

# TRAFFIC

# OPERATIONS

# STANDARDS



**JANUARY 1982**

TRAFFIC OPERATIONS STANDARD INDEXES  
FLORIDA DEPARTMENT OF TRANSPORTATION

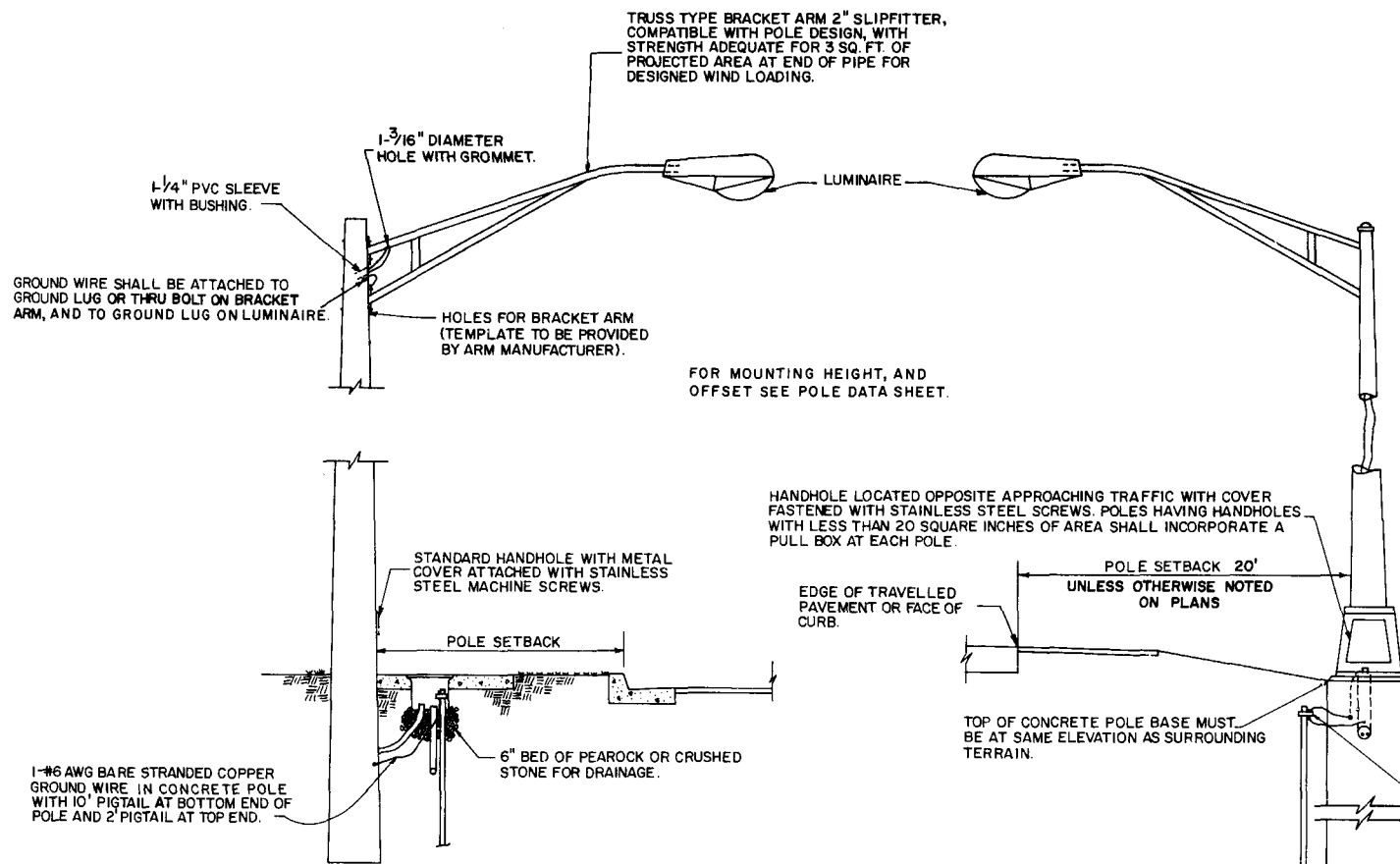
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STANDARD SYMBOLS FOR PLAN SHEETS

TRAFFIC SIGNALS SYMBOLS		
	EXISTING	PROPOSED
TRAFFIC SIGNAL HEAD (SPAN WIRE MOUNTED)		
TRAFFIC SIGNAL HEAD (PEDESTAL MOUNTED)		
TRAFFIC SIGNAL HEAD (MAST ARM MOUNTED)		
TRAFFIC SIGNAL POLE (CONCRETE, WOOD, METAL)		
VEHICLE DETECTOR (LOOP)		
SIGNAL CABLE (ON MESSENGER WIRE)	<hr/>	
CONDUIT	<hr/>	
VEHICLE DETECTOR (OTHERS)		
PEDESTRIAN DETECTOR (PUSHBUTTON)		
PEDESTRIAN SIGNAL HEAD (POLE OR PEDESTAL MOUNTED)		
CONTROLLER CABINET (BASE MOUNTED)		
CONTROLLER CABINET (POLE MOUNTED)		
WALK - DON'T WALK FLASH	<div>W - DW FL</div>	
SIGNAL FACE NUMBER	<div>5</div>	
ITEM NUMBER	<div>630-113</div>	
SIGNAL LENS		
PROGRAMED SIGNAL HEAD		
MESSENGER WIRE	<hr/>	
POLE TABULATION CROSS REFERENCE		
POLE TABULATION CROSS REFERENCE (JOINT USE POLE)		
SIGNAL PHASE		

LIGHTING SYMBOLS	
	NEW POLE & LUMINAIRE
	EXISTING POLE & LUMINAIRE
	EXISTING POLE & LUMINAIRE TO BE REMOVED
	FINAL POSITION OF RELOCATED OR ADJUSTED POLE & LUMINAIRE
	NEW HIGH MAST LIGHTING TOWER
	CITY OR UTILITY OWNED LUMINAIRE & POLE
	PVC (POLYVINYL CHLORIDE) LIGHTING CONDUIT AND CONDUCTORS
	RIGID GALVANIZED LIGHTING CONDUIT AND CONDUCTORS
	CONCRETE LIGHTING PULL-BOX
	WATERPROOF LIGHTING PULL-BOX
	LIGHTING DISTRIBUTION POINT
	NEW JOINT USE POLE
	EXISTING USE POLE
	UNDER DECK LIGHTING FIXTURE

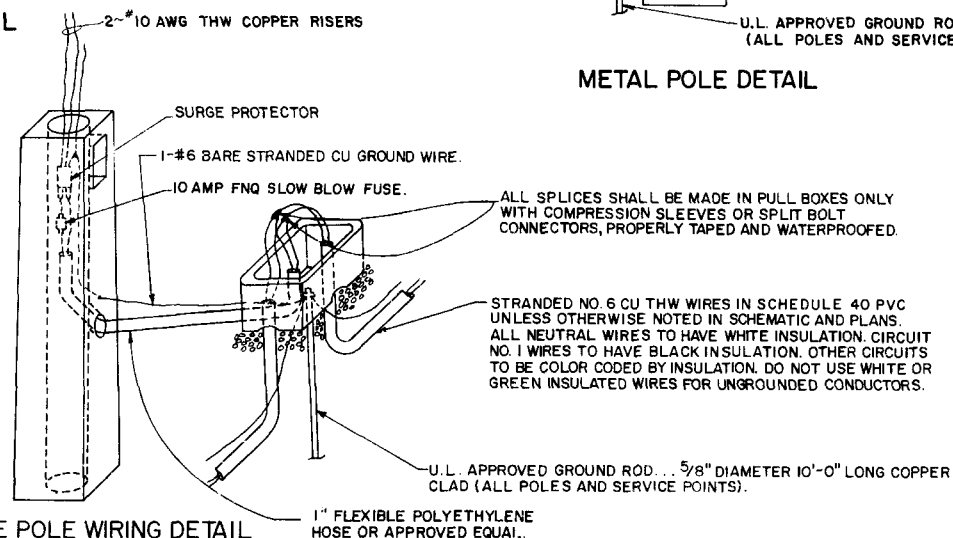
SIGNING AND PAVEMENT MARKING SYMBOLS	
PAVEMENT ARROW	
SINGLE SOLID LINE	
DOUBLE SOLID LINE	
SKIP LINE	
STOP BAR	
TRAFFIC SIGN (POST MOUNTED)	
TRAFFIC SIGN (OVERHEAD)	
SIGN NUMBER	
SIGN ITEM NUMBER	
TRAFFIC FLOW ARROW	



CONCRETE POLE DETAIL

# SURGE PROTECTOR SPECIFICATIONS

1. THE UNIT SHALL WITHSTAND A SURGE CURRENT UP TO 20,000 AMPS, AND REPETITIVE SURGES OF 200 AMPS FOR A MINIMUM OF 10,000 OCCURRENCES.
2. THE UNIT SHALL RESPOND IN LESS THAN 50 NANoseconds AND WITHIN THIS TIME HAVE A PEAK CLAMPING VOLTAGE BETTER THAN 1,100 Vrms.
3. THE MAXIMUM ALLOWABLE VOLTAGE THAT CAN PASS CONTINUOUSLY THROUGH THE HOT LEG OF THE PROTECTOR MUST BE LESS THAN 550 Vrms.
4. THE CURRENT DRAIN SHALL BE LESS THAN 100 MICROAMPS.
5. THE UNIT SHALL BE INSULATED 600 V. TO GROUND AND SHALL BE WEATHERPROOF.
6. THE UNIT SHALL NOT ALLOW HOLDOVER CURRENT OR CONDUCTION TO GROUND AFTER THE SURGE ENDS.
7. PROTECTION SHALL BE ACHIEVED FOR BOTH THE 480V. AND NEUTRAL CONDUCTORS WITH THE SURGES BEING PASSED TO GROUND AND NOT TO NEUTRAL.
8. THERE SHALL BE NO DISCHARGE LAG IN THE PROTECTION OF THE 480V. CONDUCTOR OVER THE NEUTRAL CONDUCTOR.
9. UNDERWRITERS LABORATORY APPROVAL NOT REQUIRED.



CONCRETE POLE WIRING DETAIL

QUICK DISCONNECT CONNECTOR ON 480 V. SIDE WITH A 10 AMP FNO SLOW BLOW FUSE. FOR LINE TO LINE SERVICE BOTH LINES TO BE FUSED.

GALVANIZED ANCHOR BOLTS, NUTS AND WASHERS.

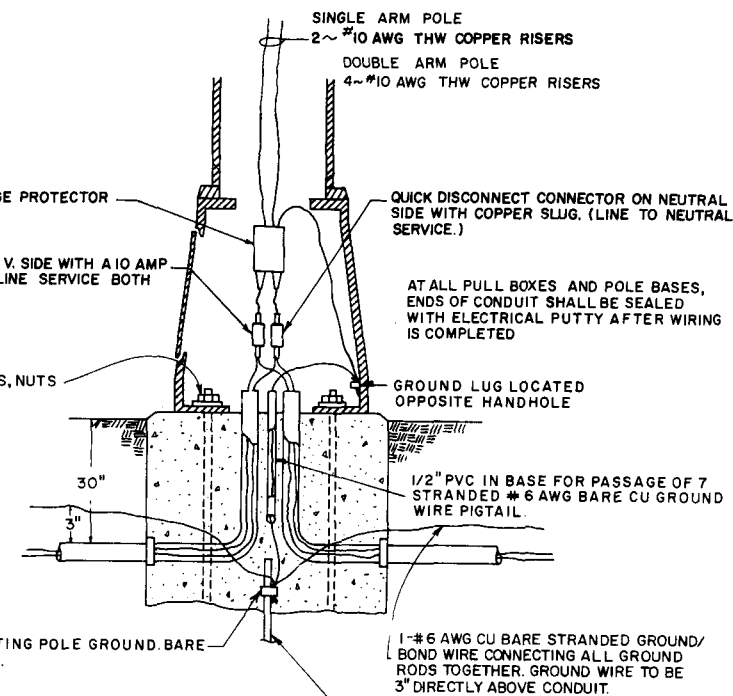
GROUND CLAMP FOR CONNECTING POLE GROUND BARE BOND WIRE, AND GROUND ROD.

U.L. APPROVED GROUND ROD... 5/8" DIAMETER 10'-0" LONG COPPER CLAD (ALL POLES AND SERVICE POINTS).

METAL POLE DETAIL

# NOTES:

- 1) ALLOW ENOUGH SLACK IN ALL WIRES TO ALLOW FUSE HOLDERS, SURGE PROTECTORS AND SPLICES TO BE HANDLED ONE FOOT OUTSIDE POLE OR PULL BOX.
- 2) A PULL BOX SHALL BE INSTALLED AT EACH CONCRETE POLE LOCATION.
- 3) ALL MOUNTING HEIGHTS ARE  $\pm 2\frac{1}{2}$  FT. UNLESS OTHERWISE NOTED IN PLANS.



METAL POLE WIRING DETAIL

# FLORIDA DEPARTMENT OF TRANSPORTATION

## CONVENTIONAL POLE DETAILS

DATE	REVISIONS	INITIALS	DATES	Recommended for approval by
9-9-81	ADDED POLE SETBACK AND NOTES TO QUICK DISCONNECT CONNECTOR, REVISED SURGE PROTECTOR & FUSE	Designed by G. K.	8-78	by <i>Ed. Price</i> Deputy Traffic Operations Engr.
		Checked by		Approved by <i>R.E. Magaly</i> State Traffic Operations Engr.
		Quantities by		
		Checked by		
		Supervised by		
		LESTER JONES		DRAWING NO. 1 OF 1 INDEX NO. 17500

- 1) GROUND RODS SHALL HAVE A RESISTANCE TO GROUND NOT TO EXCEED 25 OHMS. WHERE THE RESISTANCE IS NOT AS LOW AS 25 OHMS, TWO OR MORE GROUND RODS CONNECTED IN PARALLEL SHALL BE USED. CONTRACTOR SHALL HAVE NECESSARY TEST EQUIPMENT (CURRENT CALIBRATION CERTIFICATE REQUIRED) AT FINAL INSPECTION TO INSURE ACCEPTABILITY OF GROUNDING SYSTEM.
- 2) THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL UTILITY COMPANIES PRIOR TO ANY UNDERGROUND WORK. THE UTILITY COMPANY WILL LOCATE AND IDENTIFY THEIR FACILITIES.
- 3) CONTRACTOR SHALL DETERMINE THE SERVICE REQUIRED DATE FOR THE POWER COMPANY TRANSFORMER INSTALLATION AT THE PRE-CONSTRUCTION CONFERENCE.
- 4) THE POWER COMPANY RESERVES THE RIGHT TO INSTALL THE RISER, SWITCH GEAR AND WEATHERHEAD ON POWER COMPANY POLES AT THE EXPENSE OF THE CONTRACTOR. CONTACT THE POWER COMPANY FOR COST OR FOR AUTHORIZATION FOR AN ALTERNATE PROCEDURE.
- 5) ANY DAMAGED PORTIONS OF GALVANIZED STEEL POLES AND BRACKET ARMS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 562 OF THE STANDARD SPECIFICATIONS.
- 6) POLES, BRACKET ARMS AND FRANGIBLE DEVICES SHALL BE DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA, AS INDICATED IN THE PLANS AND USING THE APPLICABLE EQUATIONS FOUND IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS" PUBLISHED BY A. A. S. H. T. O. DATED 1975.
- 7) THE LUMINAIRE MANUFACTURER SHALL PLACE A PERMANENT TAG ON THE LUMINAIRE HOUSING ON WHICH IS IMPRINTED THE FOLLOWING INFORMATION: WATTAGE, BALLAST TYPE, LAMP SHOWN ON DESIGN PLANS, LAMP SETTING (POSITION IN LUMINAIRE), LIES LIGHT DISTRIBUTION WITH THIS LAMP IN THE POSITION SPECIFIED, INPUT VOLTAGE AND POWER FACTOR. LUMINAIRE PHOTOMETRIC SUBMITTALS REQUIRED.
- 8) BEFORE FINAL ACCEPTANCE, CONTRACTOR SHALL PROVIDE 2 SETS OF FULL SIZE AS BUILT PLANS TO THE MAINTAINING AGENCY.
- 9) CONDUIT ROUTING SHALL BE POLE TO POLE, MAINTAINING POLE SETBACK DISTANCE FROM EDGE OF PAVEMENT. ANY CABLE ROUTING IN LOCATIONS WHERE GUARDRAIL IS PROPOSED SHALL BE 2'-0" IN FRONT OF THE STANDARD GUARDRAIL POSITION.
- 10) POLE POSITIONS AND CONDUIT ROUTING MAY BE ADJUSTED, AS APPROVED BY THE ENGINEER, TO PREVENT CONFLICTS WITH UTILITY AND DRAINAGE STRUCTURES NOT INDICATED, AND PREVENT GUARDRAIL POST CONFLICT WITH UNDERGROUND LIGHTING CIRCUITS.
- 11) WHERE GUARDRAIL IS CONSTRUCTED, THE POLES SHALL BE PLACED A MINIMUM OF 4' BEHIND THE FACE OF GUARDRAIL.
- 12) POLE FOUNDATION INSTALLATIONS SHALL BE BACKFILLED AND COMPACTED TO A FIRM, STABLE CONDITION APPROXIMATELY EQUAL TO THAT OF THE ADJACENT SOIL. THE FILL SHALL CONFORM TO EXISTING GRADE AND FULLY SODDED.
- 13) THE WIRES AT THE POLE HANDHOLE AND PULL BOXES SHALL BE LOOPED UP IN THE POLE AND PULL BOXES WITH SUFFICIENT LENGTH TO COMPLETELY REMOVE CONNECTORS TO THE OUTSIDE OF HANDHOLE AND PULL BOXES TO MAKE CONNECTORS ACCESSIBLE FOR CHANGING FUSES AND TROUBLE SHOOTING THE SYSTEM.
- 14) NEUTRAL WIRES TO HAVE WHITE INSULATION. CIRCUIT NO. 1 WIRE TO HAVE BLACK INSULATION. OTHER CIRCUITS TO BE COLOR CODED BY INSULATION. DO NOT USE WHITE OR GREEN INSULATED WIRES FOR UNGROUNDED CONDUCTORS.
- 15) UNLESS OTHERWISE SPECIFIED, ALL CABLE SHALL BE SINGLE CONDUCTOR, 98 PERCENT CONDUCTIVITY STRANDED COPPER, WITH THW INSULATION.
- 16) ALL SPLICES SHALL BE MADE IN PULL BOXES OR THE POLE BASE. NO SPLICES SHALL BE MADE INSIDE THE CONDUIT.
- 17) ALL EXPOSED OR SURFACED MOUNTED CONDUIT SHALL BE RIGID GALVANIZED. THESE EXPOSED RUNS OF CONDUIT SHALL BE PROVIDED WITH EITHER EXPANSION JOINTS OR FLEXIBLE STEEL CONDUIT SECTIONS ADEQUATE TO TAKE CARE OF VIBRATIONS AND THERMAL EXPANSIONS. ALL GALVANIZED CONDUIT SHALL BE GROUNDED.
- 18) ALL CONDUIT THAT WILL REMAIN EMPTY AS SPARES SHALL BE MANDREL TESTED, CLEANED INSIDE AND BOTH ENDS CAPPED. LEAVE THE CORROSION RESISTANT PULL/DRAW WIRE AND PLACE DUCT MARKERS, OR PULL BOXES TO MARK THE LOCATION OF THE ENDS OF THE CONDUIT.
- 19) PULL BOXES SHALL BE LOCATED AT ENDS OF CONDUIT CROSSING ROADWAYS.
- 20) THESE PLANS REPRESENT MINIMUM ACCEPTABLE CRITERIA. THE INSPECTION PER THESE DRAWINGS REPRESENT THE MINIMUM BASE OF ACCEPTANCE.
- 21) ALL MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE UNDERWRITERS LABORATORY APPROVED.
- 22) PRIOR TO ANY EQUIPMENT ORDER, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL, EQUIPMENT SPECIFICATIONS OR DESIGN DATA FOR ALL MATERIAL PROPOSED FOR THE PROJECT AND MUST INCLUDE SPECIFICALLY:
  - A) LUMINAIRE PHOTOMETRICS
  - B) POLE STRENGTH CALCULATIONS
  - C) POLE FRANGIBILITY TEST RESULTS
  - D) BOLT SPECIFICATIONS AND BOLT CIRCLE DIAMETER
- 23) SEVEN (7) COPIES OF SHOP DRAWINGS AND DESIGN DATA FOR HIGHWAY LIGHTING EQUIPMENT SHALL BE SUBMITTED TO THE STATE TRAFFIC OPERATIONS ENGINEER AT THE FOLLOWING ADDRESS WITH A COPY OF THE SUBMITTAL LETTER SENT TO THE DEPARTMENTS RESIDENT CONSTRUCTION ENGINEER IN CHARGE OF THE PROJECT.

STATE TRAFFIC OPERATIONS ENGINEER  
DEPARTMENT OF TRANSPORTATION  
HAYDON BURNS BUILDING, ROOM 345  
TALLAHASSEE, FLORIDA 32304

#### BREAKAWAY FEATURE

ALL CONVENTIONAL MOUNTING HEIGHT POLES SHALL BE MOUNTED ON A FRANGIBLE METAL BASE OR SYSTEM OF BREAKAWAY COUPLINGS. IF COUPLINGS ARE USED, ONE COUPLING SHALL BE PROVIDED FOR EACH ANCHOR BOLT CONNECTION. THE ONLY CONTINUOUS CONNECTION OF THE POLE TO THE FOUNDATION AT EACH ANCHOR BOLT SHALL BE PROVIDED BY THE COUPLINGS. THE AREA BETWEEN THE TOP OF THE POLE FOUNDATION AND THE BASE OF THE POLE INCLUDING THE COUPLINGS SHALL BE ENCLOSED WITH A NON-STRUCTURAL ALUMINUM SKIRT.

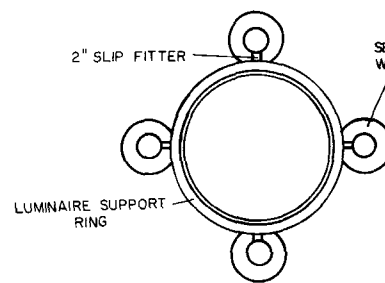
IF A FRANGIBLE METAL BASE IS USED, IT SHALL BE ONE PIECE AND BE DESIGNED TO BREAKAWAY WITHOUT THE AID OF ANY SLIPPING OR SLIDING SURFACES.

THE DESIGN OF THE BREAKAWAY FEATURE SHALL BE IN ACCORDANCE WITH THE BREAKAWAY PERFORMANCE REQUIREMENTS OF SECTION 7, "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS", A. A. S. H. T. O., COPYRIGHT 1975. THE CONTRACTOR (SUPPLIER) SHALL SUBMIT WITH EQUIPMENT SUBMITTALS, COPIES OF TEST REPORTS AS EVIDENCE THAT THE BREAKAWAY FEATURE HAS UNDERGONE FULL SCALE DYNAMIC TESTING WITH A CHANGE IN MOMENTUM OF 750 POUND-SECONDS OR LESS AND CALCULATIONS TO VERIFY THE DESIGN WILL MEET A. A. S. H. T. O. WIND LOADINGS SPECIFIED IN THE CONTRACT PLANS. NO POLES ARE TO BE INSTALLED PRIOR TO DEPARTMENT APPROVAL OF THE SUBMITTAL DATA.

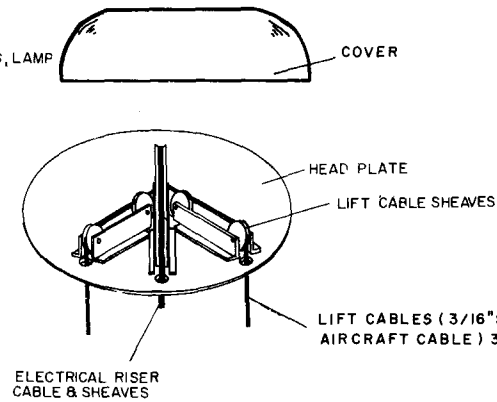
POLES MOUNTED ON BARRIER WALL OR BEHIND BRIDGE RAIL ARE EXEMPT FROM THE ABOVE FRANGIBILITY REQUIREMENTS.

#### FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS HIGHWAY LIGHTING GENERAL NOTES

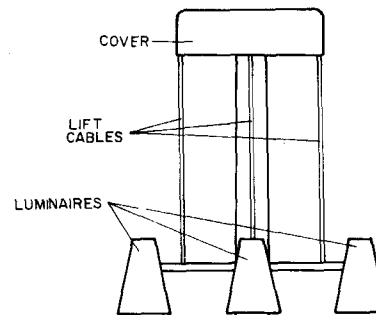
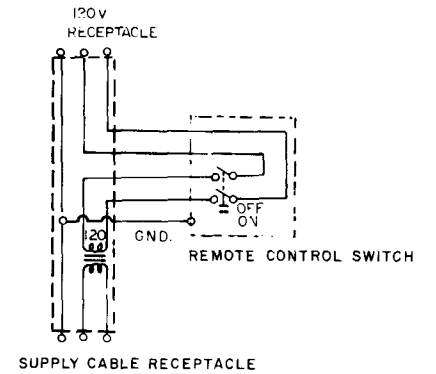
DATE	REVISIONS	INITIALS	DATES	Recommended for approval by	DRAWING NO.	INDEX NO.
		Designed by	G. K.	4-25-78	by <i>D. C. Price</i> Deputy Traffic Operations Engr.	1 OF 1
		Checked by			Approved by <i>R. E. Maguire</i> State Traffic Operations Engr.	17501
		Quantities by				
		Checked by				
		Supervised by	LESTER JONES			



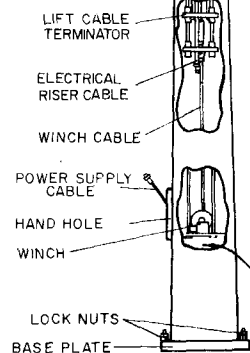
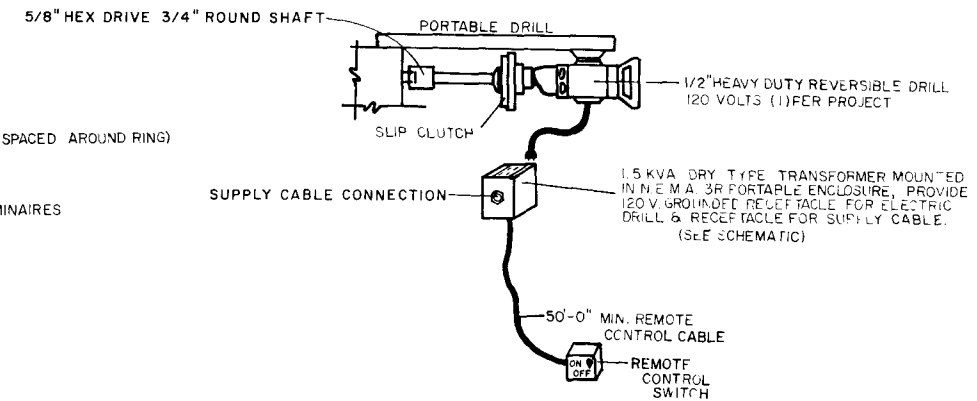
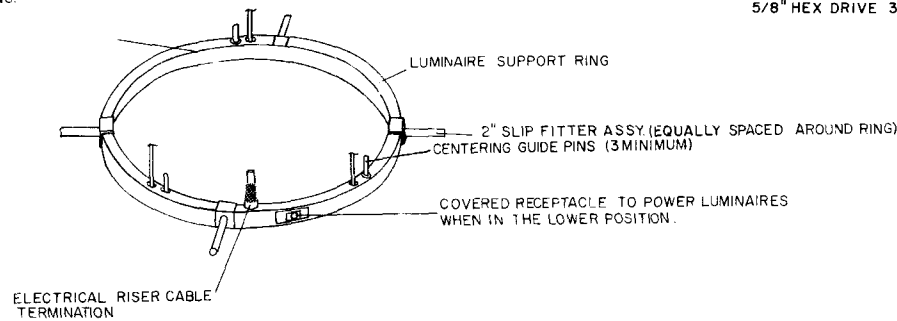
SEE LEGEND FOR NUMBER OF LUMINAIRES, LAMP WATTAGE AND LIGHT DISTRIBUTION.



SCHEMATIC OF REMOTE AUXILIARY POWER UNIT

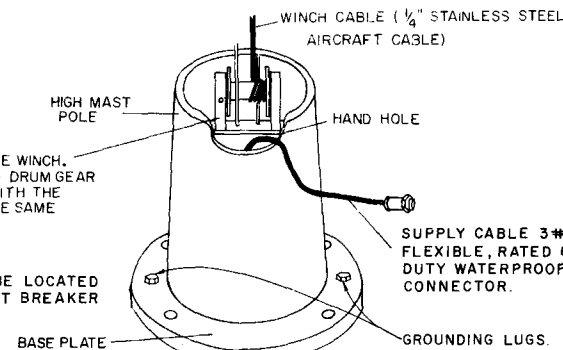


SPRING SUPPORTED CENTERING ARMS PROVIDED TO CENTER THE LUMINAIRE RING.



POSITIVE DRIVE REVERSIBLE WINCH. THE COMPLETE ENCLOSED DRUM GEAR SHALL DIRECTLY MESH WITH THE WORM GEAR TRAIN, IN THE SAME ENCLOSURE.

SURGE PROTECTOR SHALL BE LOCATED IN POLE WITH EITHER CIRCUIT BREAKER OR FUSE.



SUPPLY CABLE 3#8 AWG STRANDED FLEXIBLE, RATED 600V WITH HEAVY DUTY WATERPROOF COVERING WITH CONNECTOR.

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS  
HIGHMAST LIGHTING DETAILS

REVISIONS				INITIALS	DATE	Recommended for approval by <i>R.C. Price</i> Deputy Traffic Operations Eng.
DATE	INITIALS	DESCRIPTION	Designed by			
			Checked by			Approved by <i>R.L. Maganley</i> State Traffic Operations Eng.
			Quantities by			
			Checked by			
			Supervised by			
				LESTER JONES		
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LUMINAIRE SPECIFICATIONS

THE REFLECTOR WITH ITS ALUMINUM COVER SHALL BE FIRMLY ATTACHED TO A CAST RING. THIS RING SHALL HAVE KEYHOLE SLOTS IN ITS UPPER SURFACE SUCH THAT THE REFLECTOR/REFRACTOR ASSEMBLY MAY BE READILY ATTACHED TO, OR DETACHED FROM, THE LUMINAIRE BRACKET ENTRY AND LAMP SUPPORT ASSEMBLY WITHOUT COMPLETELY REMOVING THE SUPPORT BOLTS.

EACH LUMINAIRE SHALL CONTAIN AN INTEGRAL AUTO-REGULATOR TYPE BALLAST CONNECTED FOR 480 VOLTS INPUT ± 10% AND A POWER FACTOR OF MORE THAN 90%. THE LUMINAIRE BALLAST SHALL BE ENCLOSED WITHIN AN ALUMINUM HOUSING WHICH INTEGRALLY ATTACHES TO THE LUMINAIRE BRACKET ENTRY AND LAMP SUPPORT ASSEMBLY. IT SHALL BE READILY REMOVEABLE WITHOUT REMOVING THE LUMINAIRE FROM THE BRACKET ARM.

THE LUMINAIRE SHALL BE ATTACHED TO THE BRACKET ARM BY MEANS OF A BRACKET ENTRY AND LAMP SUPPORT ASSEMBLY. THE ASSEMBLY SHALL INCLUDE A SIDE ENTRY SLIPFITTER DESIGNED FOR TWO (2) INCH PIPE WITH PROVISION FOR 3° ADJUSTMENT FOR LEVELING THE LUMINAIRE. AN ENCLOSED TERMINAL BLOCK SHALL BE INCLUDED SUCH THAT ALL ELECTRICAL CONNECTIONS SHALL BE PROTECTED FROM EXPOSURE TO WEATHER.

ALL ELECTRICAL CONNECTIONS SHALL BE MADE WATERPROOF OR BE MADE INSIDE A WEATHER RESISTANT ENCLOSURE. ALL LUMINAIRES SHALL BE ANSI/IES LIGHT DISTRIBUTION AS INDICATED IN PLANS. EACH LUMINAIRE SHALL BE LABELED WITH A PERMANENT LABEL WHICH STATES THE TYPE OF LAMP, VOLTAGE INPUT, POWER INPUT, POWER FACTOR, BALLAST TYPE, SOCKET POSITION, ANSI/IES LIGHT DISTRIBUTION, AND SUCH OTHER CATALOG INFORMATION THAT A COMPLETE REPLACEMENT CAN BE READILY ORDERED.

THE CONTRACTORS ATTENTION IS DIRECTED TO THOSE PLAN SHEETS DETAILING THE MOUNTING OF LUMINAIRES AT THE POLE TOP. PARTICULAR ATTENTION IS DIRECTED TO ALIGNMENT OF LUMINAIRE LIGHT DISTRIBUTIONS. SPECIAL ATTENTION MUST BE EXERCISED IN THE PHYSICAL ALIGNMENT OF THESE LUMINAIRES TO INSURE THAT THE APPROVED PHOTOMETRIC LAYOUT IS PHYSICALLY PRODUCED AT EACH LIGHTING STANDARD IN THE FIELD. A MARKING SHALL BE PLACED ON THE EXTERNAL FACE OF THE REFRACTOR TO IMPLEMENT VISUAL INSPECTION OF ALIGNMENT. THE MARKING SHALL CORRESPOND TO THE 0° AXIS OF THE REFRACTOR. THE MARKING SHALL CONSIST OF A 1 INCH SQUARE PERMANENT BRIGHT RED IDENTIFICATION LOCATED ON THE REFRACTOR TO BE READILY VIEWED FROM THE GROUND WHILE LEAST AFFECTING THE LUMINAIRES LIGHT DISTRIBUTION. IT IS ANTICIPATED THAT VIEWING WILL BE ACCOMPLISHED BY AN INSPECTOR EMPLOYING FIELD GLASSES. ALTERNATE METHODS OF MARKING WILL BE CONSIDERED FOR APPROVAL PROVIDED THAT EASE IN CONFIRMING REFRACTOR ALIGNMENT IS FACILITATED.

FOOTING

THE HIGH MAST FOUNDATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS.

ANCHOR BOLTS PER MANUFACTURERS SPECIFICATIONS. SUBMITTALS SHALL BE SUPPLIED TO THE LIGHTING ENGINEER PRIOR TO PURCHASE.

ONE LEVELING NUT, ONE HOLD-DOWN NUT, AND ONE LOCKING/JAM NUT SHALL BE SUPPLIED PER ANCHOR BOLT. ALL SMALL METAL PARTS, (NUTS, SCREWS, WASHERS, ETC.) SHALL BE RUSTPROOFED EITHER BY GALVANIZING PER ASTM A-143 OR BY THE NATURE OF THE MATERIAL USED IN THEIR FABRICATION.

LOWERING SYSTEM SPECIFICATIONS

THE LOWERING SYSTEM SHALL CONSIST OF THE FOLLOWING:

- A. HEAD FRAME AND COVER
- B. LUMINAIRE RING
- C. CABLES
- D. WINCH
- E. PORTABLE POWER UNIT (1 PER PROJECT)

THE HEAD FRAME UNIT SHALL RIGIDLY MATE THE TOP OF THE POLE TO THE HEAD FRAME PLATFORM. THIS PLATFORM WITH ITS ASSOCIATED SHEAVES, ETC. SHALL BE COVERED AND RAIN TIGHT. THE HEAD FRAME STRUCTURE SHALL BE ZINC COATED STEEL, ATTACHED TO THE POLE BY MEANS OF A STEEL SLIPFITTER. HEAD FRAME SHALL ENCOMPASS SIX FIVE (5) INCH NOMINAL STEEL CABLE SHEAVES GROOVED TO THE EXACT CABLE DIAMETER, FOR 180° CABLE BEARING SURFACE. THE SHEAVE SHALL BE ZINC ELECTROPLATED TO ASTM 164 AND DIPPED IN YELLOW CHROMATE FOR CORROSION RESISTANCE. BEARINGS AND CABLE KEEPERS SHALL HAVE PERMANENT LUBRICATION. THREE (3) STAINLESS STEEL 7 X 19 AIRCRAFT CABLES OF 3/16 INCH OR GREATER DIAMETER SHALL BE PROVIDED.

THE POWER RISER CABLE SHALL BE ATTACHED TO THE LUMINAIRE RING WITH A WATERPROOF CONNECTOR CAPABLE OF WITHSTANDING THE PULL OF THE WEIGHT OF THE POWER RISER CABLE. WHERE THE WIRE ROPES ARE REQUIRED TO BEND OVER SHEAVES OR OVER THE WINCH DRUM, THE MAXIMUM WORKING STRESS IN THE OUTER FIBERS OF WIRE ROPE SHALL NOT EXCEED ONE FIFTH (1/5) THE WIRE ROPE MANUFACTURER'S RATED ULTIMATE STRESS. SUBMITTALS MUST BE PROVIDED TO THE STATE LIGHTING ENGINEER WHICH CLEARLY STATE THE WIRE ROPE ULTIMATE STRESS. DRUM DESIGN SHALL CAUSE LEVEL WIND OF WIRE ROPE. THE POWER CORD SHALL TRAVEL ON SHEAVE(S) OR A COMBINATION OF ROLLERS PROVIDING A RADIUS FOR THE CORD OF SIX (6) INCHES OR LARGER. EACH END OF THE SHEAVE(S) OR ROLLERS SHALL HAVE A KEEPER TO PREVENT THE CABLE FROM JUMPING OUT OF THE ROLLER TRACK.

THE HEAD FRAME SHALL ALSO INCLUDE THREE (3) LATCHING DEVICES TO SUPPORT THE LUMINAIRE RING ASSEMBLY WHEN THE LOWERING DEVICE IS NOT IN OPERATION. THE LATCHES SHALL BE ACTUATED BY ALTERNATE RAISING AND LOWERING OF THE HOISTING CABLES. LOCKING OF LUMINAIRE RING SHALL BE SIGNALLED BY INDICATORS VISIBLE FROM GROUND. ALL MOVING PARTS OF THE LATCH MECHANISM SHALL BE SERVICEABLE FROM THE GROUND. EACH OF THE THREE LATCHES SHALL BE STRONG ENOUGH, BY ITSELF, TO SUPPORT TWICE THE WEIGHT OF THE RING AND ALL THE LUMINAIRES. LATCHING MECHANISMS WHICH DEPEND PRIMARILY UPON SPRING OPERATION OR CONTAIN DISSIMILAR METALS ARE NOT ACCEPTABLE. THE LATCHING MECHANISM SHALL NOT REQUIRE ADJUSTMENT AFTER THE ORIGINAL INSTALLATION.

THE LUMINAIRE RING SHALL BE CONSTRUCTED OF A MINIMUM OF 6" X 2" X 7 GAUGE HOT DIPPED GALVANIZED ASTM 396 CLASS "B" STEEL CHANNEL WITH THE APPROPRIATE NUMBER OF TWO (2) INCH STEEL PIPE MOUNTING ARMS. THE LUMINAIRE RING SHALL BE PREWIRED WITH TYPE "W" OR SPECIALLY REINFORCED TYPE "SO" POWER CABLE WITH SUITABLE CONDUCTOR QUANTITY AND SIZE FOR PROPER OPERATION AND TYPE "ST" DISTRIBUTION WIRING WITH INSULATION SUITABLE FOR AT LEAST 105°C. ALL POWER CABLES SHOULD BE ATTACHED TO THE ALUMINUM WEATHER TIGHT WIRING CHAMBER WITH WEATHER TIGHT CABLE CONNECTORS. A 600 VOLT TERMINAL BLOCK, COMPLETELY PREWIRED SHALL BE INCLUDED IN THE WEATHER TIGHT WIRING CHAMBER. A WEATHER TIGHT TWIST LOCK POWER INLET SHALL BE PROVIDED ON THE LUMINAIRE RING TO ALLOW TESTING OF THE LUMINAIRE WHILE IN THE LOWERED POSITION. THE POWER INLET SHALL FACE AWAY FROM THE POLE FOR EASY ACCESS.

THE ULTIMATE SUPPORT OF THE LUMINAIRE RING SHALL NOT BE DEPENDENT UPON THE LOWERING AND RAISING CABLES.

THE SYSTEM SHALL BE PROVIDED WITH CIRCUIT-BREAKER SWITCHES AND TWIST LOCK DISCONNECTS IN THE POLE BASE. RAISING SPEED OF LUMINAIRE RING SHALL BE A MINIMUM OF TWELVE (12) FEET PER MINUTE.

THE WINCH SHALL BE A REVERSIBLE WORM GEAR SELF LOCKING TYPE WITH AN INTEGRAL FRICTION DRAG BRAKE TO PREVENT FREESPOOLING. THE WINCH SHALL BE DESIGNED FOR HAND OPERATION OR FOR OPERATION BY MEANS OF A 1/2" HEAVY DUTY REVERSING ELECTRIC DRILL MOTOR, REMOTE CONTROLLED TO ENABLE THE OPERATOR TO STAND FIFTY (50) FEET FROM THE POLE. STAINLESS STEEL 7 X 19 AIRCRAFT CABLES OF 1/4 INCH OR GREATER DIAMETER EQUAL TO MIL-W-5424 SHALL BE SUPPLIED ON THE WINCH. THE WINCH SHALL BE PROVIDED WITH KEEPERS ABOVE THE DRUM TO FORCE THE CABLE AWAY FROM THE ENDS OF THE DRUM FOR SPOOLING. THE DRUM SHALL HAVE A WIRE GUARD TO PREVENT THE CABLE FROM COMING OFF.

THE WINCH SHALL BE MOUNTED IN SUCH A WAY THAT THE CABLE TERMINATOR AND THE RISER CABLE CONNECTOR MAY BE REACHED AND WORKED ON BY A PERSON WITH HIS ARM THROUGH THE HANDHOLE.

ROLLER CONTACT SPRING-LOADED CENTERING ARMS SHALL BE PROVIDED TO CENTER THE LUMINAIRE RING WHILE ASCENDING OR DESCENDING THE POLE. THE ROLLERS FOR THE CENTERING ARM SHALL BE MADE OF A WATER RESISTANT NON-MARKING COMPOSITION MATERIAL. ALL SHAFTS AND WASHERS SHALL BE #304 STAINLESS STEEL. THE SPRING-LOADING MECHANISM SHALL CONSIST OF AN OIL-TEMPERED STEEL COMPRESSION SPRING OVER AN ALUMINUM ROD. THE ROLLERS SHALL BE IN CONTACT WITH THE POLE AT ALL TIMES.

POLE SPECIFICATIONS

THE POLE SHAFT MAY BE JOINTED OR SINGLE PIECE, POLYGON OR ROUND, HIGH STRENGTH STEEL HAVING A MINIMUM YIELD STRENGTH OF 50 KSI. ALL MATERIAL SHALL BE SINGLE THICKNESS STEEL PLATE WITH NO LAMINATIONS. STEEL SHALL BE AS SPECIFIED.

ALL POLES SHALL BE EQUIPPED WITH A REINFORCED HANDHOLE APPROXIMATELY 1.0' ABOVE THE BASE PLATE. THE HANDHOLE SHALL BE TEN (10) INCHES WIDE BY TWENTY (20) INCHES HIGH MINIMUM.

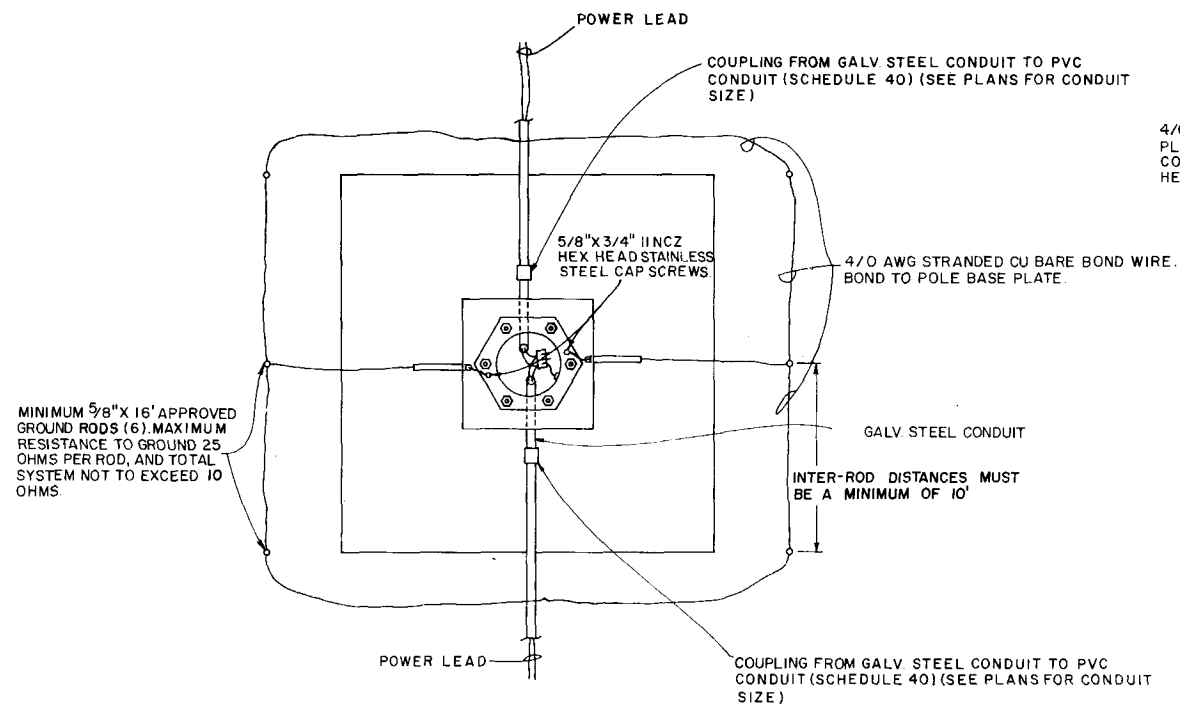
ALL POLES AND HARDWARE WILL BE ADEQUATELY PACKED TO ASSURE PROTECTION TO THE FINISH DURING SHIPPING AND HANDLING. POLES SHALL NOT BE SHIPPED PRE-ASSEMBLED.

DRAWINGS SHALL BE PROVIDED WITH THE EQUIPMENT WHICH SHOW ASSEMBLY SEQUENCE, LIFT POINT, AND RECOMMENDED ERECTION PROCEDURE. A PERMANENT DECAL OR CARD SHALL BE FIXED ON THE INSIDE OF THE HANDHOLE COVER WHICH DESCRIBES THE SEQUENCE FOR LOWERING THE LUMINAIRES AND THE CAUTIONS.

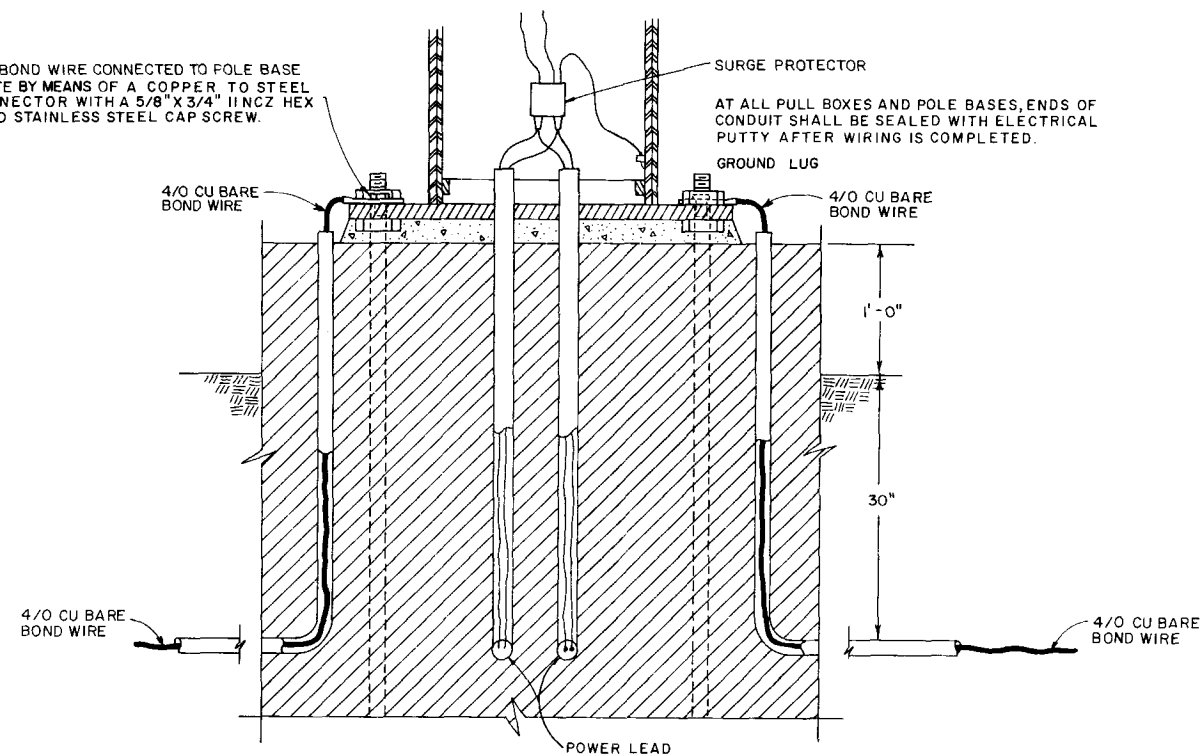
THE PROPORTIONING OF WELD DETAILS AND THE OPERATION OF WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AASHTO STANDARD SPECIFICATIONS FOR WELDING OF STRUCTURAL STEEL HIGHWAY BRIDGES, AND THE REFERENCED AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE.

SHOP DRILL TWO (2) 5/8" DIAMETER HOLES 180 DEGREES APART THROUGH TOTAL THICKNESS OF BASE PLATE. TAP TOP OF HOLE FOR 5/8" X 3/4" 11NCZ STAINLESS STEEL HEXHEAD CAP SCREW.

FLORIDA DEPARTMENT OF TRANSPORTATION						
TRAFFIC OPERATIONS						
HIGHMAST LIGHTING DETAILS						
DATE	REVISIONS		INITIALS	DATES	Recommended for approval	
9-9-81	REMOVED CONSTANT WATERGAGE FROM 2ND NOTE ON LUMINAIRE SPECIFICATIONS	Designed by	G. K.	8-78	by <i>R.C. Price</i>	Deputy Traffic Operations Engr.
		Checked by			Approved	
		Quantities by			by <i>R.E. Magabey</i>	State Traffic Operations Engr.
		Checked by				
		Supervised by	LESTER JONES		DRAWING NO.	INDEX NO.
					2 of 3	17502



4/0 BOND WIRE CONNECTED TO POLE BASE PLATE BY MEANS OF A COPPER TO STEEL CONNECTOR WITH A 5/8" X 3/4" 11NCZ HEX HEAD STAINLESS STEEL CAP SCREW.



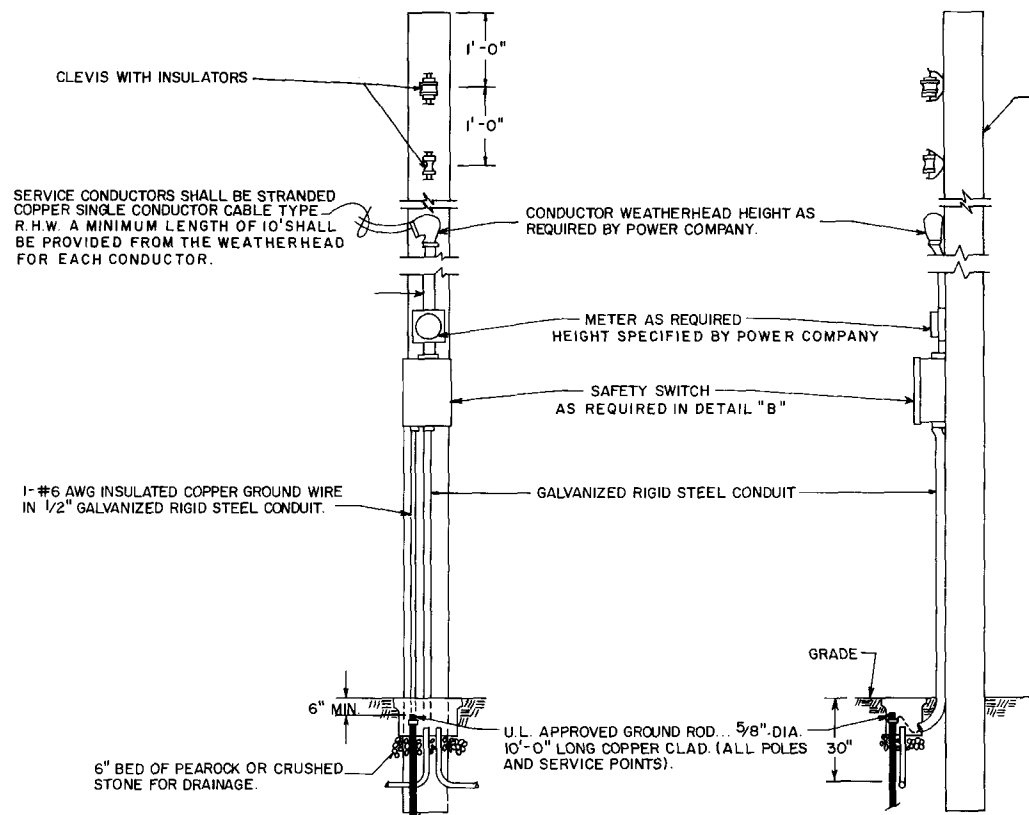
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

HIGHMAST LIGHTING DETAILS

DATE	REVISIONS	INITIALS	DATES	Recommended for approval
9-9-81	CHANGED GROUND WIRE & OHMS. ADDED INTER-ROD NOTE. REMOVED SURGE PROTECTOR SPECIFICATIONS	Designed by G. K.	8-78	by <i>ELC Price</i> Deputy Traffic Operations Engr.
		Checked by		Approved by <i>EL Magaley</i> State Traffic Operations Engr.
		Quantities by		
		Checked by		
		Supervised by	LESTER JONES	DRAWING NO. 3 OF 3 INDEX NO. 17502





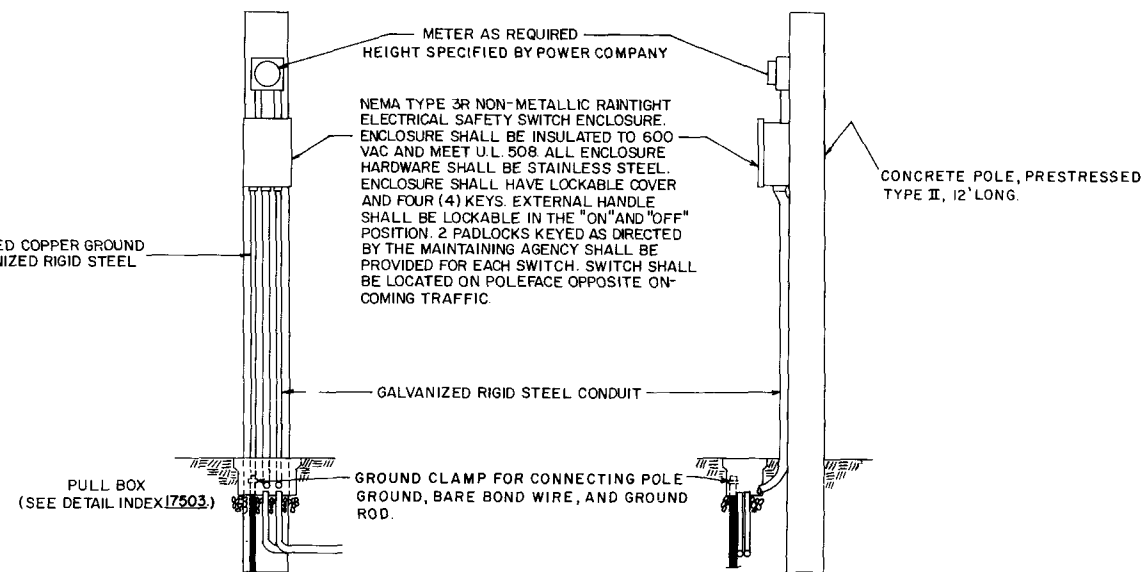


DETAIL "A"  
AERIAL FEED

1. PHOTO ELECTRIC CONTROL AS REQUIRED.
2. ALL NEUTRAL WIRES TO HAVE WHITE INSULATION, CIRCUIT NO. 1 WIRES TO HAVE BLACK INSULATION. OTHER CIRCUITS TO BE COLOR CODED BY INSULATION. DO NOT USE WHITE OR GREEN INSULATED WIRES FOR UNDERGROUNDED CONDUCTORS.

CONCRETE POLE, PRESTRESSED  
TYPE II, 35' LONG.

1-#6 AWG INSULATED COPPER GROUND  
WIRE IN 1/2" GALVANIZED RIGID STEEL  
CONDUIT.



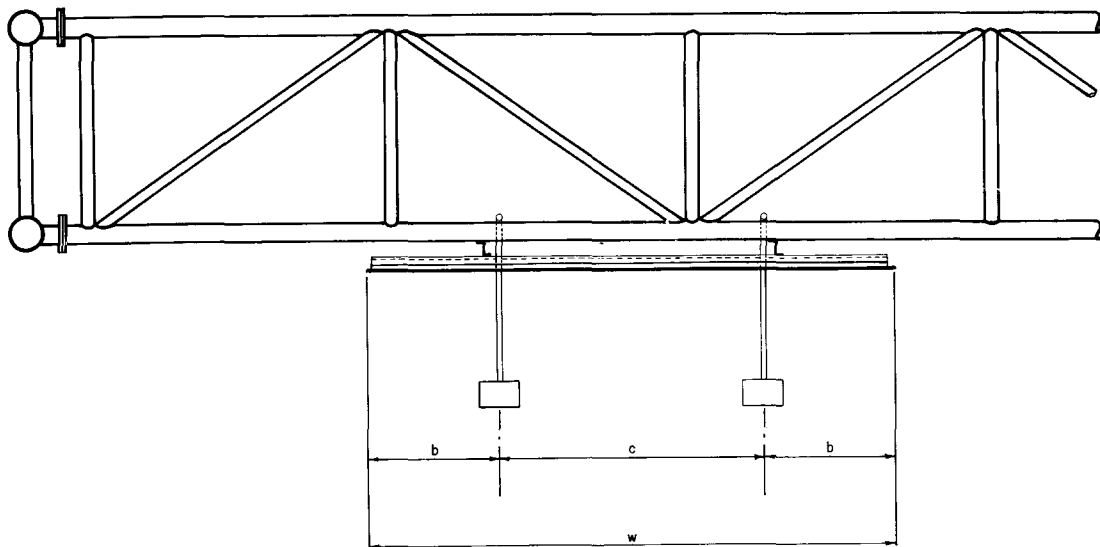
DETAIL "B"  
UNDERGROUND FEED

APPROVED BY FHWA 11-16-78

FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

SERVICE POINT DETAILS

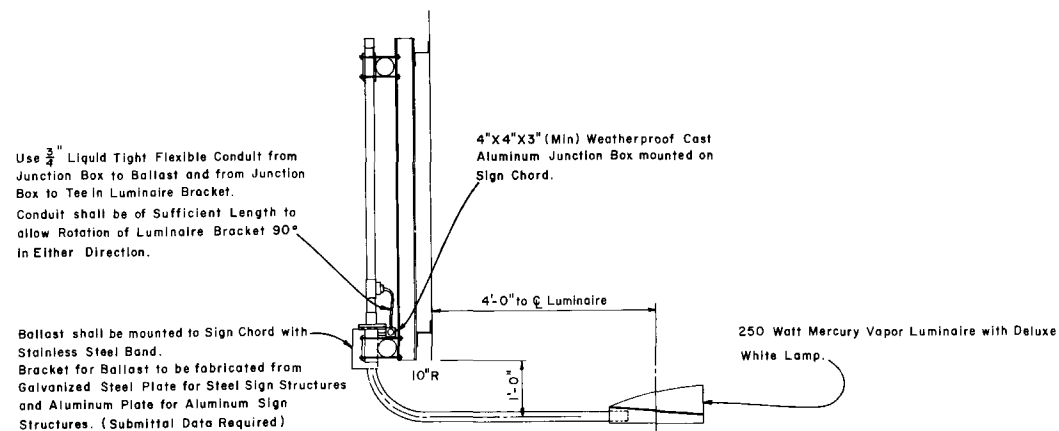
DATE	REVISIONS	INITIALS	DATES	Recommended for approval
		Designed by G. K.	6-78	by <i>R.C. Price</i>
		Checked by		Deputy Traffic Operations Engr.
		Quantities by		Approved
		Checked by		by <i>R.E. Magadey</i>
		Supervised by LESTER JONES		State Traffic Operations Engr.
		DRAWING NO. 1 OF 1	INDEX NO. 17504	



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	$W = 2b$ $c = 0$	$W = 2b + c$ $c = 2.2b$	$W = 2b + 2c$ $c = 2.2b$	$W = 2b + 3c$ $c = 2.2b$

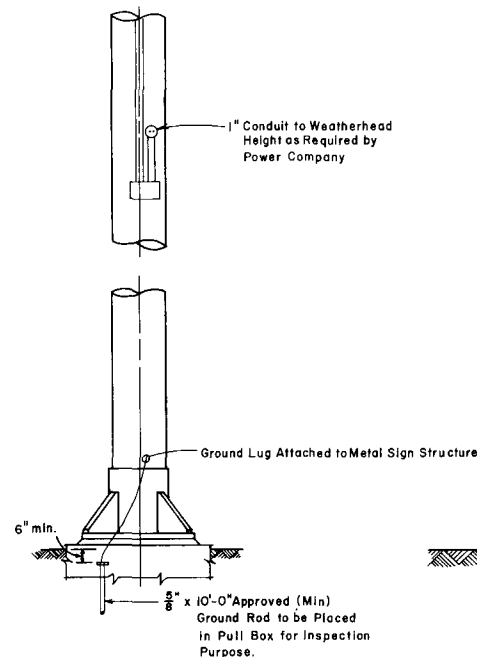
#### PLACEMENT OF SIGN LIGHTS

- 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.

