

Ge Waiana Stream

500' Taper
11 - Traffic Drums @ 60' OC.

A.C. Roll

Existing Bridge

White Striping (by others)

RM-3 Mounted on guard rail

W4-4 (L)

MERGE LEFT

ONE WAY (Left Arrow)

R6-1 (L)

500'

A.C. Roll

500'

EXISTING KAMEHAMEHA HIGHWAY

W20-6C

25 MPH
N13-1 (25)

500'

RIGHT LANE CLOSED 1000 FT.

W20-5b (R)

500'

W20-1d

ROAD CONSTRUCTION AHEAD

NOT A THROUGH STREET

W13-4

TWO WAY TRAFFIC

STOP

R6-5

R1-1

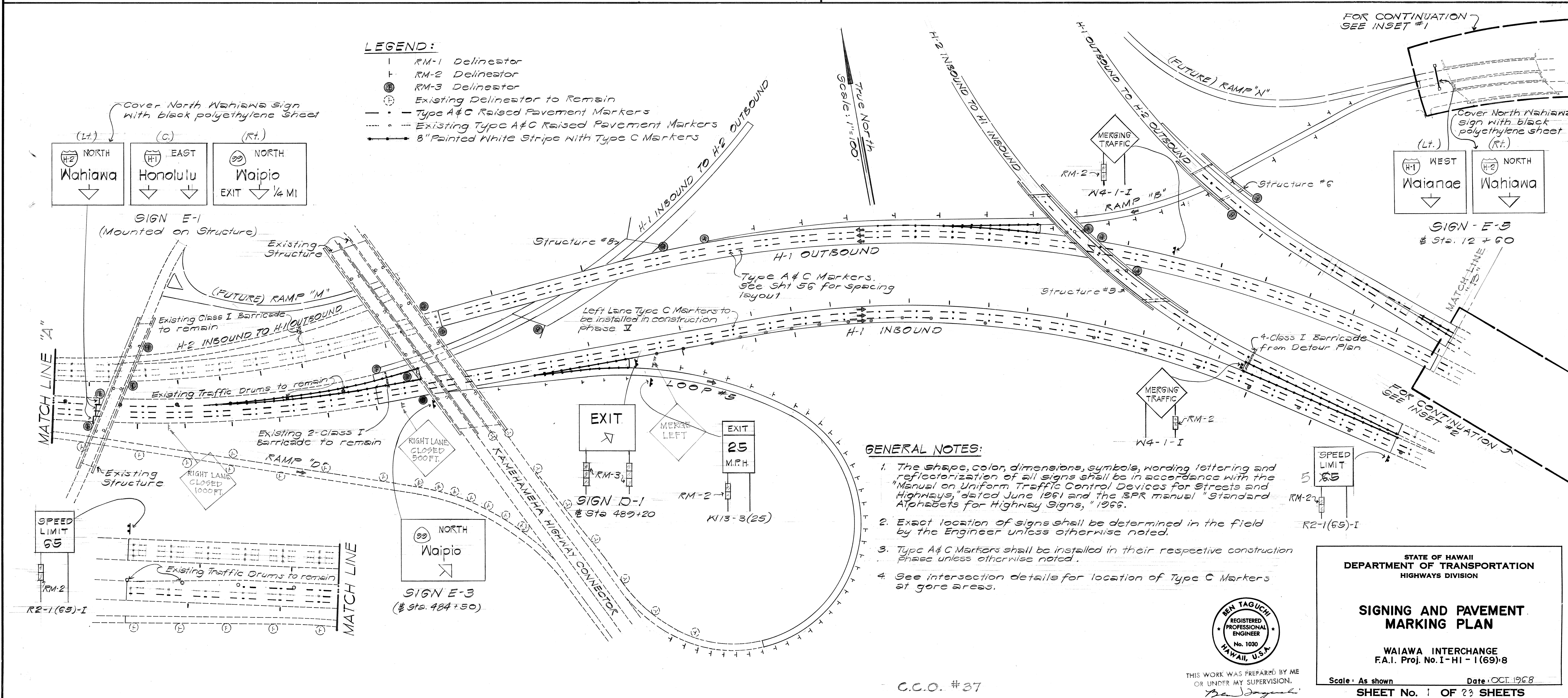
ONE WAY (Right Arrow)

R6-1 (R)

INSET #1

Scale: 1" = 100'

NORTH

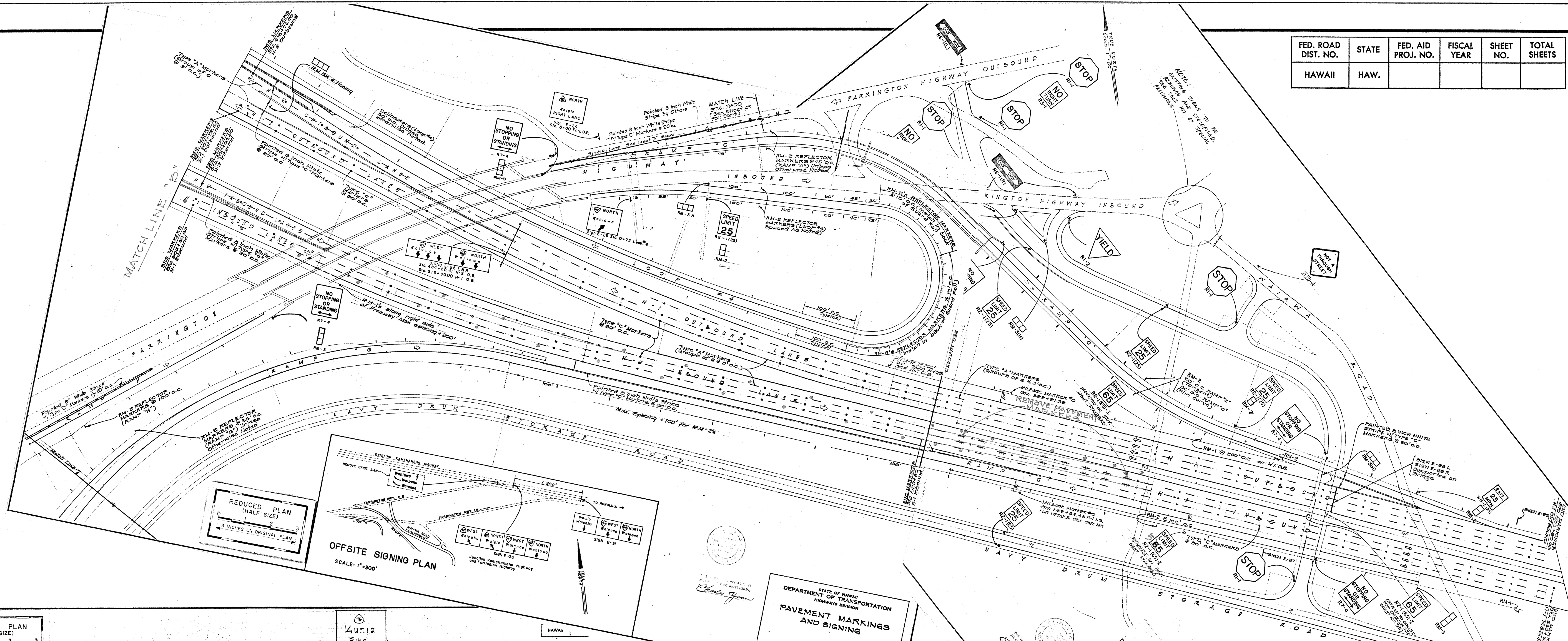


C.C.O. #37

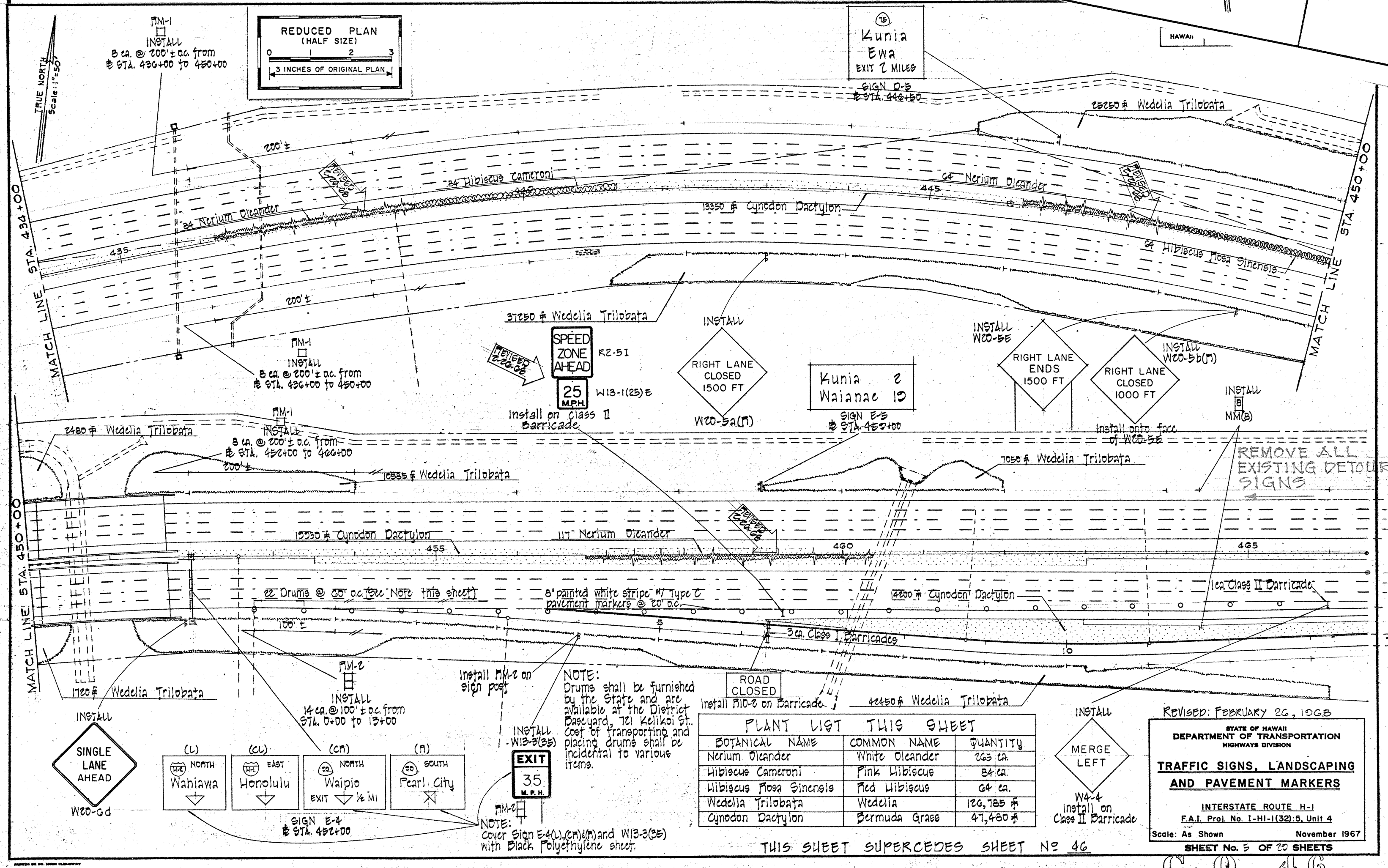
THIS WORK WAS PREPARED BY A
OR UNDER MY SUPERVISION.
Ben Jager

Scale: As shown Date: OCT. 1968
SHEET No. 1 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKINGS AND SIGNING
SHEET No. 1 OF 4 SHEETS
F.A.I. PROJ. NO. I-HI-1(47)-D
Scale: 1"=50'



REDUCED PLAN (HALF SIZE)
3 INCHES OF ORIGINAL PLAN

DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKINGS AND SIGNING
SHEET No. 1 OF 4 SHEETS
F.A.I. PROJ. NO. I-HI-1(47)-D
Scale: 1"=50'

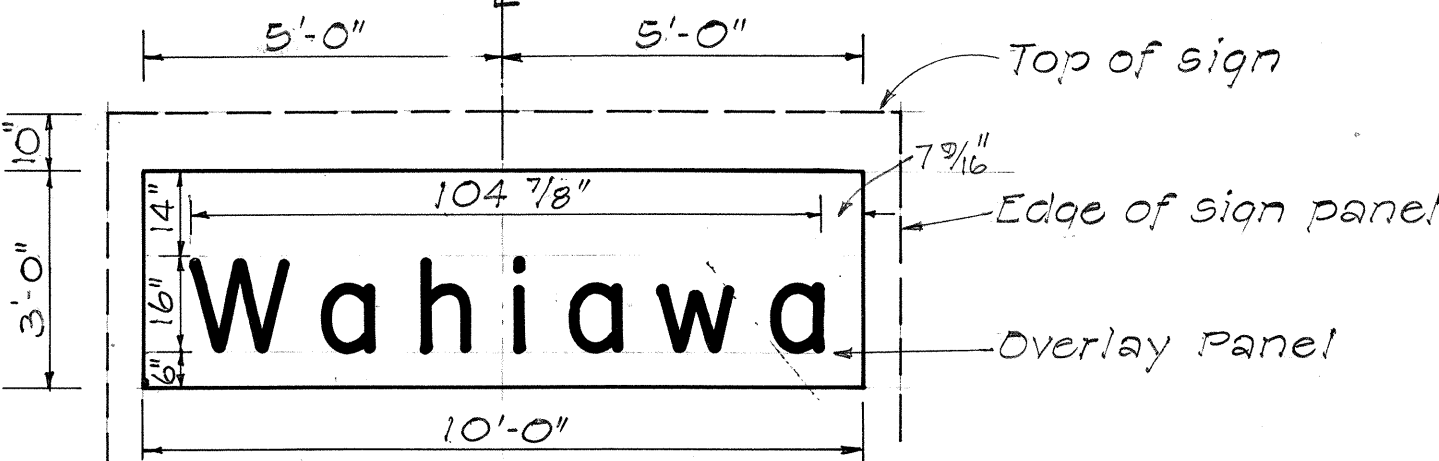
ITEM	DESCRIPTION	QUANTITY	UNIT
1	PAVEMENT MARKINGS	100	sq. ft.
2	TRAFFIC SIGNS	10	ea
3	LANDSCAPING	100	sq. ft.
4	PAVEMENT MARKERS	100	ea
5	TRAFFIC SIGNS	10	ea
6	LANDSCAPING	100	sq. ft.
7	PAVEMENT MARKERS	100	ea
8	TRAFFIC SIGNS	10	ea
9	LANDSCAPING	100	sq. ft.
10	PAVEMENT MARKERS	100	ea
11	TRAFFIC SIGNS	10	ea
12	LANDSCAPING	100	sq. ft.
13	PAVEMENT MARKERS	100	ea
14	TRAFFIC SIGNS	10	ea
15	LANDSCAPING	100	sq. ft.
16	PAVEMENT MARKERS	100	ea
17	TRAFFIC SIGNS	10	ea
18	LANDSCAPING	100	sq. ft.
19	PAVEMENT MARKERS	100	ea
20	TRAFFIC SIGNS	10	ea
21	LANDSCAPING	100	sq. ft.
22	PAVEMENT MARKERS	100	ea
23	TRAFFIC SIGNS	10	ea
24	LANDSCAPING	100	sq. ft.
25	PAVEMENT MARKERS	100	ea
26	TRAFFIC SIGNS	10	ea
27	LANDSCAPING	100	sq. ft.
28	PAVEMENT MARKERS	100	ea
29	TRAFFIC SIGNS	10	ea
30	LANDSCAPING	100	sq. ft.
31	PAVEMENT MARKERS	100	ea
32	TRAFFIC SIGNS	10	ea
33	LANDSCAPING	100	sq. ft.
34	PAVEMENT MARKERS	100	ea
35	TRAFFIC SIGNS	10	ea
36	LANDSCAPING	100	sq. ft.
37	PAVEMENT MARKERS	100	ea
38	TRAFFIC SIGNS	10	ea
39	LANDSCAPING	100	sq. ft.
40	PAVEMENT MARKERS	100	ea
41	TRAFFIC SIGNS	10	ea
42	LANDSCAPING	100	sq. ft.
43	PAVEMENT MARKERS	100	ea
44	TRAFFIC SIGNS	10	ea
45	LANDSCAPING	100	sq. ft.
46	PAVEMENT MARKERS	100	ea
47	TRAFFIC SIGNS	10	ea
48	LANDSCAPING	100	sq. ft.
49	PAVEMENT MARKERS	100	ea
50	TRAFFIC SIGNS	10	ea
51	LANDSCAPING	100	sq. ft.
52	PAVEMENT MARKERS	100	ea
53	TRAFFIC SIGNS	10	ea
54	LANDSCAPING	100	sq. ft.
55	PAVEMENT MARKERS	100	ea
56	TRAFFIC SIGNS	10	ea
57	LANDSCAPING	100	sq. ft.
58	PAVEMENT MARKERS	100	ea
59	TRAFFIC SIGNS	10	ea
60	LANDSCAPING	100	sq. ft.
61	PAVEMENT MARKERS	100	ea
62	TRAFFIC SIGNS	10	ea
63	LANDSCAPING	100	sq. ft.
64	PAVEMENT MARKERS	100	ea
65	TRAFFIC SIGNS	10	ea
66	LANDSCAPING	100	sq. ft.
67	PAVEMENT MARKERS	100	ea
68	TRAFFIC SIGNS	10	ea
69	LANDSCAPING	100	sq. ft.
70	PAVEMENT MARKERS	100	ea
71	TRAFFIC SIGNS	10	ea
72	LANDSCAPING	100	sq. ft.
73	PAVEMENT MARKERS	100	ea
74	TRAFFIC SIGNS	10	ea
75	LANDSCAPING	100	sq. ft.
76	PAVEMENT MARKERS	100	ea
77	TRAFFIC SIGNS	10	ea
78	LANDSCAPING	100	sq. ft.
79	PAVEMENT MARKERS	100	ea
80	TRAFFIC SIGNS	10	ea
81	LANDSCAPING	100	sq. ft.
82	PAVEMENT MARKERS	100	ea
83	TRAFFIC SIGNS	10	ea
84	LANDSCAPING	100	sq. ft.
85	PAVEMENT MARKERS	100	ea
86	TRAFFIC SIGNS	10	ea
87	LANDSCAPING	100	sq. ft.
88	PAVEMENT MARKERS	100	ea
89	TRAFFIC SIGNS	10	ea
90	LANDSCAPING	100	sq. ft.
91	PAVEMENT MARKERS	100	ea
92	TRAFFIC SIGNS	10	ea
93	LANDSCAPING	100	sq. ft.
94	PAVEMENT MARKERS	100	ea
95	TRAFFIC SIGNS	10	ea
96	LANDSCAPING	100	sq. ft.
97	PAVEMENT MARKERS	100	ea
98	TRAFFIC SIGNS	10	ea
99	LANDSCAPING	100	sq. ft.
100	PAVEMENT MARKERS	100	ea

