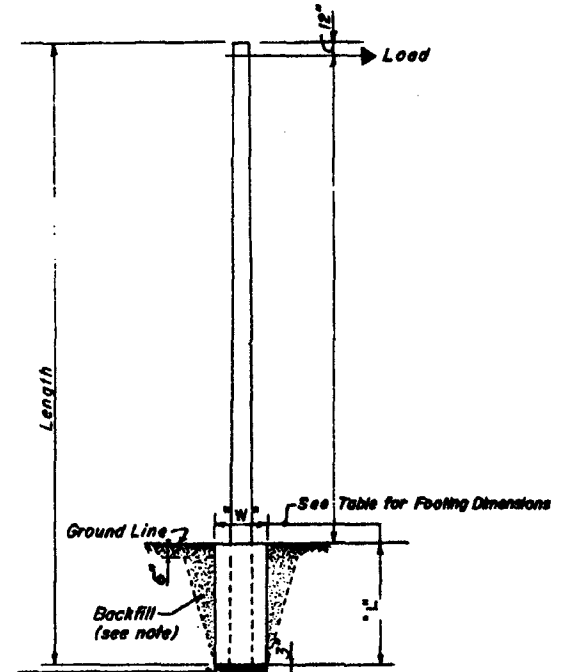
SECTION AT TOP



SECTION AT BOTTOM  
 TYPICAL SECTION FOR TYPE IV  
 (STRANDS SYMMETRICALLY PLACED)



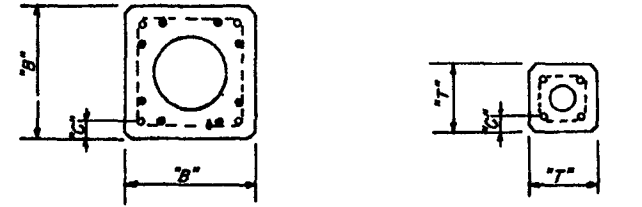
SECTION AT TOP



SIGNAL STRAIN POLE LOADING

[At The Option of The Contractor a 3" Precast Leveling Pad May be Used.]

TYPE	DESIGNATION	SIZE AT TOP "T"	SIZE AT BOTTOM "B"	OUTSIDE POLE TAPER	HOLE DIA. "D" AT TOP	MANDREL DETAIL	STRAND TAPER "C"	NO. OF STRANDS	SIZE * and TYPE STRAND	LOAD WITH NO CRACKING	MINIMUM ULTIMATE LOAD CAPACITY	APPLICATION OF LOAD	f <sub>c</sub>	f <sub>t</sub>	FOOTING DIMENSIONS "W" x "L"	SHIELDING (From Top)	SHEAR REINFORCING (From Bottom)	DORMANT STRANDS
SIGNAL STRAIN POLES	VII	14" Sq.	Size at Top + (Lg. x Taper)	.16"/ft.	2.87" Ø (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	12	1/2" Ø Strands 270K	7000*	10,000 ± # (Min.)	12 Inches From Top	6000psi	4000psi	3.5' x 3.5' x 9.0'	Shield 2 at 10' Shield 2 at 26'	3 Wire @ 3" @ 9" up 5 Ga. Spiral @ 6" Remainder	4 - 1/2" Ø Tie to Corner
	VI	13" Sq.	Size at Top + (Lg. x Taper)	.16"/ft.	3" ± Ø (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	8	1/2" Ø Strands 250K	5000*	7500 ± # (Min.)	12 Inches From Top	6000psi	4000psi	3.5' x 3.5' x 8.0'	Shield 2 at 12'	3 Wire @ 3" @ 9" up 5 Ga. Spiral @ 6" Remainder	4 - 1/2" Ø Tie to Corner
	V	10" Sq.	Size at Top + (Lg. x Taper)	.16"/ft.	2.87" ± Ø (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	8	1/2" Ø Strands 250K	3500*	6000 ± # (Min.)	12 Inches From Top	6000psi	4000psi	3' x 3' x 7.0'	Shield 2 at 6' Shield 2 at 21'	3 Wire @ 3" @ 10" up 5 Ga. Spiral @ 6" Remainder	4 - 1/2" Ø Tie to Corner
	III	8.25" Sq.	Size at Top + (Lg. x Taper)	.16"/ft.	3" ± Ø (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	8	1/2" Ø A.S.T.M. 250K	1850*	3000 ± # (Min.)	12 Inches From Top	6000psi	4000psi	3' x 3' x 8.0'	Shield 2 at 6' Shield 2 at 12'	5 Ga. Spiral @ 6"	4 - 3/8" Ø Ea. Cor. P. 4 - 1/2" Ø Tie To Press.
LIGHT POLES	II	6" Sq.	Size at Top + (Lg. x Taper)	.16"/ft.	2" Ø (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	4	7/16" Ø A.S.T.M. 250K	900*	1200 ± # (Min.)	2 Feet From Top	6000psi	4000psi	3' x 3' x 6.0'		9 Ga. Spiral @ 6"	8 - 3/16" Ø
	II	6.4" Round	Size at Top + (Lg. x Taper)	.16"/ft.	2" Ø (Per Mandrel Detail)	Per Pres. MFG	Min. Cover 1" of Conc.	4	1/2" Ø A.S.T.M. 250K	900*	1200 ± # (Min.)	2 Feet From Top	6000psi	4000psi	3' x 3' x 6.0'	Shield 2 at 6' Shield 2 at 12'		4 - #4 Bars



SECTION AT BOTTOM SECTION AT TOP  
 TYPICAL SECTION FOR TYPE II  
 (STRANDS SYMMETRICALLY PLACED)

\* Steel strand used to prestress the Concrete shall not be tensioned above 70% of the rated ultimate strength.

**SYMBOLS**

- Placement of Prestressed Strands
- ⊗ Placement of Prestressed Strands for Type VII
- ⊙ Placement of Dormant Strands

**FOOTING NOTES:**

**EXCAVATION AND BACKFILL**

Excavation and Backfill for the Footings shall be in accordance with section 125-8.2 with the exception that for the Backfill, in lieu of the requirements for obtaining the specified density. The Backfill may be handtamped in four inch maximum layers or machine tamped in six inch maximum layers. The material should be neither dry nor saturated. At the Contractor's option Backfilling may be done with poured concrete.

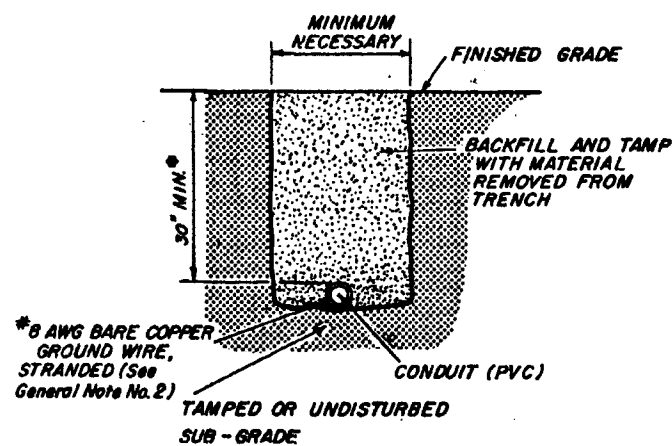
FORMS: Shall be in accordance with Article 700-8.3

**SIGNAL STRAIN POLES & LIGHT POLE**

STATE ROAD DEPARTMENT OF FLORIDA  
 STRUCTURES DIVISION

**PRESTRESSED CONCRETE POLES**

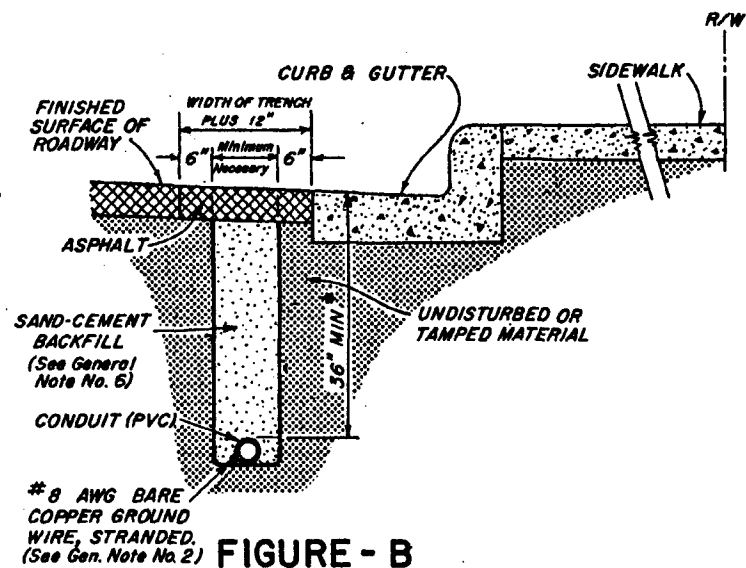
REVISED		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
10-68	Revised Pole Footing			
10-68	Leveling Pad Option Added			
05-68	6" Round Light Pole Added	Checked by	C. W. B.	5-15-68
05-70	Revised Footing Dimensions	Checked by	A. J. H.	5-27-68
06-71	REVISIONS	Checked by		
		Drawn by		
		Traced by		
APPROVED BY				
Director of Structures				
1 of 1				9821



**FIGURE - A**

FOR USE IN AREAS NOT EXPOSED TO VEHICULAR TRAFFIC

◆ MAY BE ADJUSTED IN FIELD DUE TO FIELD CONDITIONS UPON APPROVAL OF PROJECT ENGINEER.

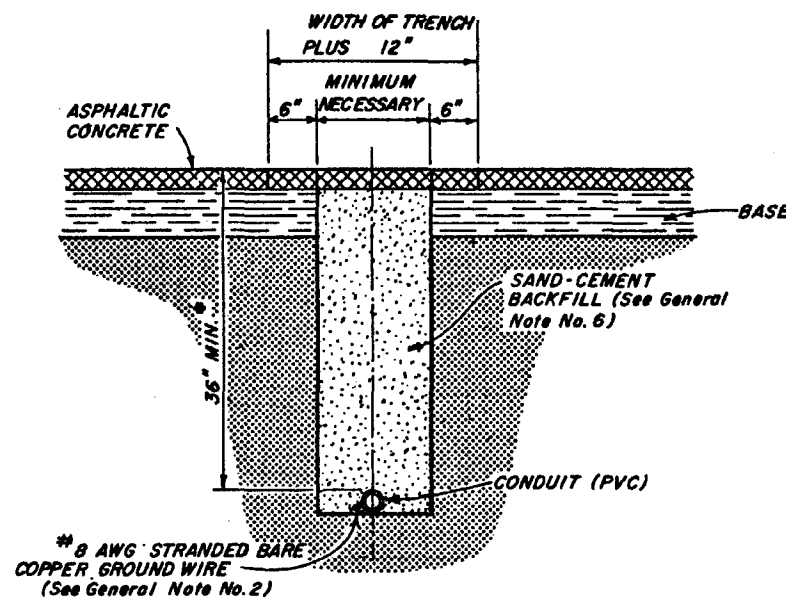


**FIGURE - B**

FOR USE IN ASPHALT ROADWAY ADJACENT TO GUTTER WHEN PLACEMENT OUTSIDE OF THE PAVEMENT IS NOT FEASIBLE.

**NOTE:**

1. TRENCH NOT TO BE OPEN MORE THAN 250' AT A TIME WHEN CONSTRUCTION AREA IS SUBJECT TO VEHICULAR OR PEDESTRIAN TRAFFIC.
2. ASPHALT TO BE SAWCUT AND REMOVED TO LEAVE NEAT LINES ON BOTH SIDES OF THE 12" PAVEMENT CUT.



**FIGURE - C**

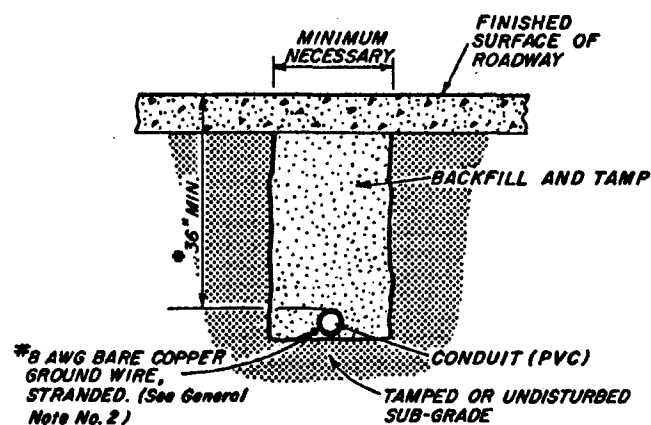
FOR USE IN INSTALLING CONDUIT UNDER EXISTING ASPHALT PAVEMENT NOT ADJACENT TO GUTTER WHEN JACKING IS NOT FEASIBLE

**NOTE:**

1. RIGID CONDUIT MUST BE USED WHEN JACKING UNDER EXISTING PAVEMENT AT 3 FT. MINIMUM DEPTH
2. ASPHALT TO BE SAWCUT AT THE EDGES OF THE TRENCH.

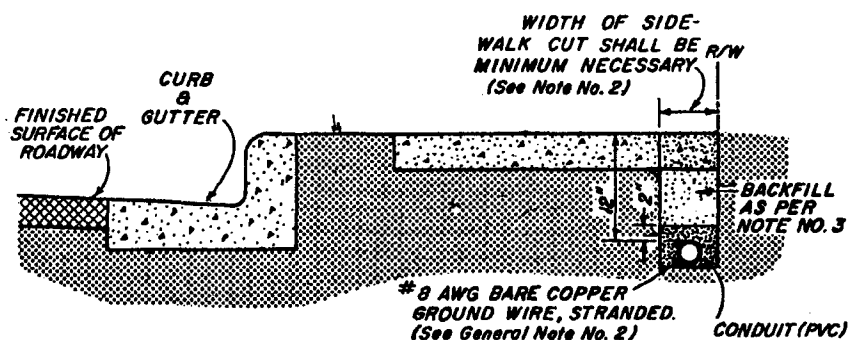
**GENERAL NOTES**

1. A NO. 12 AWG PULL WIRE SHALL BE INSTALLED IN ALL CONDUITS WHICH ARE PROVIDED FOR FUTURE USE. AT LEAST 2 FT. OF PULL WIRE SHALL BE ACCESSIBLE AT EACH CONDUIT TERMINATION.
2. LOCAL CODES MAY REQUIRE USE OF A LARGER GROUND WIRE. (Not required with galvanized conduit)
3. EACH PULL BOX SHALL HAVE A 3/8" X 10' GROUND AS SHOWN.
4. RECOMMENDED STANDARD CLEARANCE BETWEEN UNDERGROUND CONTROL CABLE OR ELECTRICAL SERVICE CABLE AND ANOTHER APPROXIMATELY PARALLEL UNDERGROUND ELECTRICAL SERVICE CABLE IS FOUR (4) FEET.
5. WHEN EARTH BACKFILL AND TAMPING IS CALLED FOR ON THESE DETAILS, IT SHALL BE ACCOMPLISH IN APPROXIMATELY 12 INCH LAYERS WITH EACH LAYER TAMPED TO DENSITY EQUAL TO OR GREATER THAN THE ADJACENT SOIL.
6. COMMERCIALY AVAILABLE SAND CEMENT (APPROXIMATELY 10:1 MIX RATIO) SHALL BE USED TO BACKFILL TRENCHES IN EXISTING PAVEMENT. A SUFFICIENT AMOUNT OF WATER SHOULD BE ADDED TO THE MIX TO MAKE IT FLUID SO THAT NO TAMPING OR VIBRATING IS REQUIRED (6 TO 8 INCH SLUMP SUGGESTED).
7. ALL PAVEMENT AND SIDEWALKS SHALL BE SAWCUT WHEN TRENCHING.
8. RIGID CONDUIT USED WHEN JACKING SHOULD BE LEFT AS A SLEEVE FOR PVC CONDUIT.