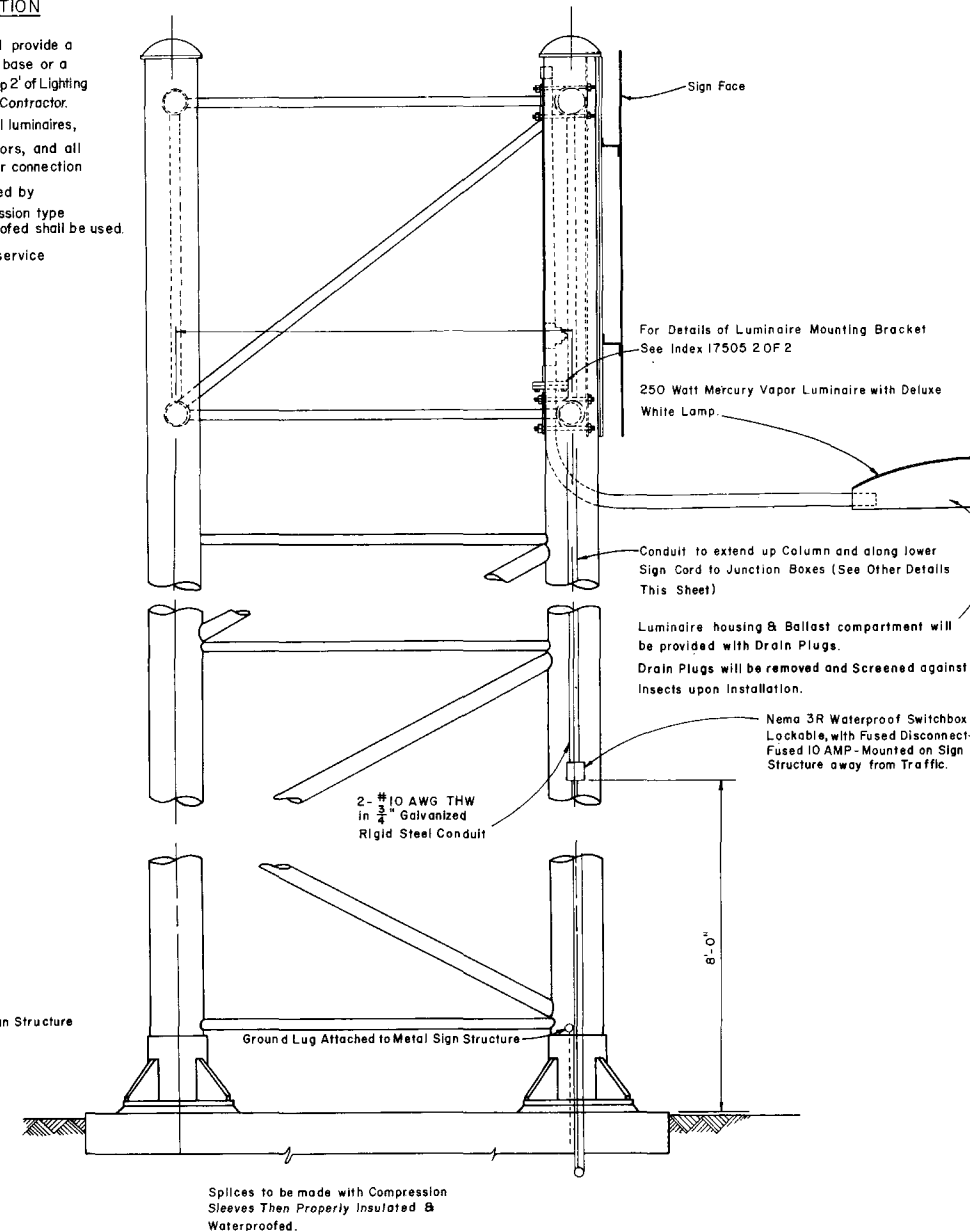


#### SIGN LIGHTING INSTALLATION

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 2' 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.

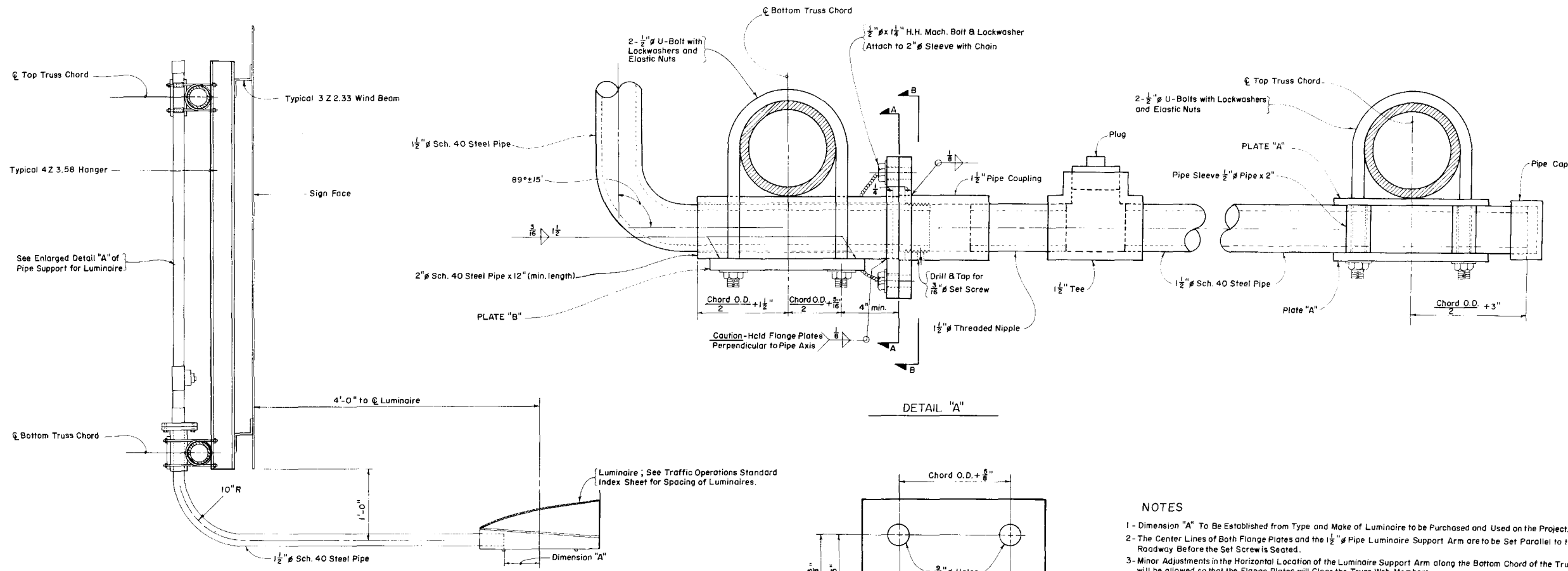


PLAN  
OVERHEAD POWER SUPPLY



#### FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS EXTERNAL LIGHTING FOR SIGNS (MERCURY VAPOR)

DATE	REVISIONS	INITIALS	DATES	Recommended for approval by	DRAWING NO.	INDEX NO.
10-6-78	Changed Index 17341-A to Index 17505	Designed by		<i>D.C. Price</i> Deputy Traffic Operations Engr.	1 OF 2	17505
		Checked by		Approved by		
		Quantities by		<i>R.E. Magale</i> State Traffic Operations Engr.		
		Checked by				
		Supervised by				



DETAIL "A"

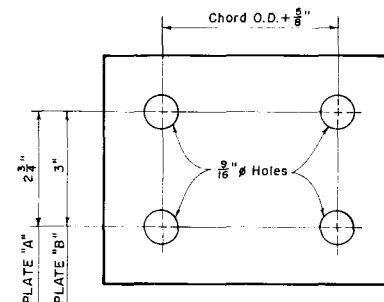
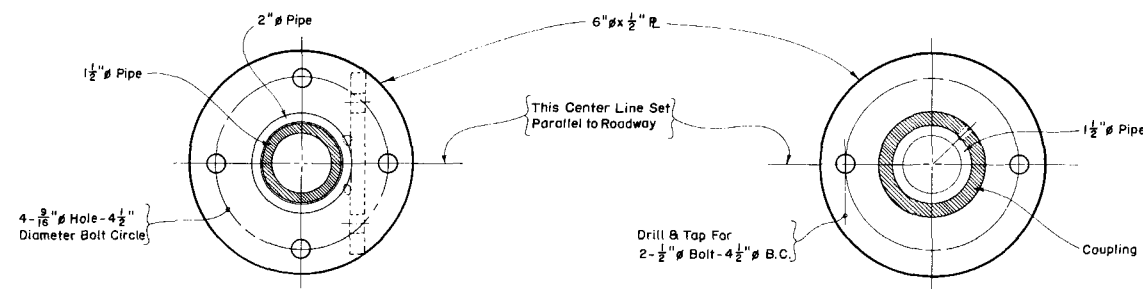


PLATE "A" Chord O.D. + 2 1/2" x 1 1/4" x 4 3/8"  
 PLATE "B" Chord O.D. + 2 1/2" x 3/8" x 5"

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.

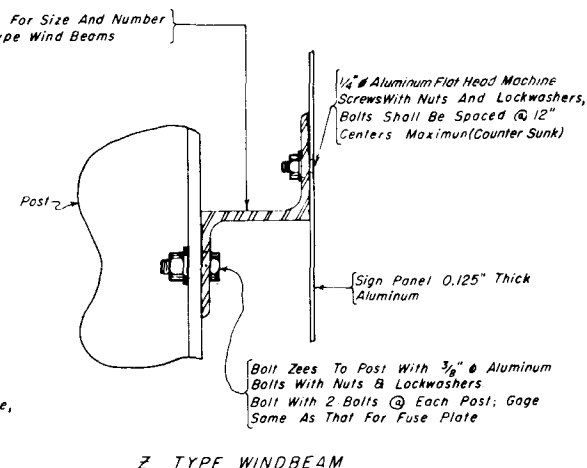
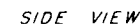
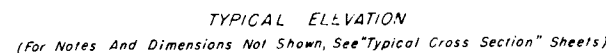


SECTION A-A

SECTION B-B

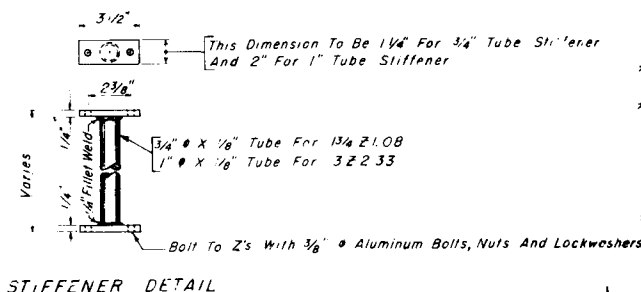
FLORIDA DEPARTMENT OF TRANSPORTATION  
 TRAFFIC OPERATIONS  
 EXTERNAL LIGHTING FOR SIGNS  
 (MERCURY VAPOR)

DATE	REVISIONS	INITIALS	DATES	Recommended for approval
10-6-78	Changed Index 12270 to Index 17505	Designed by CK		by <i>R. E. Price</i> Deputy Traffic Operations Engr.
		Checked by CWB		Approved by <i>R. E. Magaley</i> State Traffic Operations Engr.
		Quantities by		
		Checked by		
		Supervised by	AJH	
				DRAWING NO. INDEX NO.
				2 OF 2 17505



## Z TYPE WINDBEAM

PARTIAL REAR ELEVATION

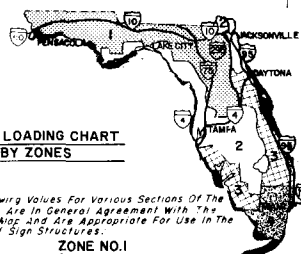


STIFFENER DETAIL

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"

SIZE OF WIND BEAMS		
SIZE OF ZEE	LENGTH OF SIGN FOR 2 POSTS	LENGTH OF SIGN FOR 3 POSTS
1 1/4 Z 108	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'

### WIND LOADING CHART BY ZONES



*The Following Values For Various Sections Of The Interstate Are In General Agreement With The Local AAG And Are Appropriate For Use In The Design Of Sign Structures:*

**ZONE NO.1  
(60mph.)**

ALACHUA, BRADFORD, BAKER, BAY, CALHOUN, CLAY, COLUMBIA, ESCAMBIA, GADSDEN, GILCHRIST, HAMILTON, HOLMES, JACKSON, JEFFERSON, LAFAYETTE, LAKE, LEON, LIBERTY, MADISON, MARI, OKALOOSA, PALM BEACH, PALM SPRING, SUMTER, SUWANNEE, UNION COUNTY, WASHINGTON COUNTIES

DESIGN SPECIFICATION: Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. A.A.S.H.O. '75.

\*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 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 Have An Electroplated Zinc Coating Type LS Applied In Accordance with ASTM A-164.

\*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.

## GENERAL NOTES

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 or 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.

**DESIGN WIND LOAD:** See Wind Loading Chart By Zones For Wind In Miles Per Hour On Flat Sign Area. The Allowable Working Stress 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 Lengths 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

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

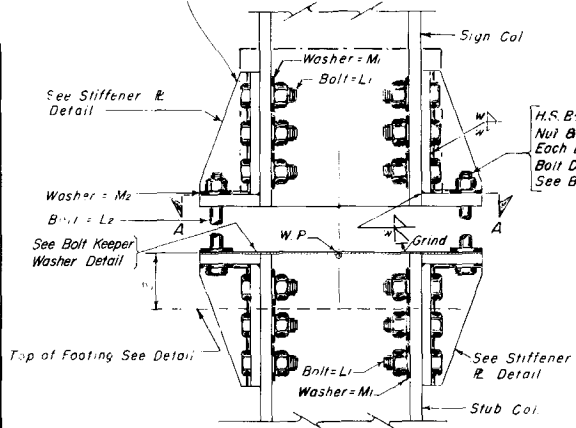
## ALUMINUM

STATE ROAD DEPARTMENT OF FLORIDA  
BRIDGE DIVISION

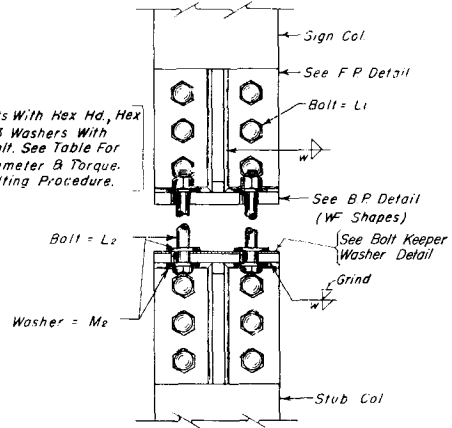
STANDARD ROADSIDE SIGN  
BREAK-AWAY PANEL DETAIL

12-71	REV. LENGTH OF WIND BEAMS	2-19-70	REV. SIZE OF WIND BEAMS	STANDARD ROADSIDE SIGN BREAK-AWAY PANEL DETAIL			
8-73	Rev. Shop Draw Note			ROAD NO.	COUNTY	PROJECT NO.	
3-74	Rev. Round HD Bolts to Flat HD Match Corners	REVISIONS					
1-76	REV. WIND LOADING	Date	Description	Name	Date	APPROVED BY	
5-76	Design Spec. Date Rev. to 1-76	2-19-68	1/2 ROLT A WIND PRESSURE REDUCTION NOTE REVISED 4-8-76 1-258	MFJ	1-67		
11-77	Rev. Detail "B" Note			Checked by	CWB	1-67	
11-78	Rev. Design Load Note			Assistant State Highway Engineer			
9-80	GENERAL REVISION	3-69	CHANGED WIND LOADING SUMMARY	Quantities by			
		10-69	ALL MATERIAL ALLOY NOTE	Checked by	Drawing No.		
				Trans. by	Issue No.		
					6635		

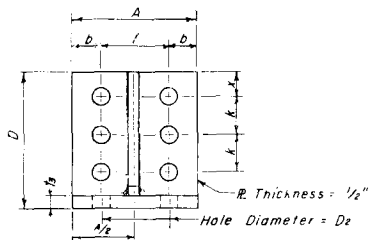
An Alternate Cast Base of Alloy 356 and T6 Temper may be submitted for Consideration in lieu of the Fabricated Base for approval by the Engineer.



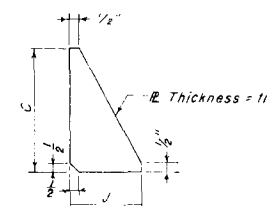
SIGN COL & STUB COL ELEVATION  
WF SHAPES



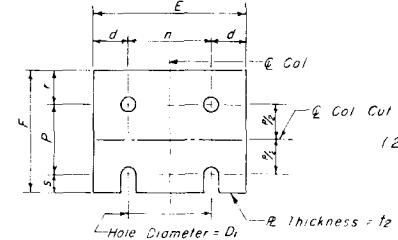
SIGN COL & STUB COL  
SIDE ELEVATION



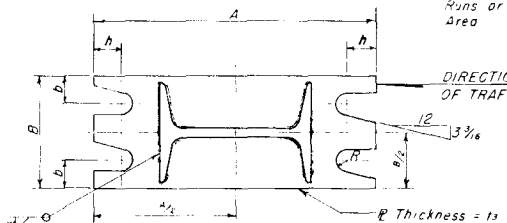
FLANGE PLATE DETAIL



STIFFENER PLATE DETAIL

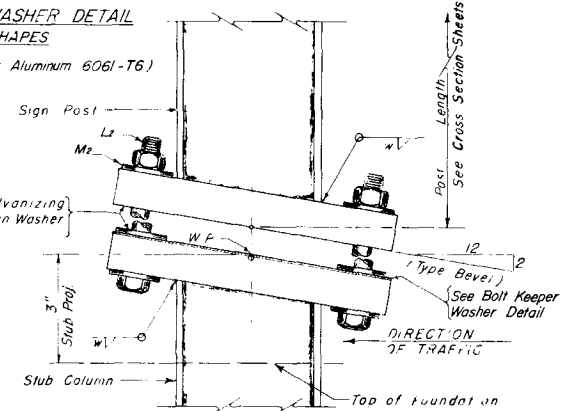


FUSE PLATE DETAIL

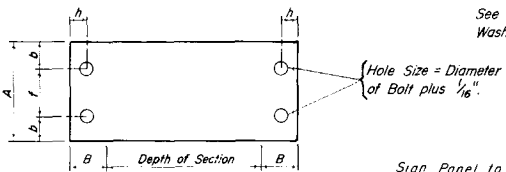


BASE PLATE DETAIL FOR I-BEAMS

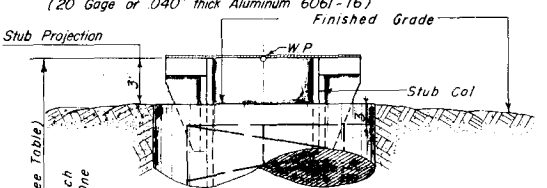
BOLT KEEPER WASHER DETAIL  
I-BEAM SHAPES  
(20 Gage or .040" thick Aluminum 6061-T6)



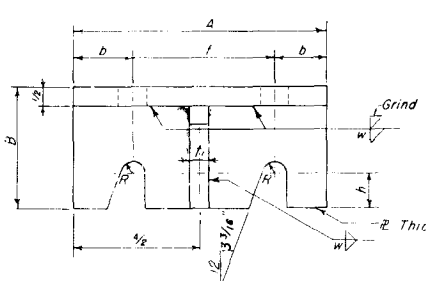
SIGN COL & STUB COL ELEVATION  
I-BEAM SHAPES



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

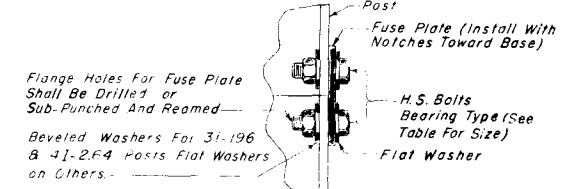


SECTION A-A

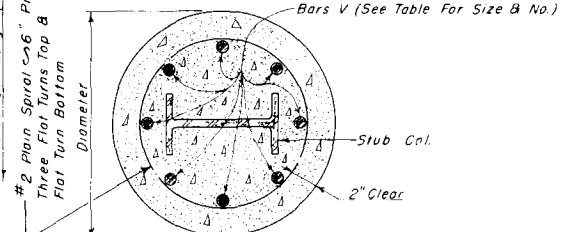


BASE PLATE DETAIL  
FOR WF SHAPES

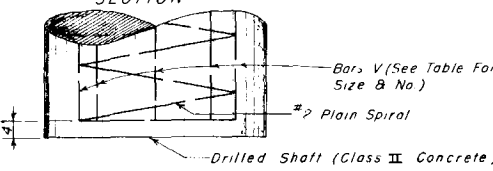
SHIM DETAIL  
Furnish 2-.012" Thick and 2-.032" Thick Shims Per Post



DETAIL "B" FUSE PLATE  
(See Fabricator Note on "Two & Three Posts" Sheets)



SECTION



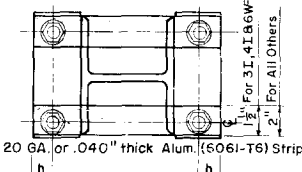
FOUNDATION DETAIL

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

BASE CONNECTION DATA TABLE															FUSE PLATE DATA TABLE													FOUNDATION DATA TABLE					
SECTION	DIMENSION	A	B	C	D	E	L	BOLT SIZE Ø TORQUE (L2)	M1	M2	D1	R	X	b	F	h	k	l	ls	W	BOLT SIZE	E	F	P	D1	d	r	s	ls	DIA.	DEPTH	STUB LENGTH	REINFORCING BARS "V"
3 I	196	7 1/2	3"									1 1/2"		3/8"		1 1/2"		1"	1/4"	5/8"	3"	3 1/4"	1 1/2"	1/8"	3/4"	1/8"	3/4"	1/8"	3/4"	1-6"	1-6"	1-6"	8-# 4
4 I	264	7 1/2	3"									1 1/2"		3/8"		1 1/2"		1"	1/4"	5/8"	3"	3 1/4"	1 1/2"	1/8"	3/4"	1/8"	3/4"	1/8"	3/4"	1-6"	1-6"	1-6"	8-# 4
6 W	416	4"	3 1/4"	5"	5 1/2"	2 1/2"	5/8"	5/8"	1 1/2"	1 1/2"	1 1/2"	1"	3/4"	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1"	5/8"	3/4"	4"	3 3/4"	1 1/4"	1/8"	3/4"	1/8"	3/4"	1/8"	3/4"	2-0"	2-3"	2-0"	8-# 4
8 W	590	5 1/4"	3 3/4"	5"	5 1/2"	2 1/2"	5/8"	5/8"	1 1/2"	1 1/2"	1 1/2"	1"	3/4"	2 1/2"	1 1/2"	1 1/2"	1 1/2"	1"	5/8"	3/4"	4"	3 3/4"	1 1/4"	1/8"	3/4"	1/8"	3/4"	1/8"	3/4"	2-0"	3-3"	2-5"	8-# 5
8 W	832	6 1/2"	3 3/4"	6 1/2"	7 1/2"	3 1/2"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	6 1/4"	4 1/2"	2 1/4"	1/8"	3/4"	1/8"	3/4"	1/8"	3/4"	2-0"	4-6"	2-5"	8-# 7
10 W	1141	8"	3 3/4"	8"	8 1/2"	3 1/2"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	7"	5 1/4"	2 3/4"	1 1/4"	1 3/4"	3/8"	1 1/2"	3/4"	2-0"	6-3"	3-0"	8-# 10	
12 W	1384	8"	3 3/4"	8 1/2"	9 1/2"	3 1/2"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	8"	5 3/4"	2 3/4"	1 1/4"	1 3/4"	3/8"	1 1/2"	3/4"	2-0"	6-3"	3-6"	9-# 11	
12 W	1834	10"	3 3/4"	10"	10 1/2"	3 1/2"	1"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/4"	9"	6 1/4"	3 1/4"	1 1/4"	1 3/4"	5/8"	1 1/2"	1 1/2"	2-0"	10-9"	4-0"	15-# 11

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION: FOR BOLTS L2

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.



ALTERNATE BOLT KEEPER  
DETAIL FOR I-BEAM AND WF SHAPES

ALUMINUM BASE, FOUNDATION & FUSE R DETAILS

STATE ROAD DEPARTMENT OF FLORIDA  
BRIDGE DIVISION

STANDARD ROADSIDE SIGN  
BREAK-AWAY POST DETAILS

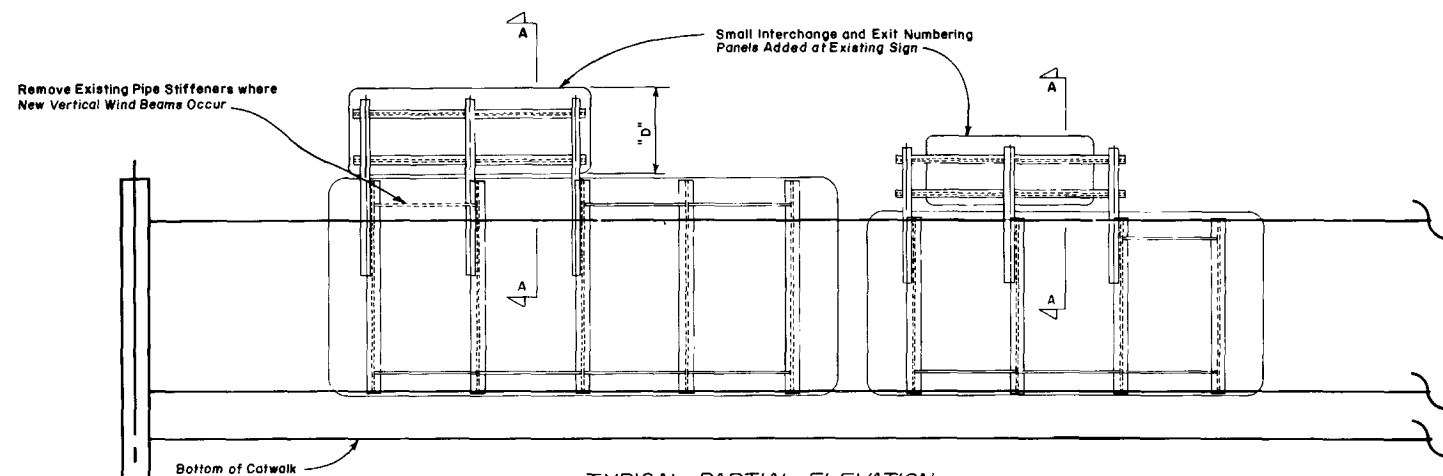
REVISIONS	ROAD NO.	COUNTY	PROJECT NO.
Date: Descriptions	Name	Date	APPROVED BY
6-19-68 Bolt Size, Torque & Dim.			
6-22-68 Bolt Keeper Washer Detail Added			
6-7-73 TORQUE			
6-7-73 Class I Concrete Added			
1-74 Alternate Cast Base Added			
6-74 Alternate Bolt Keeper Washer Added			
5-76 Design Spec Date Rev. to 10-72			
9-80 GENERAL REVISION			

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





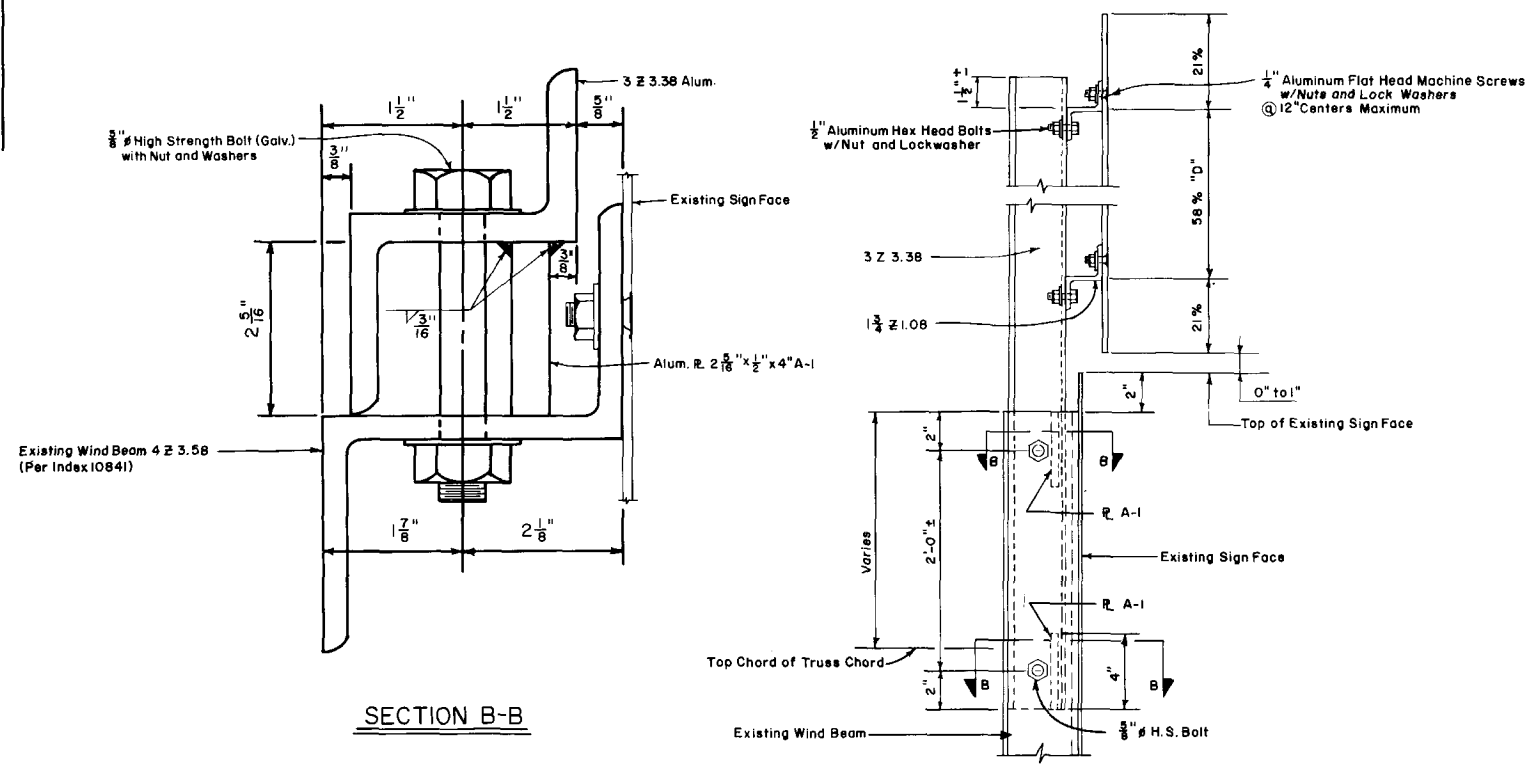




TYPICAL PARTIAL ELEVATION  
(Existing Aluminum or Steel Overhead Truss)

### GENERAL NOTES

(1) For "General Notes" Covering Specification and Material; See Sheets 1 of 4 and 3 of 4, Index 9535



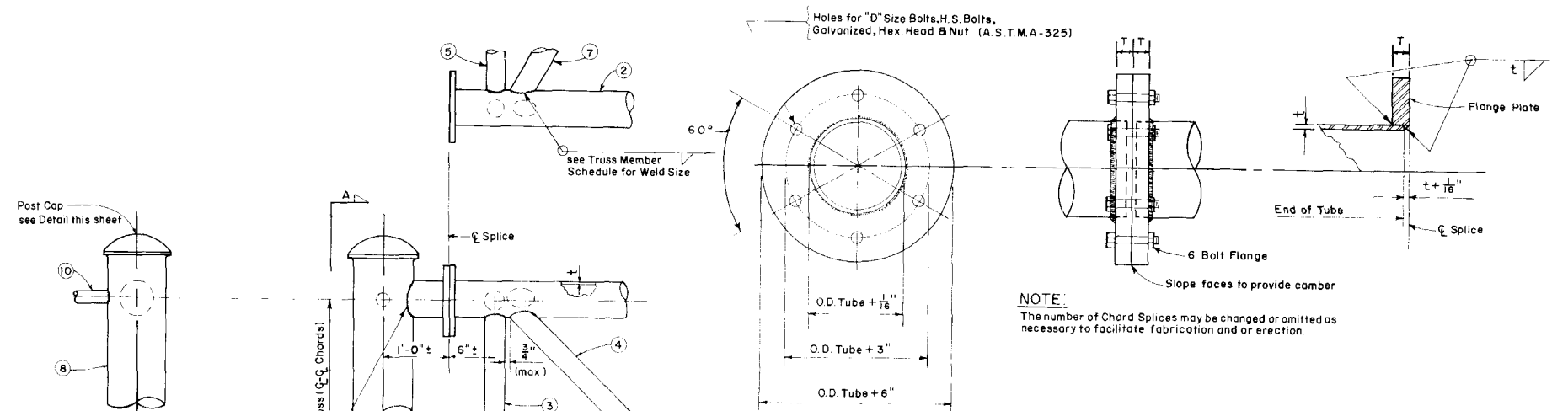
SECTION B-B

SECTION A-A

### INTERCHANGE AND EXIT NUMBERING FOR SIGNS WITH VERTICAL WIND BEAMS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES																					
DETAILS FOR ADDING SIGN ASSEMBLY TO EXISTING HIGHWAY SIGNS																					
ROAD NO.		COUNTY	PROJECT NO.																		
<table border="1"> <tr> <th>REVISIONS</th> <th>Dates</th> <th>Descriptions</th> </tr> <tr> <td>3-74</td> <td>Rev Round NO. Bolt to Flat HD. Mach. Screws</td> <td></td> </tr> </table>				REVISIONS	Dates	Descriptions	3-74	Rev Round NO. Bolt to Flat HD. Mach. Screws													
REVISIONS	Dates	Descriptions																			
3-74	Rev Round NO. Bolt to Flat HD. Mach. Screws																				
<table border="1"> <tr> <th>Names</th> <th>Dates</th> </tr> <tr> <td>Designed by C W B</td> <td>11-71</td> </tr> <tr> <td>Checked by J G</td> <td>11-71</td> </tr> <tr> <td>Quantities by</td> <td></td> </tr> <tr> <td>Checked by</td> <td></td> </tr> <tr> <td>Supervised by A J H</td> <td></td> </tr> </table>		Names	Dates	Designed by C W B	11-71	Checked by J G	11-71	Quantities by		Checked by		Supervised by A J H		<table border="1"> <tr> <td>APPROVED BY</td> <td></td> </tr> <tr> <td>Drawing No.</td> <td>Index No.</td> </tr> <tr> <td>1 of 1</td> <td></td> </tr> </table>		APPROVED BY		Drawing No.	Index No.	1 of 1	
Names	Dates																				
Designed by C W B	11-71																				
Checked by J G	11-71																				
Quantities by																					
Checked by																					
Supervised by A J H																					
APPROVED BY																					
Drawing No.	Index No.																				
1 of 1																					

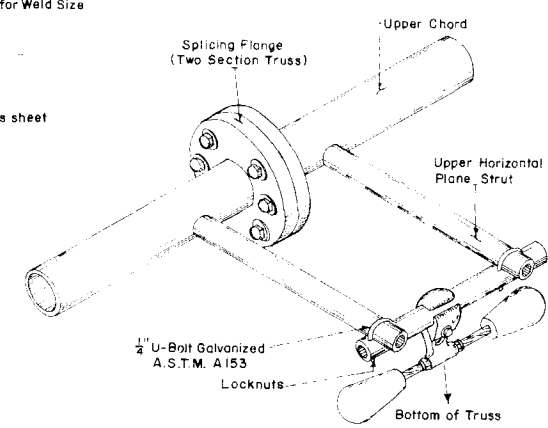
SPLICE PLATE FLANGE TABLE			
TUBE SIZE	T	BOLT SIZE "D"	
2 3/4" x 1/8" to 6 1/2" x 1/4"	1 1/4"	5/8" φ	
7" x 1/4" to 9" x 1/4"	1 1/4"	3/4" φ	
7 1/2" x 5/16" to 9 1/2" x 5/16"	1 1/4"	7/8" φ	



**NOTE:**  
The number of Chord Splices may be changed or omitted as necessary to facilitate fabrication and/or erection.

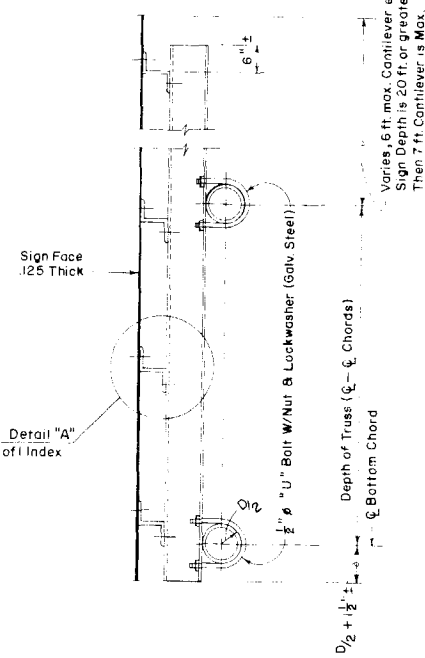
**SPLICE PLATE FLANGE DETAILS**  
Aluminum Alloy 6061-T6 or 5154-H38 or Alloy 356-T7

- 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.
  - (4) Any Truss Member, Steel or Aluminum over 1/2" Thick Must meet the Longitudinal CHARTY V-NOTCH TEST.



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.

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"	5/16"
1/4"	3/8"	1/4"	3/8"
5/16"	7/16"	5/16"	1/2"
3/8"	1"	3/8"	3/4"



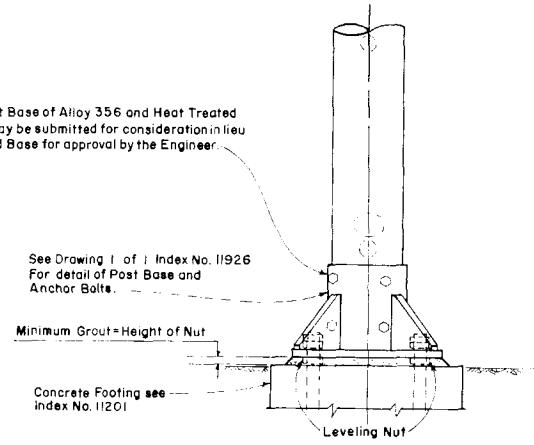
**DETAIL OF SIGN FACE & TRUSS CONNECTION**  
See Drawing 1 of 1 Index No. 11037

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



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

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
STRUCTURES

BRIDGE SPAN TRUSS FOR OVERHEAD SIGNS

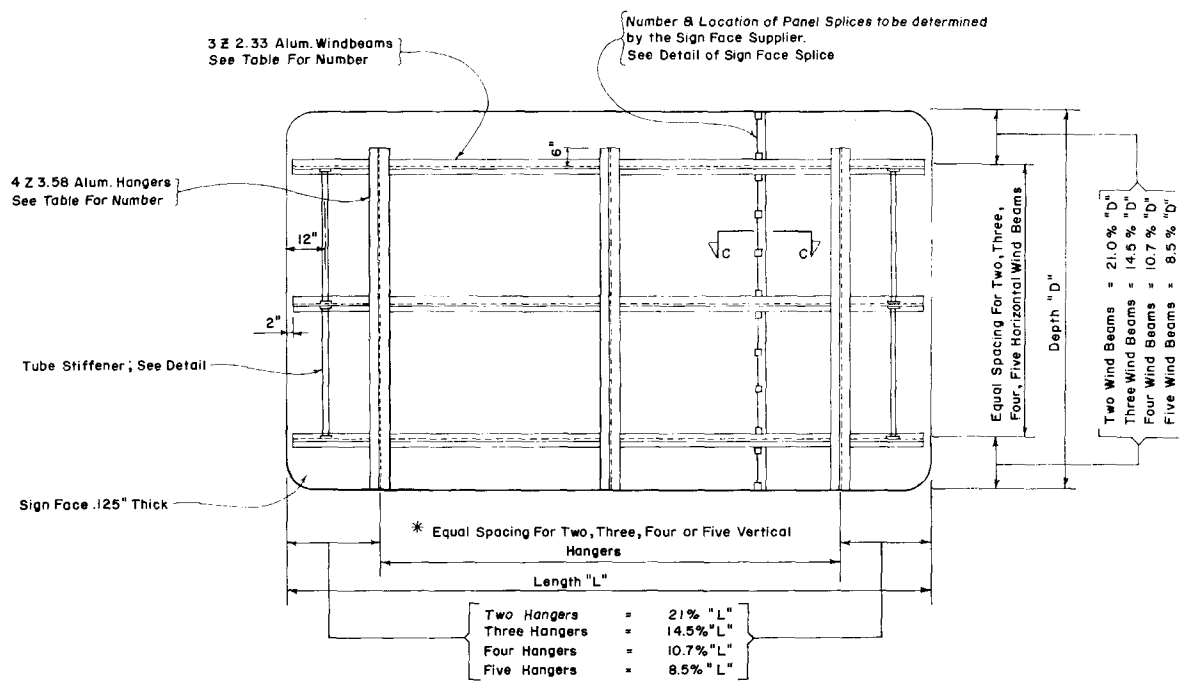
REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
4-72	Upper Col. Strut No. 10 Rev. to No. 9			
5-72	Sign Face & Truss Connection			
5-72	1/2" x 1/2" x 1/2" A153			
A-81	Charpy Test Added			

Designed by	HAV	Date	11-71
Checked by	CWB	Date	11-71
Quantity by			
Checked by			
Supervised by	A J H		

APPROVED BY

\_\_\_\_\_  
Design Engineer, Structures

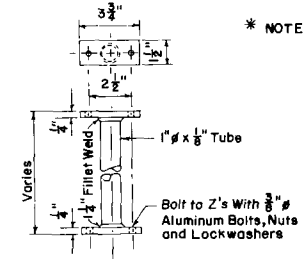
Drawing No. 1 of 1 Index No. 10965



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" - 38'-0"
100	4	15'-9"	0'-15'-0"	15'-1" - 22'-3"	22'-4" - 30'-0"	30'-1" - 38'-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"	

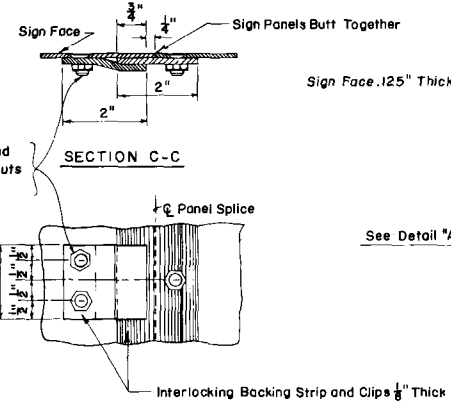
TYPICAL SIGN FACE ELEVATION FOR O.H. TRUSS

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

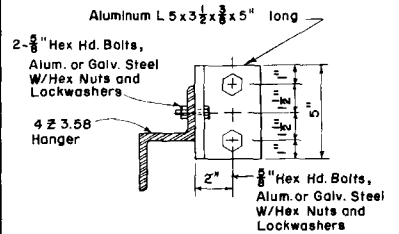


STIFFENER DETAIL

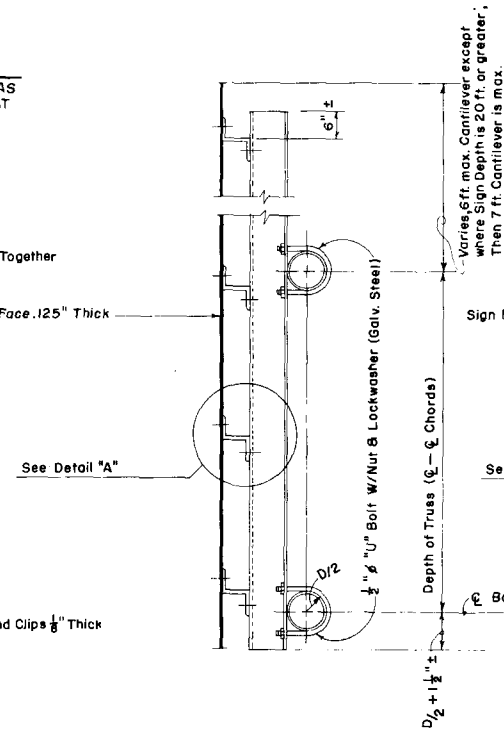
1/4" Aluminum Flat Head Machine Screws with Nuts and Lock Washers



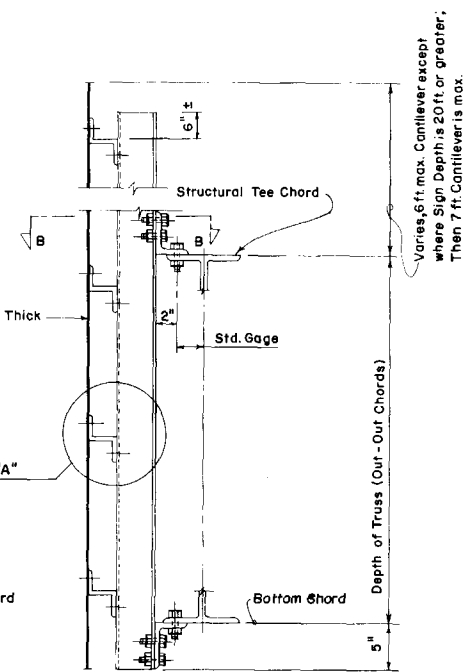
SIGN FACE SPLICE  
(MAX. SPACING OF CLIPS 12")



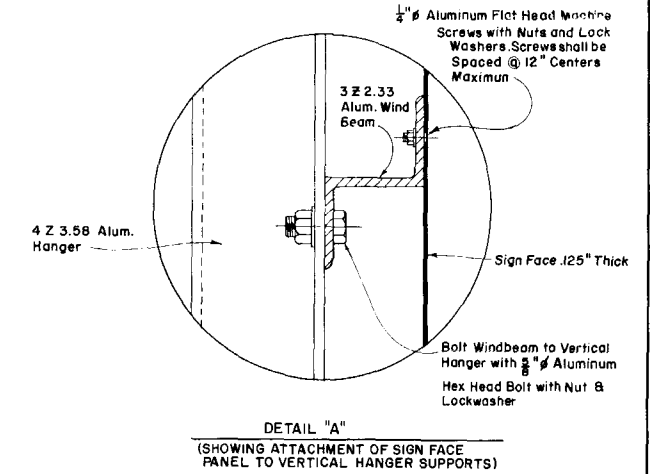
SECTION B-B



TYPICAL DETAIL OF SIGN & TRUSS CONNECTION  
FOR ROUND CHORD MEMBERS



TYPICAL DETAIL OF SIGN & TRUSS CONNECTION  
FOR ROLLED STRUCTURAL SHAPES



DETAILS OF SIGN FACE & TRUSS CONNECTION

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

STRUCTURES

FOR ALUMINUM & STEEL OVERHEAD SIGN STRUCTURES

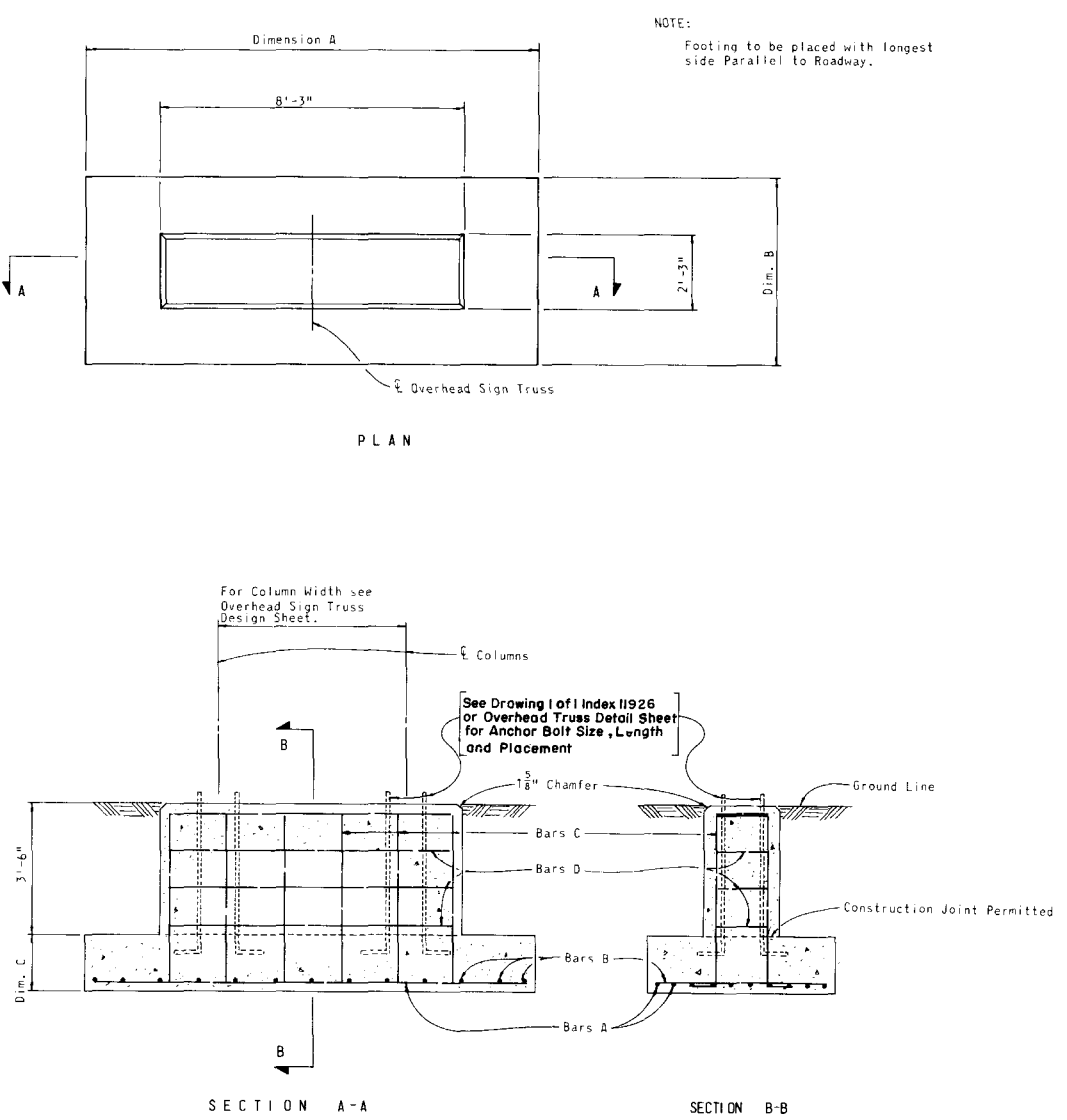
GENERAL NOTES

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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description			
5-74	Rev Round HD Bolts to Flat HD. Head Screws			
5-76	REV. WIND LOADING	Designed by	C.W.B.	5-72
1-78	REV. Truss Connection Note	Checked by	A.J.H.	5-72
		Quantity by		
		Checked by		
		Supervised by		
		Drawn by		Index No.
			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"	12"	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"	11½"	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"	7½"	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'-6"	1'-9"	8	19'-0"	7½"	13	5	7'-3"	12"	20
T-11	20'-0"	7'-9"	2'-0"	8	19'-6"	7¼"	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"	7½"	13	5	7'-9"	10¼"	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"	10½"	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"	8½"	13	5	8'-6"	10"	28
T-18	23'-6"	9'-3"	2'-0"	10	23'-0"	8¼"	13	5	8'-9"	12"	24
T-19	24'-0"	9'-3"	2'-0"	11	23'-6"	8¼"	13	5	8'-9"	11¾"	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"	9½"	13	6	9'-3"	14"	22
T-23	25'-0"	10'-0"	2'-0"	11	24'-6"	9½"	13	6	9'-6"	14"	22
T-24	25'-6"	9'-9"	2'-0"	10	25'-0"	6 <sup>15</sup> / <sub>16</sub> "	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 <sup>15</sup> / <sub>16</sub> "	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"	13¼"	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"	6½"	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 <sup>5</sup> / <sub>8</sub> "	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 <sup>5</sup> / <sub>8</sub> "	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 <sup>5</sup> / <sub>8</sub> "	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"	5½"	21	6	9'-3"	14¼"	25
T-40	30'-0"	10'-0"	2'-0"	11	29'-6"	5 <sup>7</sup> / <sub>16</sub> "	22	6	9'-6"	14¾"	25

BENDING DIAGRAMS		BILL OF CONSTANT REINFORCING		DIAGRAM NO.
MARK	SIZE	LENGTH	NO. REQ'D.	
C	4	VARIES	6	(2)
D	4	19'-8"	4	(1)
NOTE: All dimensions are out-to-out.				



- 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 3,400 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 TYPE A, B or C TRUSSES			
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
FOOTINGS FOR OVERHEAD SIGN TRUSSES			
ROAD NO.	COUNTY	PROJECT NO.	
DESIGNER	DATE	APPROVED BY	
8-73 Class II Concrete Added			
9-74 Rev. Anchor Bolt Note			
11-78 Rev. Concrete Strength			
DESIGNED BY	DATE	CHECKED BY	
D.K.S.	4/73	C.W.B.	
QUANTITY BY			
CHECKED BY			
SUPERVISOR			
A.J.H.			
1 of 2			11,201

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

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

Vertical Bars C

Bars E

Bars D

Overhead Cantilever Sign Truss

PLAN VIEW

Dimension "A"

9'-6"

7'-6"

Dimension "B"

For Column width, see Overhead Sign Truss Design Sheet.

E of Columns (4 Columns)

For Anchor Bolt size, length and placement, see Sheet 1 of 1, Index 11926. See Note 4 of this Sheet.

Ground Line

Bars D

Bars E

1/8" Chamfer

Vertical Bars C

Bars B (See Table)

Bars A (See Table)

Construction Joint Permitted.

FRONT ELEVATION

END ELEVATION

Dimension "C"

3'-6"

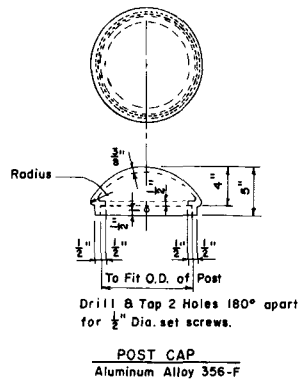
Dimension "D"

- NOTES:
1. All Reinforcing Steel shall have a 3" Minimum of Concrete Cover and shall be of Grade 60.
  2. All exposed edges to be Chamfered  $\frac{3}{4}$ " unless otherwise shown.
  3. All Concrete shall be Class II. The Minimum Specified Compressive Strength at 28 days (f'c) shall be **3,400 p.s.i.**
  4. 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.

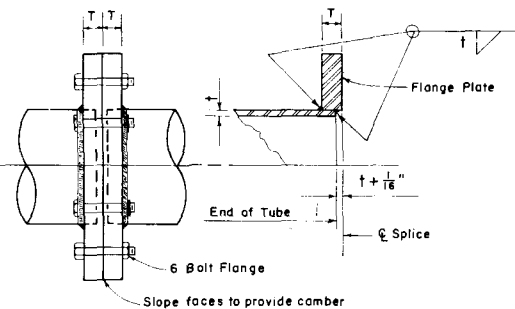
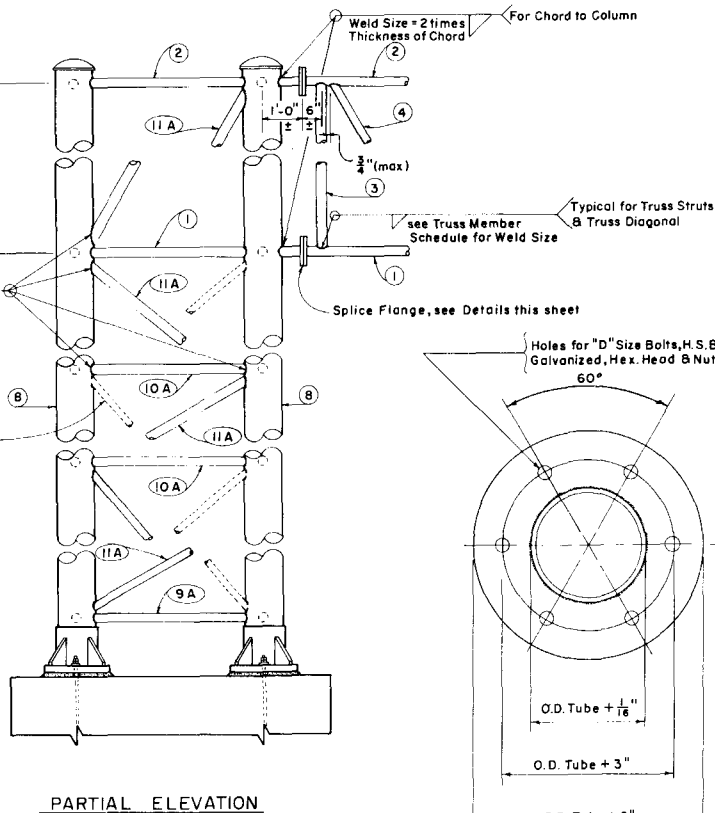
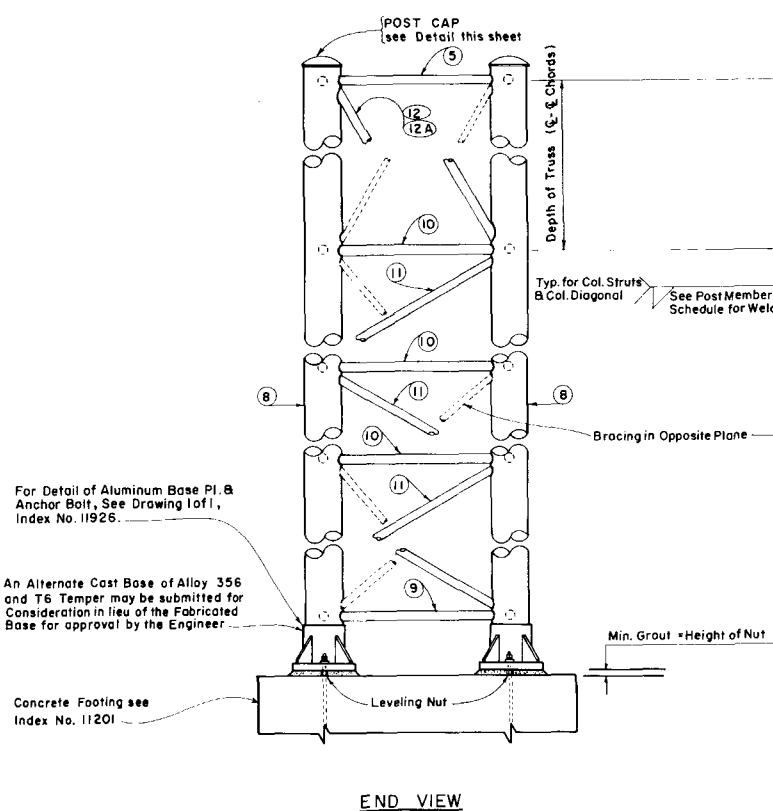
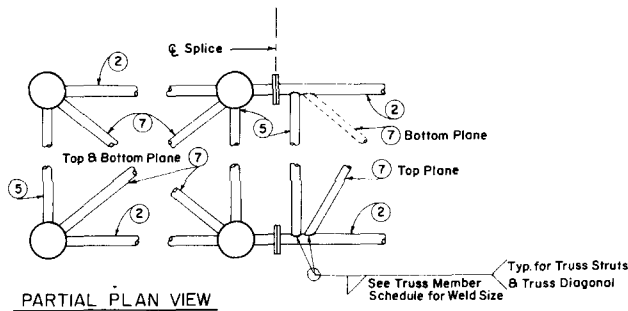
REVISIONS		ROAD NO.		COUNTY	PROJECT NO.	
Date	Description	Drawn by	Checked by	Index No.		
7-73	Class II Concrete Added					
8-73	Rev Anchor Bolt Note					
8-73	Rev. TITLE					
11-73	Rev. Pedestal Dimension & Bill of Constant Reinforcing					
11-78	Rev Concrete Strength					

OVERHEAD CANTILEVER TRUSSES	
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES	
FOOTINGS FOR OVERHEAD SIGN TRUSSES	
ROAD NO.	COUNTY
PROJECT NO.	