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKINGS AND SIGNING
WAIAWA INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(47)-B
SHEET No. OF SHEETS

C.C.O. #37

35.1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(69)8	1968	36	144



TEMPORARY SIGN PANEL OVERLAY
(FOR SIGNS E-1(R) & E-3)

OVERLAY NOTES

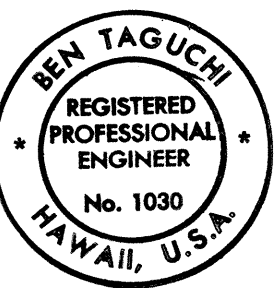
1. Overlay panel shall be 0.025" thick, aluminum alloy 6061 and shall be fastened to sign panels with blind aluminum rivets as shown.
2. Background shall be green porcelain enamel and letters shall be of white reflective sheeting.
3. Use Series "E" modified letters.

GENERAL NOTES:

1. Letters shall conform to the Modified Series "E" letters shown in the "Standard Alphabets for Highway Signs," Bureau of Public Roads, 1966.
2. Arrows, borders and route markers shall conform with details as shown on plans.
3. Letters, numerals, symbols and borders shall be demountable aluminum cutouts with white reflective sheeting or clear reflex reflectors, and shall be fastened on the sign panel with blind rivets. See Special Provisions.
4. Expressway Signs (E) shall have either white reflective sheeting on aluminum cut-outs or clear reflex reflectors set in white porcelain enameled aluminum cut-outs. Background for the expressway signs shall be green porcelain enamel.
5. Destination signs (D) shall have white reflective sheeting on aluminum cutouts on green reflective sheeting background.

SUMMARY OF EXPRESSWAY SIGNS

SIGN No.	MESSAGE	AREA (sq. Ft.)
E-1	Wahiawa, Honolulu, Waipio	420
E-3	Waipio	110
E-5	Waianae, Wahiawa	225
TOTAL		755



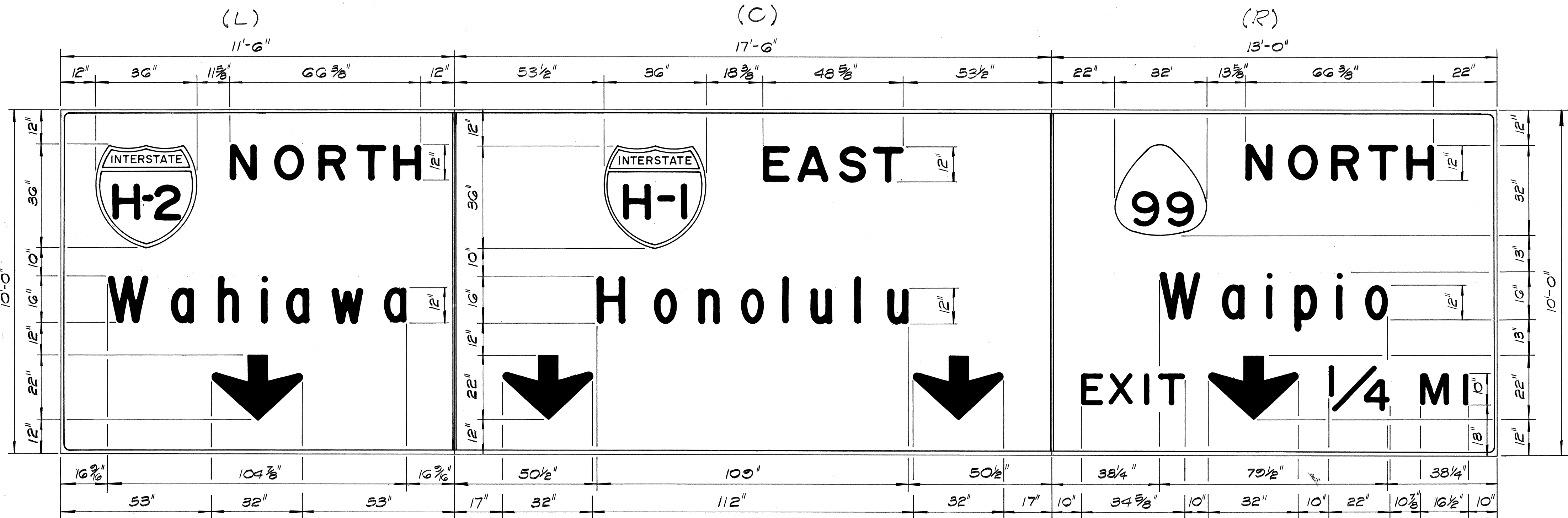
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
Ben Taguchi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

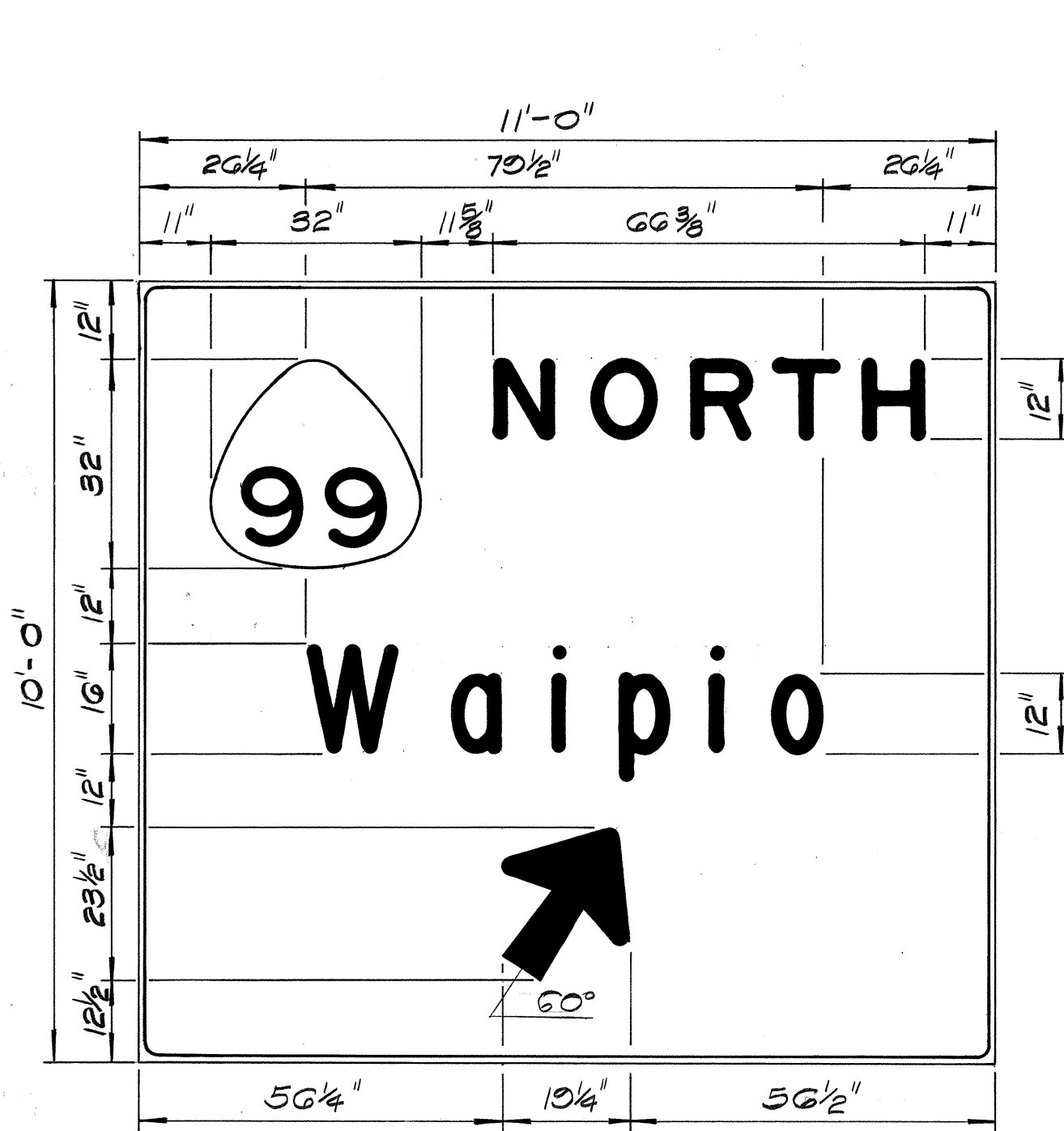
PANEL LAYOUT

WAIAWA INTERCHANGE
F.A.I. Proj. No. I - HI - 1(69)-8

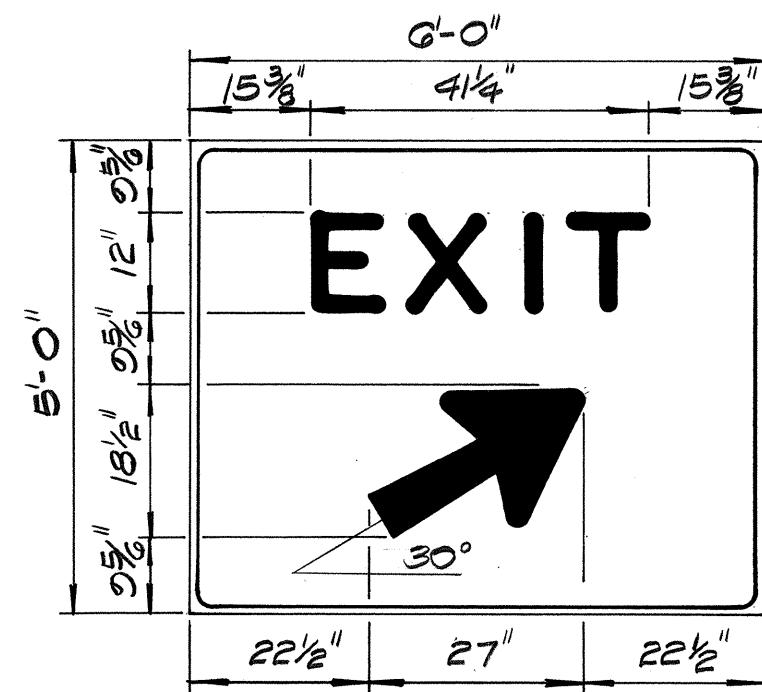
Scale: As Shown Date: OCT. 1968
SHEET No. 2 OF 23 SHEETS



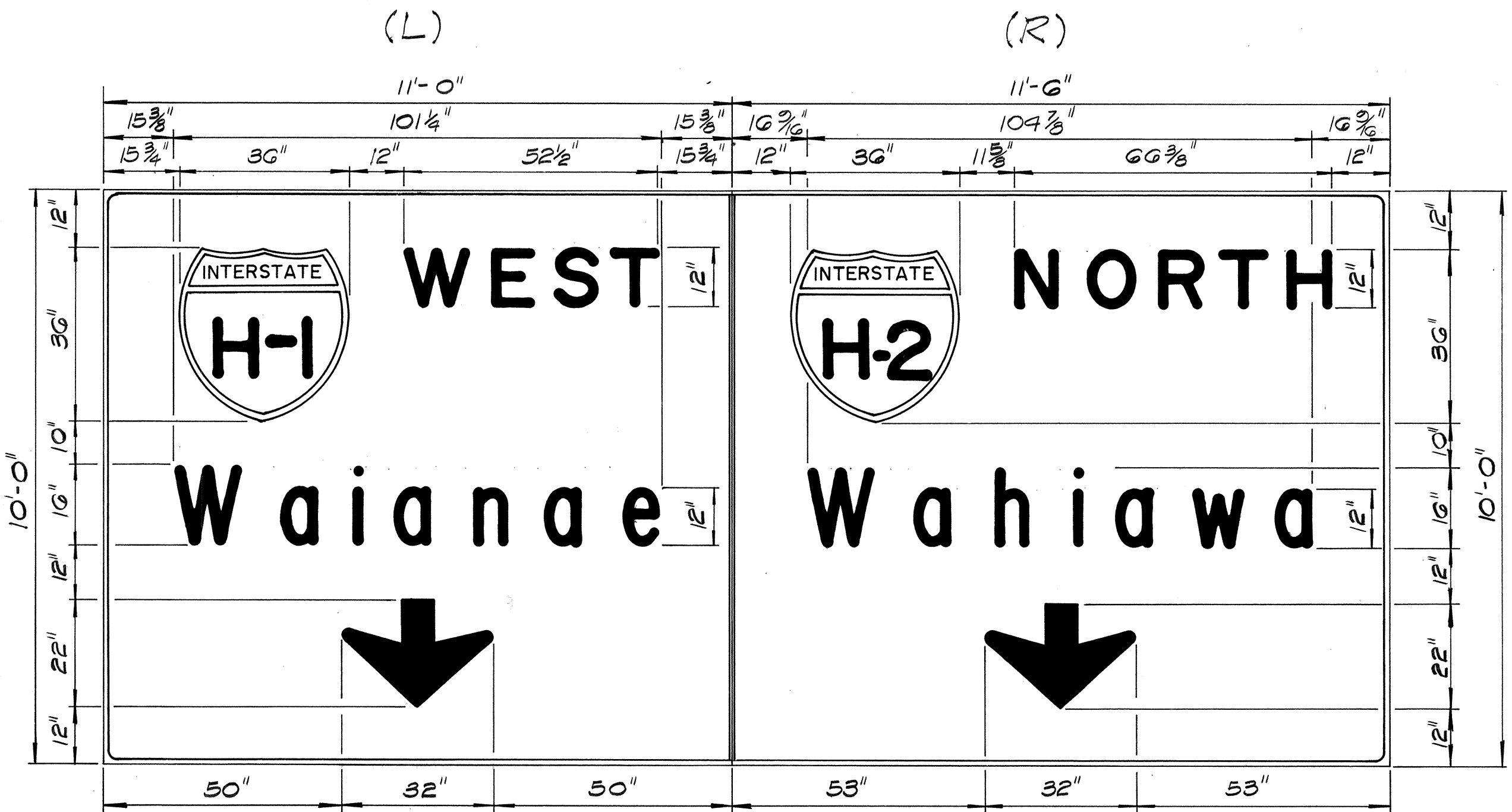
SIGN E-1



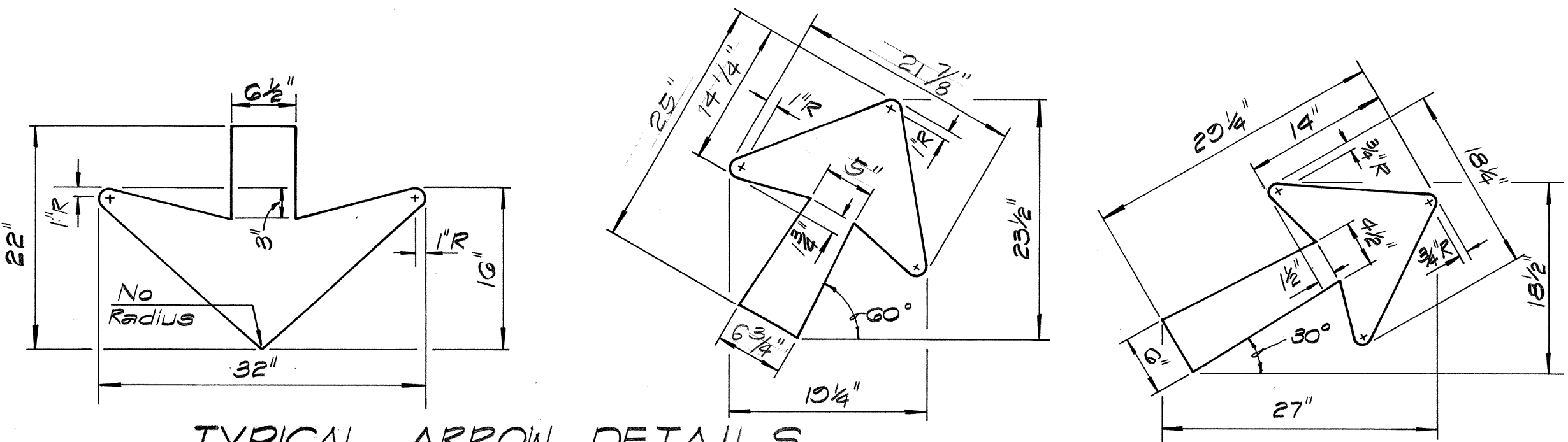
SIGN E-3



SIGN D-1



SIGN E-5



TYPICAL ARROW DETAILS
Scale: 1" = 1'-0"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(69)B	1968	37	144

