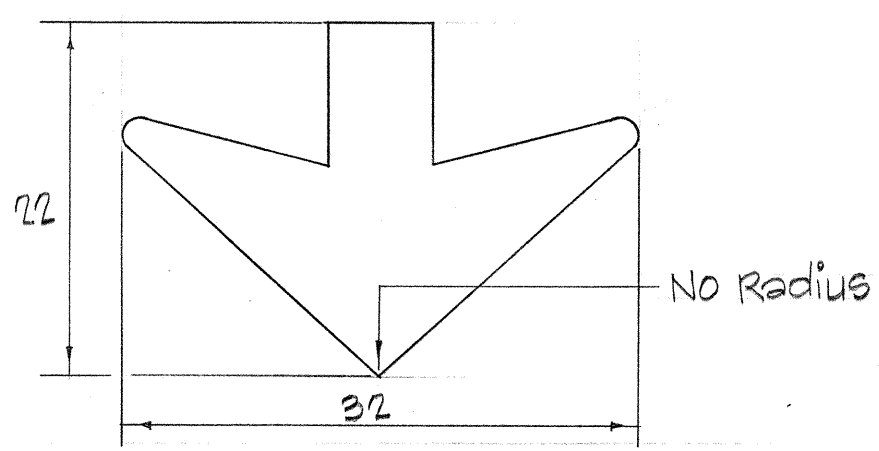
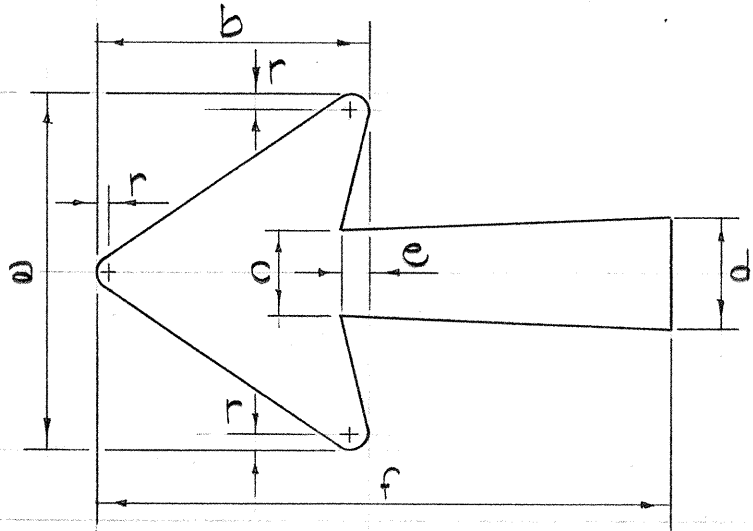


GENERAL NOTES

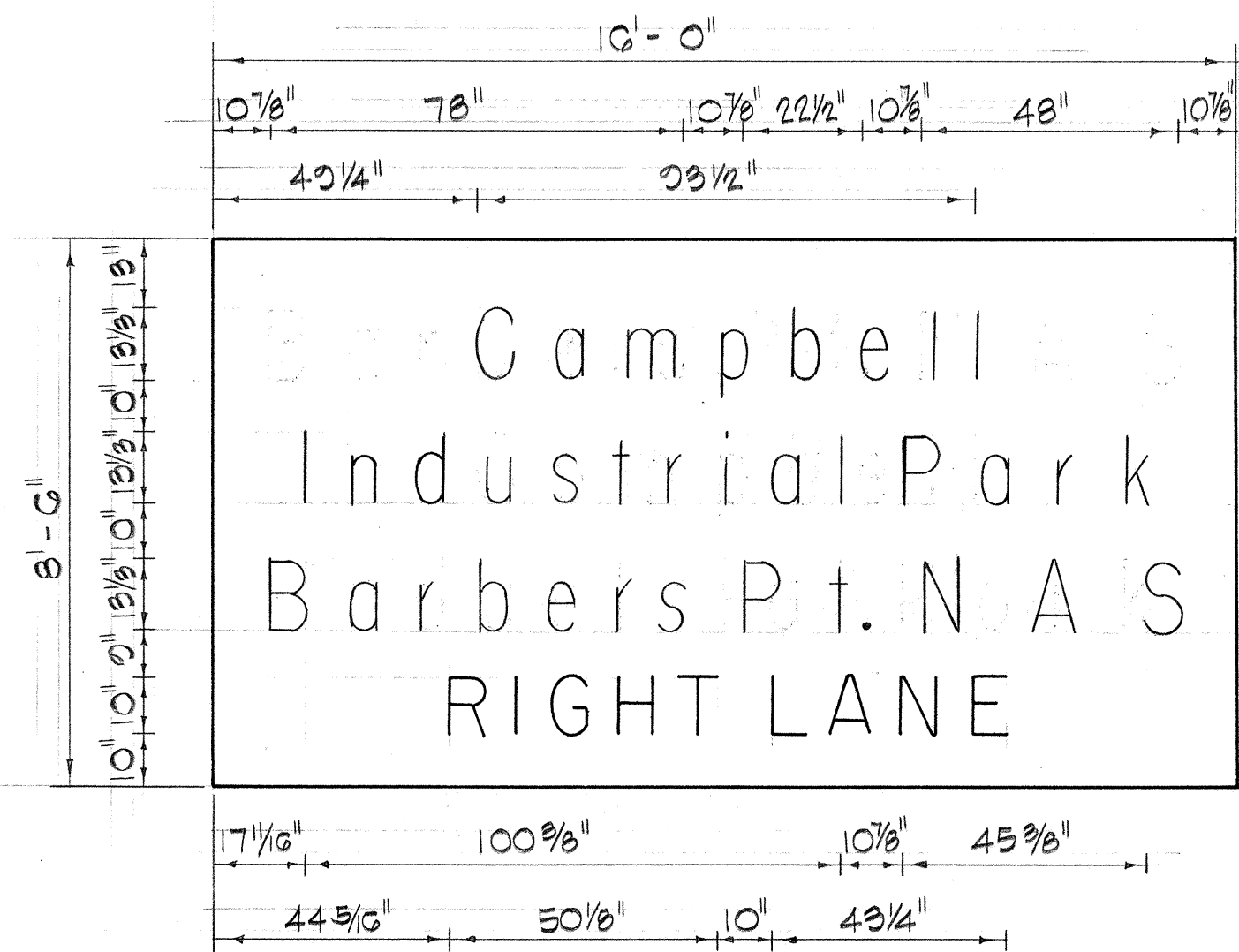
- 1- Sign message shall be lettered in upper case according to "Standard Alphabets for Highway Signs", Bureau of Public Roads, 1957, and lower case according to "Standard Lower Case Alphabets for Highway Signs", Bureau of Public Roads, 1962. Use Series "E" modified letters unless otherwise noted.
- 2- Arrows shall conform with details as shown on plans.
- 3- All borders and State Route Markers shall conform with detail sheet "Destination and Expressway Signs State Route Marker and Border Details".
- 4- Letters, numerals, symbols and borders shall be reflectorized cut-outs or demountable copies. Destination signs will use reflectorized cut-outs.
- 5- All reflectorized cut-outs and demountable copies shall be fastened on sign panel with blind rivets. See Special Provision.

SUMMARY OF EXPRESSWAY AND DESTINATION SIGNS		
PROJECT NO. S-0000(3)		
Sign No.	MESSAGE	AREA(Sq. Ft.)
E-1	Barbers Pt. NAS; Campbell Industrial Park	136.00
E-2(C)	Makakilo; Barbers Point NAS	170.00
E-2(R)	Campbell Industrial Park	110.00
E-2(L)	Honolulu	80.75
D-1	Barbers Point NAS; Campbell Industrial Park	153.00
TOTAL		649.75

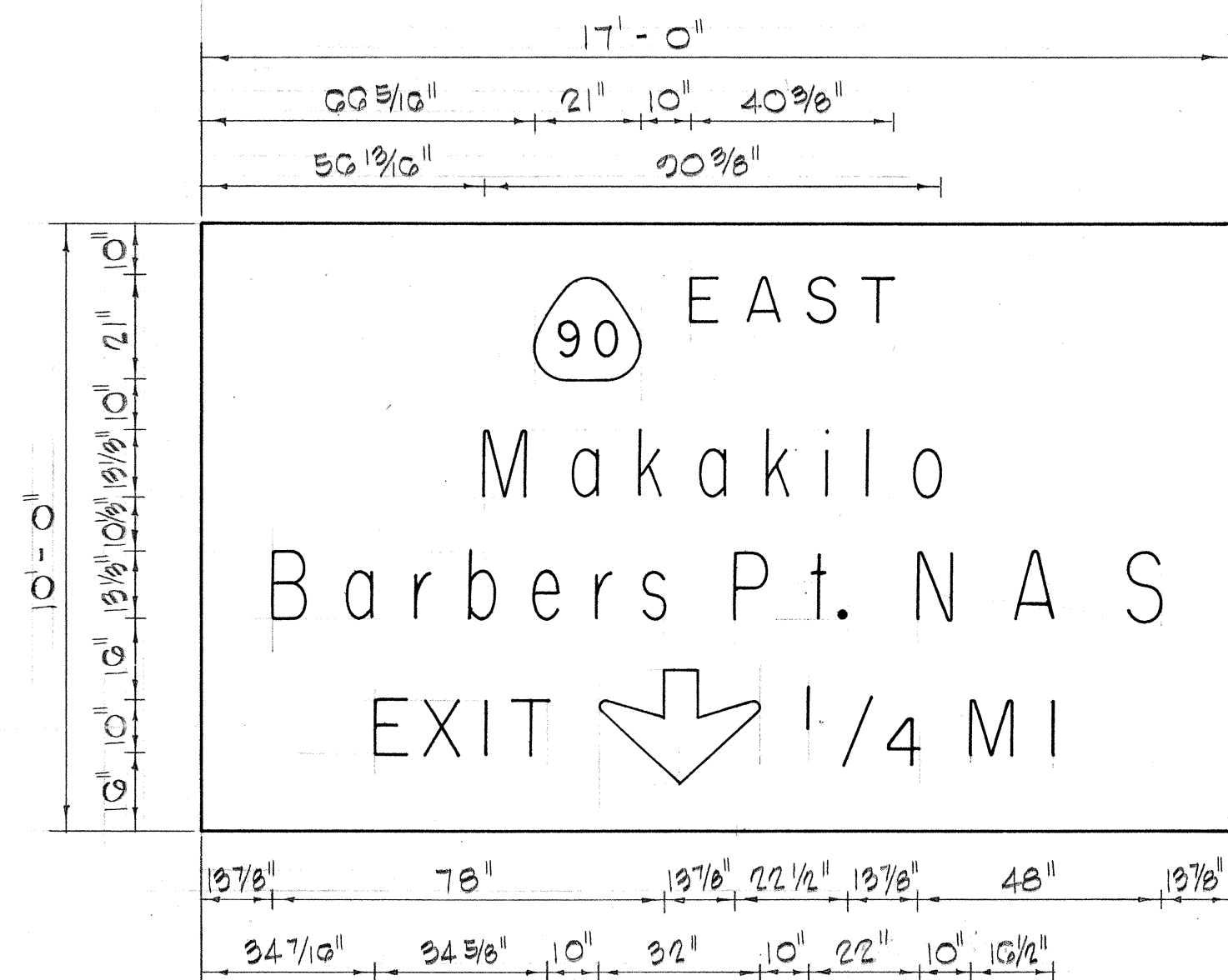
ARROW SIZE	DIMENSIONS IN INCHES						
	a	b	c	d	e	f	r
8 1/2 x 2 1/2	8 1/2	5 1/2	2 5/8	2 1/2	5/8	2 1/2	1/2
21 7/8 x 25	21 7/8	14 1/4	5	6 3/4	1 3/4	25	1
11 1/4 x 18 1/4	11 1/4	8 3/4	3 1/8	3 7/8	7/8	18 1/4	5/8
18 1/4 x 22 1/4	18 1/4	14	4 1/2	6	1 1/2	22 1/4	3/4
22 1/4 x 35 5/8	22 1/4	17	5 3/8	7 1/8	1 3/4	35 5/8	1
32 x 22	32	16	6 1/2	6 1/2	3	22	1



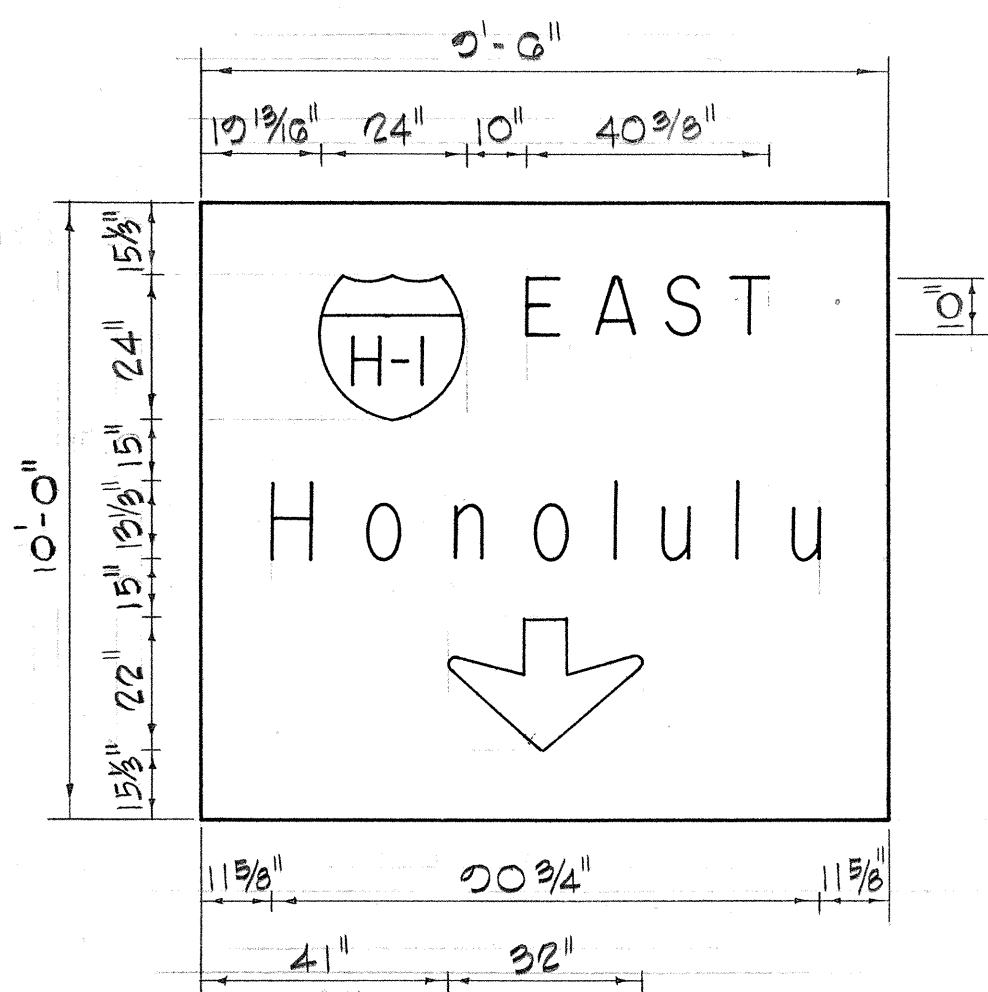
TYPICAL ARROW DETAILS



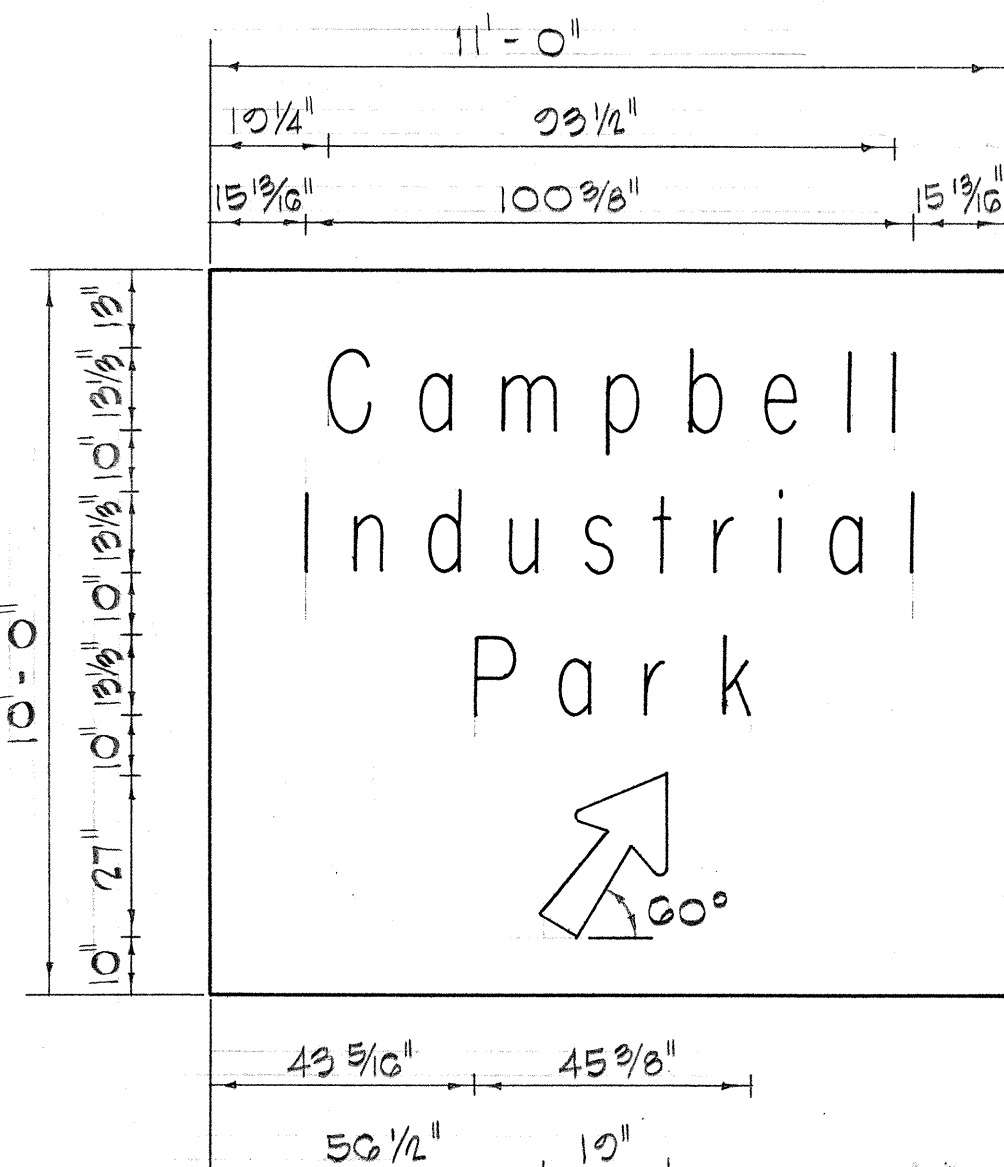
SIGN E-1



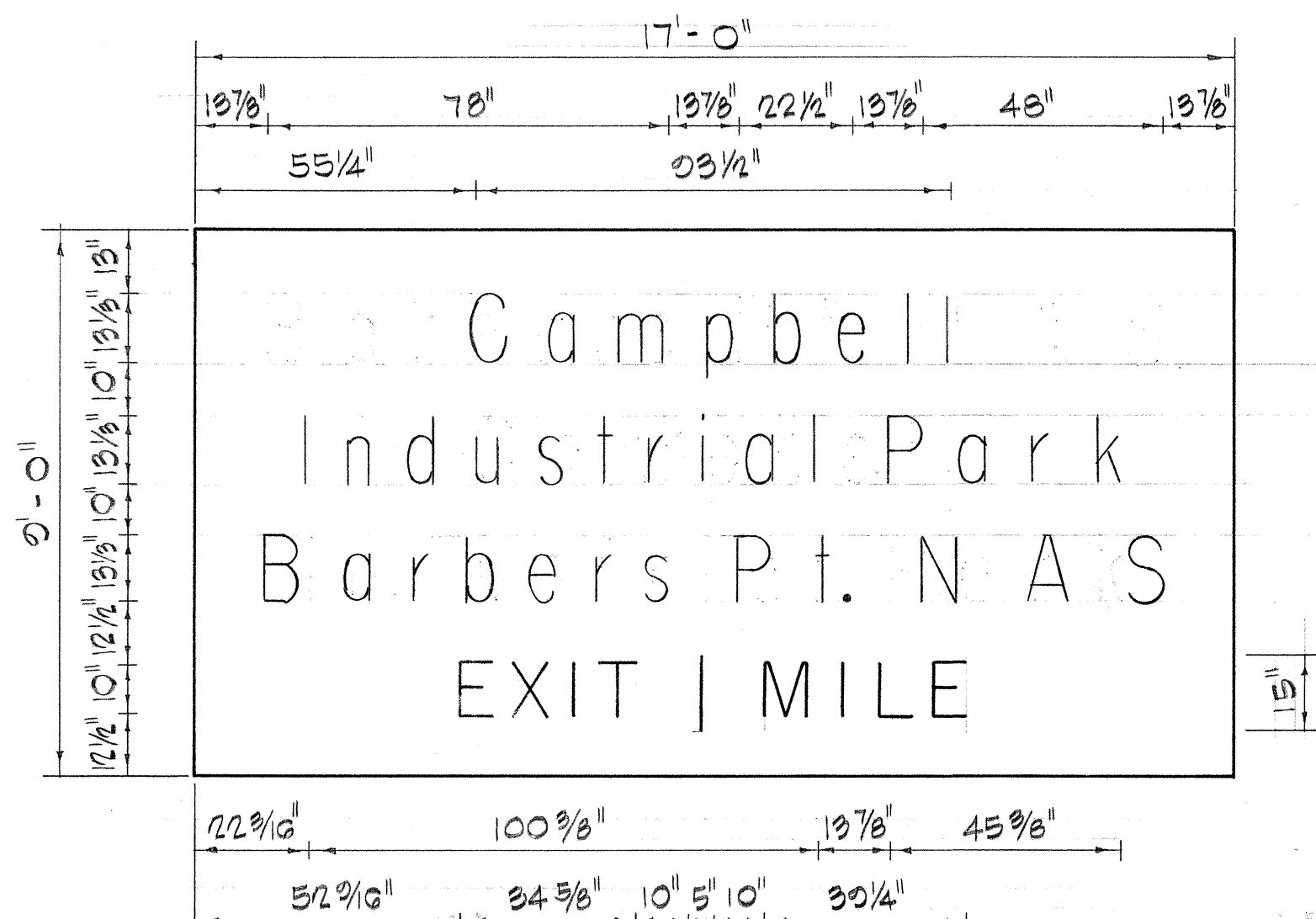
SIGN E-2(C)



SIGN E-2(L)



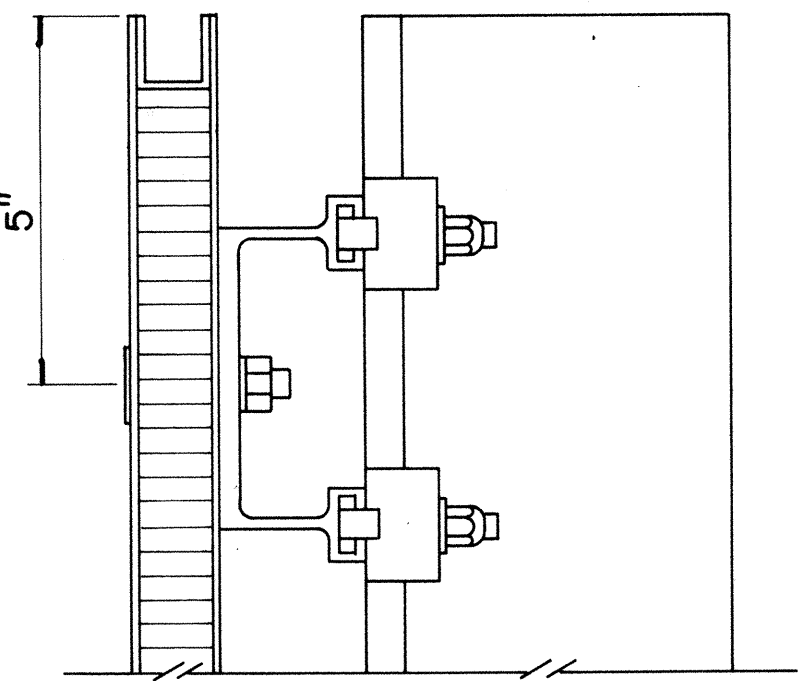
SIGN E-2(R)