APPROVED BY	
Drawn by	Index No.
D.K.S.	4/73
C.W.B.	4/73
<i>T. Hall</i> Deputy Design Engineer, Structures	
2 of 2	11,201



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"	5/16"
1/4"	3/8"	1/4"	3/8"
		5/16"	1/2"
		3/8"	3/8"
		1/2"	3/4"

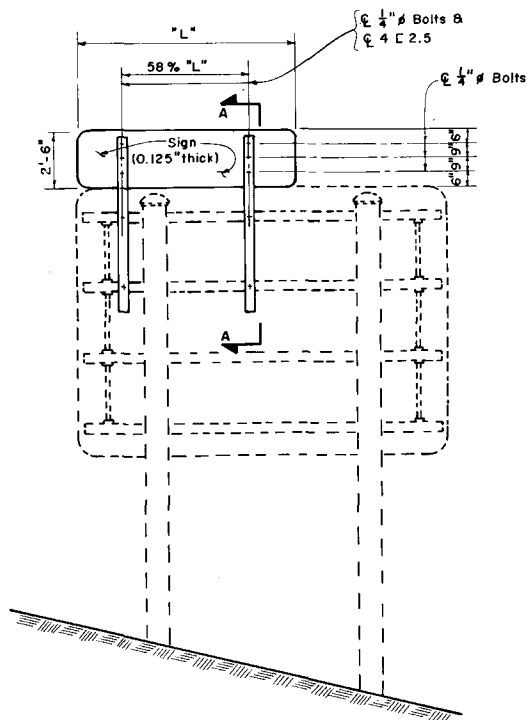


### GENERAL NOTES

- (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) Any Truss Member, Steel or Aluminum over 1/2" Thick Must meet the Longitudinal CHARPY V-NOTCH TEST.

SPLICE PLATE FLANGE TABLE			
TUBE SIZE	T	BOLT SIZE "D"	
2 1/4" x 1/8" to 6 1/2" x 1/4"	1 1/4"	3/8" B	
7" x 1/4" to 9" x 1/4"	1 1/4"	3/4" B	
7 1/2" x 5/16" to 9 1/2" x 5/16"	1 1/4"	7/8" B	

ALUMINUM CANTILEVER			
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
TRUSSES FOR OVERHEAD SIGNS			
REVISIONS		ROAD NO.	COUNTY
Date	Description		
5-73	DIMENSION & ADDED		
6-76	ROSES & ANCHOR BOLT DETAILS ADDED		
3-77	Walkway Detail Note Added		
1-78	Walkway Note Removed		
8-81	Charpy Test Added		
Designed by		NAME	DATE
Checked by		CWB	3-73
Quantity by			
Checked by			
Supervised by		AJH	
APPROVED BY		T. A. L. D. L.	
Drawing No.		1 of 1	
		11226	



ELEVATION

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

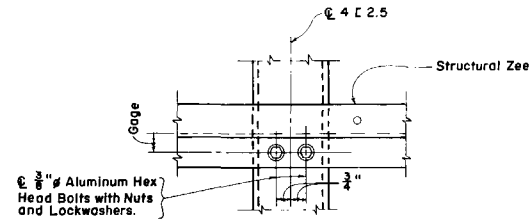
NOTE: EXIT NUMBERING PANEL shall be located to the right side for right exits and to the left for left exits.

Bolt Sign to Channels using 1/4" Aluminum Flat Head Nuts and Lock Washers (Typ.).

Top of Sign and Bottom of Proposed Sign

Bolt Proposed Assembly to Wind Beams with 3/8" Aluminum Hex Head Bolts with Nuts and Lockwashers.

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.





























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

REVISIONS		ROAD NO.	COUNTY	PROJECT NO.
Date	Description	Names	Dates	APPROVED BY
5-76	Design Spec. Date Rev. to 1975 & Removed Non-Brackway Structure Details.	RDS	7-75	
10-78	Rev. 4-C to 2.5	AJH	7-75	
9-79	Removed Type "C" Elevation & Relocate Exit Numbering Panel			
		Quantities by		Deputy Design Engineer, Structures
		Checked by		Drawing No.
		Supervised by		Index No.
				1 of 1
				11671

Sign Identification Number	SIGN		TYPE OF SIGN BRACKET			
	PROFILE - SIZE	SQ. FT.	WIND ZONE			
			60	70	80	90
BID ITEM NO. 700-1-1 YIELD						
1	 24x24	1.7	2-I	2-I	2-I	2-I
2	 30x30	2.7	2-I	2-I	2-I	2-I
3	 36x36	3.9	2-I	2-I	2-I	2-I
4	 48x48	6.9	2-I	2-II	2-II	2-II
5	 60x60	10.8	2-II	2-II	3-II	3-II
BID ITEM NO. 700-1-2 RAILROAD						
6	 36"ø	7.1	2-I	2-I	2-I	2-I
7	 48"ø	12.6	2-I	2-II	2-II	2-II
BID ITEM NO. 700-1-3 STOP						
8	 18x18	1.9	2-I	2-I	2-I	2-I
9	 24x24	3.3	2-I	2-I	2-I	2-I
10	 30x30	5.2	2-I	2-I	2-I	2-I
11	 36x36	7.5	2-I	2-I	2-I	2-I
12	 48x48	13.3	2-I	2-II	2-II	2-II
BID ITEM NO. 700-1-4 RT. MARKER SINGLE						
13	 12x24 24x24	5.4	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
14	 15x30 24x24	6.5	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
15	 12x24 24x30	6.3	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
16	 15x30 24x30	7.4	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
17	 15x30 36x36	10.8	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
18	 15x30 36x45	12.6	1-I 2-I	1-I 2-I	1-I 2-II	1-I 2-II
19	 15x30 48x48	16.7	1-I 2-I	1-I 2-II	1-I 2-II	1-I 2-II
20	 15x30 48x60	20.1	1-I 2-II	1-I 2-II	1-I 2-II	1-I 2-II
21	 12x24 24x24 15x21	7.6	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
22	 15x30 24x24 15x21	8.7	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
23	 12x24 24x30 15x21	8.5	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
24	 15x30 24x30 15x21	9.6	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
25	 12x24 24x24	6.0	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
26	 24x24 15x21	6.2	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
27	 15x30 24x24	7.1	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
28	 12x24 24x30	7.0	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I

Sign Identification Number	SIGN		TYPE OF SIGN BRACKET			
	PROFILE - SIZE	SQ. FT.	WIND ZONE			
			60	70	80	90
29	24x30 15x21	7.2	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
30	15x30 24x30	8.1	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
31	15x21 36x30	9.7	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
32	15x30 36x30	10.6	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
33	12x24 24x24 15x21	8.2	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
34	15x30 24x24 15x21	9.3	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
35	12x24 24x30 15x21	9.2	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
36	15x30 24x30 15x21	10.3	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I	1-I 2-I 1-I
BID ITEM NO. 700-1-5 RT. MARKER DOUBLE						
37	12x24, 12x24 24x24, 24x24 15x21	13.6	1-II 2-II 1-I	1-II 2-II 1-I	1-II 2-II 1-I	1-II 2-II 1-I
38	12x24, 12x24 24x24, 24x24 15x21, 15x21	15.2	1-II 2-II 1-II	1-II 2-II 1-II	1-II 2-II 1-II	1-II 2-II 1-II
39	12x24, 12x24 24x24, 24x24 15x21, 15x21	16.4	1-II 2-II 1-II	1-II 2-II 1-II	1-II 2-II 1-II	1-II 2-II 1-II
40	15x30, 15x30 24x30, 24x30 15x21, 15x21	19.2	1-II 2-II 1-II	1-II 2-II 1-II	1-II 2-II 1-II	1-II 2-II 1-II
41	12x24, 12x24 12x24, 12x24 24x24, 24x24 15x21, 15x21	20.4	1-II 2-II 2-II 1-II	1-II 2-II 2-II 1-II	1-II 2-II 2-II 1-II	1-II 2-II 2-II 1-II
42	15x21 12x24, 12x24 24x24, 24x24 15x21, 15x21	22.6	1-I 1-II 2-II 1-II	1-I 1-II 2-II 1-II	1-I 1-II 2-II 1-II	1-I 1-II 2-II 1-II
43	12x24 24x30 15x21 12x24, 12x24 24x24, 24x24 15x21, 15x21	25.6	1-I 2-I 1-I 1-II 2-II 1-II	1-I 2-I 1-I 1-II 2-II 1-II	1-I 2-I 1-I 1-II 2-II 1-II	1-I 2-I 1-I 1-II 2-II 1-II
BID ITEM NO. 700-1-10, 3 SQ. FT. OR LESS						
44	18x12	1.5	2-I	2-I	2-I	2-I
45	12x36	3.0	1-I	1-I	1-I	1-I
46	18x24	3.0	2-I	2-I	2-I	2-I
47	24x18	3.0	2-I	2-I	2-I	2-I
48	18x18 9x12	3.0	2-I 1-I	2-I 1-I	2-I 1-I	2-I 1-I
BID ITEM NO. 700-1-11, 3" TO 4 SQ. FT.						
49	18x30	3.8	2-I	2-I	2-I	2-I
50	30x40	3.9	2-I	2-I	2-I	2-I
51	24x24	4.0	2-I	2-I	2-I	2-I

Sign Identification Number	SIGN		TYPE OF SIGN BRACKET			
	PROFILE - SIZE	SQ. FT.	WIND ZONE			
			60	70	80	90
52	24x24	4.0	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-12, 4" TO 5 SQ. FT.						
53	18x36	4.5	2-I	2-I	2-I	2-I
54	30x30	4.7	2-I	2-I	2-I	2-I
55	30x24	5.0	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-13, 5" TO 6 SQ. FT.						
56	36x48	5.6	2-II	3-II	3-II	3-II
57	24x36	6.0	2-I	2-I	2-I	2-I
58	36x24	6.0	2-I	2-I	2-I	2-I
BID ITEM NO. 700-1-14, 6" TO 6.25 SQ. FT.						
59	30x30	6.3	2-I	2-I	2-I	2-I
60	30x30	6.3	2-I	2-I	2-I	3-II
BID ITEM NO. 700-1-15, 6.25" TO 9 SQ. FT.						
61	36x36	6.75	2-I	2-I	2-I	2-I
62	30x36	7.5	2-I	2-I	2-I	2-I
63	36x30	7.5	2-I	2-I	2-I	2-I
64	24x48	8.0	2-II	2-II	2-II	2-II
65	12x36 30x30	8.2	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
66	30x42	8.8	2-I	2-I	2-I	2-II
67	36x36	9.0	2-I	2-I	2-I	2-I
68	36x36	9.0	3-II	3-II	3-II	3-II
BID ITEM NO. 700-1-16, 9" TO 12 SQ. FT.						
69	12x36 30x30	9.3	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
70	30x30 18x24	9.3	2-I 2-I	2-I 2-I	2-I 2-I	3-II 2-I
71	48x64	9.9	3-II	3-II	3-II	3-II
72	30x48	10.0	2-I	2-II	2-II	2-II
73	12x36 36x36	10.5	1-I 2-I	1-I 2-I	1-I 2-I	1-I 2-I
74	30x54 (2-6x4-6)	11.3	2-II	2-II	2-II	2-II
75	36x48 (3-0x4-0)	12.0	2-I	2-II	2-II	2-II
76	48x36 (4-0x3-0)	12.0	2-I	2-I	2-I	2-I
77	36x36 18x24	12.0	3-II 2-I	3-II 2-I	3-II 2-I	3-II 2-I
78	48x48	12.0	2-I	2-II	2-II	2-II
BID ITEM NO. 700-1-17, 12" TO 16 SQ. FT.						
79	30x60 (2-6x5-0)	12.5	2-II	2-II	2-II	2-II
80	48x48 (4-0x4-0)	16.0	2-I	2-II	2-II	2-II
81	48x48 (4-0x4-0)	16.0	3-II	3-II	3-II	3-II
BID ITEM NO. 700-1-18, 16" TO 20 SQ. FT.						
82	30x78 (2-6x6-6)	16.3	2-II	2-II	2-II	2-II
83	30x84 (2-6x7-0)	17.5	2-II	2-II	2-II	2-II
84	48x54 (4-0x4-6)	18.0	2-II	2-II	2-II	2-II
85	42x66 (3-6x5-6)	19.3	2-II	2-II	2-II	2-II
86	60x48 (5-0x4-0)	20.0	2-II	2-II	3-II	3-II

Sign Identification Number	SIGN		TYPE OF SIGN BRACKET			
	PROFILE - SIZE	SQ. FT.	WIND ZONE			
			60	70	80	90
BID ITEM NO. 700-1-19, 20" TO 32 SQ. FT.						
87	66 x 48 (5-6x4-0)	22.0	2-II	3-II	3-II	3-II
88	60 x 72 (5-0x6-0)	30.0	2-II	2-II	3-II	3-II
89	96 x 48 (8-0 x 4-0)	32.0	3-II	3-II	3-II	3-II
BID ITEM NO. 700-1-20 DESTINATION, 1-LINE						
90	24 x 78 (2-0x6-6)	13.0	2-II	2-II	2-II	2-II
BID ITEM NO. 700-1-21 DESTINATION, 2-LINE						
91	36 x 78 (3-0x6-6)	19.5	2-II	2-II	2-II	2-II

DESIGN NOTES

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

MATERIALS: Aluminum Materials shall in General, Meet the Requirements of Aluminum Association Alloy 6061-T6 (ASTM B209, B221, or B308) Permissible Alternates shall be: For sheets and Plates - Aluminum Association Alloy 5154-H 38 (ASTM B209) and for Extruded Bars, Rods, Shapes and Tubes - Aluminum Association Alloy 6351-T5 (ASTM B221)

CONCRETE: All Concrete shall be Class I, The Specified Compressive Strength at 28 Days (f'c) Shall be 3,000 p.s.i. min.

SIGN PANEL: Sign Panel shall be 0.08 in. Min. Thick Aluminum Plate with all Corners Rounded. See Sign Layout Sheet. Panels are to be Degraded, Etched, Neutralized and Treated with Alodine 1200, Iridine 14-2, Bonderite 721 or Equal. No Stenciling Permitted on Panels.

ALUMINUM BOLTS, NUTS & LOCKWASHERS: Aluminum Bolts shall meet the Requirements of Aluminum Association Alloy 2024-T4 or 6061-T6 (ASTM B211). The Bolts shall have an Anodic Coating of at least 0.0002 in. Thick and be Chromate Sealed. Lockwashers shall meet the Requirements of Aluminum Association Alloy 7075-T6 (ASTM B221). Nuts shall meet the Requirements of Aluminum Association Alloy 6262-T9 or 6061-T6.

GENERAL NOTES

HOW TO USE THIS TABLE: Select the Appropriate Sign Profile and Sign Size to Determine the Sign Identification Number. If the Exact Sign Size of All Components is Not Listed, Select the Appropriate Profile and Larger Component Sizes. This Table Also Gives the Quantity and Type of Sign Brackets Required for Each Sign for Each Wind Zone.

Where the Sign Size is Given as a Vertical and Horizontal Dimension, The Vertical Dimension (Depth) is Given First and the Horizontal Dimension (Length) is Given Last Signs 16" and Less in Depth will be Mounted with One Bracket at the C. Signs 18" in Depth and Over Require Two Sign Brackets.

For Column Sizes, Heights and Footings See Appropriate (Wind Zone) Sheet Titled "Column Sizes, Column Height and Column Footings."

No Shop or Field Splice Allowed in Sign Panels. All Panels to be Furnished in One Piece.

WIND LOADING

ZONE NO. 1 (60 M.P.H.)

Alachua, Bradford, Baker, Bay, Calhoun, Clay, Columbia, Escambia, Gadsden, Gilchrist, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Lake, Leon, Liberty, Madison, Marion, Okaloosa, Putnam, Santa Rosa, Sumter, Suwannee, Union, Walton and Washington Counties.

ZONE NO. 2 (70 M.P.H.)

Citrus, DeSoto, Dixie, Duval, Flagler, Franklin, Glades, Gulf, Hardee, Hendry, Hernando, Highlands, Hillsborough, Levy, Nassau, Okeechobee, Orange, Osceola, Pasco, Pinellas, Polk, Seminole, St. Johns, Taylor and Wakulla Counties.

ZONE NO. 3 (80 M.P.H.)

Brevard, Charlotte, Collier, Indian River, Lee, Manatee, Martin, Palm Beach, Sarasota, St. Lucie and Volusia Counties.

ZONE NO. 4 (90 M.P.H.)

Broward, Dade and Monroe Counties.

REVISIONS	
Date	Description
6-80	GENERAL REVISION

NOTE: "A"-See Traffic Operation Standard Index 17302

TYPICAL SECTION

SIGN CLEARANCE

DETAILS-W14-3 PLAQUE

SIGNS BACK TO BACK

SIGNS AT 90°

SIGN BRACKET - TYPE I

SIGN BRACKET - TYPE II

SIGN PROFILE & IDENTIFICATION NUMBERS

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES

TYPE "C" SINGLE COLUMN GROUND SIGNS

REVISIONS		APPROVED BY	
Date	Description	Name	Date
6-80	GENERAL REVISION		

DESIGNED BY		CHECKED BY		QUANTITIES BY		CHECKED BY		SUPERVISED BY	
Name	Date	Name	Date	Name	Date	Name	Date</		



COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 3/16	4 x 3/16	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4	COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 3/16	4 x 3/16	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4
FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0
Sign Identification Number	HEIGHT (FT.)														Sign Identification Number	HEIGHT (FT.)													
1	To	14'	14'-19	19'-25											53	To	11'	11'-14	14'-18	18'-25									
2	To	13'	13'-18	18'-22	22'-25										54	To	10'	10'-14	14'-17	17'-25									
3	To	13'	13'-16	16'-21	21'-25										55	To	10'	10'-13	13'-17	17'-25									
4	To	6'	6'-11	11'-13	13'-23	23'-25									56	To	8'	8'-13	13'-15	15'-25									
5		To	6'	6'-10	10'-16	16'-21	21'-25								57	To	8'	8'-13	13'-15	15'-25									
6	To	6'	6'-11	11'-13	13'-23	23'-25									58	To	8'	8'-13	13'-15	15'-25									
7		To	6'	6'-10	10'-16	16'-21	21'-25								59	To	8'	8'-13	13'-15	15'-25									
8	To	15'	15'-20	20'-25											60	To	7'	7'-12	12'-14	14'-24	24'-25								
9	To	14'	14'-18	18'-22	22'-25										61	To	6'	6'-10	10'-13	13'-22	22'-25								
10	To	10'	10'-13	13'-17	17'-25										62	To	6'	6'-10	10'-13	13'-22	22'-25								
11	To	6'	6'-11	11'-13	13'-23	23'-25									63	To	6'	6'-11	11'-13	13'-23	23'-25								
12		To	8'	8'-14	14'-18	18'-23	23'-25								64	To	6'	6'-10	10'-14	14'-21	21'-25								
13	To	9'	9'-13	13'-17	17'-25										65	To	6'	6'-10	10'-13	13'-22	22'-25								
14	To	8'	8'-13	13'-16	16'-25										66		To	9'	9'-13	13'-20	20'-25								
15	To	7'	7'-12	12'-14	14'-24	24'-25									67	To	9'	9'-13	13'-20	20'-25									
16	To	7'	7'-11	11'-14	14'-23	23'-25									68	To	9'	9'-12	12'-21	21'-25									
17		To	7'	7'-10	10'-17	17'-21	21'-25								69		To	8'	8'-13	13'-19	19'-25								
18		To	9'	9'-14	14'-19	19'-23	23'-25								70	To	7'	7'-11	11'-18	18'-23	23'-25								
19		To	7'	7'-12	12'-16	16'-20	20'-25								71	To	8'	8'-12	12'-19	19'-23	23'-25								
20		To	11'	11'-12	12'-16	16'-20	20'-25								72	To	8'	8'-12	12'-18	18'-23	23'-25								
21		To	8'	8'-12	12'-19	19'-25									73	To	7'	7'-11	11'-18	18'-22	22'-25								
22		To	7'	7'-11	11'-17	17'-22	22'-25								74	To	7'	7'-11	11'-17	17'-21	21'-25								
23		To	8'	8'-12	12'-19	19'-25									75	To	6'	6'-10	10'-16	16'-20	20'-24	24'-25							
24		To	7'	7'-11	11'-17	17'-22	22'-25								76	To	6'	6'-10	10'-16	16'-21	21'-25								
25	To	8'	8'-13	13'-15	15'-25										77		To	9'	9'-15	15'-20	20'-25								
26	To	7'	7'-11	11'-14	14'-23	23'-25									78	To	6'	6'-10	10'-16	16'-20	20'-24	24'-25							
27	To	7'	7'-11	11'-14	14'-23	23'-25									79	To	6'	6'-10	10'-15	15'-20	20'-24	24'-25							
28	To	6'	6'-11	11'-13	13'-23	23'-25									80		To	7'	7'-13	13'-16	16'-20	20'-25							
29	To	6'	6'-11	11'-13	13'-22	22'-25									81		To	6'	6'-12	12'-15	15'-19	19'-24	24'-25						
30	To	6'	6'-10	10'-13	13'-22	22'-25									82		To	7'	7'-13	13'-16	16'-20	20'-24	24'-25						
31		To	8'	8'-12	12'-19	19'-23	23'-25								83		To	6'	6'-13	13'-15	15'-19	19'-23	23'-25						
32		To	7'	7'-11	11'-18	18'-22	22'-25								84		To	6'	6'-13	13'-14	14'-18	18'-22	22'-25						
33		To	9'	9'-12	12'-20	20'-25									85			To	12'	12'-13	13'-17	17'-21	21'-25						
34		To	7'	7'-11	11'-18	18'-23	23'-25								86			To	12'	12'-13	13'-17	17'-21	21'-25						
35		To	9'	9'-12	12'-20	20'-25									87			To	10'	10'-12	12'-15	15'-19	19'-24	24'-25					
36		To	7'	7'-11	11'-18	18'-23	23'-25								88			To	7'	7'-10	10'-12	12'-14	14'-17	17'-21	21'-25				
37		To	7'	7'-13	13'-17	17'-21	21'-25								89			To	8'	8'-11	11'-12	12'-16	16'-20	20'-24	24'-25				
38		To	6'	6'-12	12'-16	16'-20	20'-24	24'-25							90		To	6'	6'-9	9'-15	15'-19	19'-23	23'-25						
39		To	6'	6'-12	12'-15	15'-18	18'-23	23'-25							91			To	12'	12'-13	13'-17	17'-21	21'-25						
40		To	11'	11'-12	12'-16	16'-20	20'-25																						
41		To	10'	10'-12	12'-14	14'-18	18'-23	23'-25																					
42		To	9'	9'-11	11'-13	13'-18	18'-22	22'-25																					
43		To	7'	7'-11	11'-12	12'-15	15'-19	19'-23	23'-25																				
44	To	18'	18'-23	23'-25																									
45	To	14'	14'-17	17'-22	22'-25																								
46	To	14'	14'-17	17'-22	22'-25																								
47	To	14'	14'-18	18'-22	22'-25																								
48	To	13'	13'-17	17'-21	21'-25																								
49	To	12'	12'-15	15'-20	20'-25																								
50	To	13'	13'-16	16'-20	20'-25																								
51	To	12'	12'-15	15'-20	20'-25																								
52	To	12'	12'-15	15'-19	19'-25																								

SLIP BASE NOTES

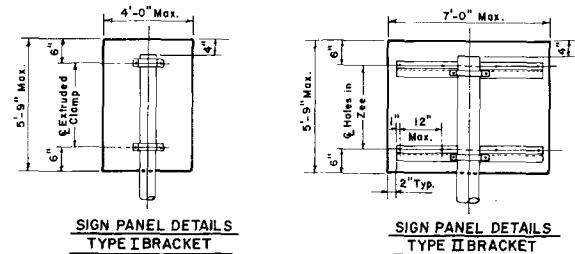
1- Inside Diameter (I.D.) of Sleeve to be no more than 1/16" Larger than Outside Diameter (O.D.) of Column.

2- Sleeve Bolts to be 1/2" # with Locknuts, Steel A. S.T.M. - A 307 Galvanized or Aluminum Assoc. Alloy 2024 - T4 or 6061 - T6 (ASTM B-211).

3- Base Bolts, Nuts and Washers to be ASTM - A 325 High Strength Electroplated Zinc Coating Type LS Applied in Accordance with ASTM A 153.

4- An Alternate Cast Base of Aluminum Alloy 356 and T6 Temper in Lieu of the Fabricated Base may be Submitted for Approval by the Engineer.

5- Assemble the Slip Base Connection in the Following Manner: (a) Connect Column to Sleeve Using Two (2) 1/2" # Machine Bolts (b) Assemble Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt. One Washer Per Bolt and Two (2) Bolt Keeper Plates Go Between Shim Stock as Required to Plumb the Column (d) Tighten All Bolts The Maximum Possible With a 12" to 15" Wrench to Bed the Washers and Threads. Loosen Each Bolt in Turn and Retighten to the Prescribed Torque (See Table). Bolts Shall be Tightened with Properly Calibrated Wrenches Under the Supervision of the Project Engineer (e) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening.



### GENERAL NOTES

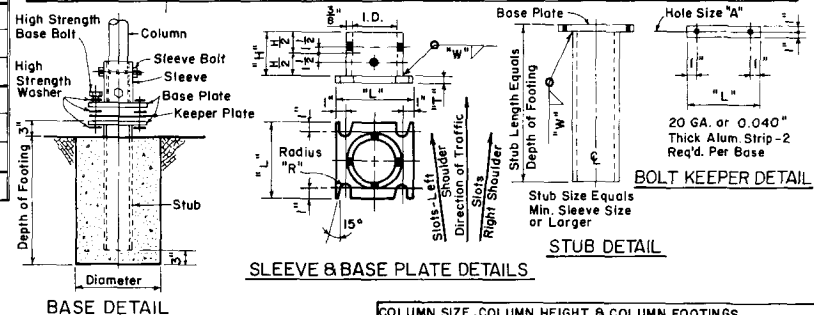
1-For Sign Identification Numbers See Sheet Titled "Sign Profile and Identification Numbers". Use The Identification Number and The Required Column Height to Determine The Support Column Size. The Identification Number in The Table are The Maximum Height (From Ground to Bottom of Sign) That A Column Size Can Be Used For. A Particular Sign Profile, If The Required Column Height is Not Listed in The Table, The Sign Will Have to Be Supported On Multiple Column Type "A" Breakaway Supports.

2-All Columns in The Table Are Aluminum Tube, Given as Outside Diameter Times The Wall Thickness. Size  $2 \times \frac{1}{8}$  Thru  $4 \times \frac{3}{16}$  Tube are Frangible Supports and Will Be Driven Into The Ground.  $4 \times \frac{3}{16}$  Tube is The Maximum Size Frangible Support. Size  $4 \times \frac{1}{2}$  Thru  $8 \times \frac{1}{2}$  Are Breakaway Supports and Will Have Poured Concrete Footings and Slip Bases.

3-FOOTINGS: Frangible Supports-No Concrete Footing is Required. The Support Column Shall Be Driven Into The Ground To The Depth Indicated. The Portion Of The Support Column Which is Driven Into The Ground Shall Be Painted With Cutback Asphalt - Grade RC-70.

Breakaway Supports - Footings to be Poured Concrete, Size as Shown in Table. The First Dimension Indicates The Diameter of The Footing and The Second Dimension the Depth of The Footing Into The Ground. In All Cases the Ground is to be Considered as Undisturbed Earth, Road Material or Properly Compacted Fill.

COLUMN SIZE	SLEEVE I.D.(MAX)	SLEEVE WALL "A"	SLEEVE HEIGHT	WELD "W"	BASE PLATE L x L x T	RADIUS "R"	BASE BOLT SIZE	BASE BOLT FT.-lbs	TORQUE INCH.-lbs	HOLE SIZE "A"
4 x 4	4 <sup>9</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	6"	<sup>3</sup> / <sub>8</sub>	8 x 8 x <sup>3</sup> / <sub>8</sub>	<sup>11</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub> Ø x 3"	53' #	640' #	<sup>1</sup> / <sub>16</sub>
4 1/2 x 4	4 <sup>9</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	6"	<sup>3</sup> / <sub>8</sub>	8 x 8 x <sup>7</sup> / <sub>8</sub>	<sup>11</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub> Ø x 3 1/4"	53' #	640' #	<sup>1</sup> / <sub>16</sub>
5 x 4	5 <sup>1</sup> / <sub>4</sub>	<sup>3</sup> / <sub>8</sub>	7"	<sup>5</sup> / <sub>8</sub>	8 x 8 x <sup>7</sup> / <sub>8</sub>	<sup>11</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub> Ø x 3 1/4"	53' #	640' #	<sup>1</sup> / <sub>16</sub>
5 1/2 x 4	5 <sup>9</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	7"	<sup>11</sup> / <sub>16</sub>	8 1/2 x 8 1/2 x <sup>7</sup> / <sub>8</sub>	<sup>13</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub> Ø x 3 1/4"	78' #	940' #	<sup>13</sup> / <sub>16</sub>
6 x 4	6 <sup>1</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	8"	<sup>11</sup> / <sub>16</sub>	9 x 9 x 1"	<sup>13</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub> Ø x 3 1/2"	78' #	940' #	<sup>13</sup> / <sub>16</sub>
6 1/2 x 4	6 <sup>9</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	8"	<sup>3</sup> / <sub>4</sub>	9 1/2 x 9 1/2 x 1"	<sup>13</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub> Ø x 3 1/2"	78' #	940' #	<sup>13</sup> / <sub>16</sub>
7 x 4	7 <sup>7</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	9"	<sup>3</sup> / <sub>4</sub>	10 x 10 x 1"	<sup>13</sup> / <sub>16</sub>	<sup>3</sup> / <sub>4</sub> Ø x 3"	78' #	940' #	<sup>13</sup> / <sub>16</sub>
7 1/2 x 4	7 <sup>9</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	9"	<sup>3</sup> / <sub>4</sub>	10 1/2 x 10 1/2 x 1"	<sup>13</sup> / <sub>16</sub>	<sup>7</sup> / <sub>8</sub> Ø x 3 3/4"	108' #	1290' #	<sup>15</sup> / <sub>16</sub>
8 x 4	8 <sup>1</sup> / <sub>16</sub>	<sup>3</sup> / <sub>8</sub>	10"	<sup>3</sup> / <sub>4</sub>	11 x 11 x 1"	<sup>13</sup> / <sub>16</sub>	<sup>7</sup> / <sub>8</sub> Ø x 3 3/4"	108' #	1290' #	<sup>15</sup> / <sub>16</sub>



SLIP BASE NOTES

- 1- Inside Diameter (I.D.) of Sleeve to be no more than 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 Alloy, Alloy 2024-T4 or 6061-T6 (ASTM B-211).
- 3- Base Bolts, Nuts and Washers to be ASTM-A325 High Strength Electroplated Zinc Coating Type L5 Applied in accordance with ASTM-A164.
- 4- The Grade of Aluminum or Steel for the Sleeve and the Grade of the Coated Base Type Must be Submitted for Approval by the Engineer. If a Cast Base is Used the Stub will be the Same Size as the Column and will be Bolted to the Casting.
- 5- Assemble the Slip Base Connection in the Following Manner (a) Connect Column to Sleeve Using Two (2) 1/2" Machine Bolts (b) Assemble Top Base Plate to Stub Base Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt. One Washer Per Bolt and Two (2) Bolt Keeper Plates Go Between the Base Plates. (c) Use Shim Washers as Required to Plumb the Column (d) Tighten All Bolts The Maximum Possible With 1/2" to 1 1/2" Wrench to Bed the Washers and Shims and to Clean the Base Plate and Stub Base Plate Surfaces (e) Re-Bolt Torus and Re-Bolt Torus (f) Tighten Torus to be Tightened with Properly Calibrated Wrenches Under the Supervision of the Project Engineer (g) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening

<div style="text-align: center;"> <h1>60</h1> <p>M.P.H. WIND LOADING</p> </div>		COLUMN SIZE, COLUMN HEIGHT & COLUMN FOOTINGS			
		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
		SINGLE COLUMN GROUND SIGNS			
REVISIONS Dates Descriptions 6-80 GENERAL REVISION 1-81 Column Redesignated (Min. Yield Strength) Max. Height Set at 25'-0"		ROAD NO.	COUNTY	PROJECT NO.	
		Designer by C K Checked by C W B Quantities by Checked by Supervised by A J H	Dates 3-76 3-76	APPROVED BY  Drawing No. 1 of 1 Index No. 11861	
		Deputy Design Engineer, Structures			

COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 1/8	4 x 3/16	4 x 1/2	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4	COL. SIZE	2 x 1/8	2 1/2 x 1/8	3 x 1/8	3 1/2 x 1/8	4 x 3/16	4 x 1/2	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4		
FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0		
Sign Identification Number	HEIGHT (FT.)													Sign Identification Number	HEIGHT (FT.)																
1	To 13	13	15	15	19	19	25								53	To 8	8	12	12	14	14	23	23	25							
2	To 11	11	14	14	18	18	25								54	To 7	7	11	11	14	14	22	22	25							
3	To 10	10	13	13	16	16	25								55	To 7	7	11	11	13	13	22	22	25							
4	To 8	8	11	11	18	18	22	25							56	To 6	6	10	10	13	13	20	20	25							
5	To 6	6	12	12	15	15	19	19	24	24	25				57	To 6	6	10	10	13	13	20	20	25							
6	To 8	8	12	12	18	18	22	25							58	To 6	6	10	10	13	13	20	20	25							
7	To 7	7	13	13	15	15	19	19	25						59	To 6	6	10	10	13	13	20	20	25							
8	To 14	14	16	16	20	20	25								60	To 9	9	13	13	19	19	23	23	25							
9	To 11	11	14	14	18	18	25								61	To 8	8	11	11	17	17	21	21	25							
10	To 7	7	11	11	13	13	22	25							62	To 8	8	11	11	17	17	21	21	25							
11	To 8	8	12	12	18	18	22	25							63	To 8	8	12	12	18	18	22	22	25							
12	To 6	6	13	13	14	14	17	17	21	21	25				64	To 7	7	11	11	16	16	20	20	25							
13	To 6	6	11	11	13	13	22	25							65	To 7	7	11	11	17	17	21	21	25							
14	To 6	6	10	10	13	13	21	25							66	To 6	6	10	10	15	15	19	19	23	23	25					
15	To 9	9	13	13	19	19	23	25							67	To 6	6	10	10	15	15	19	19	24	24	25					
16	To 8	8	12	12	18	18	22	25							68	To 6	6	10	10	16	16	20	20	24	24	25					
17	To 7	7	12	12	16	16	20	24	24	25					69	To 6	6	9	9	15	15	19	19	23	23	25					
18	To 6	6	12	12	14	14	17	17	22	22	25				70	To 8	8	14	14	17	17	22	22	25							
19	To 11	11	12	12	15	15	19	19	23	23	25				71	To 8	8	14	14	18	18	22	22	25							
20	To 8	8	11	11	12	12	15	15	18	18	22	25			72	To 9	9	14	14	18	18	21	21	25							
21	To 9	9	14	14	18	18	22	25							73	To 8	8	13	13	17	17	21	21	25							
22	To 7	7	13	13	17	17	21	25							74	To 8	8	13	13	16	16	20	20	24	24	25					
23	To 9	9	14	14	18	18	22	25							75	To 7	7	13	13	15	15	19	19	23	23	25					
24	To 7	7	13	13	17	17	21	25							76	To 7	7	13	13	15	15	19	19	24	24	25					
25	To 6	6	10	10	13	13	20	25							77	To 6	6	12	12	15	15	19	19	23	23	25					
26	To 8	8	12	12	18	18	22	25							78	To 7	7	13	13	15	15	19	19	23	23	25					
27	To 8	8	12	12	18	18	22	25							79	To 7	7	13	13	15	15	18	18	22	22	25					
28	To 8	8	12	12	18	18	22	25							80	To 11	11	13	13	15	15	19	19	23	23	25					
29	To 8	8	11	11	17	17	21	25							81	To 10	10	12	12	14	14	18	18	22	22	25					
30	To 7	7	11	11	17	17	21	25							82	To 11	11	13	13	15	15	18	18	22	22	25					
31	To 8	8	14	14	18	18	22	25							83	To 10	10	13	13	14	14	17	17	21	21	25					
32	To 8	8	13	13	17	17	21	25							84	To 9	9	12	12	13	13	17	17	20	20	24	24	25			
33	To 6	6	9	9	15	15	19	19	23	23	25				85	To 9	9	12	12	13	13	16	16	19	19	23	23	25			
34	To 8	8	14	14	17	17	22	25							86	To 8	8	11	11	12	12	16	16	19	19	23	23	25			
35	To 6	6	9	9	15	15	19	19	23	23	25				87	To 7	7	10	10	12	12	14	14	18	18	21	21	25			
36	To 8	8	14	14	17	17	22	25							88	To 6	6	9	9	12	12	13	13	15	15	19	19	22	22	25	
37	To 11	11	12	12	16	16	20	24	24	25					89	To 8	8	11	11	12	12	14	14	17	17	21	21	25			
38	To 10	10	12	12	14	14	18	18	22	22	25				90	To 7	7	13	13	14	14	18	18	22	22	25					
39	To 9	9	12	12	13	13	17	17	21	21	25				91	To 9	9	12	12	13	13	16	16	19	19	23	23	25			
40	To 8	8	11	11	12	12	15	15	18	18	22	25																			
41	To 6	6	9	9	12	12	13	13	17	17	20	24	25																		
42	To 6	6	9	9	11	11	12	12	16	16	20	24	25																		
43	To 7	7	10	10	11	11	13	13	17	17	21	24	25																		
44	To 15	15	19	19	23	23	25																								
45	To 11	11	14	14	18	18	25																								
46	To 11	11	14	14	18	18	25																								
47	To 11	11	14	14	18	18	25																								
48	To 10	10	13	13	17	17	25																								
49	To 9	9	14	14	16	16	25																								
50	To 9	9	13	13	16	16	25																								
51	To 9	9	14	14	16	16	25																								
52	To 9	9	13	13	15	15	24	25																							

SLIP BASE NOTES

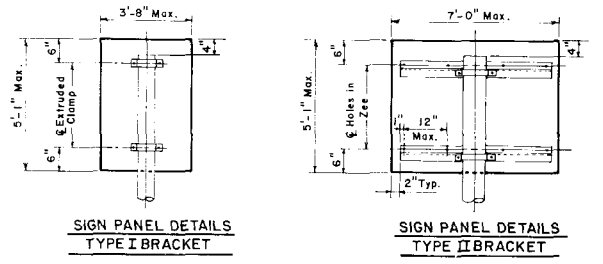
1- Inside Diameter (I.D.) of Sleeve to be no more than 1/16" Larger than Outside Diameter (O.D.) of Column.

2- Sleeve Bolts to be 1/2" dia with Locknuts, Steel A.S.T.M.-A 307 Galvanized or Aluminum Assoc. Alloy 2024-T4 or 6061-T6 (ASTM B-211).

3- Base Bolts, Nuts and Washers to be ASTM-A 325 High Strength Electroplated Zinc Coating Type LS Applied in Accordance with ASTM A-49.

4- An Alternate Cost Base of Aluminum Alloy 356 and T6 Temper in Lieu of the Fabricated Base may be Submitted for Approval by the Engineer.

5- Assemble the Slip Base Connection in the Following Manner: (a) Connect Column to Sleeve Using Two (2) 1/2" dia Machine Bolts (b) Assemble Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt. One Washer Per Bolt and Two (2) Bolt Keeper Plates Go Between Shim Stock as Required to Plumb the Column (d) Tighten All Bolts The Maximum Possible With a 12" to 15" Wrench to Bed the Washers and Threads. Loosen Each Bolt in Turn and Retighten to the Prescribed Torque (See Table). Bolts Shall be Tightened with Properly Calibrated Wrenches Under the Supervision of the Project Engineer (e) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening.

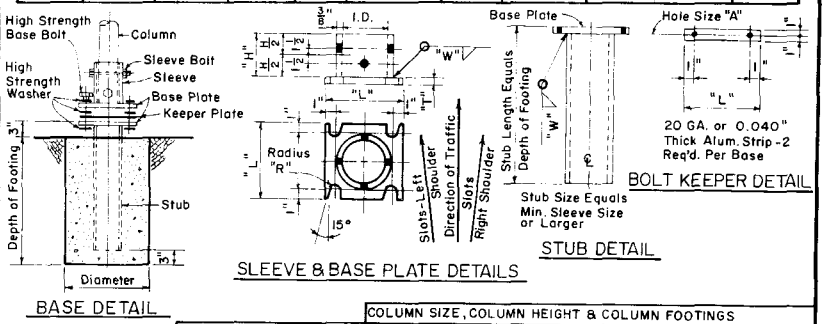


# GENERAL NOTES

- For Sign Identification Numbers See Sheet Titled "Sign Profile and Identification Numbers". Use the Sign Identification Number and the Required Column Height to Determine The Support Column Size and Footing Size. The Heights Given in the Table are the Maximum Height (From Ground to Bottom of Sign) That A Column Size Can Be Used For A Particular Sign Profile. If the Required Column Height is Not Listed in the Table, The Sign Will Have to be Supported on Multiple Column Type "A" Breakaway Supports.
  - All Columns in the Table are Aluminum Tube, Given as Outside Diameter Times the Wall Thickness. Size 2 x 1/8 Thru 4 x 3/8 Tube are Frangible Supports and Will be Driven into The Ground. 4 x 3/8 Tube is The Maximum Size Frangible Support. Size 4 x 1/2 Thru 8 x 1/2 are Breakaway Supports and Will Have Poured Concrete Footings and Slip Bases.
  - FOOTINGS: Frangible Supports-No Concrete Footing is Required. The Support Column Shall be Driven into The Ground To The Depth Indicated. The Portion of The Support Column Which is Driven into The Ground Shall be Painted With Outback Asphalt - Grade RC-70.
- Breakaway Supports - Footings to be Poured Concrete, Size as Shown in Table. The First Dimension Indicates The Diameter of the Footing and the Second Dimension the Depth of the Footing into the Ground. In all Cases the Ground is to be Considered as Undisturbed Earth, Road Material or Properly Compacted Fill.

# SLIP BASE DETAILS

COLUMN SIZE	SLEEVE I.D. (MAX)	SLEEVE WALL "W"	SLEEVE HEIGHT	WELD "W"	BASE PLATE L x L x T	RADIUS "R"	BASE BOLT SIZE	BASE BOLT TORQUE FT.-LBS	HOLE SIZE "A"
4 x 1/4	4 1/16	3/8	6"	3/8	8 x 8 x 3/4	1/32	3/8" # x 3"	53" #	640" #
4 1/2 x 1/4	4 9/16	3/8	6"	3/8	8 x 8 x 7/8	1/32	3/8" # x 3 1/4"	53" #	640" #
5 x 1/4	5 1/16	3/8	7"	3/8	8 x 8 x 7/8	1/32	3/8" # x 3 1/4"	53" #	640" #
5 1/2 x 1/4	5 9/16	3/8	7"	1/2	8 1/2 x 8 1/2 x 7/8	1/32	3/4" # x 3 1/4"	78" #	940" #
6 x 1/4	6 1/16	3/8	8"	1/2	9 x 9 x 1	1/32	3/4" # x 3 1/2"	78" #	940" #
6 1/2 x 1/4	6 9/16	3/8	8"	3/4	9 1/2 x 9 1/2 x 1	1/32	3/4" # x 3 1/2"	78" #	940" #
7 x 1/4	7 1/16	3/8	9"	3/4	10 x 10 x 1	1/32	3/4" # x 3 1/2"	78" #	940" #
7 1/2 x 1/4	7 9/16	3/8	9"	3/4	10 1/2 x 10 1/2 x 1	1/32	7/8" # x 3 3/4"	108" #	1290" #
8 x 1/4	8 1/16	3/8	10"	3/4	11 x 11 x 1	1/32	7/8" # x 3 3/4"	108" #	1290" #



# SLIP BASE NOTES

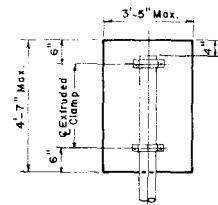
- Inside Diameter (I.D.) of Sleeve to be no more than 1/16" Larger than Outside Diameter (O.D.) of Column.
- Sleeve Bolts to be 3/8" # with Locknuts, Steel A.S.T.M.-A307 Galvanized or Aluminum Assoc. Alloy 2024-T4 or 6061-T6 (ASTM B-211).
- Base Bolts, Nuts and Washers to be ASTM -A325 High Strength Electroplated Zinc Coating Type L5 Applied in Accordance with ASTM -A164.
- An Alternate Cast Base of Aluminum Alloy 356 and T6 Temper in Lieu of the Fabricated Base may be Submitted for Approval by the Engineer. If A Cast Base is Used the Stub will be the Same Size as the Column and will be Bolted to the Casting.
- Assemble the Slip Base Connection in the Following Manner (a) Connect Column to Sleeve Using Two (2) 1/2" # Machine Bolts (b) Assemble Top Base Plate to Stub Base Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt. One Washer Per Bolt and Two (2) Bolt Keeper Plates Go Between the Base Plates. (c) Use Shim Stock as Required to Plumb the Column (d) Tighten All Bolts The Maximum Possible With a 12" to 15" Wrench to Bed the Washers and Shims and to Clean the Bolt Threads. Loosen Each Bolt in Turn and Retighten to the Prescribed Torque (See Table). Bolts Shall be Tightened with Properly Calibrated Wrenches Under the Supervision of the Project Engineer (e) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening.

70 M.P.H. WIND LOADING		COLUMN SIZE, COLUMN HEIGHT & COLUMN FOOTINGS	
		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES	

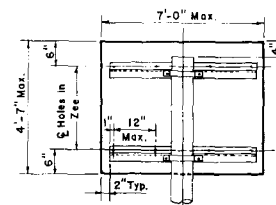
COL. SIZE															COL. SIZE														
FOOTING															FOOTING														
HEIGHT (FT.)															HEIGHT (FT.)														
1	To	10'	10'-13'	13'-16'	16'-25'										53	To	6'	6'-10'	10'-13'	13'-19'	19'-22'	22'-25'							
2	To	8'	8'-13'	13'-15'	15'-23'	23'-25'									54	To	9'	9'-12'	12'-18'	18'-21'	21'-25'								
3	To	7'	7'-11'	11'-13'	13'-21'	21'-25'									55	To	9'	9'-12'	12'-18'	18'-22'	22'-25'								
4		To	9'	9'-14'	14'-18'	18'-21'	21'-25'								56	To	7'	7'-11'	11'-16'	16'-20'	20'-24'	24'-25'							
5		To	11'	11'-12'	12'-15'	15'-19'	19'-23'	23'-25'							57	To	7'	7'-10'	10'-16'	16'-19'	19'-23'	23'-25'							
6	To	6'	6'-9'	9'-14'	14'-17'	17'-21'	21'-25'								58	To	7'	7'-11'	11'-16'	16'-20'	20'-24'	24'-25'							
7		To	11'	11'-13'	13'-15'	15'-19'	19'-23'	23'-25'							59	To	7'	7'-10'	10'-16'	16'-20'	20'-23'	23'-25'							
8	To	11'	11'-14'	14'-17'	17'-25'										60	To	7'	7'-10'	10'-15'	15'-19'	19'-23'	23'-25'							
9	To	9'	9'-13'	13'-15'	15'-23'	23'-25'									61	To	6'	6'-8'	8'-13'	13'-17'	17'-21'	21'-24'	24'-25'						
10	To	9'	9'-12'	12'-18'	18'-22'	22'-25'									62	To	6'	6'-8'	8'-13'	13'-17'	17'-21'	21'-24'	24'-25'						
11	To	6'	6'-9'	9'-14'	14'-17'	17'-21'	21'-25'								63	To	6'	6'-9'	9'-14'	14'-17'	17'-21'	21'-25'							
12		To	9'	9'-13'	13'-14'	14'-17'	17'-20'	20'-24'	24'-25'						64	To	8'	8'-14'	14'-16'	16'-20'	20'-24'	24'-25'							
13	To	8'	8'-12'	12'-18'	18'-21'	21'-25'									65	To	8'	8'-13'	13'-16'	16'-20'	20'-24'	24'-25'							
14	To	7'	7'-11'	11'-17'	17'-20'	20'-24'	24'-25'								66	To	7'	7'-13'	13'-15'	15'-19'	19'-23'	23'-25'							
15	To	7'	7'-10'	10'-15'	15'-19'	19'-23'	23'-25'								67	To	7'	7'-13'	13'-15'	15'-19'	19'-23'	23'-25'							
16	To	6'	6'-9'	9'-15'	15'-18'	18'-22'	22'-25'								68	To	7'	7'-12'	12'-16'	16'-19'	19'-23'	23'-25'							
17		To	11'	11'-12'	12'-16'	16'-19'	19'-23'	23'-25'							69	To	7'	7'-13'	13'-15'	15'-18'	18'-22'	22'-25'							
18		To	9'	9'-12'	12'-13'	13'-17'	17'-21'	21'-25'							70	To	6'	6'-12'	12'-14'	14'-17'	17'-21'	21'-25'							
19		To	8'	8'-11'	11'-12'	12'-15'	15'-18'	18'-22'	22'-25'						71	To	6'	6'-13'	13'-14'	14'-17'	17'-21'	21'-25'							
20		To	8'	8'-10'	10'-12'	12'-14'	14'-17'	17'-21'	21'-25'						72	To	6'	6'-13'	13'-14'	14'-17'	17'-21'	21'-25'							
21	To	6'	6'-12'	12'-14'	14'-18'	18'-22'	22'-25'								73	To	6'	6'-12'	12'-13'	13'-17'	17'-20'	20'-24'	24'-25'						
22	To	12'	12'-13'	13'-16'	16'-20'	20'-24'	24'-25'								74	To	12'	12'-13'	13'-16'	16'-19'	19'-23'	23'-25'							
23	To	6'	6'-12'	12'-14'	14'-18'	18'-22'	22'-25'								75	To	11'	11'-13'	13'-15'	15'-18'	18'-22'	22'-25'							
24		To	12'	12'-13'	13'-16'	16'-20'	20'-24'	24'-25'							76	To	11'	11'-13'	13'-15'	15'-19'	19'-23'	23'-25'							
25	To	7'	7'-11'	11'-16'	16'-20'	20'-24'	24'-25'								77	To	10'	10'-12'	12'-14'	14'-18'	18'-22'	22'-25'							
26	To	6'	6'-9'	9'-15'	15'-18'	18'-22'	22'-25'								78	To	11'	11'-13'	13'-15'	15'-18'	18'-22'	22'-25'							
27	To	6'	6'-9'	9'-15'	15'-18'	18'-22'	22'-25'								79	To	10'	10'-13'	13'-14'	14'-18'	18'-22'	22'-25'							
28	To	6'	6'-9'	9'-14'	14'-17'	17'-21'	21'-25'								80	To	8'	8'-11'	11'-13'	13'-15'	15'-18'	18'-22'	22'-25'						
29	To	8'	8'-14'	14'-17'	17'-21'	21'-25'									81	To	7'	7'-10'	10'-12'	12'-14'	14'-17'	17'-21'	21'-25'						
30	To	8'	8'-13'	13'-17'	17'-20'	20'-24'	24'-25'								82	To	8'	8'-11'	11'-13'	13'-14'	14'-18'	18'-21'	21'-25'						
31	To	6'	6'-13'	13'-14'	14'-17'	17'-21'	21'-25'								83	To	7'	7'-10'	10'-13'	13'-14'	14'-17'	17'-20'	20'-24'	24'-25'					
32	To	6'	6'-12'	12'-13'	13'-17'	17'-20'	20'-24'	24'-25'							84	To	6'	6'-9'	9'-12'	12'-13'	13'-16'	16'-19'	19'-23'	23'-25'					
33	To	7'	7'-12'	12'-15'	15'-19'	19'-22'	22'-25'								85	To	6'	6'-9'	9'-11'	11'-13'	13'-15'	15'-19'	19'-22'	22'-25'					
34	To	6'	6'-12'	12'-14'	14'-17'	17'-21'	21'-25'								86	To	6'	6'-8'	8'-11'	11'-12'	12'-15'	15'-18'	18'-22'	22'-25'					
35	To	7'	7'-12'	12'-15'	15'-19'	19'-22'	22'-25'								87	To	7'	7'-10'	10'-12'	12'-13'	13'-17'	17'-20'	20'-24'	24'-25'					
36	To	6'	6'-12'	12'-14'	14'-17'	17'-21'	21'-25'								88	To	6'	6'-9'	9'-12'	12'-13'	13'-14'	14'-17'	17'-20'	20'-23'	23'-25'				
37	To	8'	8'-11'	11'-12'	12'-15'	15'-19'	19'-23'	23'-25'							89	To	7'	7'-10'	10'-11'	11'-13'	13'-16'	16'-19'	19'-22'	22'-25'					
38	To	7'	7'-10'	10'-13'	13'-16'	16'-20'	20'-24'	24'-25'							90	To	10'	10'-13'	13'-14'	14'-17'	17'-21'	21'-25'							
39	To	7'	7'-10'	10'-12'	12'-13'	13'-17'	17'-20'	20'-24'	24'-25'						91	To	6'	6'-9'	9'-11'	11'-13'	13'-15'	15'-18'	18'-22'	22'-25'					
40	To	8'	8'-10'	10'-12'	12'-14'	14'-17'	17'-21'	21'-25'																					
41	To	7'	7'-9'	9'-12'	12'-13'	13'-16'	16'-19'	19'-23'	23'-25'																				
42	To	6'	6'-8'	8'-11'	11'-12'	12'-15'	15'-18'	18'-22'	22'-25'																				
43		To	7'	7'-9'	9'-11'	11'-13'	13'-16'	16'-19'	19'-22'	22'-25'																			
44	To	13'	13'-16'	16'-19'	19'-25'																								
45	To	9'	9'-13'	13'-15'	15'-22'	22'-25'																							
46	To	9'	9'-13'	13'-15'	15'-22'	22'-25'																							
47	To	9'	9'-13'	13'-15'	15'-23'	23'-25'																							
48	To	8'	8'-12'	12'-14'	14'-22'	22'-25'																							
49	To	7'	7'-11'	11'-14'	14'-21'	21'-25'																							
50	To	7'	7'-11'	11'-13'	13'-21'	21'-25'																							
51	To	7'	7'-11'	11'-14'	14'-20'	20'-25'																							
52	To	6'	6'-10'	10'-13'	13'-20'	20'-25'																							

### SLIP BASE NOTES

1-Inside Diameter (I.D.) of Sleeve to be no more than 1/16" 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).  
3-Base Bolts, Nuts and Washers to be ASTM -A325 High Strength Electroplated Zinc Coating Type LS Applied in Accordance with ASTM A490.  
4-An Alternate Cast Base of Aluminum Alloy 356 and T6 Temper in Lieu of the Fabricated Base may be Submitted for Approval by the Engineer.  
5-Used the Stub will be the Same Size as the Column and will be Bolted to the Casting.  
6-Assemble the Slip Base Connection in the Following Manner: (a) Connect Column to Sleeve Using Two (2) 1/2" Machine Bolts (b) Assemble Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt. One Washer Per Bolt and Two (2) Bolt Keeper Plates Go Between Shim Stock as Required to Plumb the Column (d) Tighten All Bolts The Maximum Possible With a 12" to 15" Wrench to Bed the Washers and Threads. Loosen Each Bolt in Turn and Retighten to the Prescribed Torque (See Table 1). Bolts Shall be Tightened with Properly Calibrated Wrenches Under the Supervision of the Project Engineer (e) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening.



SIGN PANEL DETAILS  
TYPE I BRACKET



SIGN PANEL DETAILS  
TYPE II BRACKET

### GENERAL NOTES

- For Sign Identification Numbers See Sheet Titled "Sign Profile and Identification Numbers". Use the Sign Identification Number and the Required Column Height to determine the Support Column Size and Footing Size. The Heights Given in the Table are the Maximum Height (From Ground to Bottom of Sign) That a Column Size Can Be Used For. A Particular Sign Profile. If the Required Column Height is Not Listed in the Table, the Sign Will Have to be Supported on Multiple Column Type "A" Breakaway Supports.
  - All Columns in the Table are Aluminum Tube, Given as Outside Diameter Times the Wall Thickness. Size 2 x 1/8 Thru 4 x 3/8 Tube are Frangible Supports and Will Be Driven into the Ground. 4 x 3/8 Tube is the Maximum Size Frangible Support. Size 4 x 1/2 Thru 8 x 1/4 are Breakaway Supports and Will Have Paired Concrete Footings and Slip Bases.
  - FOOTINGS: Frangible Supports-No Concrete Footing is Required. The Support Column Shall Be Driven Into the Ground To the Depth Indicated. The Portion of the Support Column Which is Driven Into the Ground Shall Be Painted With Cutback Asphalt - Grade RC-70.
- Breakaway Supports - Footings to be Paired Concrete, Size as Shown in Table. The First Dimension Indicates the Diameter of the Footing and the Second Dimension the Depth of the Footing into the Ground. In all Cases the Ground is to be Considered as Undisturbed Earth, Road Material or Properly Compacted Fill.