**FIGURE - D**

FOR USE INSTALLING CONDUIT UNDER A NEW ROADWAY PRIOR TO INSTALLATION OF CURBS, BASE AND PAVEMENT

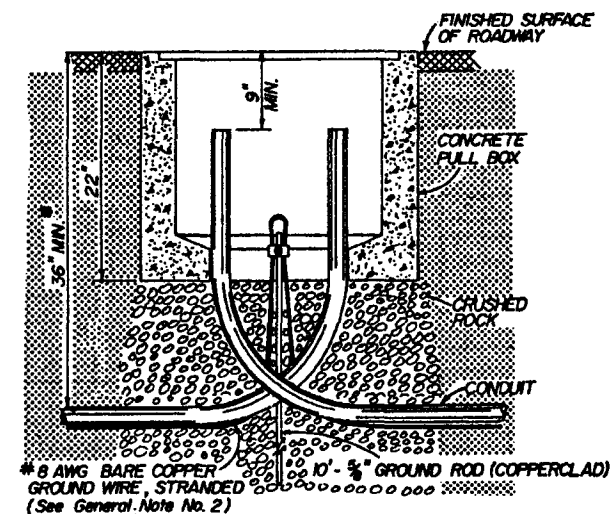


**FIGURE - E**

FOR USE IN INSTALLING CONDUIT UNDER SIDEWALK

**NOTE:**

1. SIDEWALK PATCHES TO MATCH EXISTING JOINTS.
2. ENTIRE SIDEWALK SLAB MUST BE REPLACED WHEN SPECIFIED IN THE PLANS.
3. BACKFILL AND TAMP WITH MATERIAL FROM TRENCH EXCEPT AT DRIVEWAYS. AT DRIVEWAYS, BACKFILL A LENGTH OF TRENCH FOR A DISTANCE EQUAL TO TWICE THE WIDTH OF THE DRIVEWAY ENTIRELY WITH CLASS 1 CONCRETE.



**FIGURE - F**

CONDUIT ENTRY IN TRAFFIC TYPE PULL BOX

APPROVED BY FHWA, APRIL 15, 1975

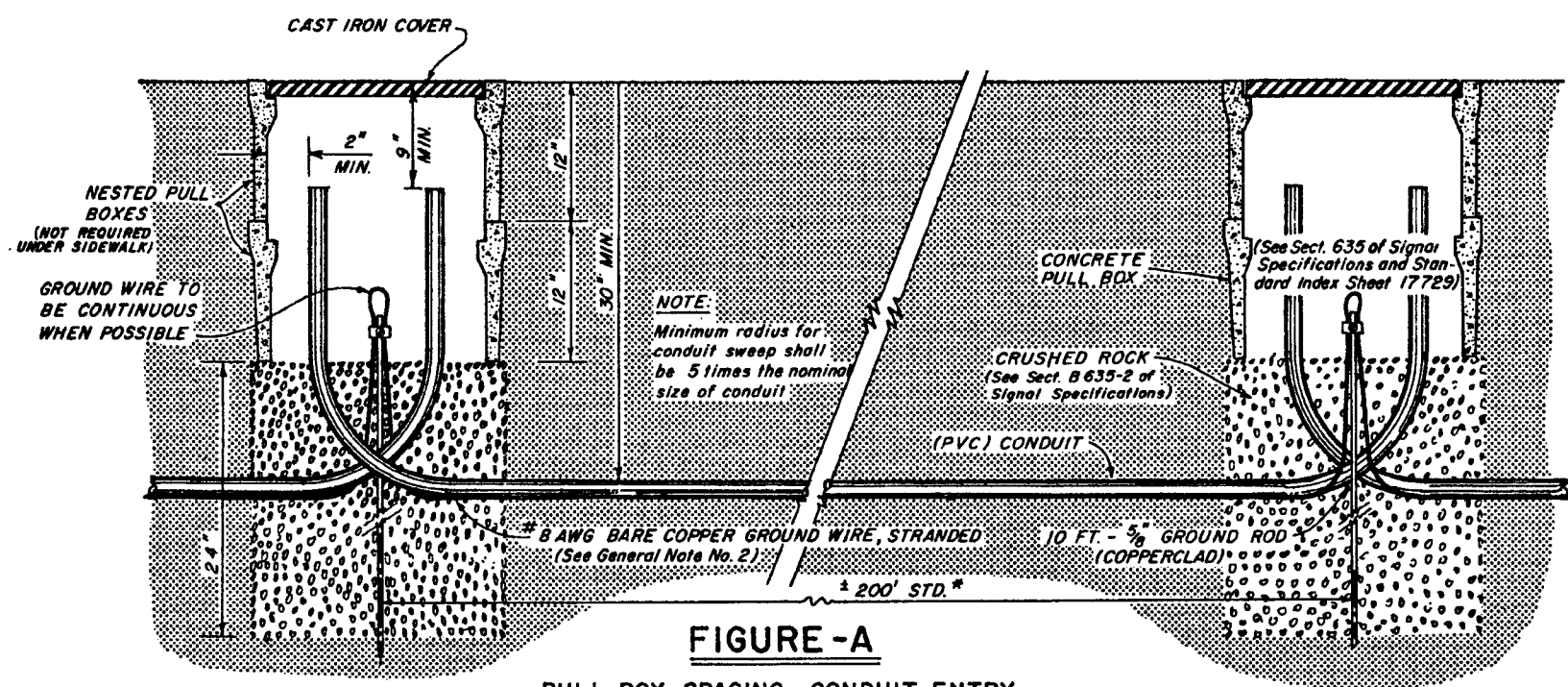
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

CONDUIT INSTALLATION DETAILS

REVISIONS			INITIALS	DATES
DATE	INITIALS	DESCRIPTION	Designed by	CG 2-26-75
4-8-75	CG	ADDITION TO GENERAL NOTE NO. 6 NOTE NO. 3 OF FIGURE E REVISED.	Checked by	RK 2-26-75
8-11-75	CJ	NOTE ADDED, REVISED GENERAL NOTES 1 & 2, REVISED TITLE BLOCK	Quantities by	
			Checked by	
			Supervised by	RVK

Approved by *R.E. Magala*  
State Traffic Operations Eng.

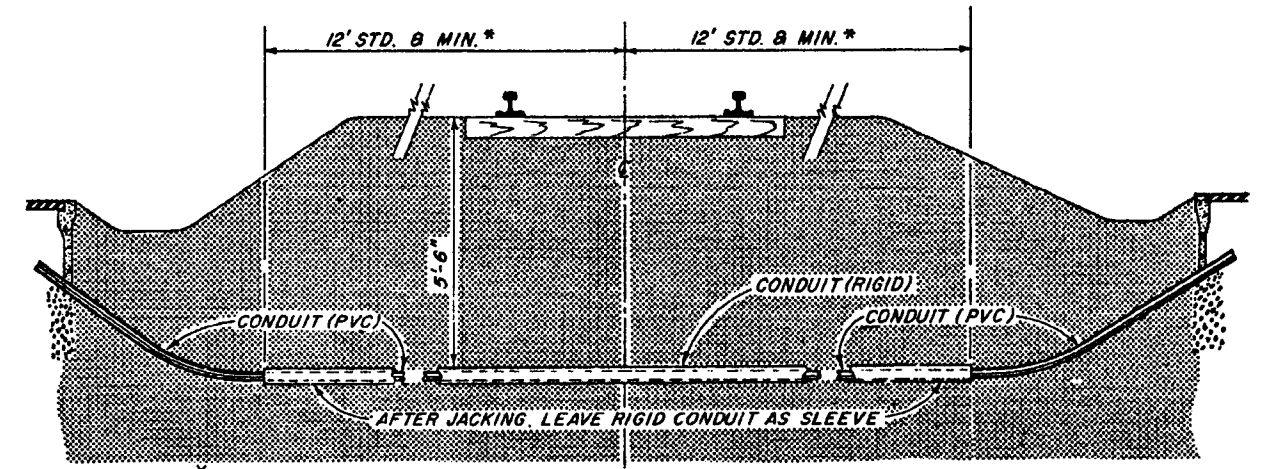
DRAWING NO. 1 OF 2  
INDEX NO. 17721



**FIGURE - A**

PULL BOX SPACING, CONDUIT ENTRY AND GROUNDING DETAIL

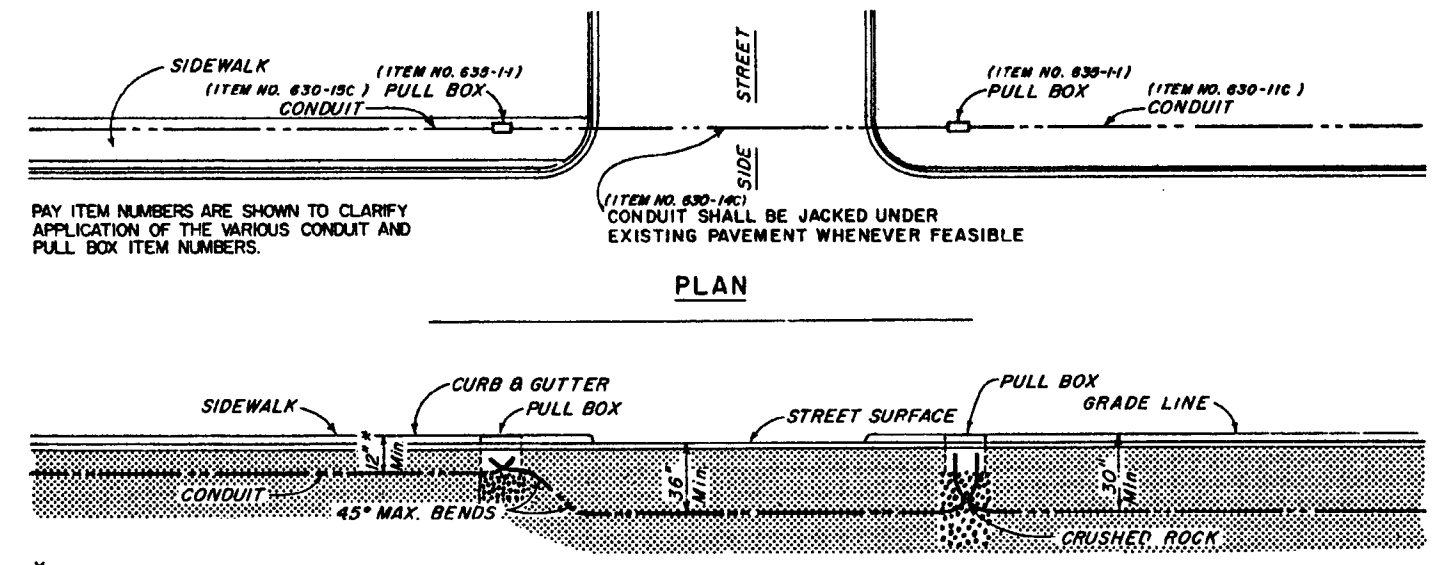
\* PULL BOX SPACING SHOULD BE ADJUSTED IN THE FIELD TO AVOID PLACING BOXES IN DRIVEWAYS OR CROSS STREETS.



**FIGURE - B**

FOR USE UNDER RAILROADS

NOTE:  
1. PVC CONDUIT TO CONTAIN 6 AWG INSULATED COPPER GROUND WIRE (TW)  
2. A PULL BOX IS REQUIRED ON EACH SIDE OF THE RAILROAD, 12' TO 30' FROM THE OUTSIDE TRACK.



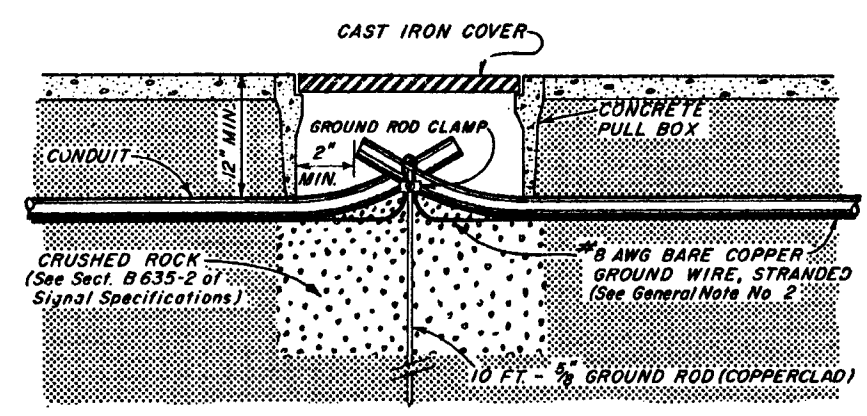
**FIGURE - C**

UNDER SIDEWALK      UNDER ROADWAY      UNDER NON TRAFFIC BEARING SURFACE

\* SEE FIGURE "A" OR FIGURE "E", SHEET 1, FOR MINIMUM DEPTH UNDER SIDEWALKS OR OTHER AREAS NOT EXPOSED TO VEHICULAR TRAFFIC.

NOTE: CONDUIT SHALL BE JACKED UNDER EXISTING PAVEMENT WHENEVER FEASIBLE.

NOTE:  
ONE RUN OF CONDUIT (BETWEEN PULL BOXES) SHALL NOT CONTAIN MORE THAN 360° OF BEND INCLUDING PULL BOX BENDS.



**FIGURE - D**

PULL BOX ENTRY OF CONDUIT UNDER SIDEWALKS

APPROVED BY FHWA, APRIL 15, 1975

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

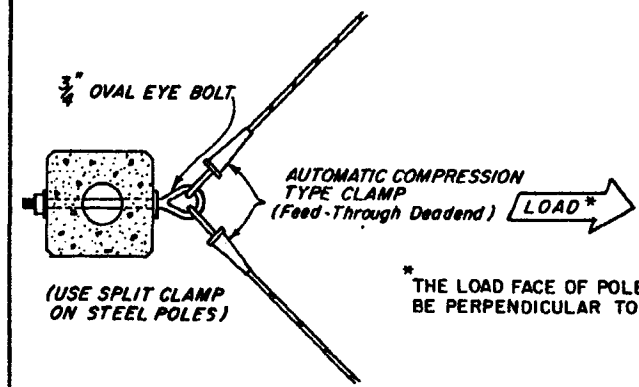
CONDUIT INSTALLATION DETAILS

REVISIONS			INITIALS	DATES
DATE	INITIALS	DESCRIPTION	Designed by	CG 2-26-75
8-11-76	CJ	ADDED PAY ITEM NUMBERS TO FIGURE C, REVISED TITLE BLOCK	Checked by	RK 2-26-75
			Quantities by	
			Checked by	
			Supervised by	RVK

Approved by *R.E. Megala*  
State Traffic Operations Eng.

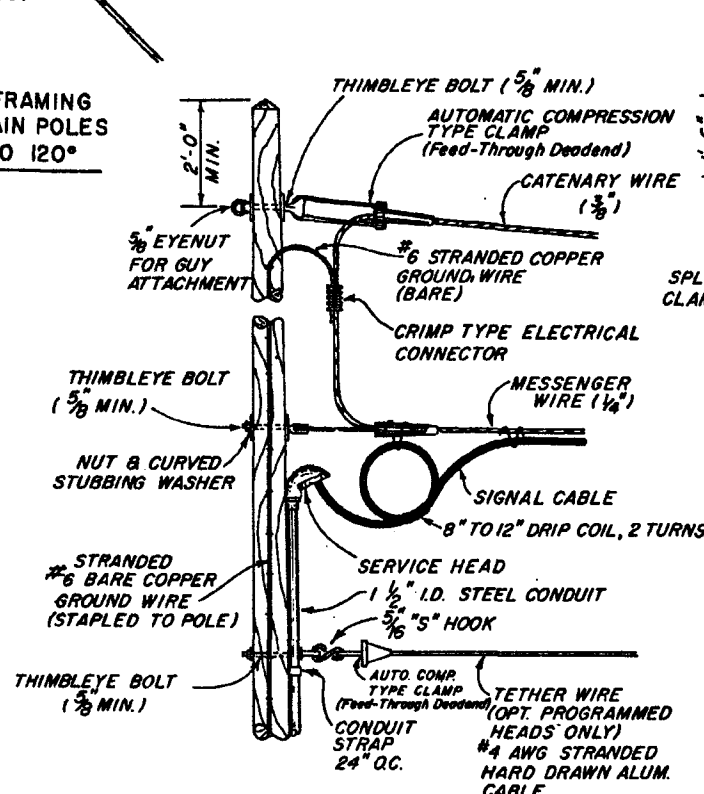
DRAWING NO. 2 OF 2      INDEX NO. 17721

- NOTE**
1. DISTANCE BETWEEN CATENARY WIRE AND MESSENGER WIRE ATTACHMENT LOCATION ON POLE IS 5% OF SPAN PLUS 1 FT.
  2. METAL COLLARS MAY BE USED INSTEAD OF EYEBOLTS WHEN ATTACHING SPAN WIRES TO CONCRETE STRAIN POLES.
  3. EVERY POLE SHALL BE A GROUNDING POINT FOR SPAN WIRE ASSEMBLY.
  4. POLE AND POLE FOUNDATION DETAILS ARE SHOWN FOR THE PURPOSE OF SHOWING GROUNDING AND CABLE ROUTINGS. REFER TO POLE SCHEDULE SHEET FOR THE SPECIFIC POLE AND POLE FOUNDATION DESIGN DETAILS.