SIGN D-1

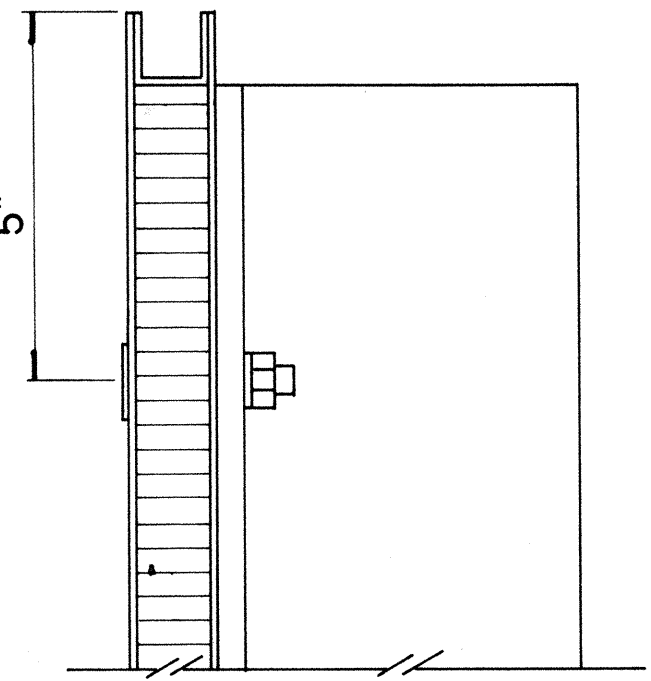
(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG	SUPPORT SPACING
	A		B	C or C _i
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	2	27"	84"
1"	12'-0"	2	30"	84"
1"	12'-6"	2	30"	90"
1"	13'-0"	2	30"	96"
1"	13'-6"	2	30"	102"
1"	14'-0"	2	30"	108"
1"	14'-6"	2	36"	102"
1"	15'-0"	2	36"	108"
1"	15'-6"	3	24"	69"
1"	16'-0"	3	24"	72"
1"	16'-6"	3	24"	75"
1"	17'-0"	3	24"	78"
1"	17'-6"	3	24"	81"
1"	18'-0"	3	24"	84"
1"	18'-6"	3	27"	84"
1"	19'-0"	3	27"	87"
1"	19'-6"	3	27"	90"
1"	20'-0"	3	30"	90"
1"	20'-6"	3	30"	93"
1"	21'-0"	3	30"	96"
1"	21'-6"	3	33"	96"
1"	22'-0"	3	36"	96"
1"	22'-6"	3	36"	99"
1"	23'-0"	3	36"	102"
1"	23'-6"	3	36"	105"
1"	24'-0"	3	36"	108"



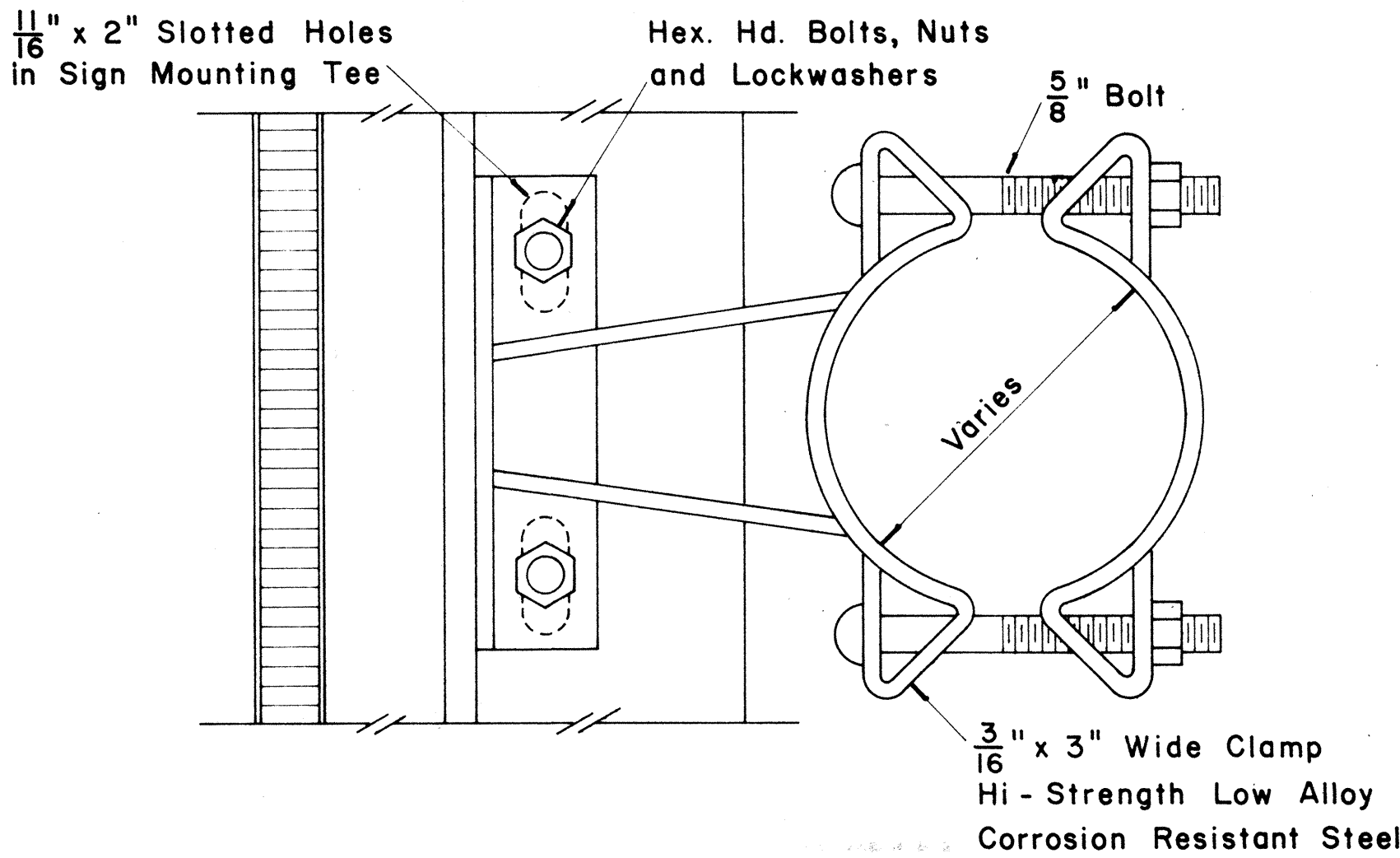
SECTION "C-C"

Scale: $\frac{3}{8}$ " = 1"



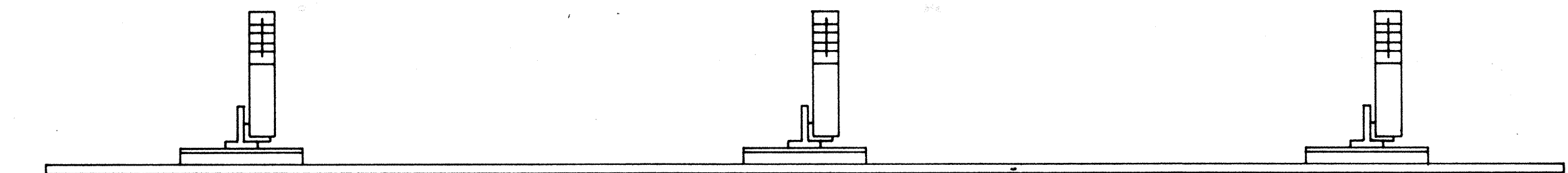
SECTION "C-C" (Alternate)

Scale: $\frac{3}{8}$ " = 1"

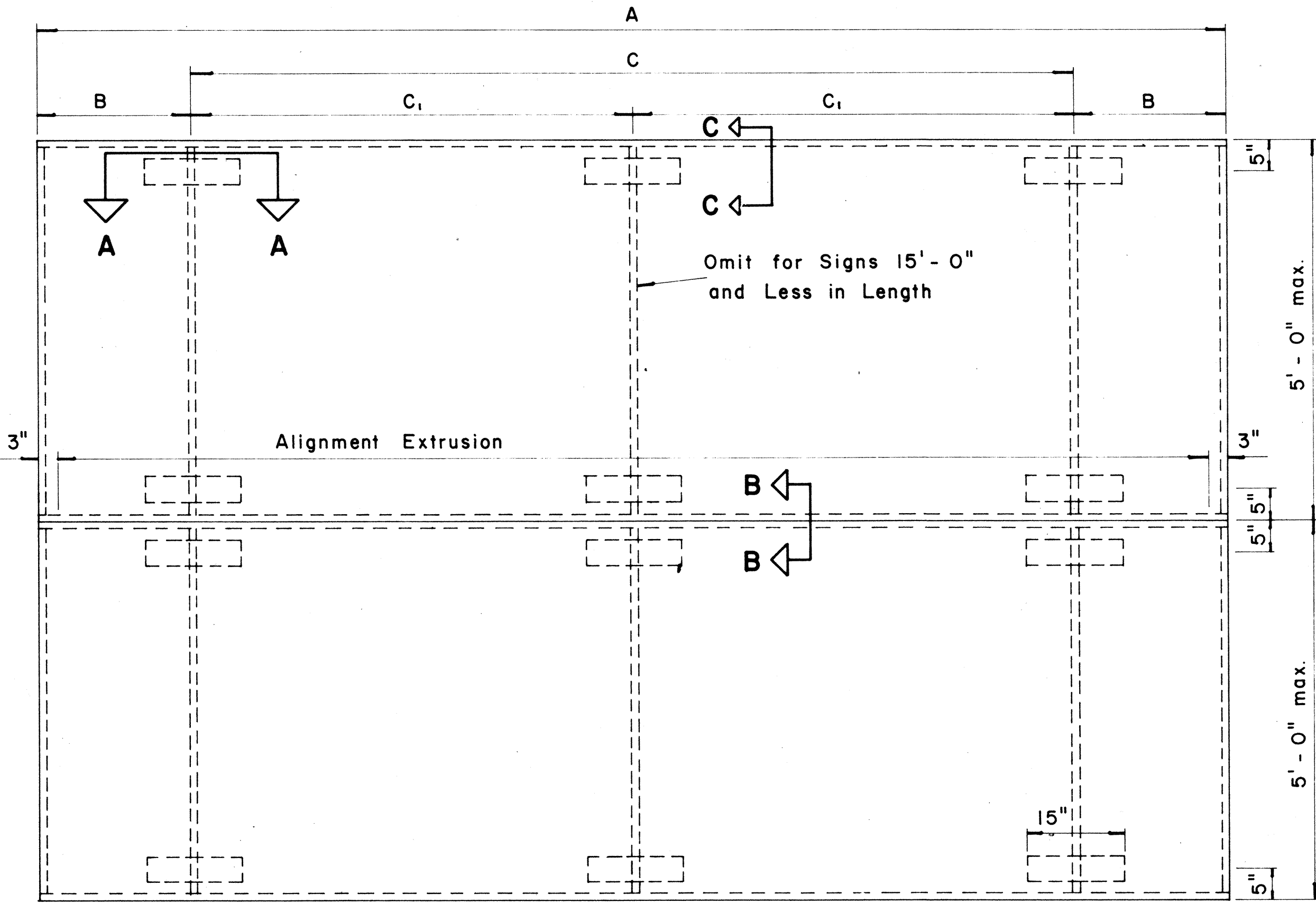


SIGN BRACKET ASSEMBLY

Scale: $\frac{3}{8}$ " = 1"



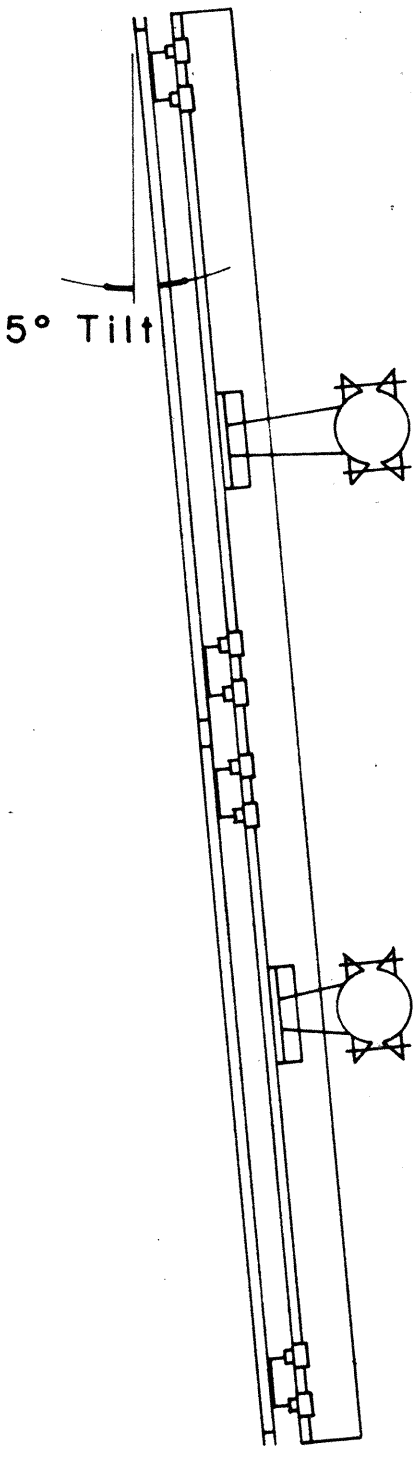
TOP VIEW



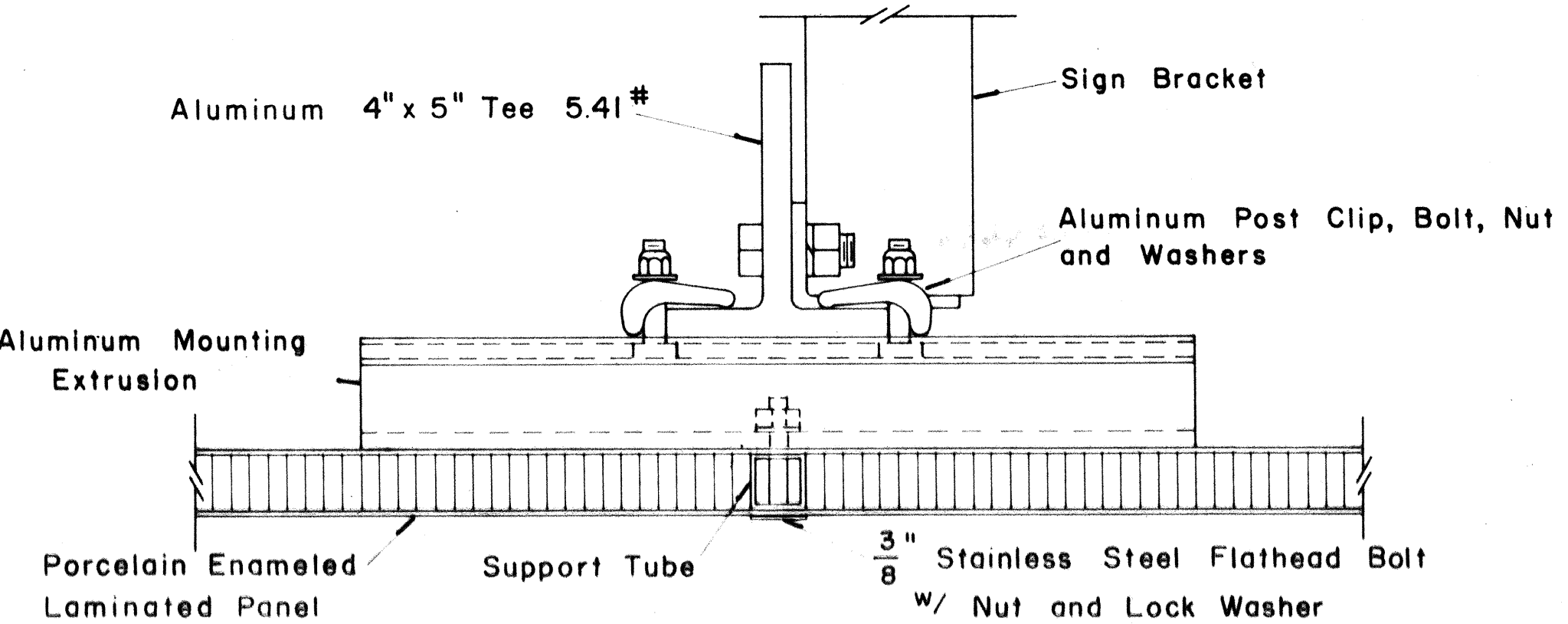
ELEVATION

TYPICAL SIGN ASSEMBLY

Scale: $\frac{3}{4}$ " = 1'-0"

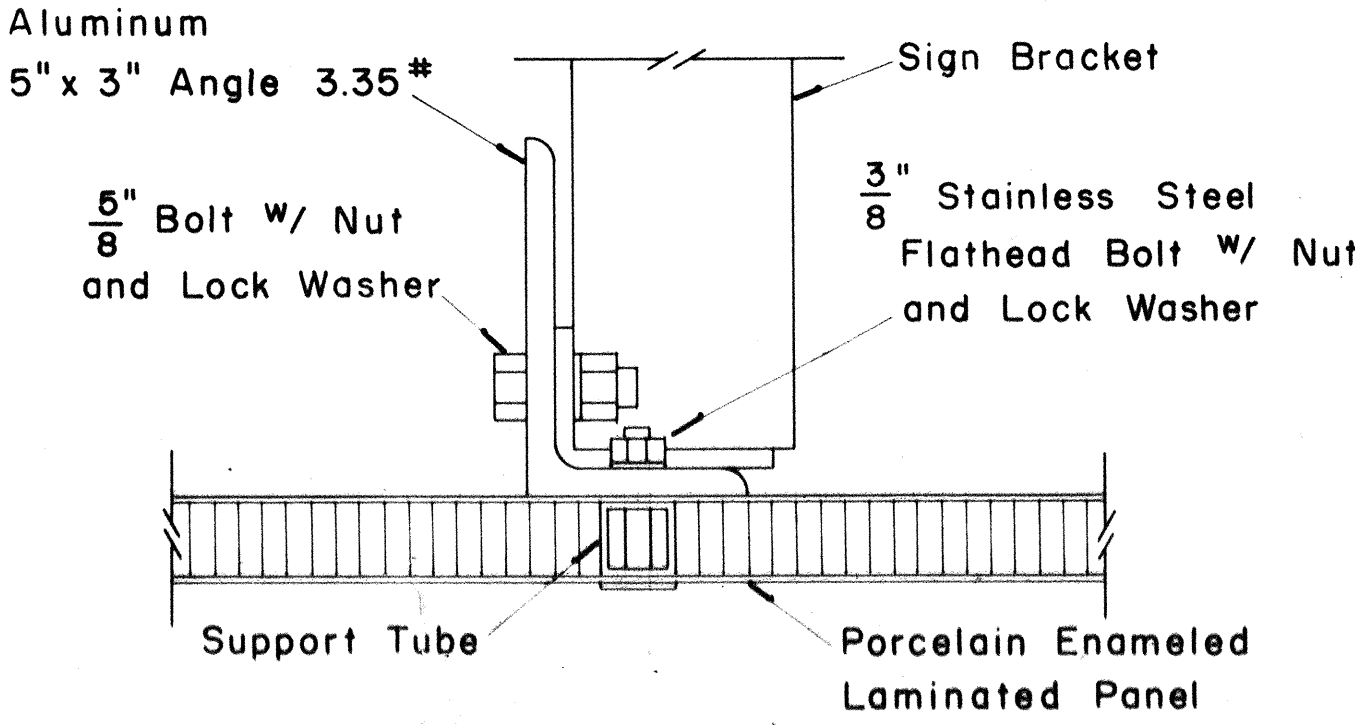


SIDE VIEW



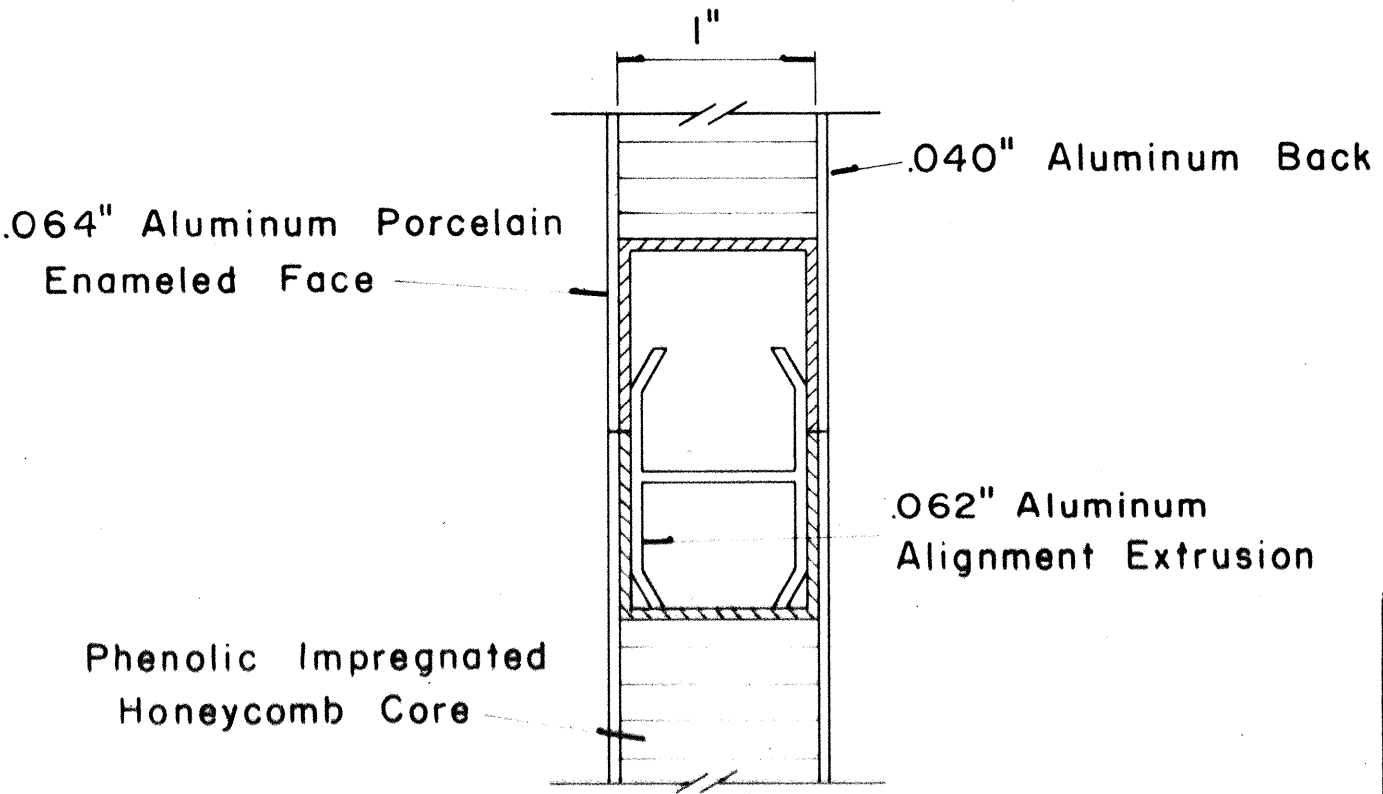
SECTION "A-A"

Scale: $\frac{3}{8}$ " = 1"



SECTION "A-A" (Alternate)

Scale: $\frac{3}{8}$ " = 1"



CLOSURE DETAIL
SECTION "B-B"

FULL SCALE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STANDARD DETAILS

LAMINATED ALUMINUM

SIGN PANELS

(OVERHEAD)