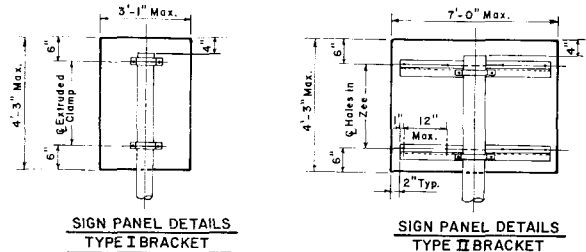
### SLIP BASE DETAILS

SELF BASE DETAILS										
COLUMN SIZE	SLEEVE I.D. (MAX)	SLEEVE WALL "T"	SLEEVE HEIGHT	WELD "W"	BASE PLATE L x L x T	RADIUS "R"	BASE BOLT SIZE	BASE BOLT TORQUE FT-lbs	INCH-lbs	HOLE SIZE "A"
4 x 1/4	4 1/8	3/8	6"	5/8	8 x 8 x 3/8	1/32	3/8" #3"3"	53" #	640" #	11/16
4 1/2 x 1/4	4 9/16	3/8	6"	5/8	8 x 8 x 7/8	1/32	3/8" #3 1/2"	53" #	640" #	11/16
5 x 1/4	5 1/8	3/8	7"	5/8	8 x 8 x 7/8	1/32	3/8" #3 1/2"	53" #	640" #	11/16
5 1/2 x 1/4	5 9/16	3/8	7"	11/16	6 1/2 x 6 1/2 x 7/8	1/32	3/4" #3 1/2"	78" #	940" #	13/16
6 x 1/4	6 1/8	3/8	8"	11/16	9 x 9 x 1	1/32	3/4" #3 1/2"	78" #	940" #	13/16
6 1/2 x 1/4	6 3/8	3/8	8"	3/4	9 1/2 x 9 1/2 x 1	1/32	3/4" #3 1/2"	78" #	940" #	13/16
7 x 1/4	7 1/8	3/8	9"	3/4	10 x 10 x 1	1/32	3/4" #3 1/2"	78" #	940" #	13/16
7 1/2 x 1/4	7 5/8	3/8	9"	3/4	10 1/2 x 10 1/2 x 1	1/32	7/8" #3 1/2"	108" #	1290" #	15/16
8 x 1/4	8 1/8	3/8	10"	3/4	11 x 11 x 1	1/32	7/8" #3 3/4"	108" #	1290" #	15/16

COL. SIZE	2 x 8	2 1/2 x 8	3 x 8	3 1/2 x 8	4 x 8	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4	COL. SIZE	2 x 8	2 1/2 x 8	3 x 8	3 1/2 x 8	4 x 8	4 x 1/4	4 1/2 x 1/4	5 x 1/4	5 1/2 x 1/4	6 x 1/4	6 1/2 x 1/4	7 x 1/4	7 1/2 x 1/4	8 x 1/4				
FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0	FOOTING	0 x 2-0	0 x 2-3	0 x 2-6	0 x 3-4	0 x 3-9	1-6 x 2-1	1-6 x 2-5	1-6 x 2-9	1-6 x 3-0	1-6 x 3-3	2-0 x 3-0	2-0 x 3-4	2-0 x 3-6	2-0 x 4-0				
Sign Identification Number	HEIGHT (FT.)														Sign Identification Number	HEIGHT (FT.)																	
1	To	8' 8"	12'	14'	14'	21'	21'	25'							53	To	8' 8"	11'	16'	16'	19'	19'	22'	22'	25'								
2	To	7' 7"	10'	10'	13'	13'	19'	19'	22'	22'	25'				54	To	7' 7"	10'	10'	15'	15'	18'	18'	21'	21'	25'							
3	To	9' 9"	12'	12'	18'	18'	21'	21'	25'						55	To	7' 7"	10'	10'	15'	15'	18'	18'	22'	22'	25'							
4	To	6' 6"	12'	12'	14'	14'	18'	18'	21'	21'	25'				56	To	6' 6"	8' 8"	13'	13'	17'	17'	20'	20'	24'	24'	25'						
5	To	8' 8"	11'	11'	12'	12'	15'	15'	19'	19'	23'	23'	25'		57	To	6' 6"	8' 8"	14'	14'	16'	16'	20'	20'	23'	23'	25'						
6	To	7' 7"	13'	13'	14'	14'	18'	18'	21'	21'	25'				58	To	6' 6"	8' 8"	13'	13'	17'	17'	20'	20'	24'	24'	25'						
7	To	8' 8"	11'	11'	13'	13'	15'	15'	19'	19'	23'	23'	25'		59	To	8' 8"	13'	13'	16'	16'	20'	20'	23'	23'	25'							
8	To	9' 9"	13'	13'	15'	15'	21'	21'	25'						60	To	8' 8"	13'	13'	16'	16'	19'	19'	23'	23'	25'							
9	To	7' 7"	11'	11'	14'	14'	19'	19'	23'	23'	25'				61	To	7' 7"	13'	13'	14'	14'	17'	17'	21'	21'	25'							
10	To	7' 7"	10'	10'	15'	15'	18'	18'	22'	22'	25'				62	To	7' 7"	13'	13'	14'	14'	17'	17'	21'	21'	25'							
11	To	7' 7"	13'	13'	14'	14'	18'	18'	21'	21'	25'				63	To	7' 7"	13'	13'	14'	14'	18'	18'	21'	21'	25'							
12	To	7' 7"	10'	10'	13'	13'	14'	14'	17'	17'	20'	20'	24'	24'	25'	64	To	6' 6"	12'	12'	14'	14'	16'	16'	20'	20'	24'	24'	25'				
13	To	6' 6"	9' 9"	9' 9"	14'	14'	18'	18'	21'	21'	25'				65	To	6' 6"	12'	12'	13'	13'	17'	17'	20'	20'	24'	24'	25'					
14	To	6' 6"	9' 9"	9' 9"	14'	14'	17'	17'	20'	20'	24'	24'	25'		66	To	11' 11'	11'	13'	13'	15'	15'	19'	19'	23'	23'	25'						
15	To	8' 8"	13'	13'	16'	16'	19'	19'	23'	23'	25'				67	To	11' 11'	11'	13'	13'	16'	16'	19'	19'	23'	23'	25'						
16	To	7' 7"	13'	13'	15'	15'	18'	18'	22'	22'	25'				68	To	12' 12'	12'	13'	13'	16'	16'	19'	19'	24'	24'	25'						
17	To	9' 9"	12'	12'	13'	13'	16'	16'	20'	20'	24'	24'	25'		69	To	11' 11'	11'	13'	13'	15'	15'	18'	18'	22'	22'	25'						
18	To	7' 7"	10'	10'	12'	12'	14'	14'	17'	17'	21'	21'	25'		70	To	10' 10'	10'	12'	12'	14'	14'	17'	17'	21'	21'	25'						
19	To	6' 6"	8' 8"	8' 8"	11'	11'	12'	12'	15'	15'	18'	18'	22'	22'	25'	71	To	10' 10'	10'	13'	13'	14'	14'	18'	18'	21'	21'	25'					
20	To	6' 6"	8' 8"	8' 8"	11'	11'	12'	12'	14'	14'	17'	17'	20'	20'	24'	24'	72	To	10' 10'	10'	13'	13'	14'	14'	17'	17'	21'	21'	25'				
21	To	10' 10'	10'	12'	12'	14'	14'	18'	18'	22'	22'	25'			73	To	9' 9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	25'						
22	To	9' 9'	9'	12'	12'	13'	13'	17'	17'	20'	20'	24'	24'	25'	74	To	9' 9'	9'	12'	12'	13'	13'	16'	16'	19'	19'	23'	23'	25'				
23	To	10' 10'	10'	12'	12'	14'	14'	18'	18'	22'	22'	25'			75	To	8' 8'	8'	11'	11'	13'	13'	15'	15'	18'	18'	22'	22'	25'				
24	To	9' 9'	9'	12'	12'	13'	13'	17'	17'	20'	20'	24'	24'	25'	76	To	8' 8'	8'	11'	11'	13'	13'	15'	15'	19'	19'	23'	23'	25'				
25	To	6' 6"	8' 8"	8' 8"	13'	13'	17'	17'	20'	20'	24'	24'	25'		77	To	8' 8'	8'	11'	11'	12'	12'	15'	15'	18'	18'	22'	22'	25'				
26	To	7' 7"	13'	13'	15'	15'	18'	18'	22'	22'	25'				78	To	8' 8'	8'	11'	11'	13'	13'	15'	15'	18'	18'	22'	22'	25'				
27	To	7' 7"	13'	13'	15'	15'	18'	18'	22'	22'	25'				79	To	8' 8'	8'	11'	11'	13'	13'	15'	15'	18'	18'	22'	22'	25'				
28	To	7' 7"	13'	13'	14'	14'	18'	18'	21'	21'	25'				80	To	6' 6"	8' 8"	8' 8"	11'	11'	13'	13'	15'	15'	18'	18'	22'	22'	25'			
29	To	6' 6"	13'	13'	14'	14'	17'	17'	21'	21'	25'				81	To	8' 8"	8"	10' 10'	10'	12'	12'	14'	14'	17'	17'	21'	21'	25'				
30	To	6' 6"	12'	12'	13'	13'	17'	17'	20'	20'	24'	24'	25'		82	To	6' 6"	8' 8"	8' 8"	11'	11'	13'	13'	14'	14'	18'	18'	21'	21'	25'			
31	To	10' 10'	10'	13'	13'	14'	14'	18'	18'	21'	21'	25'			83	To	8' 8"	8"	10' 10'	10'	13'	13'	14'	14'	17'	17'	20'	20'	23'	23'	25'		
32	To	9' 9'	9'	12'	12'	13'	13'	17'	17'	21'	21'	25'			84	To	7' 7"	7"	9' 9"	9"	12'	12'	13'	13'	16'	16'	19'	19'	22'	22'	25'		
33	To	11' 11'	11'	12'	12'	15'	15'	19'	19'	23'	23'	25'			85	To	7' 7"	7"	9' 9"	9"	12'	12'	13'	13'	15'	15'	18'	18'	21'	21'	25'		
34	To	10' 10'	10'	12'	12'	14'	14'	17'	17'	21'	21'	25'			86	To	6' 6"	6"	8' 8"	8"	11'	11'	12'	12'	15'	15'	18'	18'	21'	21'	25'		
35	To	11' 11'	11'	12'	12'	15'	15'	19'	19'	23'	23'	25'			87	To	7' 7"	7"	10' 10'	10'	12'	12'	13'	13'	16'	16'	19'	19'	23'	23'	25'		
36	To	10' 10'	10'	12'	12'	14'	14'	17'	17'	21'	21'	25'			88	To	6' 6"	6"	9' 9"	9"	11' 11'	11'	12'	12'	13'	13'	16'	16'	19'	19'	22'		
37	To	6' 6"	9' 9"	9"	11' 11'	11'	12'	12'	15'	15'	19'	19'	23'	23'	25'	89	To	7' 7"	7"	10' 10'	10'	11' 11'	11'	12'	12'	15'	15'	17'	17'	20'			
38	To	8' 8"	12'	12'	13'	13'	16'	16'	20'	20'	24'	24'	25'		90	To	8' 8"	8"	11'	11'	13'	13'	14'	14'	18'	18'	21'	21'	25'				
39	To	7' 7"	10' 10'	10'	12'	12'	13'	13'	16'	16'	20'	20'	23'	23'	25'	91	To	7' 7"	7"	9' 9"	9"	12'	12'	13'	13'	15'	15'	18'	18'	21'	21'	24'	25'
40	To	6' 6"	8' 8"	8"	11' 11'	11'	12'	12'	14'	14'	17'	17'	20'	20'	24'	24'																	
41	To	7' 7"	9' 9"	9"	12'	12'	13'	13'	15'	15'	18'	18'	22'	22'	25'																		
42	To	6' 6"	9' 9"	9"	11' 11'	11'	12'	12'	14'	14'	17'	17'	21'	21'	24'	24'	25'																
43	To	7' 7"	9' 9"	9"	11' 11'	11'	12'	12'	15'	15'	18'	18'	21'	21'	24'																		
44	To	11' 11'	11'	14'	14'	17'	17'	24'	24'	25'																							
45	To	7' 7"	10' 10'	10'	14'	14'	19'	19'	22'	22'	25'																						
46	To	7' 7"	10' 10'	10'	14'	14'	19'	19'	22'	22'	25'																						
47	To	7' 7"	11' 11'	11'	14'	14'	19'	19'	23'	23'	25'																						
48	To	6' 6"	10' 10'	10'	13'	13'	19'	19'	22'	22'	25'																						
49	To	6' 6"	9' 9"	9"	12'	12'	17'	17'	21'	21'	24'	24'	25'																				
50	To	9' 9"	9"	12'	12'	18'	18'	21'	21'	24'	24'	25'																					
51	To	9' 9"	9"	12'	12'	17'	17'	20'	20'	24'	24'	25'																					
52	To	8' 8"	8"	11'	11'	17'	17'	20'	20'	24'	24'	25'																					

### 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 Alloy 6061-T6 (ASTM B-211).  
3-Base Bolts, Nuts and Washers to be ASTM-A325 High Strength Electroplated Zinc Coating Type L.S. Applied in Accordance with ASTM  
4-An Alternate Cast Base of Aluminum Alloy 356 and T6 Temper in Lieu of the Fabricated Base may be Submitted for Approval by the Engineer.  
5-Used the Stub will be the Same Size as the Column and will be Bolted to the Casting.  
6-Assemble the Slip Base Connection in the Following Manner: (a) Connect Column to Sleeve Using Two (2) 1/2" Machine Bolts (b) Assemble Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt, One Washer Per Bolt and Two (2) Bolt keeper Plates Go Between Shim Stock as Required to Plumb the Column (c) Tighten All Bolts The Maximum Possible With a 12" to 15" Wrench to Bed the Washers and Threads. Loosen Each Bolt in Turn and Retighten to the Prescribed Torque (See Table ). Bolts Shall be Tightened with Properly Calibrated Supervision of the Project Engineer. (e) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening.

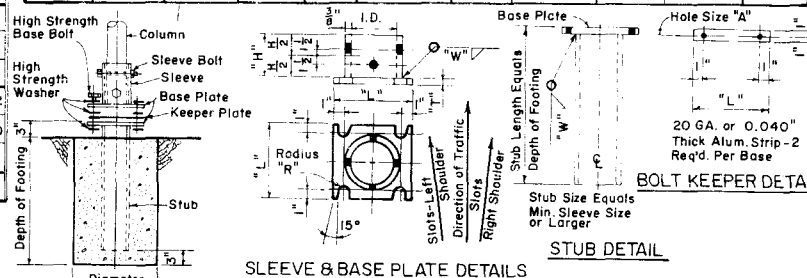


# GENERAL NOTES

- For Sign Identification Numbers See Sheet Titled "Sign Profile and Identification Numbers". Use the Sign Identification Number and The Required Column Height to Determine The Support Column Size and Footing Size. The Heights Given in the Table are the Maximum Height (From Ground to Bottom of Sign) That A Column Size Can Be Used For. A Particular Sign Profile. If the Required Column Height is Not Listed in the Table, The Sign Will Have to be Supported on Multiple Column Type "A" Breakaway Supports.
  - All Columns in the Table Are Aluminum Tube, Given as Outside Diameter Times the Wall Thickness. Size 2 x 8 Thru 4 x 8 Tube are Frangible Supports and Will Be Driven into The Ground. 4 x 8 Tube is The Maximum Size Frangible Support. Size 4 x 8 Thru 8 x 8 Are Breakaway Supports and Will Have Poured Concrete Footings and Slip Bases.
  - FOOTINGS: Frangible Supports-No Concrete Footing is Required. The Support Column Shall Be Driven into The Ground To The Depth Indicated. The Portion of The Support Column Which is Driven Into The Ground Shall Be Painted With Cutback Asphalt - Grade RC-70.
- Breakaway Supports - Footings to be Poured Concrete, Size as Shown in Table. The First Dimension Indicates The Diameter of the Footing and the Second Dimension the Depth of the Footing into the Ground. In all Cases the Ground is to be Considered as Undisturbed Earth, Road Material or Properly Compacted Fill.

# SLIP BASE DETAILS

COLUMN SIZE	SLEEVE I.D. (MAX)	SLEEVE WALL TH	SLEEVE HEIGHT	WELD "W"	BASE PLATE L x L x T	RADIUS "R"	BASE BOLT SIZE	BASE BOLT TORQUE FT.-lbs	INCH.-lbs	HOLE SIZE "A"
4 x 4	4 1/8	3/8	6"	3/8	8 x 8 x 3/4	1/2	3/4" x 3"	53' #	640' #	1 1/16
4 1/2 x 4	4 1/8	3/8	6"	3/8	8 x 8 x 3/4	1/2	3/4" x 3 1/4"	53' #	640' #	1 1/16
5 x 4	5 1/8	3/8	7"	3/8	8 x 8 x 3/4	1/2	3/4" x 3 1/4"	53' #	640' #	1 1/16
5 1/2 x 4	5 1/8	3/8	7"	1/2	8 1/2 x 8 1/2 x 3/4	1/2	3/4" x 3 1/4"	78' #	940' #	1 3/16
6 x 4	6 1/8	3/8	8"	1/2	9 x 9 x 1	1/2	3/4" x 3 1/2"	78' #	940' #	1 3/16
6 1/2 x 4	6 1/8	3/8	8"	3/4	9 1/2 x 9 1/2 x 1	1/2	3/4" x 3 1/2"	78' #	940' #	1 3/16
7 x 4	7 1/8	3/8	9"	3/4	10 x 10 x 1	1/2	3/4" x 3 1/2"	78' #	940' #	1 3/16
7 1/2 x 4	7 1/8	3/8	9"	3/4	10 1/2 x 10 1/2 x 1	1/2	3/4" x 3 1/2"	108' #	1290' #	1 3/16
8 x 4	8 1/8	3/8	10"	3/4	11 x 11 x 1	1/2	3/4" x 3 1/2"	108' #	1290' #	1 3/16



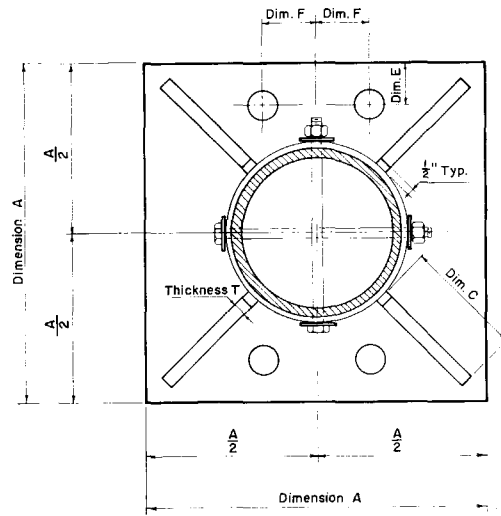
# SLIP BASE NOTES

- Inside Diameter (I.D.) of Sleeve to be no more than 1/8" Larger than Outside Diameter (O.D.) of Column.
- Sleeve Bolts to be 3/4" with Locknuts, Steel A.S.T.M.-A307 Galvanized or Aluminum Assoc. Alloy 2024-T4 or 6061-T6 (ASTM B-211).
- Base Bolts, Nuts and Washers to be ASTM-A325 High Strength Electroplated Zinc Coating Type L.S. Applied in Accordance with ASTM-A164.
- An Alternate Cast Base of Aluminum Alloy 356 and T6 Temper in Lieu of the Fabricated Base may be Submitted for Approval by the Engineer. If A Cast Base is Used the Stub will be the Same Size as the Column and will be Bolted to the Casting.
- Assemble the Slip Base Connection in the Following Manner: (a) Connect Column to Sleeve Using Two (2) 1/2" Machine Bolts (b) Assemble Top Base Plate to Stub Base Plate Using High Strength Bolts with Three (3) Hardened Washers Per Bolt. One Washer Per Bolt and Two (2) Bolt Keeper Plates Go Between the Base Plates. (c) Use Shim Stock as Required to Plumb the Column (d) Tighten All Bolts The Maximum Possible With a 12" to 15" Wrench to Bed the Washers and Shims and to Clean the Bolt Threads. Loosen Each Bolt in Turn and Retighten to the Prescribed Torque (See Table). Bolts Shall be Tightened with Properly Calibrated Wrenches Under the Supervision of the Project Engineer. (e) Burr Threads at Junction with Nut Using a Center Punch to Prevent Nut Loosening.

<b>90 M.P.H. WIND LOADING</b>		<b>COLUMN SIZE, COLUMN HEIGHT &amp; COLUMN FOOTINGS</b>	
		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES	
		SINGLE COLUMN GROUND SIGNS	
REVISED	DATE		

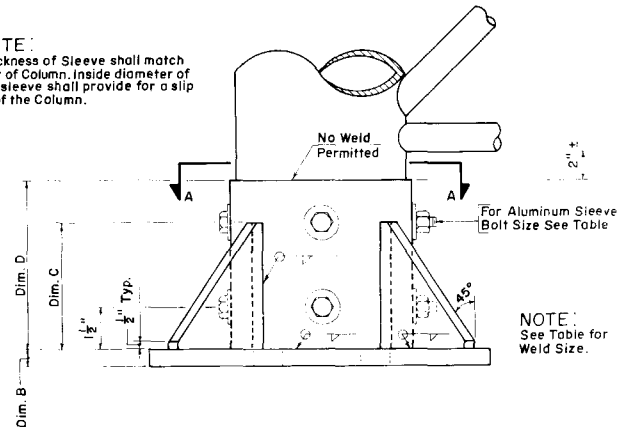
COLUMN SIZE (O.D. x WALL)	PLATE SIZE A	PLATE THICKNESS B	F I N S		FILLET WELD SIZE	SLEEVE HEIGHT DIMENSION D	ANCHOR BOLT LOCATION		ANCHOR BOLT HOLE DIAMETER	ANCHOR BOLT DIAMETER & LENGTH	DIMENSION M (NOMINAL)	SLEEVE BOLT DIAMETER
			THICKNESS T	DIMENSION C			DIMENSION E	DIMENSION F				
12" $\phi$ x $\frac{3}{4}$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

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



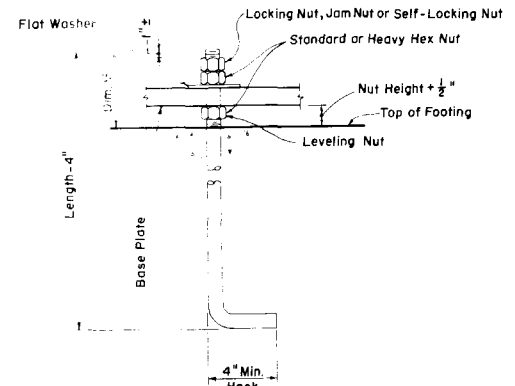
SECTION A-A

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.

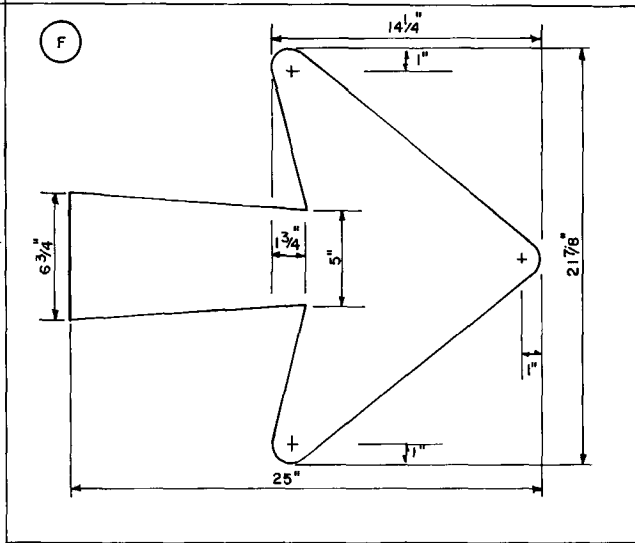
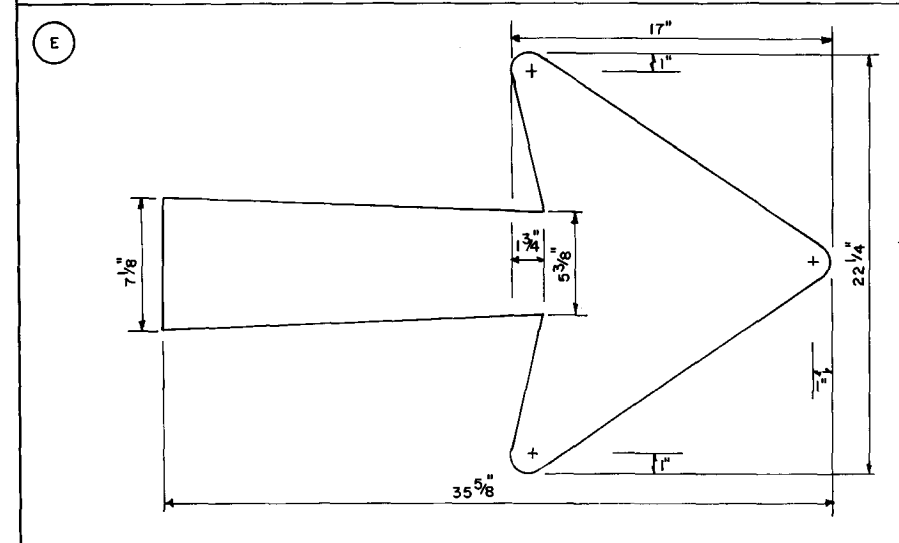
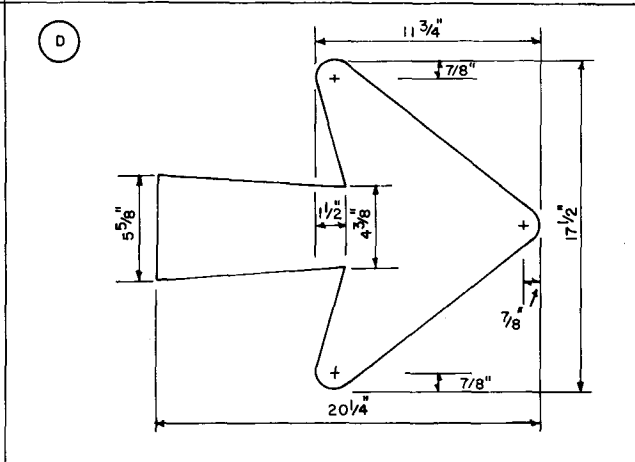
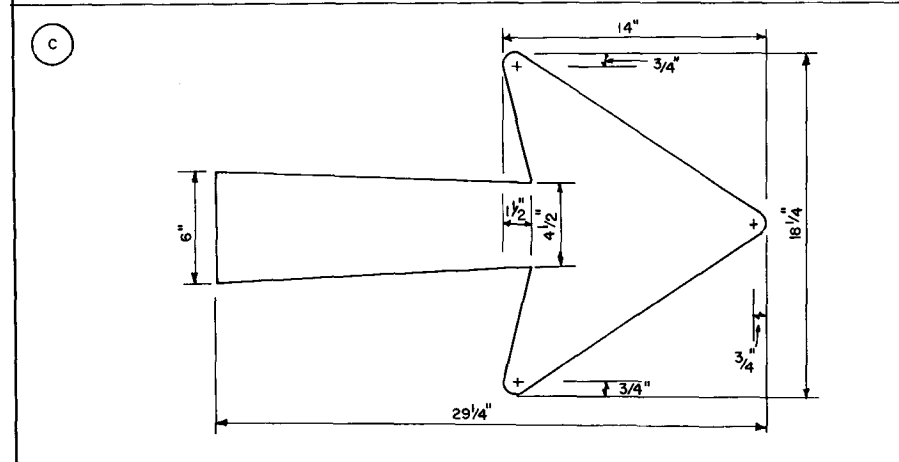
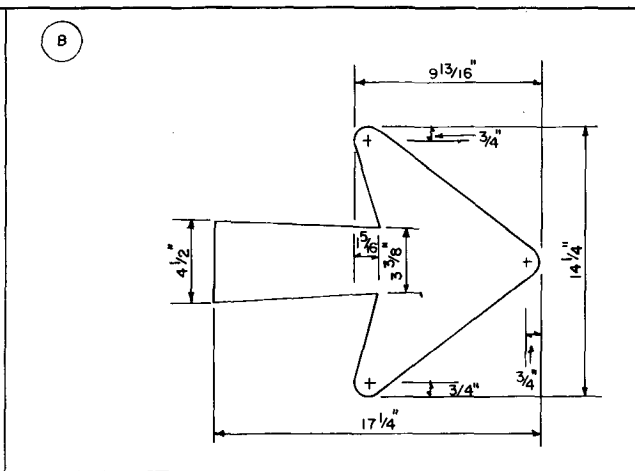
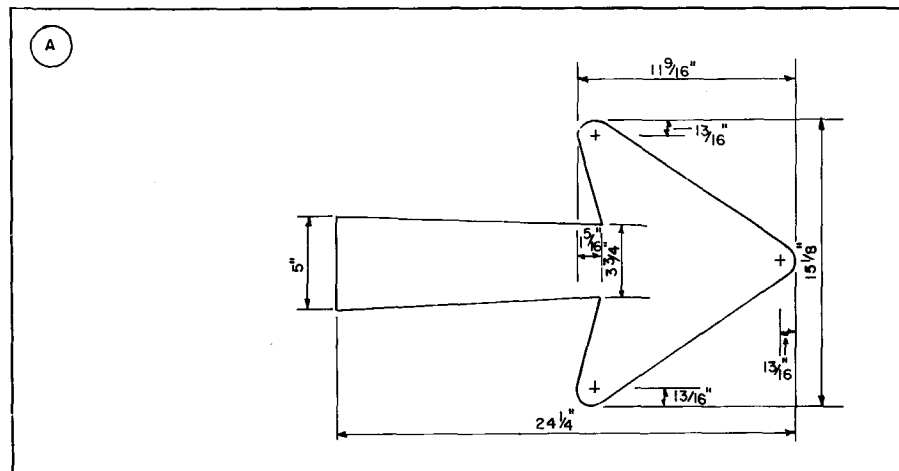
**SHOP DRAWINGS:** The Contractor shall submit complete Shop Drawings before fabrication for approval by the Engineer.

**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.

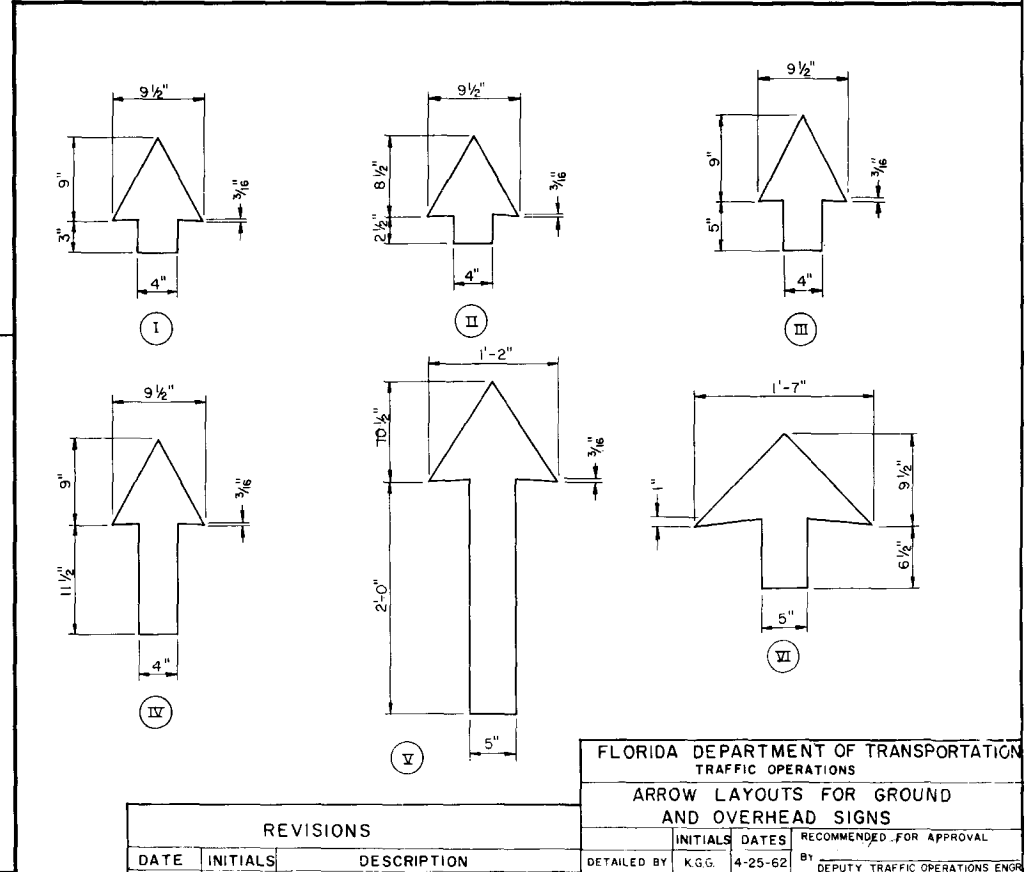
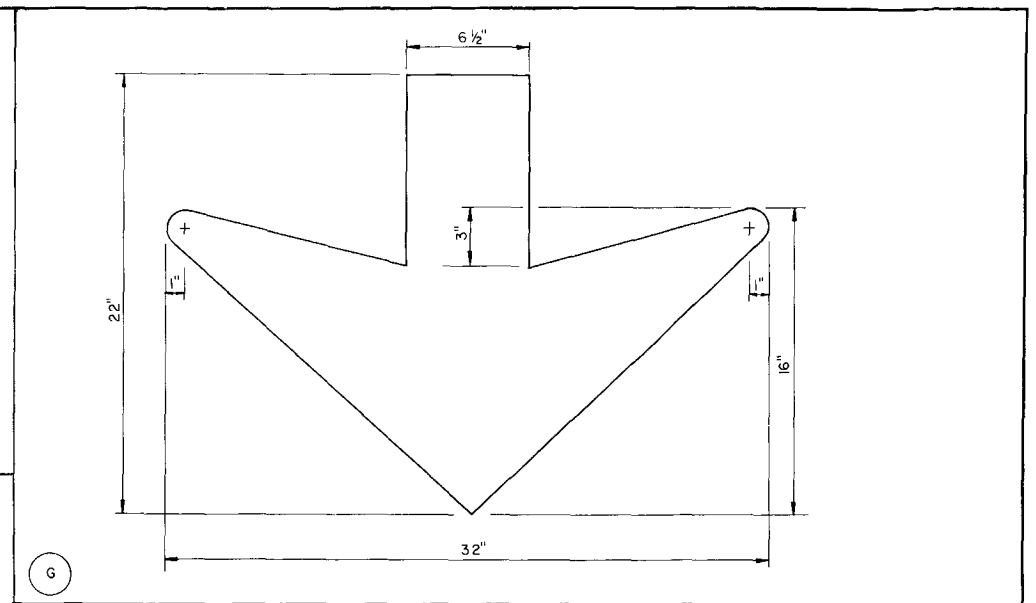
BASES FOR  
OVERHEAD BRIDGE TRUSS  
4 POST CANTILEVER TRUSS  
SINGLE POST CANTILEVER

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION STRUCTURES			
ALUMINUM BASES FOR COLUMN SUPPORTS			
ROAD NO.		COUNTY	
PROJECT NO.		APPROVED BY	
DESIGNED BY HAV		5-76	
CHECKED BY CWB		6-76	
QUANTITIES BY		DRAWING NO.	
CHECKED BY		INDEX NO.	
SUPERVISED BY AJH		10f1 11926	





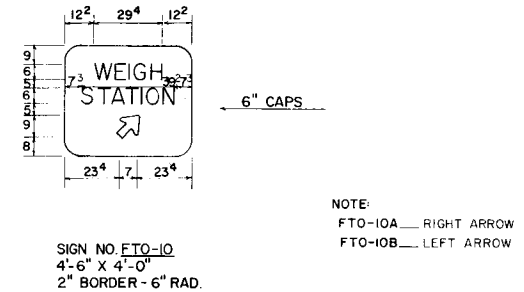
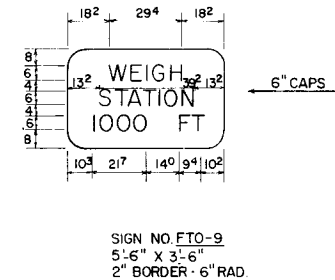
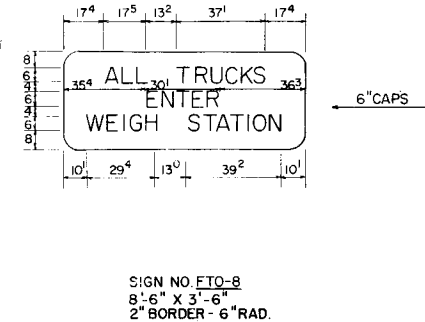
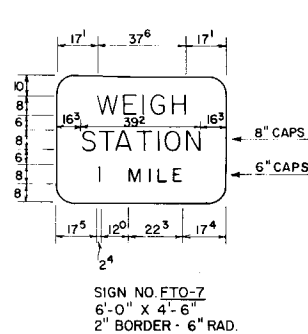
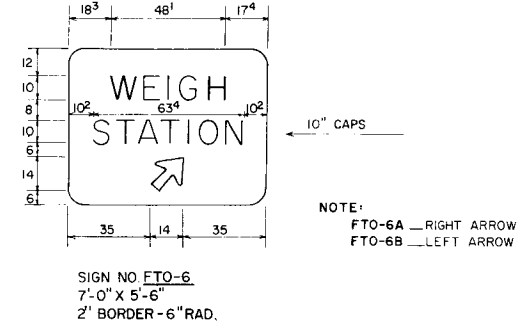
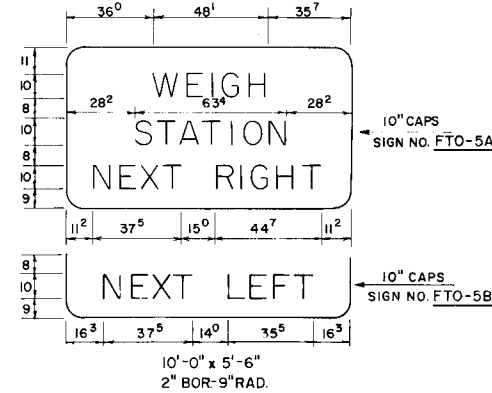
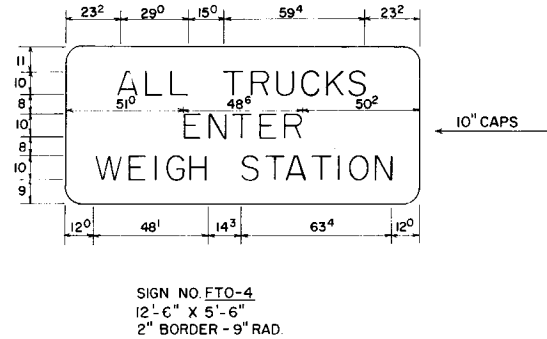
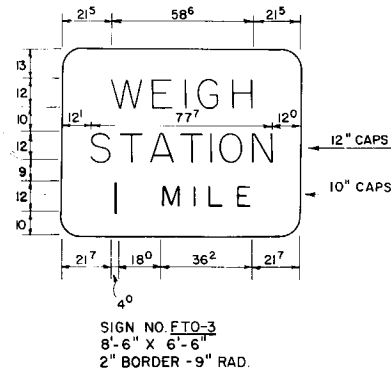
Signs A-G for Guide Sign use.  
Signs I-VI for Destination Sign use.



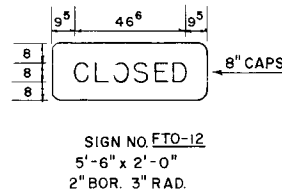
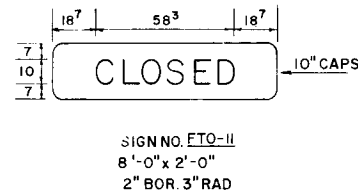
REVISIONS		
DATE	INITIALS	DESCRIPTION
6-7-66		INDEX NO. CHANGE 7326 TO 17320
7-10-78	P.B.	CHANGED TITLE BLOCK & GENERAL REVISION
8-80	K.H.	DESTINATION ARROWS ADDED

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
ARROW LAYOUTS FOR GROUND AND OVERHEAD SIGNS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
		DETAILED BY	BY
		K.G.G.	4-25-62
		CHECKED BY	DEPUTY TRAFFIC OPERATIONS ENGR.
		QUANTITIES BY	APPROVED
		CHECKED BY	STATE TRAFFIC OPERATIONS ENGR.
		SUPERVISED BY	BY
		TRACED BY	DRAWING NO.
		K.G.G.	4-25-62
		1 OF 1	INDEX NO.
			17320

FOR FREEWAY USE



FOR OTHER THAN FREEWAY USE



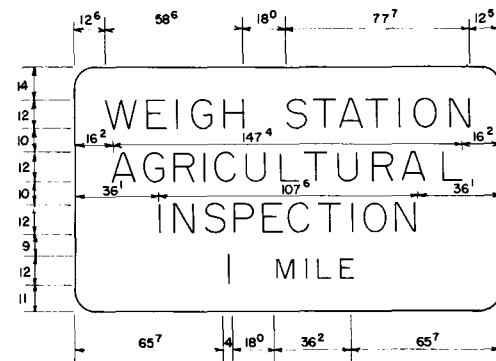
NOTE  
SIGN NO. FTO-11 TO BE USED WITH SIGNS NO. FTO-5A & B, FTO-15A & B.

NOTE  
SIGN NO. FTO-12 TO BE USED WITH SIGN NO. FTO-9.

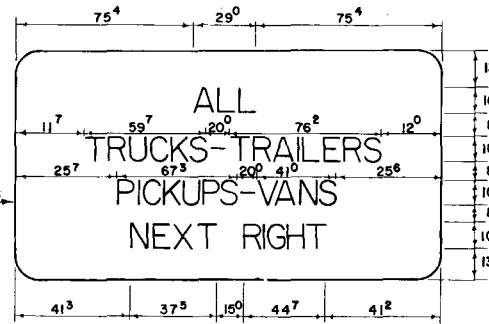
NOTE:  
ALL SIGNS TO HAVE GREEN REFLECTORIZED BACKGROUND  
WITH WHITE LEGEND AND BORDER  
EXCEPT SIGNS NOS. FTO-4 & FTO-8,  
WHICH SHALL HAVE WHITE BACKGROUND  
WITH BLACK LEGEND AND BORDER  
ALL DIMENSIONS SHOWN ARE IN  
INCHES AND EIGHTHS

REVISIONS				FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
DATE	INITIALS	DESCRIPTION		TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS			
				DETAILED BY	M.F.M.	1-75	RECOMMENDED FOR APPROVAL BY <i>Larry C. Price</i> DEPUTY TRAFFIC OPERATIONS ENGR.
				CHECKED BY	K.R.	1-75	APPROVED BY <i>LE Magaña</i> STATE TRAFFIC OPERATIONS ENGR.
				QUANTITIES BY			
				CHECKED BY			
				SUPERVISED BY	K.R.	1-75	DRAWING NO. 1 of 3 INDEX NO. 1732P

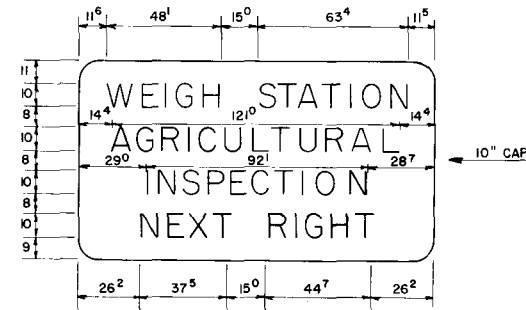




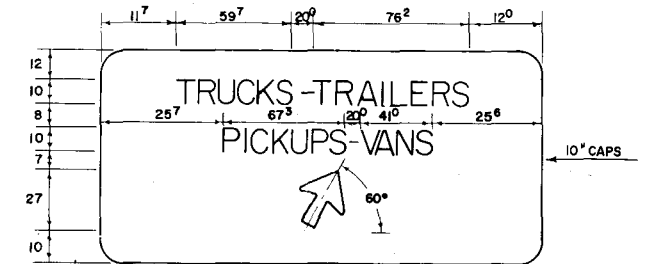
SIGN NO. FTO-13  
15'-0" X 8'-6"  
2" BORDER - 9" RAD.



SIGN NO. FTO-14A  
15'-0" X 7'-0"  
2" BORDER - 9" RAD.

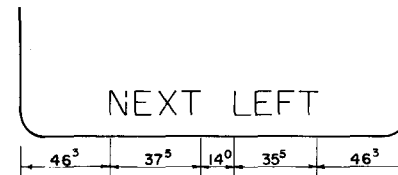


SIGN NO. FTO-15A  
12'-6" X 7'-0"  
2" BORDER - 9" RAD.

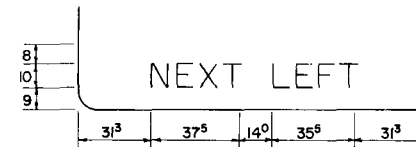


SIGN NO. FTO-16  
15'-0" X 7'-0"  
2" BORDER - 9" RAD.

NOTE:  
FTO-16A - RIGHT ARROW  
FTO-16B - LEFT ARROW



SIGN NO. FTO-14B  
15'-0" X 7'-6"  
2" BORDER - 9" RAD.



SIGN NO. FTO-15B  
12'-6" X 7'-0"  
2" BORDER - 9" RAD.

#### NOTE

ALL SIGNS SHALL HAVE GREEN REFLECTORIZED BACKGROUND WITH WHITE LEGEND AND BORDER, EXCEPT SIGNS FTO-14A&B WHICH SHALL HAVE A WHITE BACKGROUND WITH BLACK LEGEND AND BORDER.

ALL DIMENSIONS SHOWN ARE IN INCHES AND EIGHTS

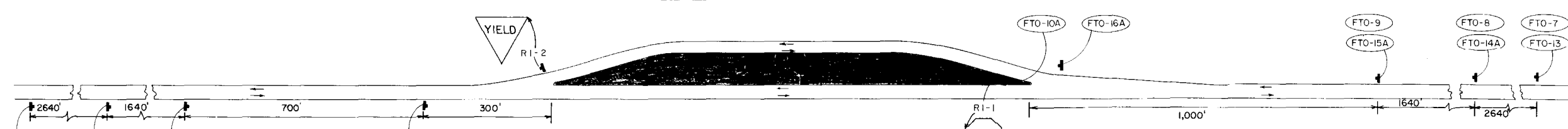
REVISIONS		
DATE	INITIALS	DESCRIPTION
10-15-79	K.R.	REVISED SIGN NOS. 10A & 12

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
DETAILED BY M.F.M.	1-75	BY <i>Larry C. Puce</i>	
CHECKED BY K.R.	1-75	DEPUTY TRAFFIC OPERATIONS ENGR.	
QUANTITIES BY		APPROVED	
CHECKED BY		BY <i>R. Magala</i>	
SUPERVISED BY K.R.	1-75	STATE TRAFFIC OPERATIONS ENGR.	
DRAWING NO. 2 of 3	INDEX NO. 17328		

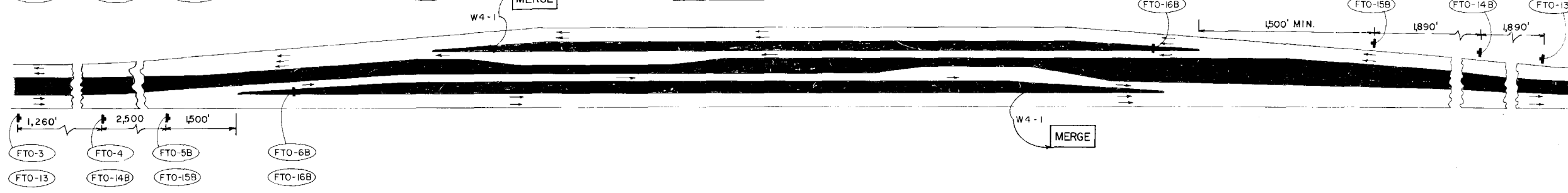
### 4-LANE DIVIDED INSTALLATION



### 2-LANE INSTALLATION



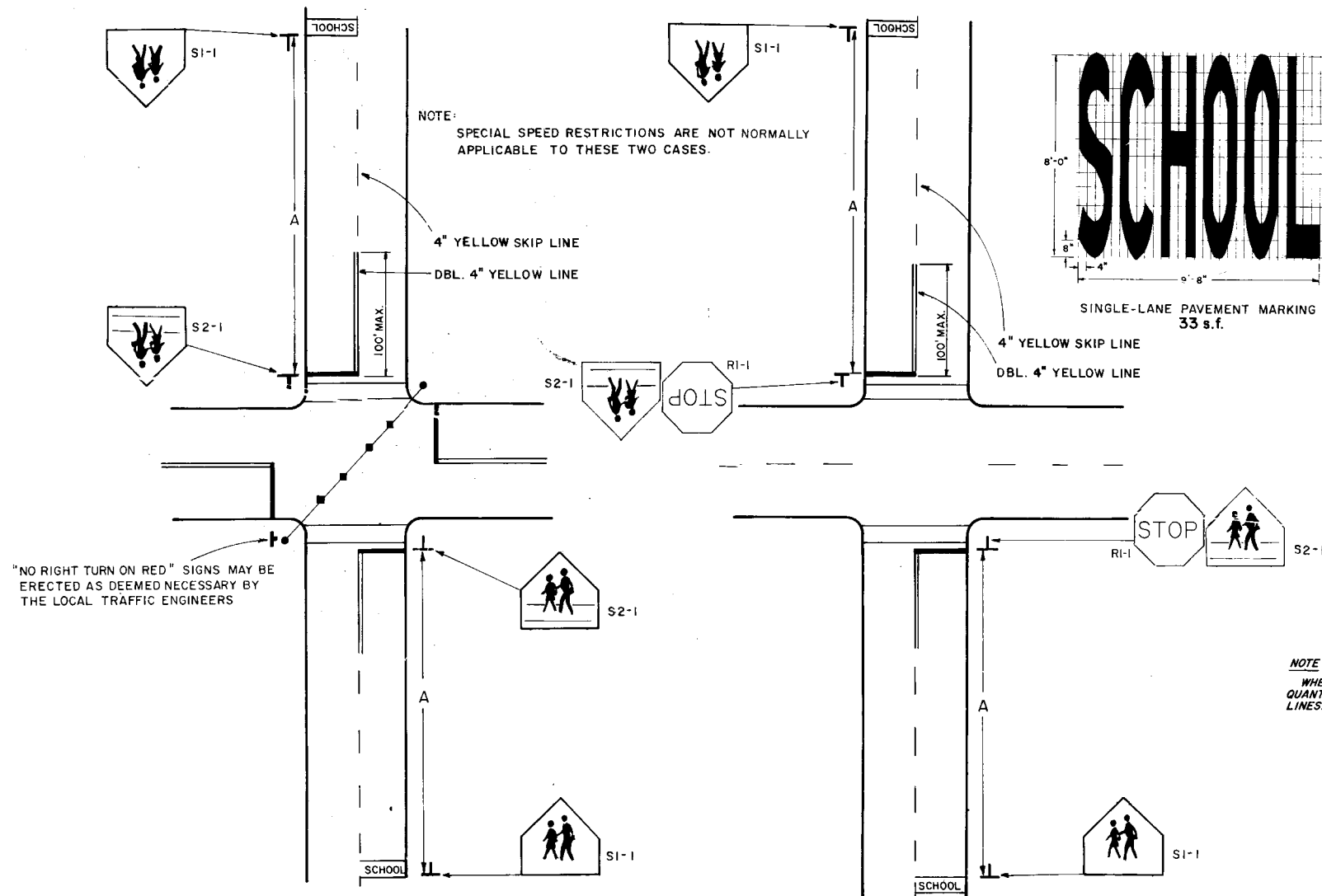
### MEDIAN INSTALLATION



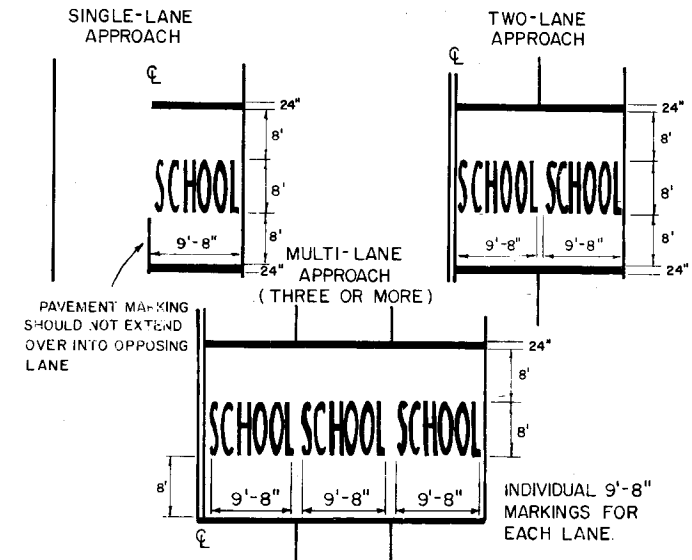
REVISIONS		
DATE	INITIALS	DESCRIPTION
10-15-79	M.C.	REVISE SIGN LOCATIONS
8-80	K.H.	UPDATE SIGN NUMBERS

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL SIGNING FOR TRUCK WEIGH AND INSPECTION STATIONS			
DETAILED BY	INITIALS	DATES	RECOMMENDED FOR APPROVAL
CHECKED BY	INITIALS	DATES	BY <i>Ray C. Price</i>
QUANTITIES BY			DEPUTY TRAFFIC OPERATIONS ENGR
CHECKED BY			APPROVED
SUPERVISED BY	INITIALS	DATES	BY <i>Ray C. Price</i>
			STATE TRAFFIC OPERATIONS ENGR
			DRAWING NO. 3 of 3
			INDEX NO. 17328

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



## 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

# 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

			FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS		
			SCHOOL SIGNS & MARKINGS		
REVISIONS				INITIALS	DATES
DATE	BY	DESCRIPTION	Detailed by	CEJ	7-76
9-78	SWR	Added note, & changed side of transverse lines	Checked by	KR	7-76
9-79	JMC	Deleted Fla Statute No.	Quantities by		
8-80	K.H.	Deleted Educational Plaque	Checked by		
9-9-81	R.L.	Added pavement message	Supervised by	REM	

*Harry C. Price*

Approved by *R.E. Magala* *12/76*

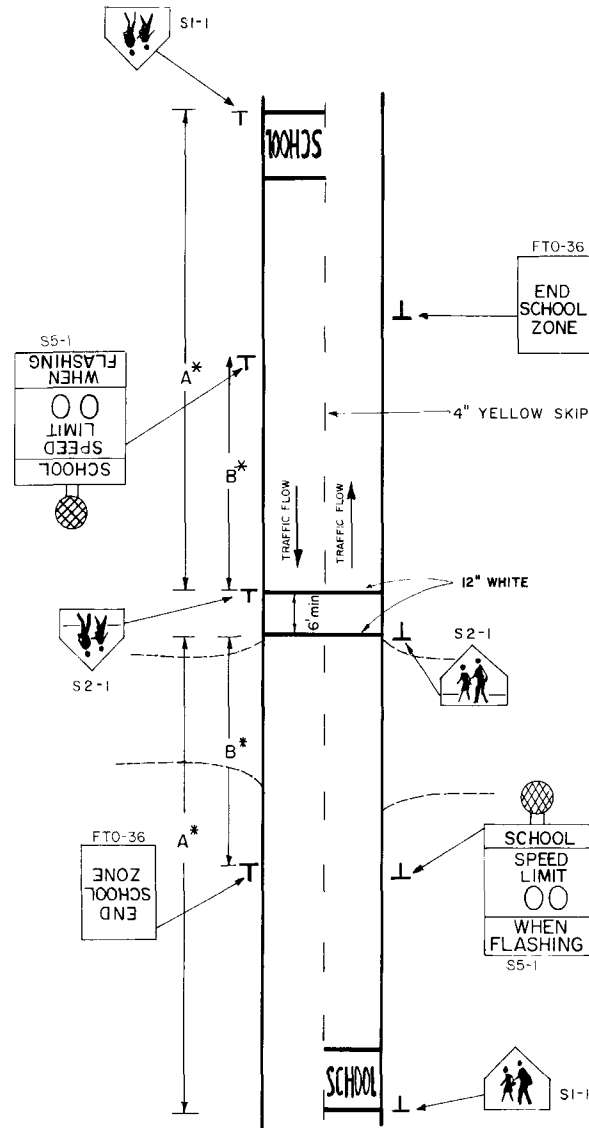
State Traffic Operations Engr.