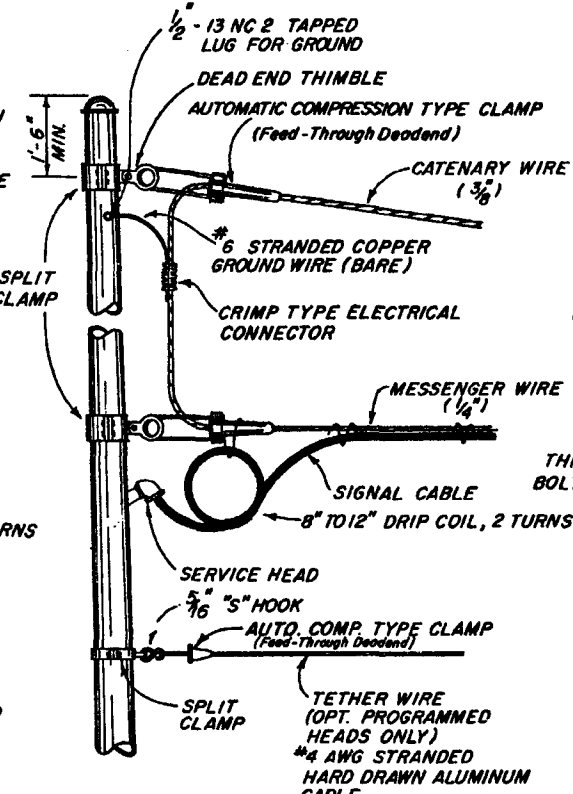


\* THE LOAD FACE OF POLE SHALL BE PERPENDICULAR TO LOAD

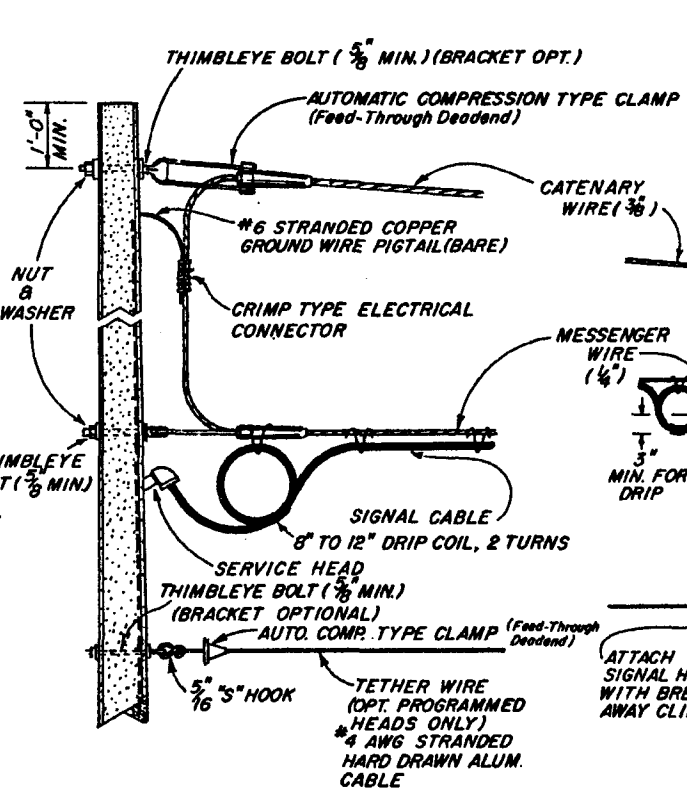
METHOD OF FRAMING CORNER STRAIN POLES ANGLES 10° TO 120°



WOOD POLE



METAL POLE



CONCRETE POLE

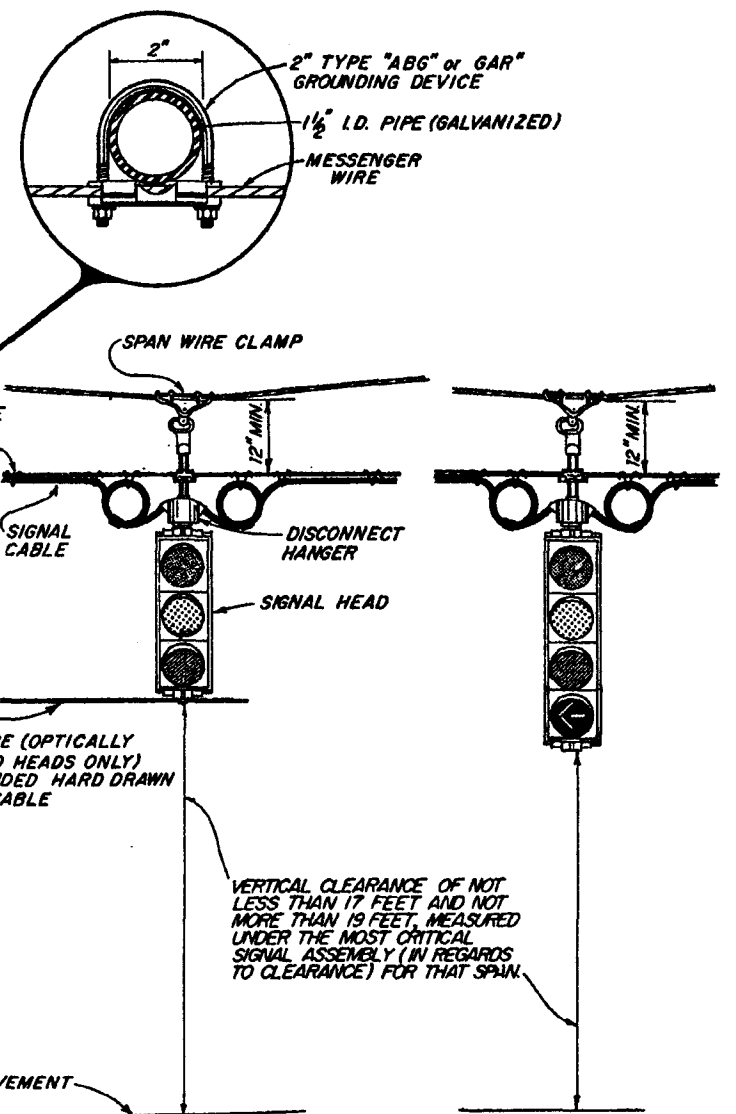


FIGURE - D

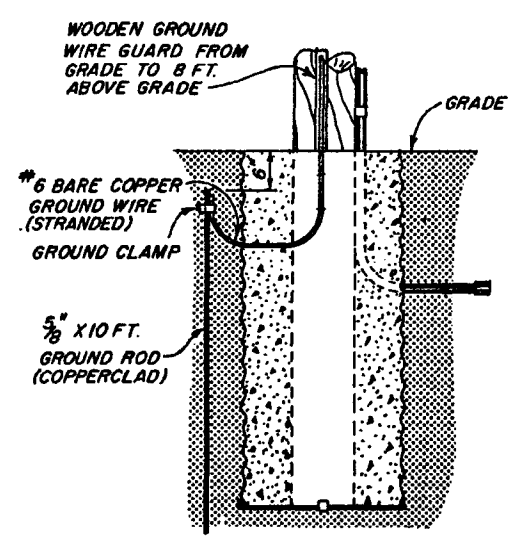


FIGURE - A

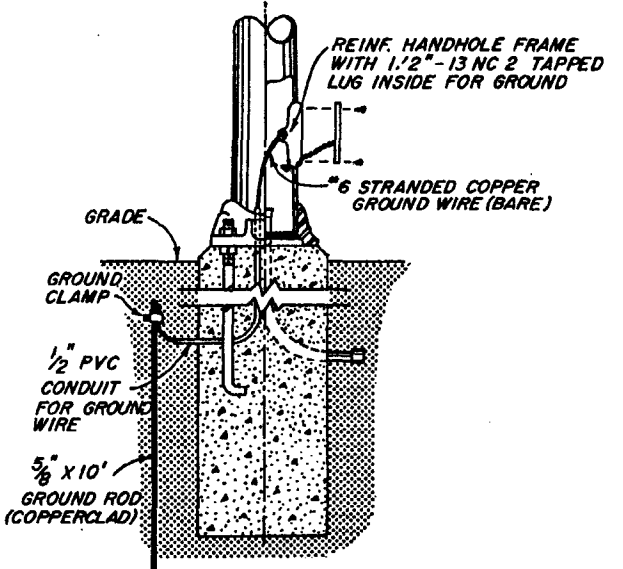


FIGURE - B

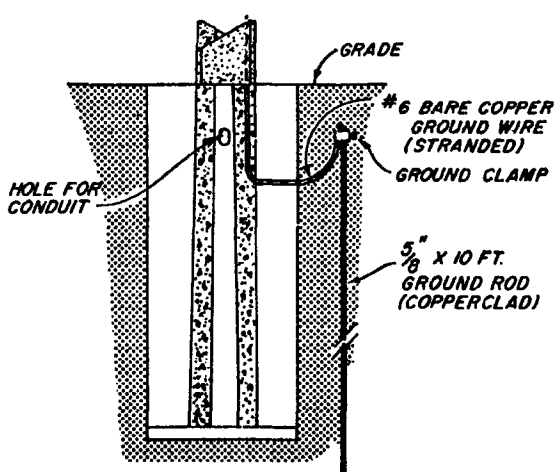


FIGURE - C

APPROVED BY FHWA APRIL 2, 1975  
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

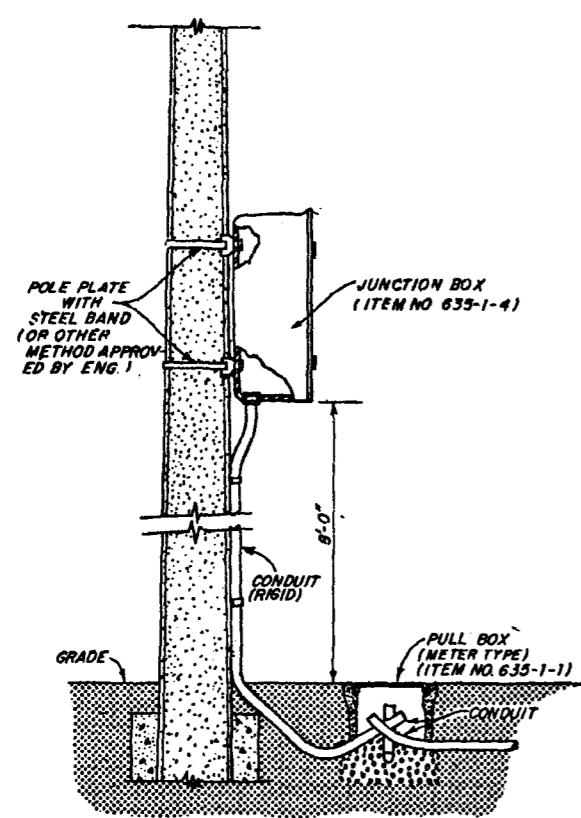
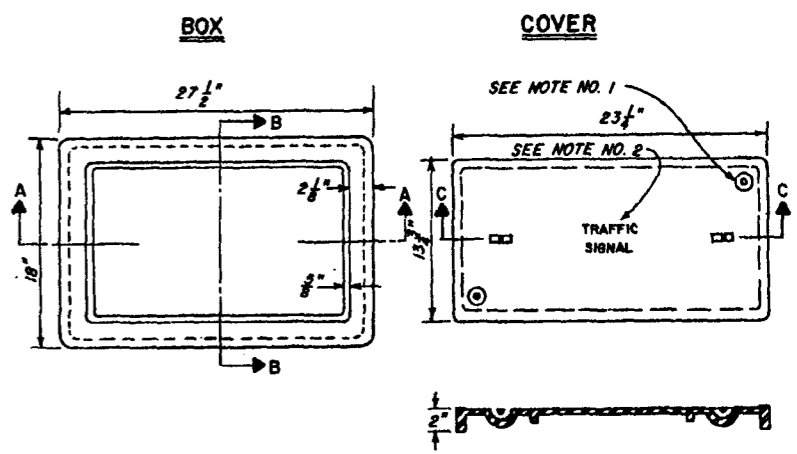
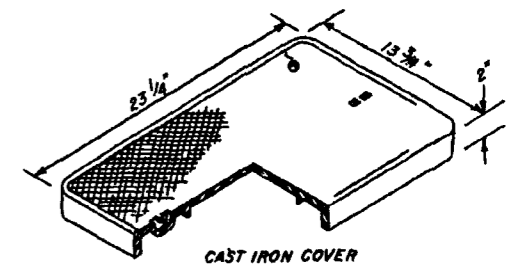
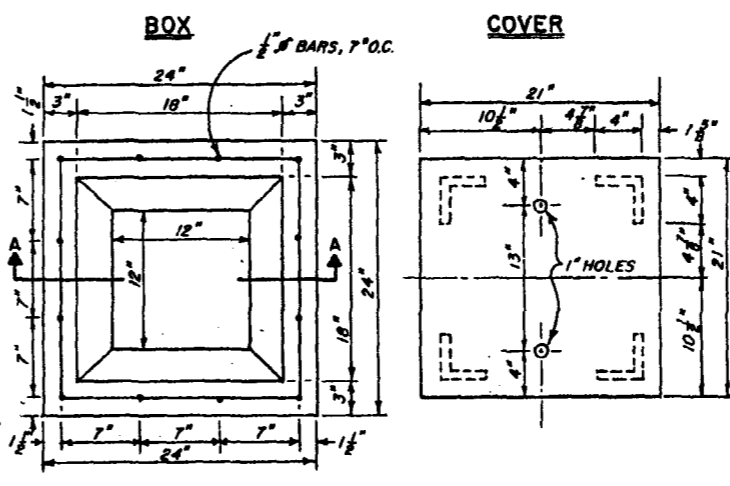
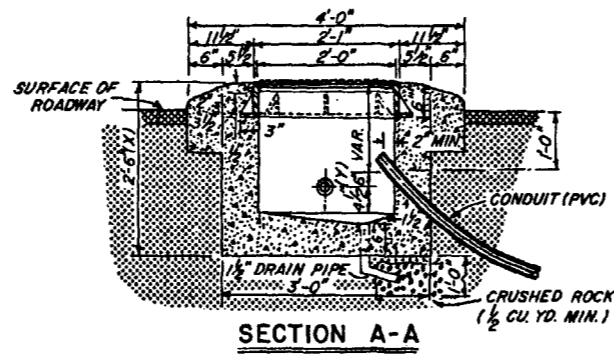
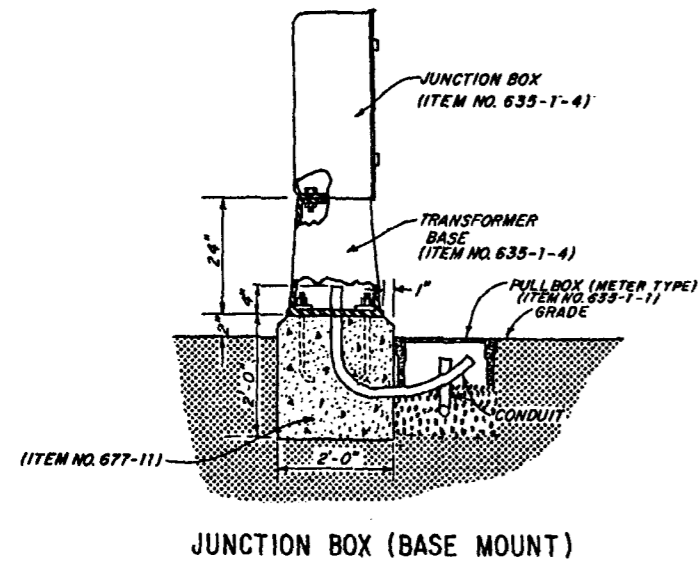
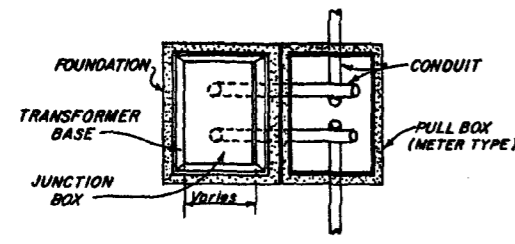
**SIGNAL CABLE & SPAN WIRE INSTALLATION DETAILS**

REVISIONS			INITIALS	DATES	Recommended for approval by <i>[Signature]</i> Deputy Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION			
8-14-75	CG	SLIP JOINT FOR DROPPING REDESIGNED, DRIP COIL TO 2 TURNS, NOTE #2 & #4 REWARDED.	Designed by	CG	2/28/75
8-16-75	CJ	ADDED 4 SECTION HEAD AND VERTICAL CLEARANCE NOTE, CHANGED SPLIT JOINT DETAIL TO "RIB CLAMP" CHANGED DROPPING DIMENSION FIGURE-D	Checked by	RK	2/28/75
			Quantities by		
			Checked by		
			Supervised by	RVK	

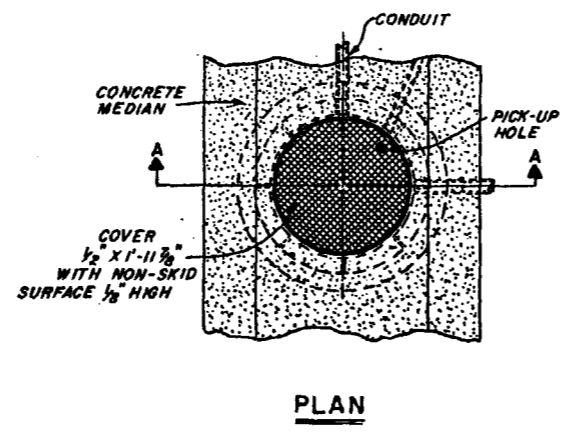
Approved by *[Signature]*  
State Traffic Operations Engr.