SUMMARY OF REGULATORY & WARNING SIGNS

TYPE	DESCRIPTION	QUANTITY	
		W/POST	W/O POST
R1-1	Stop	2	
R2-1(65)-I	Speed Limit (65)	2	
R6-1(L)	<One Way (Left)	1	
R6-1(R)	One Way > (Right)		1
W4-1-I	Merging Traffic	2	
W4-4	Merge Left	1	
W13-3(25)	Exit 25 MPH.	1	
W20-5b	Right Lane Closed 1000ft.	1	
W13-4	Not a Thru Street		1
Total		10	2

SUMMARY OF RAISED PAVEMENT MARKERS

ROADWAY	QUANTITY	
	TYPE A	TYPE C
H-1 Inbound	1,044	136
H-1 Outbound	690	67
H-1 Inbound to H-2 Outbound		20
H-2 Inbound to H-1 Inbound	144	31
H-1 Outbound to H-2 Outbound	120	14
Ramp "B"		10
Loop "S"		10
Loop "4"	18	5
Total	2,016	293

SUMMARY OF REFLECTOR MARKERS

TYPE	DESCRIPTION	QUANTITY	
		W/POST	W/O POST
RM-1	Single Unit - Clear	52	
RM-3	Triple Unit - Amber	17	5
Total		69	5

TYPE	DESCRIPTION	QUANTITY
Relocated RM-2	Double Unit - Amber	60

RELOCATED TRAFFIC DRUMS

ROADWAY	QUANTITY
H-1 Outbound	25
Ramp "B"	11
Total	36

TYPE D TWO TUBE TRUSS SPAN

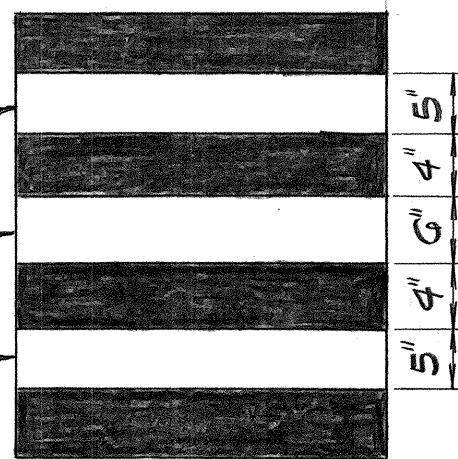
Sign No.	Tapered Crossarm	Tapered Post @ Base	Base Plate	Anchor Bolts	Footing
E-5	0 Ga. 10" Dia.	0 Ga. 18" Dia.	26 1/2" x 26 1/2" x 2"	2 1/4" Dia.	III

SUMMARY OF RELOCATED REG. & WARNING SIGNS

TYPE	DESCRIPTION	QUANTITY	
		W/POST	W/O POST
R6-5	Two Way Traffic	2	
W4-4 (L)	Merge Left	1	
W13-1	25 M.P.H.		1
W20-1d	Road Construction Ahead	1	
W20-5a	Right Lane closed 1500ft.	1	
W20-6c	Single Lane 500ft.	1	
Total		6	1

NOTE:

Traffic Drums shall conform to the 50 gal. capacity drums as described on this plan and in the "Manual on Uniform Traffic Control Devices for Streets and Highways", Bureau of Public Roads, 1961. Traffic drums shall be measured and paid for as indicated in the proposal schedule.



TRAFFIC DRUMS

No Scale

SIGN E-5

Sta. 12+60 (Extension of Ramp "B" 卐)

Metal Guard Rail w/ Post

Existing Kamehameha Highway (Outbound Lanes)

Existing Guard Rail

Elev. = 33.7

Type III Footing

Type III Footing

Elev. = 30.4

Existing Kamehameha Highway (Inbound Lanes)

Loop #5 Edge of Pavement

Break-Away Sign Support for Sign E-4

Elev. = 67.8

Elev. = 67.5

SIGN D-1

H-1 Inbound Sta. 489+20

Concrete Footing

SIGN E-3

H-1 Inbound 卐 Sta. 484+50

Luminaire Units (1-6'; 1-4)

Type II Footing

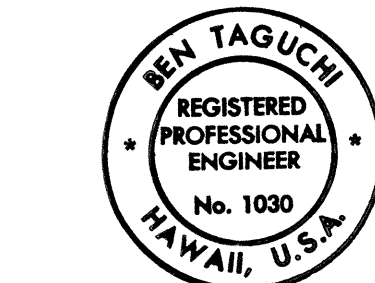
Elev. 70.2

Guard Rail

10'-0"

H-1 Inbound Edge of Pavement

DATE	DESIGNED BY	CHECKED BY
PLAN	DESIGNED BY	CHECKED BY
NOTE BOOK	DESIGNED BY	CHECKED BY
No.	DESIGNED BY	CHECKED BY



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Ben Taguchi

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

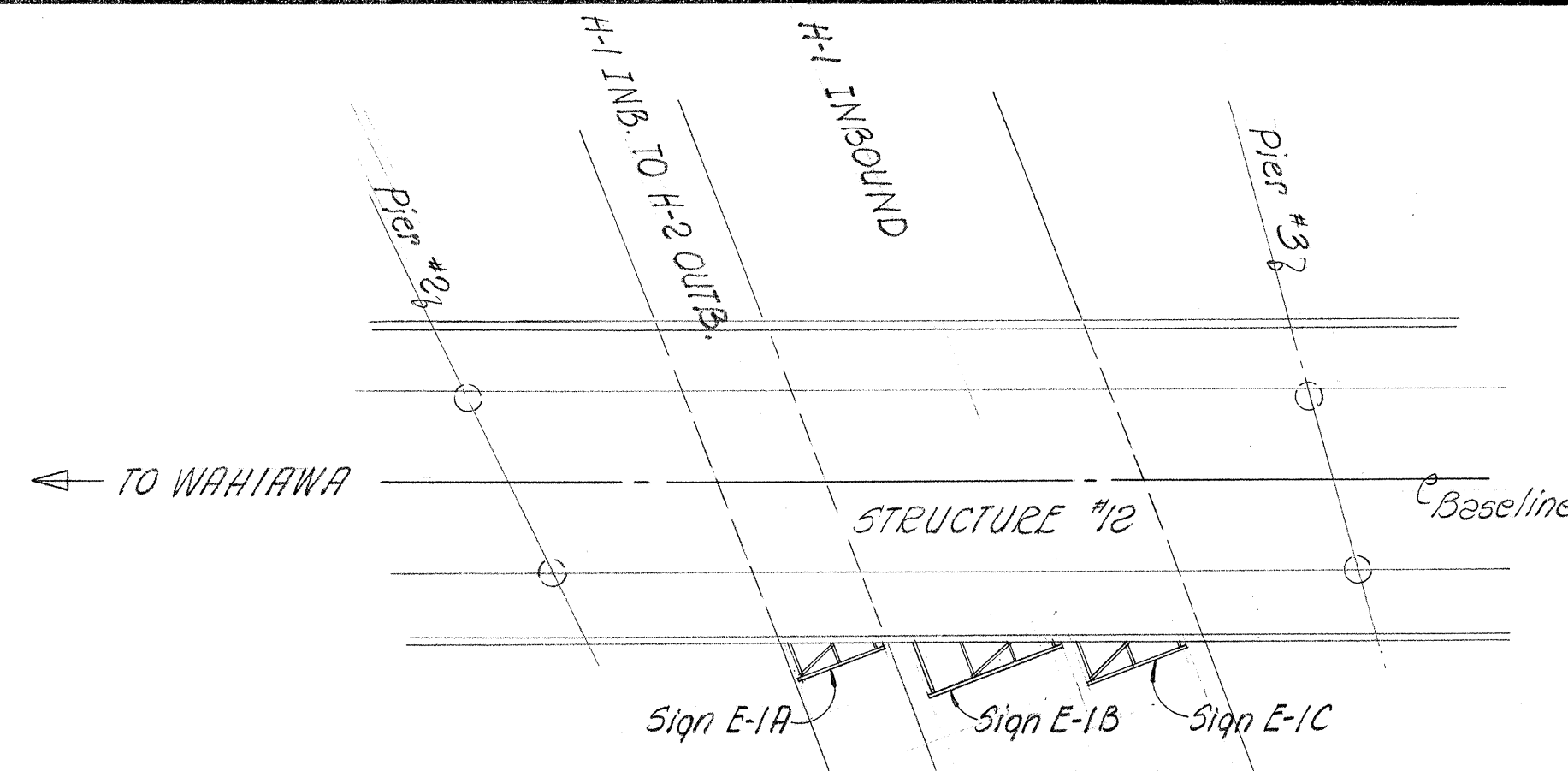
FRAME LAYOUT

WAIAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1(69)B

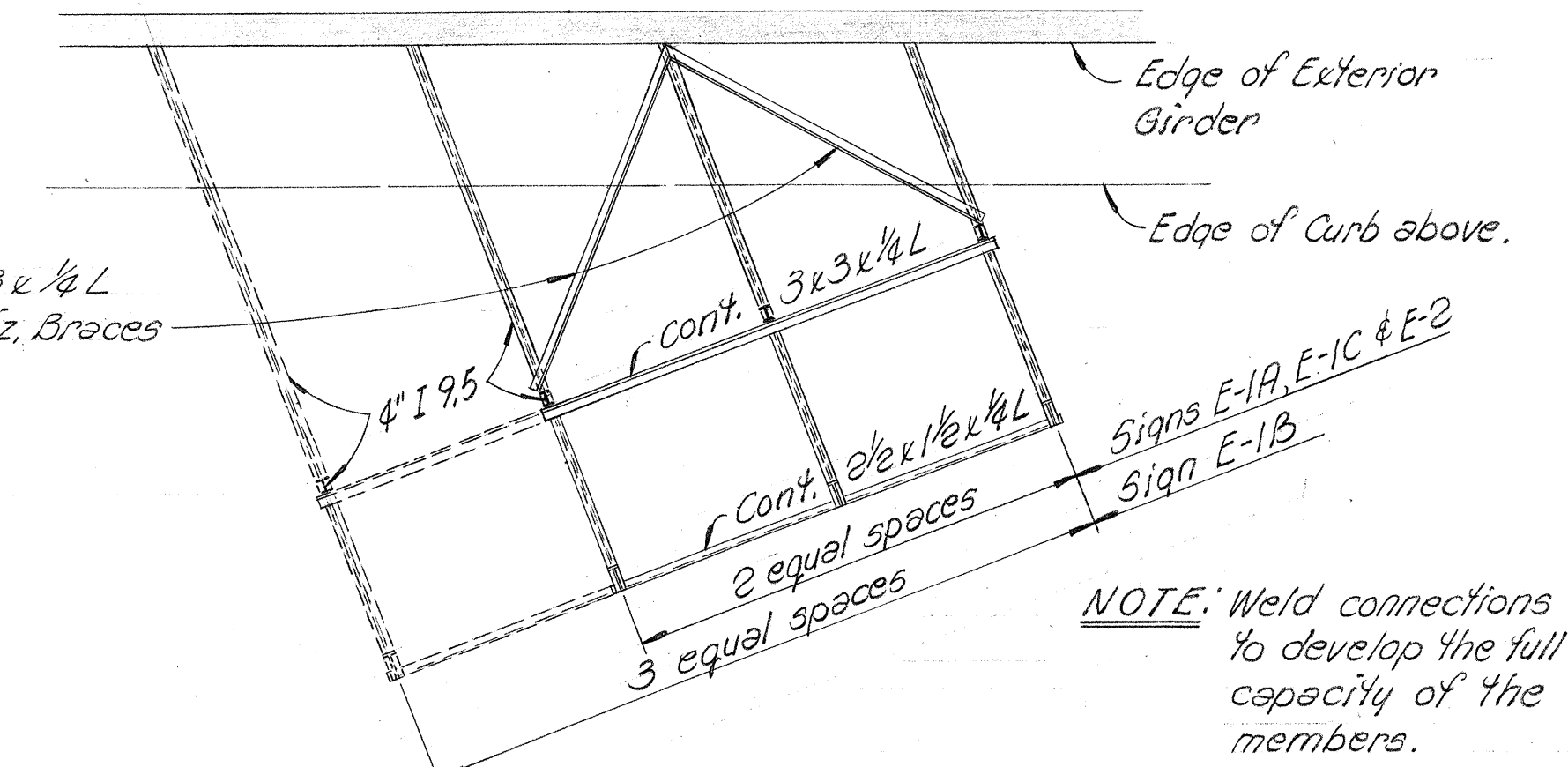
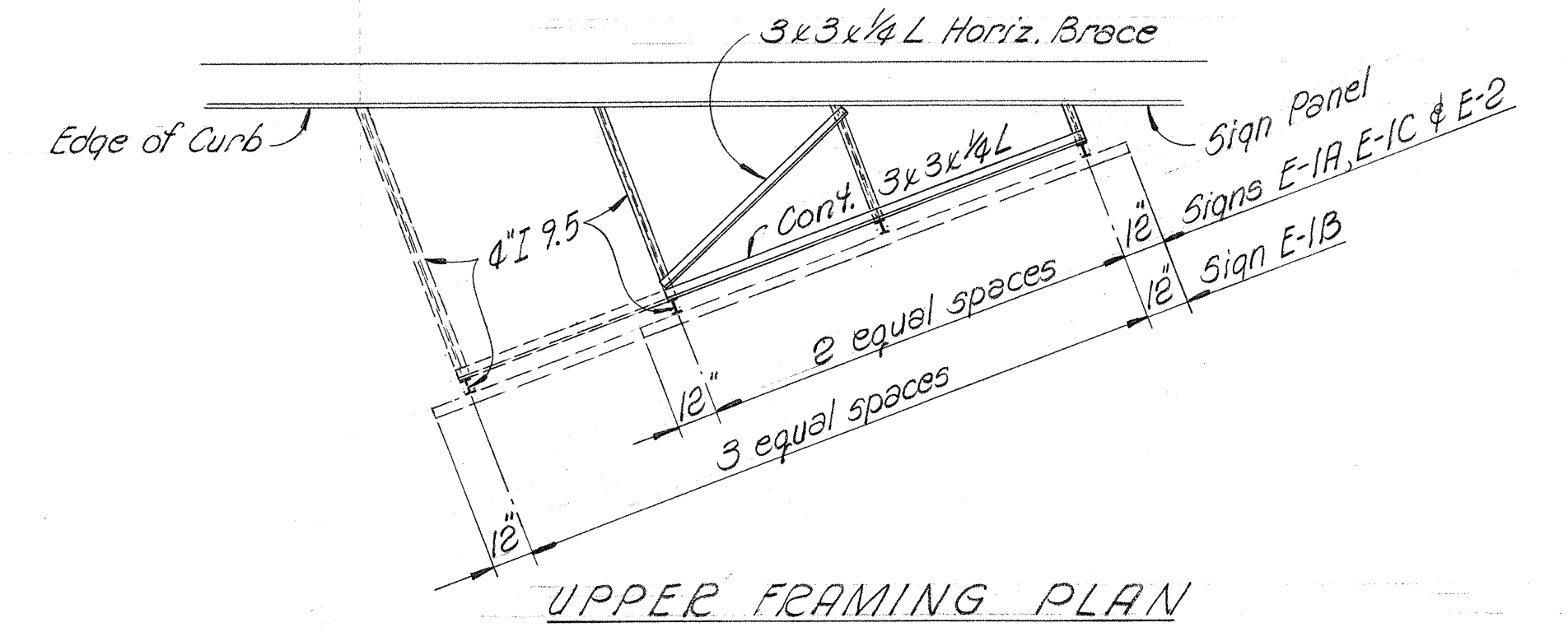
Scale: As Shown Date: OCT. 1968