Scale: As Shown

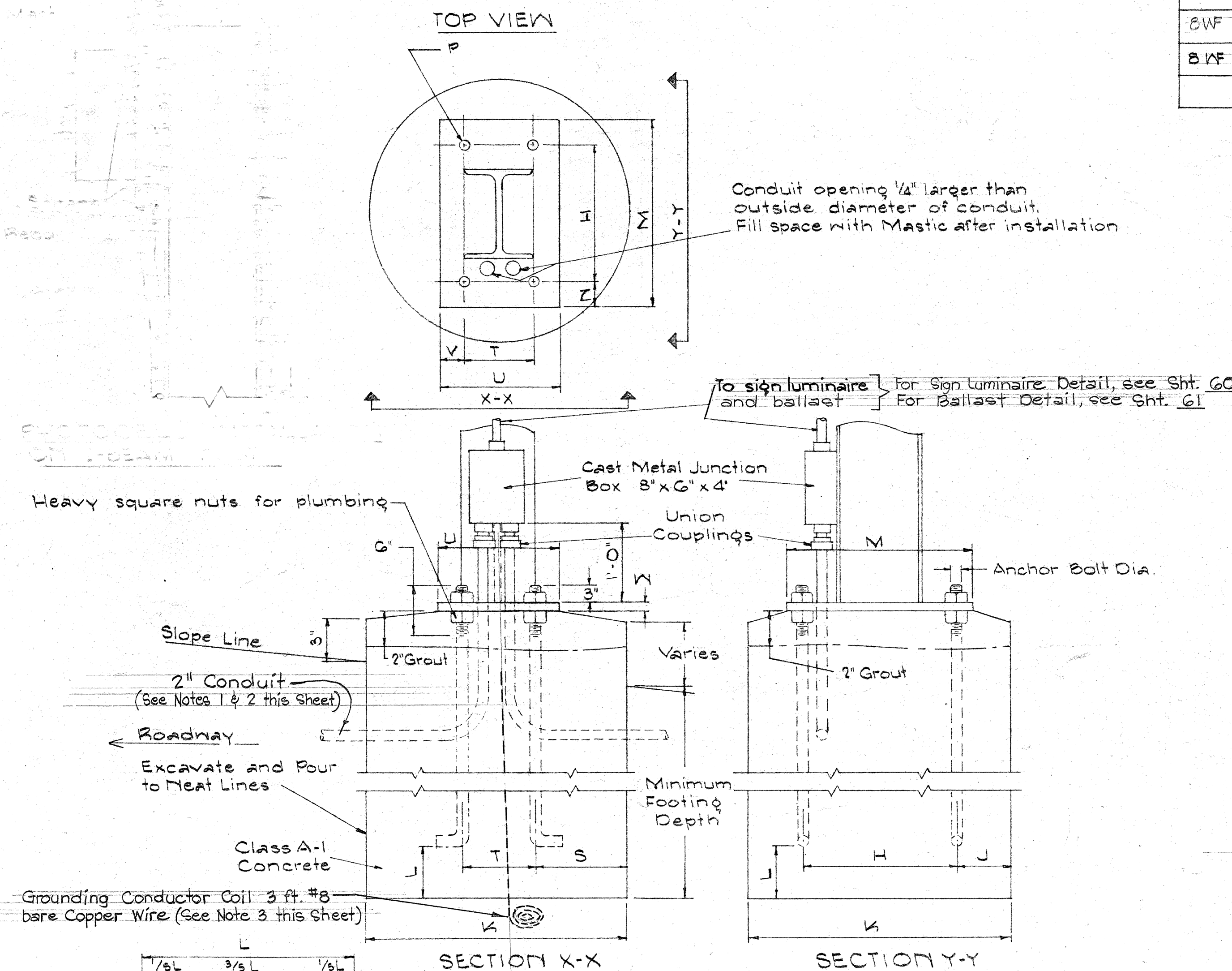
SHEET No. 3 OF 12 SHEETS

DATE: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 QUANTITIES BY: _____
 NOTE BOOK: _____
 ORIGINAL: _____

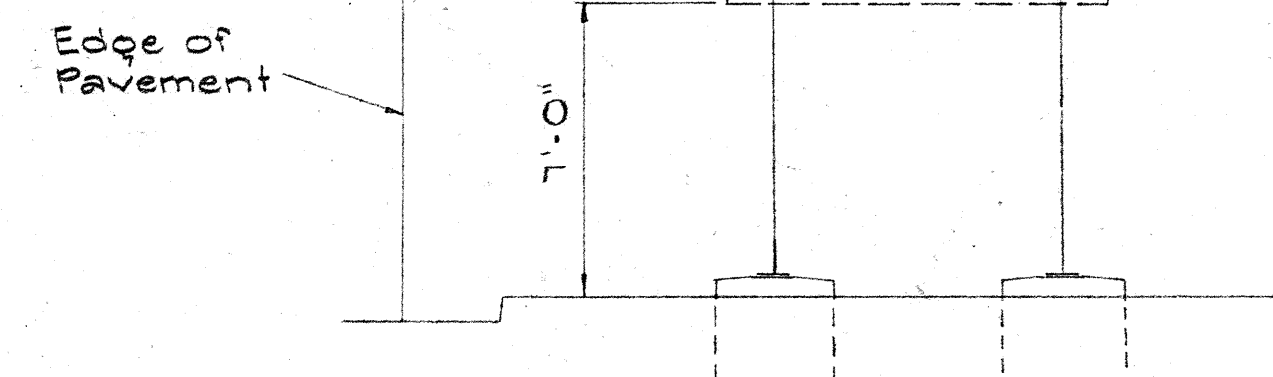
SUPPORT STRUCTURE DATA FOR GROUND MOUNTED SIGNS																				
POST SIZE	MAXIMUM SIGN AREA	POST HGT. TOP OF FOUND. TO CENTER OF SIGN *	DIMENSIONS SEC. Y-Y							DIMENSIONS SEC. X-X							ANCHOR BOLT DIA.	MIN. FOOTING DEPTH (FEET)		TYPE OF WELD TO BASE PLATE
			H	J	K	L	M	N	O	P	S	T	U	V	W	CUT		FILL **		
8WF 24	140 sq.ft.	12'	14"	5"	24"	6"	17 1/4"	1 3/8"	1 1/4"	24"	1 1/4"	9"	6"	10"	2"	1"	1 1/8" #	6'	7'	3/8" 
8WF 24	160 sq.ft.	12'	16"	6"	30"	6"	20"	1 3/8"	1 3/8"	30"	1 1/4"	11 1/2"	6 1/2"	10"	1 1/2"	1"	1 1/4" #			

NOTE:

- For signs with panel areas of less than 30 sq. ft. but greater than 16 sq. ft. use 3" I 5.7# steel I beam.
 * For moment calculations only. Post to be from top of foundation to top of sign.
 ** For fills with side slopes flatter than 4:1, deduct 2 feet.



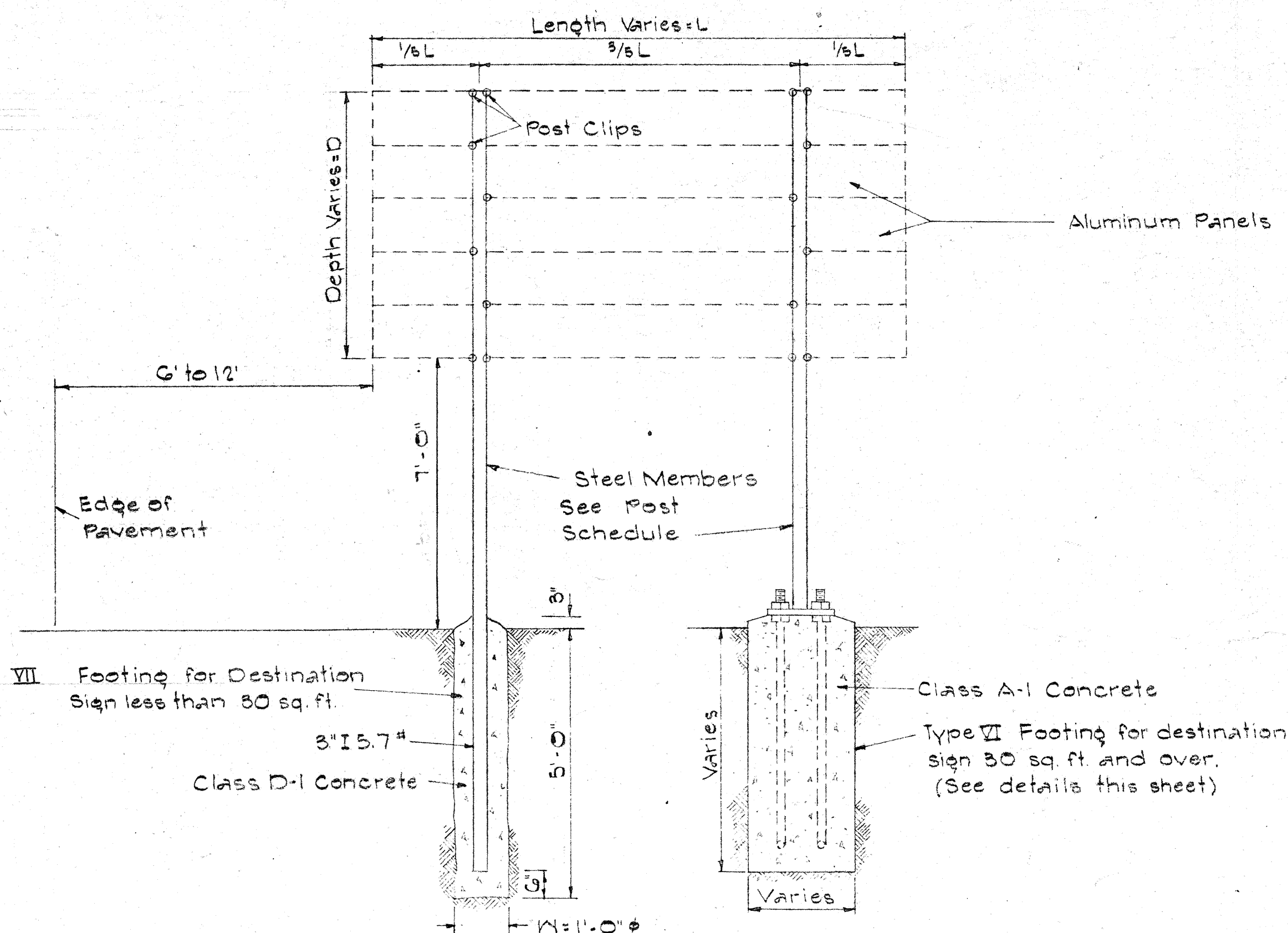
FOUNDATION DETAILS FOR GROUND MOUNTED EXPRESSWAY SIGN EXTRUDED ALUMINUM TYPE VI FOOTING



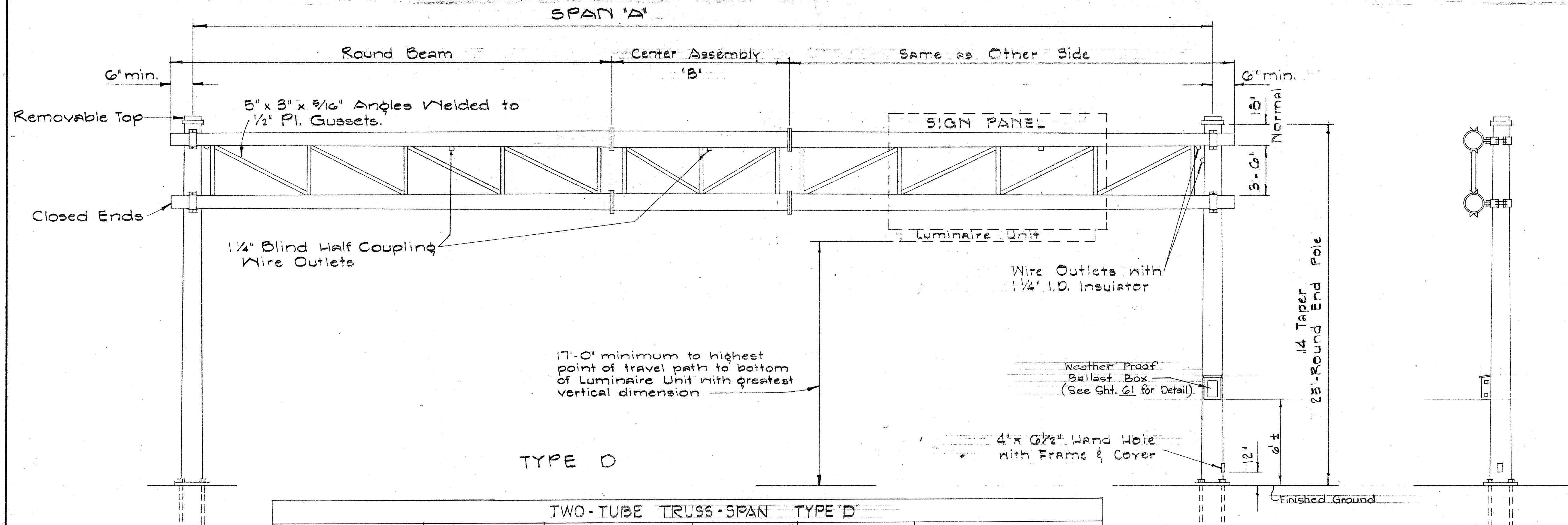
TYPICAL GROUND MOUNTED EXPRESSWAY SIGN TYPE A

NOTES:

- Conduit detail are shown only for ground mounted illuminated Expressway signs.
- Total number of conduits shall be as indicated on the drawings. Conduits shall slope away from post foundation and shall stub-out a minimum of 5'-0" for direct burial Cable entry.
- Grounding conductor shall be bonded to sign support.
- For ballast mounting detail, see sheet 47.



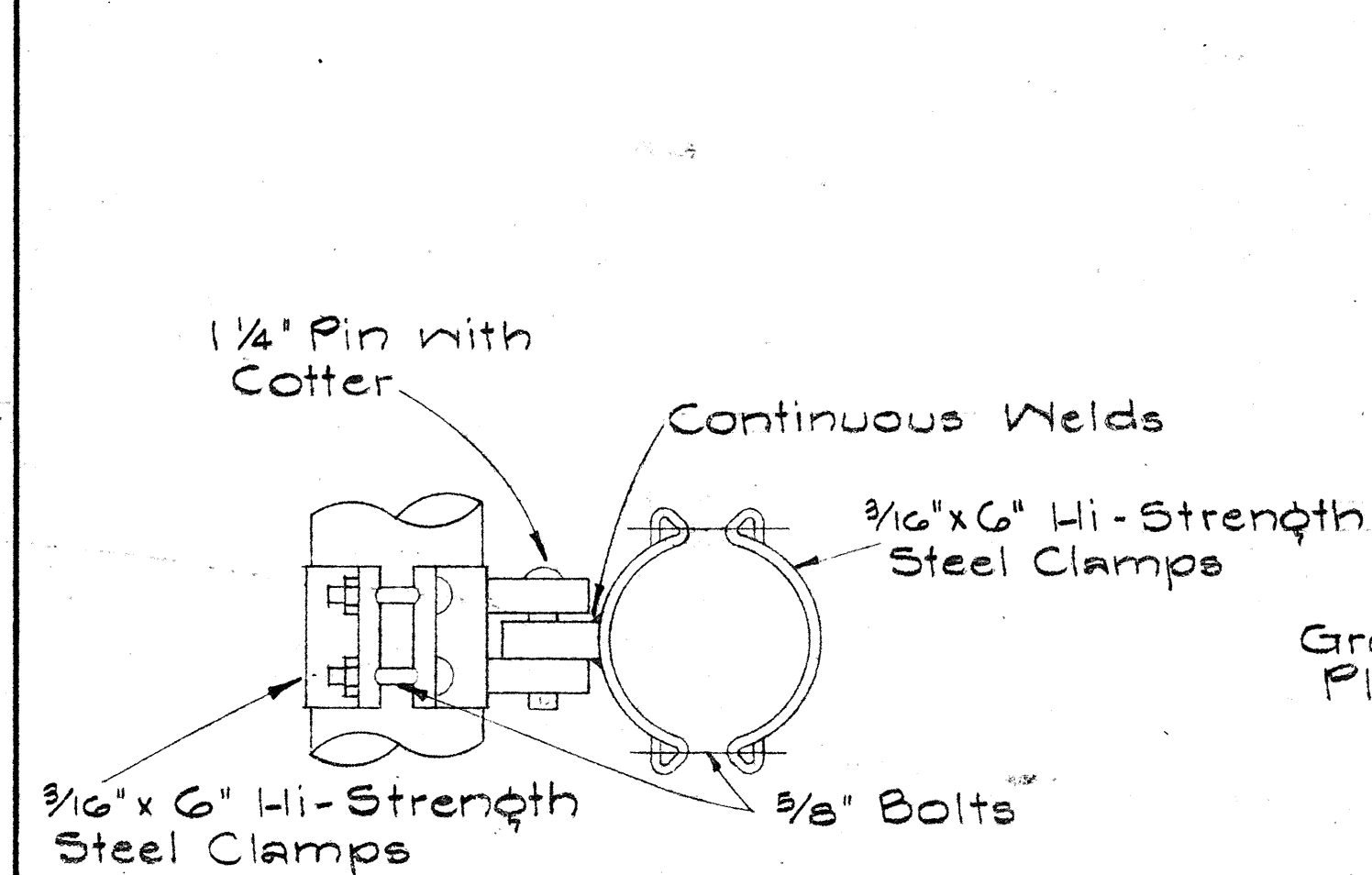
TYPICAL DESTINATION SIGN PANEL & POST



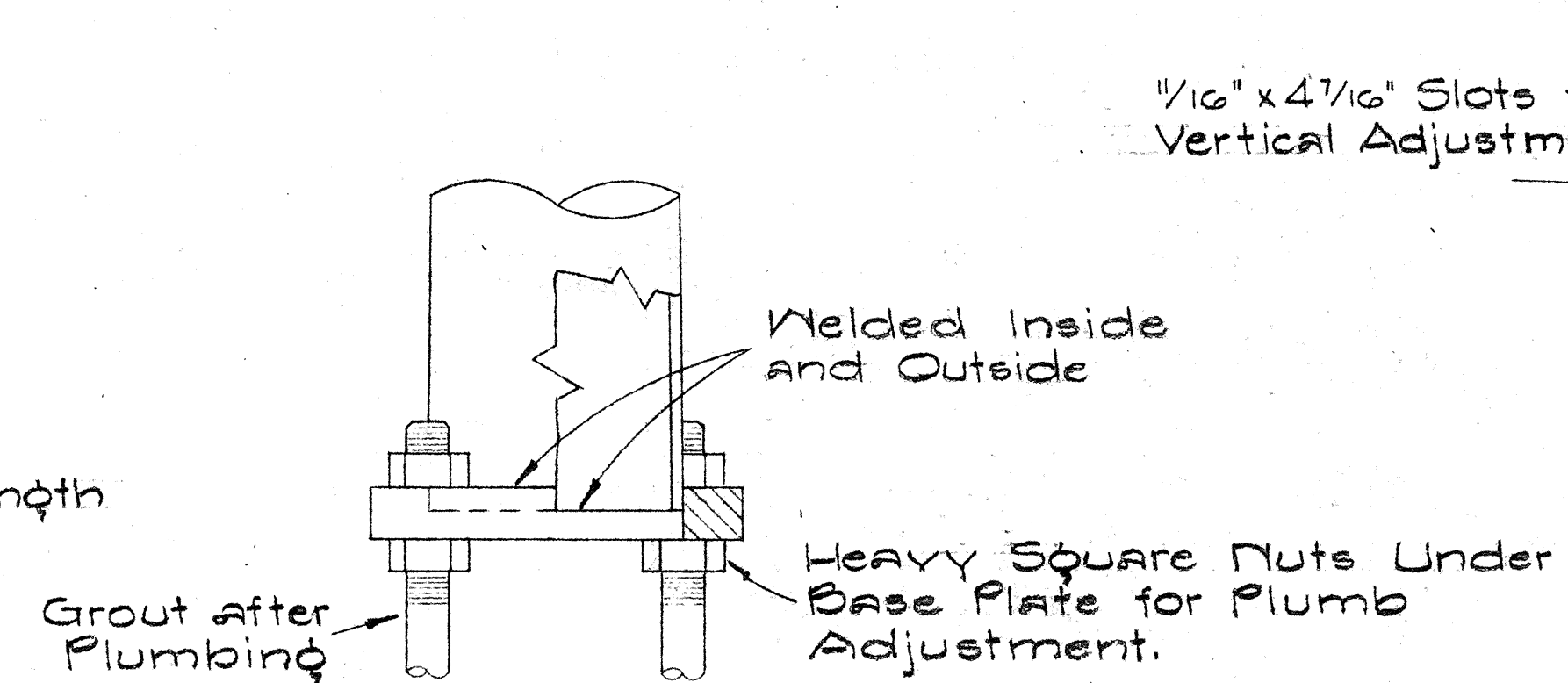
TYPE D

TWO-TUBE TRUSS-SPAN TYPE "D"							
SIGN NO.	STATION	CROSS BEAMS	CENTER ASSEMBLY "B"	POST	BASE PLATE	FOOTING TYPE	ANCHOR BOLTS
E-2	1/2 Sta. 203+35	3 ga. 14.25x10"x30'-6"	NONE	2 P14.-0 ga. x18"	26 1/2" x 3" x 26 1/2"	IV	4 @ 3" Dia.