DRAWING NO. \_\_\_\_\_ INDEX NO. \_\_\_\_\_  
1 OF 1 17727



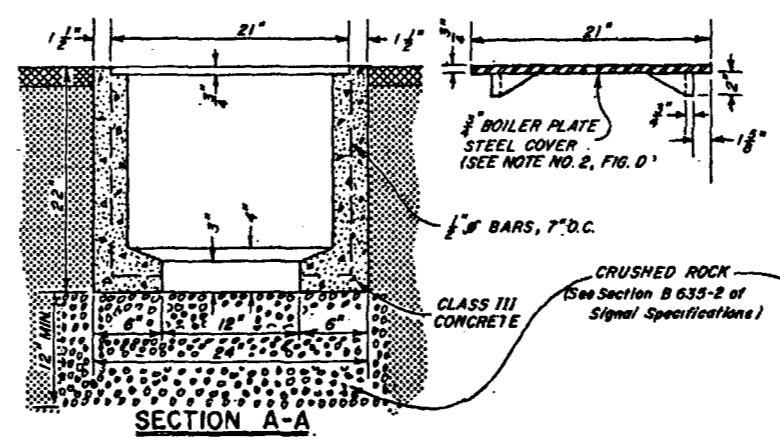


**FIGURE A**

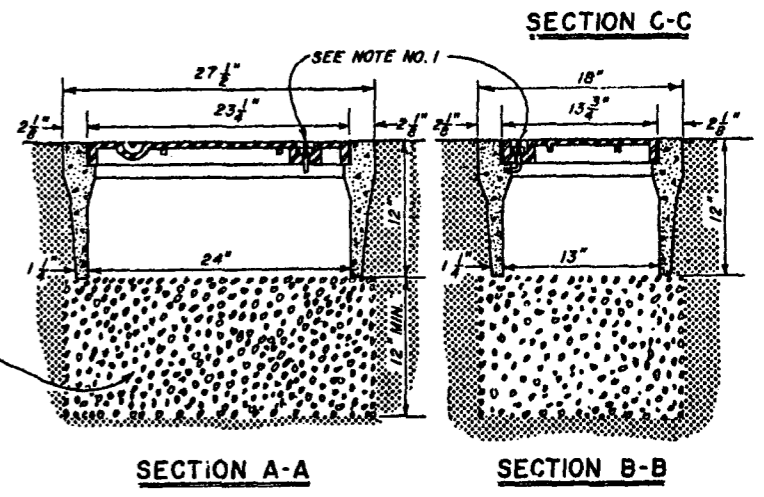


**FIGURE B**

- NOTES:**
1. FOR USE IN CONCRETE MEDIANS OR WHEN MANHOLE WILL NOT BE SUBJECTED TO WHEEL LOADS.
  2. FOR USE AT LOCATIONS OTHER THAN CONCRETE MEDIANS, DIMENSION (X) WILL BE INCREASED TO 3'-0" AND DIMENSION (Y) TO 9".



**TRAFFIC TYPE PULL BOX**  
(ITEM NO. 635-1-2)  
**FIGURE C**



**METER TYPE PULL BOX (NON-TRAFFIC TYPE)**  
(ITEM NO. 635-1-1)  
**FIGURE D**

- NOTES**
1. BRASS "L" BOLTS AND NUTS IN DIAGONAL CORNERS; TWO REQUIRED.
  2. COVER TO BE MARKED "TRAFFIC SIGNAL."

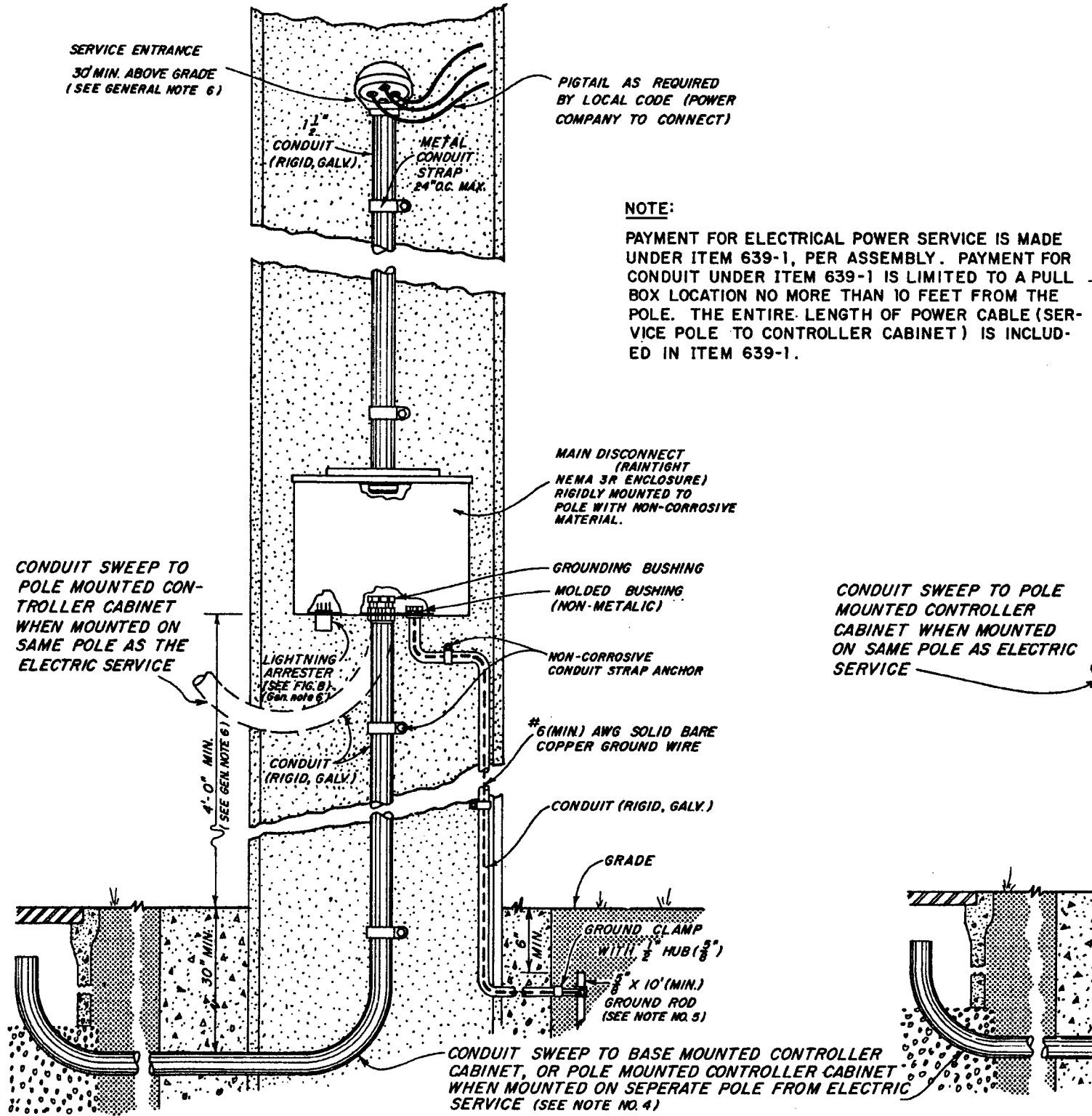
APPROVED BY FHWA MAY 6, 1975

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

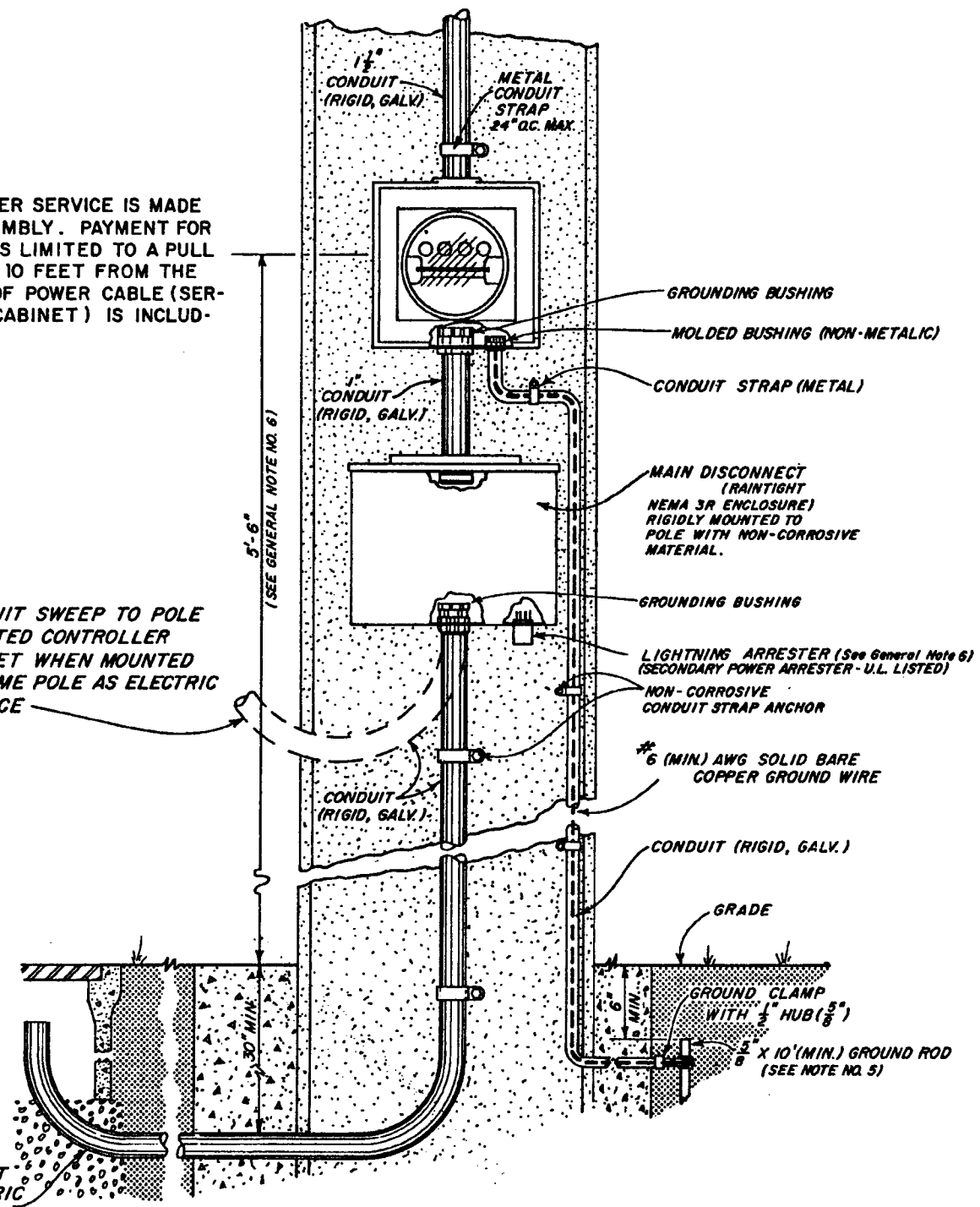
PULL BOX DETAILS

REVISIONS			INITIALS	DATES	Recommended for approval by <i>R.E. Anderson</i> 2/28/75 Deputy Traffic Operations Engr. Approved by <i>E.L. Owens</i> 2/28/75 State Traffic Operations Engr.	
DATE	INITIALS	DESCRIPTION	Designed by	CG		2-27-75
			Checked by	RK		2-28-75
			Quantities by			
			Checked by			
			Supervised by	RVK		

DRAWING NO. \_\_\_\_\_ INDEX NO. \_\_\_\_\_  
1 OF 1      17730



**FIGURE - A**  
(NO METER USED)



**FIGURE - B**  
(METER USED)

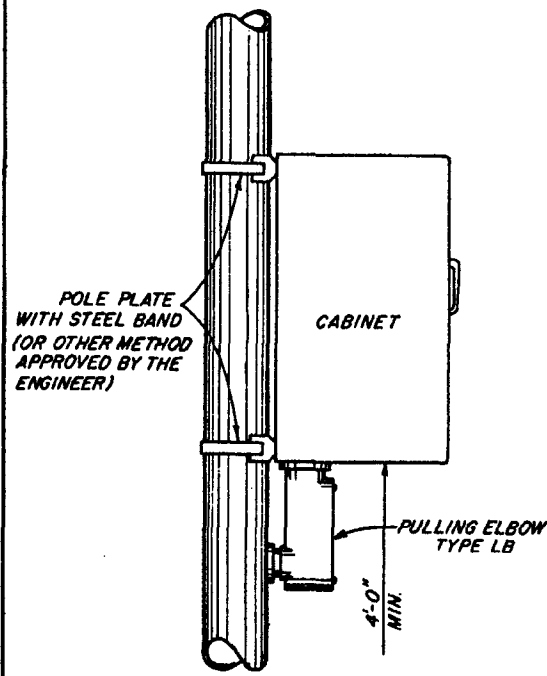
**GENERAL NOTES**

- GROUND WIRE IS TO BE CONNECTED TO ELECTRIC SERVICE NEUTRAL IN ACCORDANCE WITH LOCAL CODE.
- GROUND ROD MUST BE INSTALLED OUTSIDE THE POLE FOUNDATION.
- THE ELECTRIC SERVICE CABLE MUST ENTER THE CONTROLLER CABINET THROUGH A SEPARATE CONDUIT FROM THE SIGNAL CONTROL CABLE.
- THE UNDERGROUND CONDUIT SHALL BE INSTALLED SO AS TO HAVE NO SAGS THAT WILL ENTRAP OR COLLECT WATER.
- ALL GROUND RODS SHALL CARRY THE UNDERWRITERS LABORATORY SEAL, AND SHALL BE SOLID COPPER OR COPPER BONDED STEEL. COPPER BONDED STEEL GROUND RODS SHALL HAVE A PURE COPPER JACKET OF 0.010" MINIMUM THICKNESS PERMANENTLY BONDED, ELECTRICALLY AND MECHANICAL, TO THE STEEL CORE. ALL GROUND ROD CLAMPS SHALL MEET OR EXCEED U.L. SPECIFICATIONS AND SHALL BE STAMPED WITH THE WIRE SIZE AND GROUND ROD SIZE FOR WHICH THEY WERE DESIGNED. WHERE ONE OR MORE SECTIONS ARE CONNECTED TO OBTAIN AN ADEQUATE GROUND ROD, EACH SECTION SHALL BE U.L. LISTED, AND SHALL BE SPECIFICALLY DESIGNED TO BE A SECTIONAL GROUND ROD. ALL SECTIONAL GROUND ROD COUPLING DEVICES SHALL BE U.L. LISTED.
- DETAILS FOR ELECTRIC POWER SERVICE SHOWN ARE SUBJECT TO CHANGE IN ORDER TO COMPLY WITH LOCAL POWER COMPANY STANDARD PRACTICES FOR SUCH INSTALLATIONS.