DRAWING NO. 1 of 6 INDEX NO. 17344

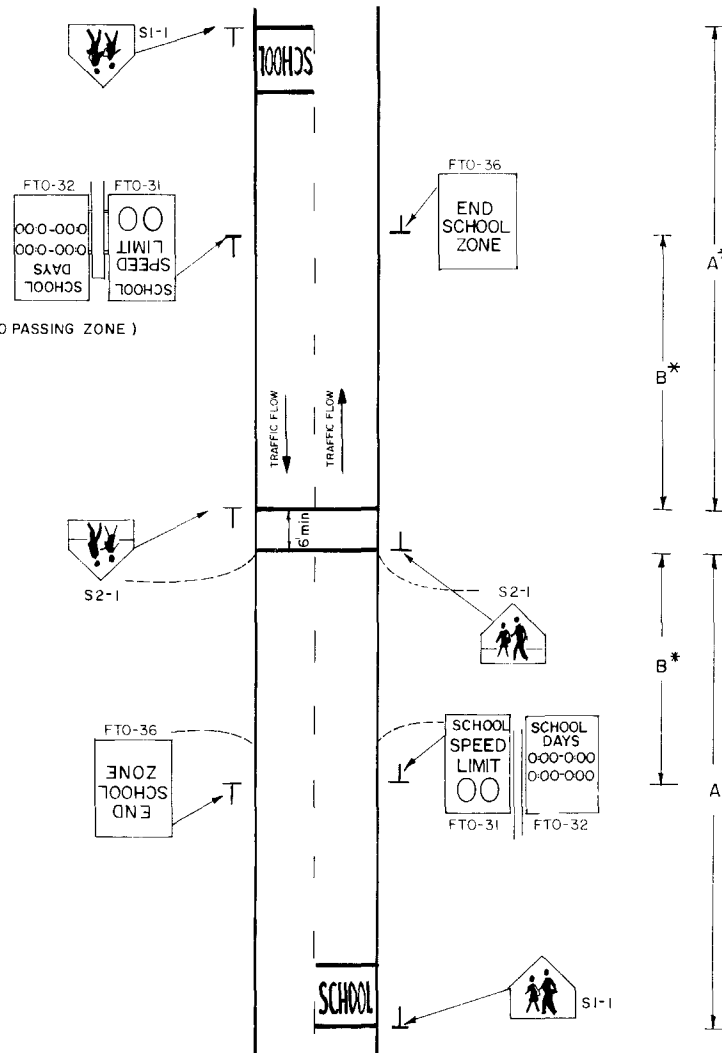
APPROACH SPEED MPH	SUGGESTED DISTANCE IN FEET	
	A	B
25 TO 35	275	50
36 TO 45	350	65
46 TO 55	500	80

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

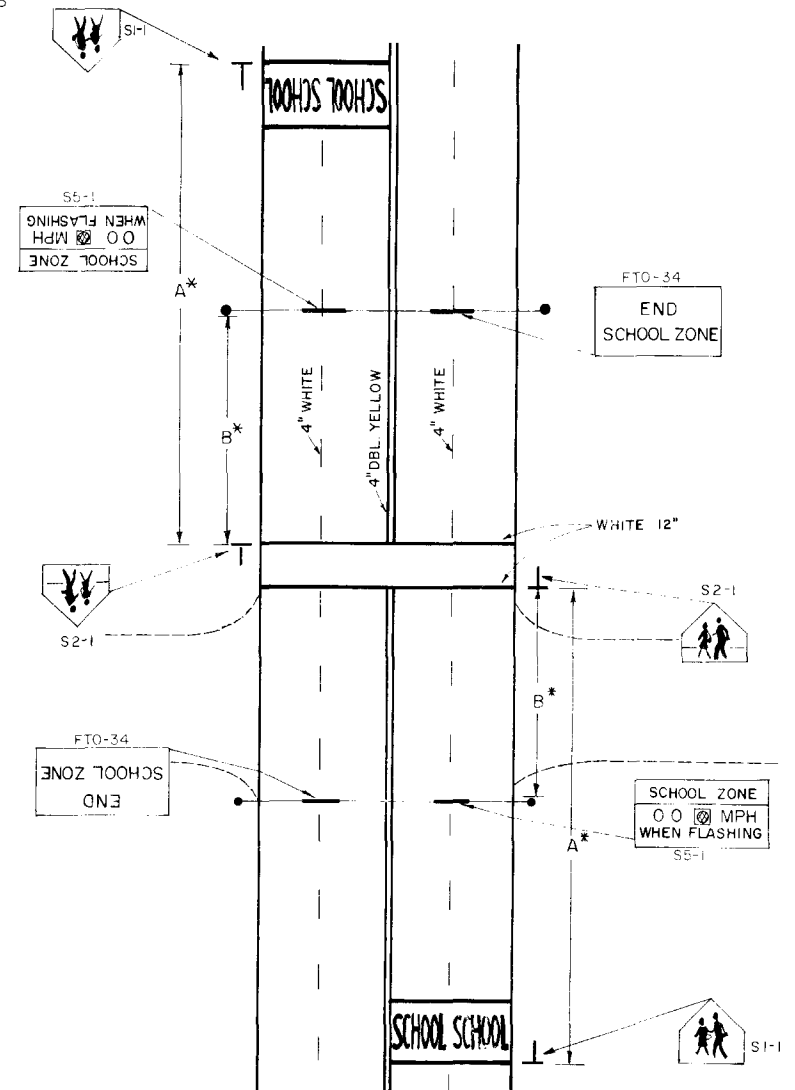
### 5. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK WITH OVERHEAD FLASHING BEACON SPEED LIMIT SIGNS ( 4 LANES UNDIVIDED-2 WAY TRAFFIC ) (MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)



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)



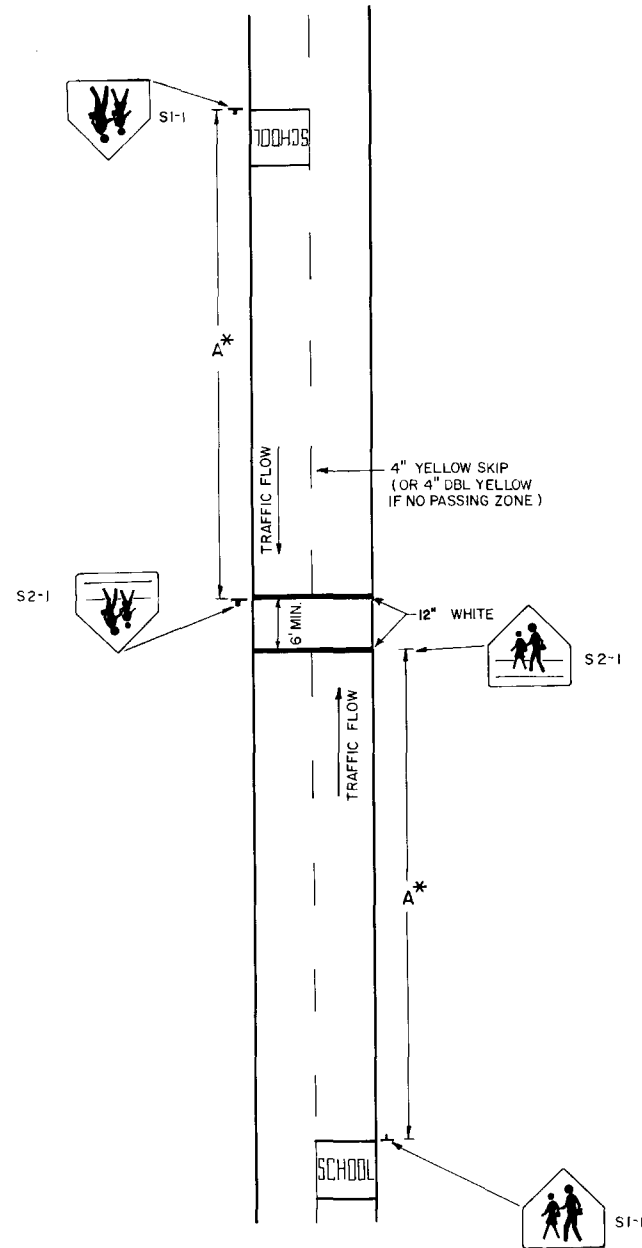
4. TRAFFIC CONTROL DEVICES FOR A REDUCED SPEED ZONE AT A SCHOOL CROSSWALK (NO FLASHING BEACON )  
( 2 LANES-2 WAY TRAFFIC )  
(MIDBLOCK OR ON THRU STREET AT AN INTERSECTION)



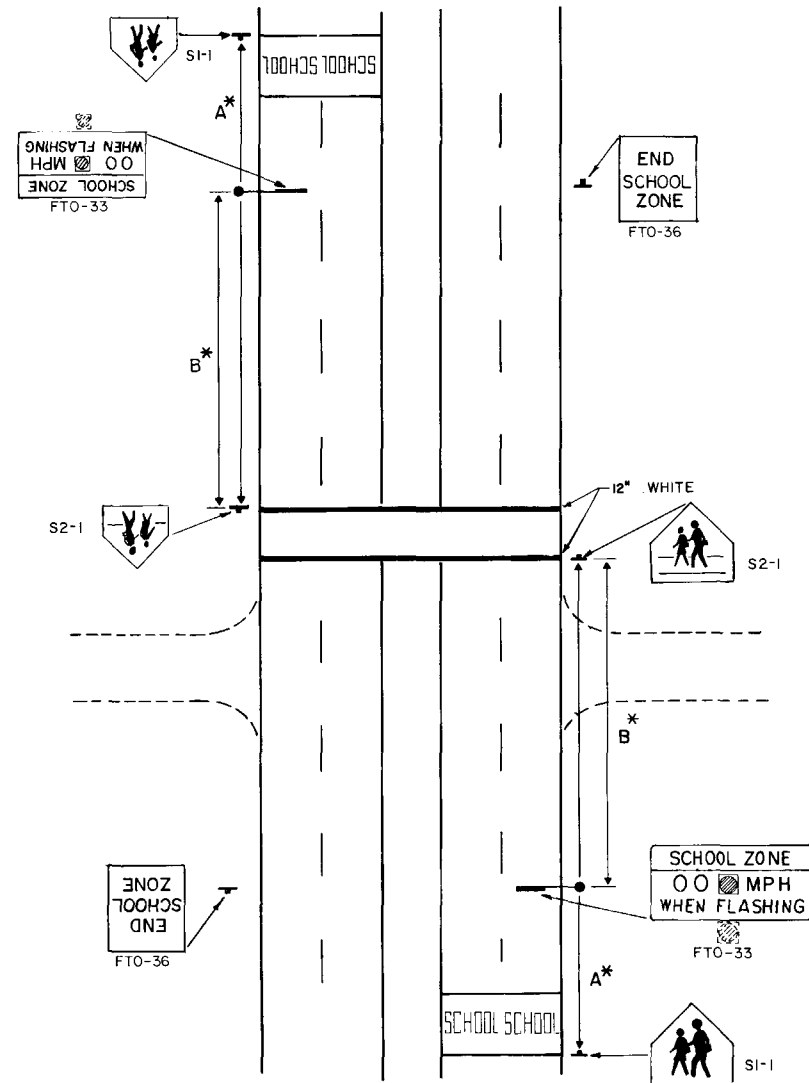
FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

### SCHOOL SIGNS & MARKINGS

REVISIONS				INITIALS	DATES
DATE	BY	DESCRIPTION	Designed by	CEJ	7-76
9-78	S.W.R.	Changed crosswalk dimensions	Checked by	KR	7-76
9-79	J.M.C.	Deleted Florida Statute	Quantities by		
8-80	K. H.	Deleted Educational Plaque	Checked by		
			Supervised by	REM	
				Approved by <i>Larry C. Price</i>	
				by <i>R.E. Magoley 7/4/76</i>	
				State Traffic Operations Engr.	
				DRAWING NO. 2 of 6	
				INDEX NO. 17344	



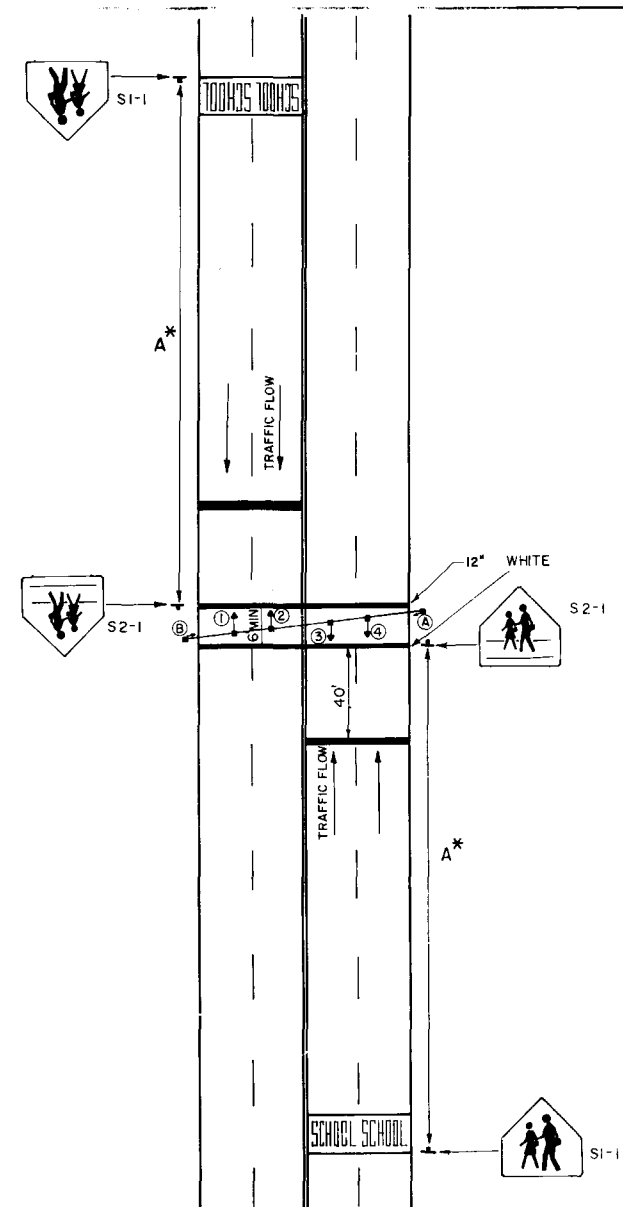
6. TRAFFIC CONTROL DEVICES FOR A SCHOOL CROSSWALK  
WITHOUT A SPEED REDUCTION  
(2 LANES - 2 WAY TRAFFIC)



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

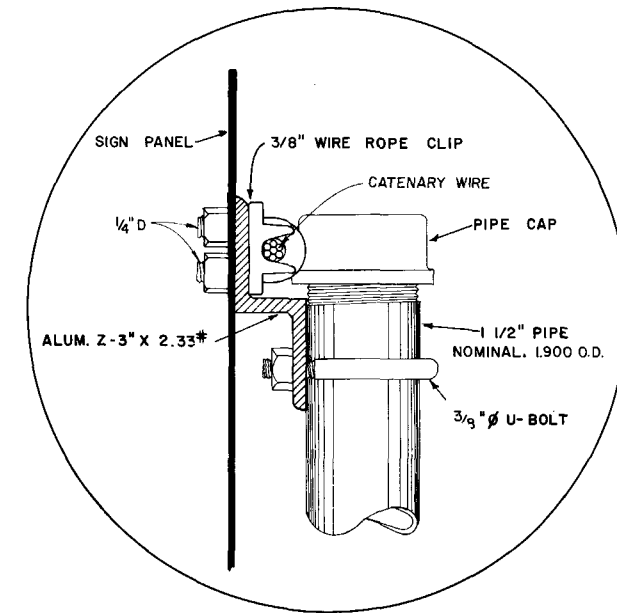
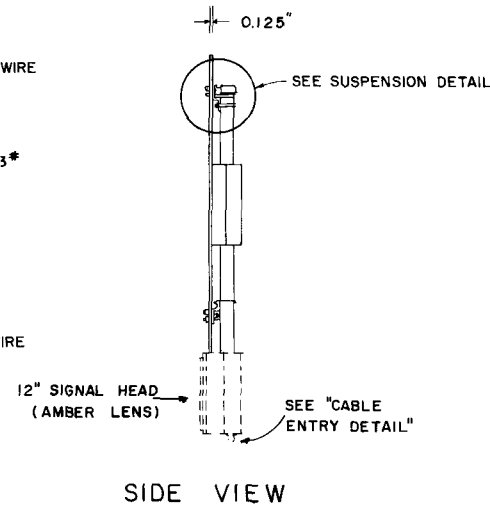
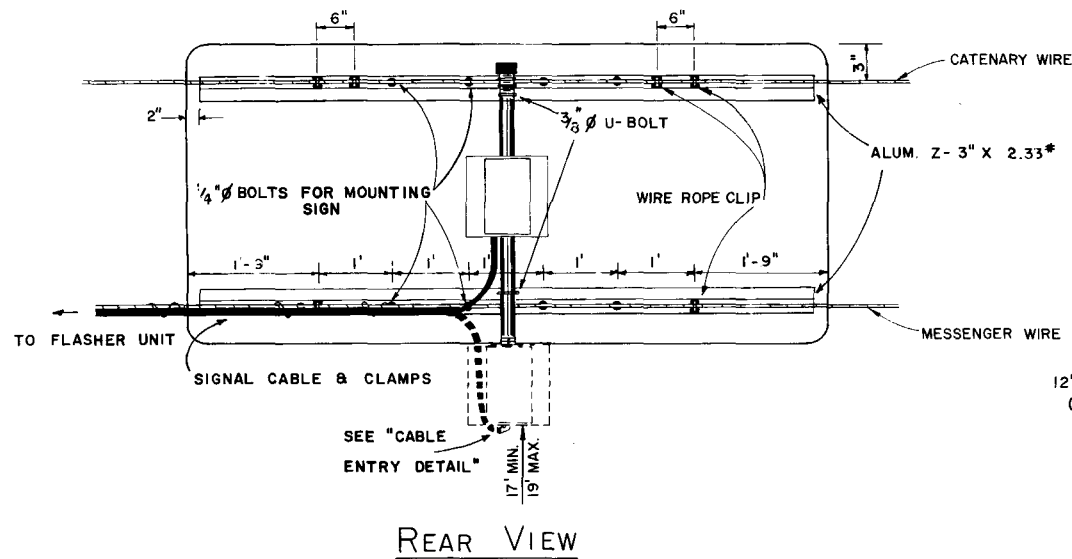
A\* & B\* DISTANCES SHALL BE INCREASED BY ADDING THE  
INTERSECTING STREET WIDTH (CURB RETURNS INCLUDED) TO  
DIMENSIONS GIVEN IN TABLE.



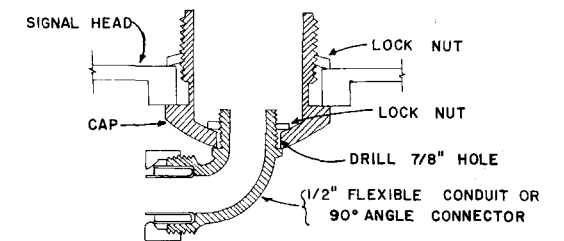
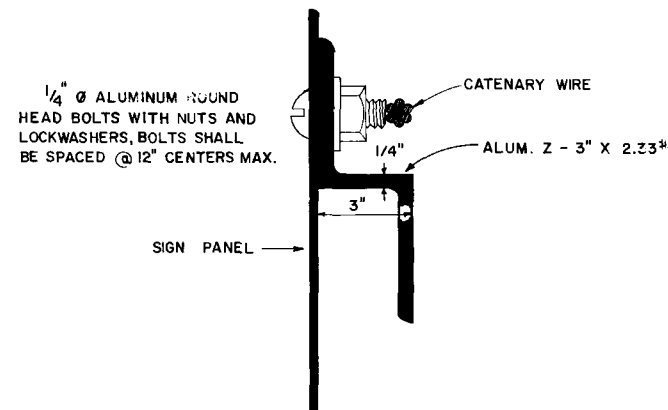
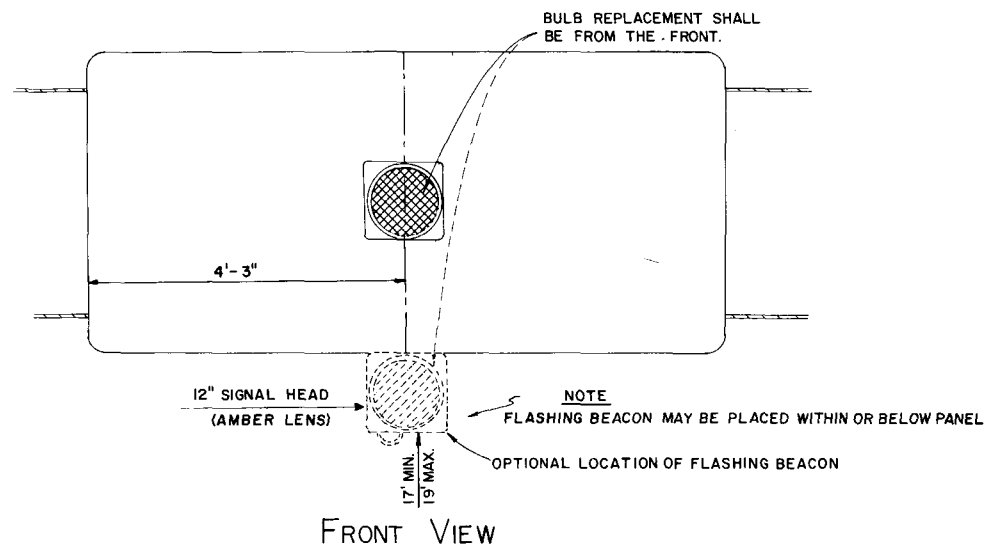
8. TRAFFIC CONTROL DEVICES FOR SIGNALIZED MIDBLOCK  
SCHOOL CROSSWALK

FLORIDA DEPARTMENT OF TRANSPORTATION Traffic Operations					
SCHOOL SIGNS & MARKINGS					
REVISIONS			INITIALS	DATES	
DATE	BY	DESCRIPTION	Checked by	CEJ	7-76
7-10	FB	REVISED PAVEMENT ON	Checked by	KR	7-76
9-78	SWR	Changed crosswalk dimensions	Quantities by		
9-79	JMC	Deleted Florida Statute	Checked by		
8-80	K.H.	Deleted Educational Plaque	Supervised by	REM	
			Approved by <i>Larry C. Price</i>		
			by <i>R. E. Magarvey 7/24/76</i>		
			State Traffic Operations Engr		
			DRAWING NO. 3 OF 6		
			INDEX NO. 17344		





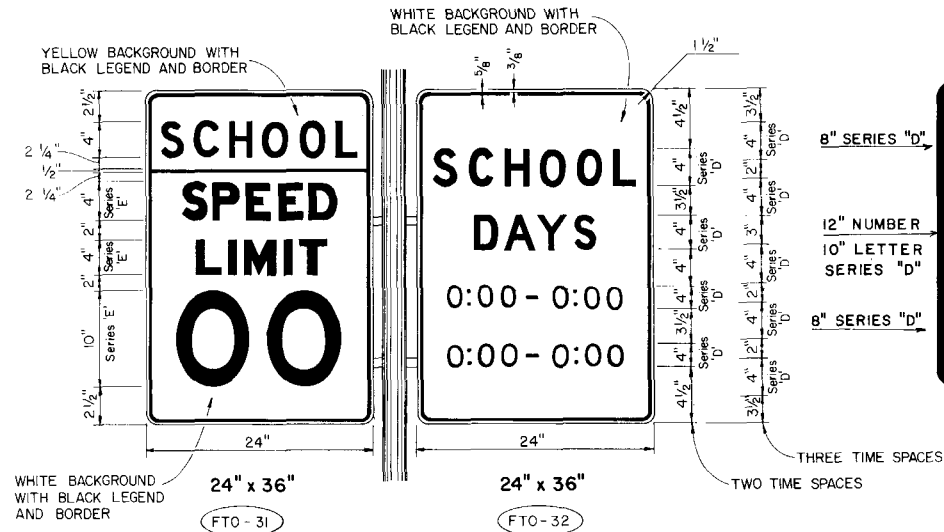
FLASHER UNIT AND CABINET TO BE PLACED ON THE STRAIN POLE SUPPORTING OVERHEAD SIGN ASSEMBLY OR ON SERVICE POLE.



**CABLE ENTRY DETAIL**

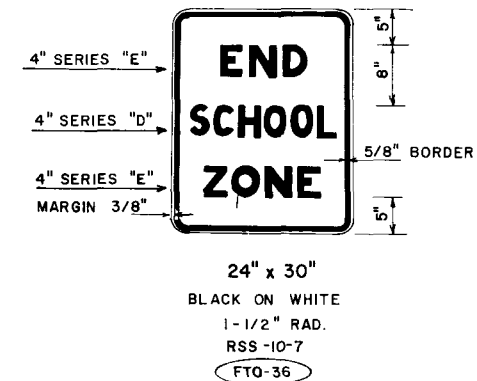
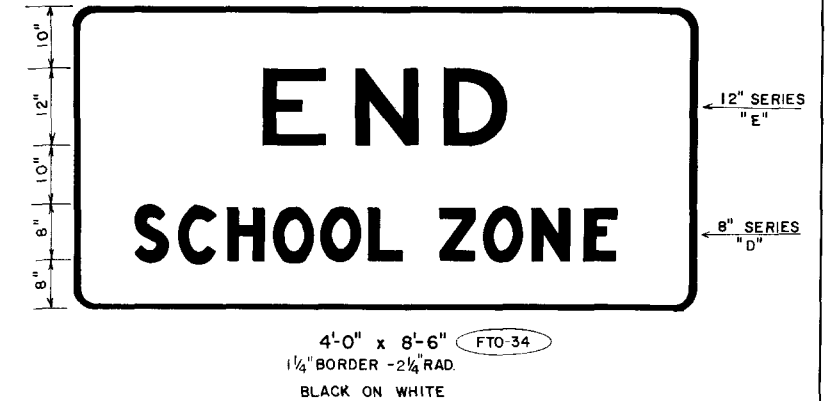
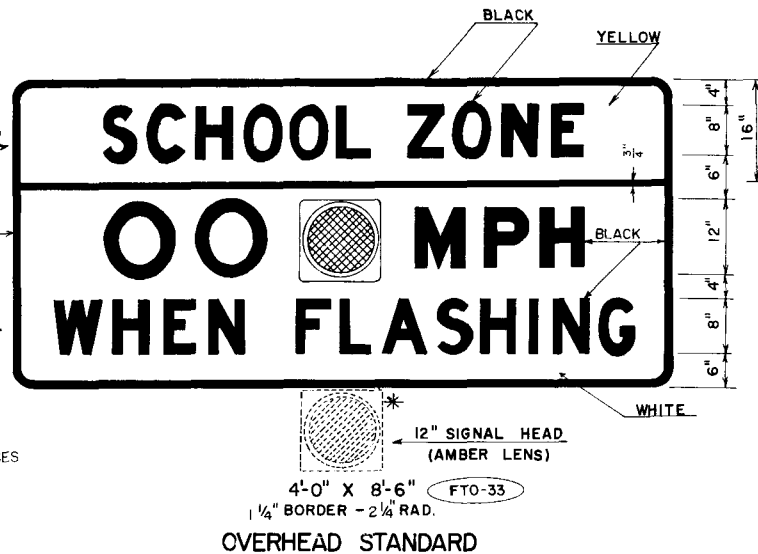
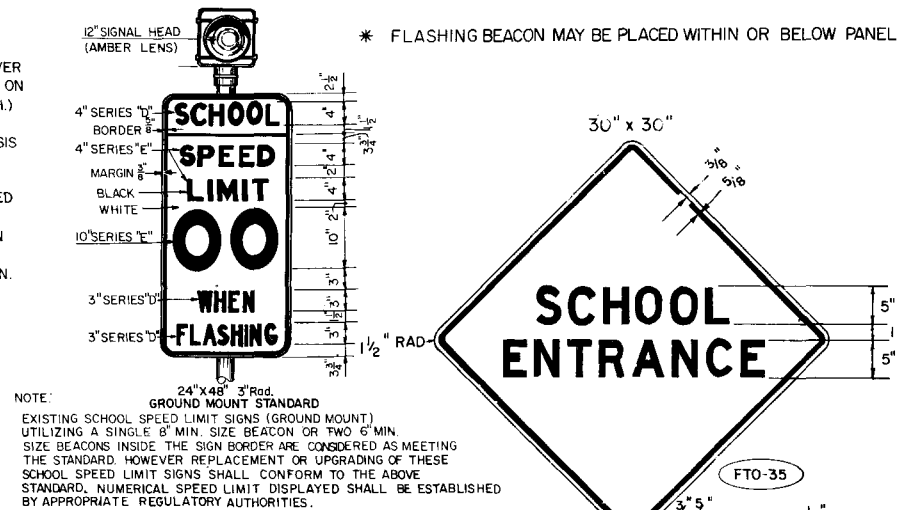
REVISIONS				FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
DATE	BY	DESCRIPTION		SCHOOL SIGNS & MARKINGS			
9-79	J.M.C.	Detached Florida Statute	DETAILED BY CEJ 7-76	INITIALS	DATES	<i>Larry C. Price</i> APPROVED BY <i>R.E. Magadey 7/24/76</i> STATE TRAFFIC OPERATIONS ENGR.	
8-80	K.H.	Revise Details	CHECKED BY KR 7-76	QUANTITY BY			
			CHECKED BY				
			SUPERVISED BY REM				
				DRAWING NO.	5 of 6	INDEX NO.	17344

# SPEED LIMIT ASSEMBLY



## NOTES:

1. ALL SIGNS SHALL BE REFLECTORIZED.
2. 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.
3. 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. MIN. SET BY LAW.



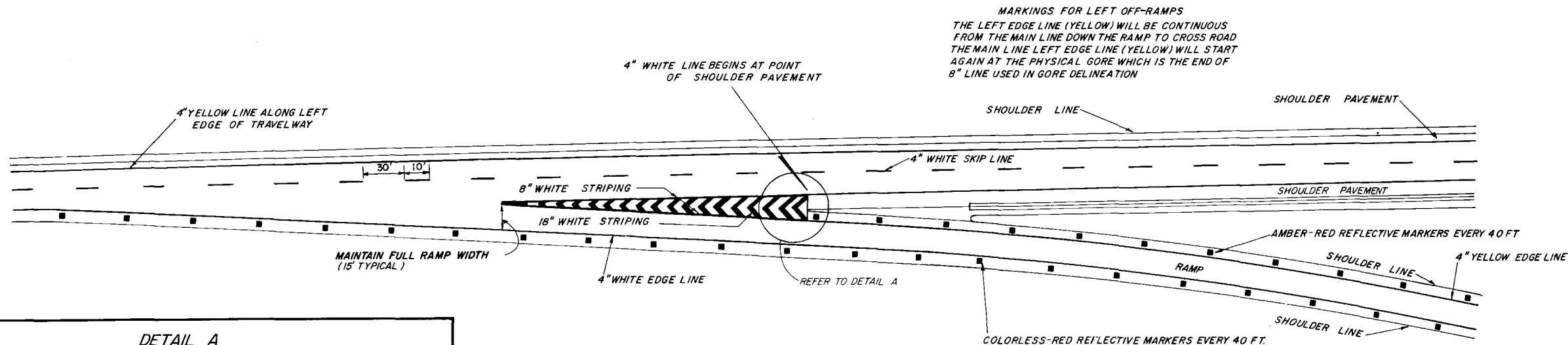
## NOTE

ALL SIGNS SHALL BE REFLECTORIZED

REVISIONS		
DATE	INITIALS	DESCRIPTION
8-5-79	J.M.C.	Deleted Florida Statute
8-80	K.H.	Deleted Ground Mount Standard
9-9-81	R.L.	Added Note

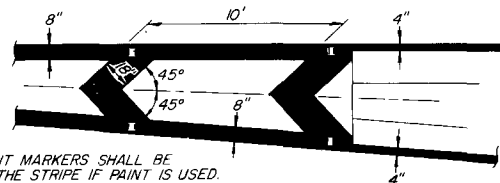
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
SCHOOL SIGNS & MARKINGS			
DATE	INITIALS	DATES	
DETAILED BY	CEJ	7-76	<i>Larry C. Price</i> APPROVED BY <i>R.E. Magallon</i> 7/4/76 STATE TRAFFIC OPERATIONS ENGR.
CHECKED BY	KR	7-76	
QUANTITIES BY			
CHECKED BY			
SUPERVISED BY	REM		
DRAWING NO.	6 of 6	INDEX NO.	17344





DETAIL A

COLORLESS-RED REFLECTIVE PAVEMENT MARKERS TO BE PLACED ON EVERY STRIPE BEGINNING AT NOSE.



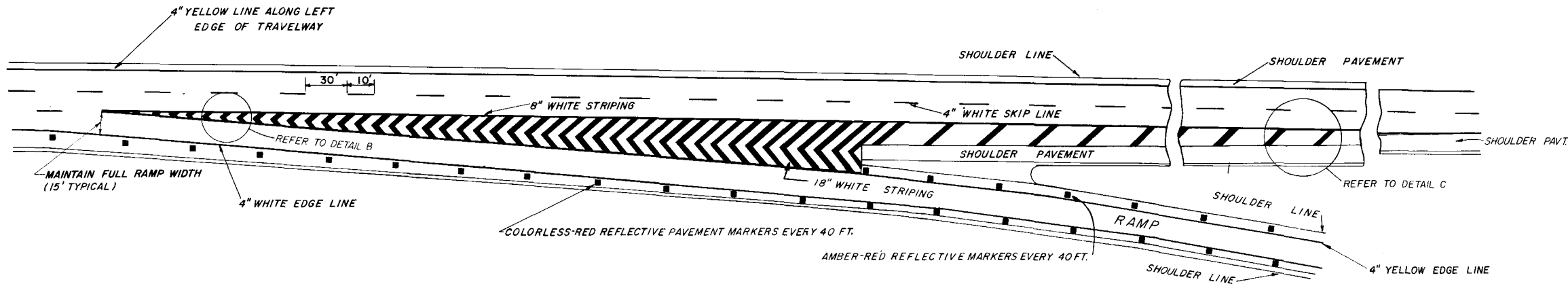
REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED OUTSIDE OF THE STRIPE IF PAINT IS USED.

NOTE:

REFLECTIVE PAVEMENT MARKERS ARE INSTALLED ON THE THERMOPLASTIC EDGE LINE.

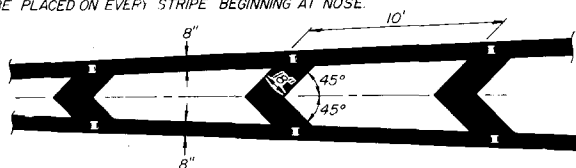
### NORMAL TAPERED EXIT

(TWO THRU LANES)



DETAIL B

COLORLESS-RED REFLECTIVE PAVEMENT MARKERS TO BE PLACED ON EVERY STRIPE BEGINNING AT NOSE.

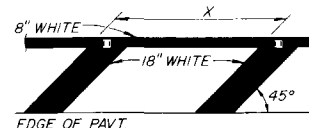


REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED OUTSIDE OF THE STRIPE IF PAINT IS USED.

DETAIL C

"S"	30	35	40	45	50	55
"X"	20	20	40	40	60	60

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



### NORMAL TAPERED EXIT ONLY

(TWO THRU LANES-THREE APPROACH LANES)

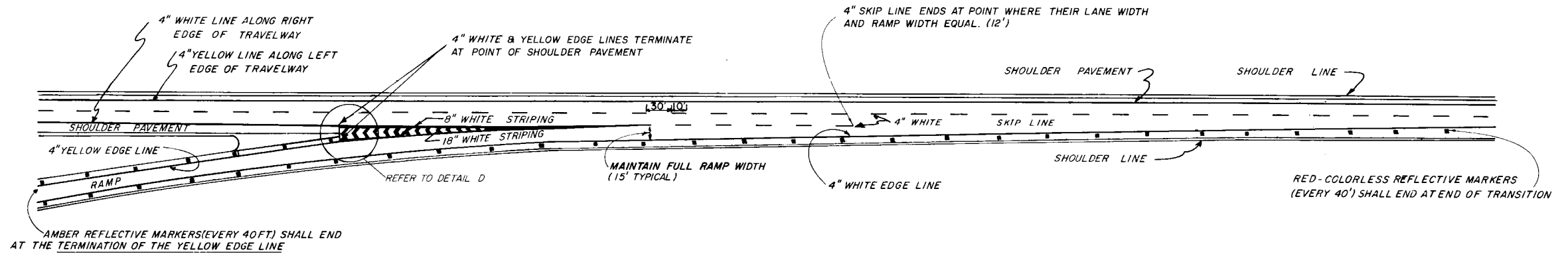
#### REVISIONS

DATE	INITIALS	DESCRIPTIONS
7-12-78	PB	REVISED NOTES & TITLE BLOCK
8-80	KH	REVISED DETAILS
9-9-81	RL	ADDED NOTE

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION  
TRAFFIC OPERATIONS

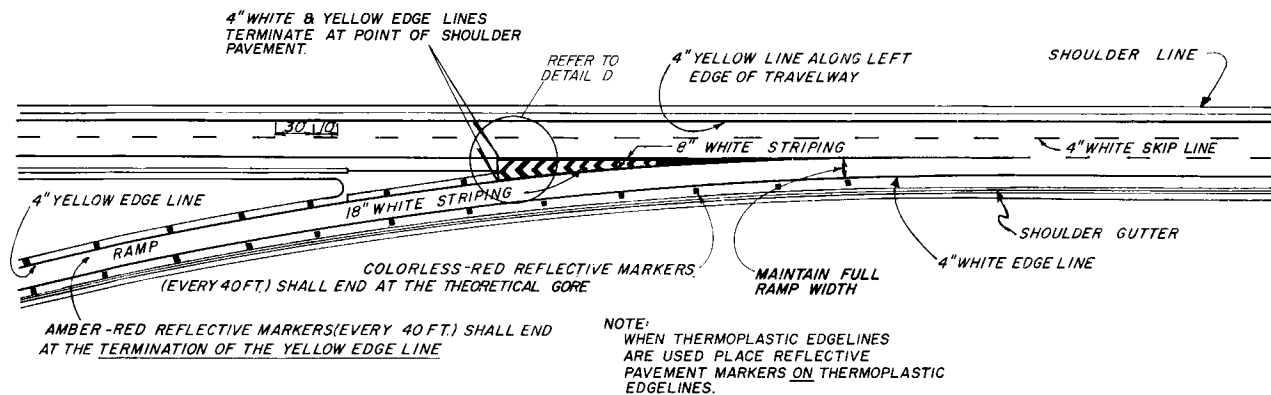
#### INTERCHANGE MARKINGS

INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY		BY
CHECKED BY		DEPUTY TRAFFIC OPERATIONS ENGR.
QUANTITIES BY		APPROVED
CHECKED BY		BY
SUPERVISED BY		STATE TRAFFIC OPERATIONS ENGR.
		Drawing No. Index No.
		1 OF 4 17345

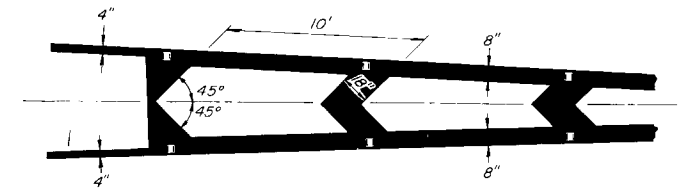


**NORMAL TAPERED ENTRANCE**

**DETAIL D**



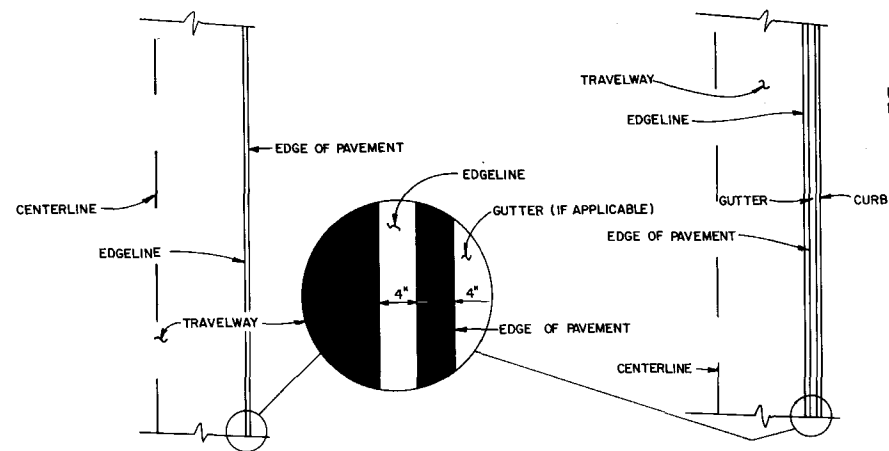
**NORMAL TAPERED ENTRANCE**  
**WITH ADDED LANE**



COLORLESS-RED REFLECTIVE PAVEMENT MARKERS TO BE PLACED ON EVERY STRIPE BEGINNING AT NOSE.

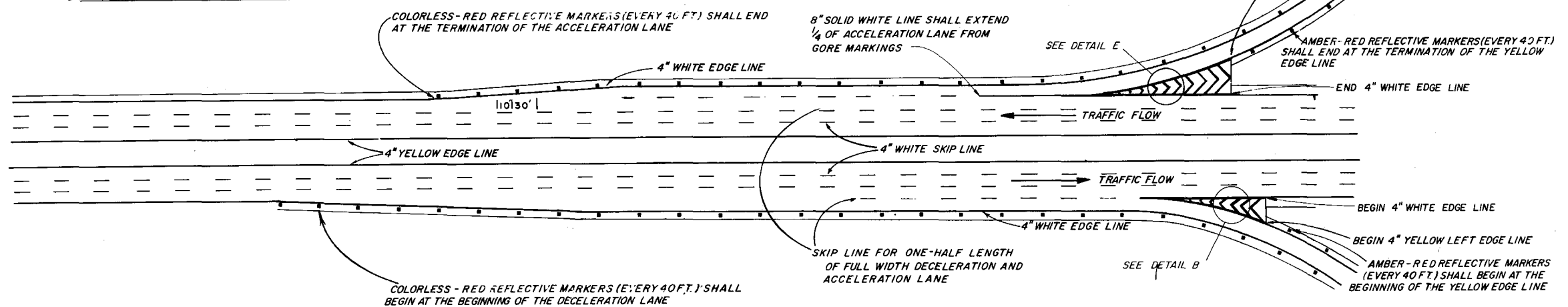
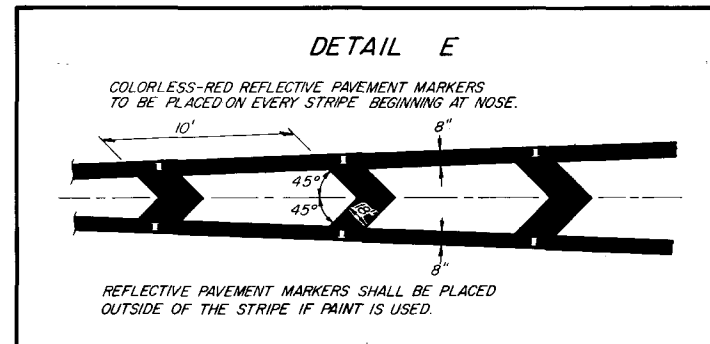
REFLECTIVE PAVEMENT MARKERS SHALL BE PLACED OUTSIDE OF THE STRIPE IF PAINT IS USED.

REVISIONS				FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
DATE	INITIALS	DESCRIPTIONS		INTERCHANGE MARKINGS			
7-11-78	PB	REVISED NOTES & CHANGED TITLE BLOCK		INITIALS	DATES	RECOMMENDED FOR APPROVAL	
9-7-79	J.M.C.	REVISED 10'11" DIMENSION		DETAILED BY		BY DEPUTY TRAFFIC OPERATIONS ENGR.	
8-80	K.H.	REMOVE DETAIL & REVISE DRAWINGS		CHECKED BY		APPROVED BY	
				QUANTITIES BY		STATE TRAFFIC OPERATIONS ENGR.	
				CHECKED BY	K.R.	DRAWING NO. 2 OF 3	
				SUPERVISED BY		INDEX NO. 17243	

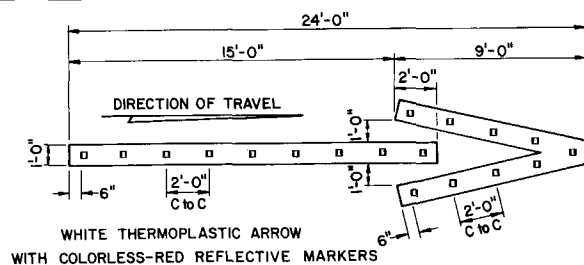


PLACEMENT OF EDGELINES

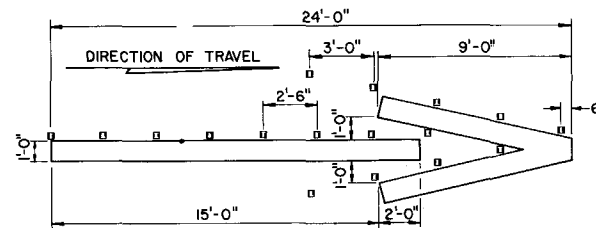
EDGE LINE STRIPING TYPICAL FOR RIGHT OR LEFT EDGE



PARALLEL ACCELERATION AND DECELERATION LANE



WHITE THERMOPLASTIC ARROW WITH COLORLESS-RED REFLECTIVE MARKERS

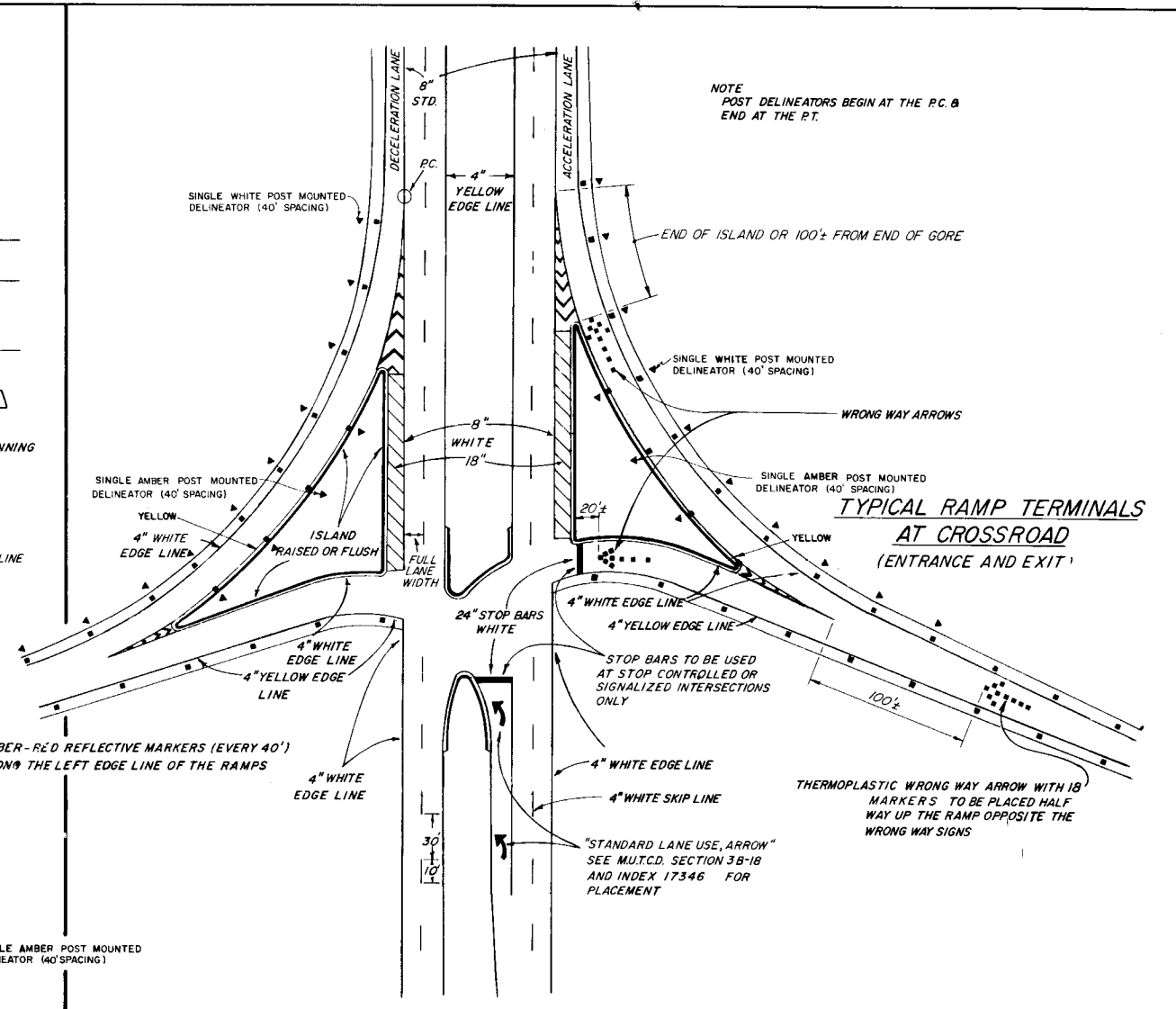
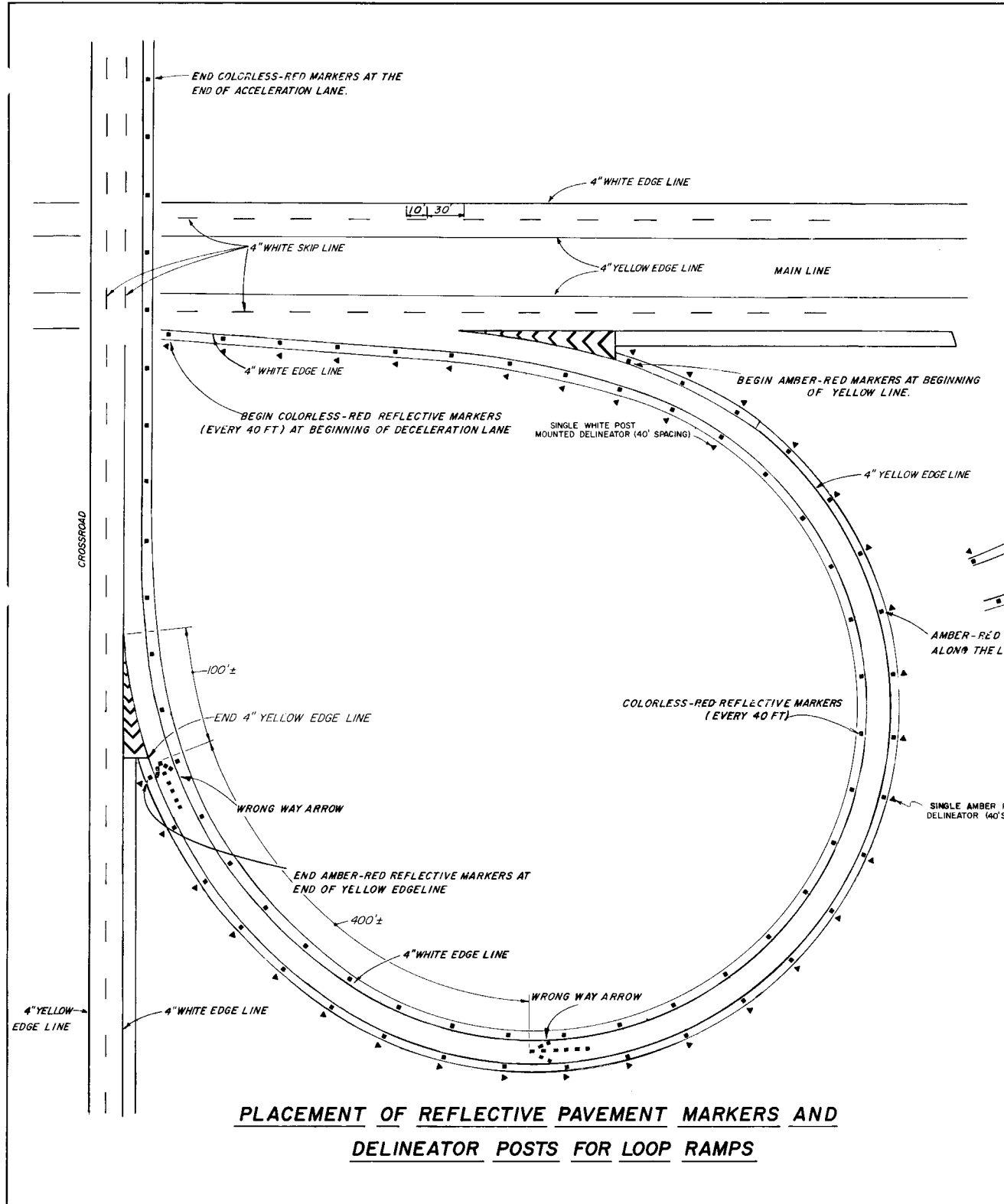


WHITE PAINT ARROW WITH COLORLESS-RED REFLECTIVE MARKERS. TO BE USED ONLY IN AREAS WITH LOW TRAFFIC VOLUMES.

WRONG WAY ARROWS

REVISIONS		
DATE	INITIALS	DESCRIPTIONS
7-11-78	PB	REVISED NOTES & TITLE BLOCK
9-7-79	J.M.C.	REVISED 10ft. DIMENSION
8-80	K.H.	ARROW DETAIL ADDED
9-9-81	R.L.	ADD DETAIL

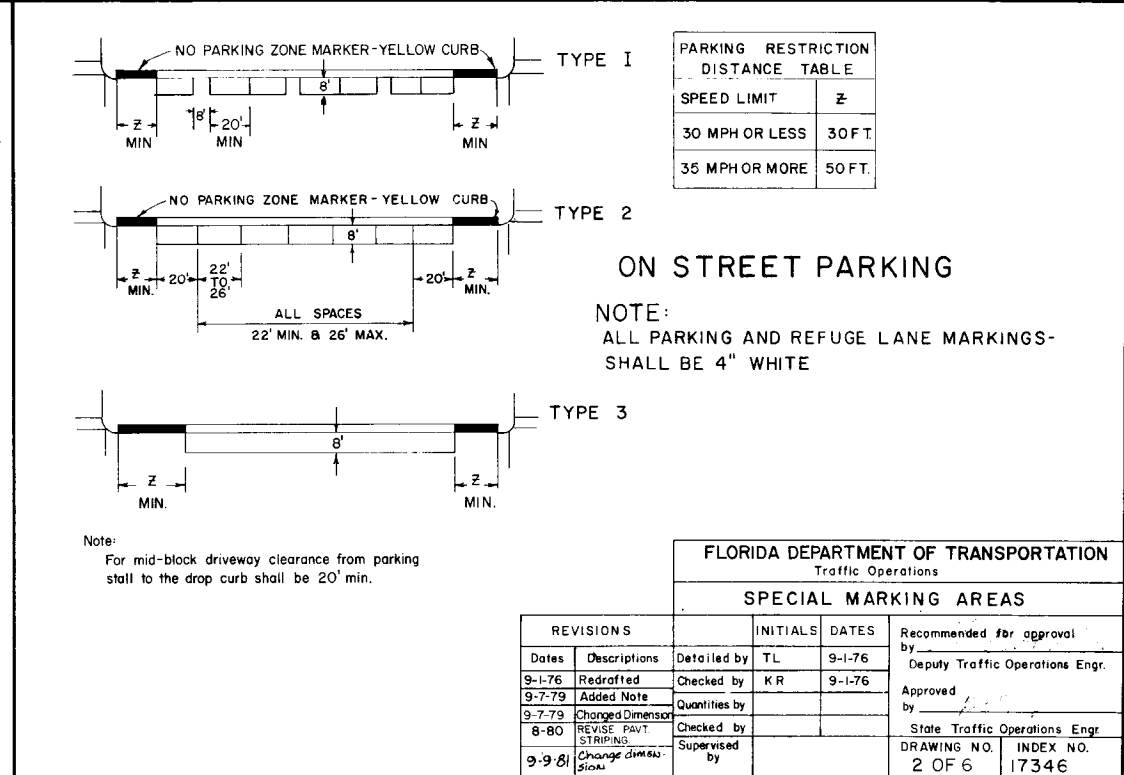
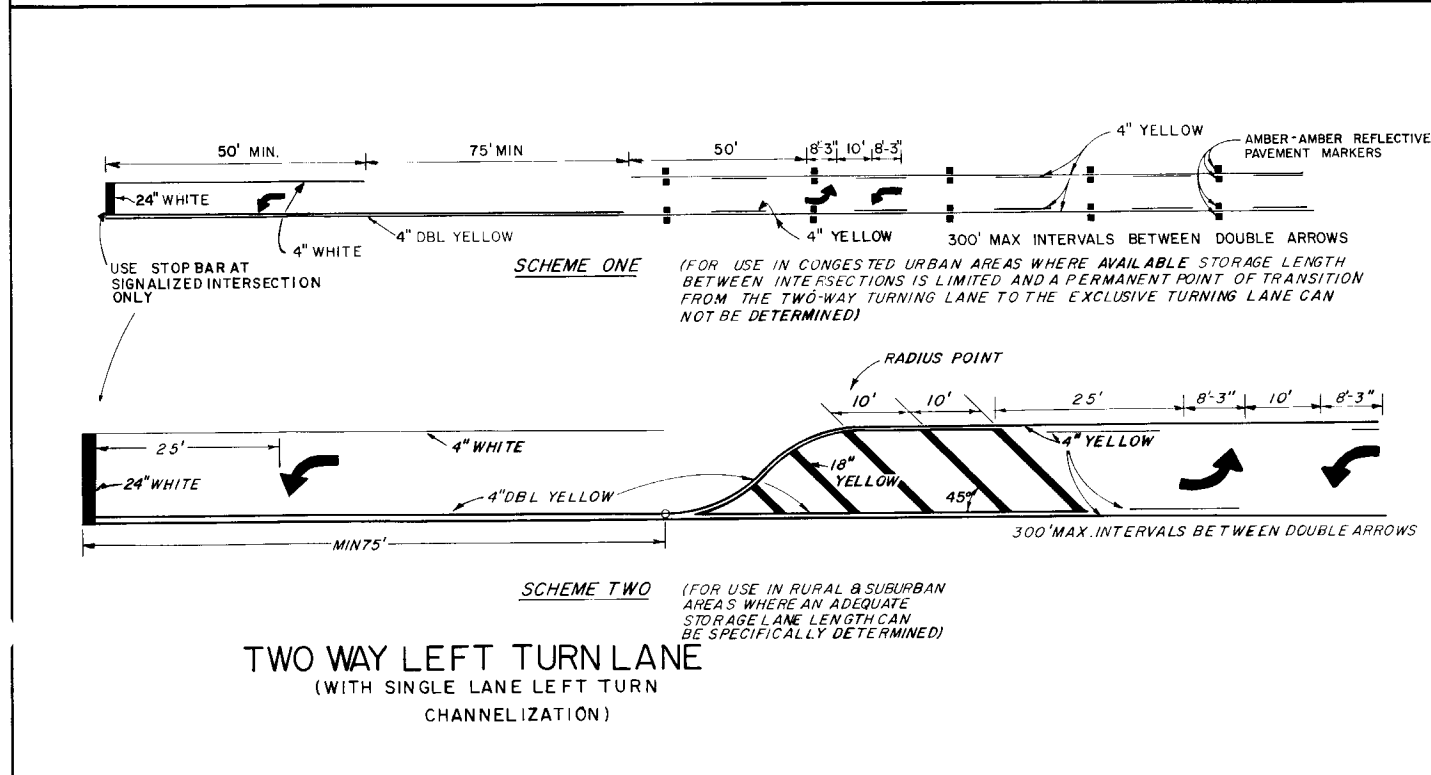
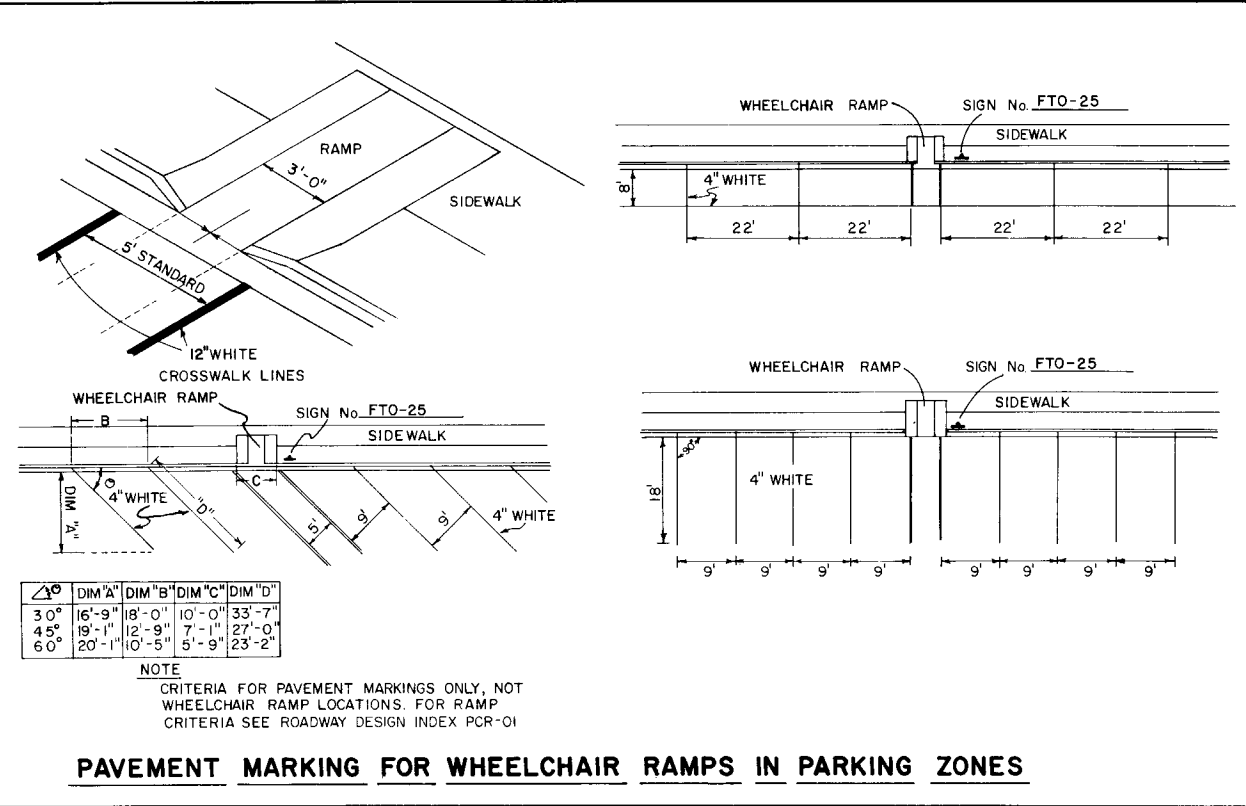
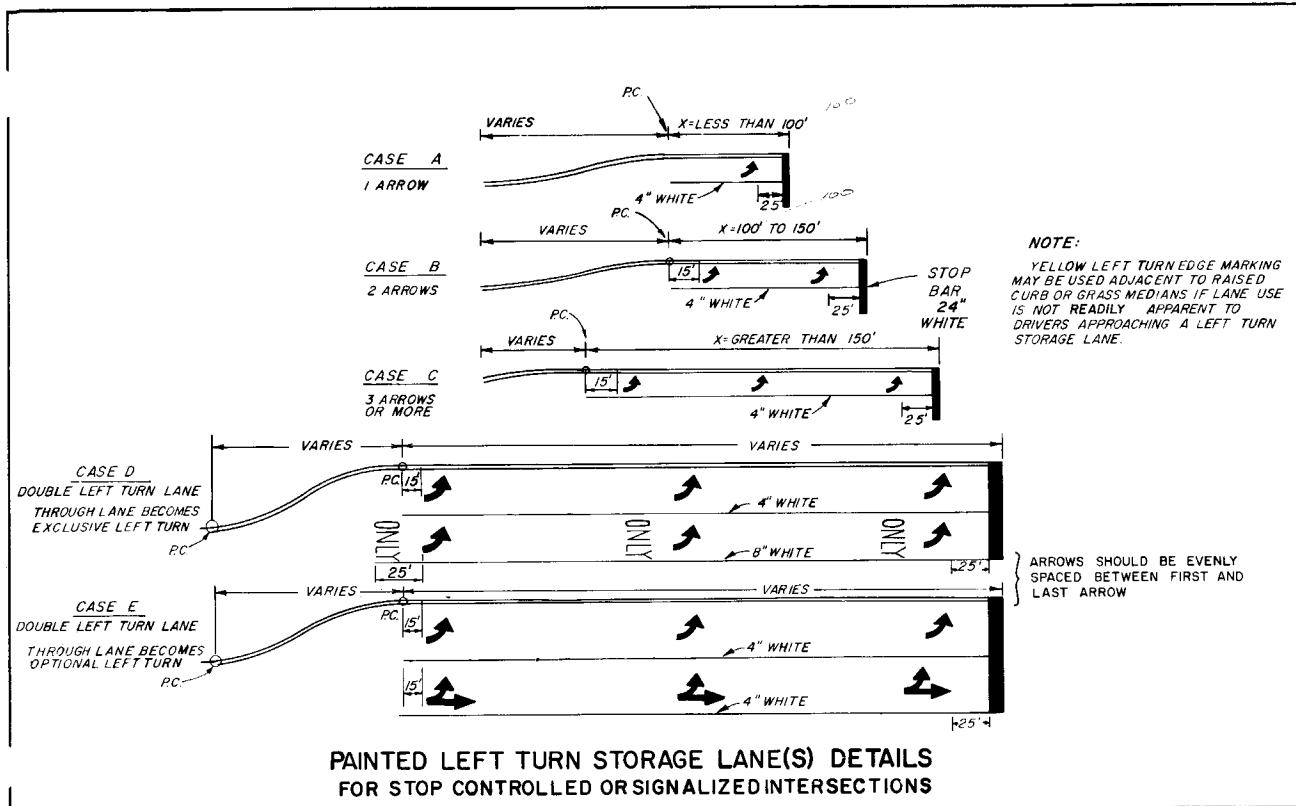
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
INTERCHANGE MARKINGS			
DATE	INITIALS	DATES	RECOMMENDED FOR APPROVAL
DETAILED BY	W.R.B.	9-6-73	BY
CHECKED BY	K.R.		DEPUTY TRAFFIC OPERATIONS ENGINEER
QUANTITIES BY			APPROVED
CHECKED BY			BY
SUPERVISED BY			STATE TRAFFIC OPERATIONS ENGINEER
			DRAWING NO. 3 OF 4
			INDEX NO. 17345

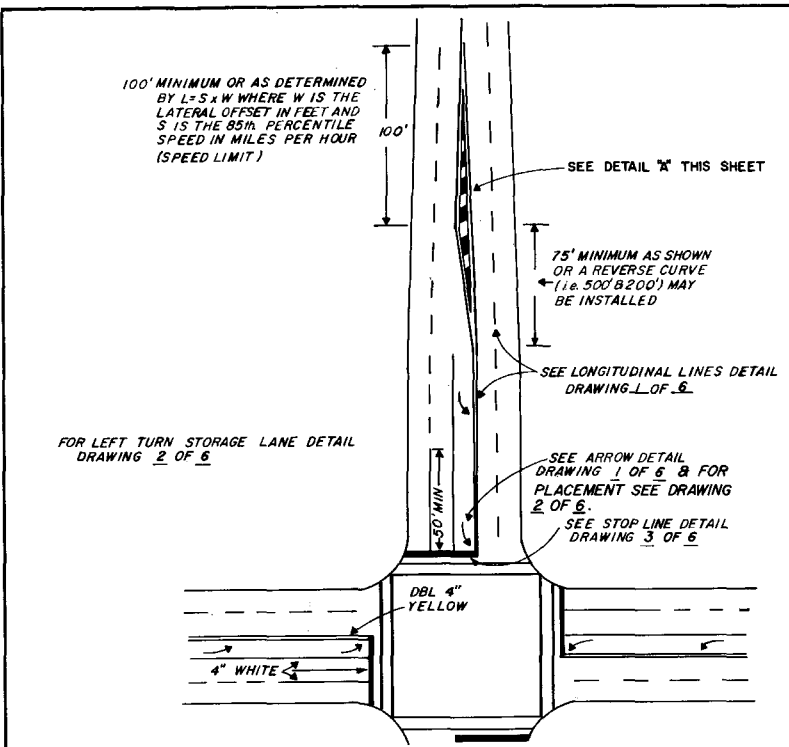


PLACEMENT OF REFLECTIVE PAVEMENT MARKERS AND DELINEATOR POSTS FOR NON-LOOP RAMP

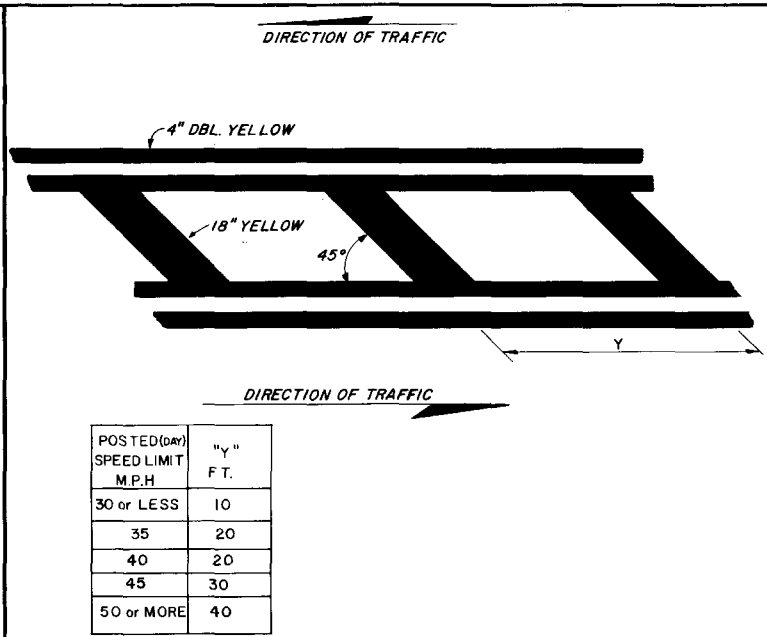
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS									
REVISIONS					INTERCHANGE MARKINGS				
DATE	DESCRIPTION	Dates	Descriptions		INITIALS	DATES	RECOMMENDED FOR APPROVAL		
9-9-81	Added Note	9-77	9-77	DETAILED BY	W.R.B.	9-6-73	BY	DEPUTY TRAFFIC OPERATIONS ENGR	APPROVED
		7-13-78	GENERAL REVISIONS	CHECKED BY	K.R.		BY	STATE TRAFFIC OPERATIONS ENGR	DRAWING NO. INDEX NO.
		9-7-79	REVISED X11 DIMENSION	CHECKED BY					
		8-80	REMOVE DETAILS	SUPERVISED BY					