END POLE

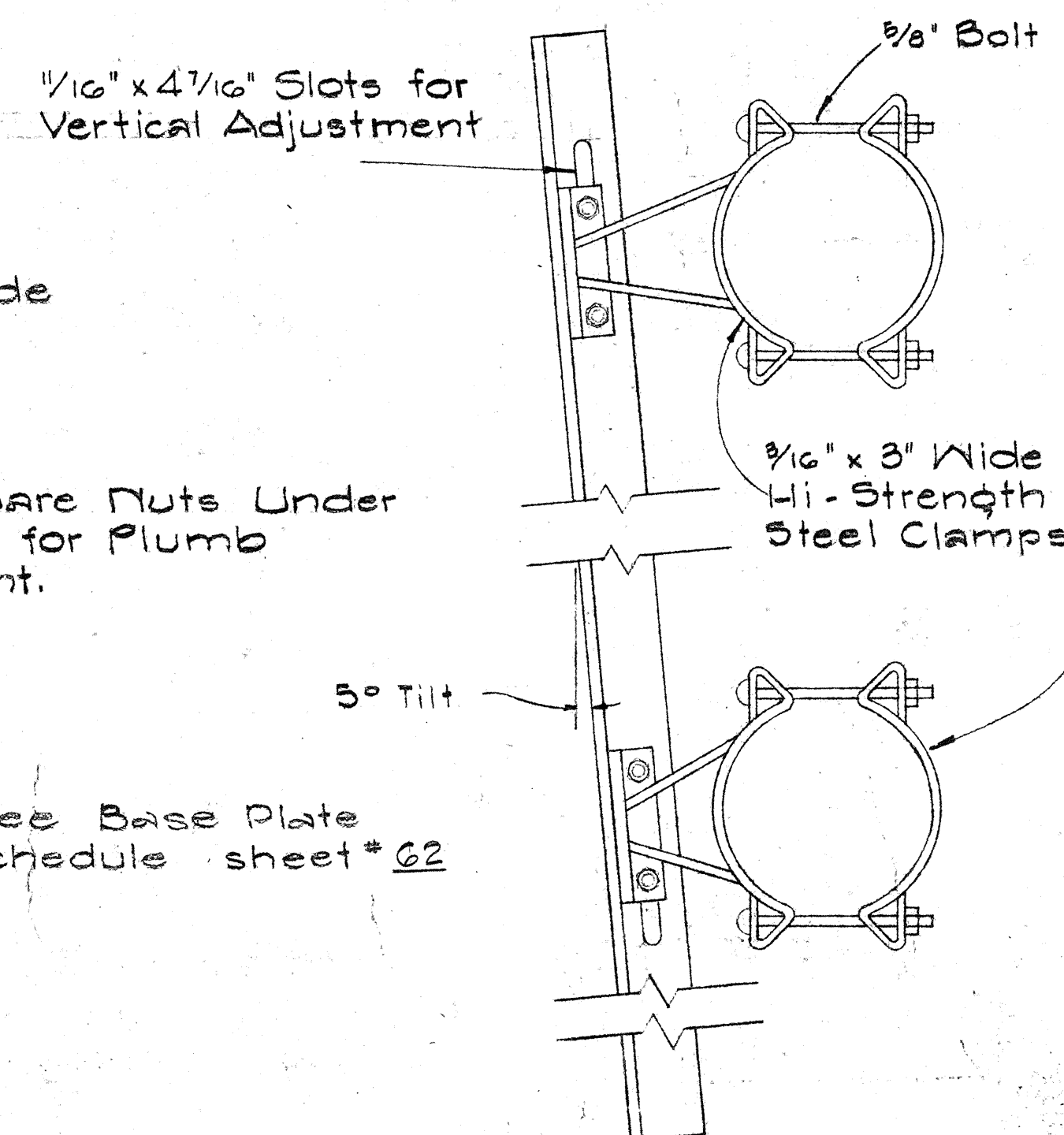


BEAM CLAMP DETAIL

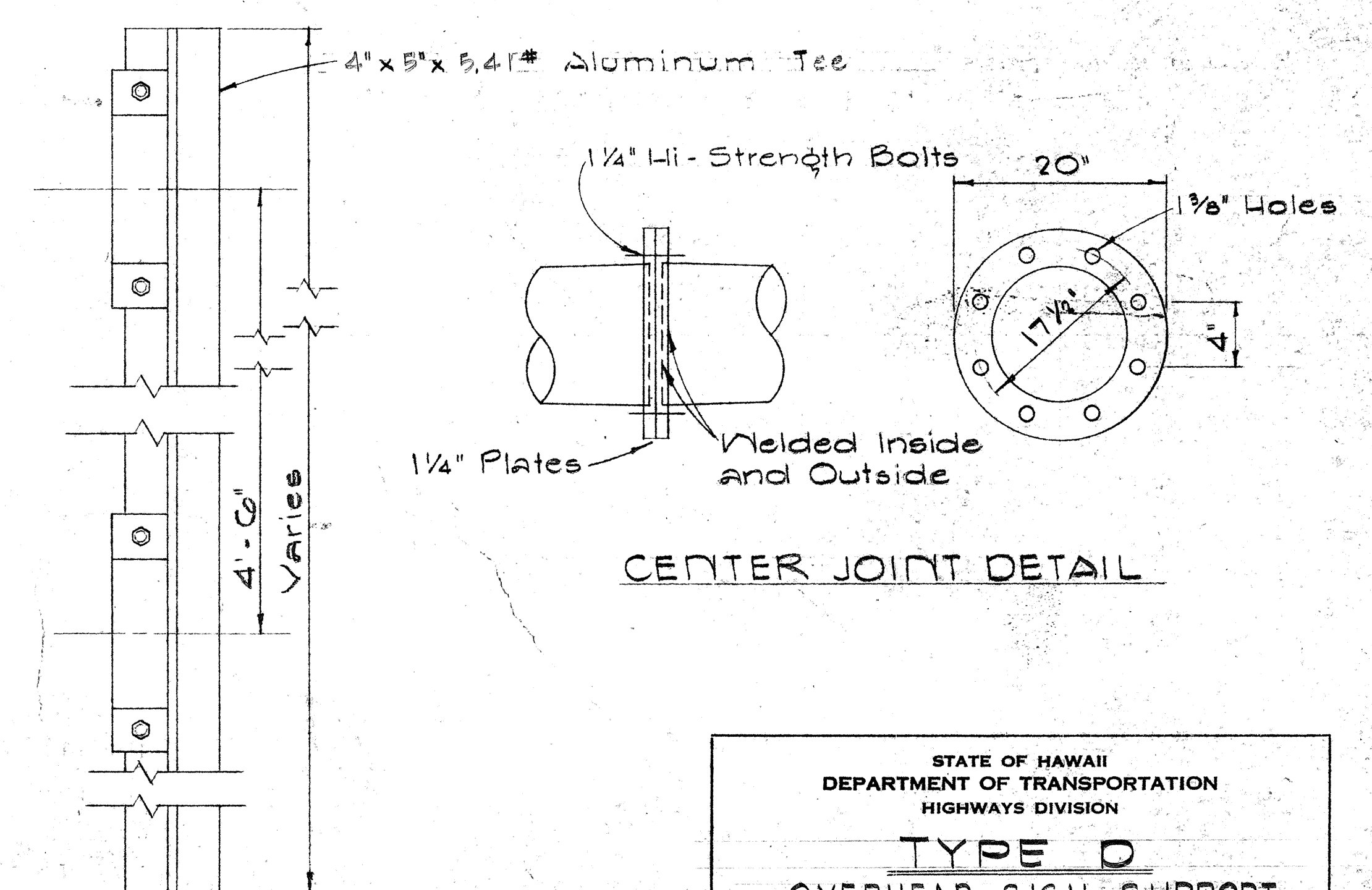


POLE BASE DETAIL

NOTE: See Base Plate Schedule sheet # 22



SIGN BRACKET ASSEMBLY

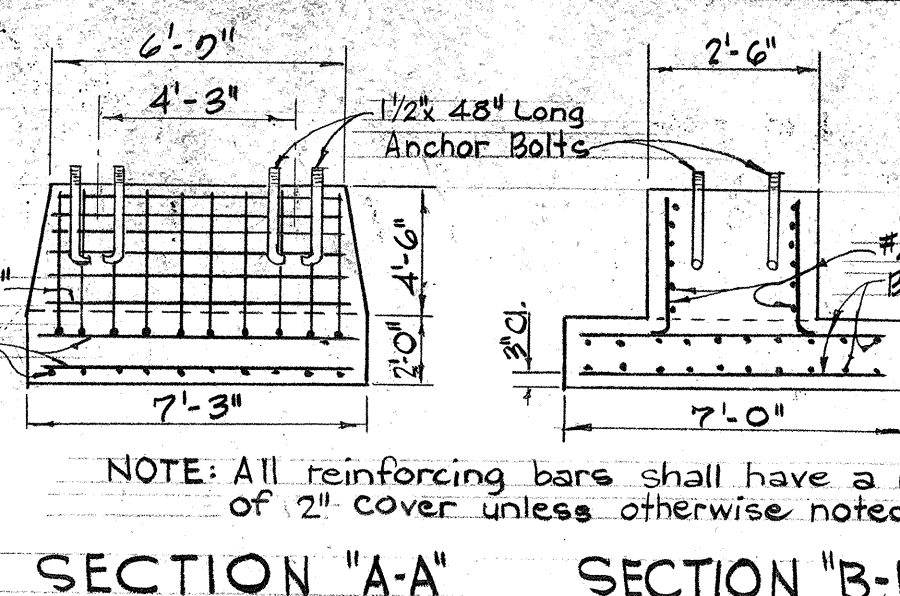
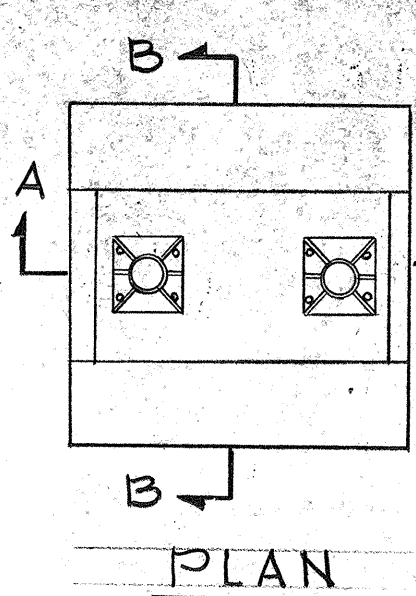
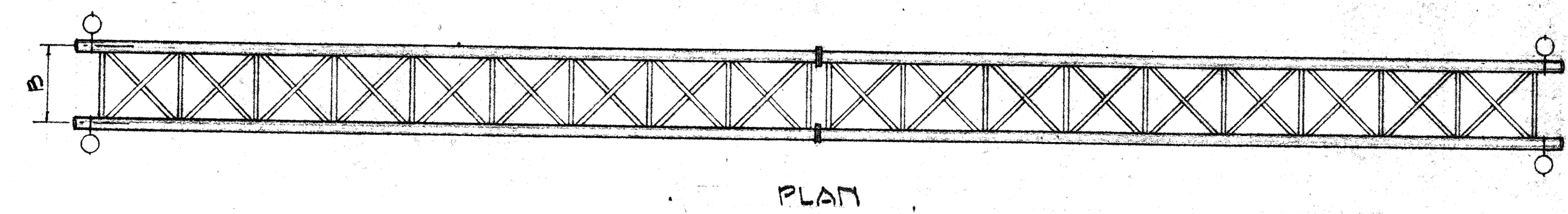


CENTER JOINT DETAIL

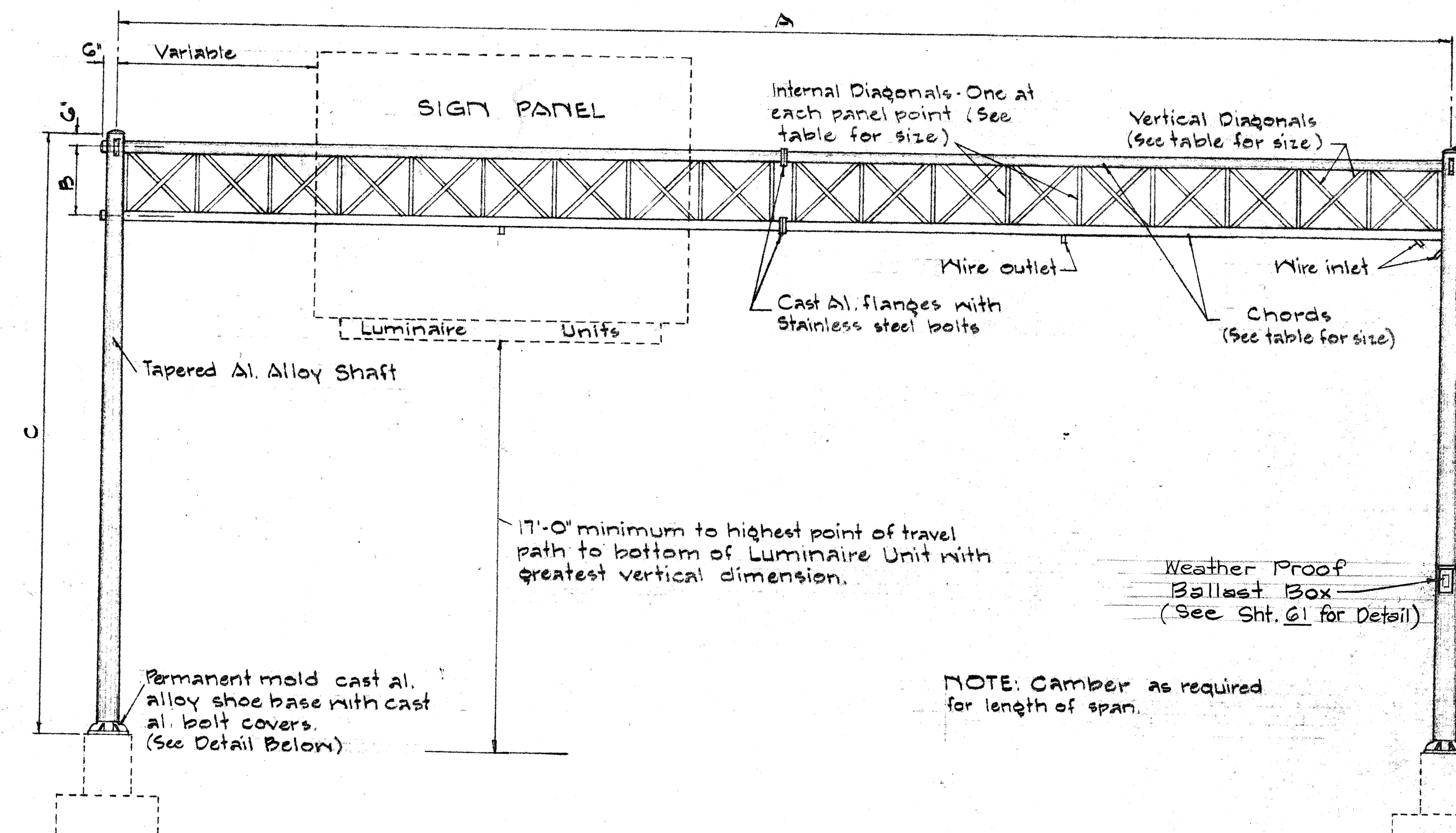
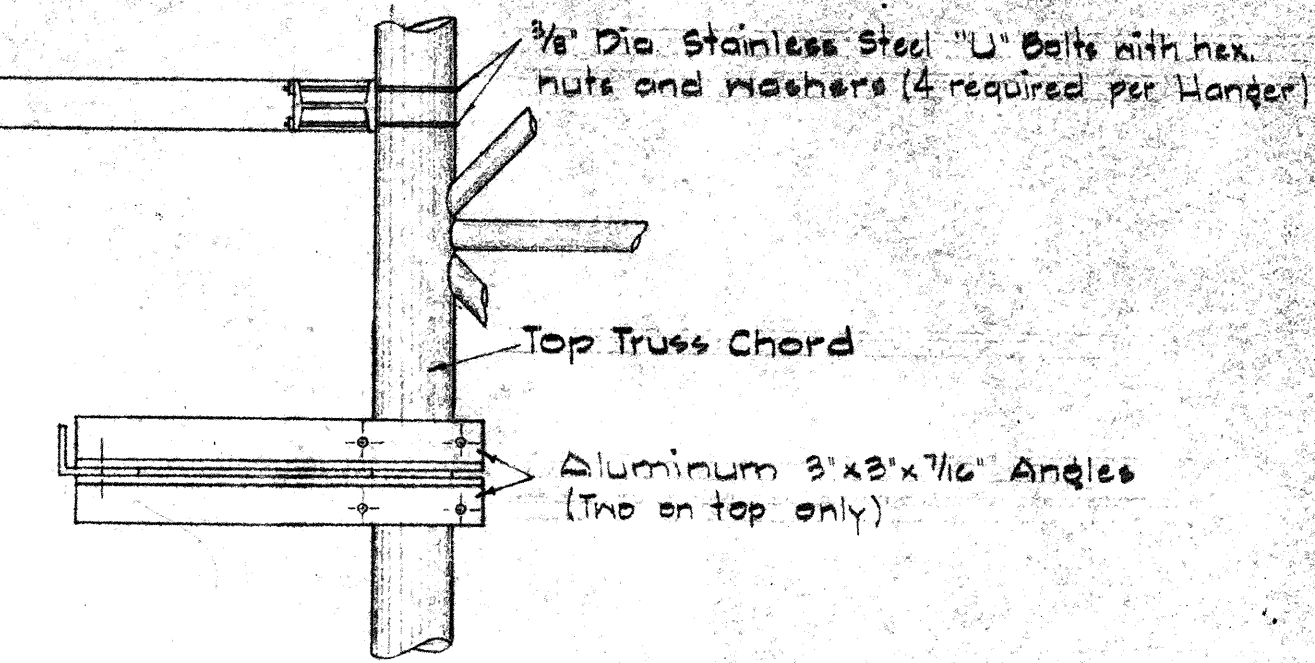
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE D
OVERHEAD SIGN SUPPORT
TWO-TUBE TRUSS TYPE - STEEL
FARRINGTON HIGHWAY
PROJECT No. S-0900(3)
JUNE, 1964

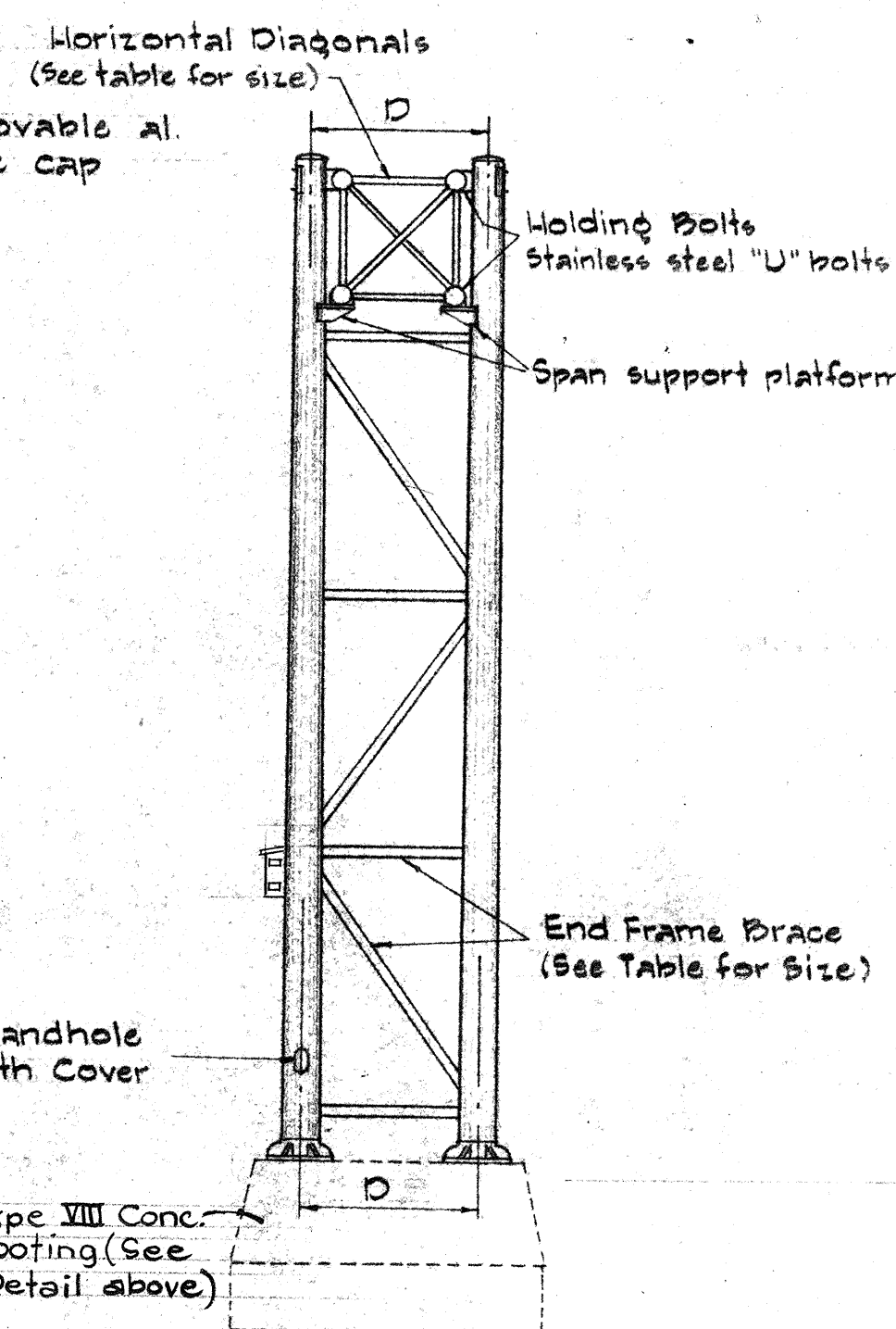
SHEET No. 5 OF 12 SHEETS



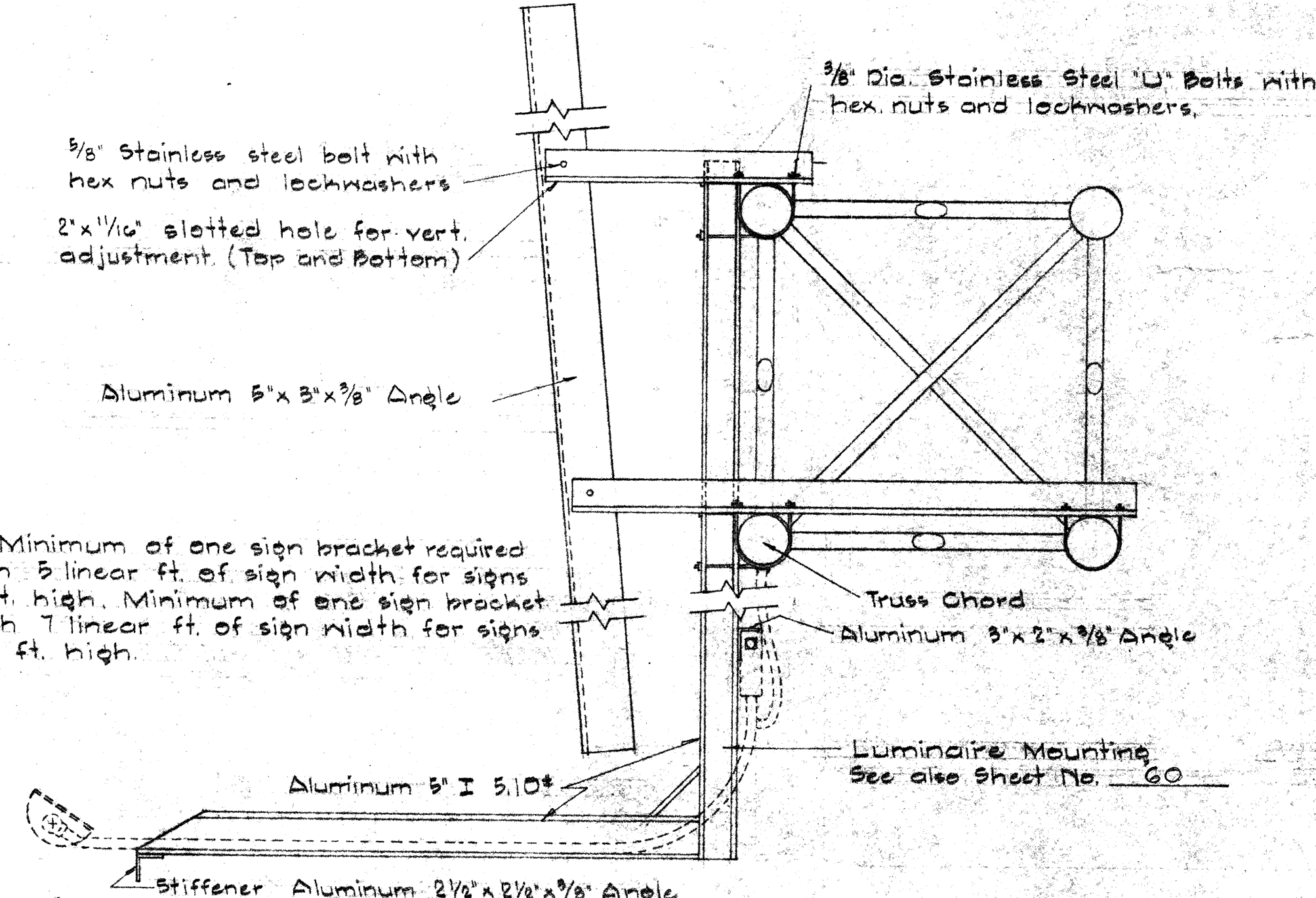
TYPE VIII FOOTING DETAIL



ELEVATION TYPE F

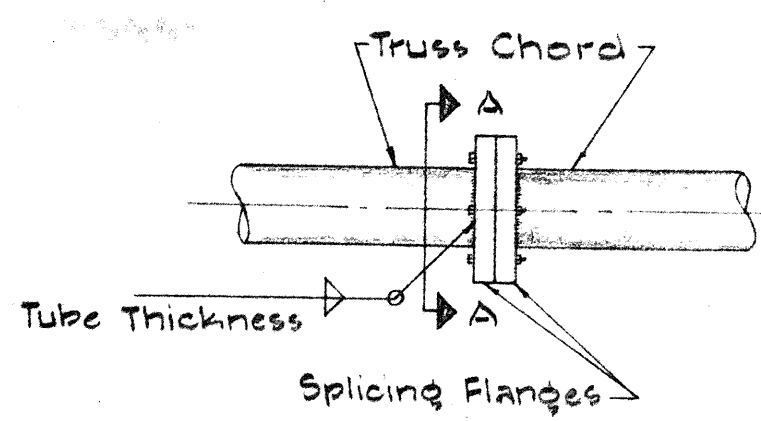


END VIEW

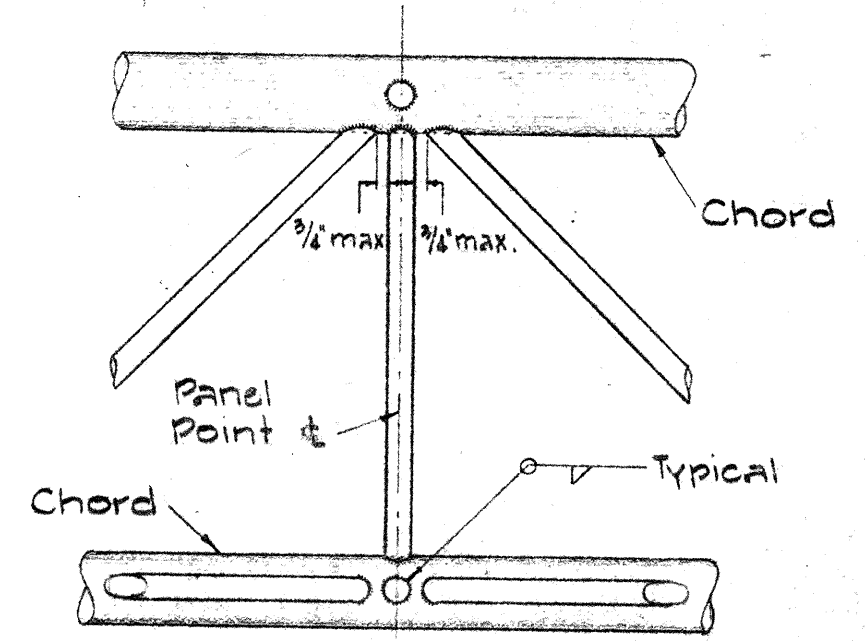
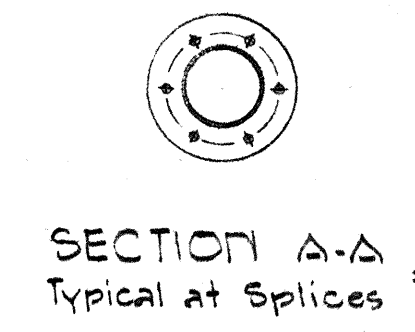