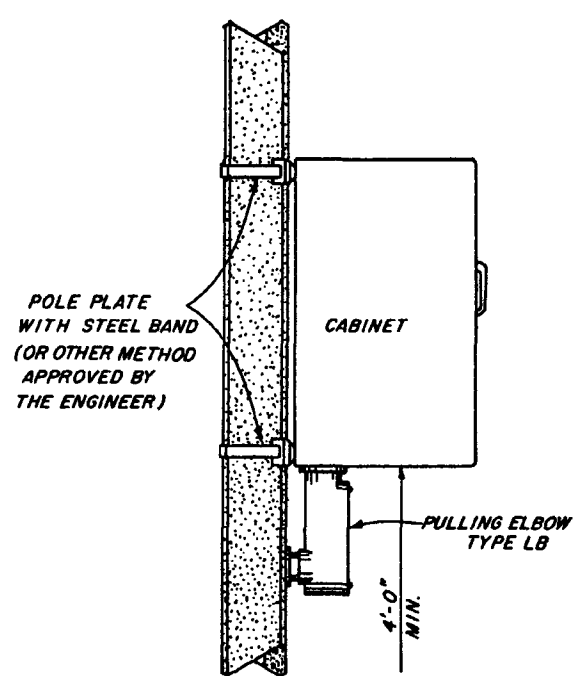
APPROVED BY FHWA, AUG. 7, 1975

**FLORIDA DEPARTMENT OF TRANSPORTATION**  
TRAFFIC OPERATIONS  
**ELECTRIC POWER SERVICE INSTALLATION DETAILS**

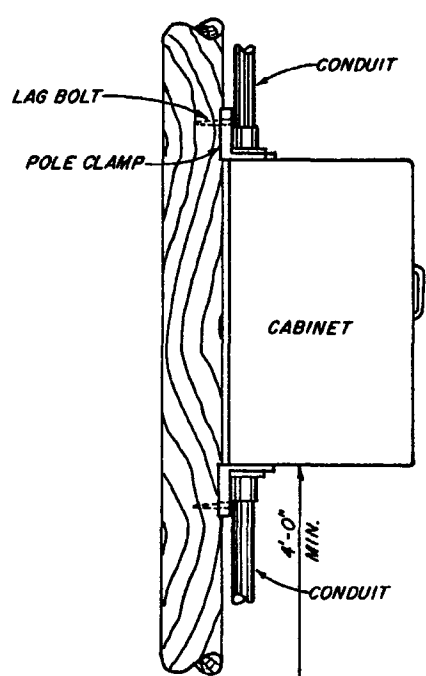
REVISIONS			INITIALS	DATES	Recommended for approval by <i>Donald E. Massey</i> Deputy Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION	DESIGNED BY	DATE	
8-21-75	ck	ADDED NOTE NO. 5; LIGHTNING ARRESTER NOTATION	CG	4-10-75	Approved by <i>[Signature]</i> State Traffic Operations Engr.
			RK	4-10-75	
			Checked by		
			Supervised by	RVK	
			DRAWING NO.	INDEX NO.	
			1 OF 1	17736	



METAL POLE



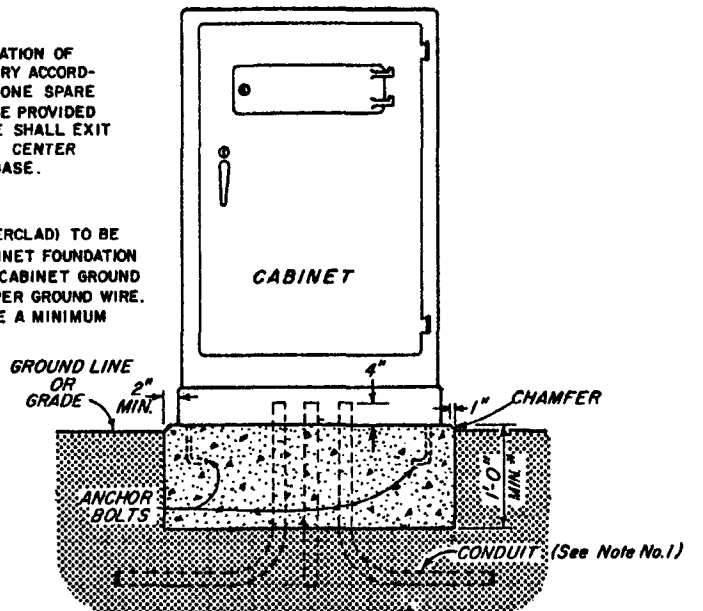
CONCRETE POLE



WOOD POLE

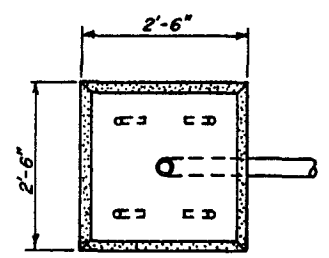
**NOTE NO. 1**  
 NUMBER, SIZE AND ORIENTATION OF CONDUIT SWEEPS WILL VARY ACCORDING TO SITE CONDITIONS. ONE SPARE 2" PVC CONDUIT SHALL BE PROVIDED IN ALL BASES. THE SPARE SHALL EXIT IN THE DIRECTION OF THE CENTER REAR OF THE CABINET BASE.

**NOTE NO. 2**  
 3/4" x 10' GROUND ROD (COPPERCLAD) TO BE LOCATED OUTSIDE THE CABINET FOUNDATION AND CONNECTED TO THE CABINET GROUND LUG BY A #4 BARE COPPER GROUND WIRE. TOP OF GROUND ROD TO BE A MINIMUM OF 6" BELOW GRADE.

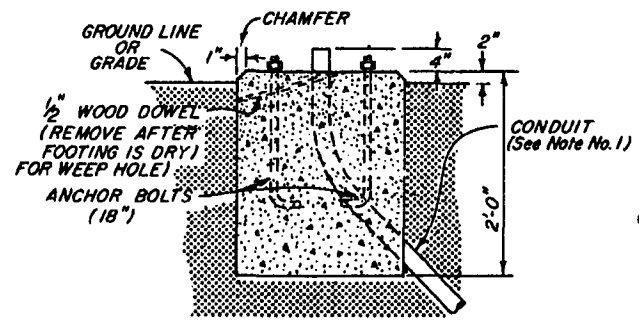


FRONT VIEW

**POLE MOUNT**

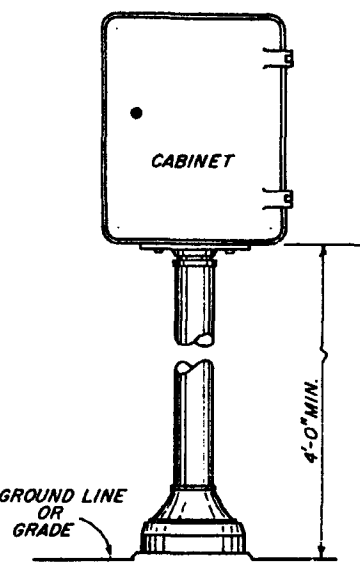


PLAN

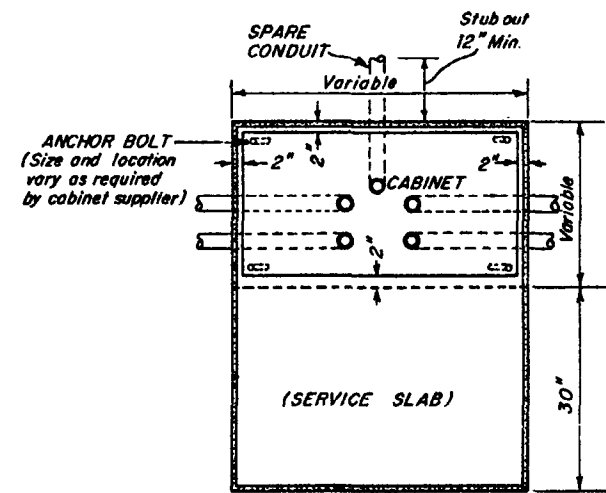


CONCRETE FOOTING FOR PEDESTALS

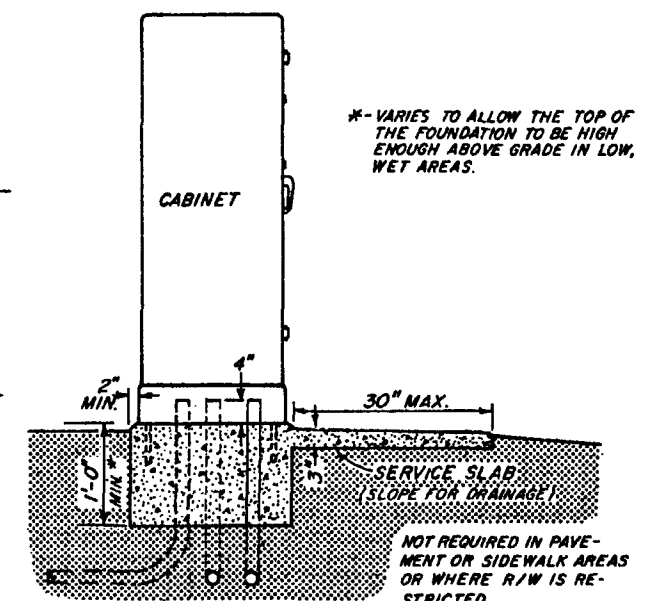
**PEDESTAL MOUNT**



FRONT VIEW



PLAN



SIDE VIEW

**BASE MOUNT**

APPROVED BY FHWA JUNE 11, 1975

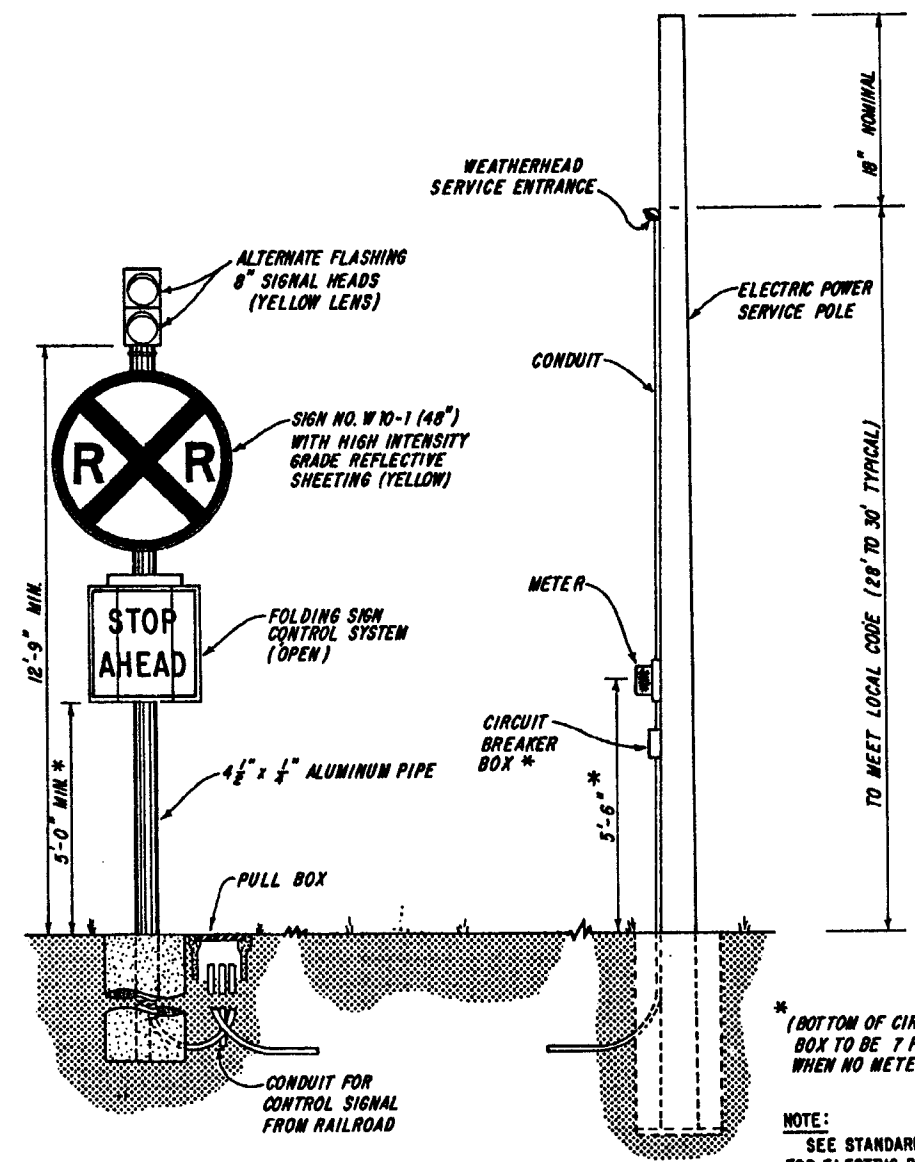
FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS

**CABINET INSTALLATION DETAILS**

REVISIONS			INITIALS	DATES	Recommended for approval by <i>Ronald E. Masada</i> Deputy Traffic Operations Eng. Approved by <i>[Signature]</i> State Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION			
			Designed by	CG 5-6-75	
			Checked by	RK 5-6-75	
			Quantities by		
			Checked by		
			Supervised by		

DRAWING NO. \_\_\_\_\_ INDEX NO. \_\_\_\_\_  
 1 OF 1 17841





\* REFER TO CASE I, II, or III IN STANDARD INDEX NO. 17302A.

\* (BOTTOM OF CIRCUIT BREAKER BOX TO BE 7 FT. ABOVE GRADE WHEN NO METER IS USED)

NOTE: SEE STANDARD INDEX NO. 17736 FOR ELECTRIC POWER SERVICE INSTALLATION DETAILS.