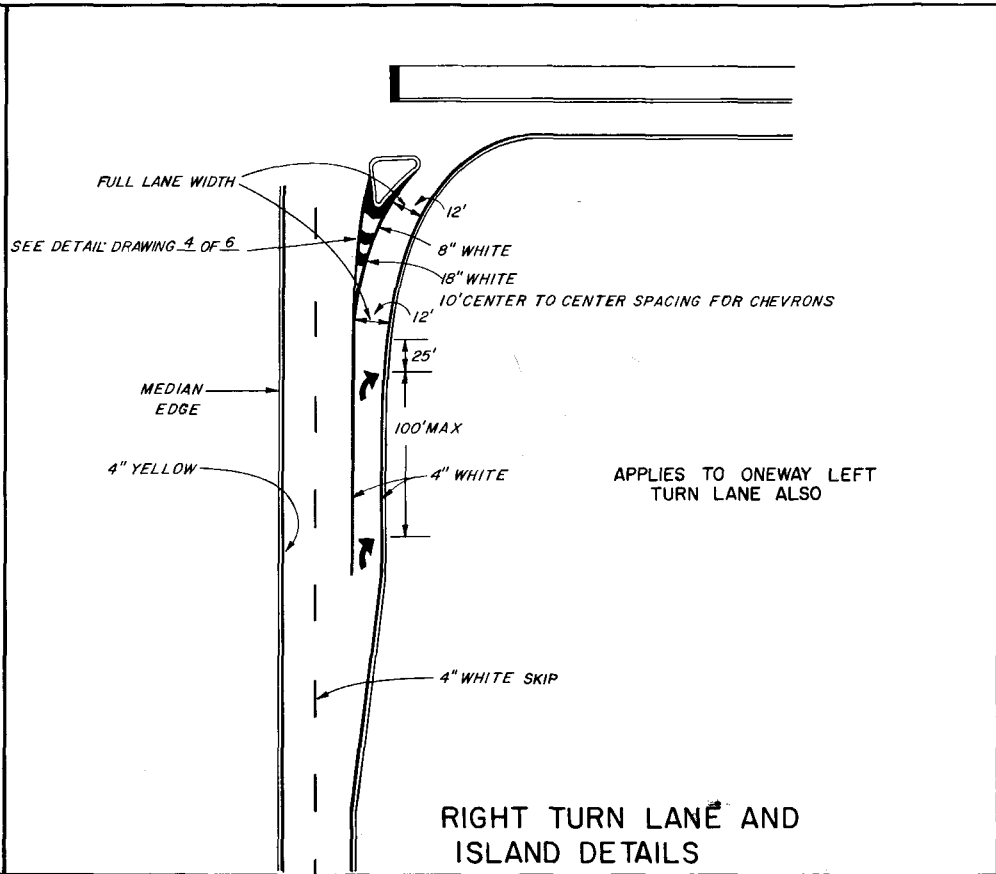




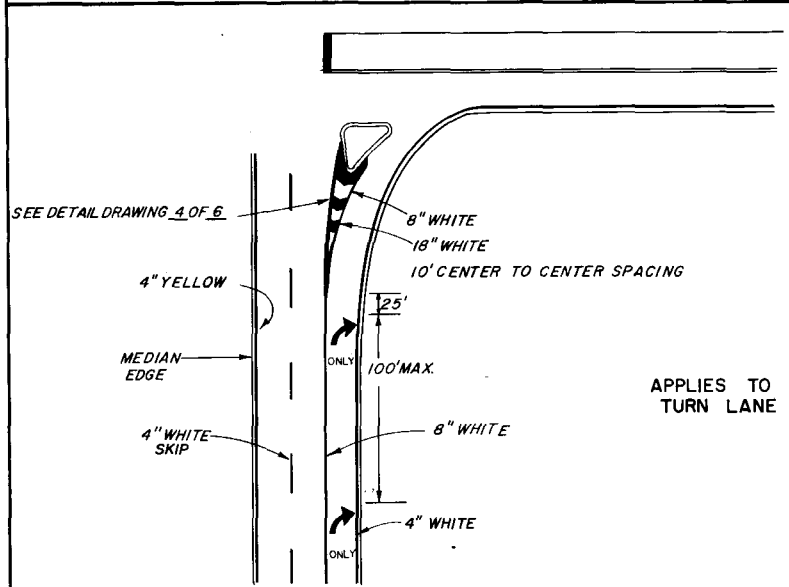
TYPICAL INTERSECTION 2 THRU LANES PLUS LEFT TURN LANE, WITH CROSSWALK



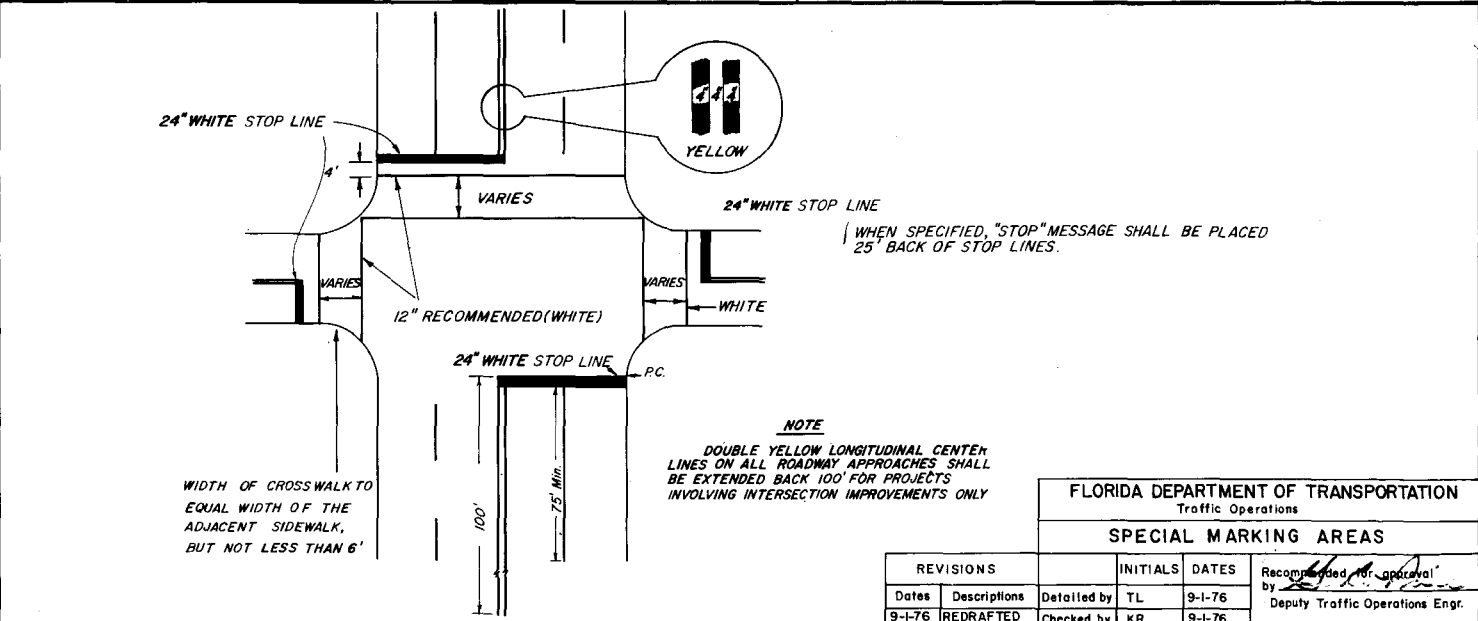
DETAIL "A"



RIGHT TURN LANE AND ISLAND DETAILS



RIGHT TURN LANE DROP AND ISLAND DETAILS



STOP BARS, CROSSWALKS AND DOUBLE CENTER LINES DETAILS

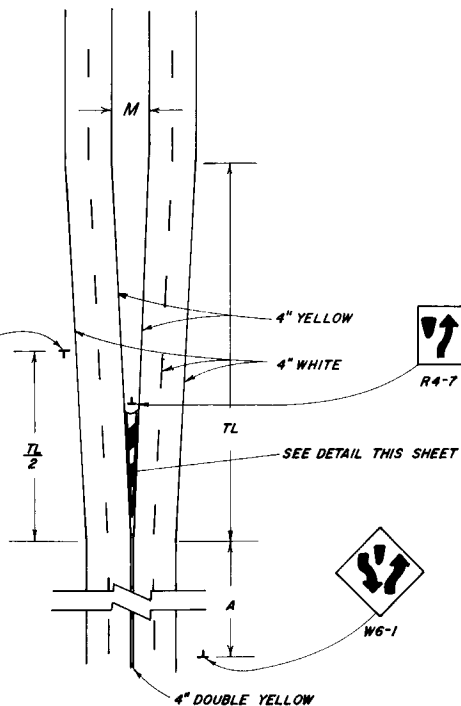
**TAPER LENGTH EQUATION**

$$TL = \frac{M}{2} \times S$$

TL = TAPER LENGTH (ft.)  
M = MEDIAN WIDTH (ft.)  
S = SPEED (M.P.H.)



SPEED (M.P.H.)	A (ft.)
55	400
50	350
40	275
30	200
URBAN	50 MIN.



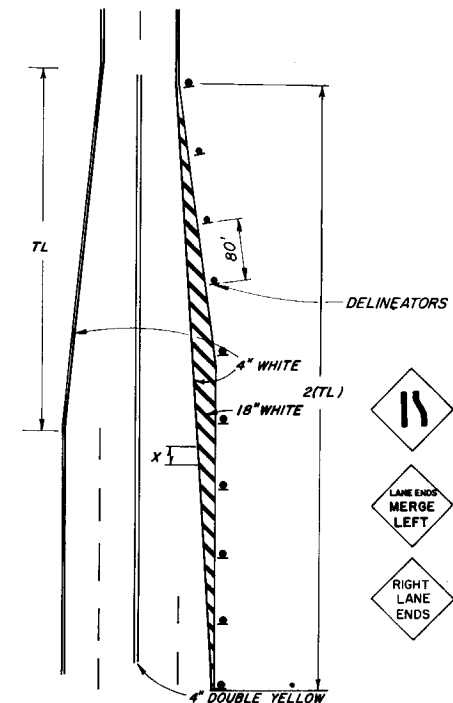
**BEGINNING OF A DIVIDED HIGHWAY**

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

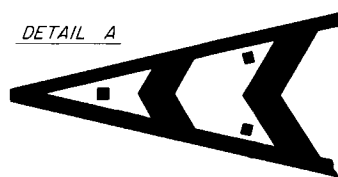
**TAPER LENGTH EQUATION**

$$TL = 12S$$

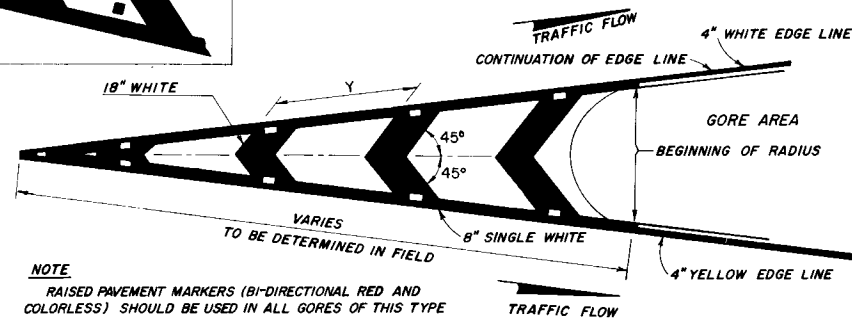
TL = TAPER LENGTH (ft.)  
S = SPEED (m.p.h.)



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

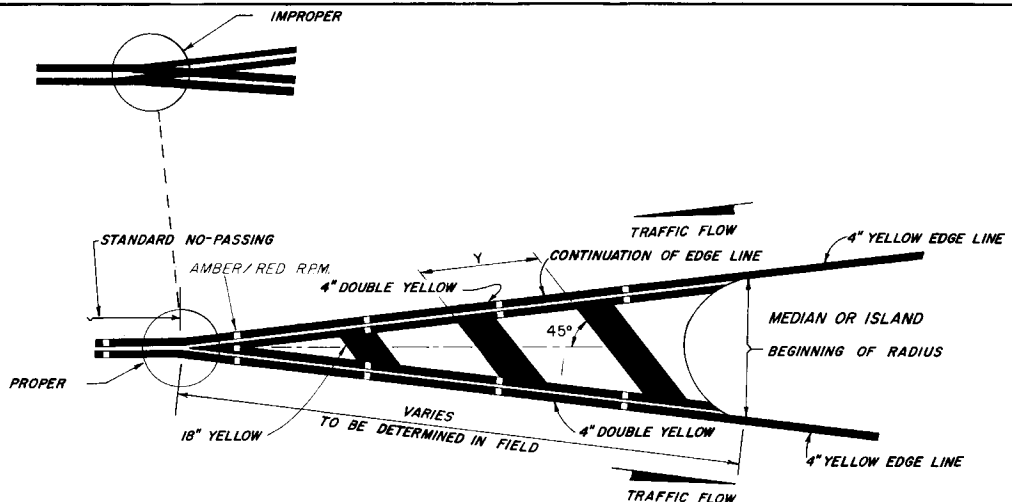


**NOTE**  
RAISED PAVEMENT MARKERS SHALL BE SET IN THERMOPLASTIC AS SHOWN BELOW, OR SET TWO (2) INCHES INSIDE PAINTED LINE AS SHOWN IN DETAIL A



**NOTE**  
RAISED PAVEMENT MARKERS (BI-DIRECTIONAL RED AND COLORLESS) SHOULD BE USED IN ALL GORES OF THIS TYPE

**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

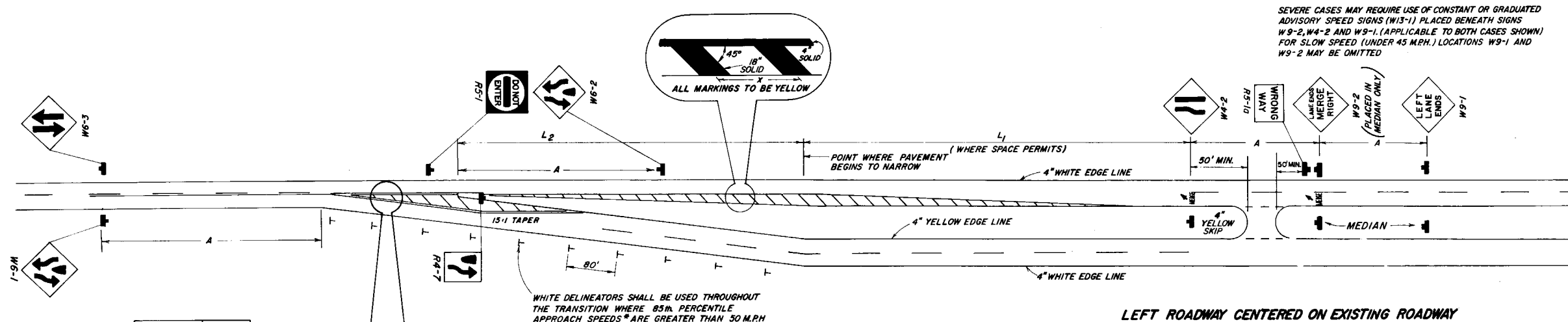
**PAVEMENT MARKING FOR TRAFFIC SEPARATION**  
(TRAFFIC FLOWS IN OPPOSITE DIRECTION)

FLORIDA DEPARTMENT OF TRANSPORTATION  
Traffic Operations

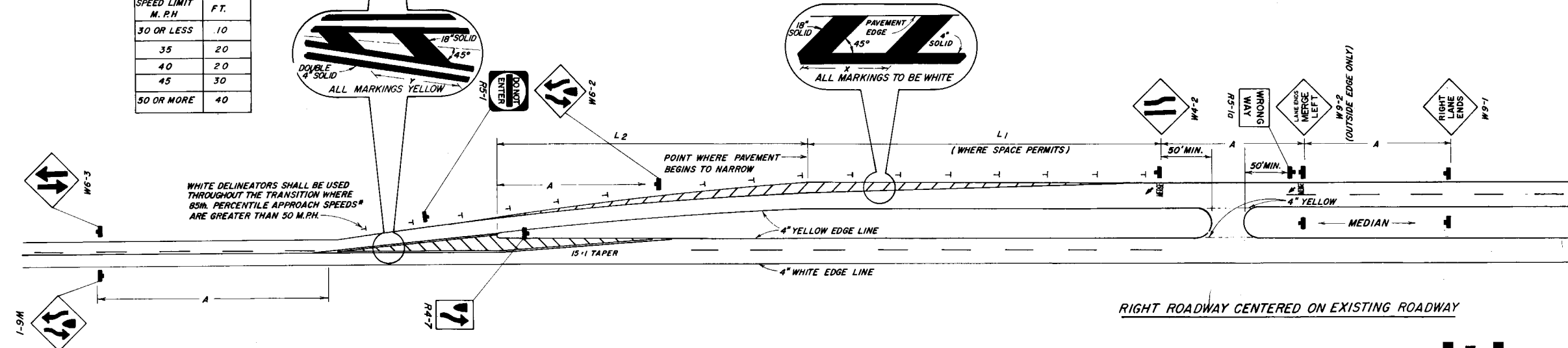
**SPECIAL MARKING AREAS**

REVISIONS	INITIALS	DATES	Recommended for approval by
Dates			
8-19-78 Redrafted	SWR	8-19-78	Deputy Traffic Operations Engr.
8-80 Revise Details	KR	8-19-78	Approved by
			State Traffic Operations Engr.
			DRAWING NO. 4 OF 6
			INDEX NO. 17346





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



SPEED (M.P.H.)	TRANSITION DISTANCE L <sub>1</sub>										X"
	8	9	10	11	12	13	14	15	16	17	
30	240	270	300	330	360	390	420	450	480	510	20
35	280	315	350	385	420	455	490	525	560	595	20
40	320	360	400	440	480	520	560	600	640	680	40
45	360	405	450	495	540	585	630	675	720	765	40
50	400	450	500	550	600	650	700	750	800	850	60
55	440	495	550	605	660	715	770	825	880	935	60
60	480	540	600	660	720	780	840	900	960	1020	80
65	520	585	650	715	780	845	910	975	1040	1105	80
70	560	630	700	770	840	910	980	1050	1120	1190	80

#### 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.

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

SPEED (M.P.H.)	"A" (FT.)
70	600
60	475
50	350
40	275
30	200

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



PAVEMENT MARKING DETAIL

#### FLORIDA DEPARTMENT OF TRANSPORTATION Traffic Operations

##### SPECIAL MARKING AREAS

REVISIONS		INITIALS	DATES	Recommended for approval
Dates	Descriptions	Detailed by	S.W.R.	8-28-78
8-28-78	REDRAFTED	Checked by	K.R.	8-28-78
10-15-79	ADDED "MERGE"	Quantities by		
8-80	REVISED DETAILS	Checked by		
9-9-81	REVISED SIGN DESIGNATION	Supervised by	K.R.	
				by Deputy Traffic Operations Eng.
				Approved by
				State Traffic Operations Eng.
				DRAWING NO. 5 OF 6
				INDEX NO. 17346

SPEED mph	A in ft
55	425
50	350
40	275
30	200
URBAN	50 MIN.

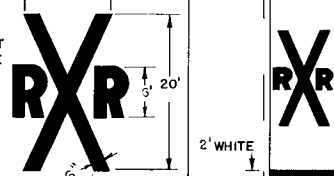
"A" VALUE IS BASED ON  
A.A.S.H.O. MIN. S.S.D.

**DO NOT  
STOP  
ON  
TRACKS**

FOR USE NEAR  
SIGNALIZED INTERSECTION

WIDTH MAY VARY ACCORDING  
TO LANE WIDTH

PAVEMENT  
MESSAGE  
WHITE

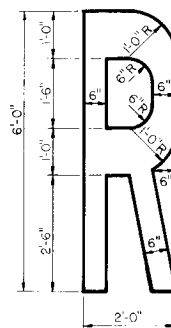


89 s.f.\*

\* DOES NOT INCLUDE 2' BARS.

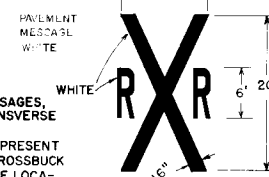
- NOTES**
1. WHEN COMPUTING PAVEMENT MESSAGES, QUANTITIES DO NOT INCLUDE TRANSVERSE LINES.
  2. WHEN DYNAMIC DEVICES ARE NOT PRESENT OR ARE TO BE INSTALLED, THE CROSSBUCK SHALL BE LOCATED AT THE FUTURE LOCATION OF THE RR GATE OR SIGNAL AND GATE IN ACCORDANCE WITH INDEX 17882.

## RAILROAD CROSSING AT 2-LANE ROADWAY



WIDTH MAY VARY ACCORDING  
TO LANE WIDTH

PAVEMENT  
MESSAGE  
WHITE

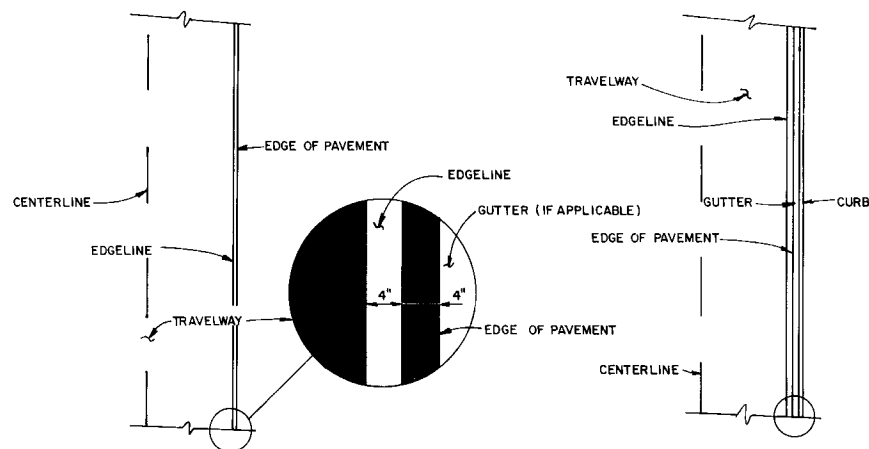


89 s.f.\*

\* DOES NOT INCLUDE 2' BARS.

- NOTES**
1. WHEN COMPUTING PAVEMENT MESSAGES, QUANTITIES DO NOT INCLUDE TRANSVERSE LINES.
  2. WHEN DYNAMIC DEVICES ARE NOT PRESENT OR ARE TO BE INSTALLED, THE CROSSBUCK SHALL BE LOCATED AT THE FUTURE LOCATION OF THE RR GATE OR SIGNAL AND GATE IN ACCORDANCE WITH INDEX 17882.

## RAILROAD CROSSING AT 4-LANE ROADWAY



PLACEMENT OF EDGELINES  
FOR NON INTERSTATE

FLORIDA DEPARTMENT OF TRANSPORTATION  
Traffic Operations

### SPECIAL MARKING AREAS

REVISIONS		INITIALS	DATES	Recommended for approval	
Dates	Descriptions	Detailed by	TL	9-1-76	Deputy Traffic Operations Engr.
8-16-78	REDRAFTED	Checked by	K.R.	9-1-76	Approved
8-27-79	PAVT. MARKING REMOVED	Quantities by			by
8-80	REVISE "R"	Checked by			State Traffic Operations Engr.
		Supervised by	K.R.		DRAWING NO. INDEX N
					6 OF 6 17346

3/8" ALUMINUM (ASTM B211) OR STAINLESS STEEL (ASTM A320) BUTTON HEAD BOLT WITH NUT AND WASHER

.125" ALUMINUM MINIMUM

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

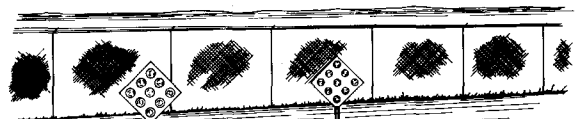
18"

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 3" MINIMUM DIAMETER

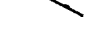
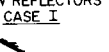
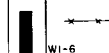
NO CONCRETE FOOTING IS REQUIRED FOR REFLECTOR SUPPORTS. SUPPORTS SHALL BE DRIVEN 3' INTO THE GROUND.



CASE II  
RED REFLECTORS

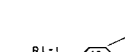
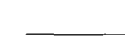
DEAD END SIGN SHALL BE POSTED A SUFFICIENT ADVANCE DISTANCE TO PERMIT THE VEHICLE OPERATOR TO AVOID THE DEAD END BY TURNING OFF IF POSSIBLE, AT THE NEAREST INTERSECTING STREET

YELLOW REFLECTORS  
CASE I

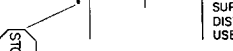
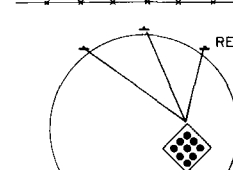


NOTE: For Pavement Marking See Index No. 17346  
NO GUARDRAIL IS REQUIRED UNLESS SPECIAL FIELD CONDITIONS REQUIRE ITS USE

CASE I  
YELLOW REFLECTORS



CASE II  
RED REFLECTORS



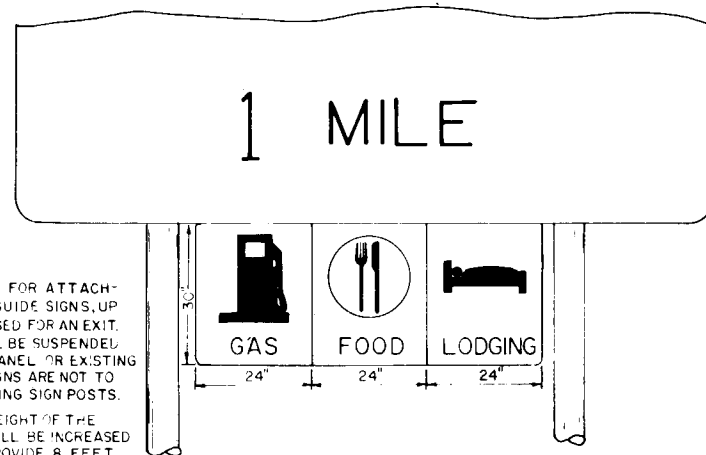
SUPPLEMENTAL SIGN, WITH DISTANCE PANEL, TO BE USED AS NEEDED

"XXX"

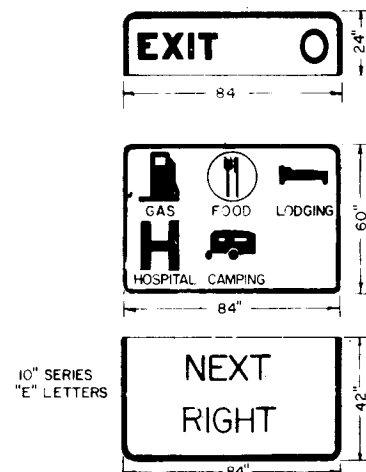


FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TRAFFIC CONTROLS FOR STREET TERMINATIONS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
Detailed By	GW	By <i>Larry C. Luce</i>	
Checked By		Deputy Traffic Operations Eng.	
Quantities By		Approved	
Checked By	KR	By <i>P. Magallon 10/13/74</i>	
Supervised By	KR	State Traffic Operations Eng.	
Drawing No	1 of 1	Index No	17349

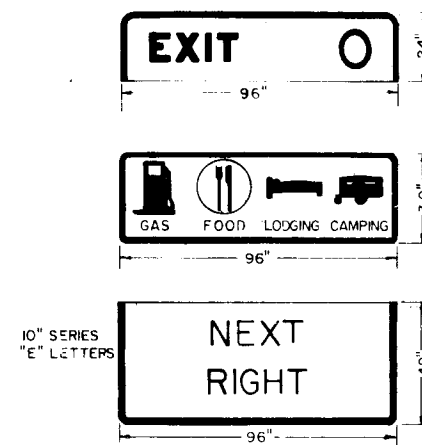
REVISIONS			
DATE	INITIALS	DESCRIPTION	
8-80	K.H.	DELETE SIGN DETAILS	



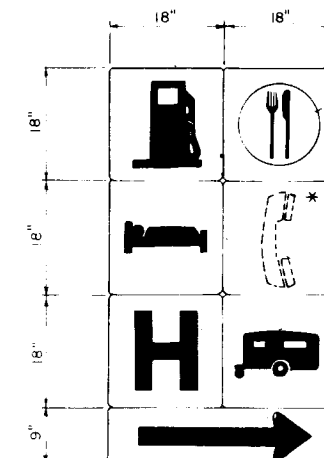
DETAIL "A"  
(1 TO 3 SYMBOLS ON SEPARATE PANELS)



DETAIL "B"  
(4 TO 6 SYMBOLS)



DETAIL "C"  
( 4 SYMBOLS)



DETAIL "D"  
( EACH SYMBOL ON SEPARATE PANEL )

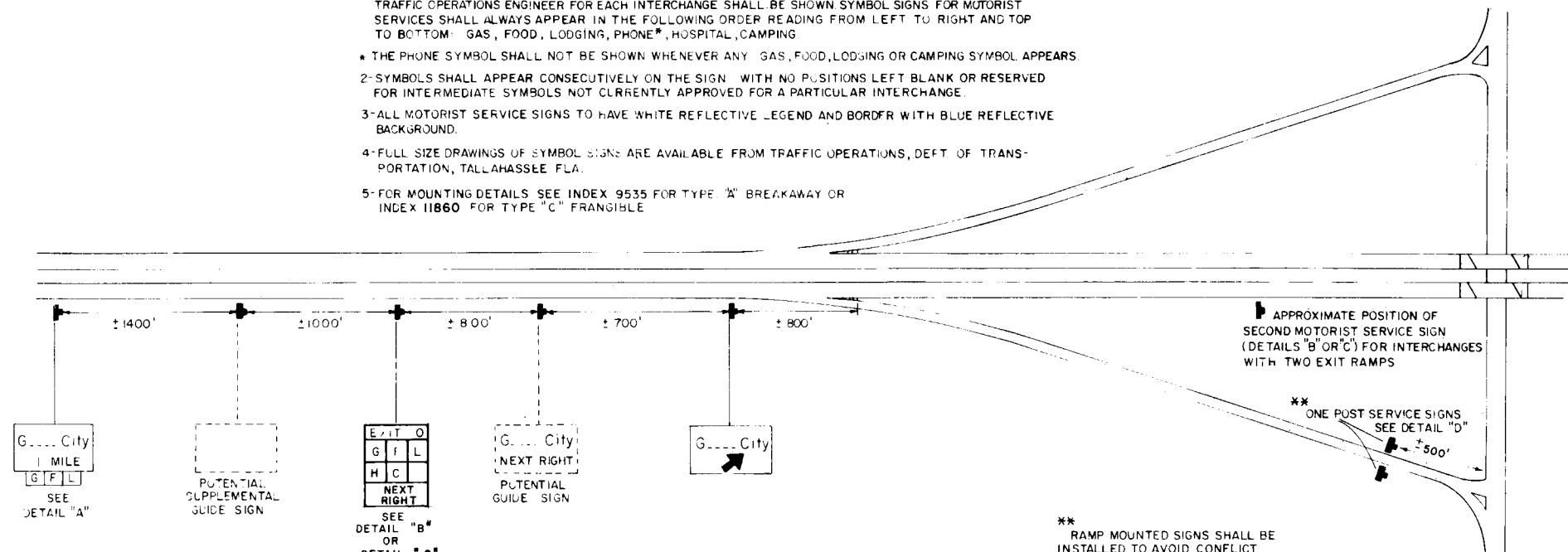
- NOTES:
1. SIGNS SHALL BE LOCATED ON THE SIDE OF THE RAMP FOR SERVICES IN THAT PARTICULAR DIRECTION. IF THERE ARE SERVICES IN BOTH DIRECTIONS, THEN SIGNS SHALL BE INSTALLED ON BOTH SIDES.
  2. RAMP MOUNTED SIGNS SHALL BE INSTALLED TO AVOID CONFLICT WITH EXISTING SIGNS AND IN NO CASE SHOULD THEY BE PLACED WITHIN 100' OF ANOTHER SIGN.
  3. SINGLE PANEL ARROW SIZE WILL BE 18"x9".
  4. DUAL PANEL ARROW SIZE WILL BE 36"x9".

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.

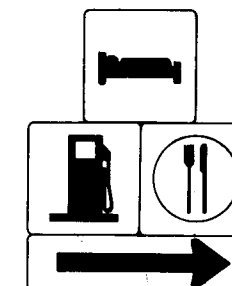
#### GENERAL NOTES

- 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.



\*\* RAMP MOUNTED SIGNS SHALL BE INSTALLED TO AVOID CONFLICT WITH EXISTING SIGNS

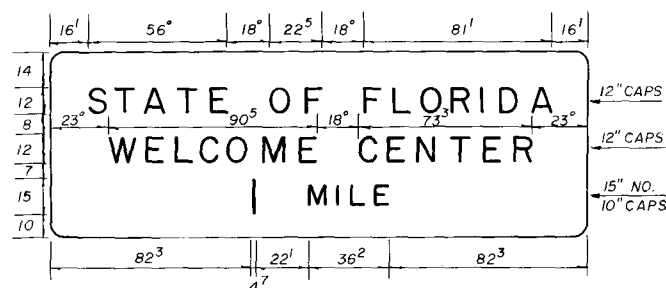
NOTE  
FOR ATTACHMENT DETAILS TO ADVANCE GUIDE SIGN SEE INDEX NO. 11671



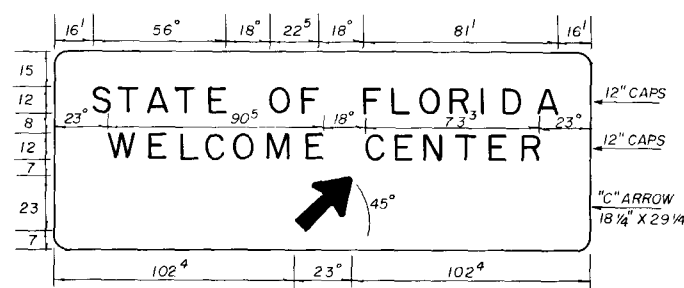
WHEN AN ODD NUMBER OF SYMBOL PANELS ARE USED THE TOP PANEL SHALL BE CENTERED

REVISIONS		
DATE	INITIALS	DESCRIPTION
8-30-76	T.L.	RELOCATED SERVICE SIGNS
9-27-76	T.L.	RELOCATED SIGN & ADD NOTE (Detail "D")
10-4-79	K.H.	ADDED NOTES AND DETAIL

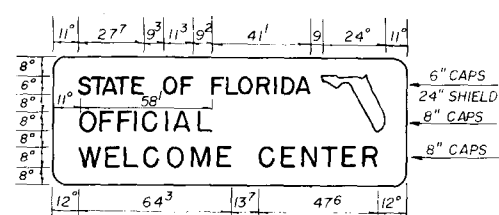
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
SIGNING FOR MOTORIST SERVICES			
DETAILED BY	INITIALS	DATE	RECOMMENDED FOR APPROVAL
WB	WB	3-76	BY <i>Ray C. Pura</i>
CHECKED BY			DEPUTY TRAFFIC OPERATIONS ENGR
QUANTITIES BY			APPROVED
CHECKED BY	K.R.	3-76	BY <i>P.E. Magada</i> 10/10/79
SUPERVISED BY	K.R.		STATE TRAFFIC OPERATIONS ENGR
DRAWING NO	INDEX NO		
1 of 1	17350		



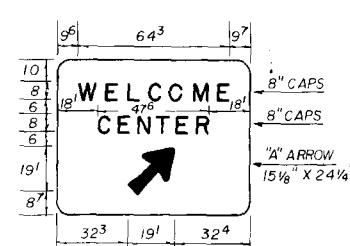
SIGN NO. FTO-17  
6'-6" x 19'-0"  
3" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND &  
BORDER



SIGN NO. FTO-18  
7'-0" x 19'-0"  
3" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND &  
BORDER



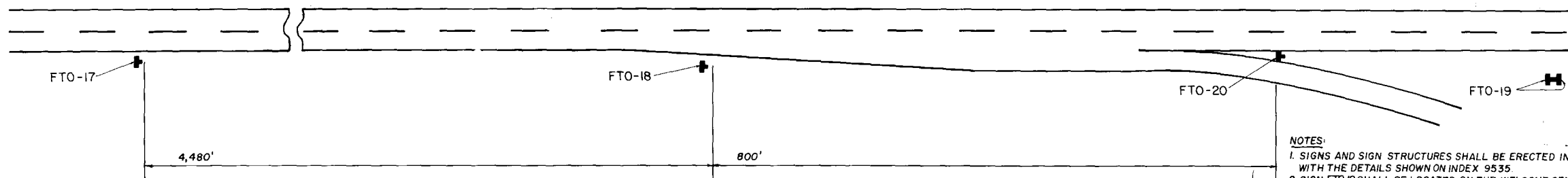
SIGN NO. FTO-19  
4'-6" x 12'-6"  
2" BOR. 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER  
ORANGE REFL. STATE SILHOUETTE  
(SIGN NO. FTO-19 TO BE PAID FOR WITH FUNDS  
OTHER THAN D.O.T.)



SIGN NO. FTO-20  
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.

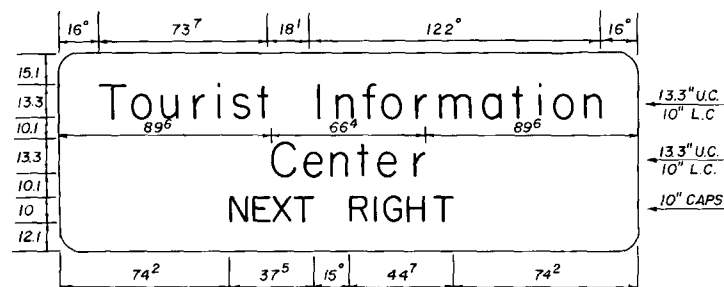


# NOTES:

1. SIGNS AND SIGN STRUCTURES SHALL BE ERECTED IN ACCORDANCE WITH THE DETAILS SHOWN ON INDEX 9535.
2. SIGN FTO-19 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 FTO-17, 18, 19 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.

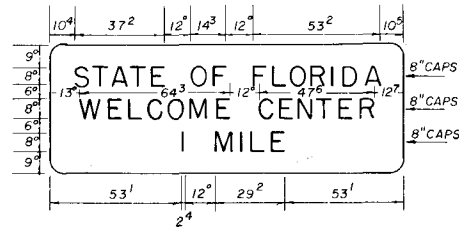


SIGN NO. FTO-21  
7'-0" x 20'-6"  
3" BOR. 9" RAD.

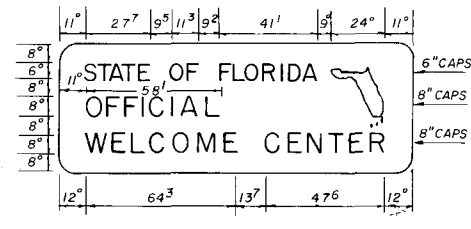
NOTE: SIGN SHALL HAVE BLUE REFLECTORIZED BACKGROUND WITH WHITE REFLECTORIZED  
LEGEND & BORDER. SIGN FTO-21 SHALL BE USED AS A SUPPLEMENTAL GUIDE SIGN AT  
INTERCHANGES WHICH HAVE A TOURIST INFORMATION CENTER APPROVED FOR SUCH  
SIGNING (LOCATE HALF-WAY BETWEEN NORMAL GUIDE SIGNS)

REVISIONS		
DATE	INITIALS	DESCRIPTION

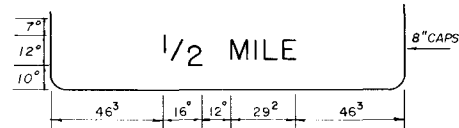
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
WELCOME CENTER SIGNING FOR LIMITED ACCESS HIGHWAYS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	
DETAILED BY	W.B.	6-75	BY Gary C. Price DEPUTY TRAFFIC OPERATIONS ENGR
CHECKED BY			
QUANTITIES BY			
CHECKED BY			
SUPERVISED BY	K.R.	6-75	BY R. Magale STATE TRAFFIC OPERATIONS ENGR
DRAWING NO.	1 OF 2	INDEX NO.	17351



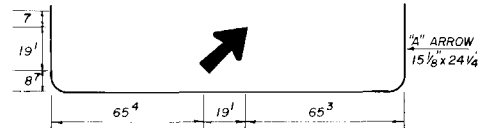
SIGN NO. FTO-22A  
4'-6" x 12'-6"  
2" BOR - 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER



SIGN NO. FTO-19  
4'-6" x 12'-6"  
2" BOR - 9" RAD.  
BLUE REFL. BACKGROUND  
WHITE REFL. LEGEND & BORDER  
ORANGE REFL. STATE SILHOUETTE  
(SIGN NO. FTO-19 TO BE PAID FOR WITH FUNDS  
OTHER THAN D.O.T.)



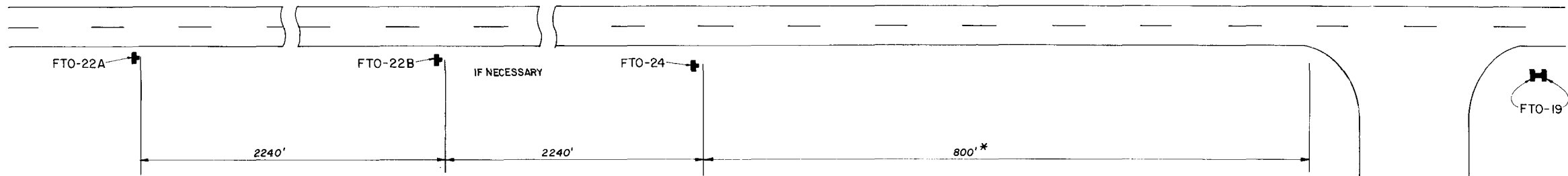
SIGN NO. FTO-22B  
5'-0" x 12'-6"  
2" BOR - 9" RAD.



SIGN NO. FTO-24  
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 FTO-19 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.



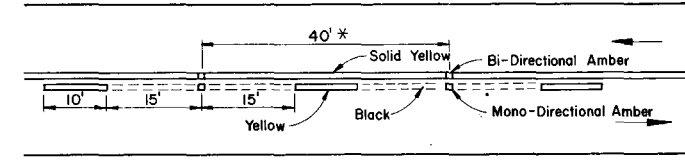
NOTE  
ROADWAY NOT DRAWN TO SCALE

NOTE  
EITHER ONE BUT NOT BOTH OF SIGNS FTO-22A OR B  
SHOULD BE USED DEPENDING ON SPEED, ROADSIDE  
DEVELOPMENT & GEOMETRIC CONDITIONS.

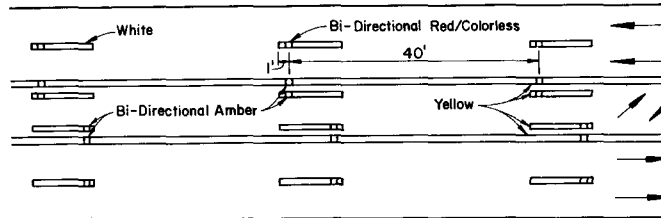
REVISIONS		
DATE	INITIALS	DESCRIPTION

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
WELCOME CENTER SIGNING FOR PRIMARY HIGHWAYS			
INITIALS	DATES	RECOMMENDED FOR APPROVAL	BY
W.B.	6-75	DEPUTY TRAFFIC OPERATIONS ENGR.	W.B.
CHECKED BY		APPROVED	
QUANTITIES BY		STATE TRAFFIC OPERATIONS ENGR.	
CHECKED BY		DRAWING NO.	INDEX NO.
SUPERVISED BY	K.R.	2 OF 2	17351

**Solid Line With Alternating Skip**



### Skip Line With Two Way Left Turn Lane

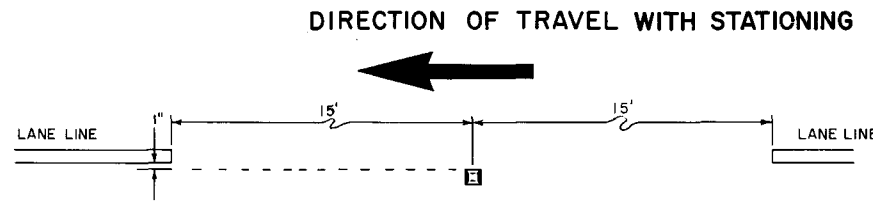
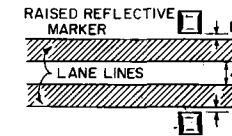


The diagram illustrates a three-lane highway cross-section with the following markings and dimensions:

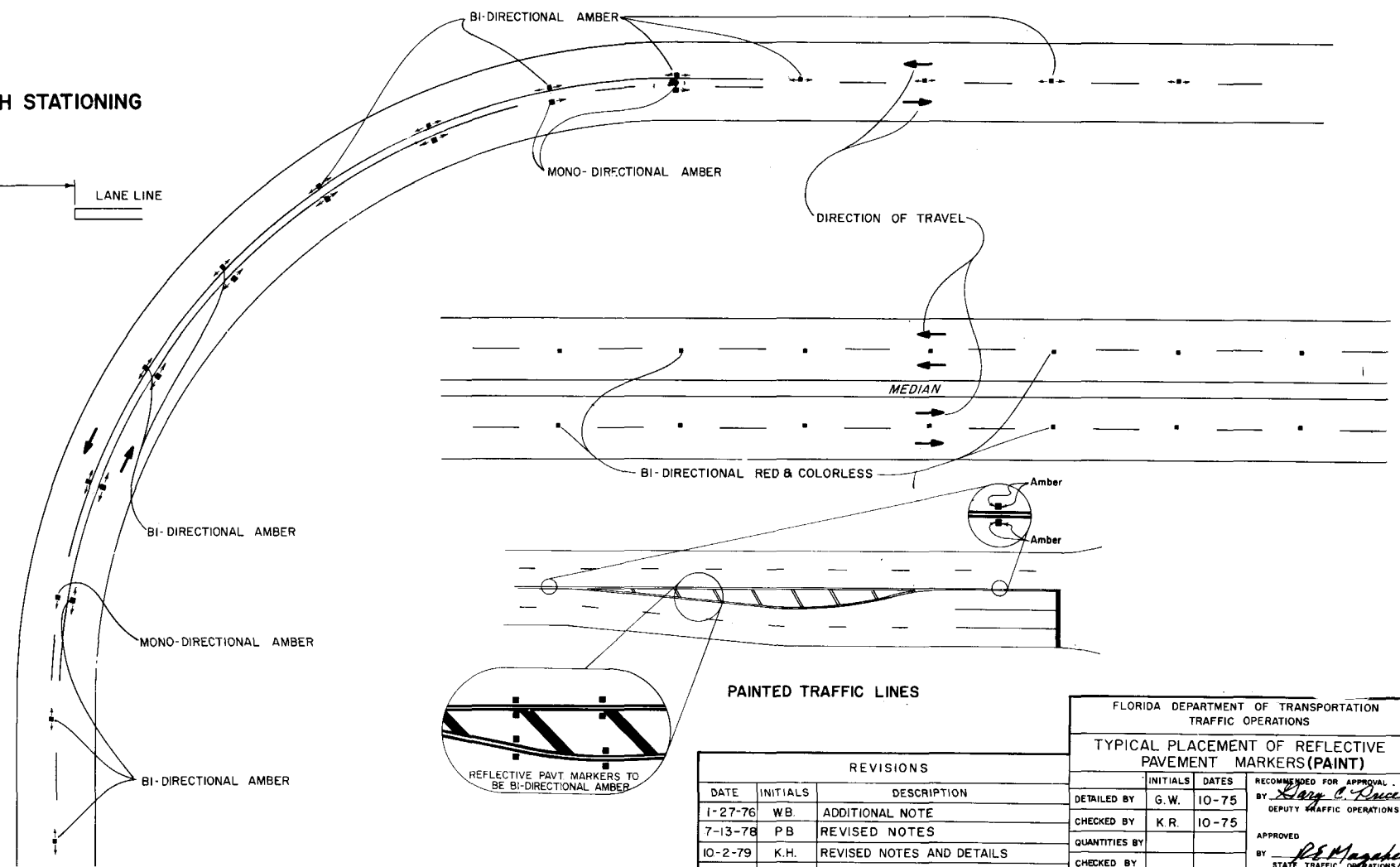
- Dimensions:** 40', 15', and 10'.
- Markings:** White, Black, Bi-Directional Red/Colorless, Bi-Directional Amber, Yellow, and Black.
- Direction of Travel:** Indicated by arrows on the right side of the diagram.

Diagram illustrating a T-intersection configuration with traffic signal phasing. The main road (horizontal) has a 'Bi-Directional Red/Amber' signal. The side road (vertical) has a 'Bi-Directional Amber' signal. The intersection is marked with a 40' distance from the stop line to the intersection point.

REVISIONS			PAVEMENT MARKERS IN THERMOPLASTIC			
DATE	INITIALS	DESCRIPTIONS	INITIALS	DATES	RECOMMENDED FOR APPROVAL	
			DETAILED BY	K.H.	10-79	BY <i>Larry C. Price</i> DEPUTY TRAFFIC OPERATIONS ENGR.
			CHECKED BY	K.R.	10-79	APPROVED
			QUANTITIES BY			BY <i>Rt. Magaley 10/21/79</i> STATE TRAFFIC OPERATIONS ENGR.
			CHECKED BY			Drawing No. _____ Index No. _____
			SUPERVISED BY			1 of 2 17352



- 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), EXCEPT WHERE PASSING IS RESTRICTED IN ONE DIRECTION ONLY.
  3. RAISED REFLECTIVE MARKERS SHALL BE PLACED 40' C/C ON ALL PROJECTS, HOWEVER ON SHARP CURVES LESS THAN 40' MAY BE USED, IF SPECIFIED BY THE PLANS.
  4. ALL MARKINGS SHALL BE APPLIED BEFORE RAISED MARKERS ARE INSTALLED.

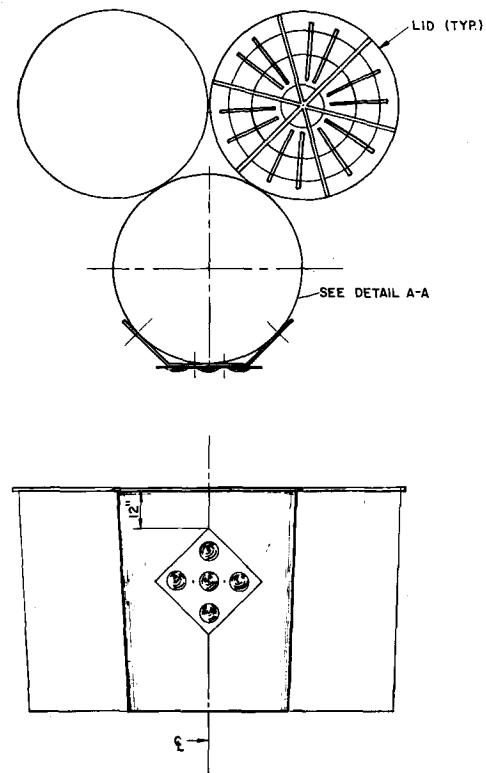


PAINTED TRAFFIC LINES

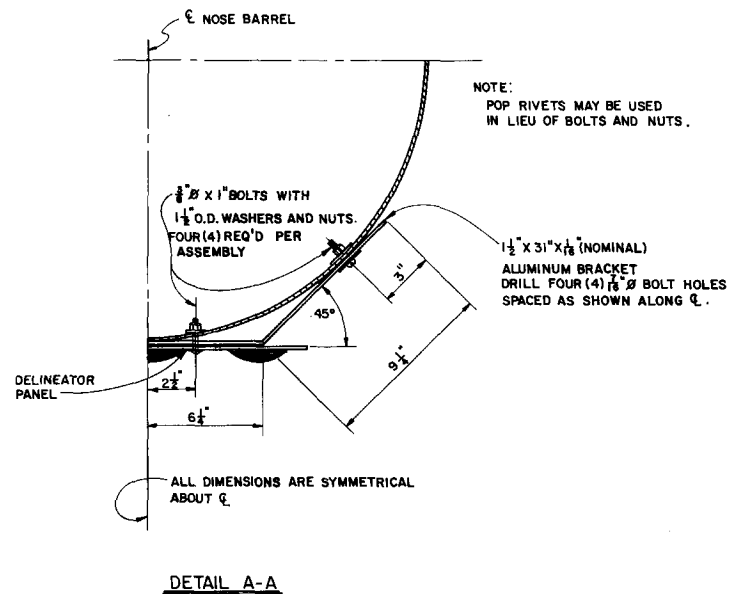
REVISIONS		
DATE	INITIALS	DESCRIPTION
1-27-76	WB	ADDITIONAL NOTE
7-13-78	PB	REVISED NOTES
10-2-79	K.H.	REVISED NOTES AND DETAILS
8-80	K.H.	REVISE DETAIL

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
TYPICAL PLACEMENT OF REFLECTIVE PAVEMENT MARKERS (PAINT)			
DETAILED BY	INITIALS	DATES	RECOMMENDED FOR APPROVAL
CHECKED BY	INITIALS	DATES	BY <i>Larry C. Duca</i>
QUANTITIES BY			DEPUTY TRAFFIC OPERATIONS ENGR.
CHECKED BY			APPROVED
SUPERVISED BY	INITIALS	DATES	BY <i>R.E. Magade</i>
			STATE TRAFFIC OPERATIONS ENGR.
			DRAWING NO. 2 of 2
			INDEX NO. 17352



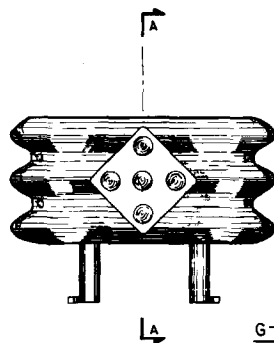
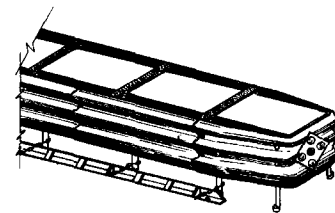


PLACEMENT OF DELINEATOR  
PANEL

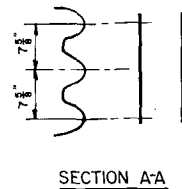


DETAIL A-A

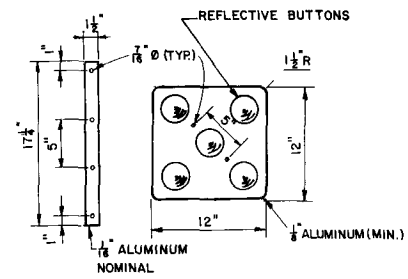
ENERGITE SYSTEM



G-R-E-A-T SYSTEM

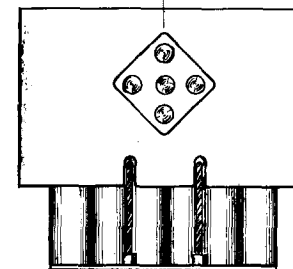


SECTION A-A

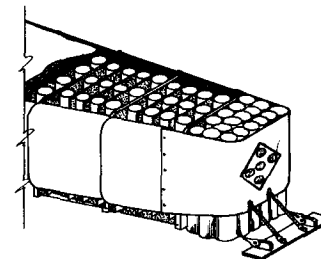


BRACKET AND DELINEATOR DETAIL

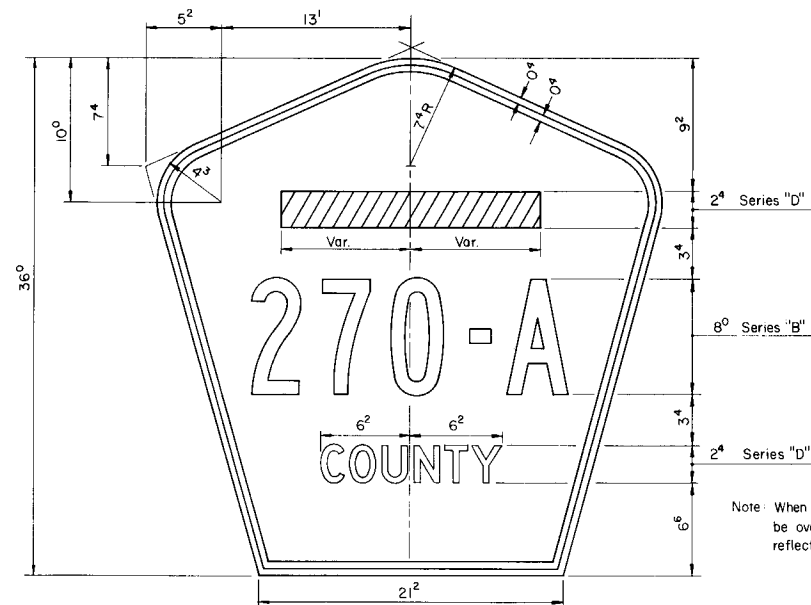
DELINEATOR B  
ATTENUATOR



HI-DRO SYSTEM



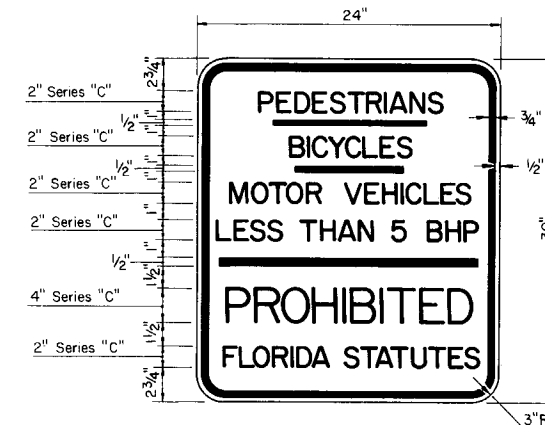
FLORIDA DEPARTMENT OF TRANSPORTATION					
Traffic Operations					
MARKINGS FOR ATTENUATION SYSTEMS					
REVISIONS			INITIALS	DATES	Recommended for approval by <i>Clark R. Scott</i> Deputy Traffic Operations Engr.  Approved by _____ State Traffic Operations Engr.  DRAWING NO. INDEX NO. 1 of 1 17353
Date	Initials	Descriptions	Detalled by	R.G.L.	
8-19-81	R.G.L.		Checked by		
			Quantities by		
			Checked by		
			Supervised by		



FT0-29

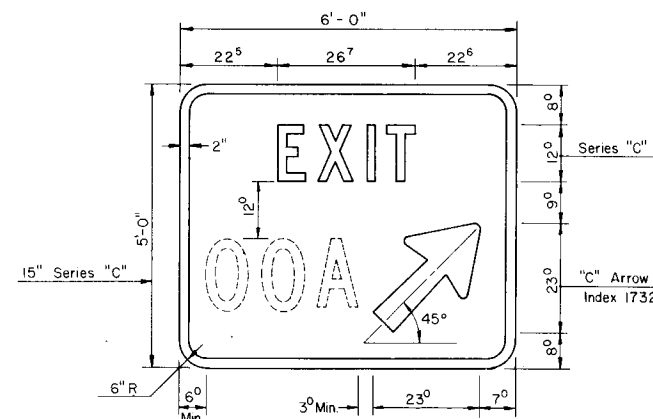
COUNTY ROUTE MARKER DETAIL

Color: Yellow reflectorized legend and border on blue reflectorized background.



FT0-30

Notes The color of the sign shall be high intensity silver-white reflectorized background with black opaque border and legend.



FT0-31

EXIT PANEL  
(GORE INSTALLATION)

REVISIONS		
DATE	INITIALS	DESCRIPTION
8-80	K.H.	REDRAFTED, COUNTY SHLD. REVISED

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
SPECIAL SIGN DETAILS			
DETAILED BY	INITIALS	DATES	RECOMMENDED FOR APPROVAL
CHECKED BY			BY <i>Larry C. Price</i> DEPUTY CHIEF OF OPERATIONS ENGR.
QUANTITIES BY			APPROVED <i>PC Magahan</i> STATE TRAFFIC OPERATIONS ENGR.
CHECKED BY			
SUPERVISED BY			
DRAWING NO.	1 of 3	INDEX NO.	17355



FTO-26

- Notes:
- 1. All letters are 1.5" Series "C".
  - 2. Top sign shall have a reflectorized blue background with white reflectorized legend & border.
  - 3. Bottom sign shall have a reflectorized white background with black opaque legend & border.



FTO-25

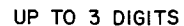
- Notes:
- 1. All letters are 1" Series "C".
  - 2. Top portion of sign shall have a reflectorized blue background with white reflectorized legend & border.
  - 3. Bottom portion of sign shall have a reflectorized white background with black opaque legend & border.