SIGN BRACKET ASSEMBLY

SIGN NO.	A	B	C	D	E	F	SPAN SECTIONS REQ'D	CHORD SIZE	END FRAME SHAFT SIZE AND TAPER	VERTICAL DIAGONAL SIZE	HORIZONTAL DIAGONAL SIZE	INTERNAL DIAGONAL SIZE	END FRAME BRACE SIZE	BOLT CIRCLE DIA.	ANCHORAGE
E-2	6'-0"	3'-0"	20'-6"	4'-3"	3/4"	5/4"	3	4 1/2" O.D. .188 WALL	10x8x.250 WALL	1.660" O.D. .140 WALL	1.900" O.D. .145 WALL	1.900" O.D. .145 WALL	2 1/2" O.D. .188 WALL	16"	1 1/2" DIA. x 48" LONG

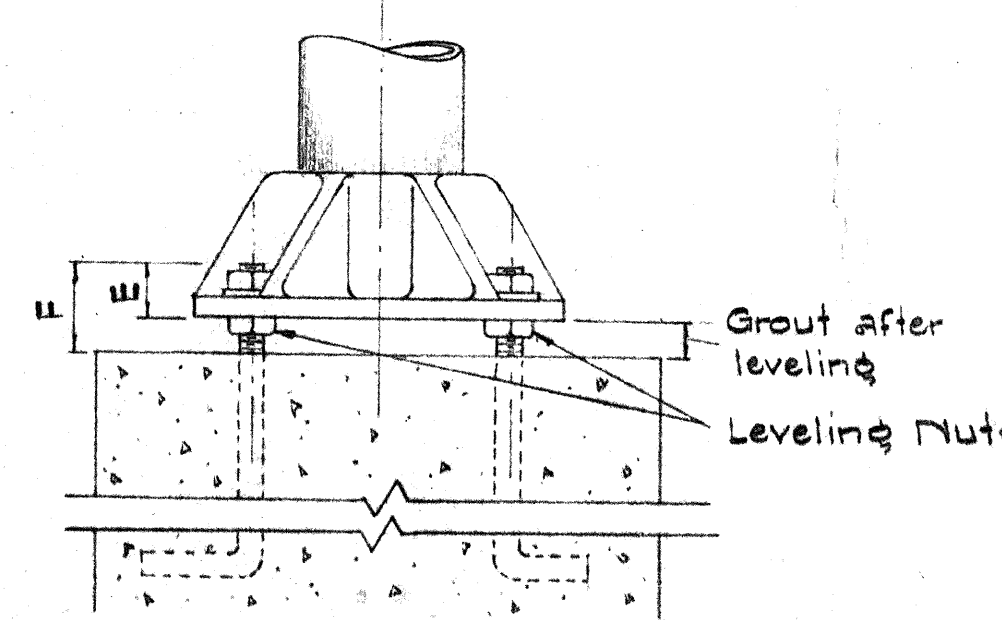


DETAIL AT CHORD SPLICES



TYPICAL JOINT DETAIL

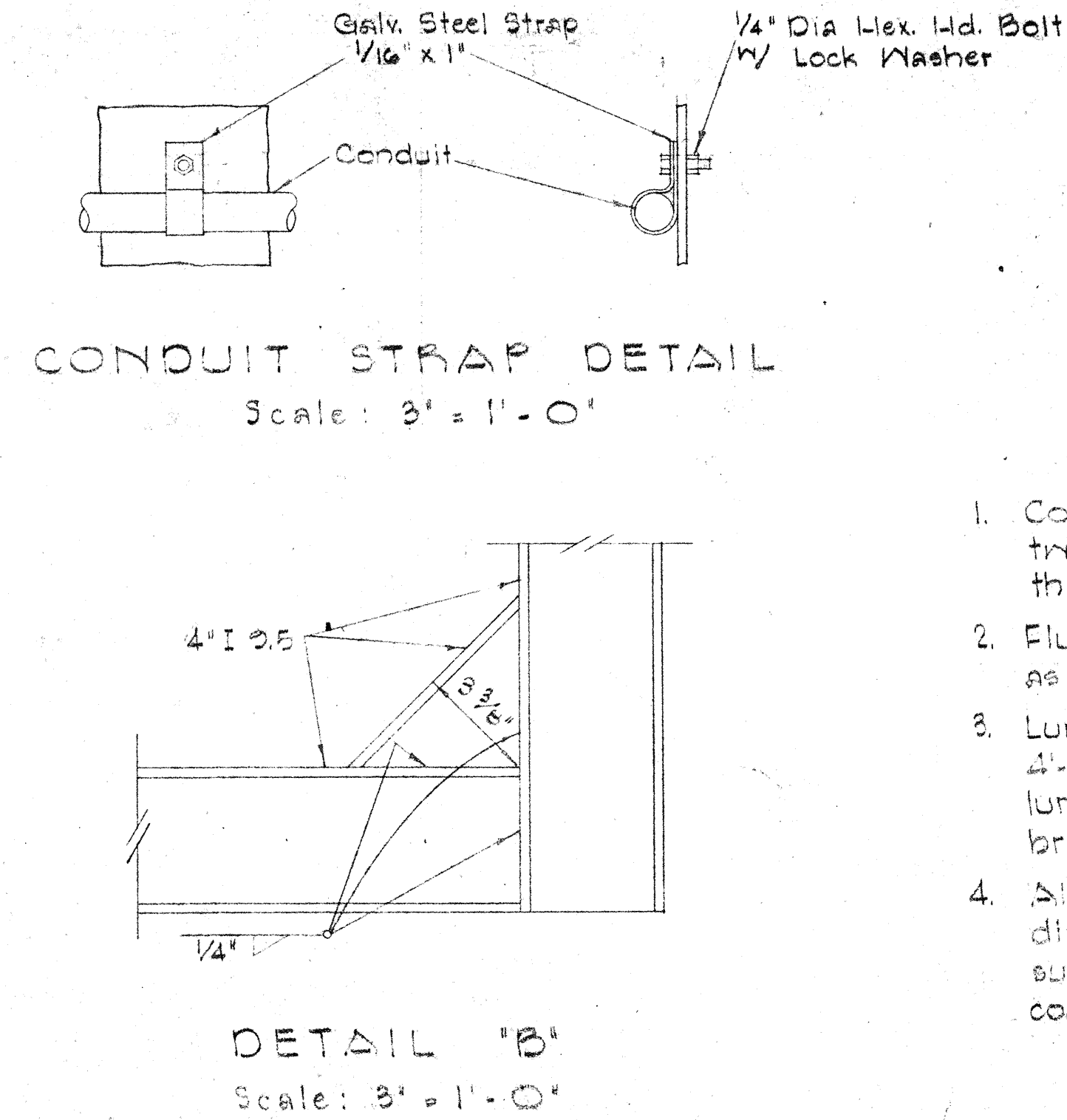
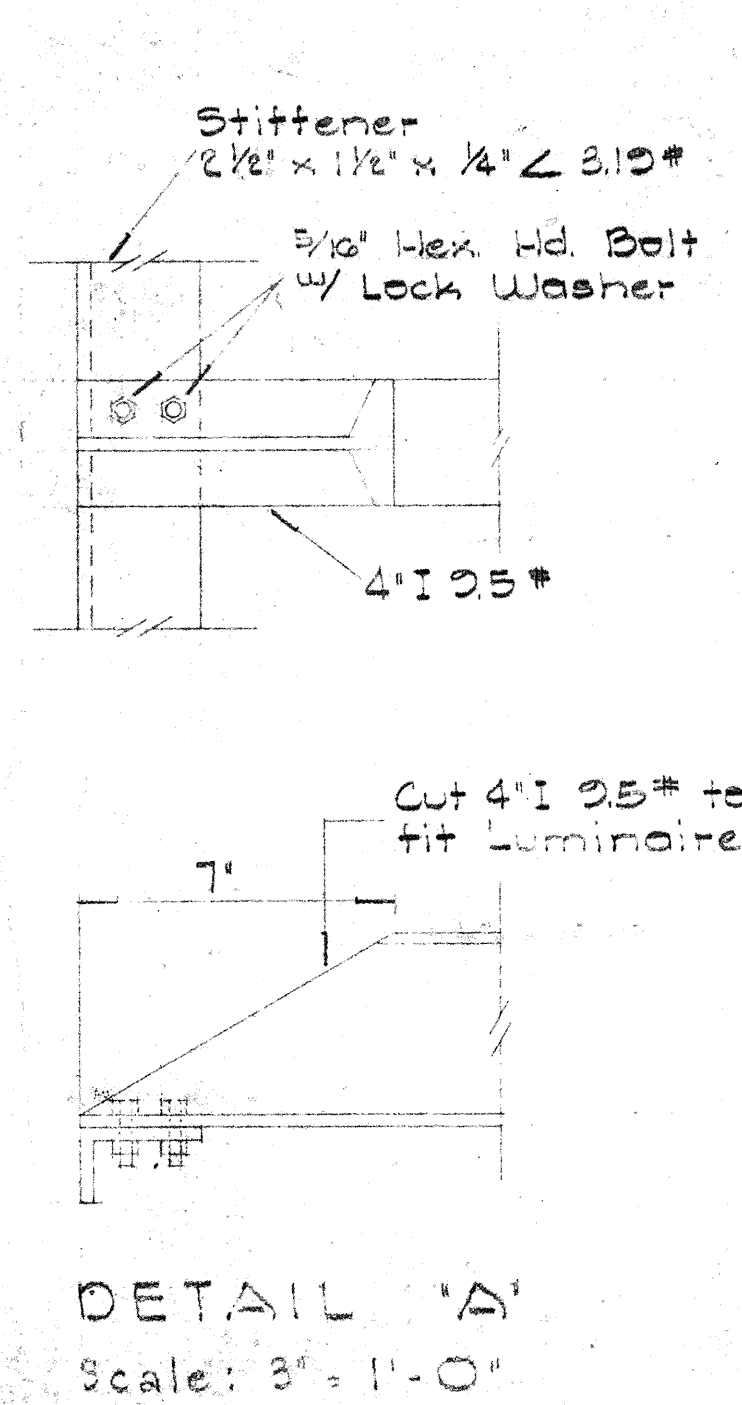
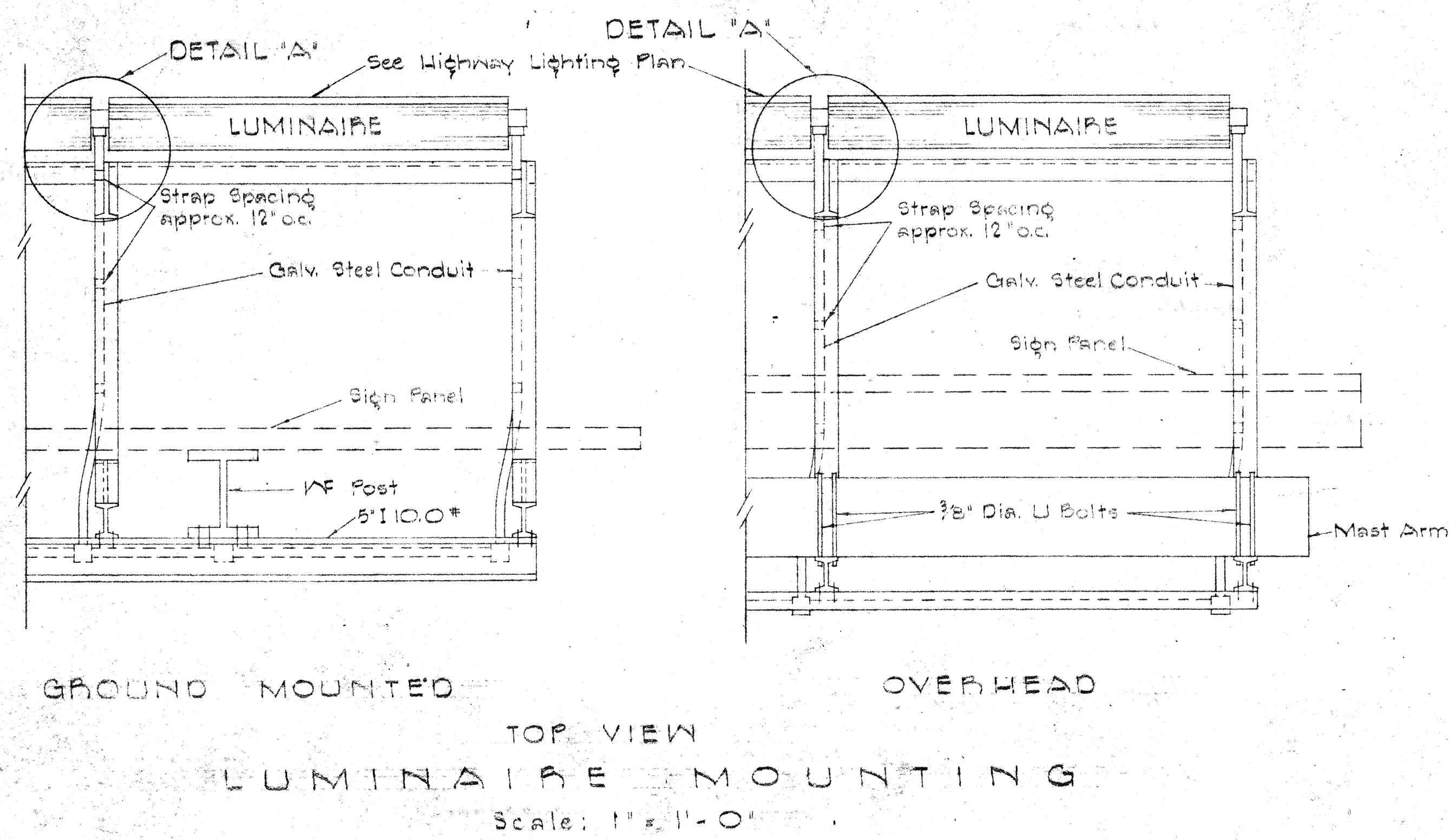
NOTE: Fillet weld size to be tube thickness plus 1/16"



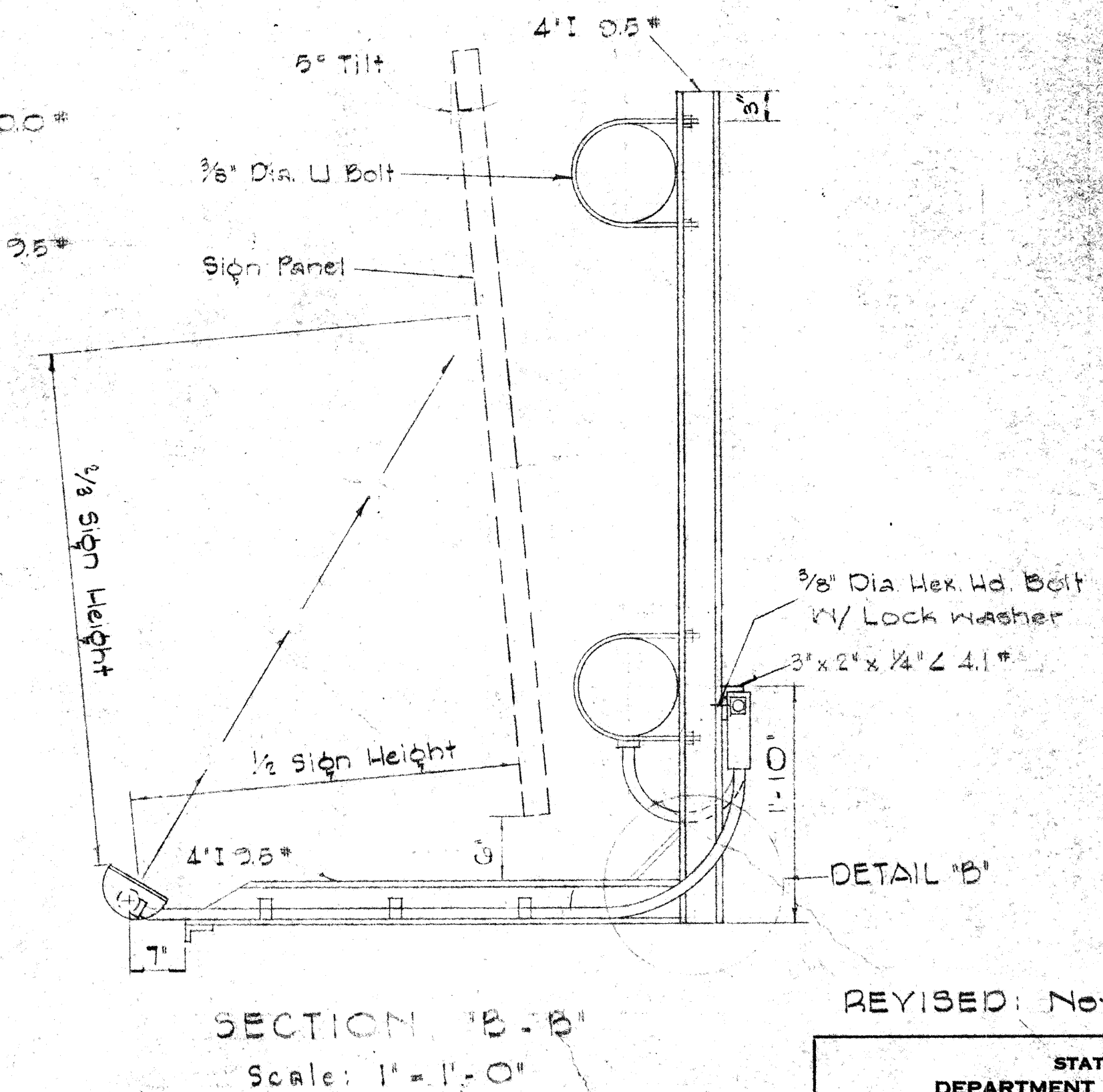
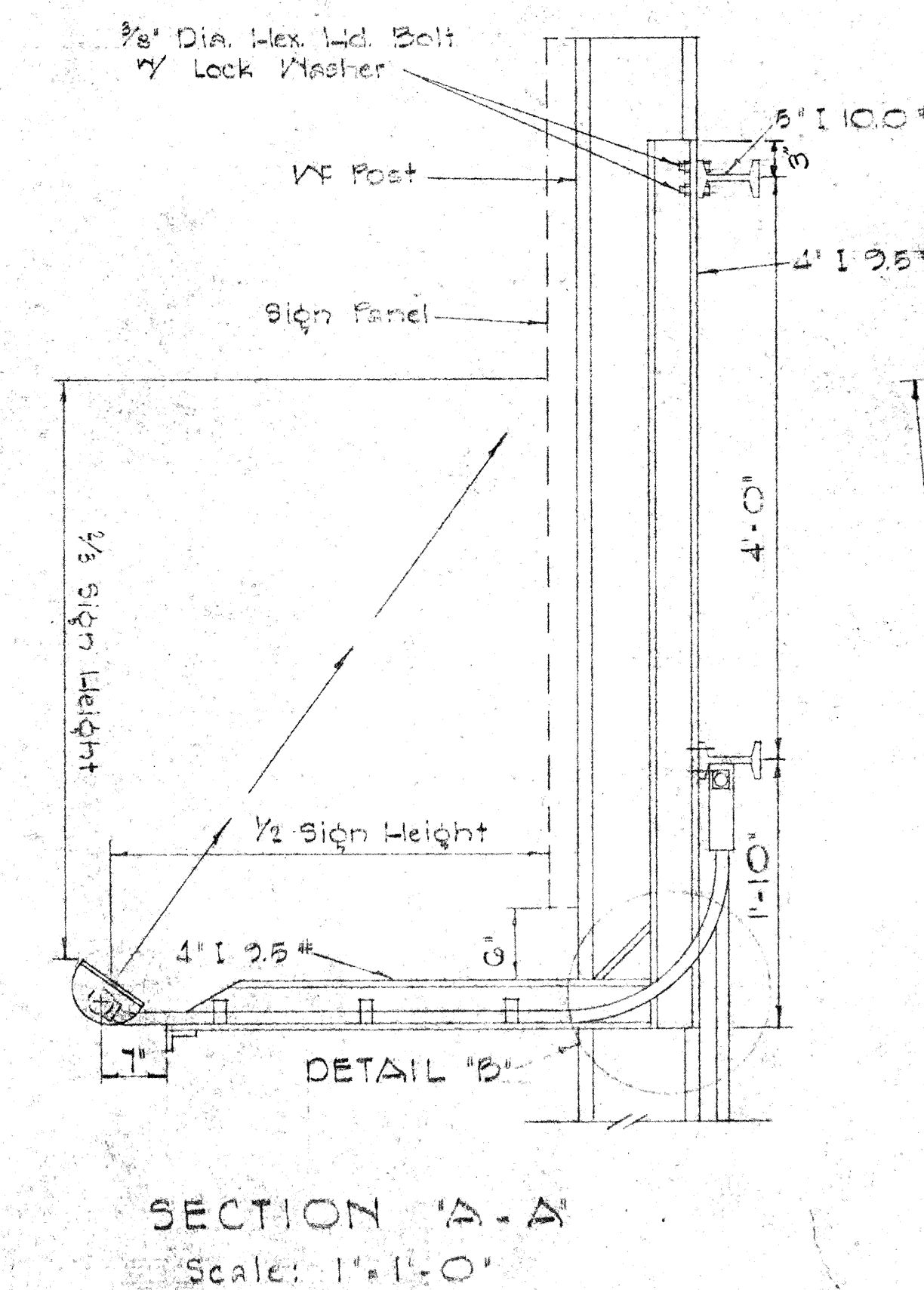
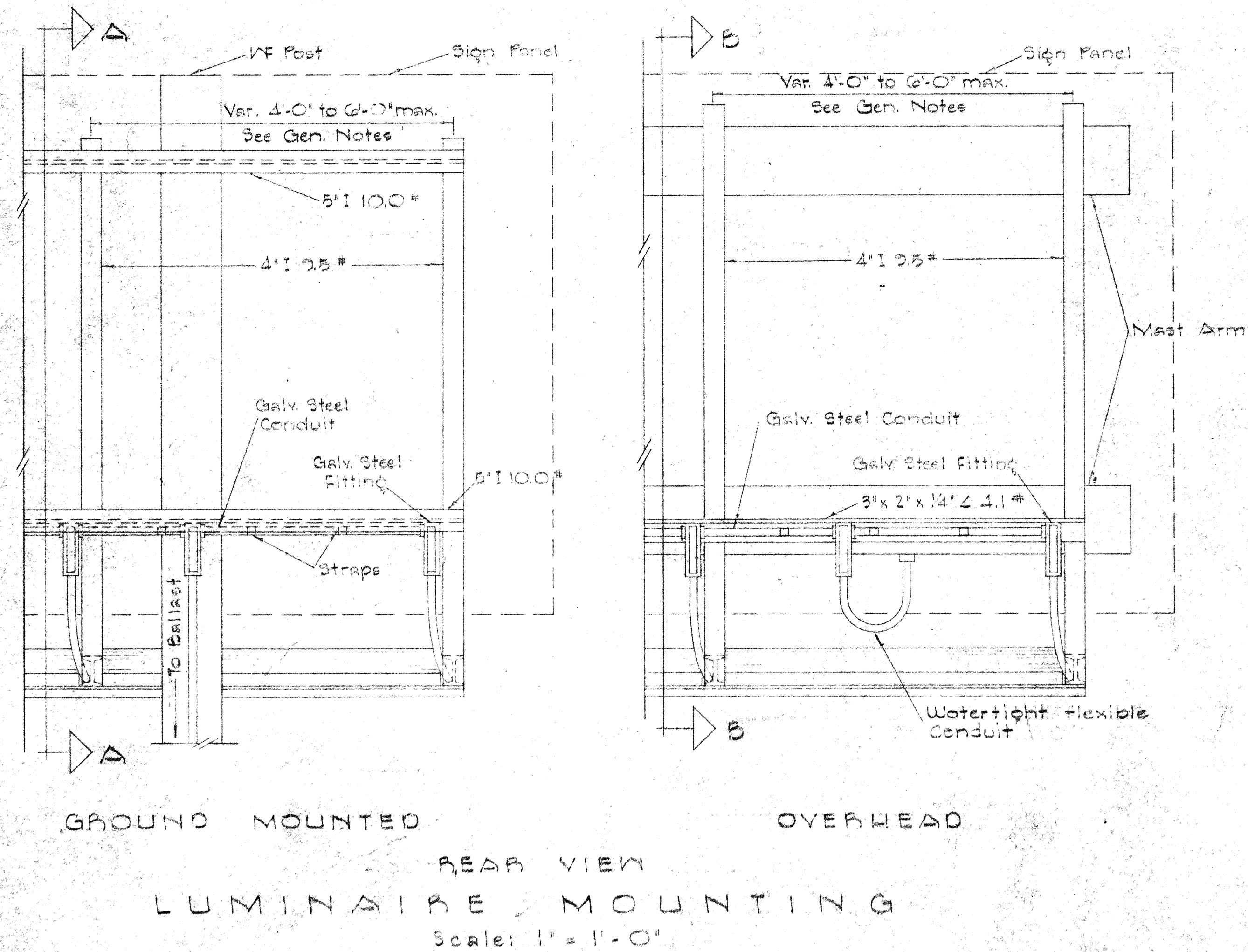
DETAIL OF BASE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE - F
OVERHEAD SIGN SUPPORT
BOX TRUSS TYPE - ALUMINUM
FARRINGTON HIGHWAY
PROJECT No. S-0900(3)
Date: Oct. 1965



- GENERAL NOTES**
1. Conduit sizes: 3/4" diameter for one or two Luminaire Units, 1" diameter for three or more Luminaire Units.
 2. Fluorescent Fixtures shall be installed as recommended by the manufacturer.
 3. Luminaire brackets shall be spaced 4'-0" to 6'-0" maximum. 8' long luminaires shall have an additional bracket at midpoint.
 4. All parts of the bracket shall be hot-dip galvanized, prime coated with a suitable primer and painted with three coats of dark green enamel.