**TYPICAL POWER SERVICE**

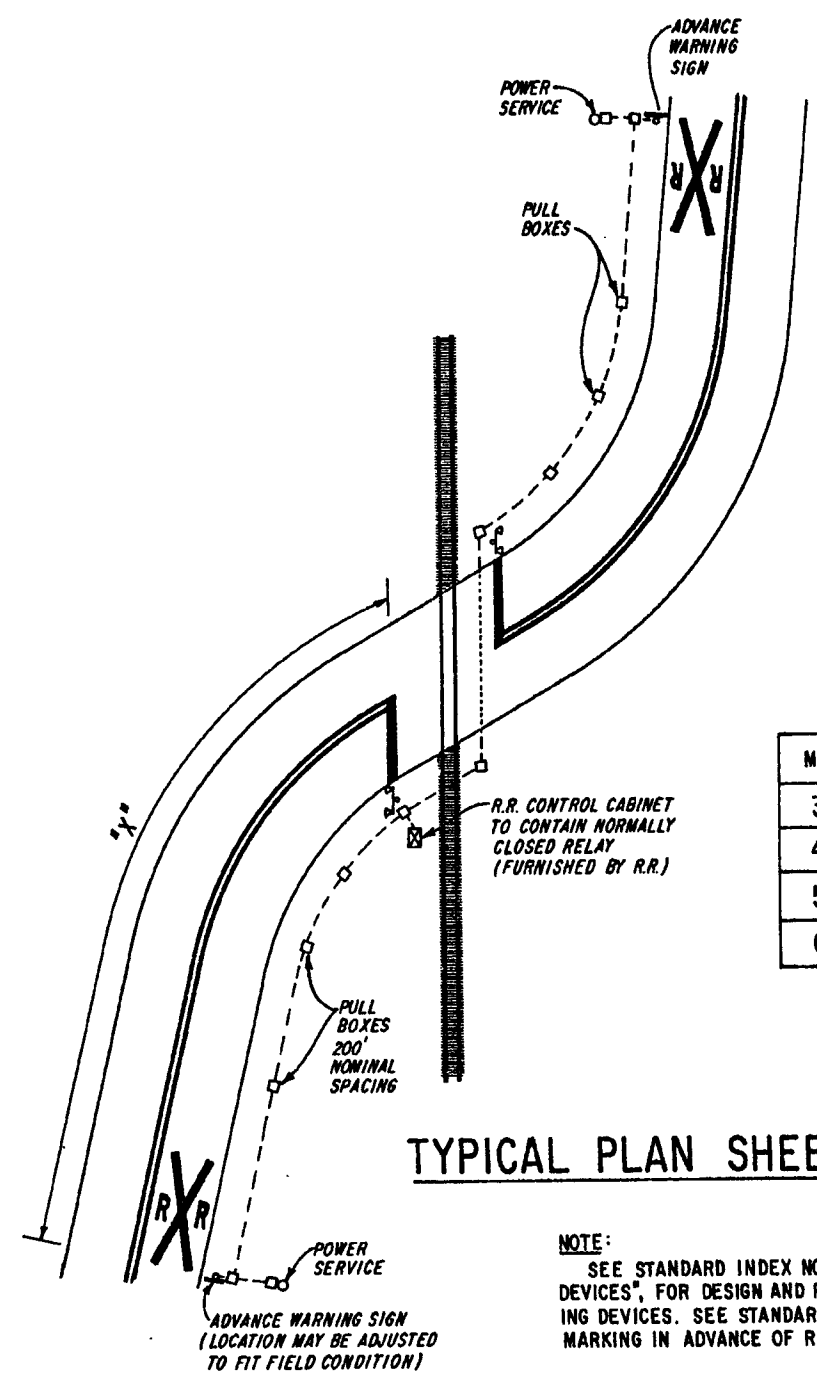


TABLE OF DIMENSION "X"

MPH	"X" (FEET)	
	DESIRABLE	MINIMUM
30	200	200
40	300	275
50	450	350
60	650	475

**TYPICAL PLAN SHEET**

NOTE: SEE STANDARD INDEX NO. 6PD-01, "GRADE CROSSING WARNING DEVICES", FOR DESIGN AND PLACEMENT OF GRADE CROSSING WARNING DEVICES. SEE STANDARD INDEX NO. 17346A FOR PAVEMENT MARKING IN ADVANCE OF RAILROAD GRADE CROSSINGS.

APPROVED BY FHWAY FEBRUARY 24, 1976

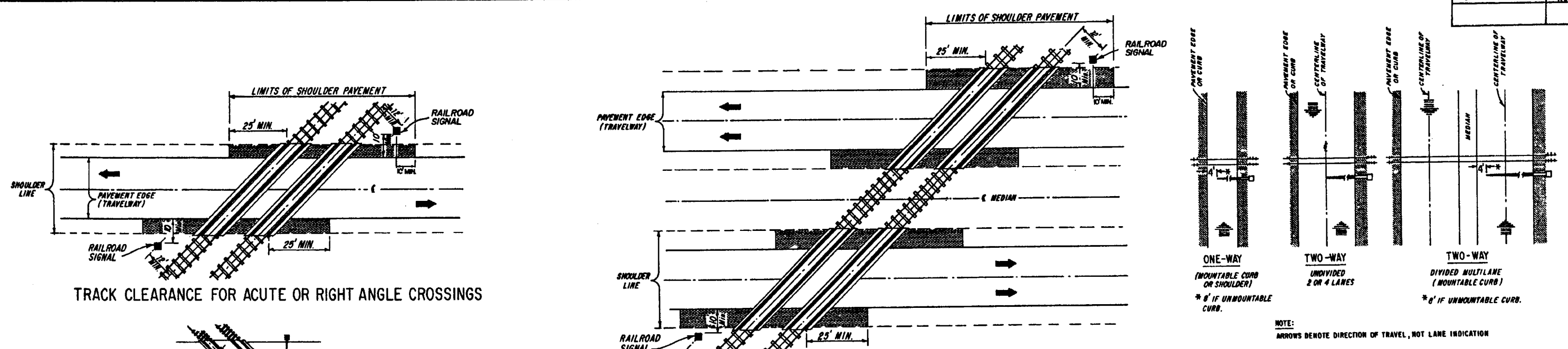
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

**ADVANCE WARNING FOR R.R. CROSSING**

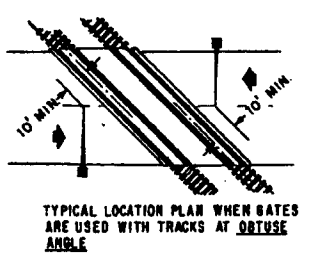
REVISIONS			INITIALS	DATES	Recommended for approval by <i>R. P. Maguire 2/15/76</i> Deputy Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION	Designed by	CG	
			Checked by	REM-RVK	12/16/75
			Quantities by		
			Checked by		
			Supervised by	REM	

Approved by *E. L. Owen 2/16/76*  
State Traffic Operations Engr.

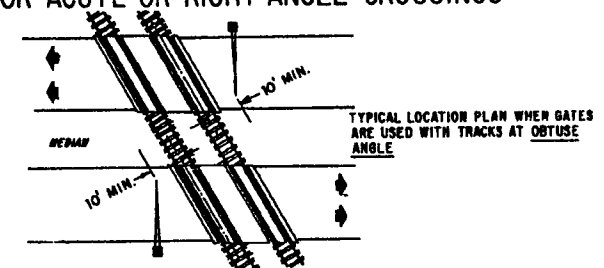
DRAWING NO. 2 OF 2 INDEX NO. 17881



**FIGURE 1**  
GATE LENGTH REQUIREMENTS

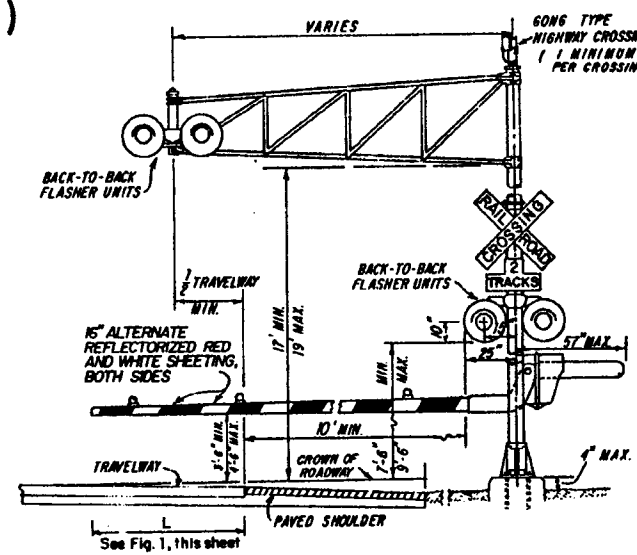
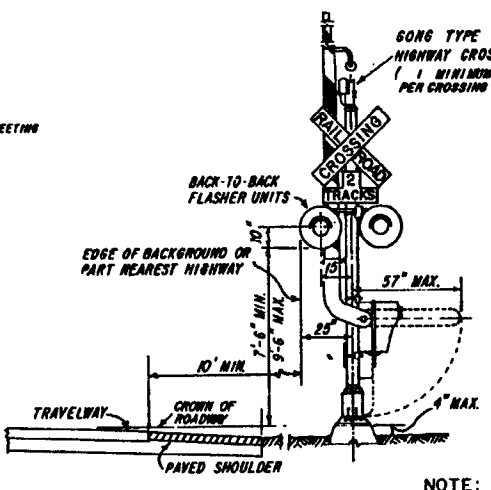
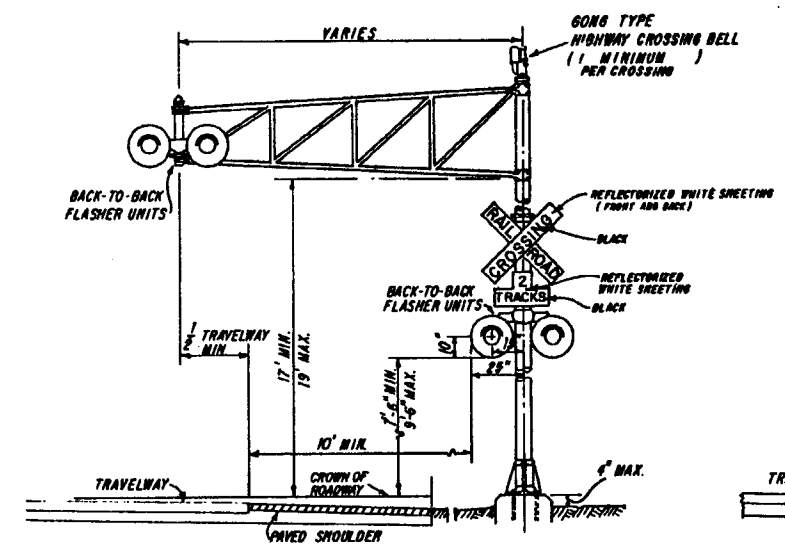
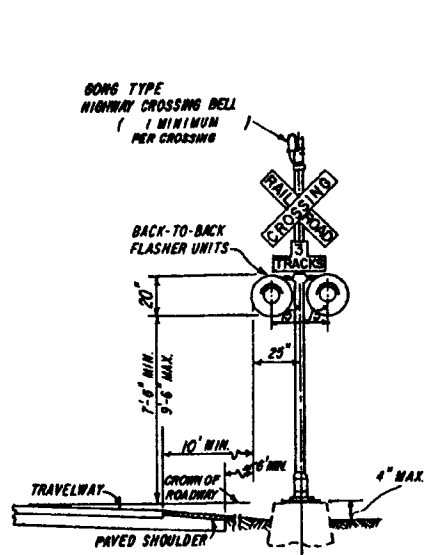


**NOTE:**  
IT IS INTENDED THAT THE FULL SHOULDER WIDTH OF THE EXISTING ROADWAY BE PAVED. WHERE AN EXISTING SHOULDER IS SUBSTANTIALLY SUBSTANDARD FOR THE FACILITY INVOLVED, THE SHOULDER WIDTH SHOULD BE UPGRADED TO MEET CURRENT STANDARDS.



**SIGNAL PLACEMENT AT RAILROAD CROSSING (2-LANE DESIGN)**

**SIGNAL PLACEMENT AT RAILROAD CROSSING (4-LANE DESIGN)**



**NOTE:**  
TWO SEPARATE FOUNDATIONS MAY BE REQUIRED (ONE FOR SIGNALS, ONE FOR GATE), DEPENDING ON TYPE OF EQUIPMENT USED.

**GENERAL NOTES**

- NO GUARDRAIL IS PROPOSED FOR SIGNALS; HOWEVER, SOME FORM OF IMPACT ATTENUATION DEVICE MAY BE SPECIFIED FOR CERTAIN LOCATIONS.
- ADVANCE FLASHER TO BE INSTALLED WHEN AND IF CALLED FOR IN PLANS OR SPECIFICATIONS.
- TOP OF FOUNDATION TO BE AT THE SAME ELEVATION AS THE SURFACE OF THE TRAVELWAY AND/OR NO MORE THAN 4" ABOVE THE SURFACE OF THE GROUND.
- TYPE OF TRAFFIC CONTROL DEVICES**
  - FLASHING SIGNALS
  - FLASHING SIGNALS WITH CANTILEVER
  - FLASHING SIGNALS WITH GATE
  - FLASHING SIGNALS WITH CANTILEVER & GATE
  - GATE
- CLASS OF TRAFFIC CONTROL DEVICES**
  - FLASHING SIGNALS-ONE TRACK
  - FLASHING SIGNALS-MULTIPLE TRACKS
  - FLASHING SIGNALS AND GATES- ONE TRACK
  - FLASHING SIGNALS AND GATES- MULTIPLE TRACKS
- SIX LANE GRADE CROSSINGS ARE SPECIAL CONDITIONS. PLACEMENT OF RAILROAD TRAFFIC CONTROL DEVICES ARE NOT COVERED UNDER THIS INDEX.

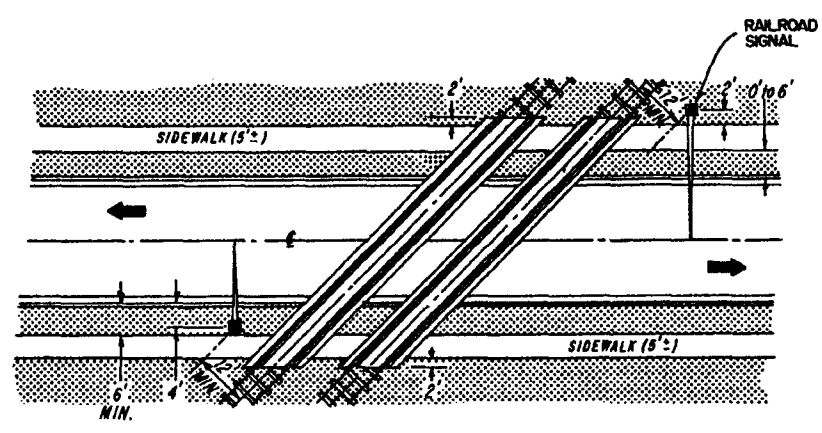
APPROVED BY FHWA JULY 29, 1976

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS  
RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES

REVISIONS			INITIALS	DATES
DATE	INITIALS	DESCRIPTION	Designed by	CG 4-8-76
7-19-77	J.J.	ADDED GONG TYPE HIGHWAY CROSSING BELL	Checked by	RM 4-8-76
			Quantities by	
			Checked by	
			Supervised by	REM

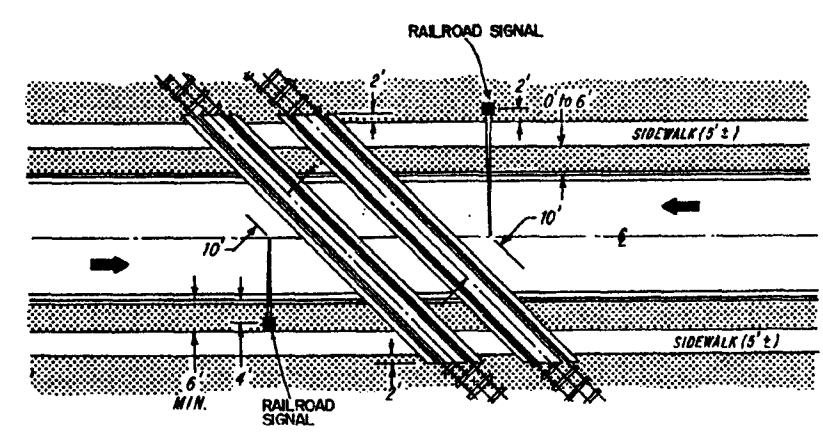
Recommended for approval by *R.L. Magallon* 6/15/76  
Deputy Traffic Operations Engr.  
Approved by *R.L. Magallon*  
State Traffic Operations Engr.