SHEET No. 3 OF 23 SHEETS

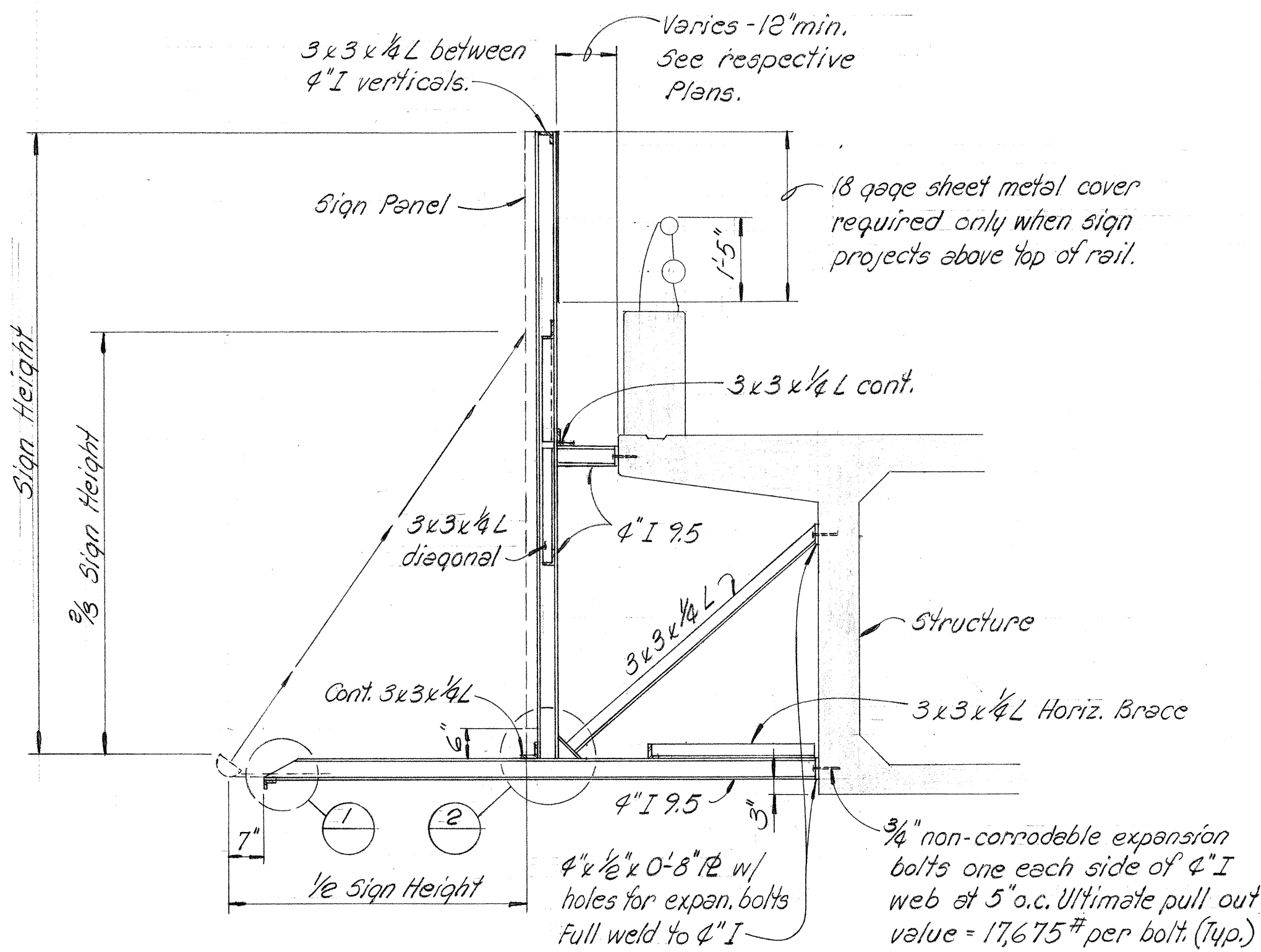
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(62):8	1968	38	144



LOCATION PLAN
1" = 20'-0" (SIGN E-1)



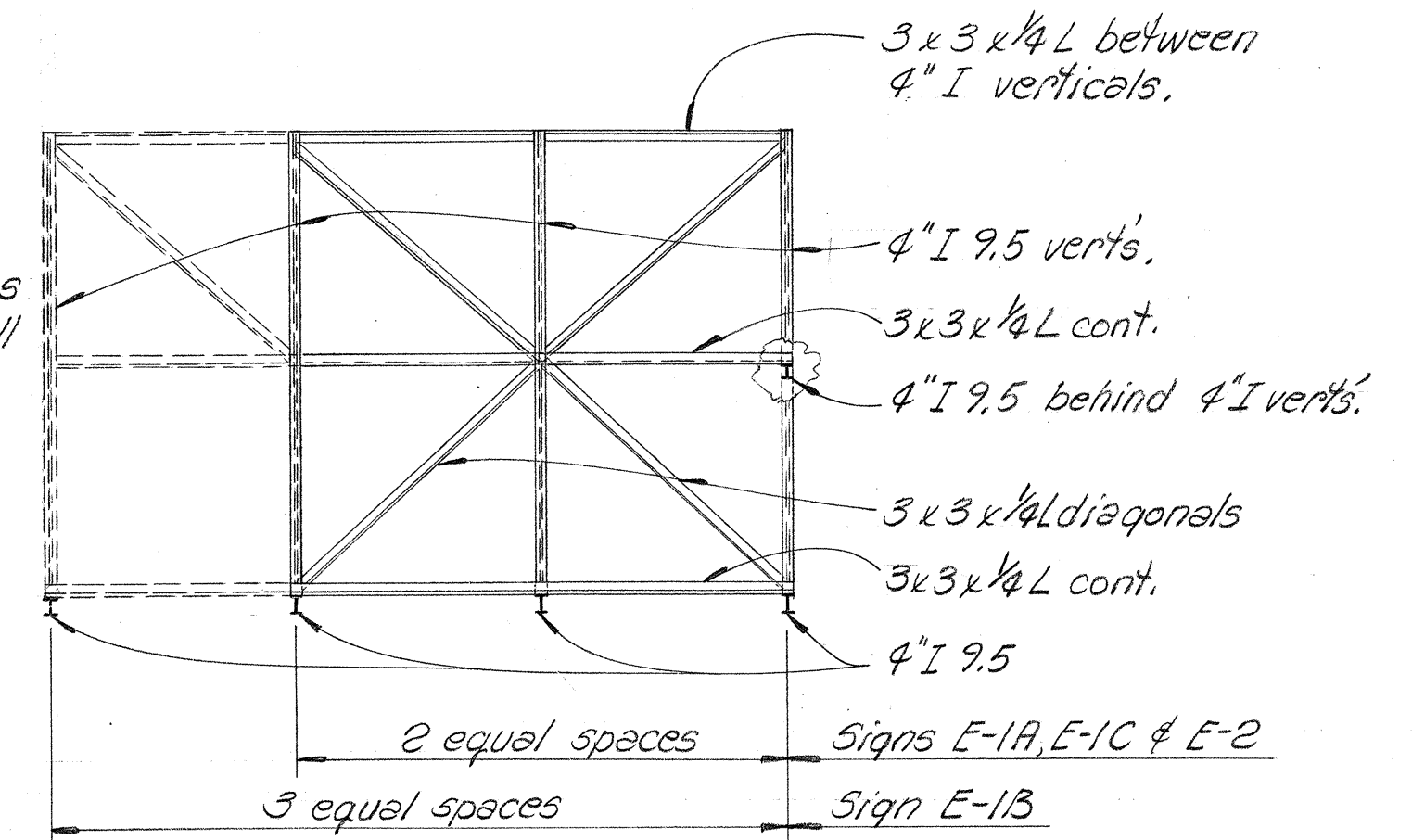
FRAMING PLANS
1/4" = 1'-0"



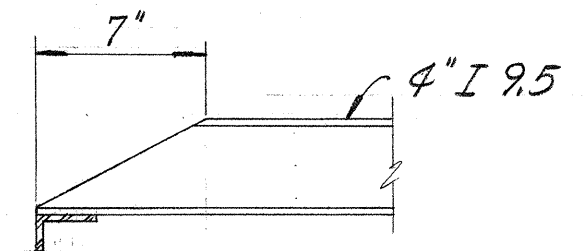
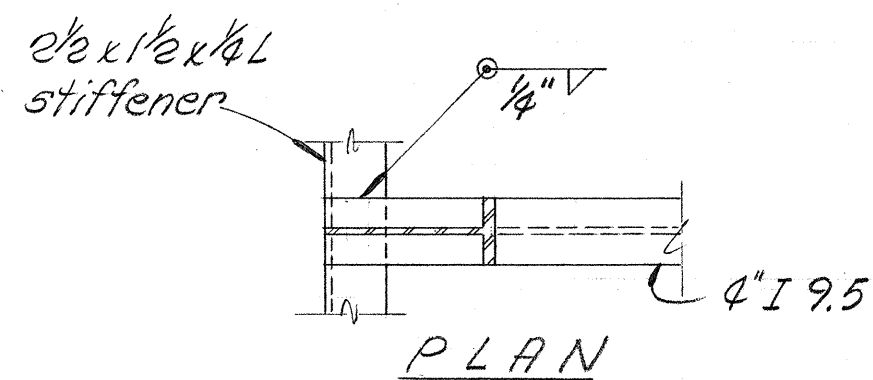
TYPICAL SECTION
1/2" = 1'-0"

NOTE: The sign supports on existing structure shall be paid for as indicated in the proposal schedule, payment for which shall be full compensation for furnishing and installing all materials and for all equipment, tools, labor and incidentals necessary to complete the work as shown.

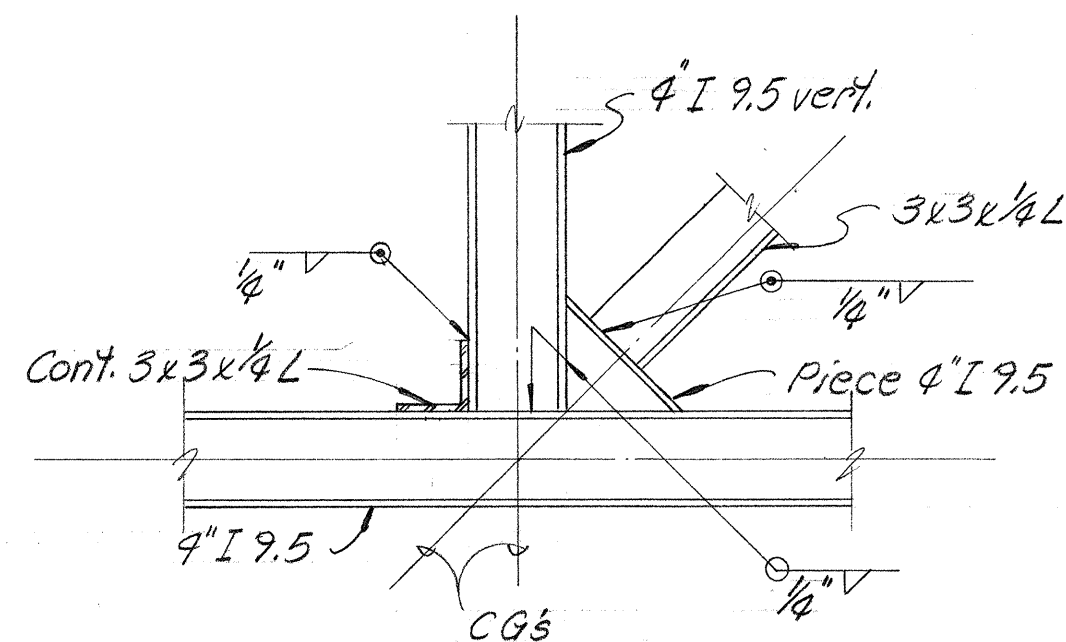
NOTE: Weld connections to develop the full capacity of the members.



ELEVATION
1/4" = 1'-0"

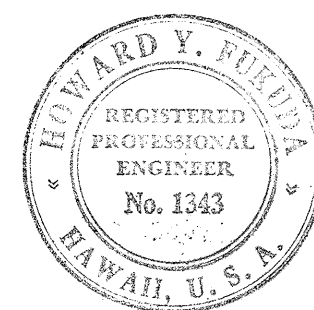


DETAIL 1
1/2" = 1'-0"



DETAIL 2
1/2" = 1'-0"

SHIMAZU SHIMAZUKO & FUKUDA, INC.
Consulting Structural Engineers
1210 Ward Ave., Honolulu, HI 96814



This work was prepared by me or under my supervision.
Howard Y. Fukuda

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

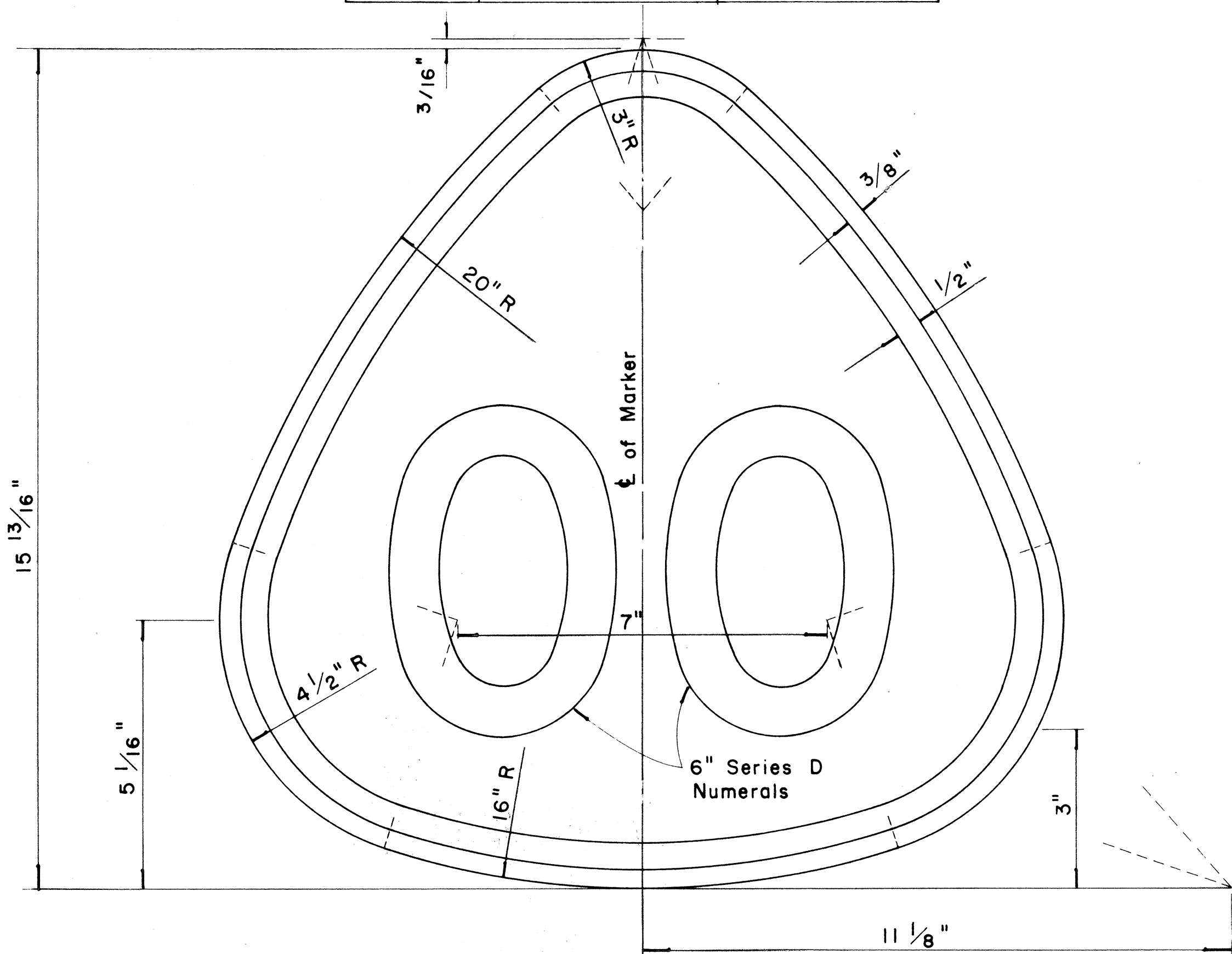
FRAME DETAILS
EXPRESSWAY SIGNS
LUMINAIRE MOUNTING