REVISED: Nov. 23, 1964

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

EXPRESSWAY SIGNS

LUMINAIRE MOUNTINGS

FARRINGTON HIGHWAY
 PROJECT No. 5-0900(3)

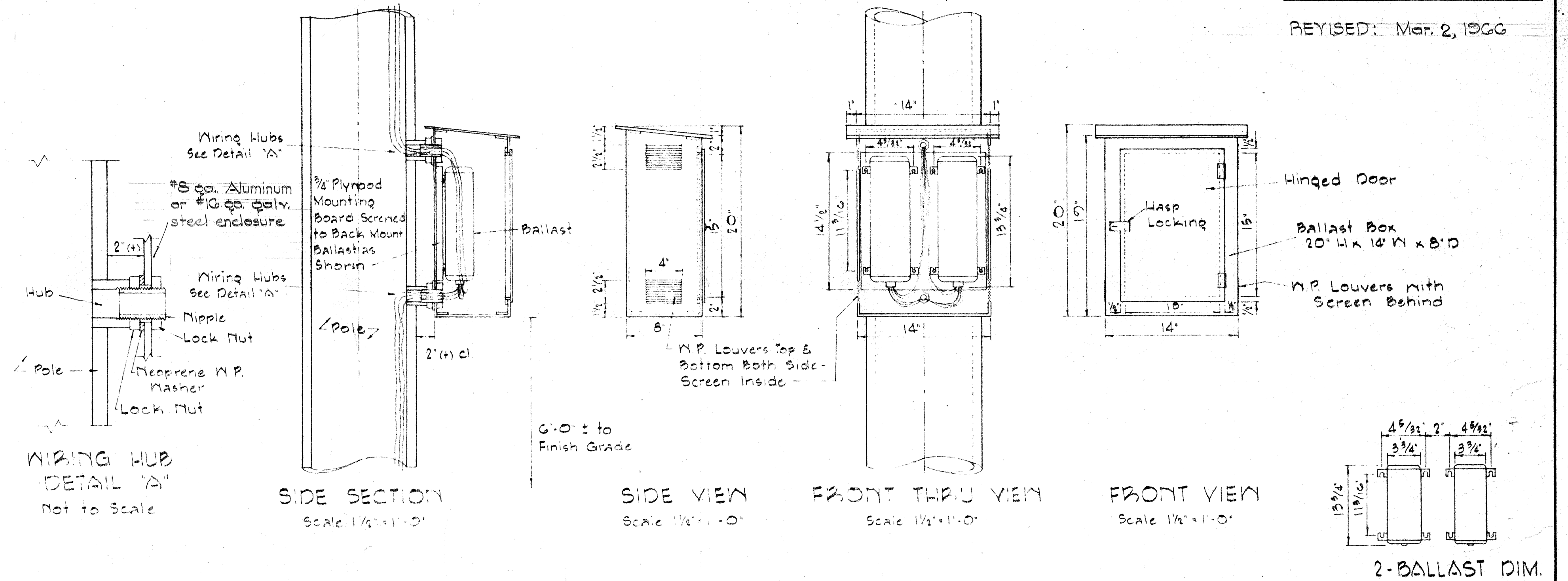
Scale: As Shown Date: Oct. 1965

SHEET No. 7 OF 12 SHEETS

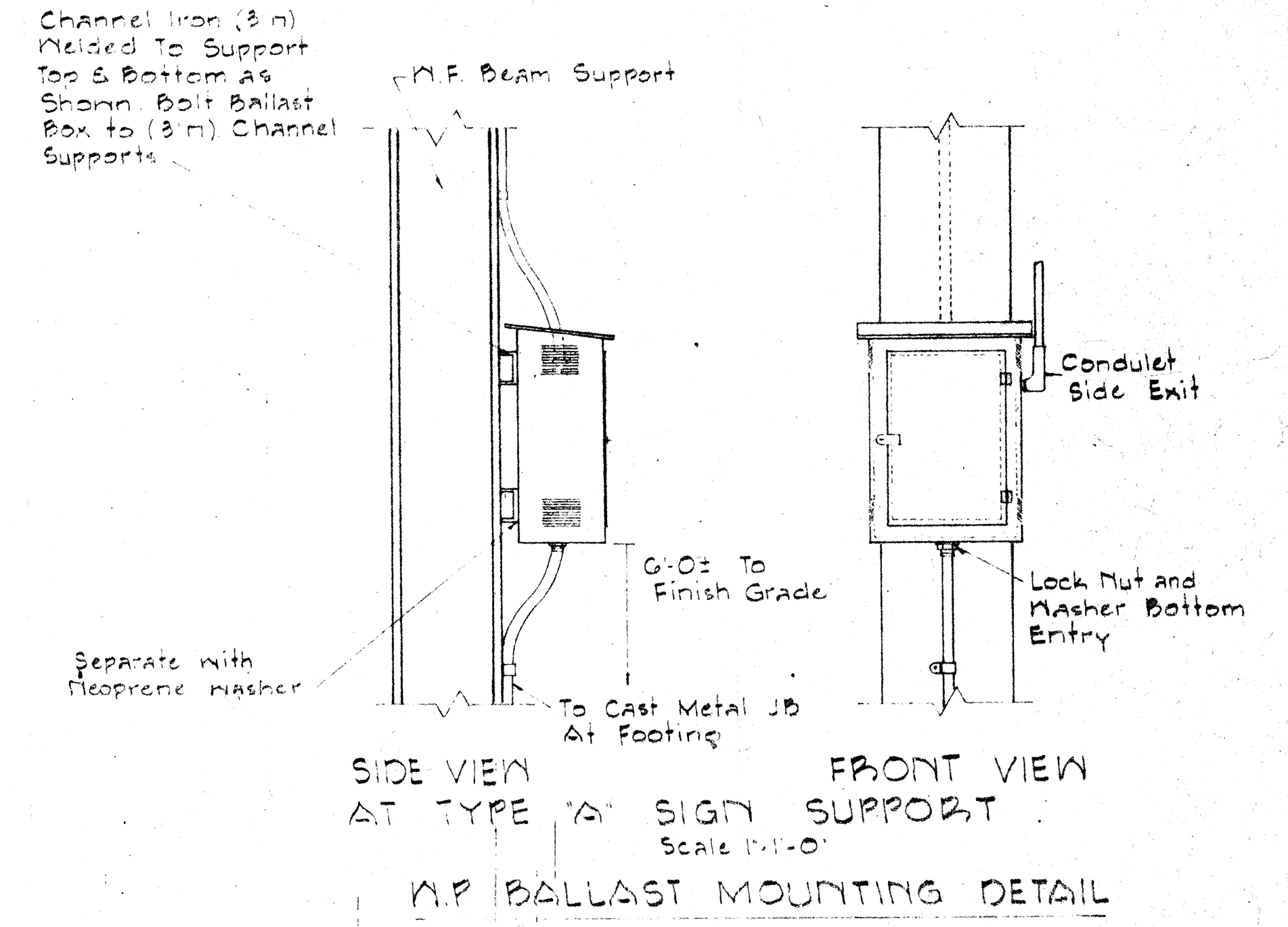
60

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S-0900(3)	1965	61A	162

REVISED: Mar. 2, 1966



WEATHER PROOF BALLASTS MOUNTING DETAIL



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

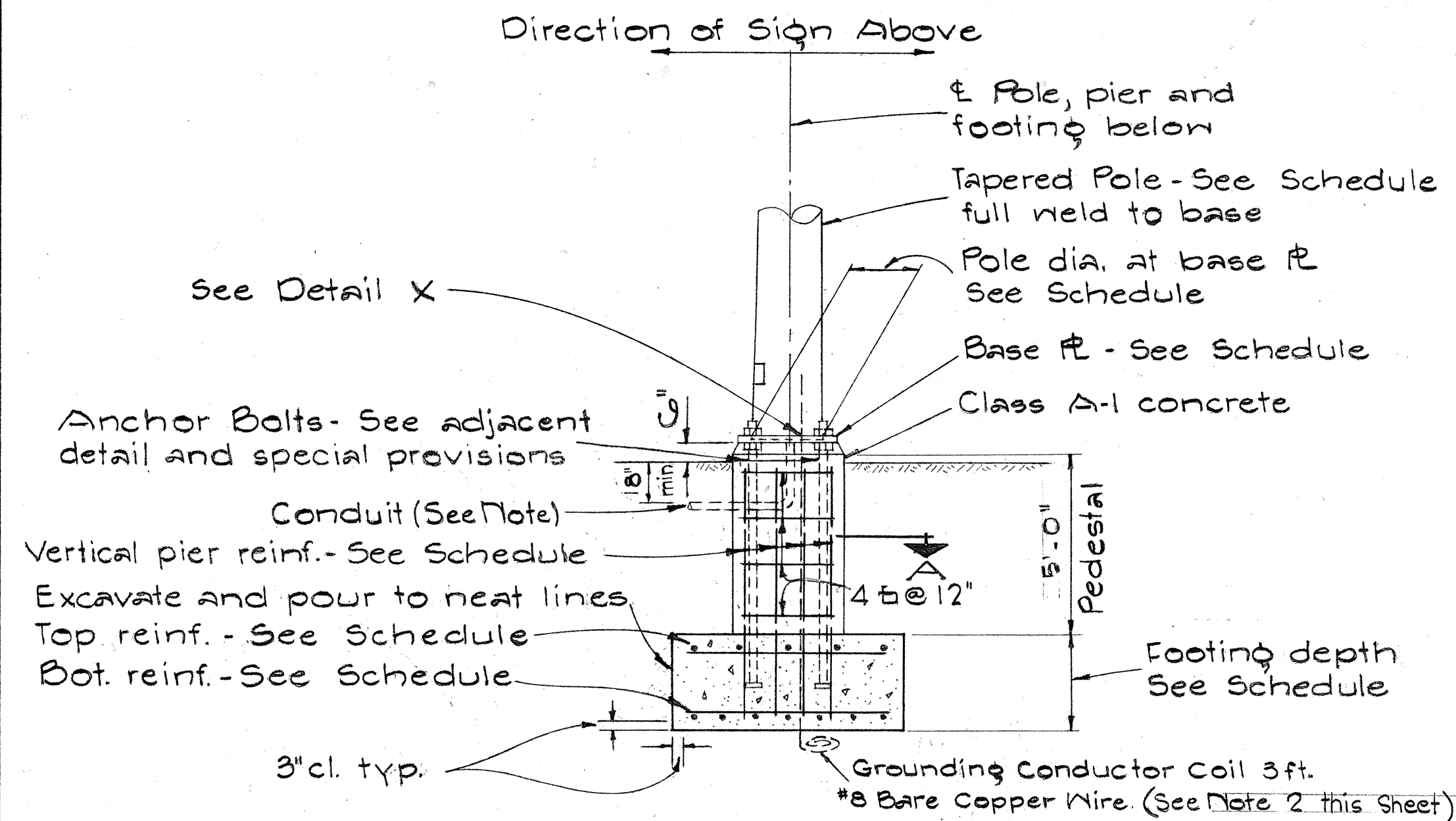
BALLAST MOUNTING DETAIL

FARRINGTON HIGHWAY
PROJECT No. S-0900(3)

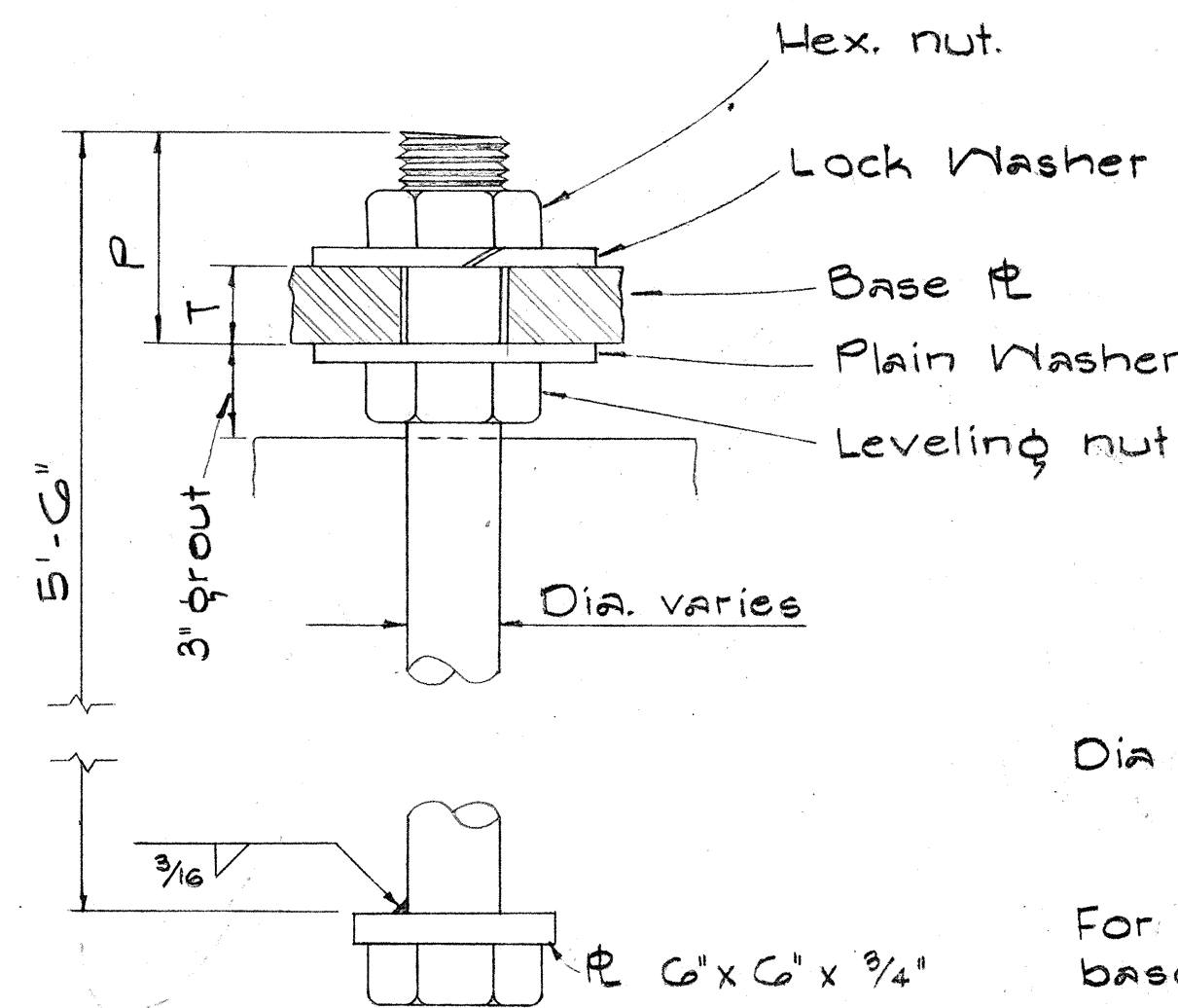
Scale: As Shown Date: Oct. 1965

SHEET No. 8 OF 12 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	

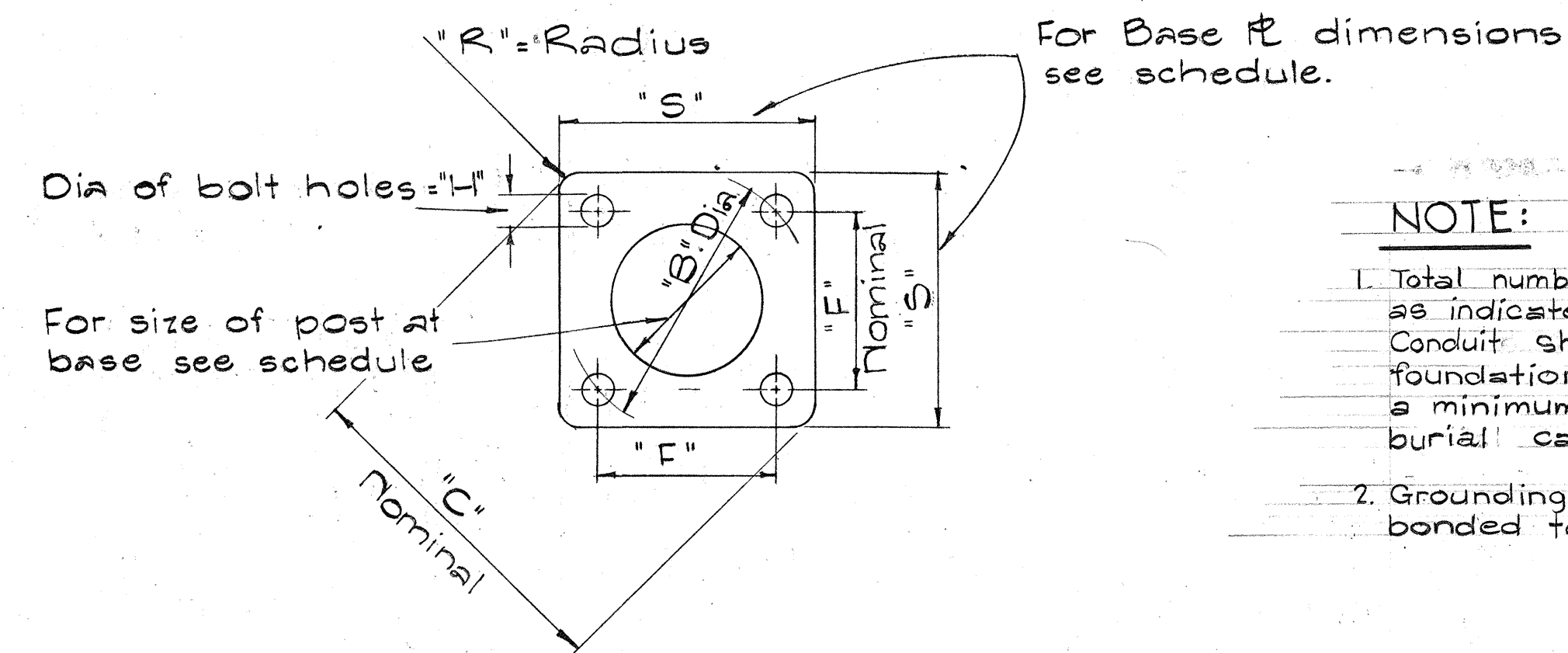


TYPICAL POLE FOUNDATION DETAIL



TYPICAL ANCHOR BOLT 4 REQ'D

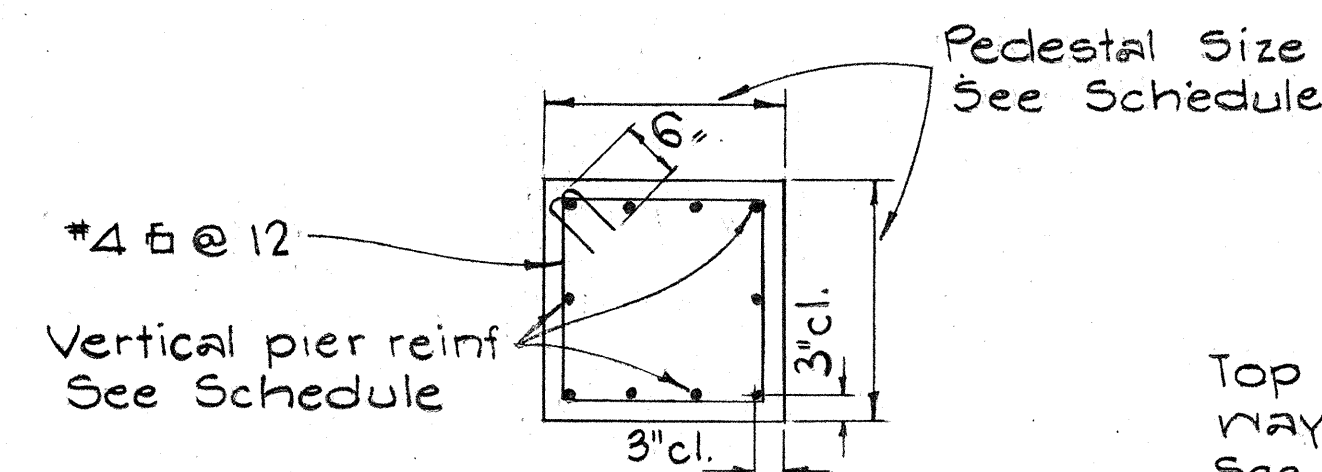
BASE PLATE SCHEDULE										
Post Dia.	Gage No.	B	C	F	H	P	R	S	T	Bolt Dia.
18"	2-3	25 1/2"	33"	18"	3 3/8"	7 1/2"	5 1/2"	26 1/2"	3"	3"



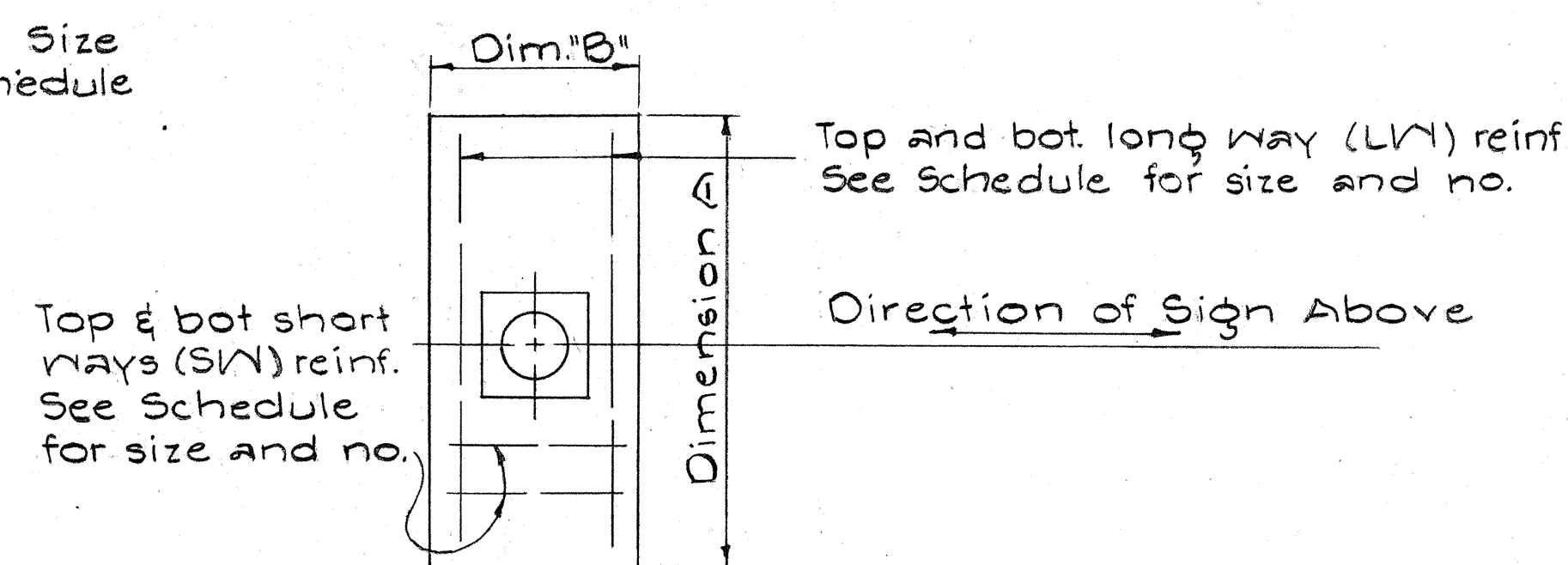
TYPICAL BASE PLATE

NOTE:

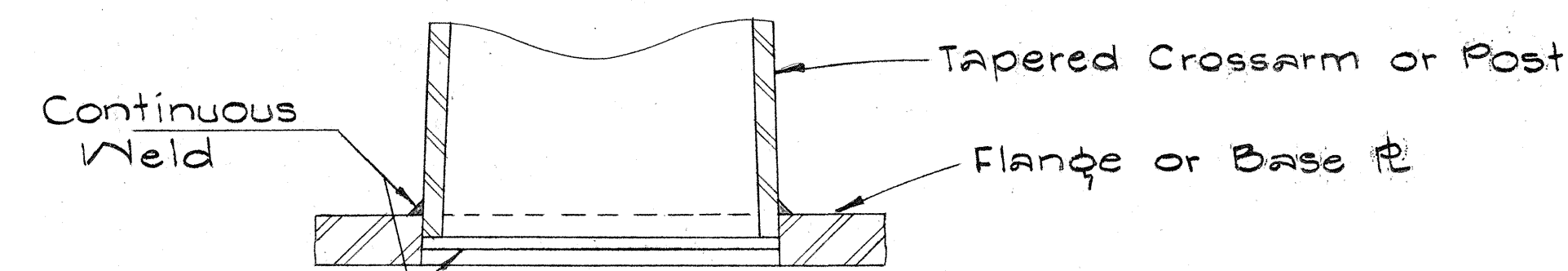
1. Total number of conduits shall be as indicated on the drawings. Conduit shall slope away from post foundation and shall stub-out a minimum of 5'-0" for direct burial cable entry.
2. Grounding conductor shall be bonded to sign support.