REVISIONS				FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
DATE	INITIALS	DESCRIPTIONS	SPECIAL SIGN DETAILS				
8-80	K. H.	REVISE BORDER DIMENSIONS	INITIALS	DATES	RECOMMENDED FOR APPROVAL		
			DETAILED BY	K. H.	10-79	BY <i>Darryl C. Lucci</i> DEPUTY TRAFFIC OPERATIONS ENGR.	
			CHECKED BY	K. R.	10-79	APPROVED ~	
			QUANTITIES BY			BY <i>El. M. ...</i> STATE TRAFFIC OPERATIONS ENGR.	
			CHECKED BY			Drawing No. <i>17355</i> Issue No.	
			SUPERVISED BY			2 of 3 17355	



FLORIDA ROUTE MARKER FOR INDEPENDENT USE

**FTO-28**

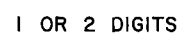


## NUMERAL SIZE

- |                    |                            |
|--------------------|----------------------------|
| 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"  |

**Notes:**

1. All state route markers and auxiliaries shall have black opaque legend and border with white reflective background.
2. Full size prints are available from Tallahassee Traffic Operations.



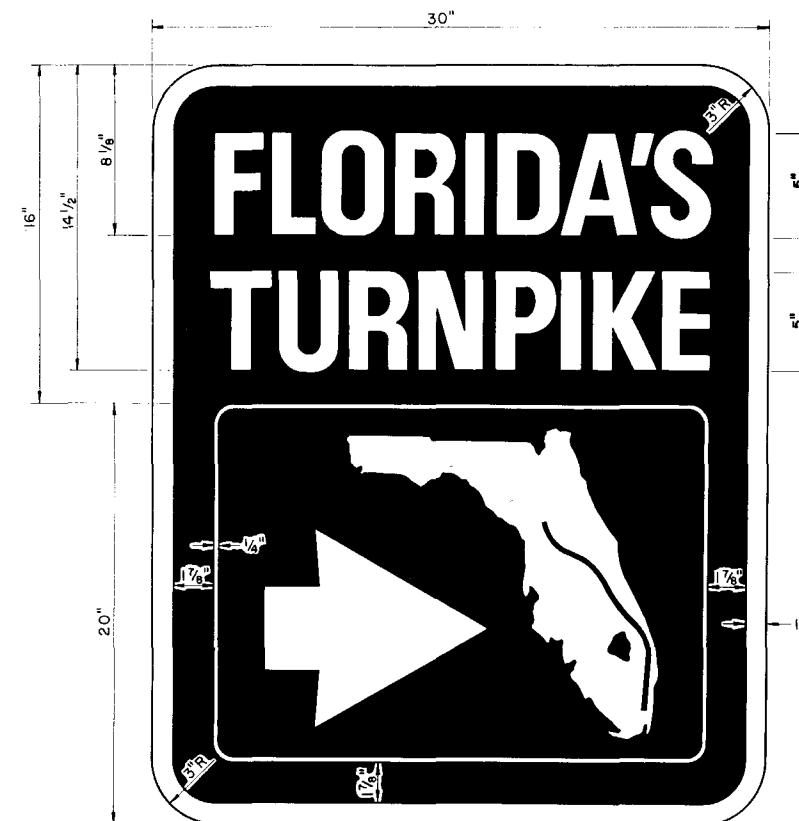
	A	B	C	D	E	F	G	H
24"	24"	28"	26"	10"	1"	4 <sup>3</sup> / <sub>4</sub> "	10"	1 <sup>1</sup> / <sub>2</sub> "
30"	30"	38"	36"	12"	1"	5"	11"	1 <sup>1</sup> / <sub>2</sub> "
36"	36"	45"	41"	15"	2"	7"	12"	2"





**Notes:**

1. Florida shield shall have black opaque legend with white reflective background.
2. Full size prints are available from Tallahassee Traffic Operations.

FLORIDA SHIELD FOR GUIDE SIGN USE

Notes: 1. Full size prints are available from Tallahassee Traffic Operations.  
2. Type 'B' arrow to be positioned as indicated on Signing Plans.  
3. Green reflectorized background with White reflectorized legend and border.



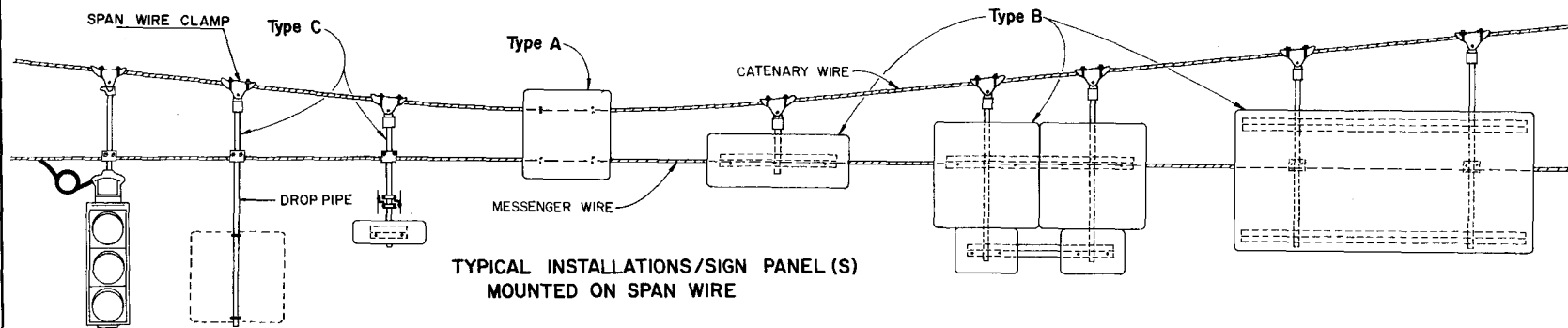
- |   |                 |   |             |
|---|-----------------|---|-------------|
|  | ARROW VERTICAL  |  | ARROW LEFT  |
|  | ARROW 45° LEFT  |  | ARROW RIGHT |
|  | ARROW 45° RIGHT |   | NO ARROW    |

# DETAIL LAYOUT OF FLORIDA TURNPIKE TRAILBLAZER

FTO-27

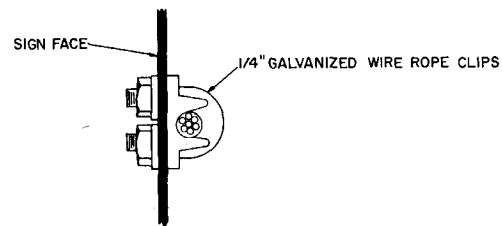
REVISIONS			FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS		
DATE      INITIALS      DESCRIPTION			SPECIAL SIGN DETAILS		
			RECOMMENDED FOR APPROVAL		
			DETAILED BY    K. H.    8-80		
			CHECKED BY    K. R.    8-80		
			QUANTITIES BY		
			CHECKED BY		
			SUPERVISED BY		

BY <i>Harry C. Price</i> DEPUTY TRAFFIC OPERATIONS ENGINEER	
APPROVED	BY <i>B. Magala</i> STATE TRAFFIC OPERATIONS ENGINEER
DRAWING NO. <i>3 of 3</i> INDEX NO. <i>17365</i>	

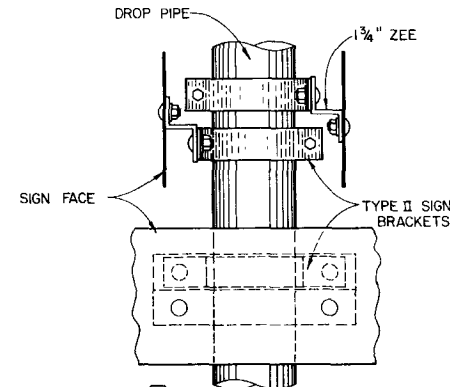


- NOTES:
1. OTHER METHODS FOR ATTACHMENT OF THE SIGN TO THE DROP PIPE MAY BE APPROVED BY TALLAHASSEE TRAFFIC OPERATIONS.
  2. LOWER ELEVATIONS OF SIGNS SHALL BE APPROXIMATELY THE SAME.
  3. TYPE A SHALL BE USED FOR CENTER SIGN OF SPAN ONLY.

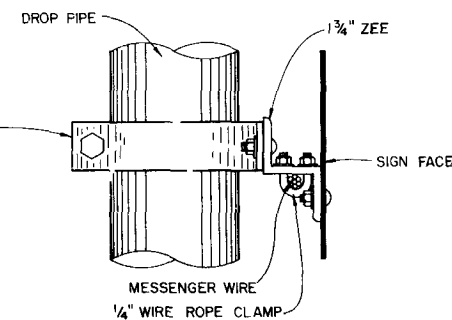
DETAIL/SIGN CLAMP



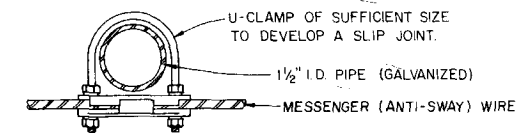
DETAIL / OPPOSING SIGNS ON SINGLE DROP PIPE



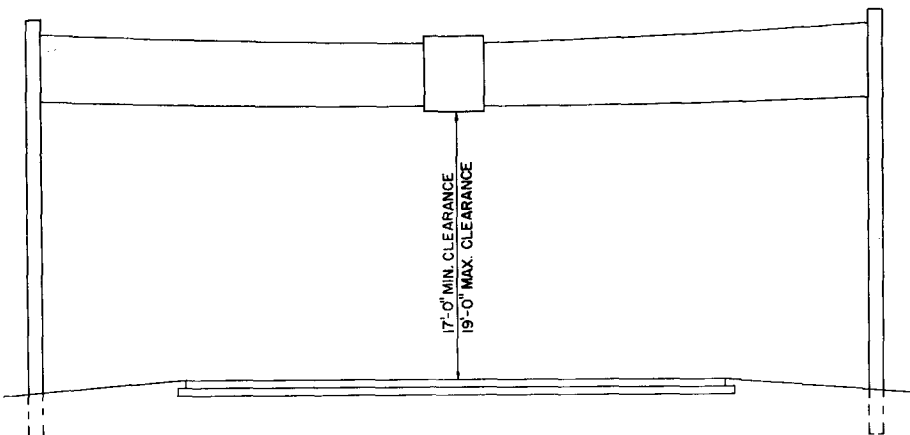
DETAIL / SINGLE PANEL ON DROP PIPE AND SPAN WIRE



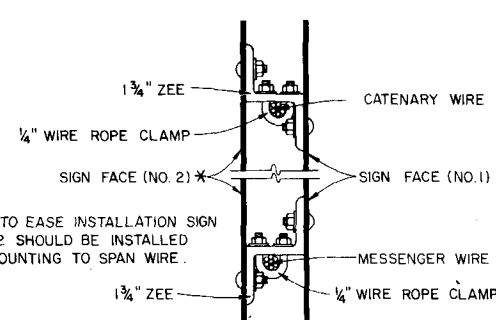
DETAIL / ATTACHMENT OF DROP PIPE TO MESSENGER WIRE



TYPICAL SPAN WIRE INSTALLATION

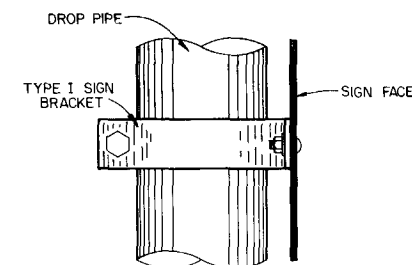


DETAIL / OPPOSING SIGNS SPAN WIRE MOUNTED



\* IN ORDER TO EASE INSTALLATION SIGN FACE NO. 2 SHOULD BE INSTALLED AFTER MOUNTING TO SPAN WIRE.

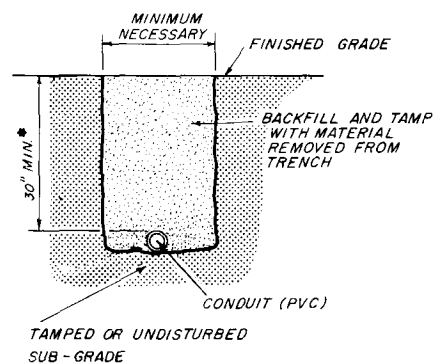
DETAIL / SINGLE PANEL ON DROP PIPE



FLORIDA DEPARTMENT OF TRANSPORTATION  
Traffic Operations

SPAN WIRE MOUNTING DETAILS

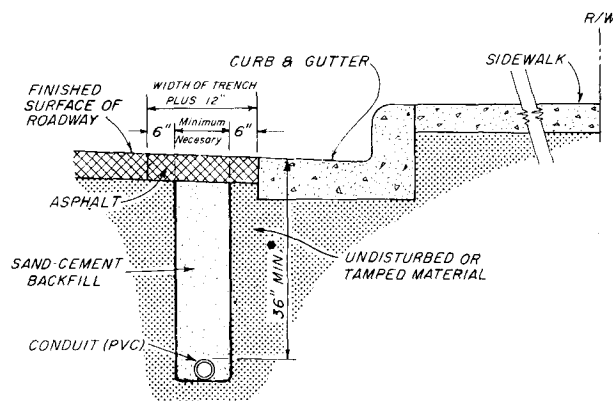
REVISIONS			INITIALS	DATES	Recommended for approval by
Dates	Descriptions	Detailed by	T.L	12-14-76	by Deputy Traffic Operations Engr.
8-80	Delete Structure Details & Notes, Add Mounting Details.	Checked by	K. R	12-14-76	Approved by
		Quantities by			
		Checked by			
		Supervised by	K R		State Traffic Operations Engr
					DRAWING NO. INDEX NO.
					1 OF 1 17356



**FIGURE - A**

FOR USE IN AREAS NOT EXPOSED TO VEHICULAR TRAFFIC AND UNDER DRIVEWAYS

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

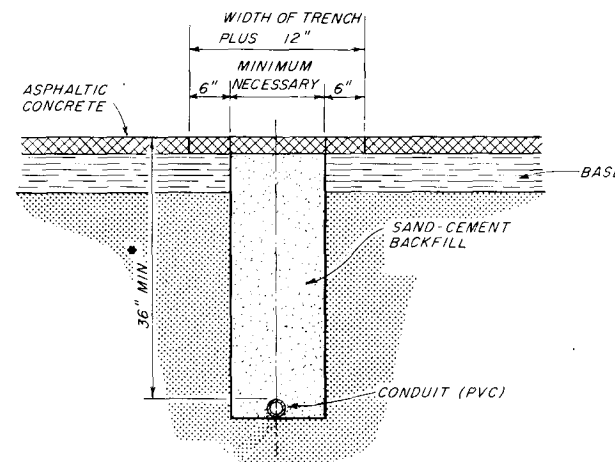


**FIGURE - B**

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.

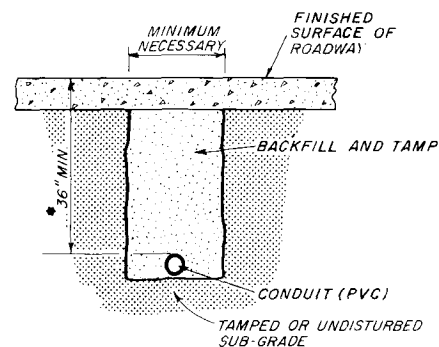


**FIGURE - C**

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

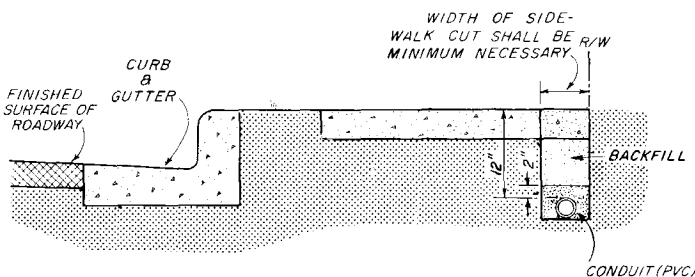
**NOTE:**

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.



**FIGURE - D**

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



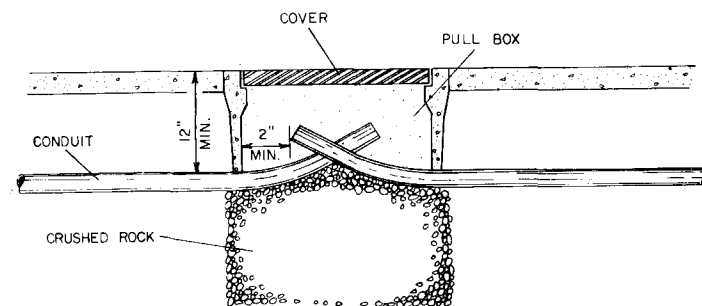
**FIGURE - E**

FOR USE IN INSTALLING CONDUIT UNDER SIDEWALK

**NOTE:**

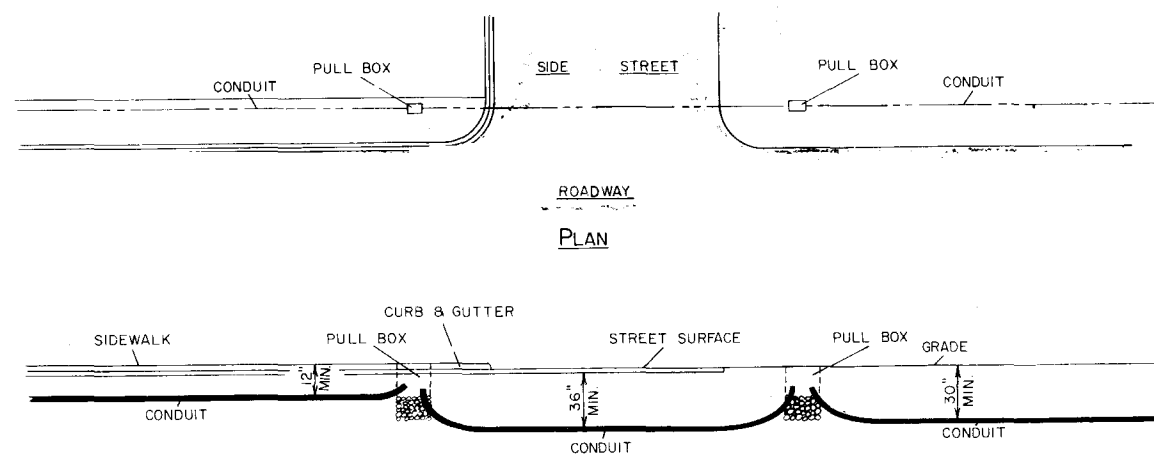
1. SIDEWALK PATCHES TO MATCH EXISTING JOINTS.
2. ENTIRE SIDEWALK SLAB MUST BE REPLACED WHEN SPECIFIED IN THE PLANS.
3. BACKFILL AND TAMP WITH MATERIAL FROM TRENCH EXCEPT AT DRIVEWAYS. AT DRIVEWAYS, BACKFILL A LENGTH OF TRENCH WITHIN THE DRIVEWAY ENTIRELY WITH CLASS I CONCRETE.

REVISIONS				INITIALS	DATES	Recommended for approval	
DATE	INITIALS	DESCRIPTION		Designed by	CG	2-26-75	by <i>Larry C. Price</i>
4-6-76	CG	ADDITION TO GENERAL NOTE NO. 6, NOTE NO. 3 OF FIGURE E REVISED		Checked by	RK	2-26-75	Deputy Traffic Operations Engr.
8-11-76	CJ	NOTE ADDED, REVISED GENERAL NOTES 1, 2, REVISED TITLE BLOCK		Quantities by			Approved <i>10/1/77</i>
10-31-79	JMC	CHANGED AND REVISED NOTES 2 & 3, DELETED ITEM 10, AND GROUND ROD IN PULL BOX		Checked by			by <i>E. S. Magale</i>
08-19-81	JMC	REVISED FIGURE "E" & GENERAL NOTES		Supervised by			State Traffic Operations Engr.
09-22-83	JMC	REVISED FIGURE "E" WITH PULL BOX					
					RVK		DRAWING NO. INDEX NO.
							1 OF 2 17721



**FIGURE A**

PULL BOX ENTRY OF CONDUIT UNDER SIDEWALKS



SECTION

**FIGURE B**

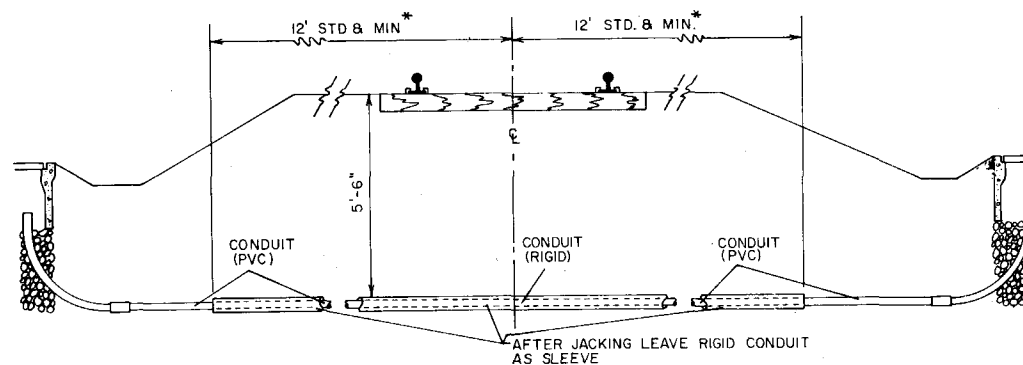
UNDER SIDEWALK

UNDER ROADWAY

UNDER NON TRAFFIC BEARING SURFACE

NOTE:

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

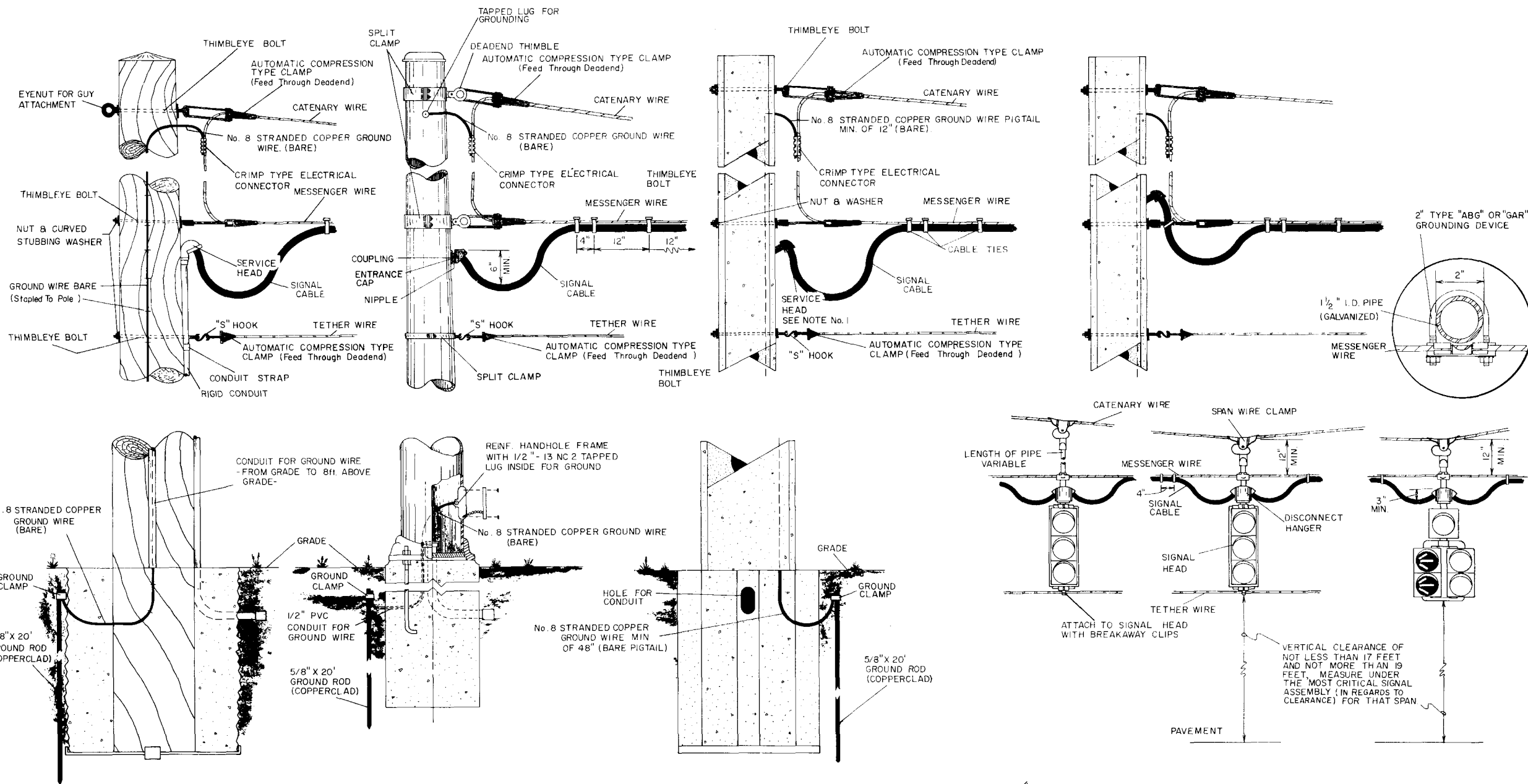


\* IN CASE OF MULTIPLE TRACKS, THE MEASUREMENT IS TO BE FROM THE CENTERLINE OF THE OUTSIDE TRACK.

**FIGURE C**

FOR USE UNDER RAILROADS

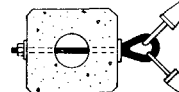
FLORIDA DEPARTMENT OF TRANSPORTATION				
TRAFFIC OPERATIONS				
CONDUIT INSTALLATION DETAILS				
	INITIALS	DATES	Recommended for approval	
Redrawn By	Mick	9-05-80	by <i>Ray C. Puce</i>	
			Deputy Traffic Operations Eng.	
			Approved by <i>W. Magaker</i>	
			State Traffic Operations Eng.	
Supervised by	J.R.M.	DRAWN NO.	INDEX NO.	
		2 OF 2	17721	



NOTE:

1. THE SERVICE HEAD HOLE FOR JOINT USE POLES MAY BE DRILLED BY THE UTILITY COMPANY AT AN ANGLE OF 90° BUT NOT LESS THAN 45° TO THE FACE OF THE POLE.

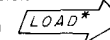
3/4" OVAL EYE BOLT



(USE A SPLIT CLAMP ON A STEEL POLES)

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

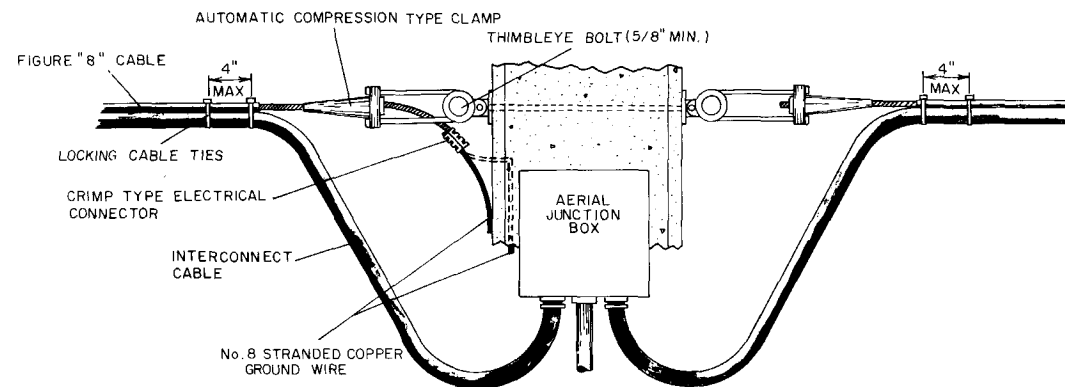
AUTOMATIC COMPRESSION  
TYPE CLAMPS  
(Feed Through Deadend)



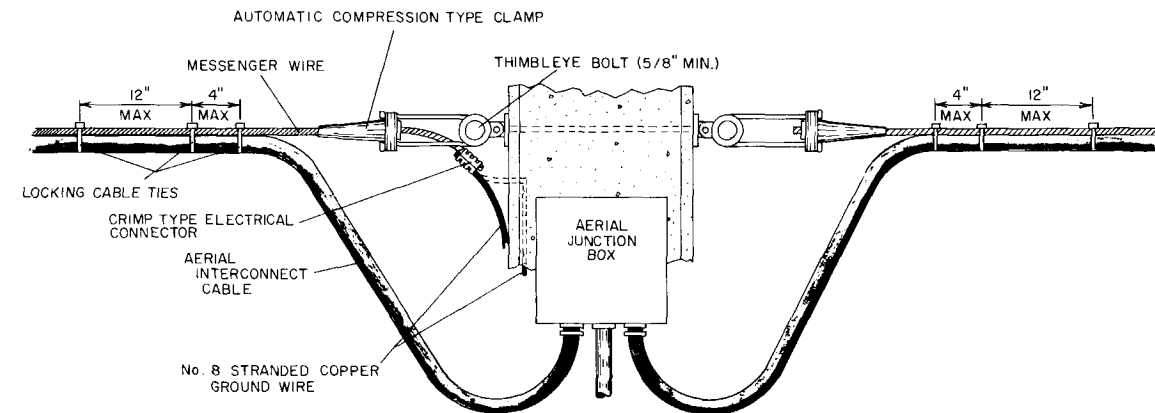
\* THE LOAD FACE OF POLE SHALL BE  
PERPENDICULAR TO LOAD.

FLORIDA DEPARTMENT OF TRANSPORTATION				
TRAFFIC OPERATIONS				
SIGNAL CABLE & SPAN WIRE INSTALLATION DETAILS				
Redrawn By	INITIALS	DATES	Recommended for approval by <i>Larry G. Price</i> Deputy Traffic Operations Eng.	
	Mick	09-10-80	Approved by <i>R. H. Hapley</i> State Traffic Operations Eng.	
Supervised by	J.R.M.	DRAWING NO.	INDEX NO.	
		1 OF 1	17727	

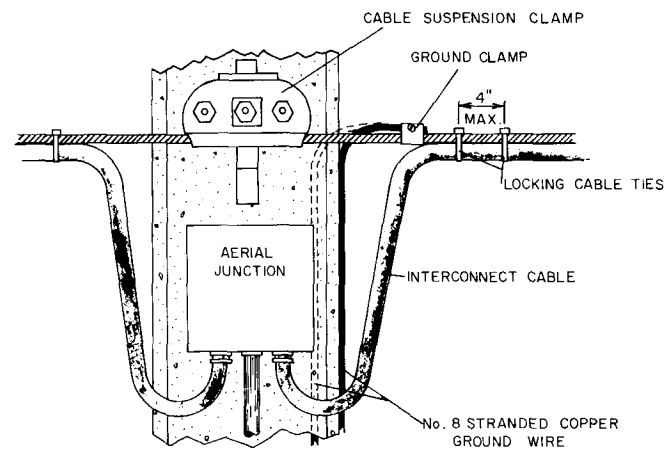




**FIGURE A**  
CABLE DROP AND  
TERMINATION DETAIL  
AERIAL INTERCONNECT FIGURE "8"



**FIGURE B**  
CABLE DROP AND  
TERMINATION DETAIL  
AERIAL INTERCONNECT MESSENGER  
WIRE WITH CLAMPS

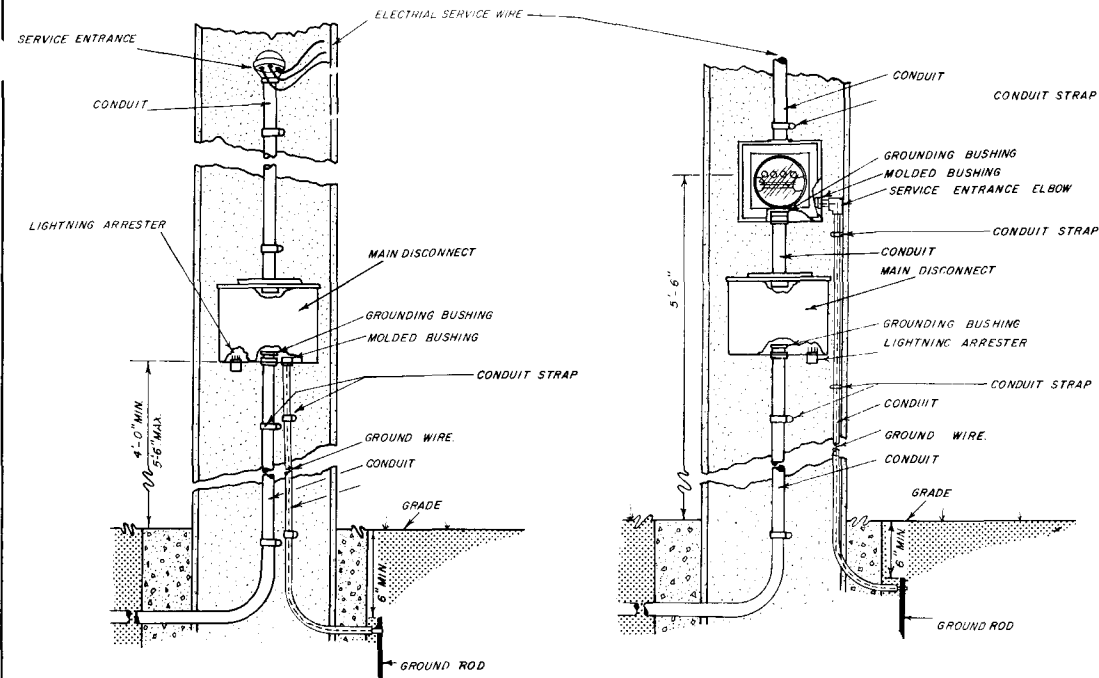


**FIGURE C**  
CABLE DROP DETAIL  
AERIAL INTERCONNECT MESSENGER  
WIRE WITH CLAMPS

**NOTES:**

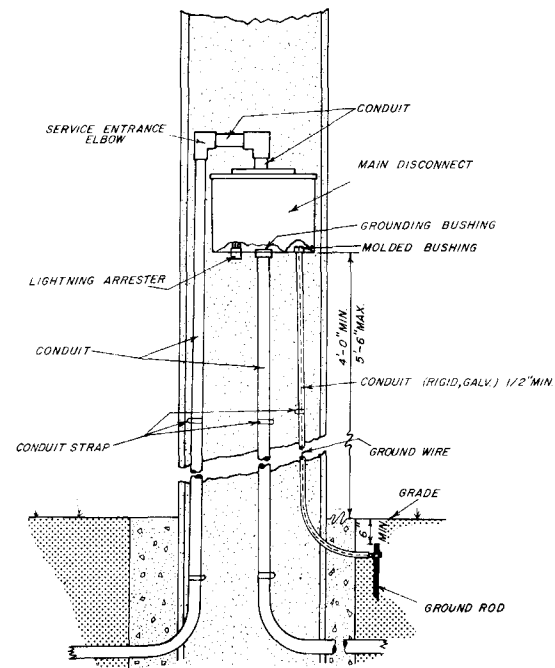
1. THE MESSENGER WIRE OF THE INTERCONNECT CABLES SHALL BE GROUNDED TO THE COPPER GROUND WIRE OF THE POLE OR TO THE EXTERNAL WIRE EXTENDING DOWN THE POLE.
2. WHEN UTILIZING THE EXTERNAL GROUND WIRE TO THE POLE, A PIECE OF 1/2" RIGID CONDUIT SHALL EXTEND UP THE POLE EXTERNALLY TO A POINT EIGHT (8) FEET ABOVE FINISH GRADE TO PROTECT THE GROUND WIRE CONNECTING THE MESSENGER WIRE TO THE GROUND ROD.
3. LOCKING CABLE TIES OR LASHING WIRE WHEN USED SHALL BE PLACED NO FURTHER THAN ONE (1) FOOT APART EXCEPT AT THE POINT OF CABLE DROP OR TERMINATIONS WHERE ONE (1) SHALL BE PLACED AT THE POINT WHERE THE CABLES SEPARATE FROM THE MESSENGER WIRE AND ANOTHER PLACED FOUR (4) INCHES (MAX) FROM THAT TIE. WHEN USING FIGURE "8" INTERCONNECT CABLE ONLY THE LOCKING CABLE TIES SHALL BE USED.
4. IF ACCESSIBLE THE INTERNAL GROUND WIRE OF THE SUPPORT POLE MAY BE USED TO GROUND THE MESSENGER WIRE.

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
AERIAL INTERCONNECT			
INITIALS	DATES	Recommended for approval	
Redrawn by Mick	09-12-80	by <i>Kary C. Price</i>	
		Deputy Traffic Operations Eng.	
		Approved	
		by <i>R.M. Magale</i>	
		State Traffic Operations Eng.	
Supervised by	J.R.M.	DRAWING NO.	INDEX NO.
		1 OF 1	17733

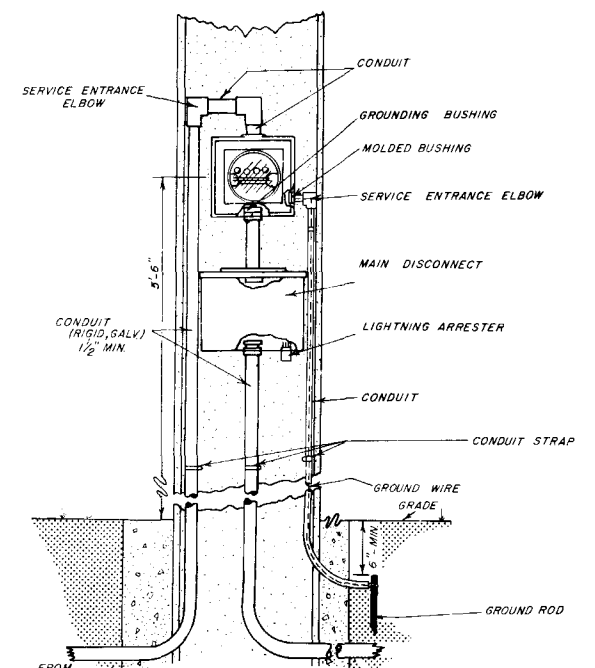


**FIGURE A**  
AERIAL FEED  
(NO METER USED)

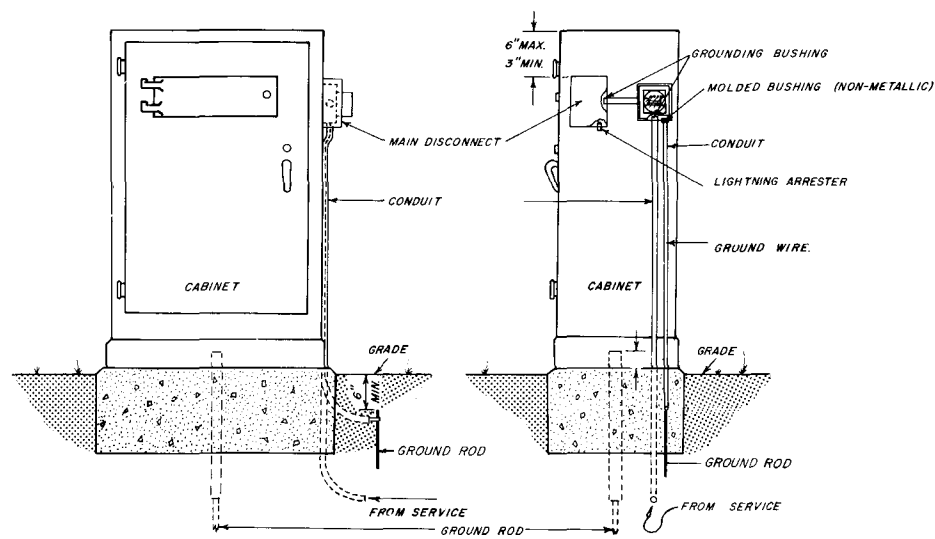
**FIGURE B**  
AERIAL FEED  
(METER USED)



**FIGURE C**  
UNDERGROUND FEED  
(NO METER USED)



**FIGURE D**  
TYPE "B" UNDERGROUND FEED  
(METER USED)



**FIGURE E**  
UNDERGROUND CABINET MOUNTED  
(METER USED)

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
ELECTRIC POWER SERVICE			
INITIALS	DATES	Recommended for approval	
Redrawn by Mick	09-22-80	by Deputy Traffic Operations Eng.	
		Approved	
		by 10/21/79 State Traffic Operations Eng.	
Supervised by	JRM	DRAWING NO.	INDEX NO.
		1 OF 1	17736

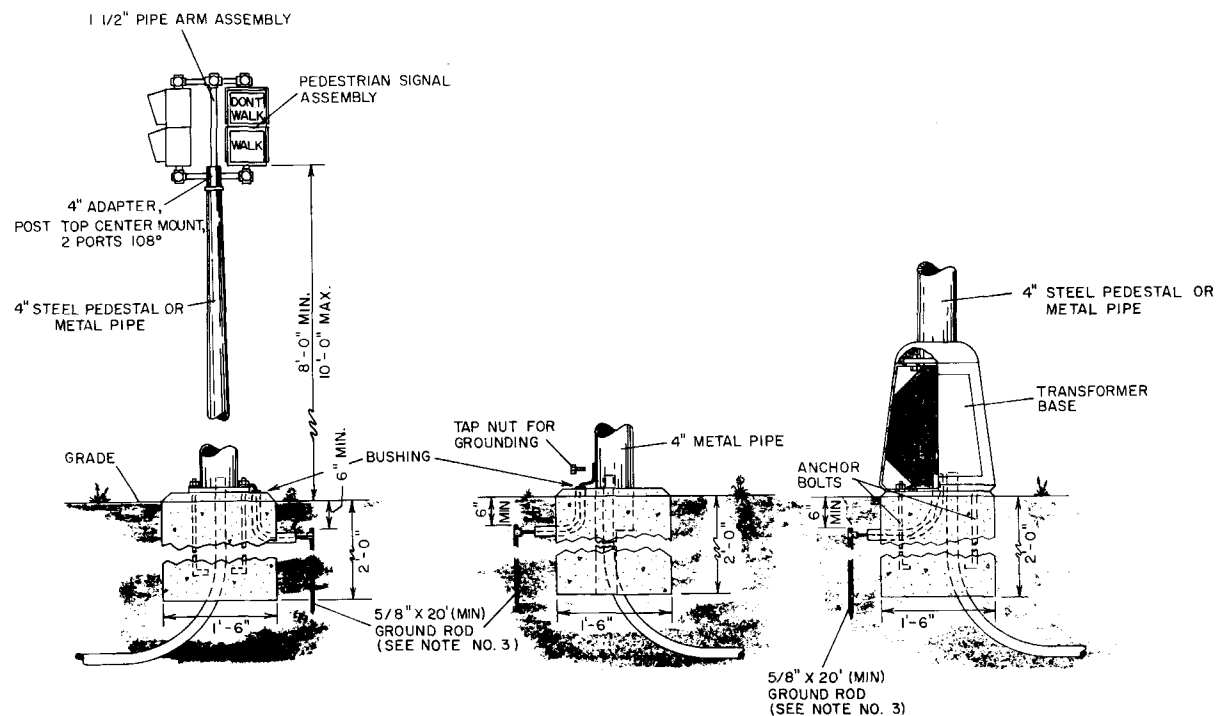


FIGURE A

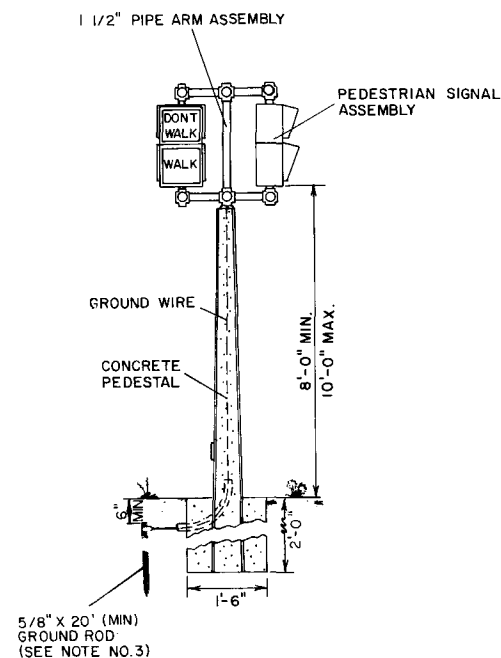


FIGURE B

NOTES:

1. AS AN OPTION, THE CONTRACTOR WILL BE ALLOWED TO INSTALL PEDESTRIAN SIGNALS ON CONCRETE POLES AND PEDESTALS WITH THE USE OF LEAD ANCHORS IN LIEU OF THE STANDARD STEEL BANDS.
2. HOLES DRILLED OR PUNCHED IN METAL POLES OR PEDESTALS SHALL BE THOROUGHLY REAMED, CLEANED OF ALL BURRS AND COVERED WITH TWO (2) COATS OF ZINC RICH PAINT, AS SPECIFIED IN THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTIONS. GROMMETS OR BUSHINGS SHALL BE INSTALLED IN HOLES.
3. GROUNDING TO BE IN ACCORDANCE WITH SECTION 620 OF THE STANDARD SPECIFICATIONS.

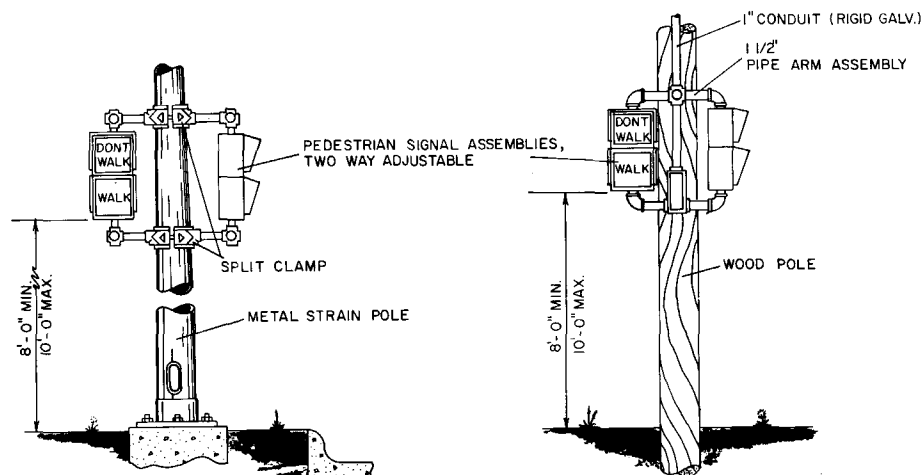


FIGURE C

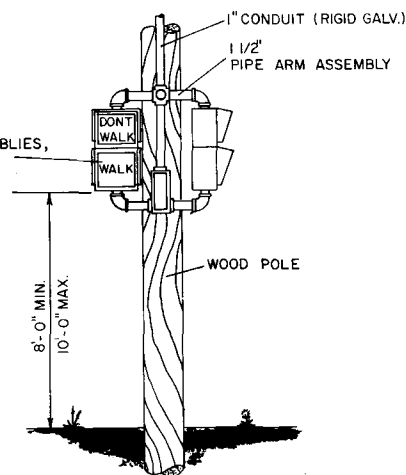


FIGURE D

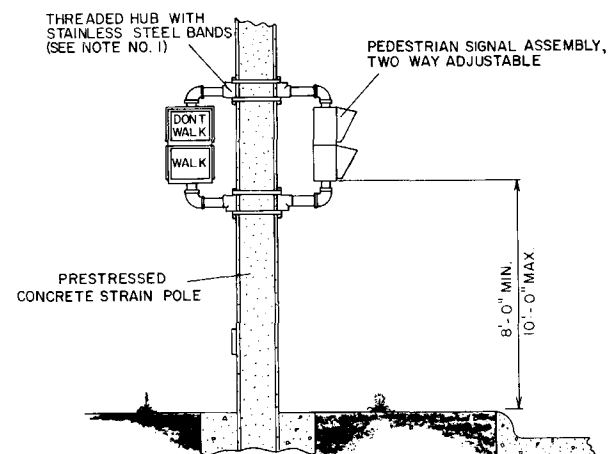
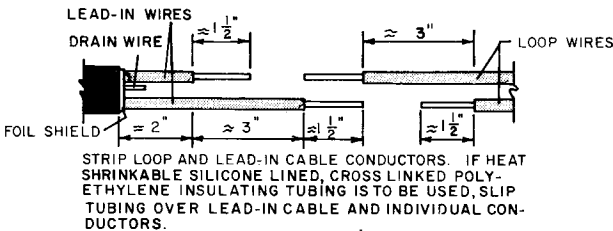


FIGURE E

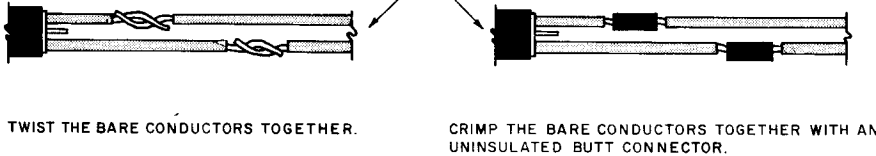
FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
PEDESTRIAN CONTROL SIGNALS INSTALLATION DETAIL			
Redrawn by	INITIALS	DATES	Recommended for approval by
Mick		09-15-80	Dary C. Price
			Deputy Traffic Operations Eng.
			Approved by
			R. Magada
			State Traffic Operations Eng.
Supervised by	J.R.M.	DRAWING NO.	INDEX NO.
		1 OF 1	17764

DETAILS FOR SPLICING  
LOOP WIRE TO LEAD-IN WIRE

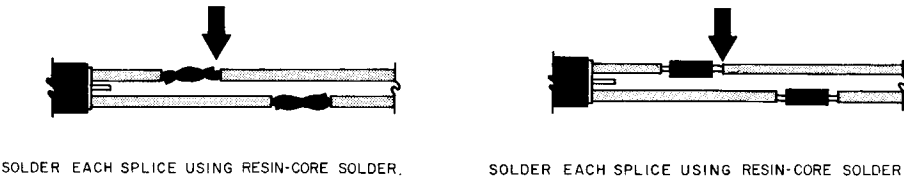
STEP 1



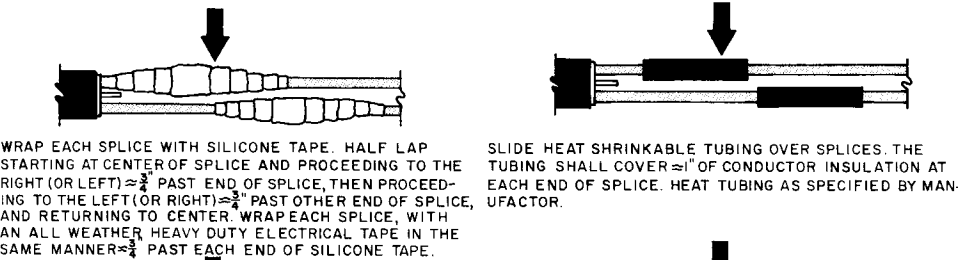
STEP 2



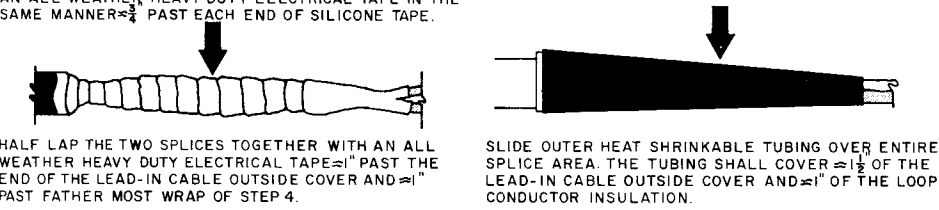
STEP 3



STEP 4



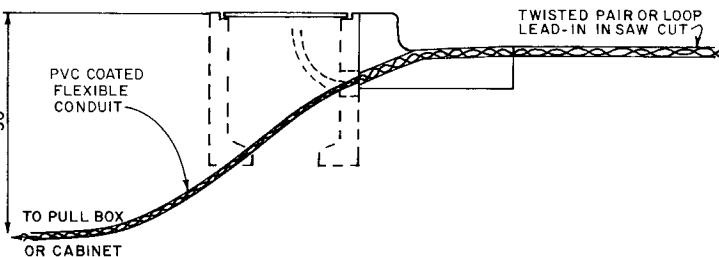
STEP 5



TWISTED PAIR AND LOOP LEAD-IN  
INSTALLATION WITH CURB & GUTTER

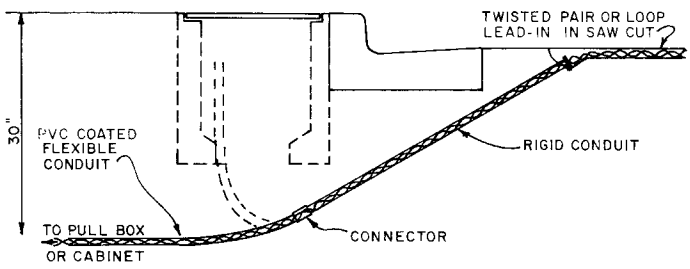
ALTERNATIVE 1

DRILL A HOLE THROUGH THE CURB AT THE POINT WHICH THE REQUIRED SAW CUT DEPTH IS OBTAINED JUST PRIOR TO CUTTING THE TOP INSIDE EDGE OF THE CURB. SLIDE A SECTION OF FLEXIBLE CONDUIT AT LEAST 6" INTO THE HOLE FROM THE BACK SIDE OF THE CURB BUT NOT WITHIN 2" OF THE TOP OF THE HOLE. THE CONDUIT SHALL FIT SNUG WITHIN THE DRILLED HOLE. FILL THE TOP OF THE HOLE WITH LOOP SEALANT TO THE LEVEL OF THE CURB SURFACE. A NONMETALLIC MATERIAL SHOULD BE USED TO PREVENT EXCESSIVE LOOP SEALANT FROM ENTERING THE FLEXIBLE CONDUIT.



ALTERNATIVE 2

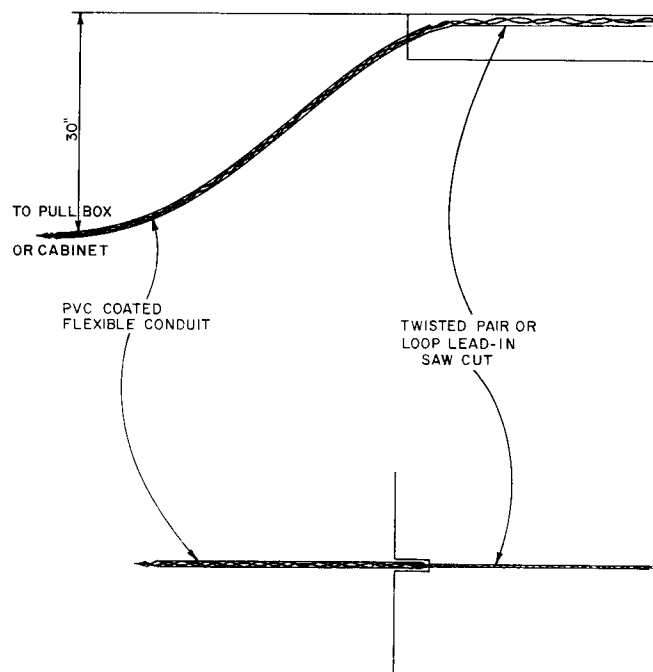
DRILL A HOLE, 1/2" TO 1" LARGER IN DIAMETER THAN THE RIGID CONDUIT TO BE USED, THROUGH THE ROADWAY ASPHALT (OR CONCRETE) SURFACE AND BASE AT AN APPROPRIATE ANGLE TO INTERCEPT THE TRENCH OR PULL BOX HOLE. PLACE A PREDETERMINED LENGTH OF RIGID CONDUIT IN THE HOLE AND DRIVE THE CONDUIT INTO THE TRENCH OR HOLE. INSTALL A MOLDED BUSHING (NONMETALLIC) ON THE ROADWAY END OF THE RIGID CONDUIT. THE TOP OF THE RIGID CONDUIT SHALL BE APPROXIMATELY 2" BELOW THE ROADWAY SURFACE. FILL THE HOLE WITH LOOP SEALANT TO THE LEVEL OF THE ROADWAY SURFACE. A NONMETALLIC MATERIAL SHOULD BE USED TO PREVENT EXCESSIVE LOOP SEALANT FROM ENTERING THE FLEXIBLE CONDUIT.



NOTE \*  
OTHER ALTERNATIVES MAY BE APPROVED BY THE STATE TRAFFIC OPERATIONS ENGINEER

TWISTED PAIR AND LOOP LEAD-IN  
INSTALLATION WITHOUT CURB & GUTTER

CUT A SLOT IN THE EDGE OF THE ROADWAY OF SUFFICIENT SIZE AND DEPTH TO SNUGLY PLACE THE END OF THE FLEXIBLE CONDUIT. THE END OF THE CONDUIT SHALL BE AT LEAST 6" INTO THE ROADWAY AND 2" BELOW THE TOP OF THE ROADWAY SURFACE. THE DEPARTURE ANGLE OF THE CONDUIT FROM THE ROADWAY SHALL BE 30° TO 45°.



NOTE \*  
OTHER ALTERNATIVES MAY BE APPROVED BY THE STATE TRAFFIC OPERATIONS ENGINEER

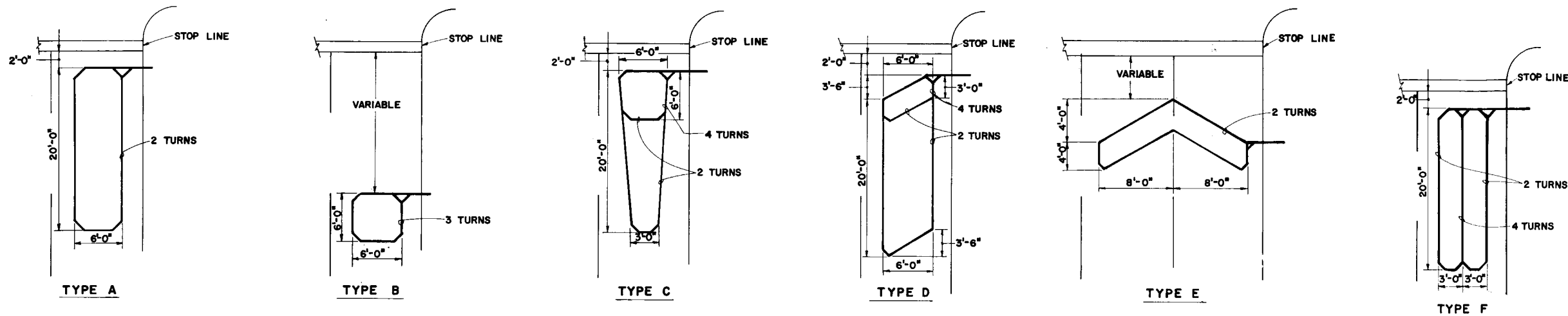
GENERAL NOTES

- IF THE LOOP LEAD-IN IS 75' OR LESS FROM THE EDGE OF THE LOOP TO THE DETECTOR OR CONTROLLER CABINET, CONTINUE THE TWISTED PAIR TO THE CABINET. IF THE LOOP LEAD-IN IS GREATER THAN 75', CONTINUE THE TWISTED PAIR TO THE SPECIFIED PULL BOX, SPLICE TO SHIELDED LEAD-IN WIRE AND CONTINUE TO THE DETECTOR OR CONTROLLER CABINET. (THIS NOTE DOES NOT APPLY TO TYPE H).
- THE MAXIMUM SAW CUT DEPTH SHALL BE 1 3/4" ON RESURFACING OR NEW ROADWAY CONSTRUCTION PROJECTS REQUIRING LOOP INSTALLATIONS. LOOP AND LEAD-INS MAY BE INSTALLED IN THE ASPHALT BASE PRIOR TO THE PLACEMENT OF THE FINAL ASPHALT WEARING SURFACE, PROVIDED THAT THE BOTTOM OF THE LOOP WIRE IS NOT GREATER THAN 2" BELOW THE FINAL WEARING SURFACE.
- THE WIDTH OF SAW CUTS SHALL BE SUFFICIENT TO ALLOW UNFORCED PLACEMENT OF LOOP WIRES OR LEAD-INS INTO THE SAW CUT BUT NOT GREATER THAN 3/4".

- A NONMETALLIC HOLD DOWN MATERIAL SHALL BE USED TO SECURE LOOP WIRES AND LEAD-INS TO THE BOTTOM OF SAW CUTS. HOLD DOWN MATERIAL SHALL BE PLACED AT APPROXIMATELY ONE FOOT INTERVALS AROUND LOOPS AND TWO FOOT INTERVALS ON LEAD-INS.
- A MINIMUM COVER OF 3/4" TO 1" OF SEALANT MATERIAL SHALL BE PROVIDED IN THE SAW CUT BETWEEN THE UPPER MOST LOOP WIRE OR LEAD-IN AND THE ROADWAY WEARING SURFACE EXCLUDING THE OVERLAY.
- THE MINIMUM DISTANCE BETWEEN THE TWISTED PAIRS OF LOOP LEAD-IN WIRE IS 6" FROM EDGE OF CURB OR ROADWAY TO LOOP.