WAIKAWA INTERCHANGE
F.A.I. Proj. No. I-HI-1 (62):8

Scale: As shown Date: OCT. 1968

SHEET No. 4 OF 23 SHEETS

Shield Size	Multiply Dimensions by	Numeral Size
16"	1	6" Series D
21"	1.3	8" Series D
32"	2.0	12" Series D
42"	2.63	15" Series D
48"	3	18" Series D



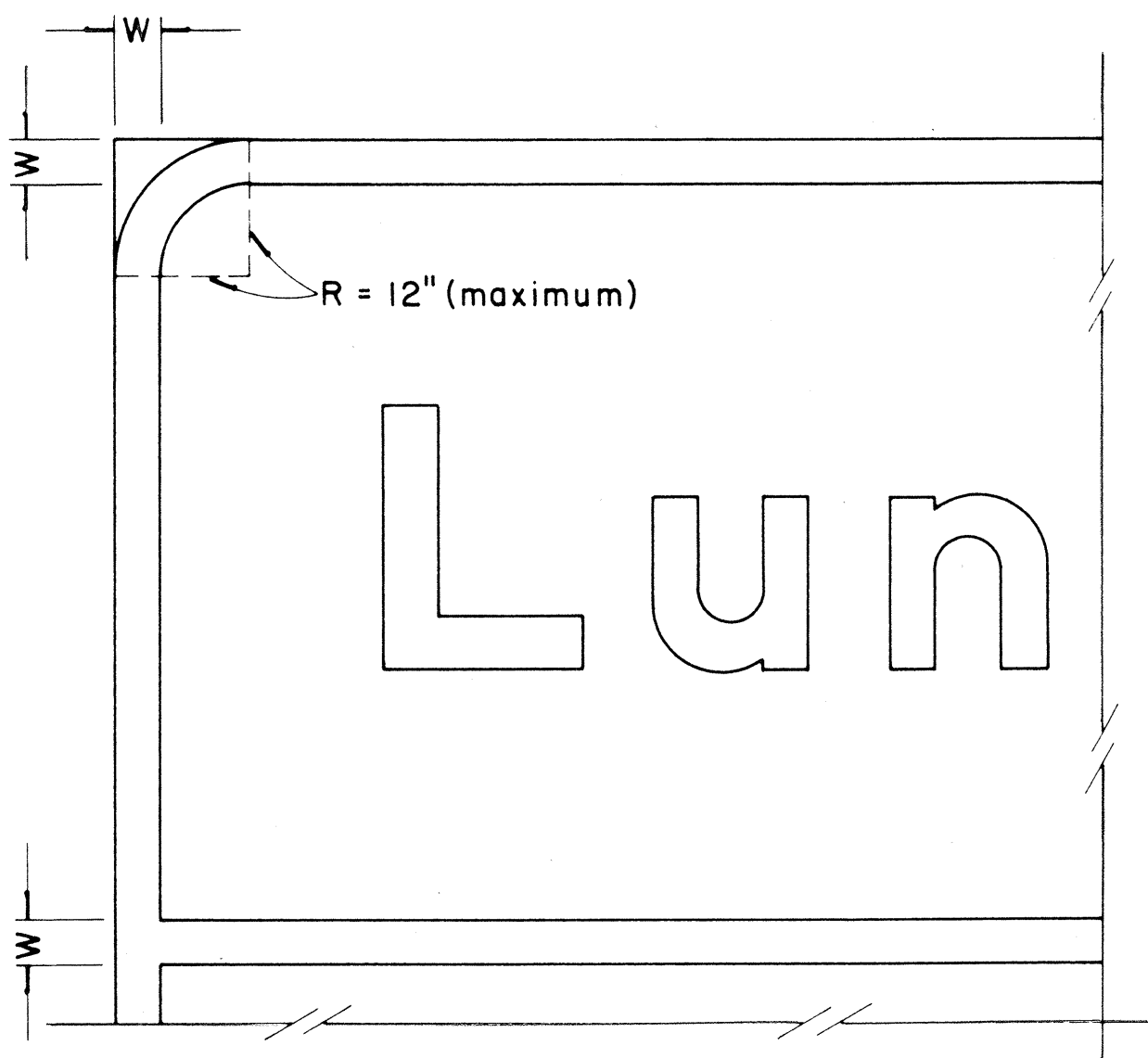
**STATE ROUTE MARKER
FOR
DESTINATION & EXPRESSWAY SIGNS**

Scale: Half Size

NOTE:

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

RADII FOR SIGNS		
Least Dimension of Sign	W	R
2' - 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"



**BORDER DETAIL
FOR
DESTINATION & EXPRESSWAY SIGNS**

No Scale

NOTE:

- Area outside corner radius need not be trimmed.
- All borders shall be embossed cut-outs, white and reflectorized.
- All signs shall have borders.

REVISED: Nov. 29, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DESTINATION & EXPRESSWAY SIGNS

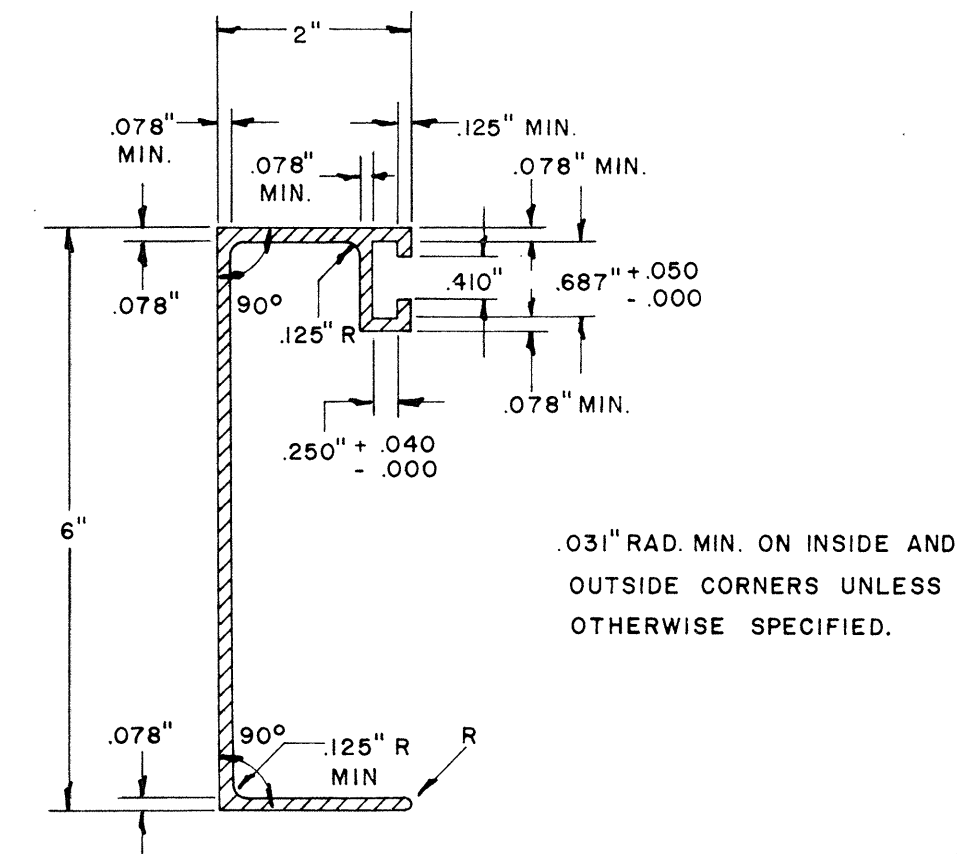
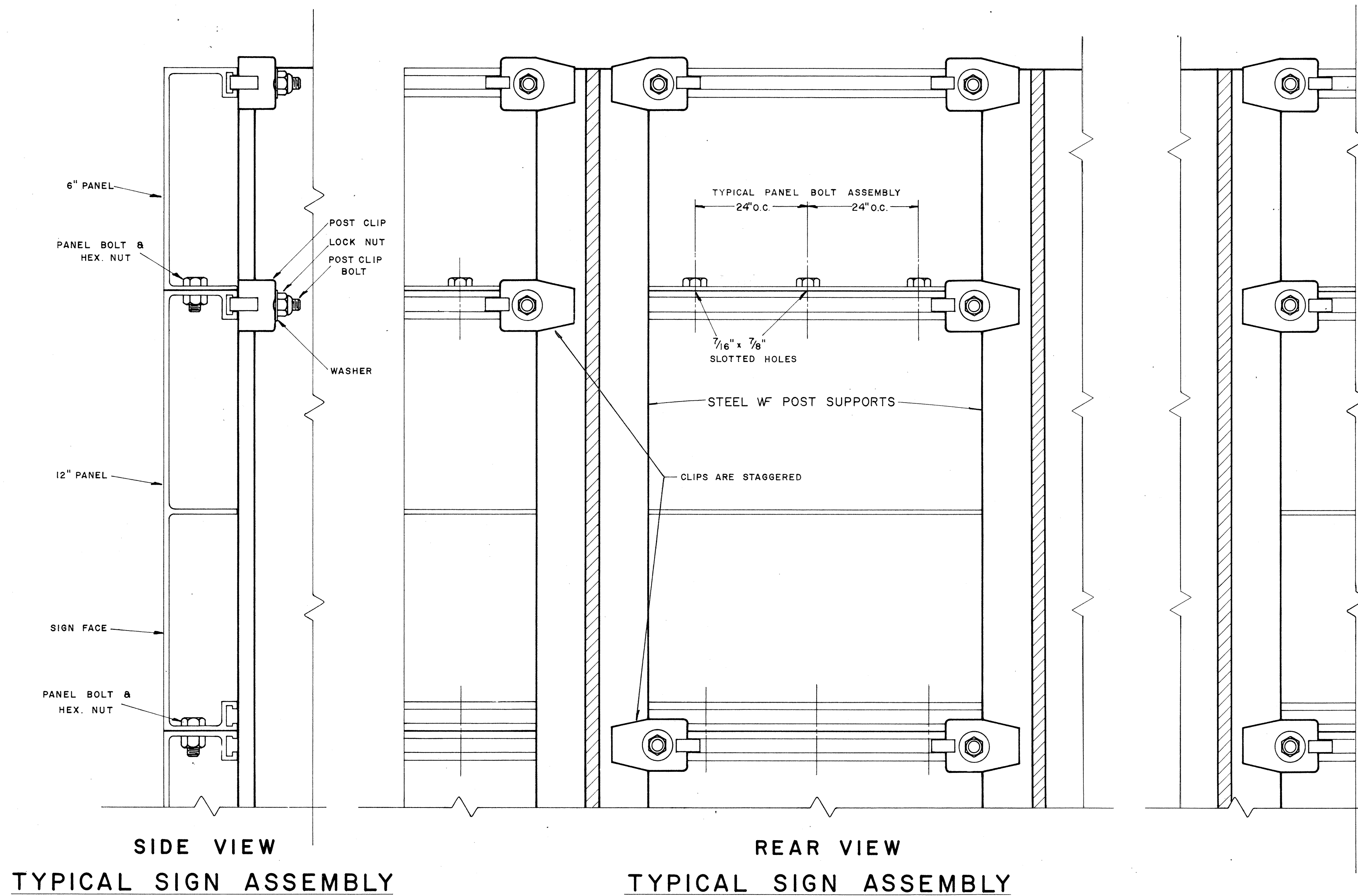
**STATE ROUTE MARKER
AND
BORDER DETAIL**

Scale: As Shown

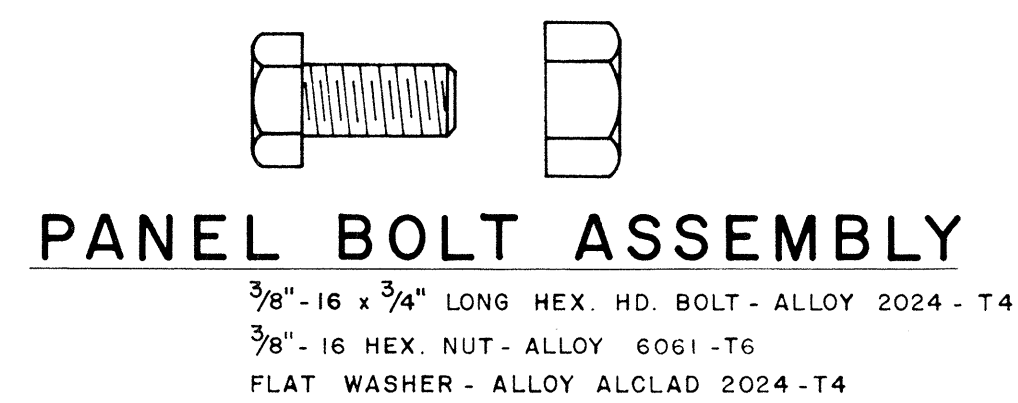
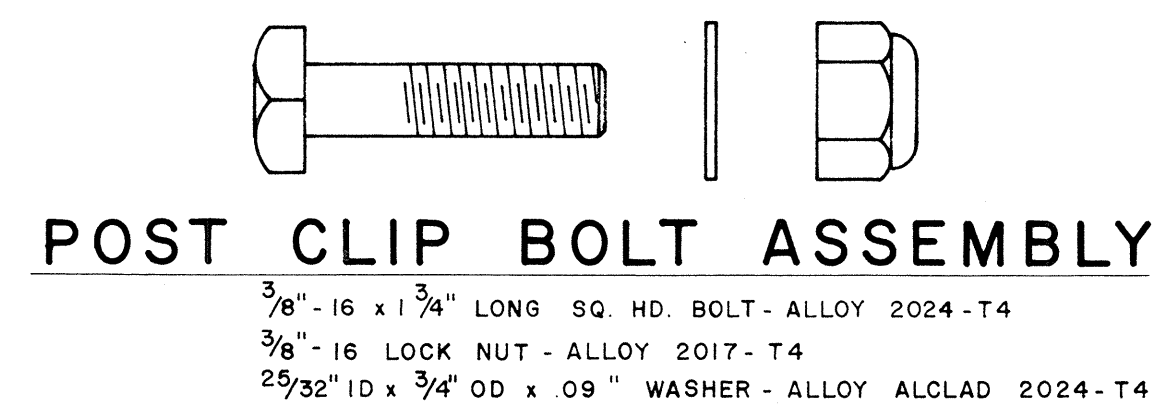
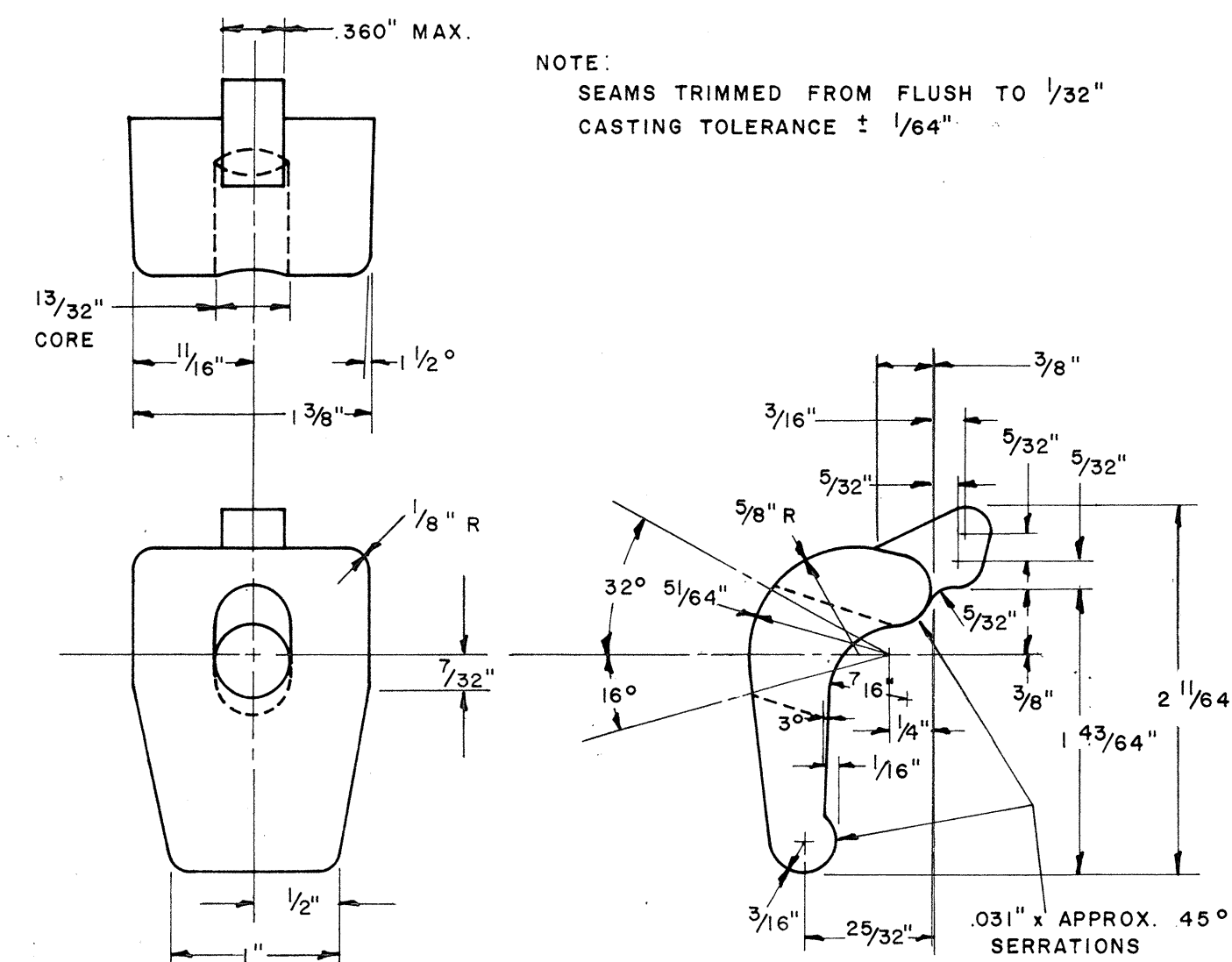
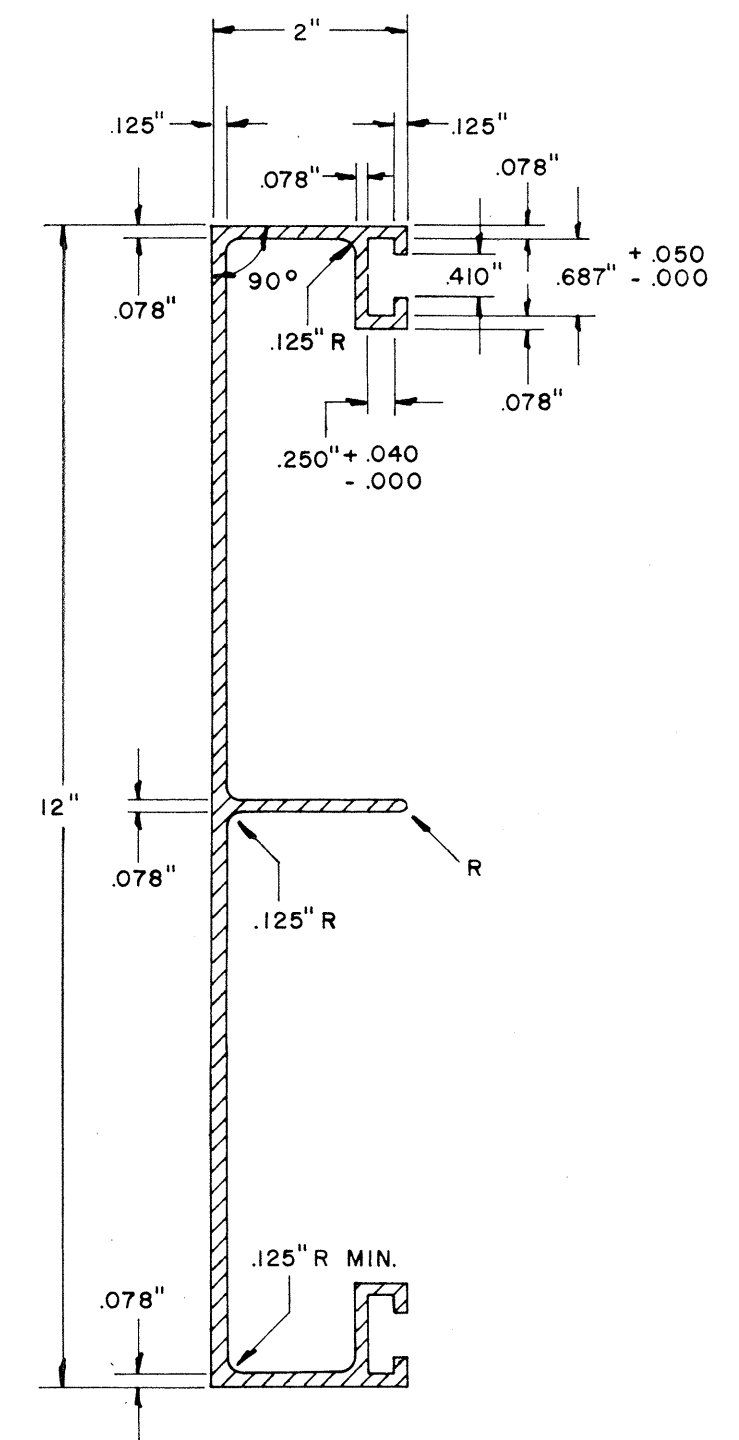
SHEET No. 5 OF 23 SHEETS