SECTION "A"



TYPICAL FOOTING PLAN



DETAIL "X"

FOUNDATION SCHEDULE									
Type	Dimension		Depth	Bot. Reinf.		Top Reinf.		Pedestal	
	A	B		L.W.	S.W.	L.W.	S.W.	Size	Vert. Reinf.
I	7'-0"	3'-0"	2'-0"	3-#4	3-#4	4-#12	Each Way	1'-11"	10-#5
II	9'-0"	4'-6"	2'-0"	6-#6	10-#4	Do.		2'-6"	10-#7
III	10'-0"	5'-0"	2'-0"	5-#8	11-#4	Do.		2'-6"	10-#8
IV	12'-0"	6'-0"	2'-0"	7-#9	13-#4	Do.		2'-9"	10-#10
V	14'-0"	7'-0"	2'-0"	8-#11	15-#4	Do.		2'-9"	10-#11

GROUND MOUNTED TYPE - EXPRESSWAY SIGNS						
Sign No.	Station	Steel Members		Base Plate	Footing	
		Left	Right		Type	Anchor Bolts
E-1	R 188+50	8 WF 24		10" x 1" x 17 1/2"	VI	4 - 1 1/8" Dia.

GROUND MOUNTED TYPE - DESTINATION SIGNS						
Sign No.	Station	Steel Members		Base Plate	Footing	
		Left	Right		Type	Anchor Bolts
D-1	R 150+40	8 WF 24		10" x 1" x 20"	VI	4 - 1 1/8" Dia.

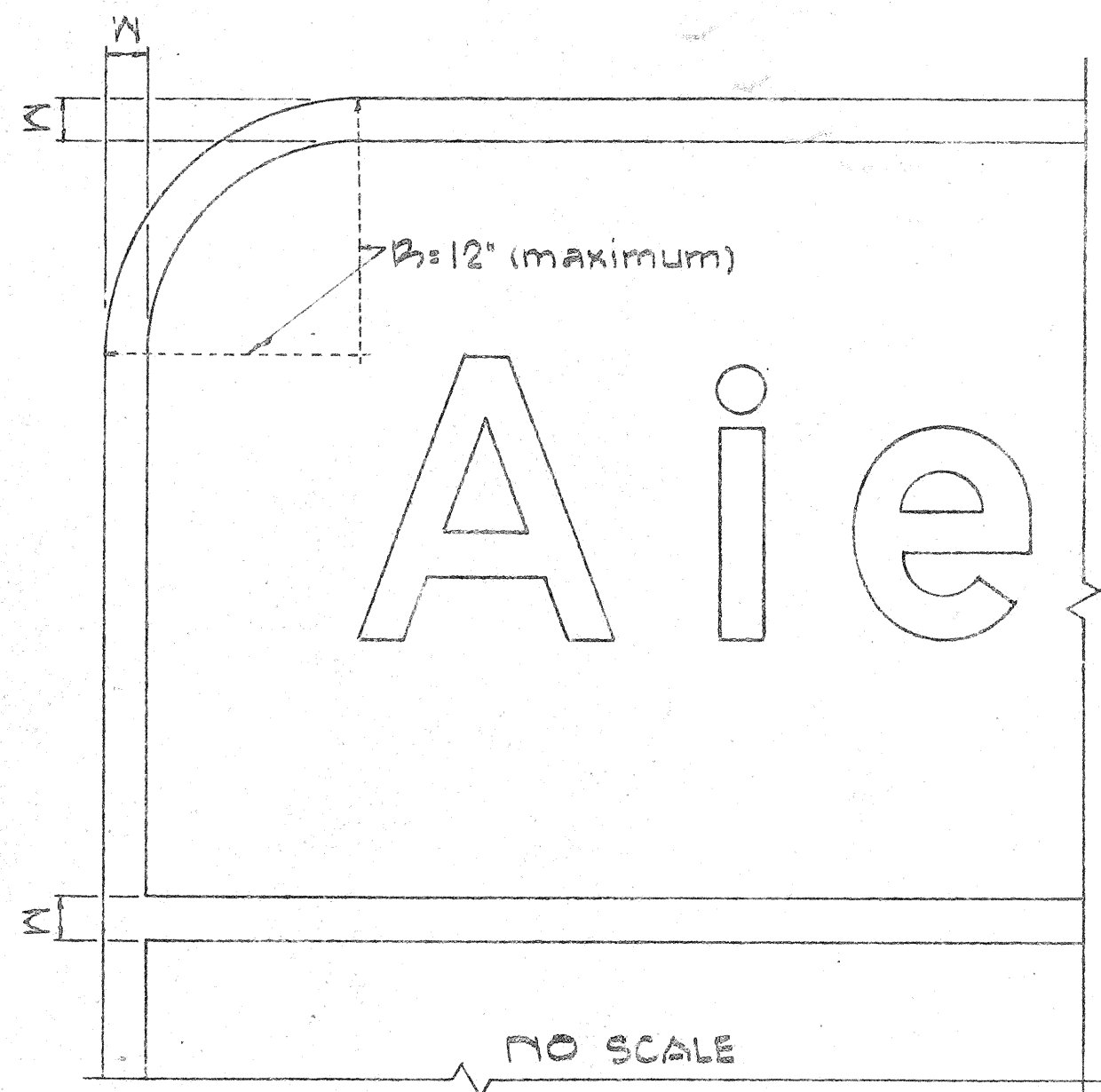
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXPRESSWAY SIGNS
SCHEDULE & DETAILS

FARRINGTON HIGHWAY
PROJECT No. S-0000(3)
JUNE 1964

GENERAL NOTES

1. State Route Marker on Destination & Expressway signs shall have black numerals and borders on a white reflectorized background mounted on a flat Aluminum cut-out.
2. All numerals shall be Series "D" from the "Standard Alphabets for Highway Signs," Bureau of Public Roads, 1957.
3. All cut-outs shall be fastened on sign panel with Aluminum blind rivets. See Special Provisions.



- NOTE:
1. Area outside corner need not be trimmed.
 2. All borders shall be embossed cut-outs, white and reflectorized.
 3. All signs shall have borders.

RADI FOR EXPRESSWAY SIGNS (2" Border)

Least Dimension of Sign	W	R
3'-0" to 4'-6"	2"	3"
4'-9" to 5'-6"	2"	6"
5'-9" to 7'-6"	2"	9"
7'-9" and greater	2"	12"

RADI FOR DESTINATION SIGNS (1" Border)

Least Dimension of Sign	W	R
Any Size	1"	3"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

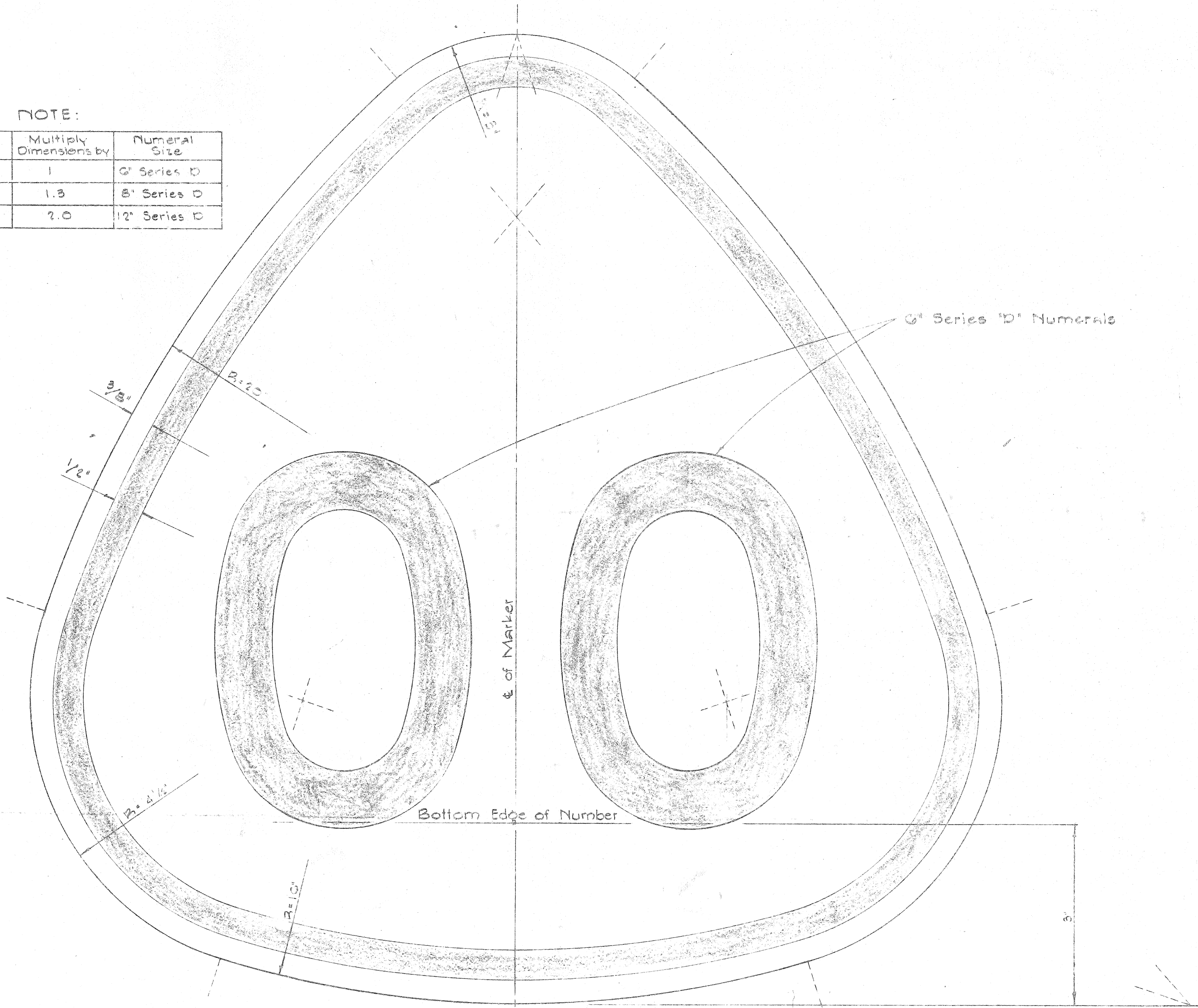
DESTINATION AND EXPRESSWAY SIGN
STATE ROUTE MARKER
AND BORDER DETAILS

FARRINGTON HIGHWAY
Project No. 5-0900(3)
Scale: As Noted Date: Oct. 1965

SHEET No. 10 OF 12 SHEETS

NOTE:

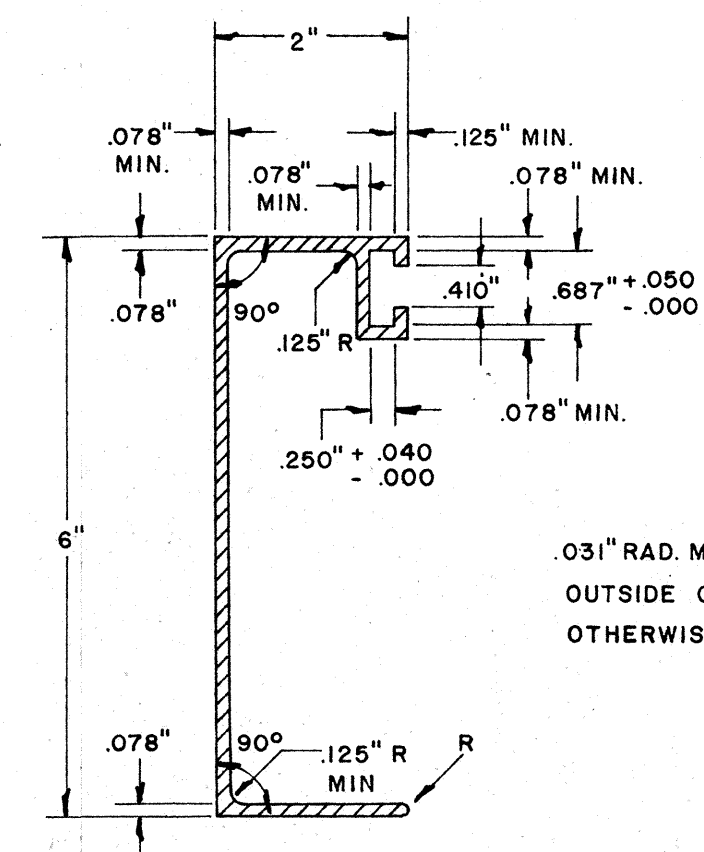
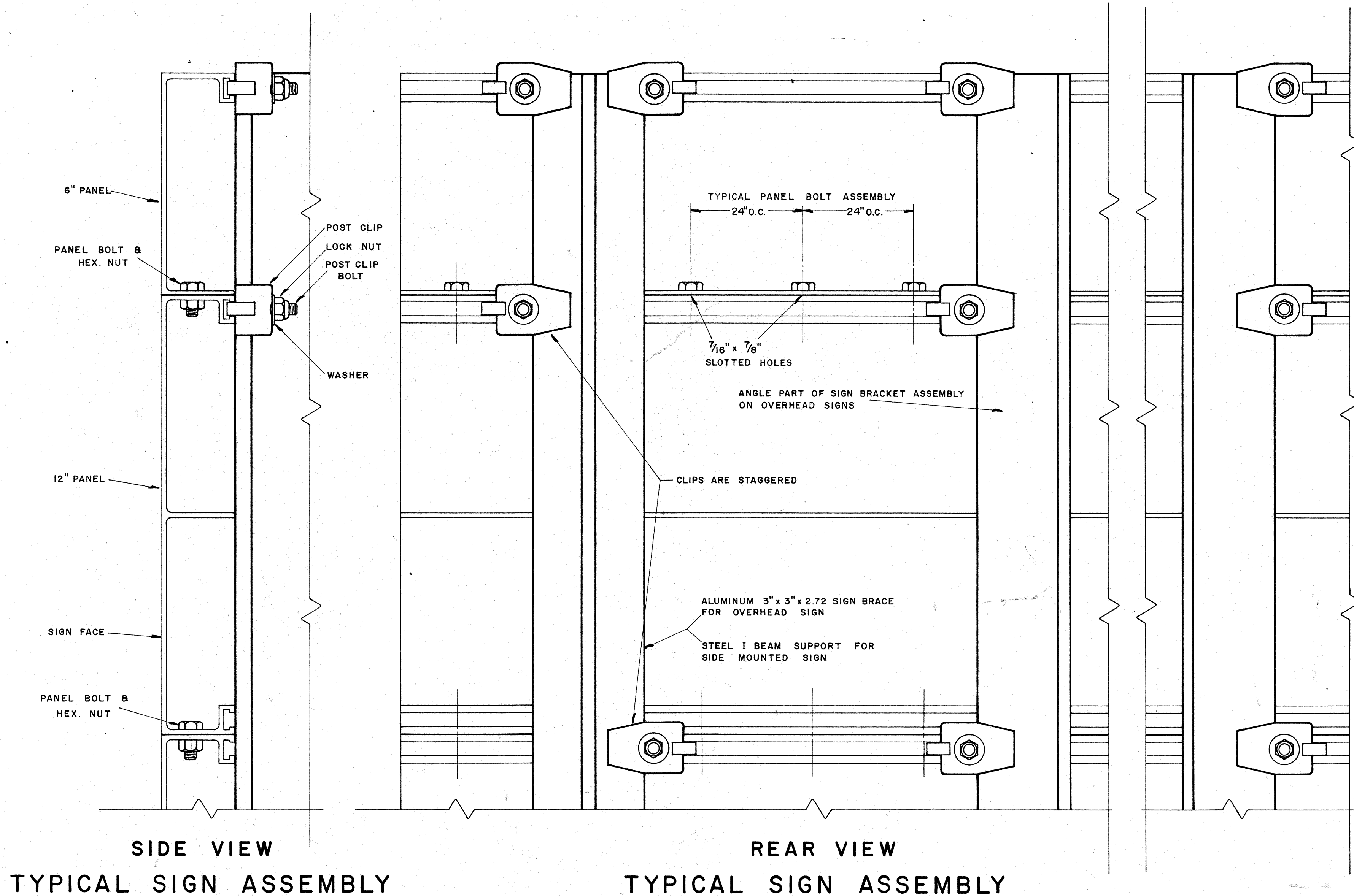
Shield Size	Multiply Dimensions by	Numerical Size
10"	1	9" Series D
21"	1.3	8" Series D
32"	2.0	12" Series D



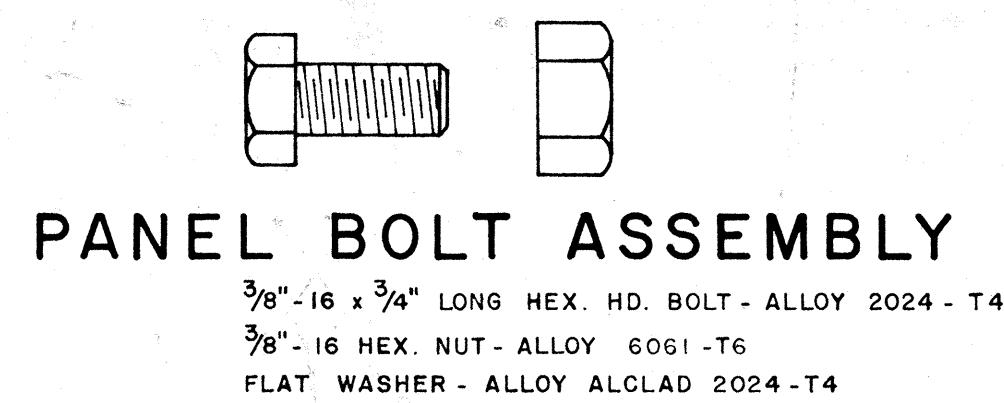
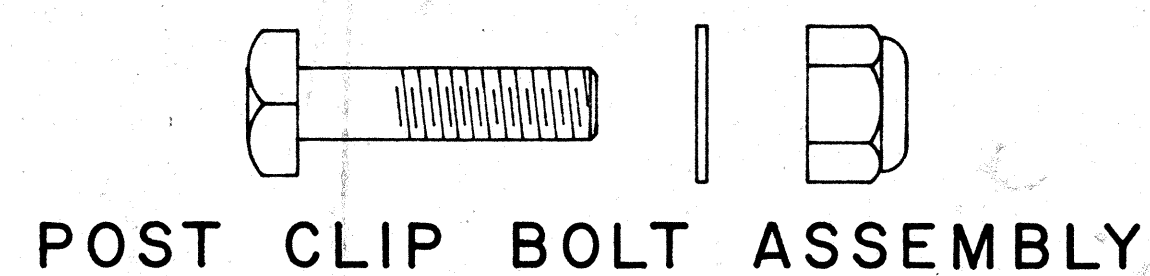
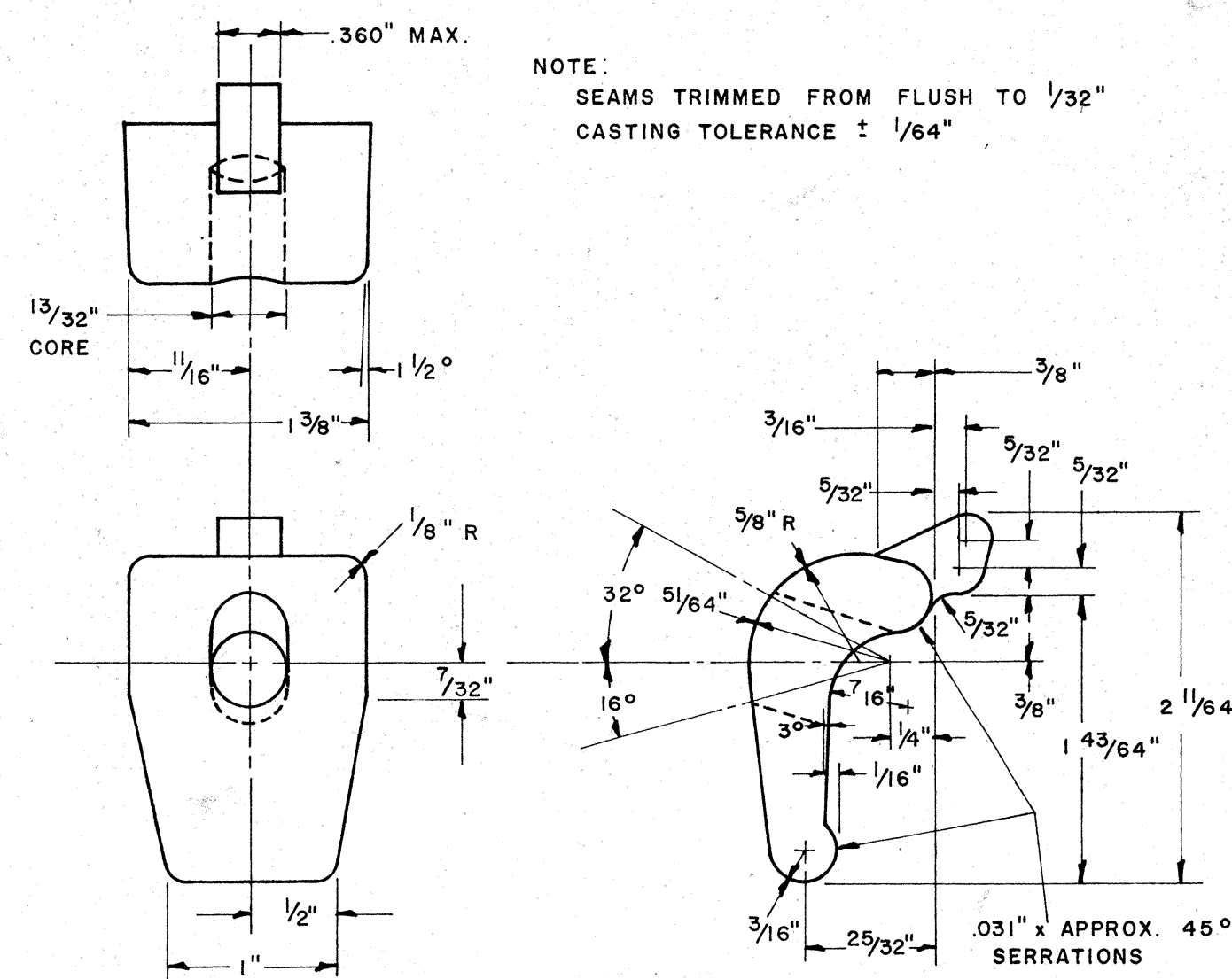
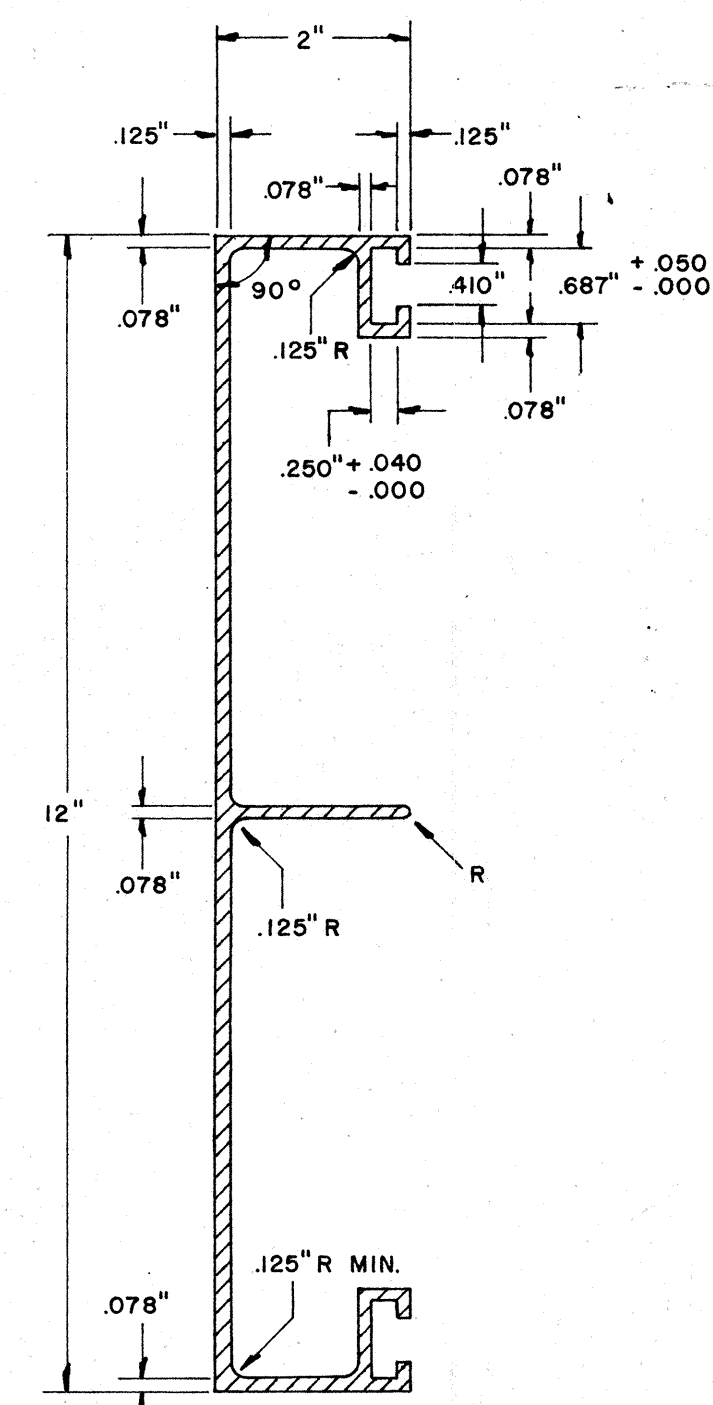
STATE ROUTE MARKER
FOR
DESTINATION & EXPRESSWAY SIGNS
Scale: Full Size