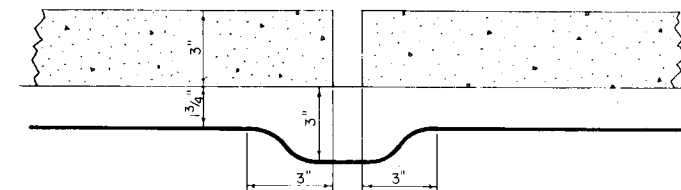
REVISIONS			
DATE	INITIALS	DESCRIPTION	
06-16-80	J. M. C.	Revised General Notes 4 & 6	
08-24-81	J. M. C.	Revised Notes 5 & 6, Added PVC Coated	

FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
VEHICLE LOOP INSTALLATION DETAILS			
	INITIALS	DATES	
Designed by			Recommended for approval by <i>Darryl C. Price</i> Deputy Traffic Operations Eng.
Checked by			Approved by <i>P. E. Magadey</i> 10/21/79 State Traffic Operations Eng.
Quantities by			
Checked by			
Supervised by			
		DRAWING NO.	INDEX NO.
		1 of 2	17781



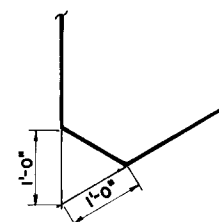
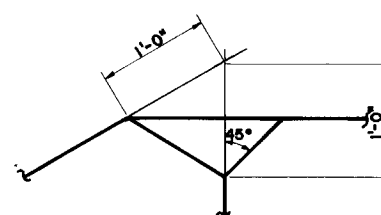
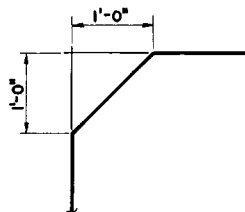
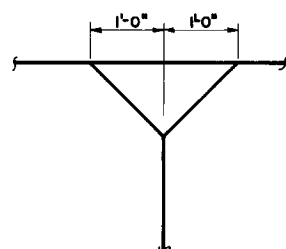
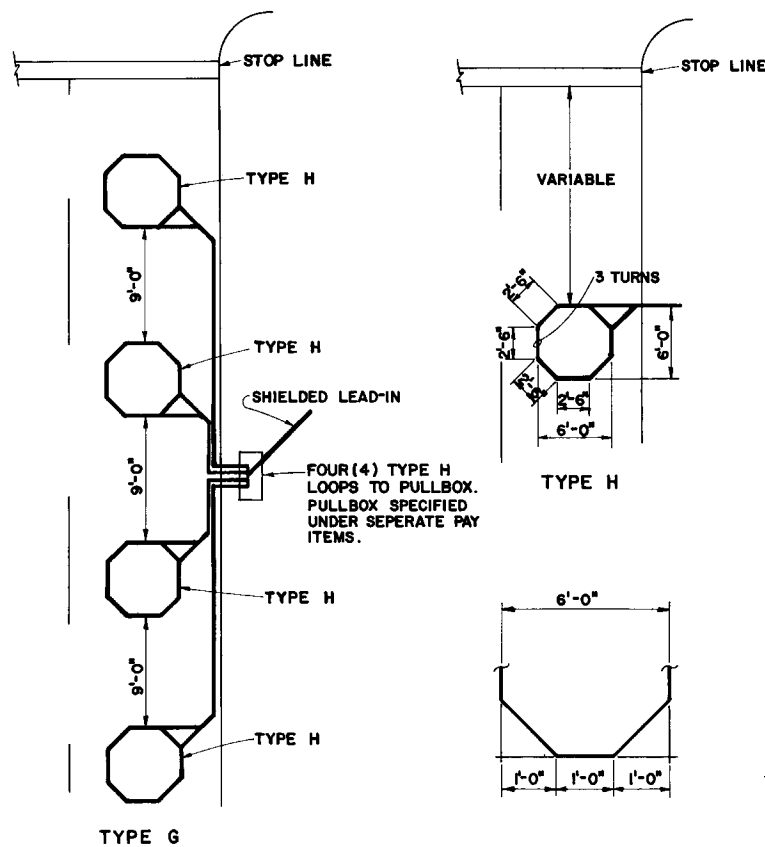
## STANDARD VEHICLE LOOP TYPES

## CONCRETE PAVEMENT EXPANSION JOINTS



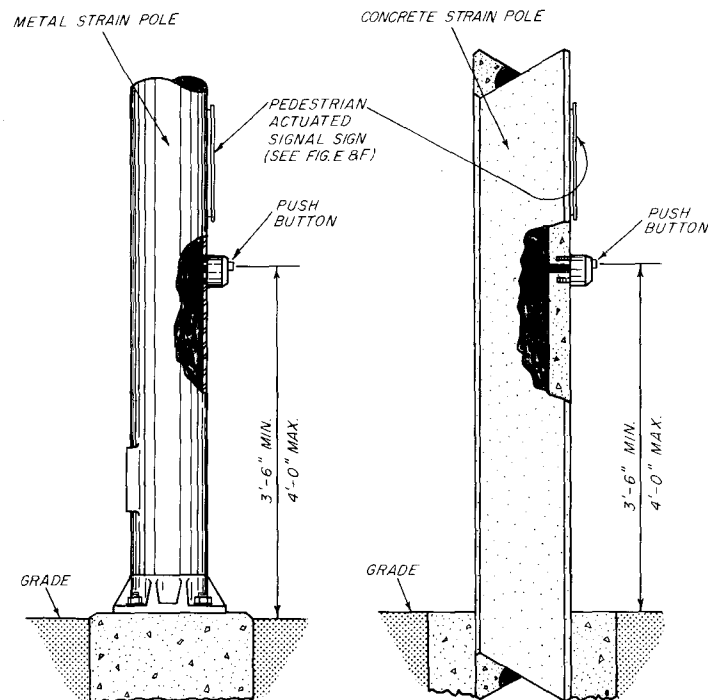
### NOTES:

1. THE "NUMBER OF TURNS" INDICATED AT THE SPECIFIED POINT ON THE LOOP REFERS TO THE NUMBER OF PASSES OF LOOP WIRES WHICH ARE PLACED IN THE SAW CUT IN FORMING THE COMPLETE LOOP.
2. LOOP TYPES OR DETAILS NOT DRAWN TO SCALE.
3. LOOP TYPES ARE CENTERED IN A SINGLE LANE EXCEPT TYPE E WHICH IS CENTERED IN TWO LANES.

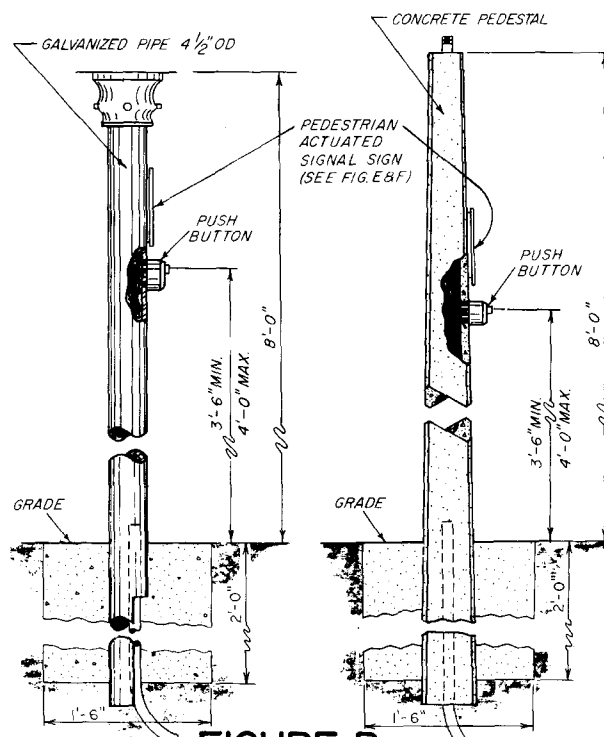


## LOOP CORNER AND LEAD-IN DETAILS

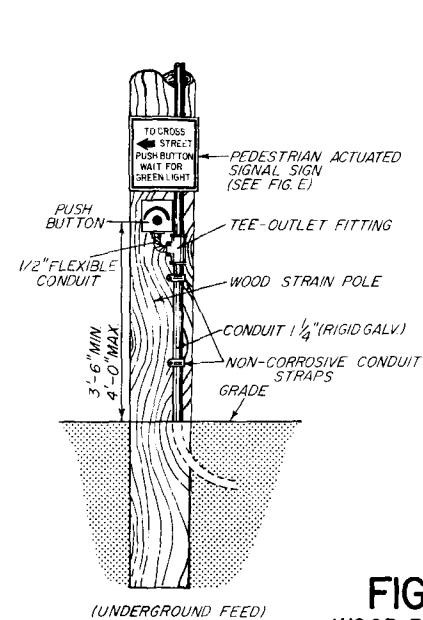
FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS			
VEHICLE LOOP INSTALLATION DETAILS			
INITIALS	DATES	Recommended for approval by <i>Darryl C. Price</i> Deputy Traffic Operations Eng	
Designed by		Approved by <i>E.E. Magada</i> 10/14/19 State Traffic Operations Eng	
Checked by			
Quantities by			
Checked by			
Supervised by		DRAWING NO.	INDEX NO.
		2 of 2	17781



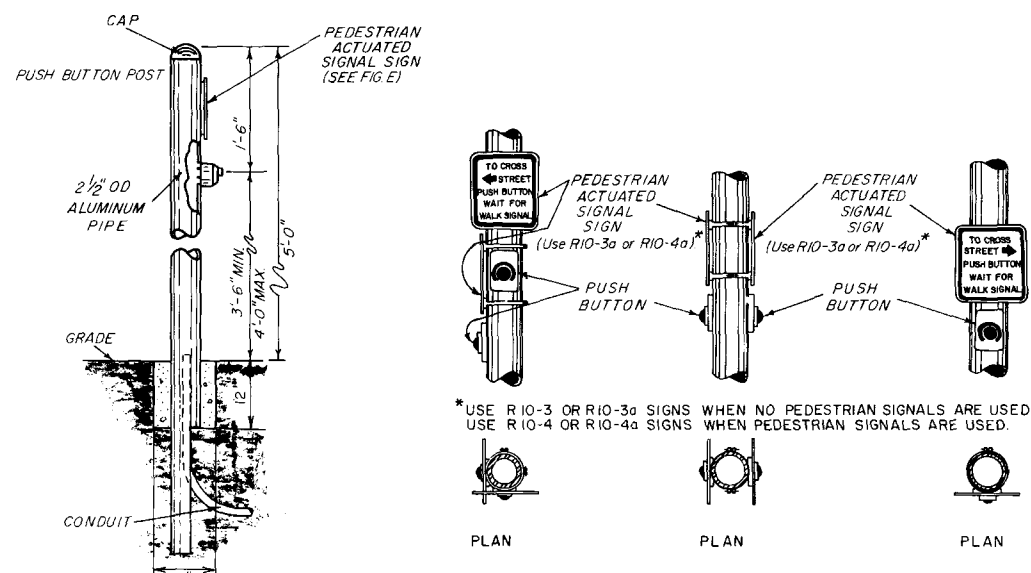
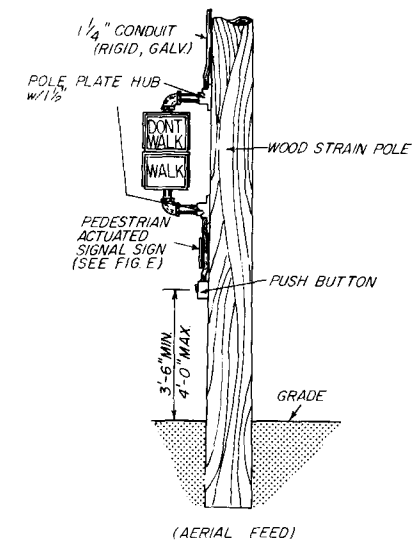
**FIGURE A**  
POLE MOUNTED  
DETECTOR STATION



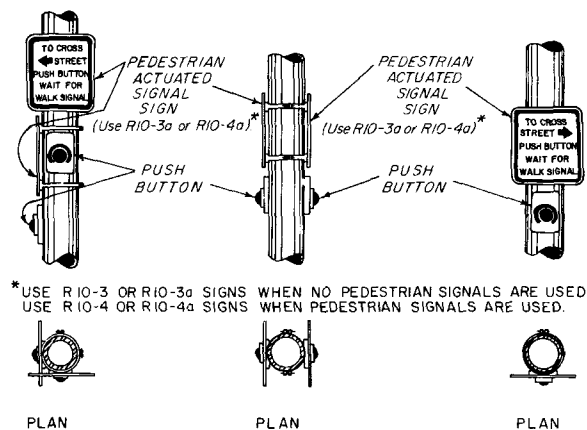
**FIGURE B**  
PEDESTAL STATION  
DETECTOR STATION



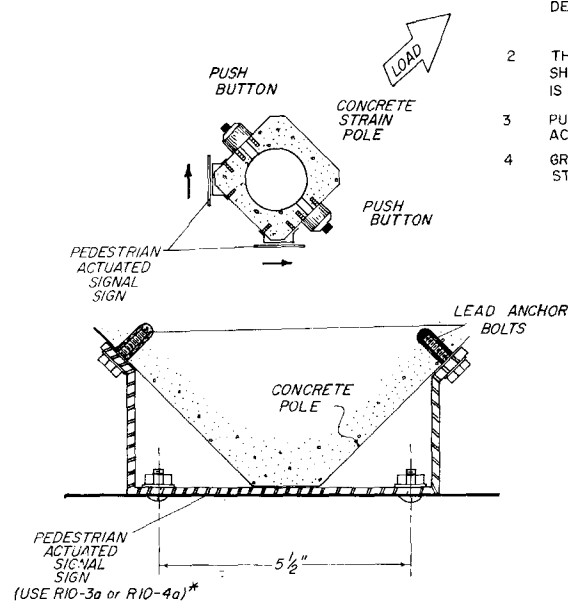
**FIGURE C**  
WOOD POLE MOUNTED  
DETECTOR STATION



**FIGURE D**  
POST DETECTOR STATION  
DETECTOR STATION



**FIGURE E**



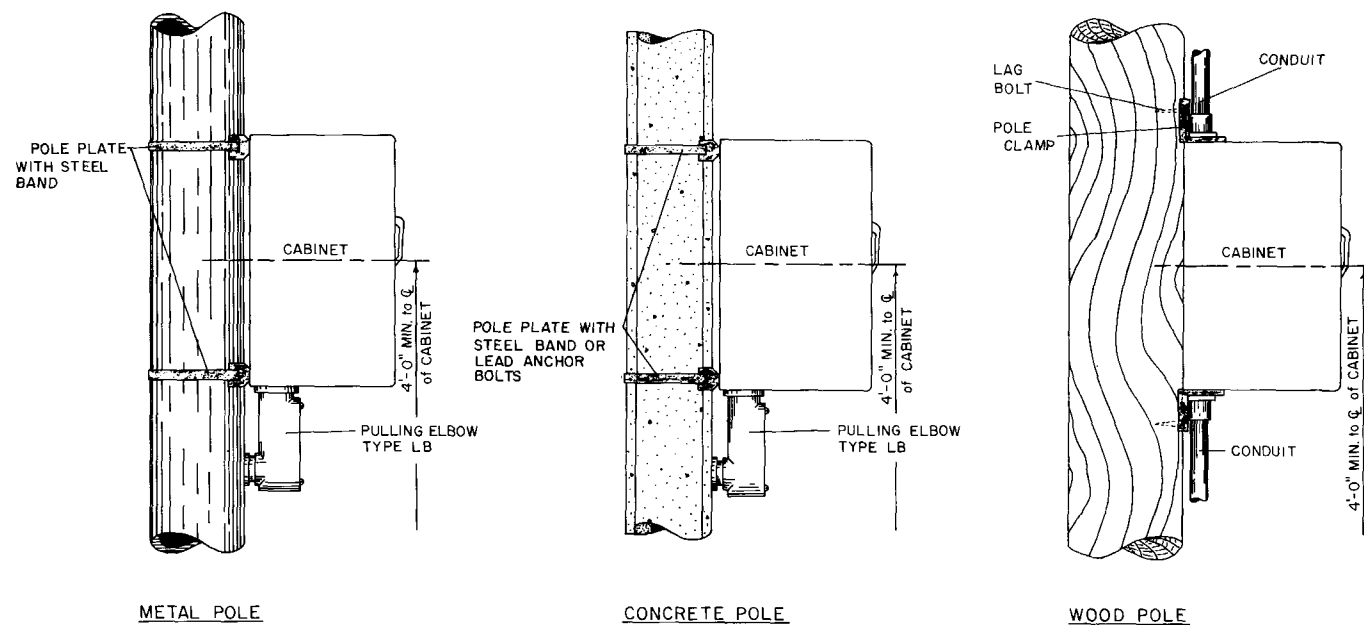
**FIGURE F**

**NOTES**

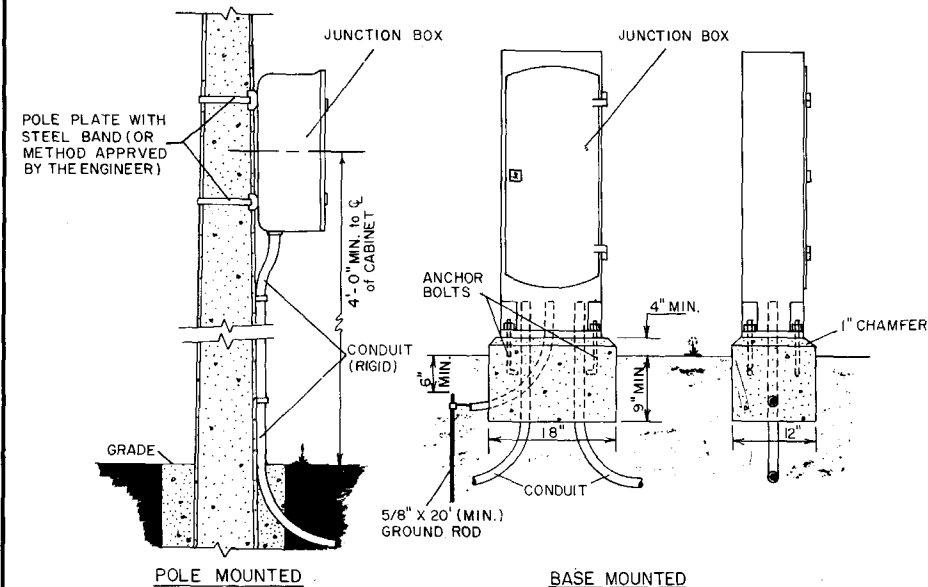
1. SIGNS (RIO-3a & RIO-4a) SHALL BE MOUNTED ABOVE DETECTORS, EXPLAINING THEIR PURPOSE AND USE.
2. THE POSITIONING OF PEDESTRIAN PUSH BUTTON SHOULD CLEARLY INDICATE WHICH CROSSWALK SIGNAL IS ACTUATED BY EACH PUSH BUTTON.
3. PUSH BUTTONS AND SIGNS ARE TO BE MOUNTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS.
4. GROUND TO BE IN ACCORDANCE WITH SECTION B620 OF STANDARD SPECIFICATIONS.

**FLORIDA DEPARTMENT OF TRANSPORTATION**  
TRAFFIC OPERATIONS  
PEDESTRIAN DETECTOR ASSEMBLY INSTALLATION DETAILS

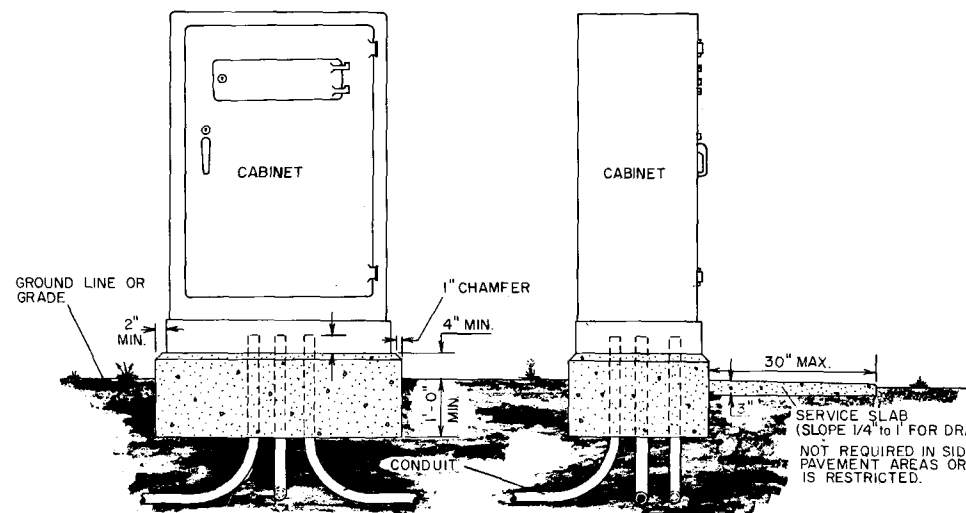
REVISIONS			INITIALS	DATES	Recommended for approval	
DATE	INITIALS	DESCRIPTION	Designed by	J.M.C.	7-13-77	by <u>Larry C. Puel</u> Deputy Traffic Operations Eng.
10-31-79	J.M.C.	DELETED ITEM NO. 8, ADDED FIGURE F	Checked by			Approved
08-27-80	J.M.C.	DELETED NOTES 4.9.5, AND REVISED FIGURE F	Quantities by			by <u>R.E. Mendenhall</u> <u>10/14/77</u> State Traffic Operations Eng.
			Checked by			
			Supervised by	J. J.		DRAWING NO. INDEX NO. 1 OF 1 17784



POLE MOUNTED CABINET

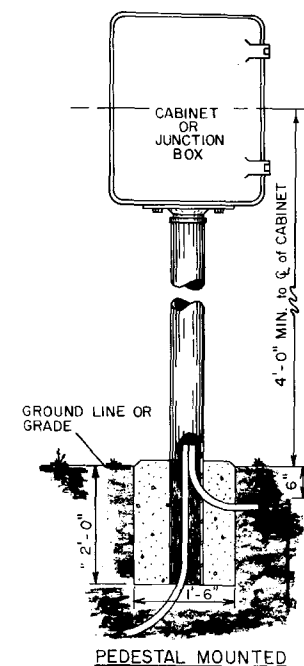


INTERCONNECT JUNCTION BOX



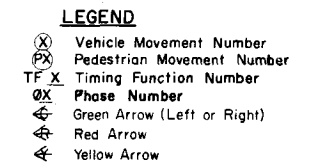
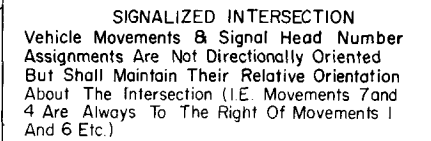
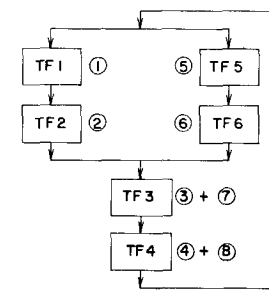
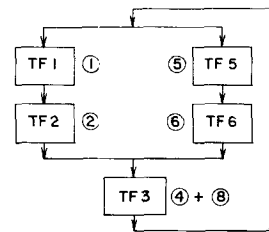
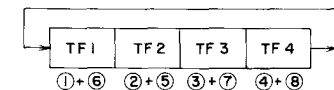
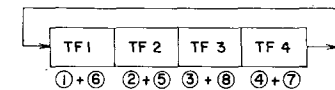
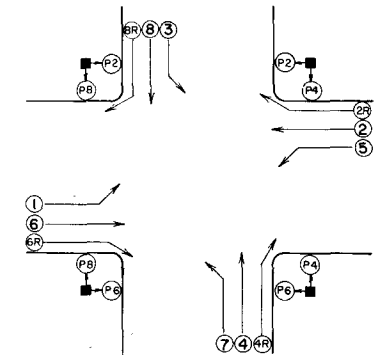
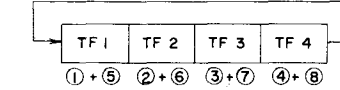
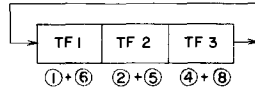
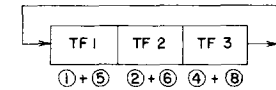
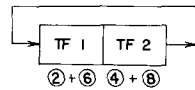
BASE MOUNTED CABINET

- NOTES:
1. NUMBER, SIZE AND ORIENTATION OF CONDUIT SWEEP WILL VARY ACCORDING TO SITE CONDITION OR LOCATIONS. 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 IF OBSTRUCTIONS PREVENT THE SPARE CONDUIT FROM EXITING TO THE REAR, OR THE REAR OF THE CABINET IS LOCATED ON THE R/W LINE. A SIDE EXIT OF THE SPARE CONDUIT WILL HAVE TO BE APPROVED BY THE PROJECT ENGINEER. ALL SPARE SWEEPS OF CONDUIT SHALL BE CAPPED WITH A WEATHER PROOF FITTING.
  2. GROUNDING TO BE IN ACCORDANCE WITH SECTION 620 OF THE STANDARD SPECIFICATIONS.



PEDESTAL MOUNTED

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
CABINET INSTALLATION DETAIL			
	INITIALS	DATES	Recommended for approval
Redrawn by	Mick	09-17-80	by <i>Darryl C. Price</i> Deputy Traffic Operations Eng.
Revised by	Mick	08-24-81	Approved by <i>R. Masala</i> State Traffic Operations Eng.
Supervised by	J.R.M.	DRAWING NO. 1 OF 1	INDEX NO. 17841



### SIGNAL CLEARANCE TABLE

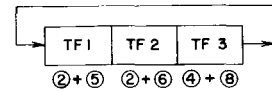
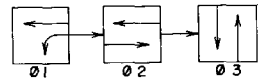
(Blank Indicates No Clearance Required)									
From \ To		SIGNAL INDICATIONS							
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SIGNAL INDICATIONS	R			Y	Y	<del>Y</del>	Y		
	<del>R</del>			Y	Y	<del>Y</del>	Y		
	G				Y	<del>Y</del>			
	<del>G</del>								
	<del>G</del> *								
	<del>G</del>								
	WALK								
	DON T WALK								Flash DON'T WALK

\* CLEARANCE INDICATION WHEN YELLOW ARROW IS USED.

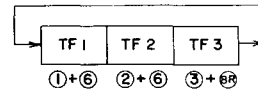
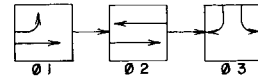
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FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
STANDARD SIGNAL OPERATING PLANS			
	INITIALS	DATES	Recommended for approval by <u>Larry C. Price</u> Deputy Traffic Operations Eng.
Drawn by	J.M.C.	4-26-79	Approved by <u>R. Magadey</u> 10/31/79 State Traffic Operations Eng.
Checked by	J.W.J.		
DRAWING NO.		INDEX NO.	
1 OF 2		17870	

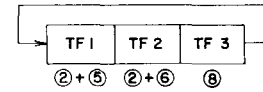
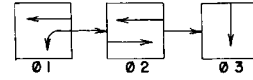




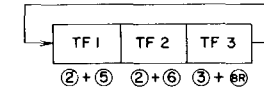
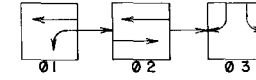
SOP 11



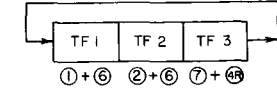
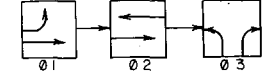
SOP 12



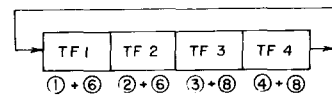
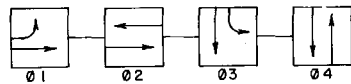
SOP 13  
(ONE-WAY STREET INTERSECTION)



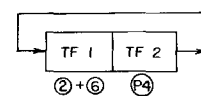
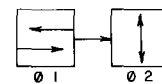
SOP 14  
(DIAMOND INTERCHANGE OPERATION)



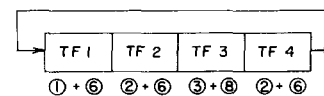
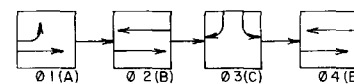
**SOP 15**  
(DIAMOND INTERCHANGE OPERATION)



**SOP 16**

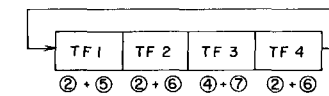
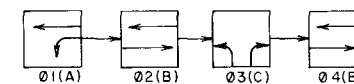


**SOP 17**  
(MID-BLOCK)



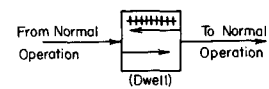
NOTE :  
Only Ø2 or Ø4 used, Not both to obtain  
ABC, Or ACB operation.

SOP 18  
(DIAMOND INTERCHANGE OPERATIONS)

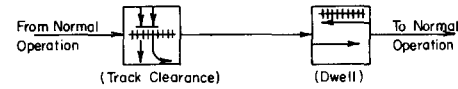


NOTE:  
Only Ø2 or Ø4 used, Not both to obtain  
ABC, Or ACB operation.

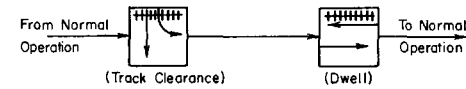
SOP 19  
(DIAMOND INTERCHANGE OPERATIONS)



POP 1



POP 2

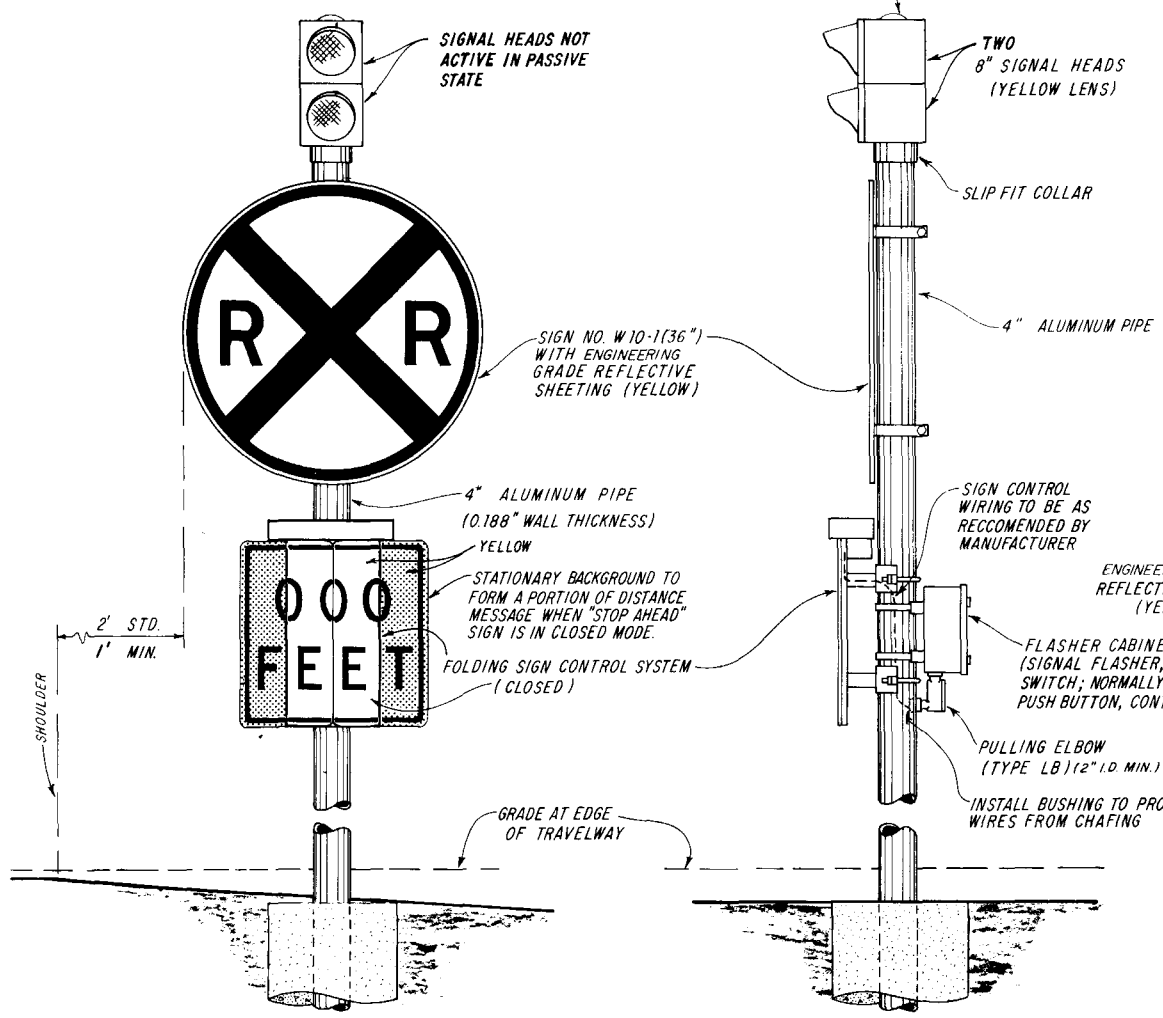


POP 3

[illegible]

# PASSIVE STATE

(TRAIN CIRCUIT NOT ACTUATED)

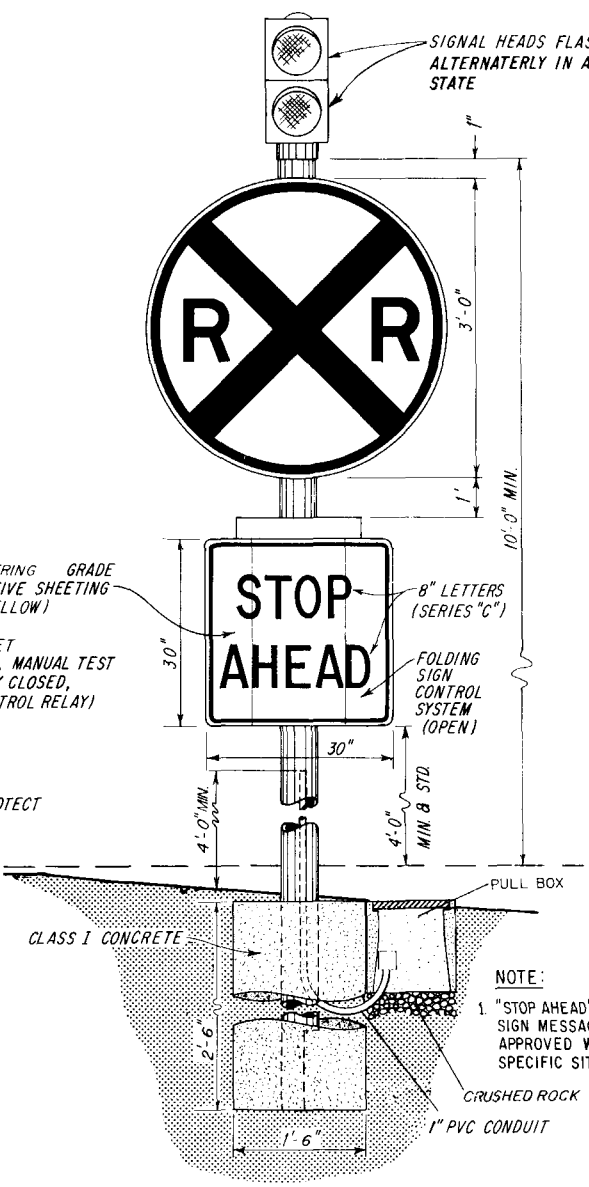


FRONT VIEW

SIDE VIEW

# ACTIVE STATE

(TRAIN CIRCUIT ACTUATED)

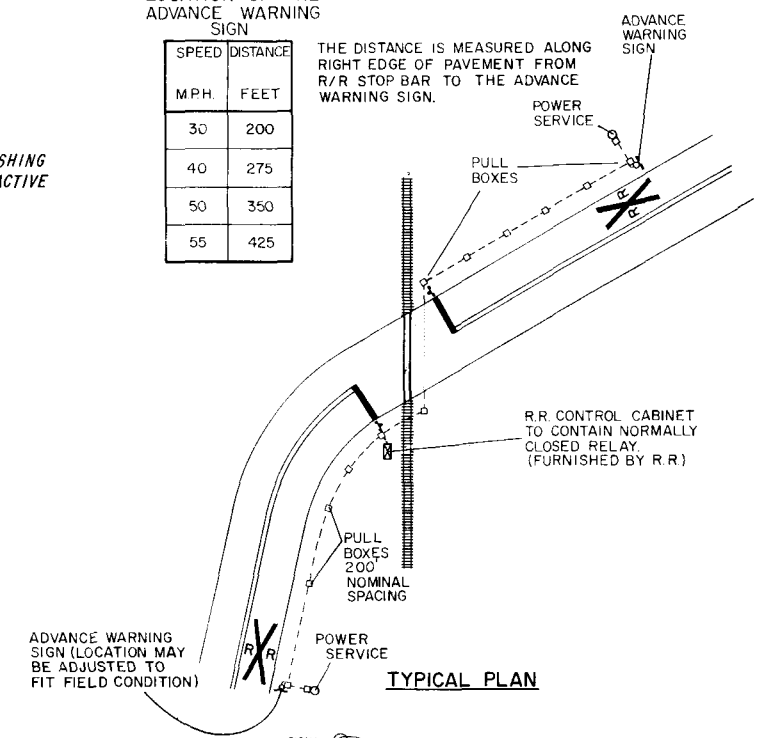


FRONT VIEW

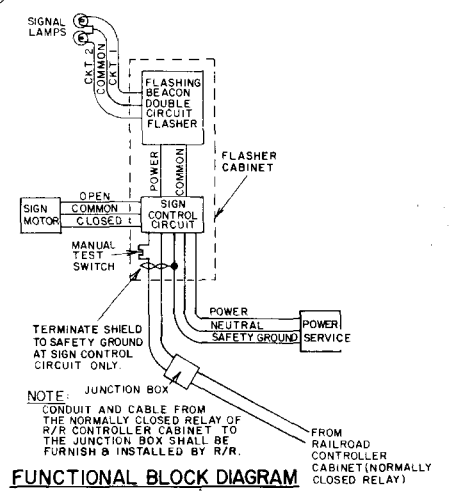
## LOCATION OF THE ADVANCE WARNING SIGN

SPEED MPH.	DISTANCE FEET
30	200
40	275
50	350
55	425

THE DISTANCE IS MEASURED ALONG RIGHT EDGE OF PAVEMENT FROM R/R STOP BAR TO THE ADVANCE WARNING SIGN.



TYPICAL PLAN



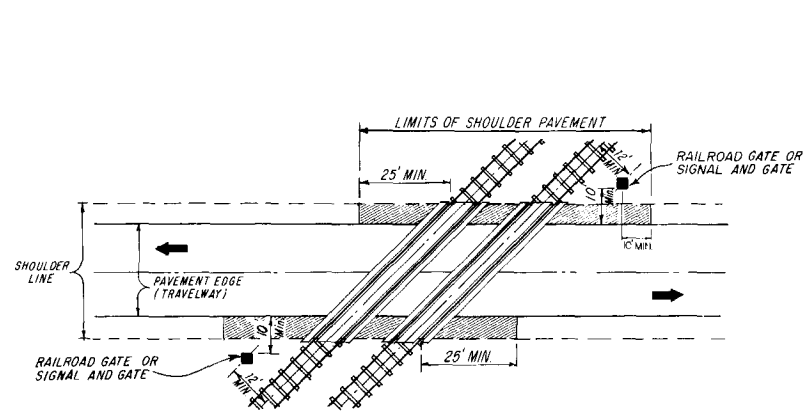
FUNCTIONAL BLOCK DIAGRAM

NOTE:  
1. "STOP AHEAD" IS STANDARD AND PREFERRED SIGN MESSAGE. ANOTHER MESSAGE MAY BE APPROVED WHEN APPROPRIATE FOR SPECIFIC SITUATIONS.

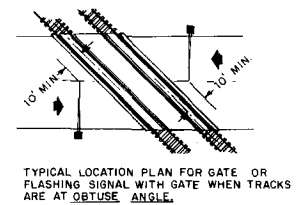
## FLORIDA DEPARTMENT OF TRANSPORTATION TRAFFIC OPERATIONS

### ADVANCE WARNING FOR R.R. CROSSING

DATE	INITIALS	DESCRIPTION	DESIGNED BY	INITIALS	DATE	RECOMMENDED FOR APPROVAL
4/28/78	J.M.C.	DELETED NOTE NO. 2	Checked by	CG	12/12/75	by <i>Ray C. Pucc</i> Deputy Traffic Operations Engr.
10/30/79	J.R.M.	DELETED DUPLICATED NOTES AND CLARIFIED OTHER NOTES	Quantities by		12/12/75	Approved
09-04-80	MICK	ADDED PULL BOX, REVISED 4" PEDESTAL	Checked by			by <i>R.E. Magda</i> State Traffic Operations Engr.
			Supervised by	REM		DRAWING NO. 1 OF 1 INDEX NO. 17881

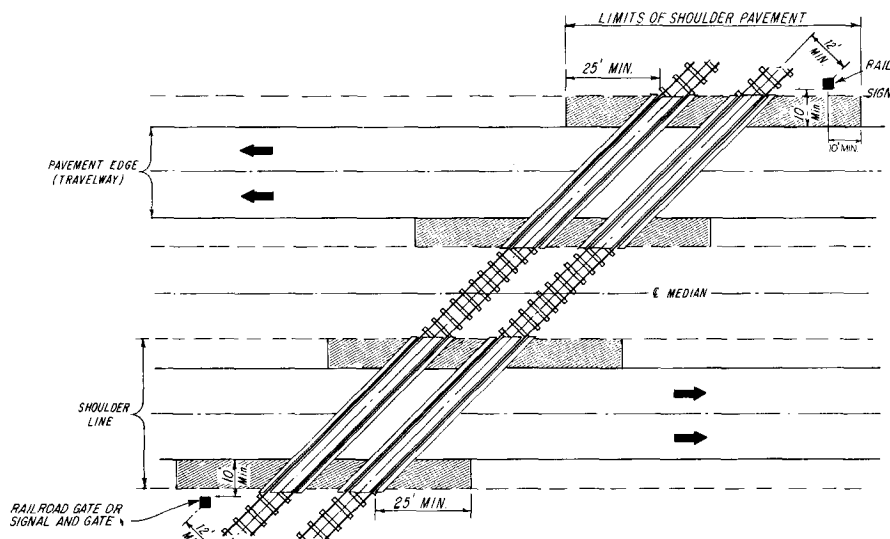


TRACK CLEARANCE FOR ACUTE OR RIGHT ANGLE CROSSINGS

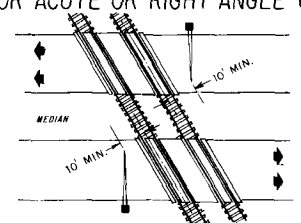


TYPICAL LOCATION PLAN FOR GATE OR FLASHING SIGNAL WITH GATE WHEN TRACKS ARE AT OBTUSE ANGLE.

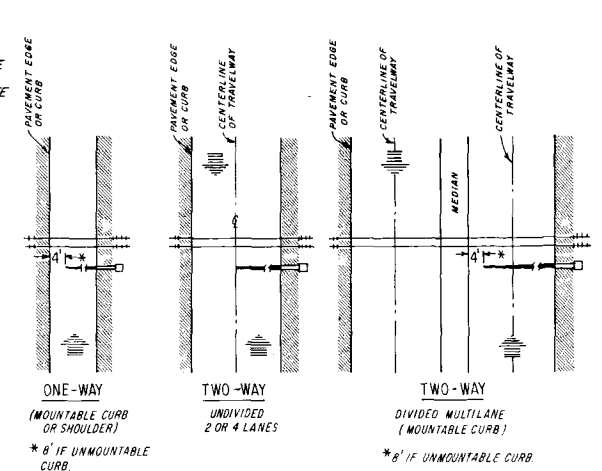
NOTE:  
IT IS INTENDED THAT THE FULL SHOULDER WIDTH OF THE EXISTING ROADWAY BE PAVED. WHERE AN EXISTING SHOULDER IS SUBSTANTIALLY SUBSTANDARD FOR THE FACILITY INVOLVED, THE SHOULDER WIDTH SHOULD BE UPGRADED TO MEET CURRENT STANDARDS.



TRACK CLEARANCE FOR ACUTE OR RIGHT ANGLE CROSSINGS



TYPICAL LOCATION PLAN FOR GATE OR FLASHING SIGNAL WITH GATE WHEN TRACKS ARE AT OBTUSE ANGLE.

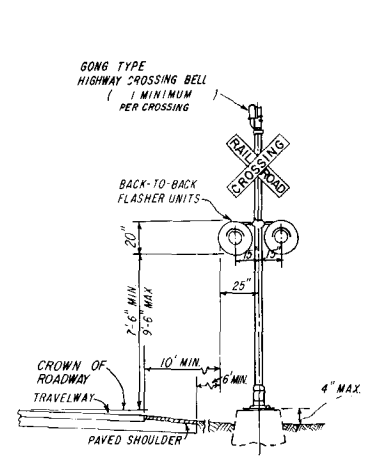


NOTE:  
ARROWS DENOTE DIRECTION OF TRAVEL, NOT LANE INDICATION

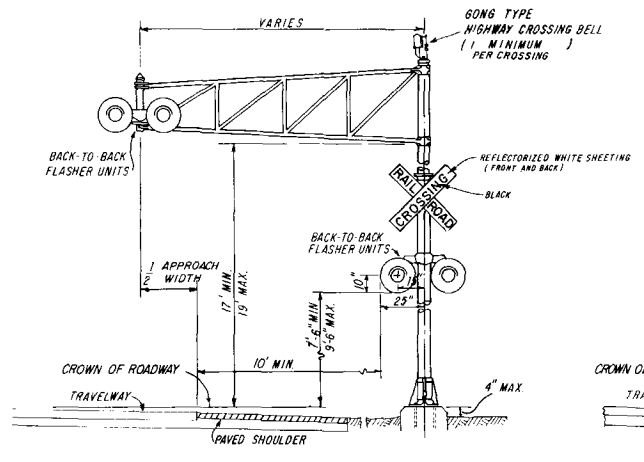
FIGURE 1

GATE LENGTH REQUIREMENTS

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

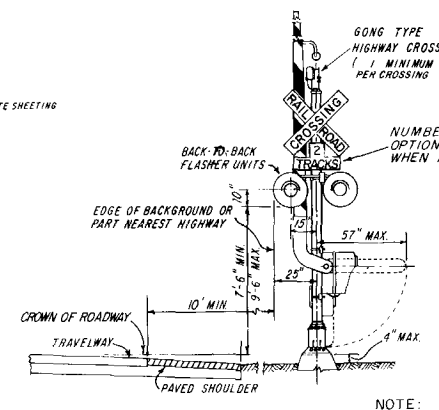


TYPE I



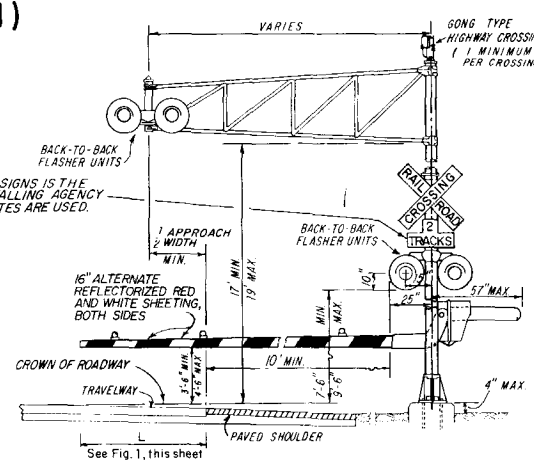
TYPE II

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



TYPE III

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



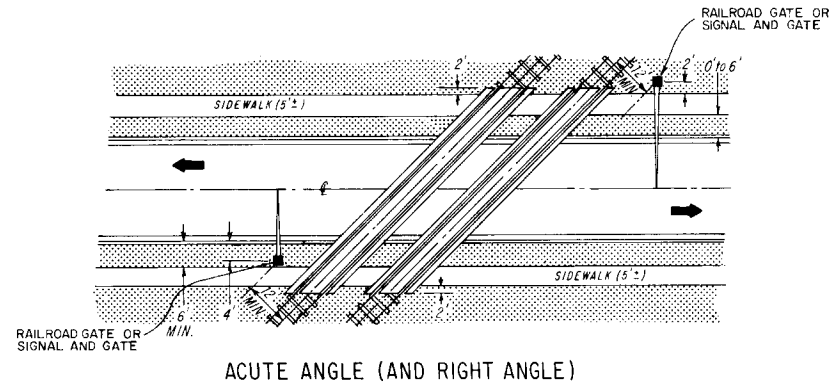
TYPE IV

## GENERAL NOTES

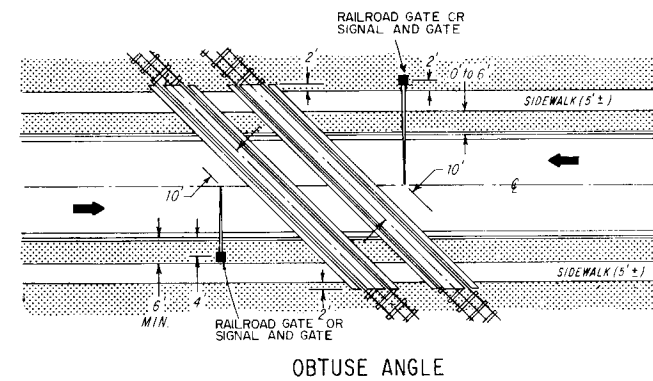
- NO GUARDRAIL IS PROPOSED FOR SIGNALS; HOWEVER, SOME FORM OF IMPACT ATTENUATION DEVICE MAY BE SPECIFIED FOR CERTAIN LOCATIONS.
- ADVANCE FLASHER TO BE INSTALLED WHEN AND IF CALLED FOR IN PLANS OR SPECIFICATIONS.
- TOP OF FOUNDATION SHALL BE NO GREATER THAN 4" ABOVE FINISHED SHOULDER GRADE.
- TYPE OF 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.

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES			
DATE	INITIALS	DATES	RECOMMENDED FOR APPROVAL
7-19-77	J.J.	4-8-76	Designed by CG
11-9-77	J.J.	4-8-76	Checked by RM
8-27-78	J.M.C.		Quantities by
10-31-79	J.M.C.		Checked by
Supervised by			REM
DRAWING NO. 1 OF 3			INDEX NO. 17882

REVISIONS		
DATE	INITIALS	DESCRIPTION
7-19-77	J.J.	ADDED GONG TYPE HIGHWAY CROSSING BELL
11-9-77	J.J.	ADDED SHEET 3013 TO INDEX
8-27-78	J.M.C.	REVISED NOTE 3, ADDED NOTE TO NO. OF TRACKS SIGNS
10-31-79	J.M.C.	REVISED TYPE II & III, OVERHEAD SIGNAL PLACEMENT TO 1/2 APPROACH WIDTH, ADDED GATES TO RAILROAD & SIGNAL, AND REVISED NOTE ON TYPICAL LOCATIONS AND NOTE 3.



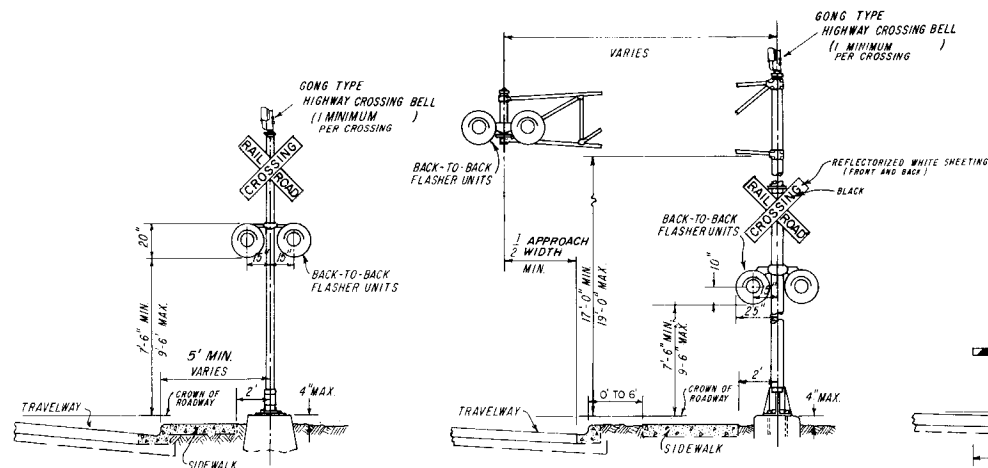
SIGNAL PLACEMENT AT RAILROAD CROSSING  
(2 LANES, CURB & GUTTER)



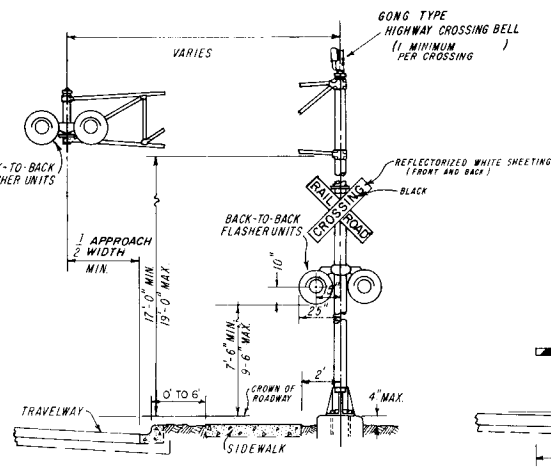
SIGNAL PLACEMENT AT RAILROAD CROSSING  
(2 LANES, CURB & GUTTER)

#### GENERAL NOTES

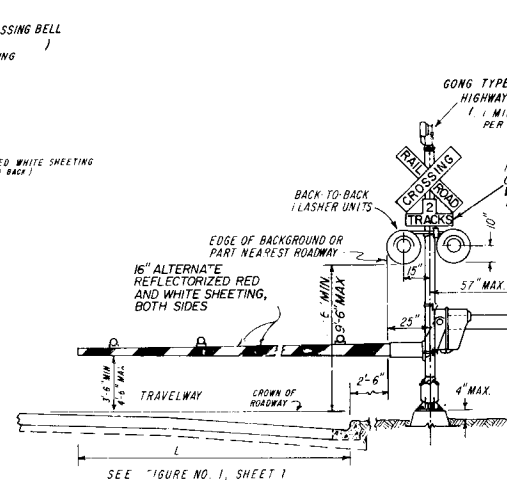
7. THE LOCATION OF FLASHING SIGNALS AND STOP LINES SHALL BE ESTABLISHED BASED ON FUTURE (OR PRESENT) INSTALLATION OF GATES WITH APPROPRIATE TRACK CLEARANCES.
8. WHERE PLANS CALL FOR RAILROAD TRAFFIC CONTROL DEVICES TO BE INSTALLED IN CURBED MEDIANS, THE MINIMUM MEDIAN WIDTH SHALL BE 10 FEET.
9. LOCATION 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.
10. STOP LINE TO BE PERPENDICULAR TO EDGE OF ROADWAY, APPROX. 15' FROM NEAREST RAIL, OR 8' FROM AND PARALLEL TO GATE WHEN PRESENT.



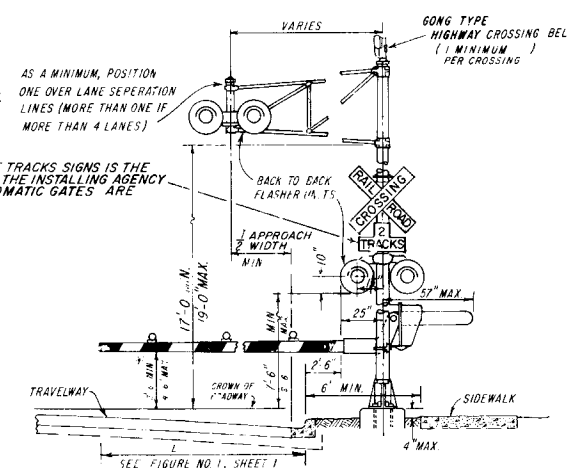
TYPE I



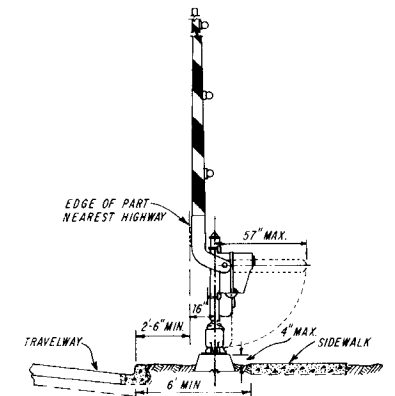
TYPE II



TYPE III



TYPE IV



TYPE V

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

REVISIONS			INITIALS	DATES	Recommended for approval
DATE	INITIALS	DESCRIPTION	Designed by		by <i>Larry C. Puce</i>
7-19-77	J.J.	ADDED GONG TYPE HIGHWAY CROSSING BELL	Checked by	CG 4-8-76	Deputy Traffic Operations Engr.
11-9-77	J.J.	ADDED SHEET 3073 TO INDEX	Quantities by	RM 4-8-76	Approved
8-27-78	J.M.C.	REVISED NOTES 78.8 AND ADDED NOTE TO NUMBER OF TRACKS SIGNS.	Checked by		by <i>RE Magaley</i> 10/31/79
10-31-79	J.M.C.	REVISED TYPE II & III OVERHEAD SIGNAL PLACEMENT TO 1/2 APPROACH WIDTH AND ADDED RAILROAD GATES & SIGNAL GATE TO CROSSING	Supervised by	REM	State Traffic Operations Engr.
			DRAWING NO. 2 OF 3		INDEX NO. 17882

Diagram illustrating the layout of a railroad crossing advance warning sign system. The diagram shows a vertical road with a crossing. A large 'X' with 'R' on either side is positioned 20 feet from the crossing. Above the crossing, there are two sets of advance warning signs. The first set is 50 feet from the crossing and consists of two rectangular signs, each 2 feet wide and 6 inches high, with a 22-foot 6-inch gap between them. The second set is 80 feet from the crossing and consists of two rectangular signs, each 2 feet wide and 6 inches high, with an 8-foot gap between them. A 'FUTURE GATE LOCATION' is marked with a dashed line and a 10-foot offset. A 'STOP BAR TO EDGE 8 FT. FROM WHEN PRES' is indicated. A 'W10-1' sign is shown at the bottom right.

SPEED M.P.H.	"A" IN FT.
55	425
50	350
40	275
30	200
URBAN	50 MIN.

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

Diagram illustrating the placement of gates or flashing signals relative to the edge of the travelway and the stop line:

- GATE OR FLASHING SIGNAL WITH GATES:** Indicated by a vertical line and a horizontal line.
- 6':** Dimension indicating the distance between the gate or flashing signal and the stop line.
- FLASHING SIGNAL (IF NOT WITH GATE):** Indicated by a vertical line and a horizontal line.
- SEE NOTE NO. 7:** Reference to a note regarding the gate or flashing signal.
- AS REQUIRED:** Dimension indicating the distance from the edge of the travelway to the gate or flashing signal.
- EDGE OF TRAVELWAY:** Indicated by a vertical line.
- STOP LINE:** Indicated by a vertical line.
- 8':** Dimension indicating the distance from the stop line to the edge of the travelway.

Diagram illustrating the dimensions and specifications for a railroad crossing advance warning sign:

- Sign Shape:** A large 'X' shape.
- Top Text:** "WIDTH MAY VARY ACCORDING TO LANE WIDTH" (indicated by a dashed line and arrows).
- Top Dimension:** 8' (indicated by a horizontal arrow).
- Left Side Text:** "PAVEMENT MESSAGE WHITE" (indicated by an arrow pointing to the white background).
- Left Side Dimension:** 6' (indicated by a vertical arrow).
- Right Side Dimension:** 2' (indicated by a vertical arrow).
- Bottom Text:** "OF LANE" (indicated by a vertical dashed line and arrows).
- Bottom Dimension:** 1'-4" (indicated by a diagonal arrow).

STOP BAR PERPENDICULAR TO EDGE OF TRAVEL WAY OR 8 FT. FROM A PARALLEL TO GATE WHEN PRESENT.

WHITE 2'

10' MIN.

8'

4'

12'

12'

RB-B

12'

12'

10' MIN.

2' WHITE

4'

8'

2' WHITE

2' WHITE

22'-6"

20'

6'

2' WHITE

DOUBLE YELLOW

X R X R X R

\* PLACEMENT OF THE W10-1 SIGN SHALL NORMALLY BE PLACED 750 FEET OR MORE IN ADVANCE OF THE CROSSING IN RURAL AREAS.

W10-1

W10-2

W10-3

W10-4

W10-5

W10-6

W10-7

W10-8

W10-9

W10-10

W10-11

W10-12

W10-13

W10-14

W10-15

W10-16

W10-17

W10-18

W10-19

W10-20

W10-21

W10-22

W10-23

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W10-294

W

\* PLACEMENT OF THE W10-1 SIGN SHALL NORMALLY BE PLACED 750 FEET OR MORE IN ADVANCE OF THE CROSSING IN RURAL AREAS AND 250 FEET IN ADVANCE OF THE CROSSING IN URBAN AREAS EXCEPT THAT IN A RESIDENTIAL OR BUSINESS DISTRICT, WHERE LOW SPEEDS ARE PREVALENT, THE SIGN MAY BE PLACED A MINIMUM DISTANCE OF 100 FEET FROM THE CROSSING. IF THERE IS A STREET INTERSECTION WITHIN 100 FEET AN ADDITIONAL SIGN OR SIGNS MAY BE PLACED TO WARN TRAFFIC APPROACHING THE CROSSING FROM EACH INTERSECTED STREET.

FLORIDA DEPARTMENT OF TRANSPORTATION			
TRAFFIC OPERATIONS			
RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES			
	INITIALS	DATES	Recommended for approval
Designed by	J. M. C.	10/26/77	by <u>Darryl C. Price</u> Deputy Traffic Operations Eng.
Checked by			Approved
Quantities by			by <u>R. E. Magaden</u> 10/26/77 State Traffic Operations Eng.
Checked by			
Supervised by	W. C. C.	DRAWING NO.	INDEX NO.
		3 OF 3	17882