DRAWING NO. INDEX NO.  
1 OF 2 17882



ACUTE ANGLE (AND RIGHT ANGLE)

SIGNAL PLACEMENT AT RAILROAD CROSSING (2 LANES, CURB & GUTTER)

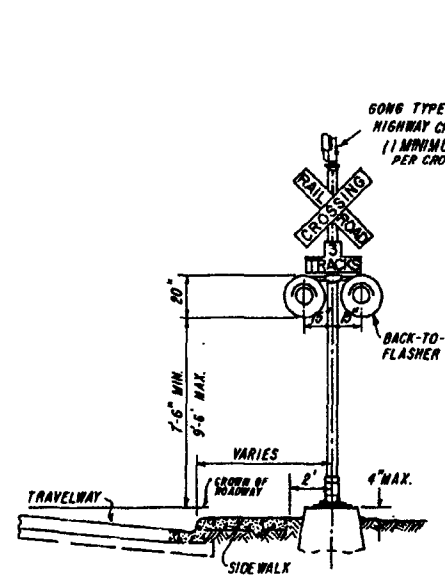


OBTUSE ANGLE

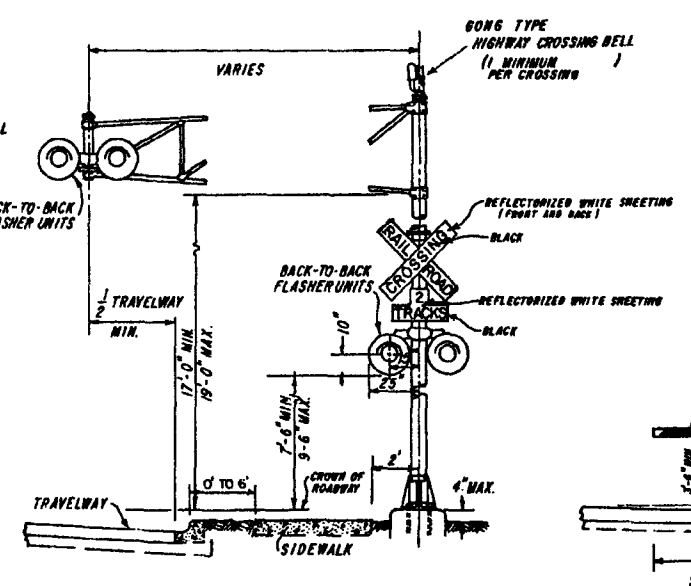
SIGNAL PLACEMENT AT RAILROAD CROSSING (2 LANES, CURB & GUTTER)

GENERAL NOTES

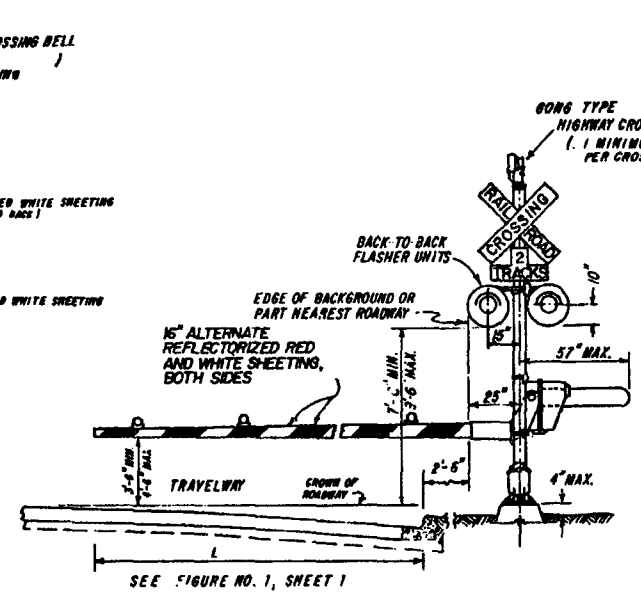
7. WHERE PLANS CALL FOR RAILROAD TRAFFIC CONTROL DEVICES TO BE INSTALLED IN CURBED MEDIANS, THE MINIMUM OFFSET FROM FACE OF CURB TO CENTER OF SUPPORT SHALL BE 4'-7", AS SHOWN FOR RIGHT SIDE INSTALLATIONS.
8. LOCATION OF RAILROAD TRAFFIC CONTROL DEVICE IS BASED ON THE DISTANCE AVAILABLE BETWEEN FACE OF CURB & SIDEWALK.
  - 0' TO 6' - LOCATE DEVICE OUTSIDE SIDEWALK.
  - OVER 6' - LOCATE DEVICE BETWEEN FACE OF CURB AND SIDEWALK.
9. STOP LINE TO BE PARALLEL TO TRACKS, APPROX. 15' FROM NEAREST RAIL; OR 8' FROM AND PARALLEL TO GATE IF PRESENT. (SEE INDEX 17346)



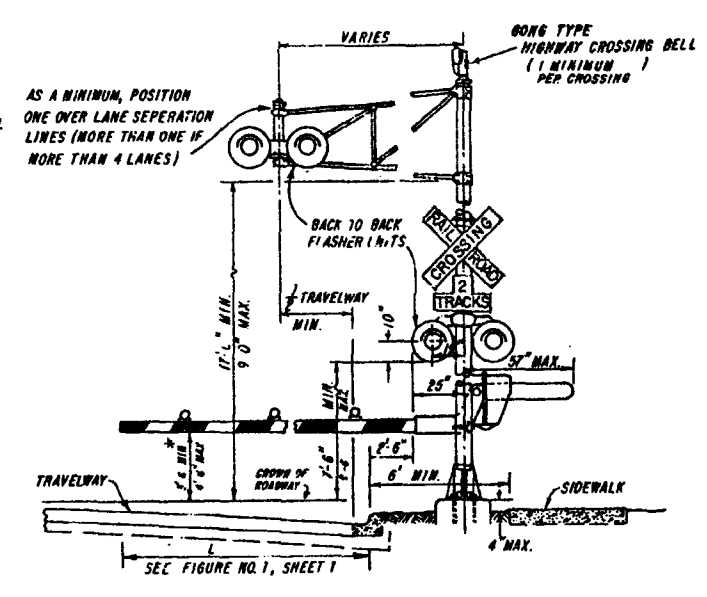
TYPE I



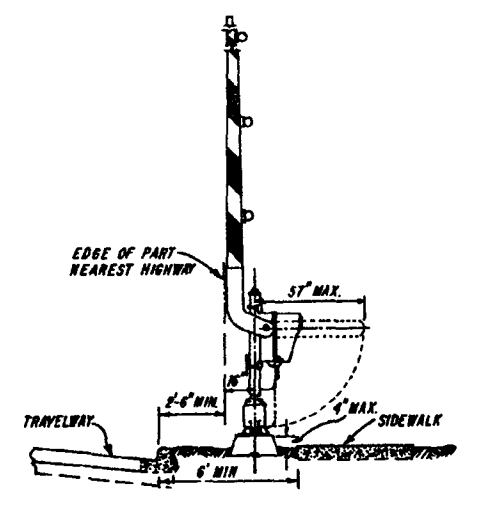
TYPE II



TYPE III



TYPE IV



TYPE V

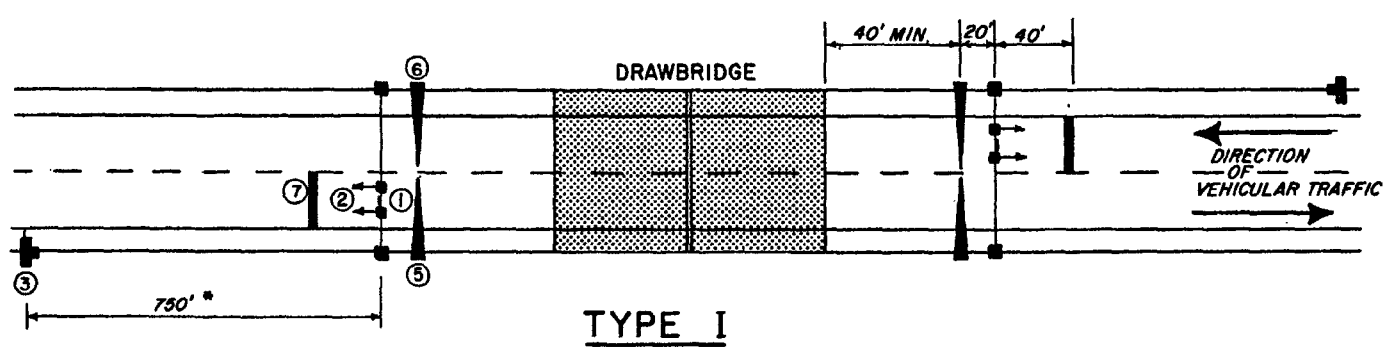
APPROVED BY FHWA JULY 29, 1978

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS  
RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES

REVISIONS			INITIALS	DATES	Recommended for approval by <i>R.E. Magalen</i> 6/25/78 Deputy Traffic Operations Engr. Approved by <i>S.J. Duncan</i> 6/25/78 State Traffic Operations Engr.
DATE	INITIALS	DESCRIPTION			
7-19-77	J.J.	ADDED GONG TYPE HIGHWAY CROSSING BELL	CG	4-8-76	
			RM	4-8-76	
			Supervised by	REM	DRAWING NO. INDEX NO. 2 OF 2 17882

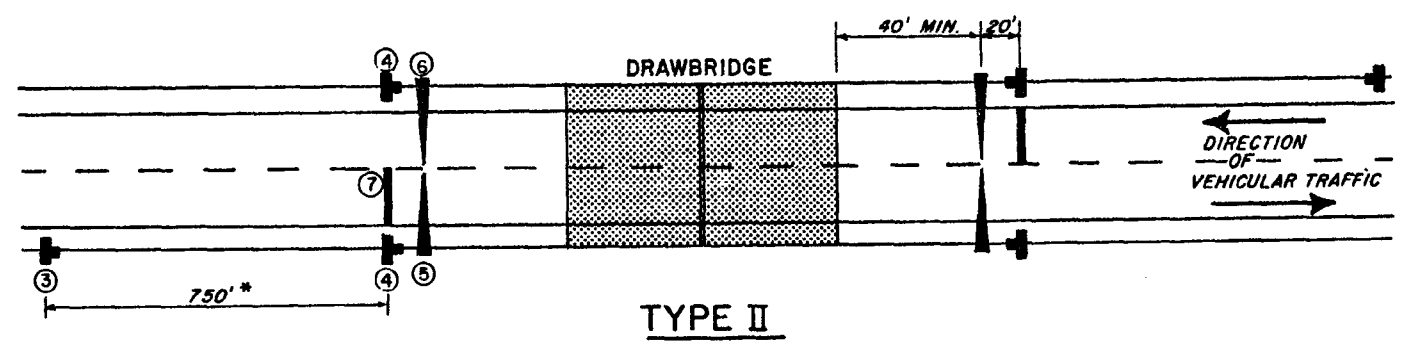
FHWA  
8/24/77

DRAWBRIDGE SIGNALS ARE MANDATORY AS DIRECTED BY SECTION 4E-14, 1971 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. SINCE DRAWBRIDGE OPERATIONS COVER A WIDE RANGE OF TIME PERIODS BETWEEN OPENINGS, TWO TYPES OF SIGNALIZATION ARE APPLICABLE (TYPE I & TYPE II).



**TYPE I**

TO BE USED WHERE BRIDGE OPERATORS ARE FULL TIME OR ON A DAILY BASIS

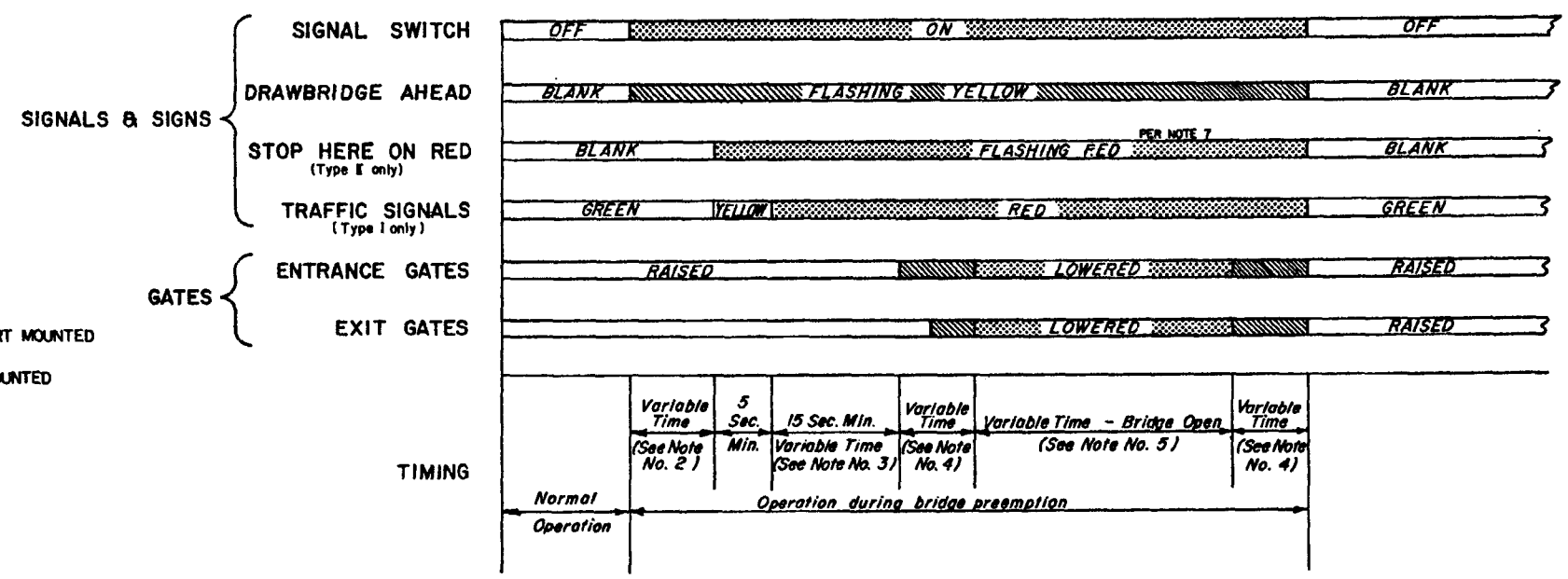


**TYPE II**

TO BE USED WHERE TYPE I IS NOT APPLICABLE (USUALLY WHEN THE BRIDGE OPERATOR IS "ON CALL")

\* FIELD CONDITIONS MAY REQUIRE ADJUSTMENT OF THIS STANDARD DISTANCE.

**SEQUENCE CHART**



- LEGEND**
- ① TRAFFIC SIGNALS MONOTUBE SUPPORT MOUNTED
  - ② DRAWBRIDGE SIGN
  - ③ DRAWBRIDGE AHEAD SIGN GROUND MOUNTED
  - ④ STOP HERE ON RED SIGN
  - ⑤ ENTRANCE GATE
  - ⑥ EXIT GATE
  - ⑦ 24" THERMOPLASTIC STOP BAR

PAYMENT FOR SIGNAL AND GATE ASSEMBLIES TO BE PAID FOR UNDER ITEM NOS.:

- 712-70-ABC MOVEABLE BRIDGE SIGNAL ("TYPE") ASSEMBLY
- A OPERATION TO BE PERFORMED
- 1 FURNISH & INSTALL
  - 2 FURNISH
  - 3 INSTALL
- B INSTALLATION TYPE
- 1 (TYPE I)
  - 2 (TYPE II)
- C NUMBER OF TOTAL LANES TO BE SIGNALIZED
- 1 TWO LANES
  - 2 THREE LANES
- 712-71-AB MOVEABLE BRIDGE GATE ("CLASS") ASSEMBLY
- A OPERATION TO BE PERFORMED
- 1 FURNISH & INSTALL
  - 2 FURNISH
  - 3 INSTALL
- B CLASS GATE AS DESIGNATED BY NUMBER OF APPROACH LANES
- 1 (CLASS I) ONE LANE
  - 2 (CLASS II) TWO LANES
  - 3 (CLASS III) THREE LANES

**NOTES:**

1. "STOP HERE ON RED" is omitted in Type I operation and "TRAFFIC SIGNALS" are omitted in Type II operation.
2. The time between beginning of flashing yellow on "Drawbridge Ahead" sign and the clearance of traffic signal to red, or beginning of flashing red, should not be less than the travel time of a passenger car, from the sign location to the stop line, traveling at the 85 percentile approach speed.
3. Beginning of operation of drawbridge gates shall not be less than 15 seconds after steady red or 20 seconds after flashing red (Actual time may be determined by the bridge tender).
4. Time of gate lowering and raising is dependant upon gate type.
5. Time of bridge opening is determined by the bridge tender.
6. Each gate shall be operated by a separate switch.
7. On each approach (Type II), all four red signals shall be on the same two circuit flasher, with the two top signals on one circuit, and the two bottom signals on the alternately flashing circuit.