ORIGINAL PLAN	SURVEY PLATTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(2)B	1968	40	144



SOLID EXTRUDED SIGN PANEL DETAILS



NOTE:
Extruded Aluminum Panels to be used for
Destination Signs with Reflective Sheeting Background

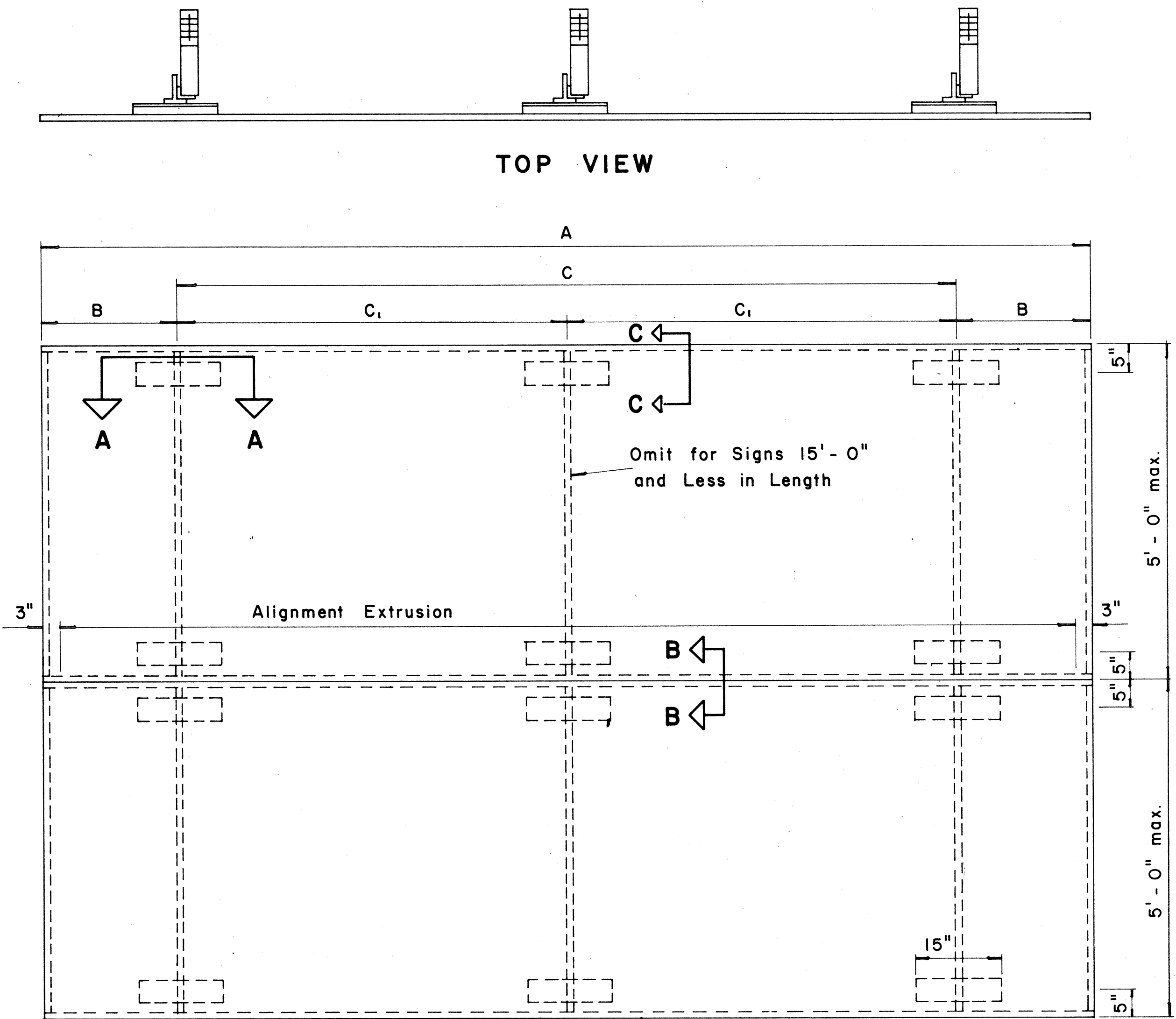
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
SOLID ALUMINUM
EXTRUDED SIGN PANEL
AND
ACCESSORY DETAILS
SCALE:

SHEET No. 6 OF 23 SHEETS

DATE	DESIGNED BY	CHECKED BY
PLANNED BY	DRAWN BY	NOTED BY
QUANTITIES BY	NOTED BY	CHECKED BY
ORIGINAL PLAN	NOTE BOOK	No.

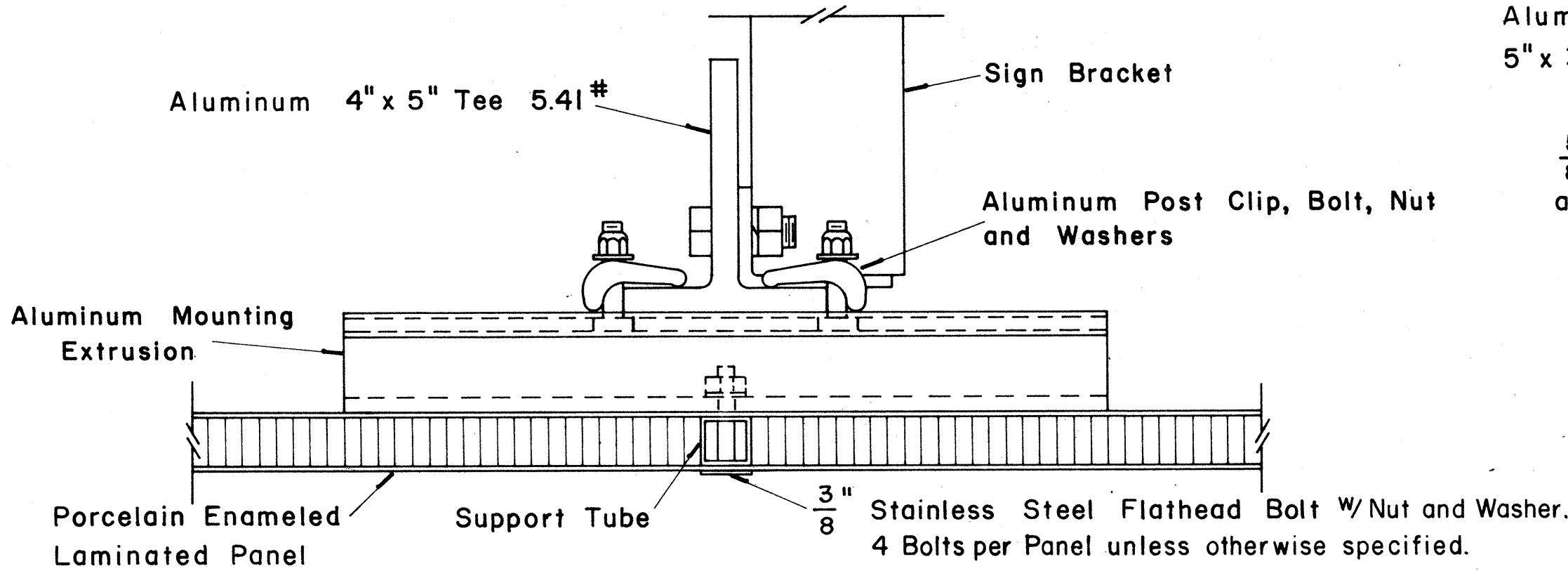
(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG	SUPPORT SPACING
	A		B	C or C ₁
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"



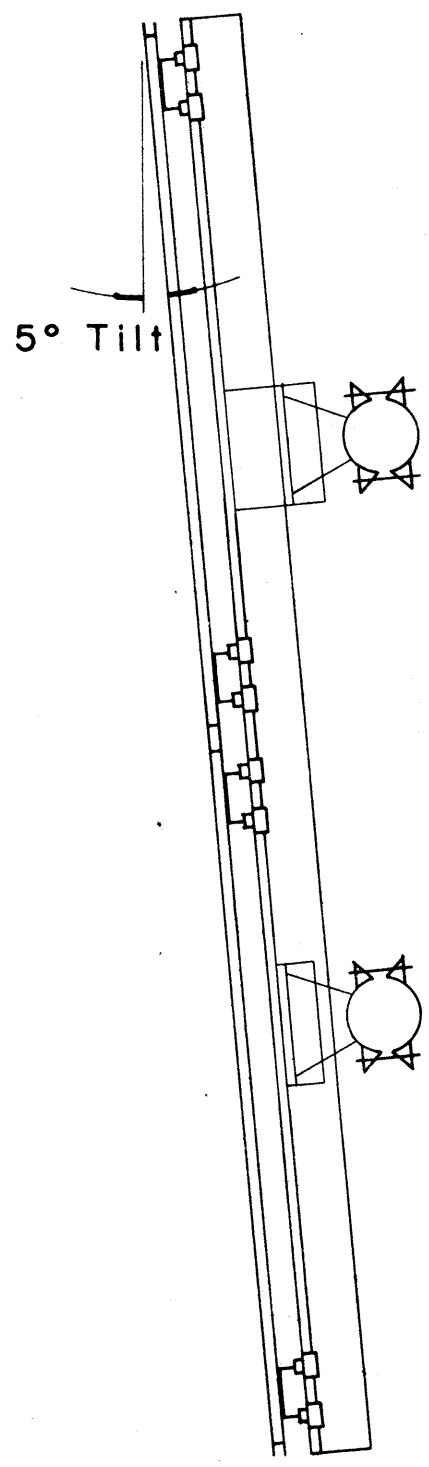
ELEVATION
TYPICAL SIGN ASSEMBLY

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

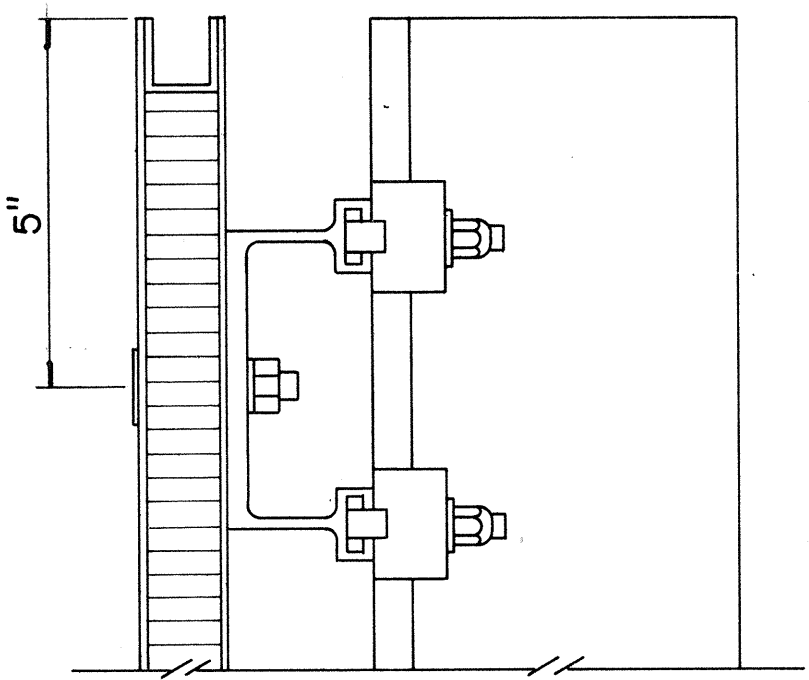


SECTION "A-A"