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S-09003	1966	64	162



SOLID EXTRUDED SIGN PANEL DETAILS



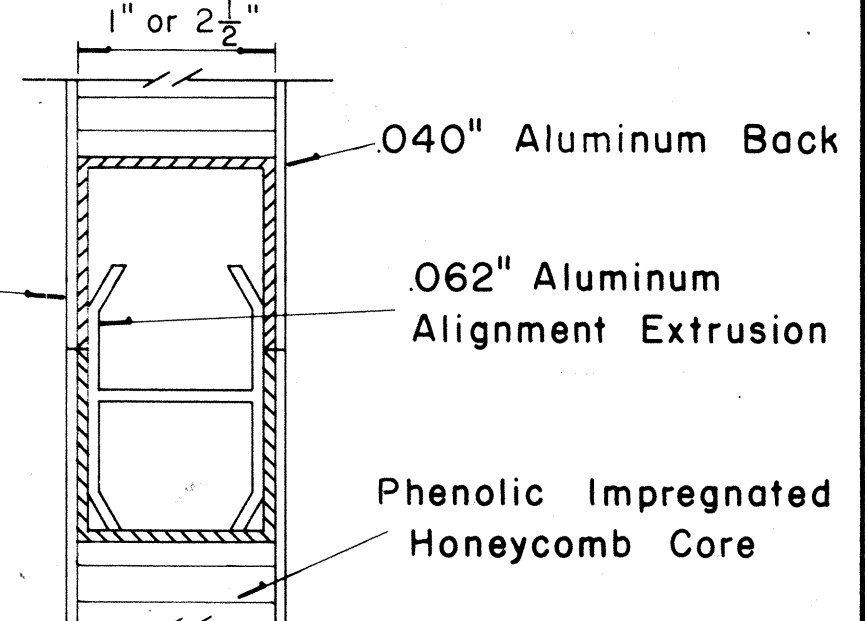
NOTE:
EXTRUDED ALUMINUM PANELS SHALL BE USED
FOR DESTINATION AND EXPRESSWAY SIGNS.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
SOLID ALUMINUM
EXTRUDED SIGN PANEL
AND
ACCESSORY DETAILS
SCALE:

SHEET No. 11 OF 12 SHEETS

(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG	SUPPORT SPACING
	A		B	C
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	2	27"	84"
1"	12'-0"	2	30"	84"
1"	12'-6"	2	30"	90"
1"	13'-0"	2	30"	96"
1"	13'-6"	2	30"	102"
1"	14'-0"	2	30"	108"
1"	14'-6"	2	36"	102"
1"	15'-0"	2	36"	108"
2.5"	15'-6"	2	36"	114"
2.5"	16'-0"	2	39"	114"
2.5"	16'-6"	2	39"	120"
2.5"	17'-0"	2	39"	126"
2.5"	17'-6"	2	42"	126"
2.5"	18'-0"	2	42"	132"
2.5"	18'-6"	2	45"	132"
2.5"	19'-0"	2	45"	138"
2.5"	19'-6"	2	45"	144"
2.5"	20'-0"	2	48"	144"
2.5"	20'-6"	2	48"	150"
2.5"	21'-0"	2	51"	150"
2.5"	21'-6"	2	51"	156"
2.5"	22'-0"	2	51"	162"
2.5"	22'-6"	2	54"	162"
2.5"	23'-0"	2	54"	168"
2.5"	23'-6"	2	54"	174"
2.5"	24'-0"	2	57"	174"

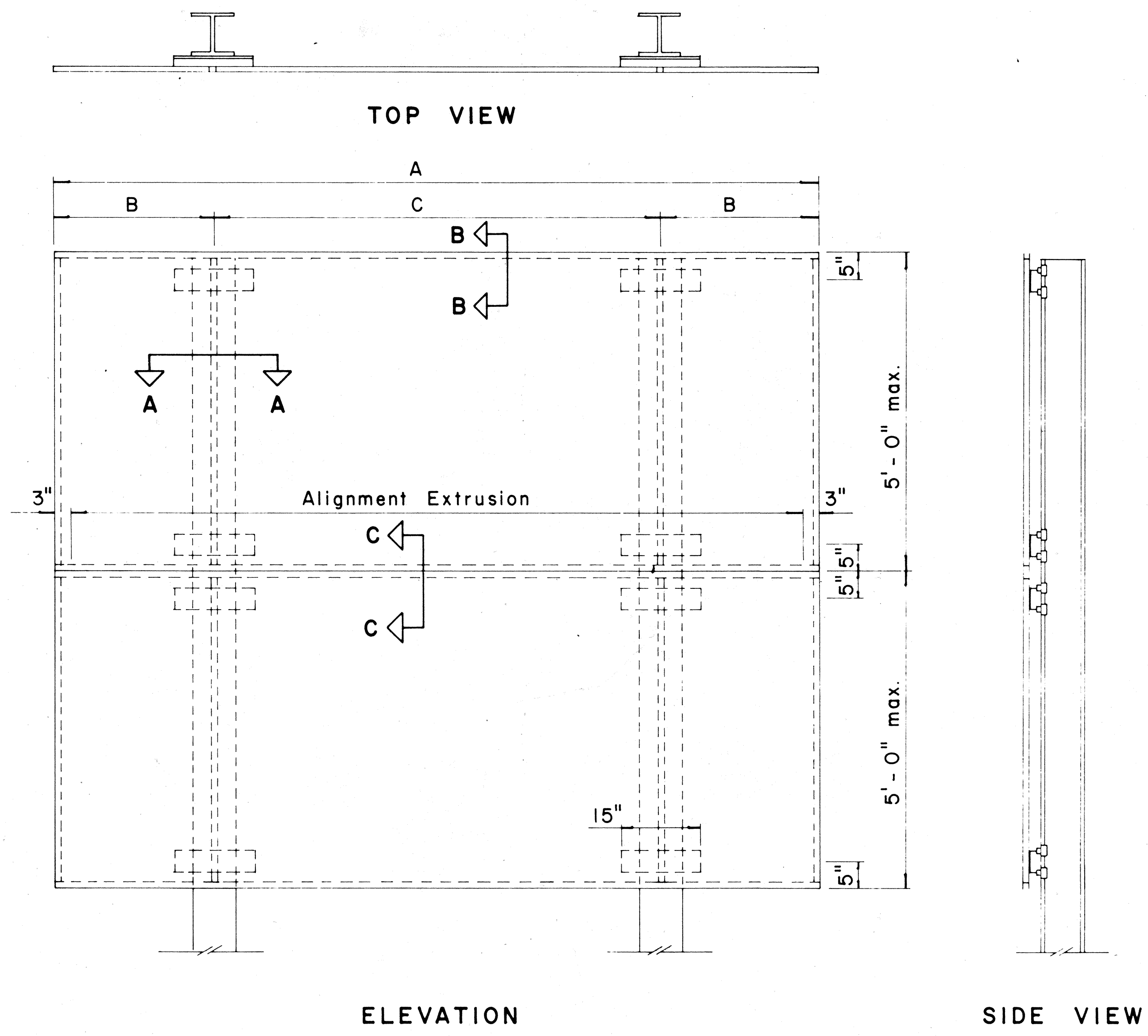


CLOSURE DETAIL
SECTION "C-C"
FULL SCALE

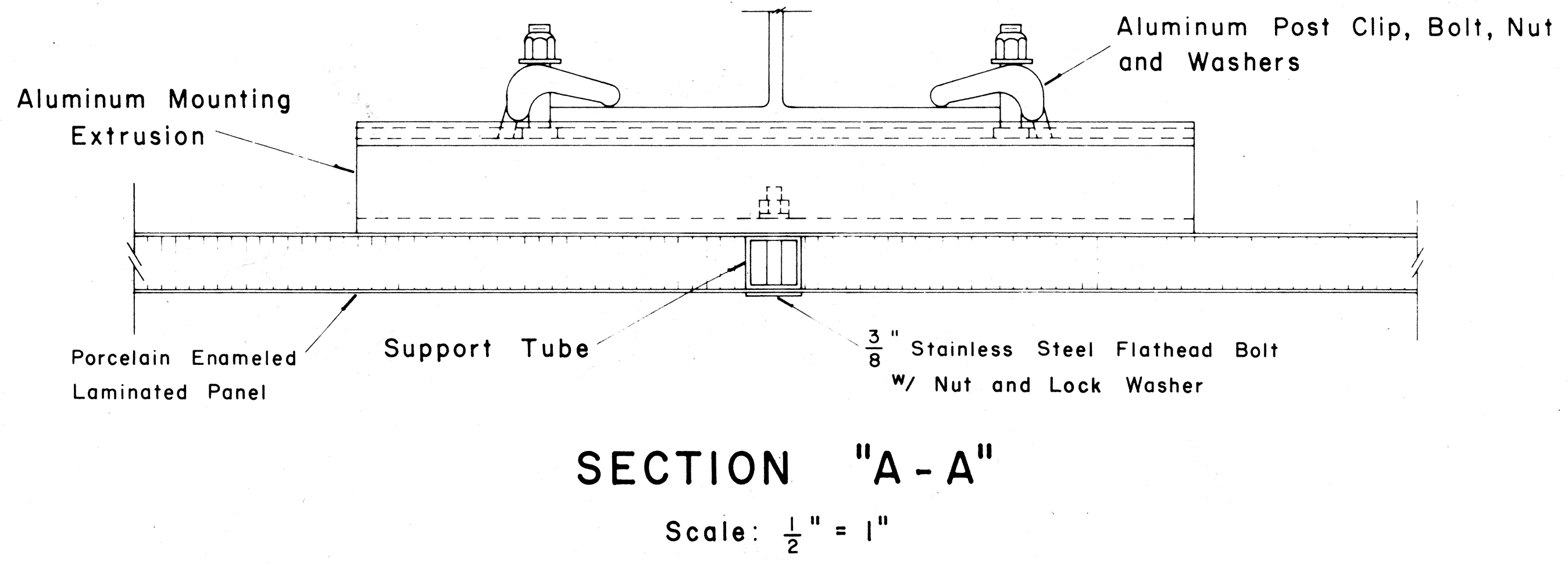
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)
Scale: As Shown

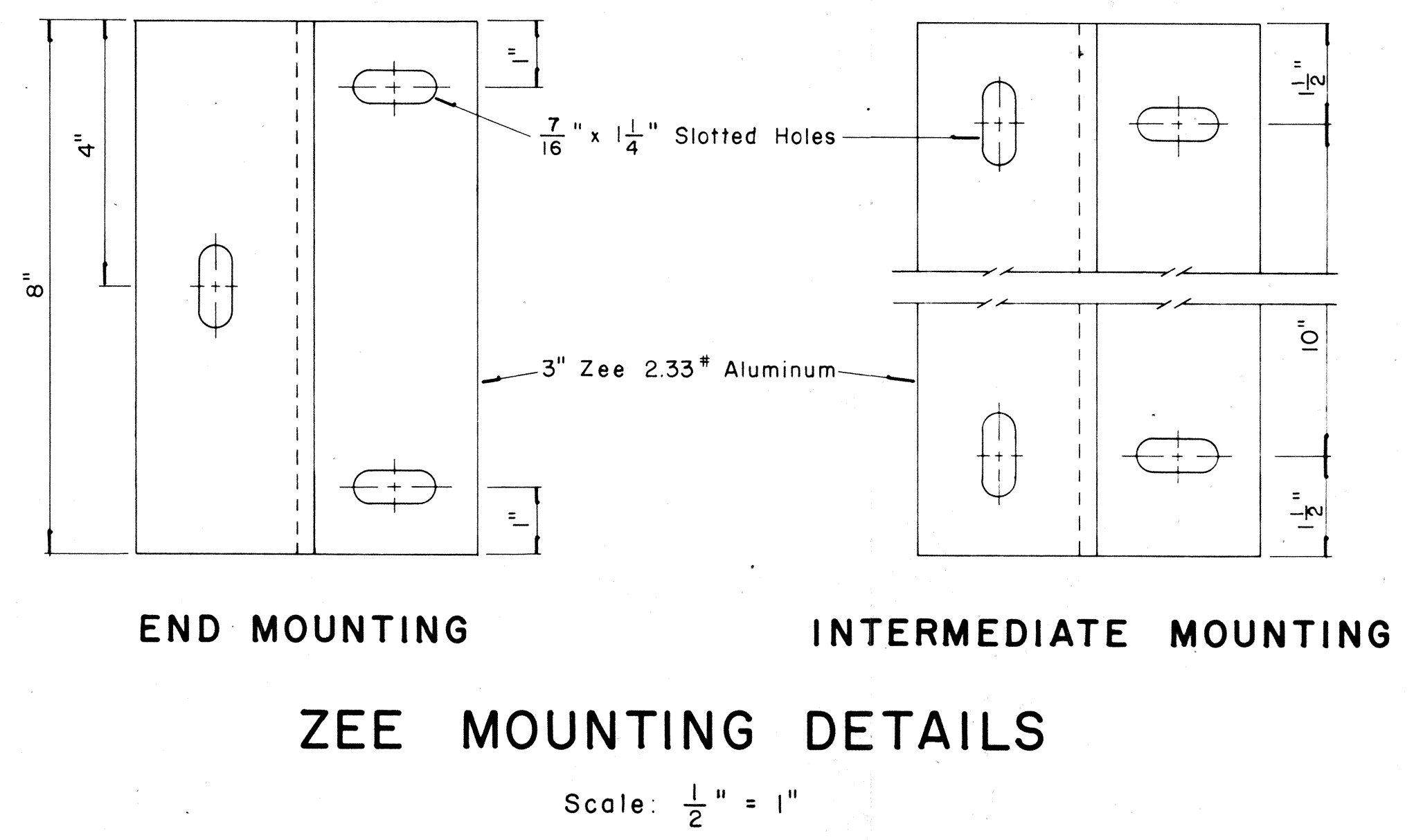
SHEET No. 12 OF 12 SHEETS



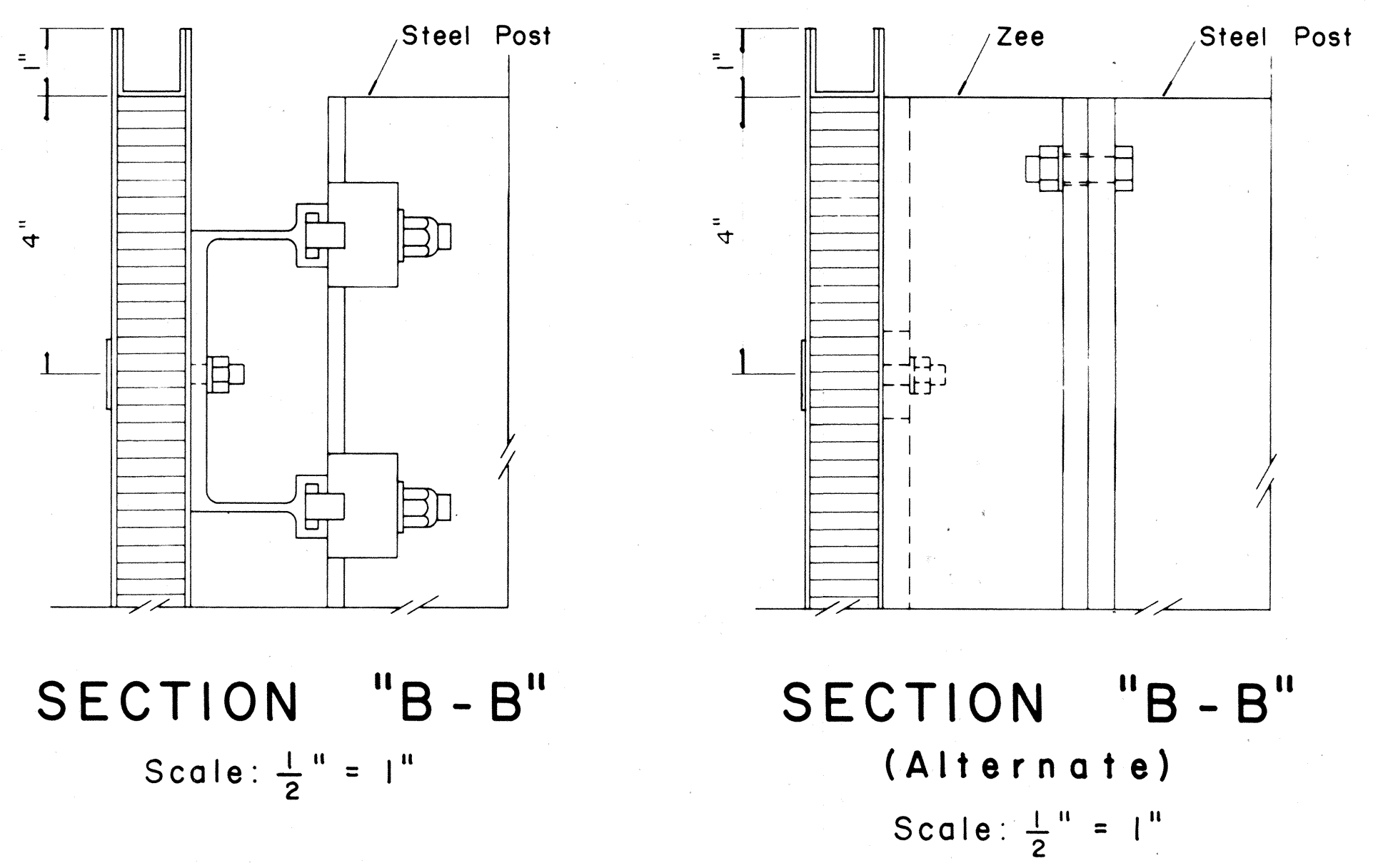
TYPICAL SIGN ASSEMBLY
Scale: $\frac{3}{4}$ " = 1'-0"



SECTION "A-A"
Scale: $\frac{1}{2}$ " = 1'

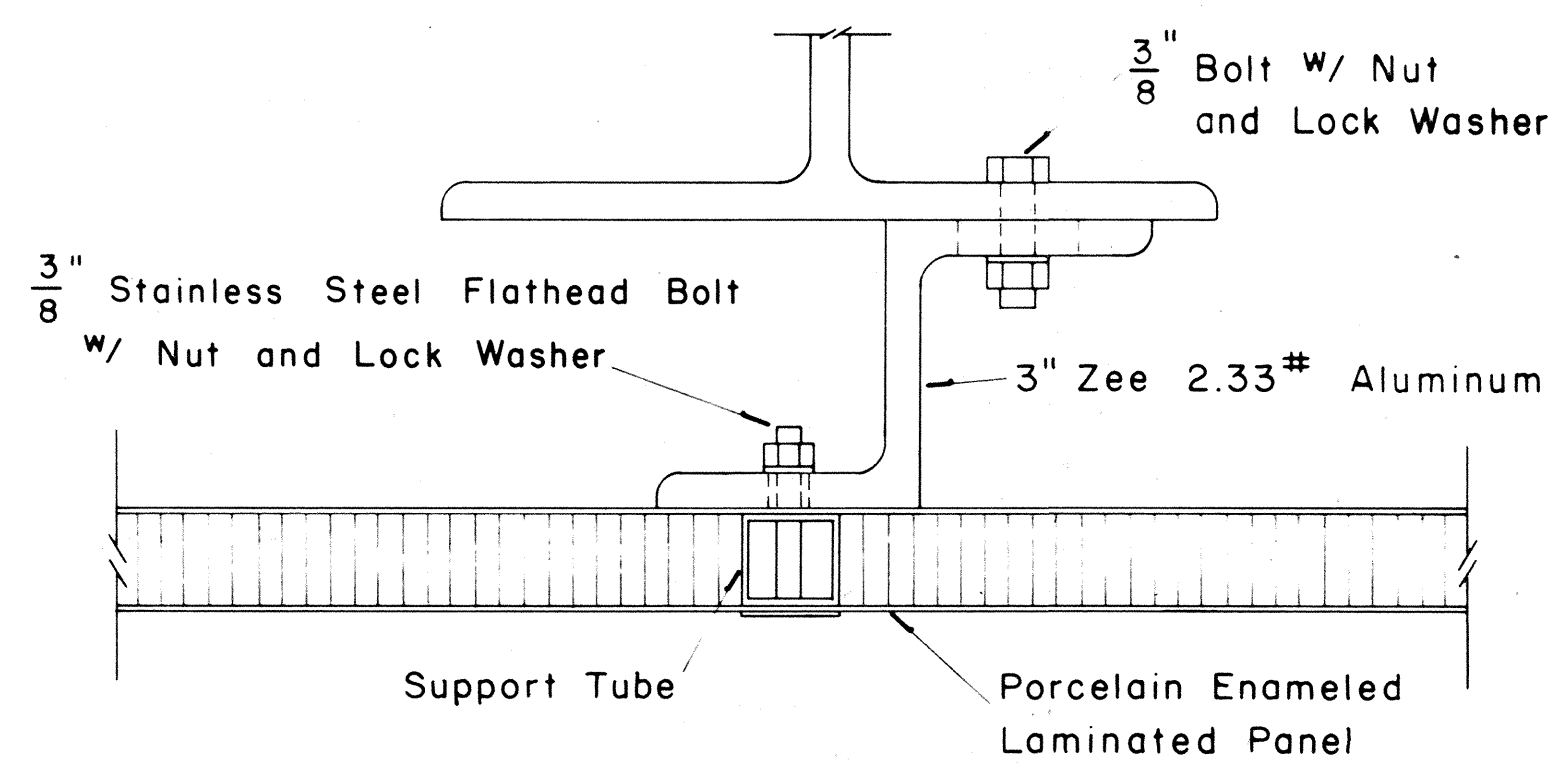


ZEE MOUNTING DETAILS
Scale: $\frac{1}{2}$ " = 1'



SECTION "B-B"
Scale: $\frac{1}{2}$ " = 1'

SECTION "B-B"
(Alternate)
Scale: $\frac{1}{2}$ " = 1'



SECTION "A-A"
(Alternate)
Scale: $\frac{1}{2}$ " = 1'

DATE: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
QUANTITIES BY: _____
CHECKED BY: _____