APPROVED BY FHWA JUNE 11, 1975

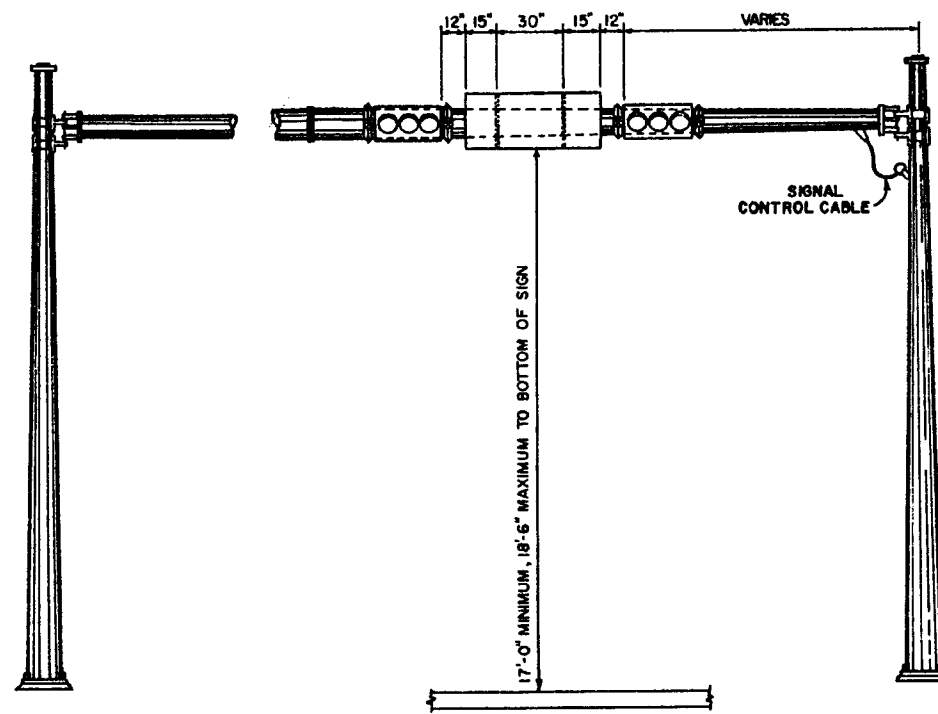
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS  
TRAFFIC CONTROL DEVICES FOR  
MOVEABLE SPAN BRIDGE SIGNALS

REVISIONS			INITIALS	DATES
DATE	INITIALS	DESCRIPTION	Designed by	CG 4-7-75
7-20-76	CEJ	ADDED ITEM 7 TO LEGEND AND PLAN AND ADDED PAYMENT FOR SIGNAL AND GATE ASSEMBLIES & REVISED TITLE BLOCK	Checked by	RK 4-7-75
			Quantities by	
			Checked by	
			Supervised by	RVK

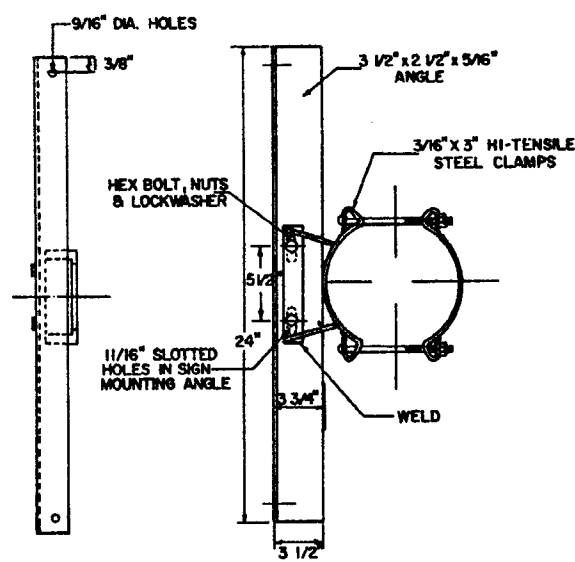
Approved by *RE Magaly* 7/20/76  
State Traffic Operations Engr.

DRAWING NO.	INDEX NO.
1 OF 3	17890



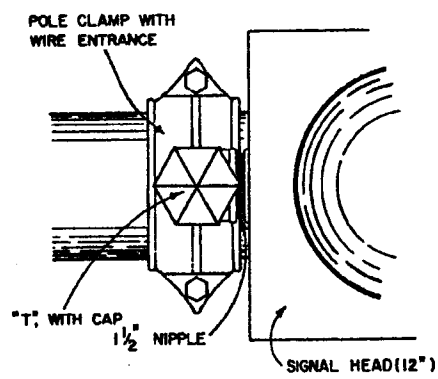


**FIGURE - A**  
MONOTUBE SUPPORT MOUNTING

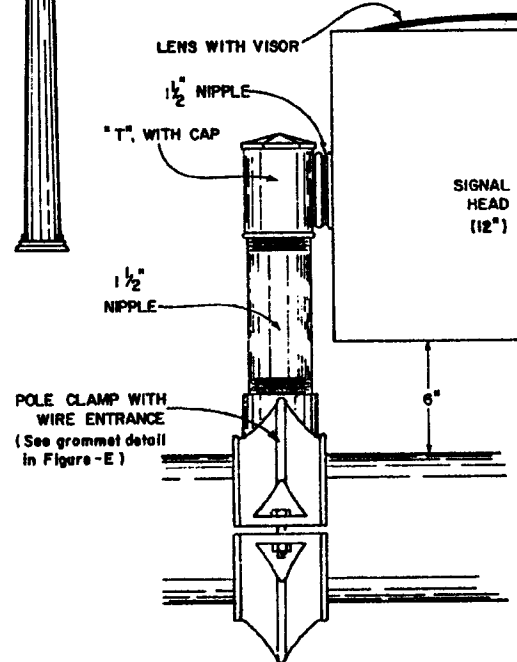


**FIGURE - B**  
SIGN PANEL MOUNTING ASSEMBLY

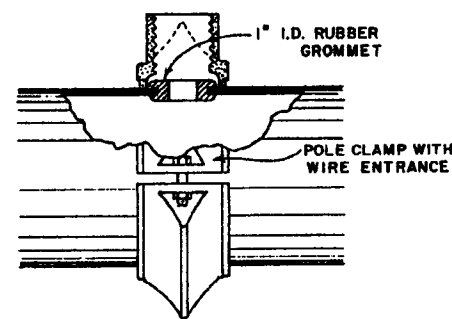
**FIGURE - B**



**FIGURE - C**

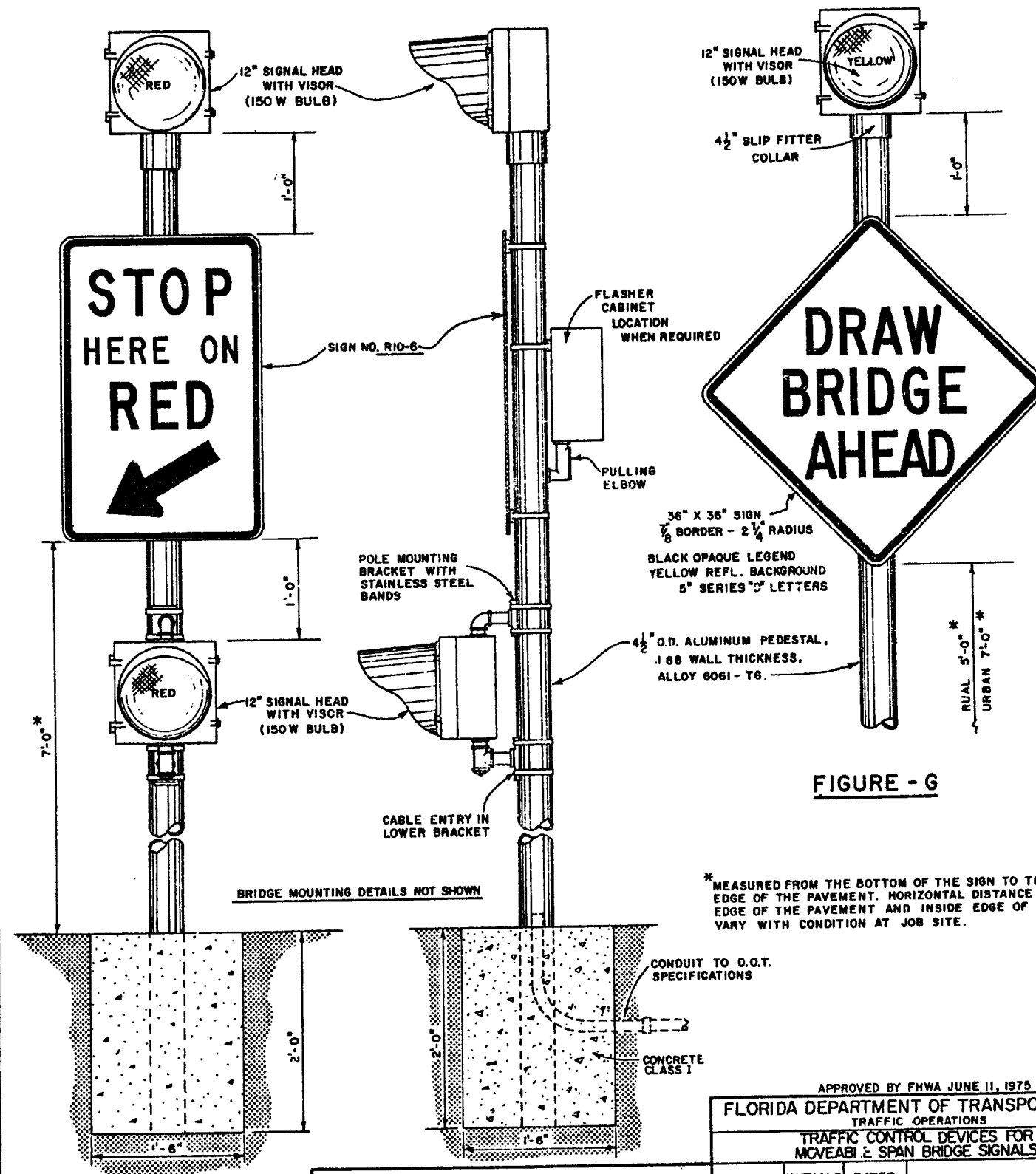


**FIGURE - D**



**FIGURE - E**

**FIGURE - E**  
SIGNAL HEAD MOUNTING ASSEMBLY



**FIGURE - F**

\* MEASURED FROM THE BOTTOM OF THE SIGN TO THE NEAR EDGE OF THE PAVEMENT. HORIZONTAL DISTANCE BETWEEN EDGE OF THE PAVEMENT AND INSIDE EDGE OF SIGN WILL VARY WITH CONDITION AT JOB SITE.

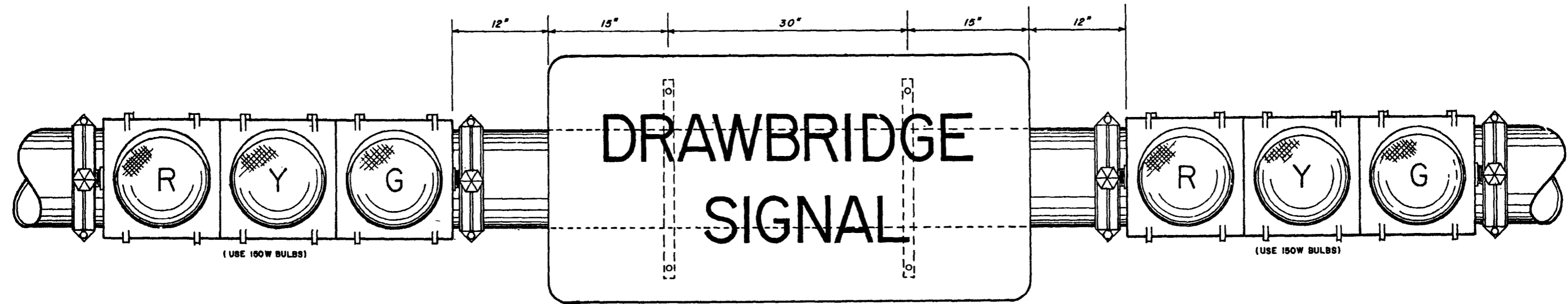
APPROVED BY FHWA JUNE 11, 1975  
**FLORIDA DEPARTMENT OF TRANSPORTATION**  
 TRAFFIC OPERATIONS  
 TRAFFIC CONTROL DEVICES FOR  
 MCVEABI & SPAN BRIDGE SIGNALS

REVISIONS		
DATE	INITIALS	DESCRIPTION
7-20-75	CEJ	REMOVE HEADERS & REVISED TITLE BLOCK

INITIALS	DATES
Designed by CG	4-7-75
Checked by R K	4-7-75
Quantities by	
Checked by	
Supervised by R V K	

Approved by *R.E. Magaley* 7/20/76  
 State Traffic Operations Engr.

DRAWING NO. 2 OF 3	INDEX NO. 17890
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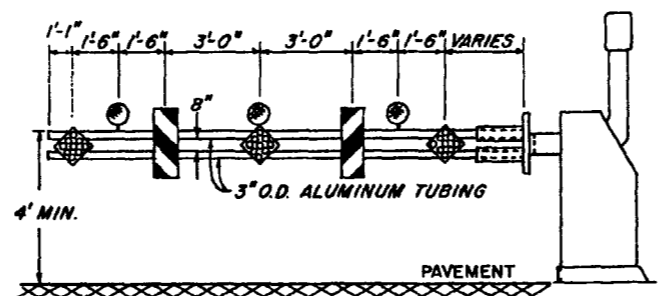


2'-6" x 5'-0"  
 2" BORDER - 4" RADIUS  
 6" SERIES "D" LETTERS

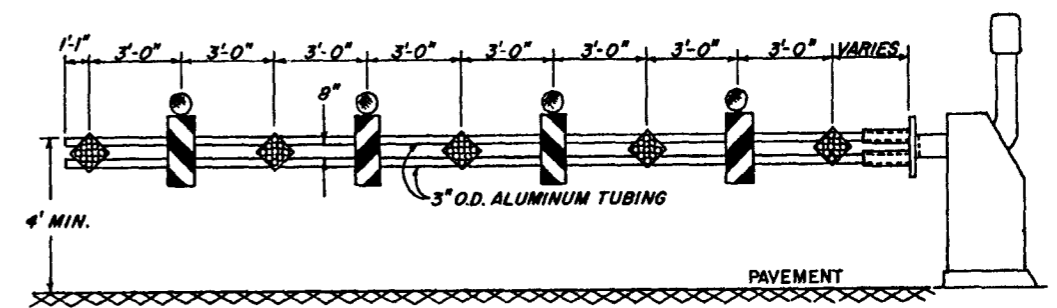
BLACK OPAQUE LEGEND AND BORDER ON REFLECTORIZED YELLOW BACKGROUND

TO BE USED WITH TYPE I OPERATION, AS SHOWN  
 ON PREVIOUS SHEET  
MONOTUBE SUPPORT MOUNTING

- 3" RED REFLECTORS ON RED NON-REFLECTIVE BACKGROUND.
- 45° 6" REFLECTORIZED (SILVER WHITE #1, & RED) SHEETING TO CONFORM TO SPECIFICATIONS IN THE MANUAL ON TRAFFIC CONTROLS AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS, FLORIDA DEPARTMENT OF TRANSPORTATION, JUNE 1972.
- RED DOUBLE LENSES, TURN SIGNAL LAMP (CLASS "A" - 12 VOLT SECONDARY, CAPACITY 60 VOLT AMPS.)



CLASS I  
ONE LANE APPROACH



CLASS II  
TWO LANE APPROACH

GATE ARM DETAIL

APPROVED BY FHWA JUNE 11, 1975

FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS  
 TRAFFIC CONTROL DEVICES FOR  
 MOVEABLE SPAN BRIDGE SIGNALS

REVISIONS			INITIALS	DATES
FHWA 1/975	DATE	INITIALS	DESCRIPTION	Designed by CG 4-7-75
	12/22/75	CG	DELETED NOTE "UNAVAILABLE GAINESVILLE WAREHOUSE"	Checked by RK 4-7-75
FHWA 1-22-76	7-20-76	CEJ	ADDED CLASS I & CLASS II TITLE AND REVISE TITLE BLOCK	Quantities by
				Checked by
				Supervised by RVK

Approved by *P.E. Magada*  
 State Traffic Operations Engr.

DRAWING NO. 3 OF 3  
 INDEX NO. 17890