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

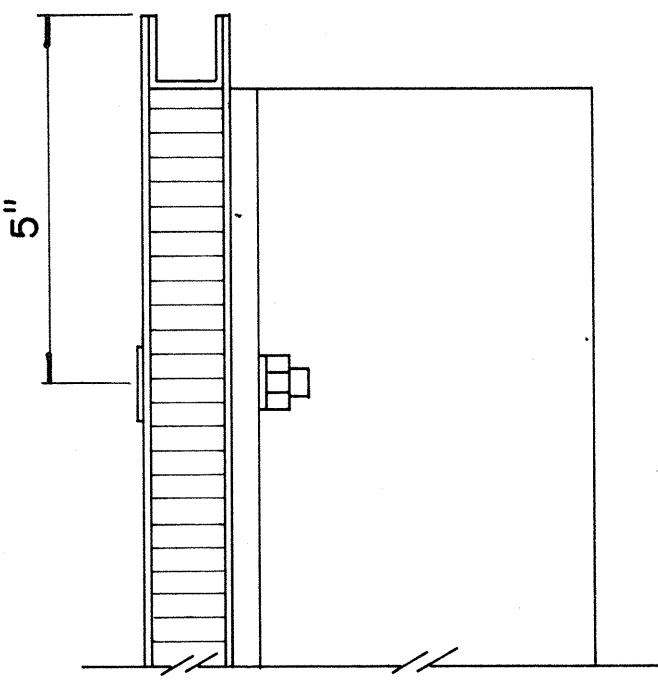


SIDE VIEW



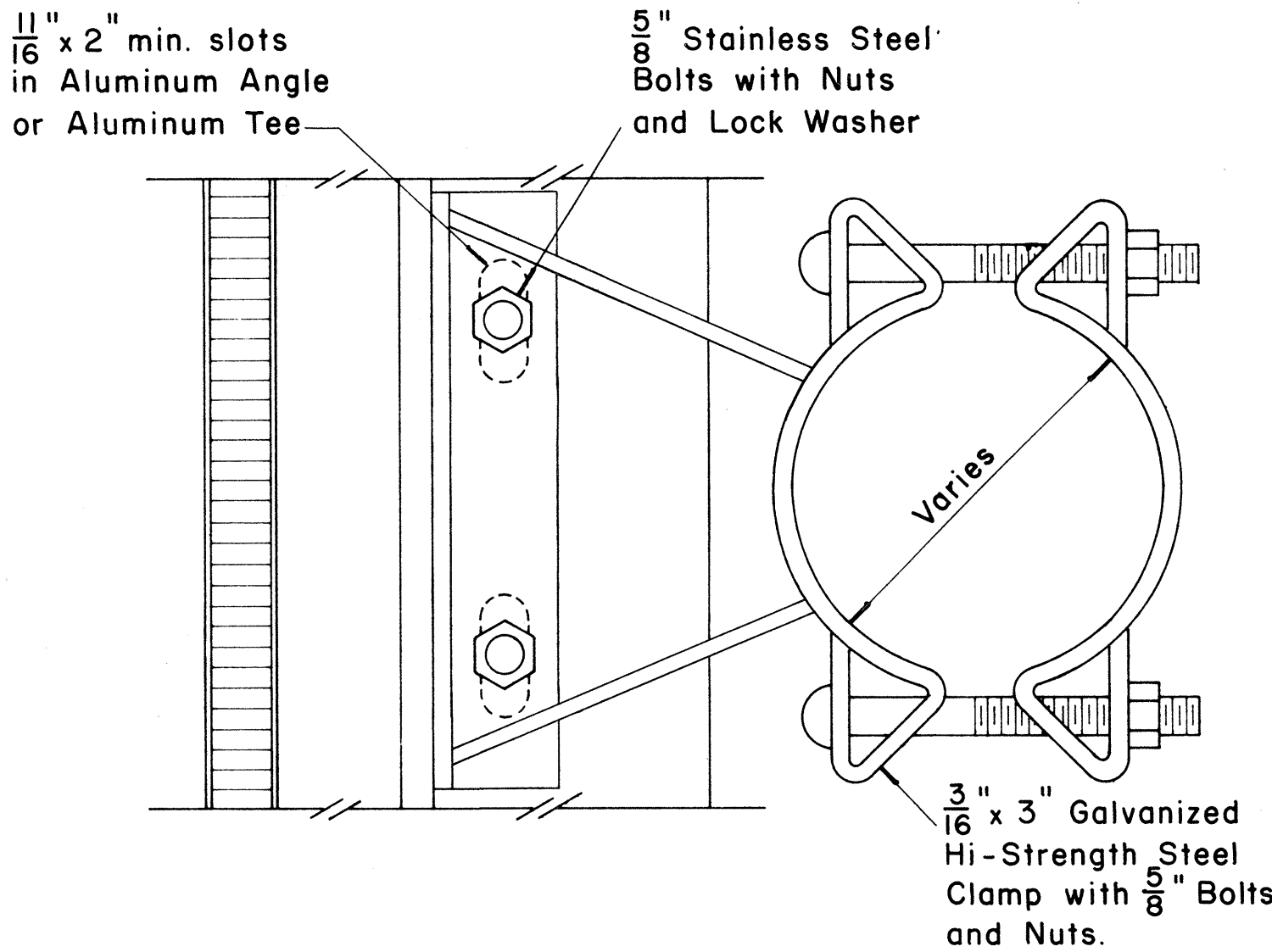
SECTION "C-C"

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



SECTION "C-C" (Alternate)

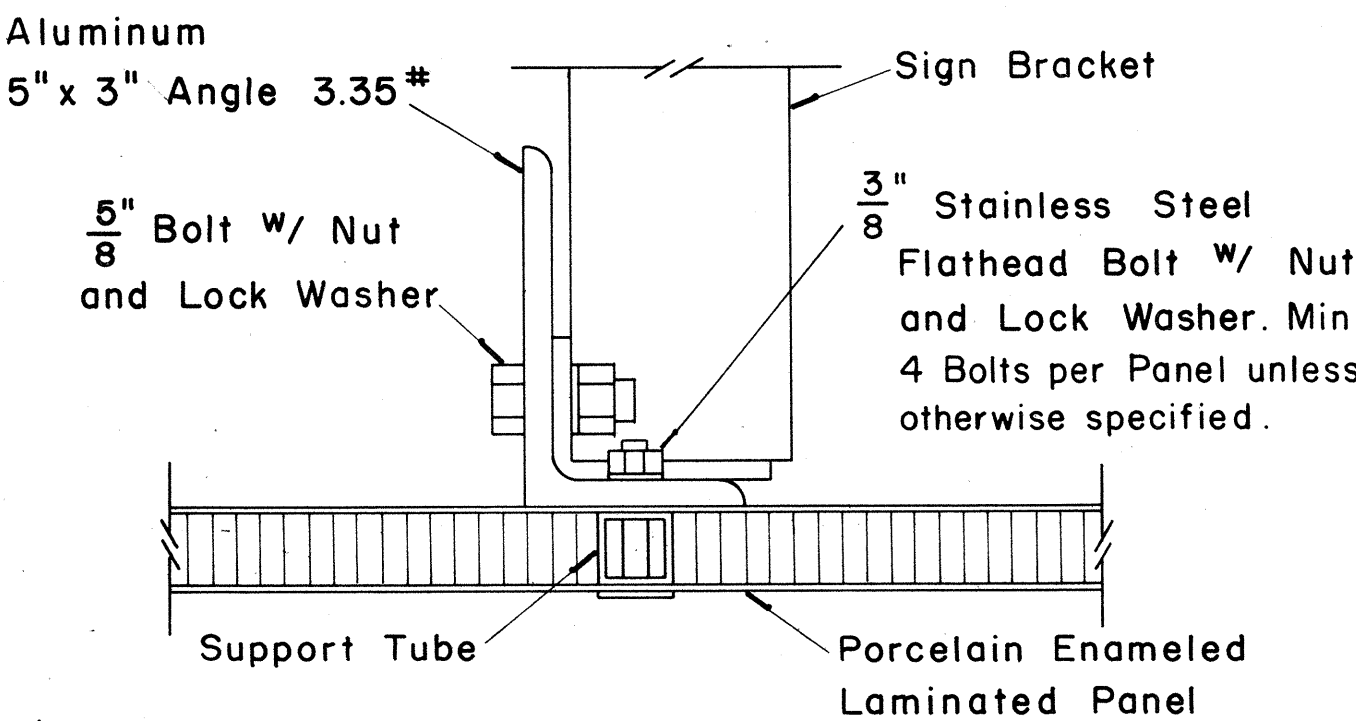
Scale: $\frac{3}{8}$ " = 1"



SIGN BRACKET ASSEMBLY

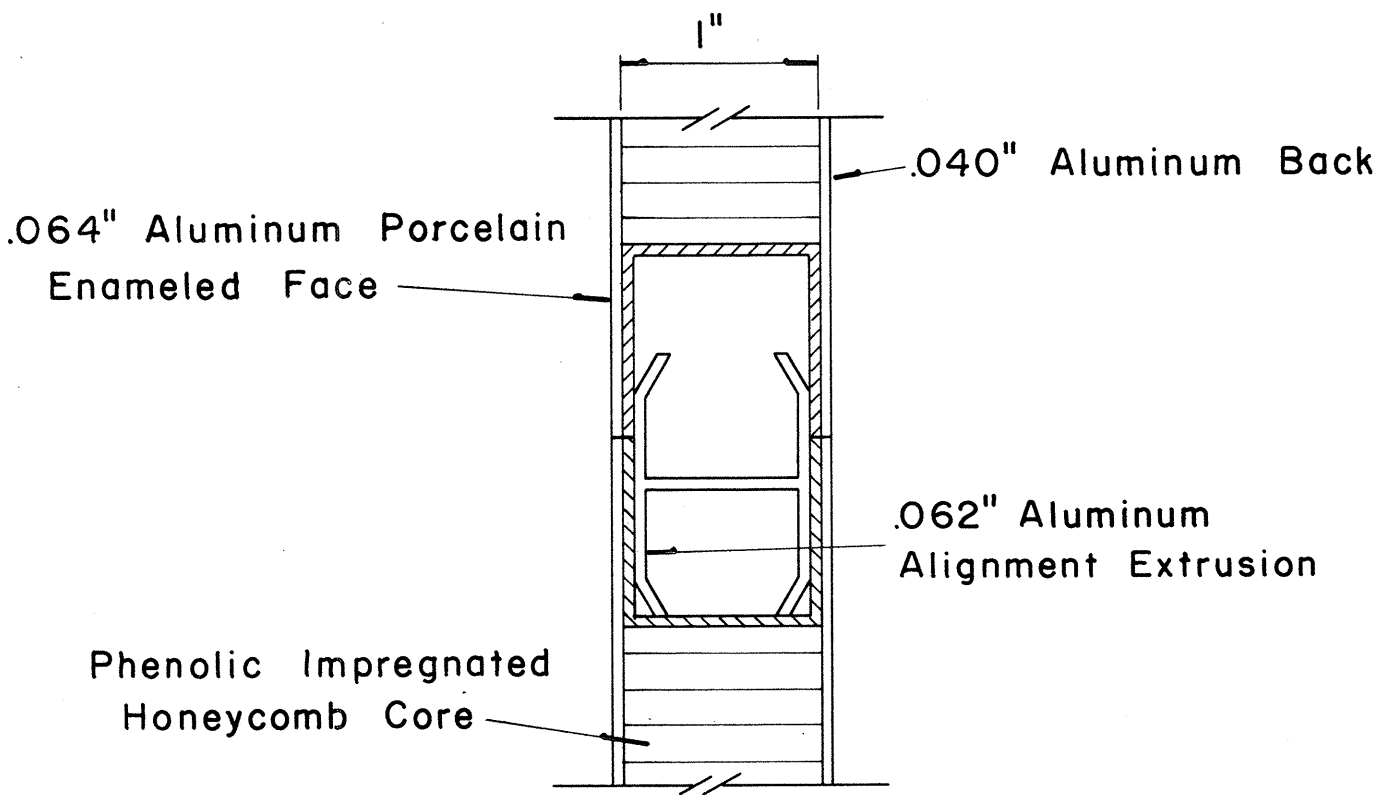
Scale: $\frac{3}{8}$ " = 1"

NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



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

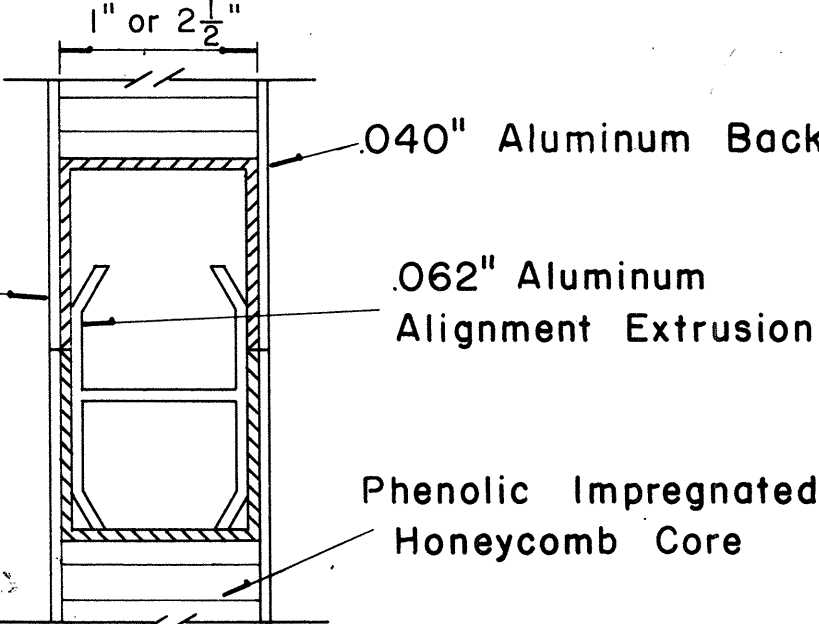
SHEET No. 7 OF 23 SHEETS

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
NO. _____

(GROUND MOUNTED SIGNS)

SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG		SUPPORT SPACING
			A	B	
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

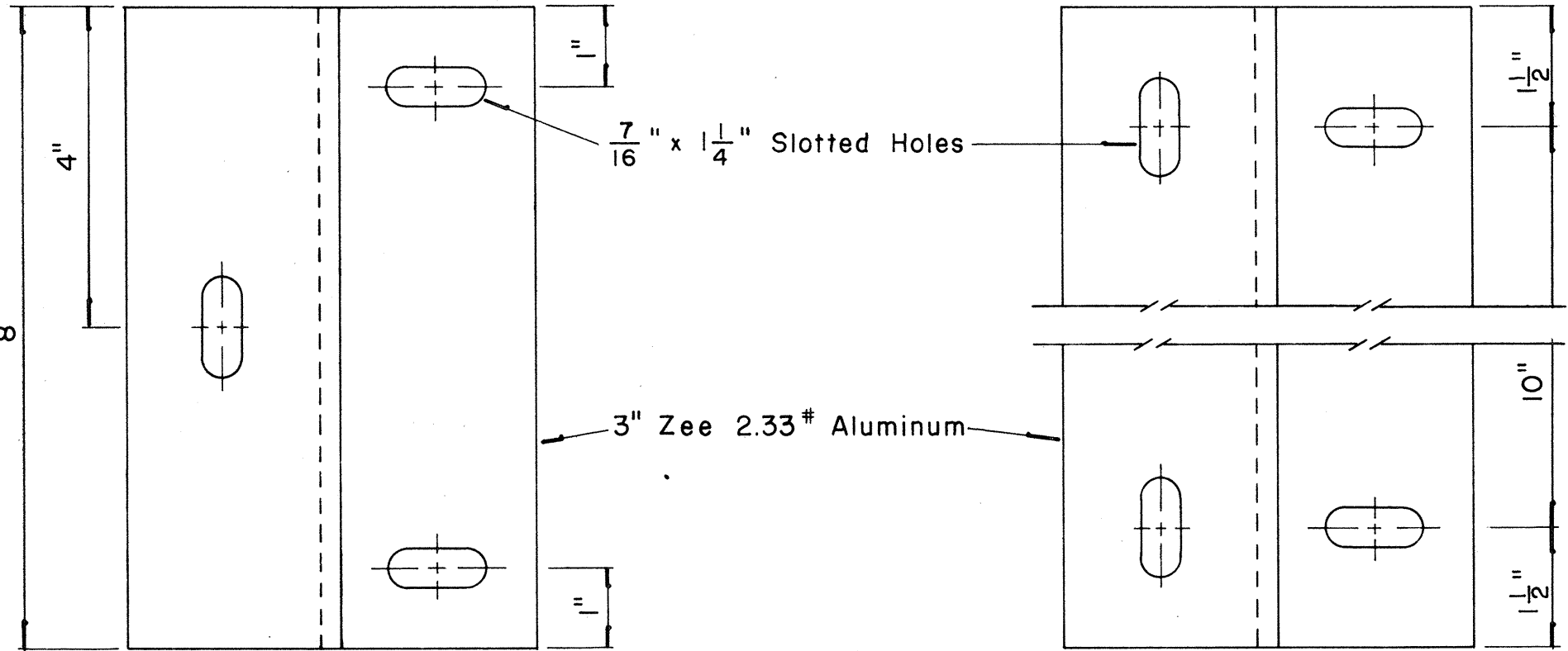
LAMINATED ALUMINUM

SIGN PANELS

(GROUND MOUNTED)

Scale: As Shown

SHEET No. 8 OF 23 SHEETS

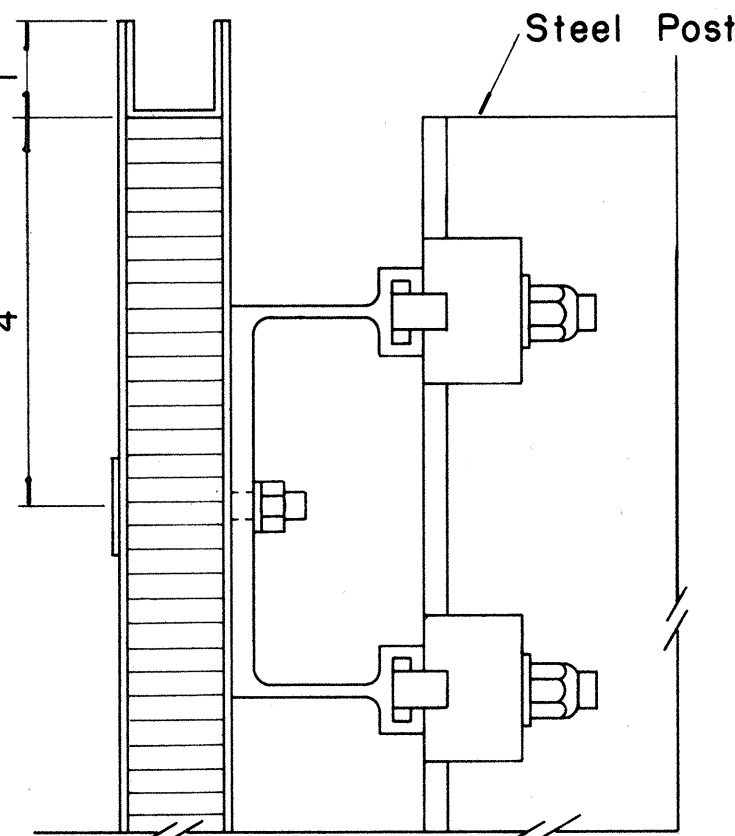


END MOUNTING

INTERMEDIATE MOUNTING

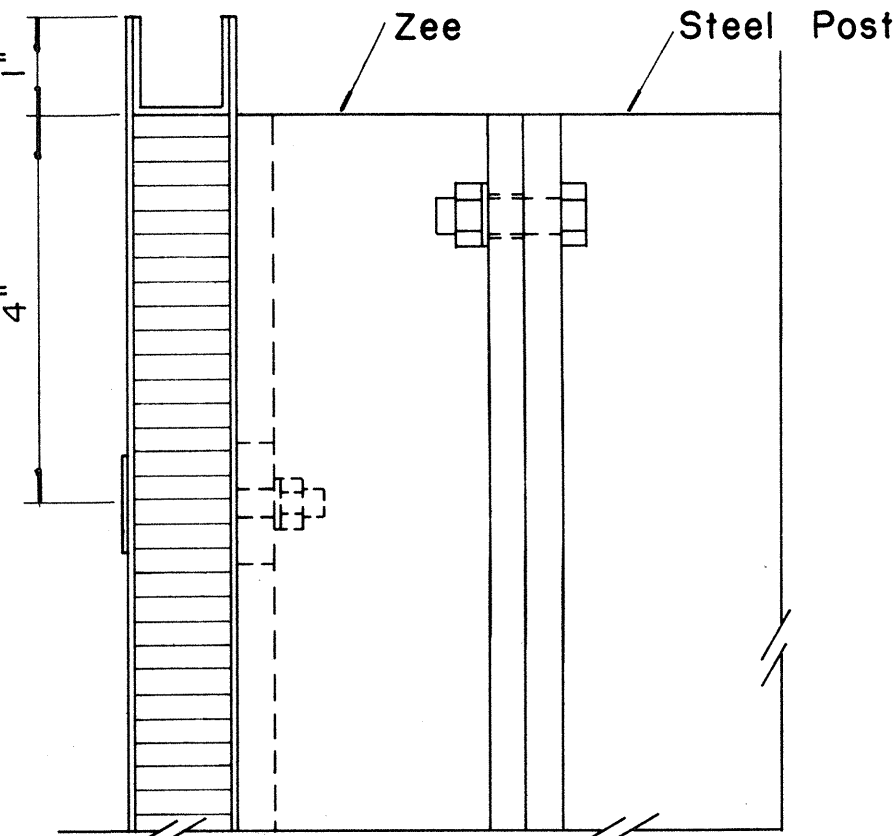
ZEE MOUNTING DETAILS

Scale: 1/2" = 1"



SECTION "B-B"

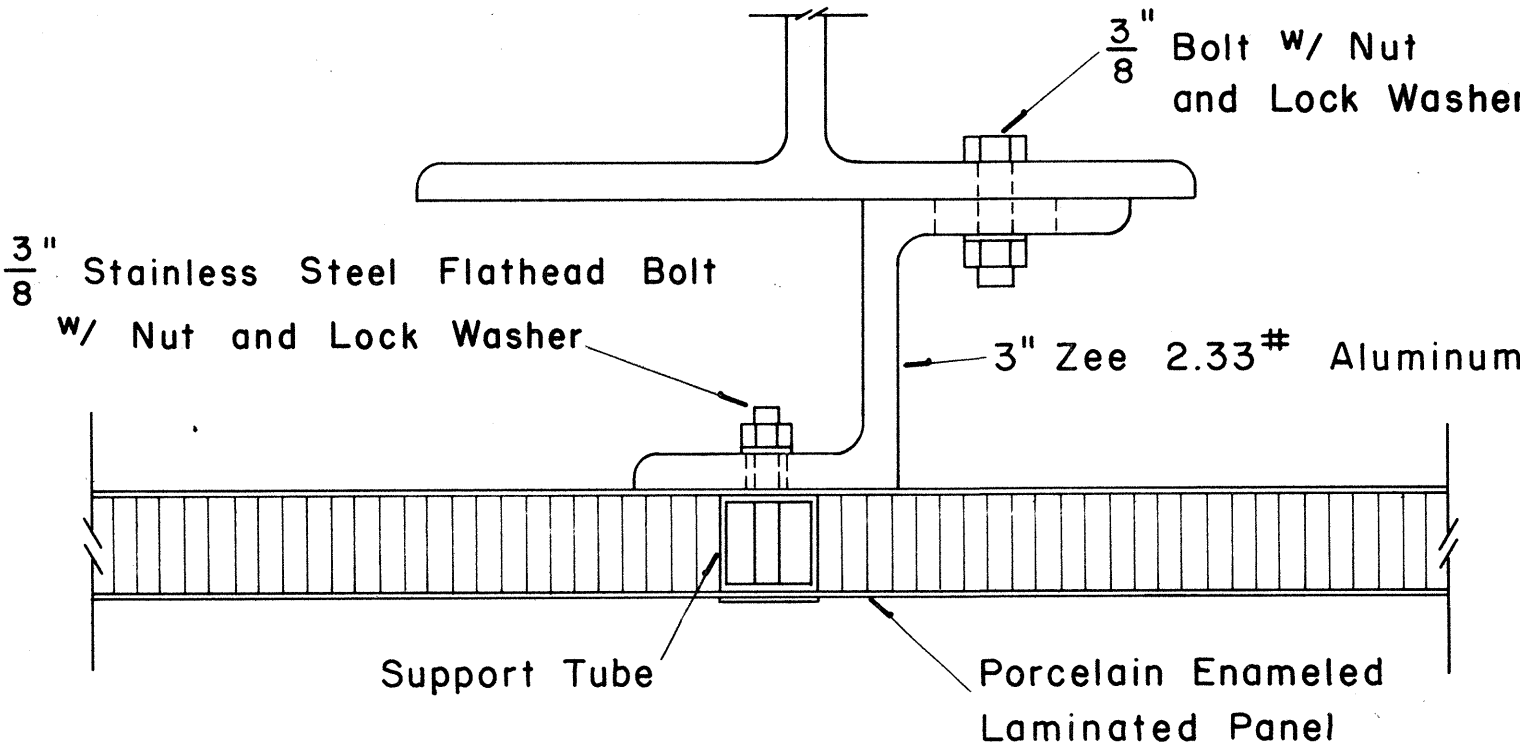
Scale: 1/2" = 1"



SECTION "B-B"

(Alternate)

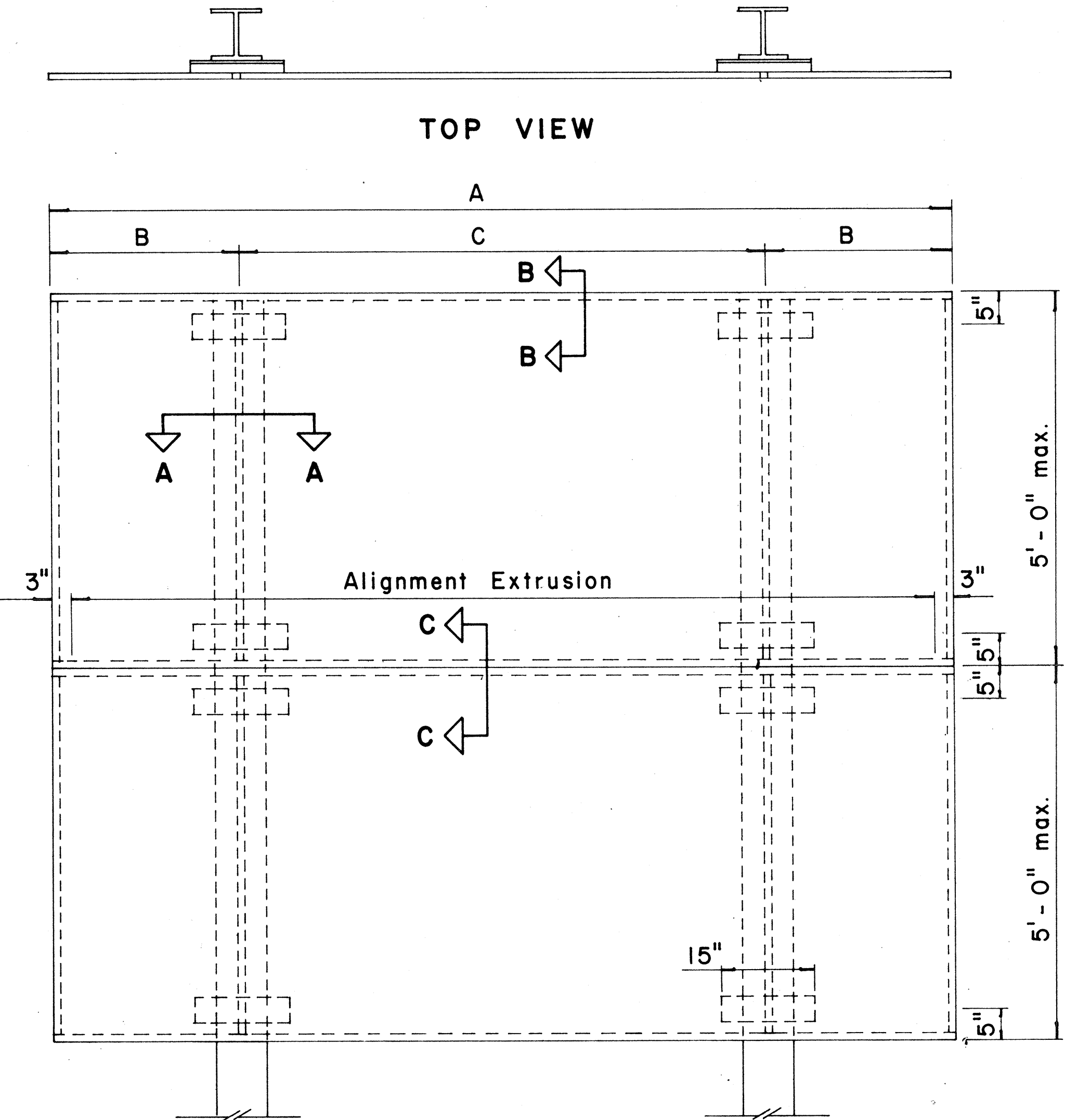
Scale: 1/2" = 1"



SECTION "A-A"

(Alternate)

Scale: 1/2" = 1"

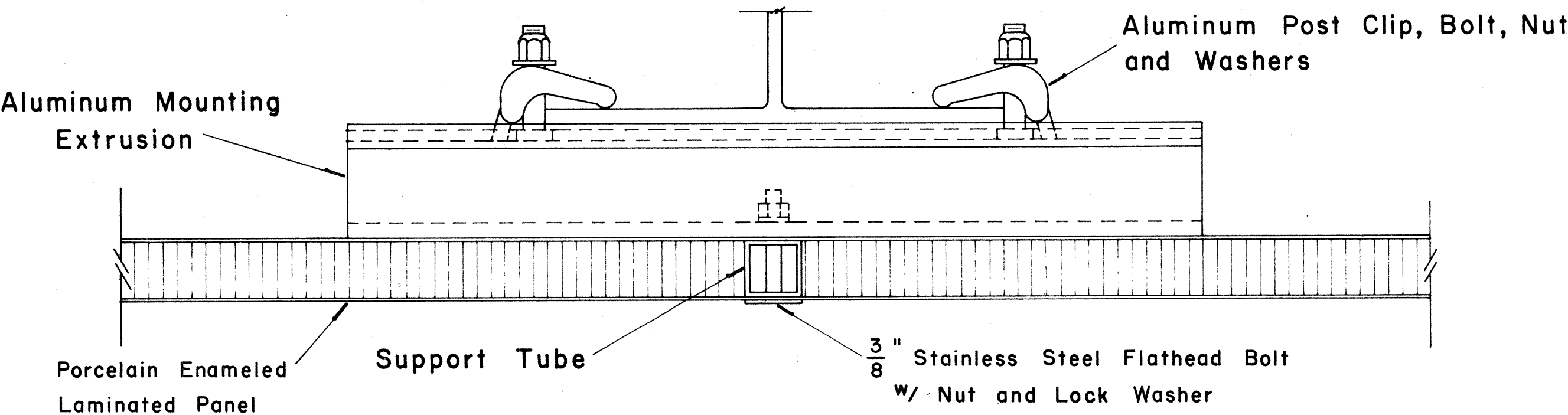


ELEVATION

SIDE VIEW

TYPICAL SIGN ASSEMBLY

Scale: 3/4" = 1'-0"

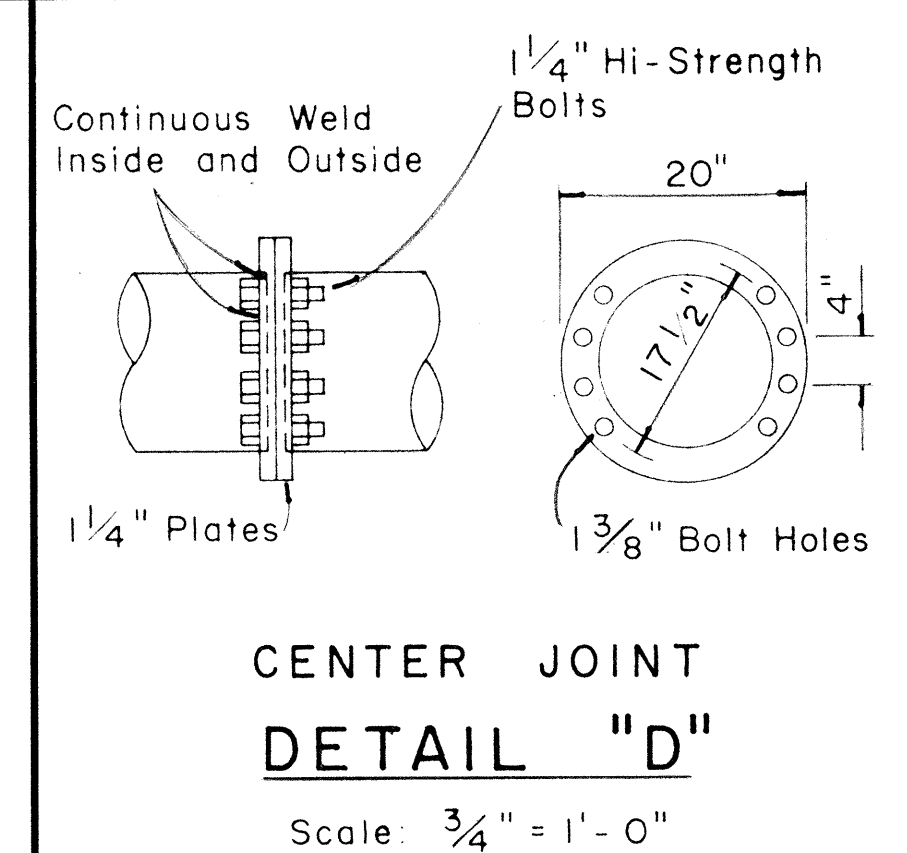
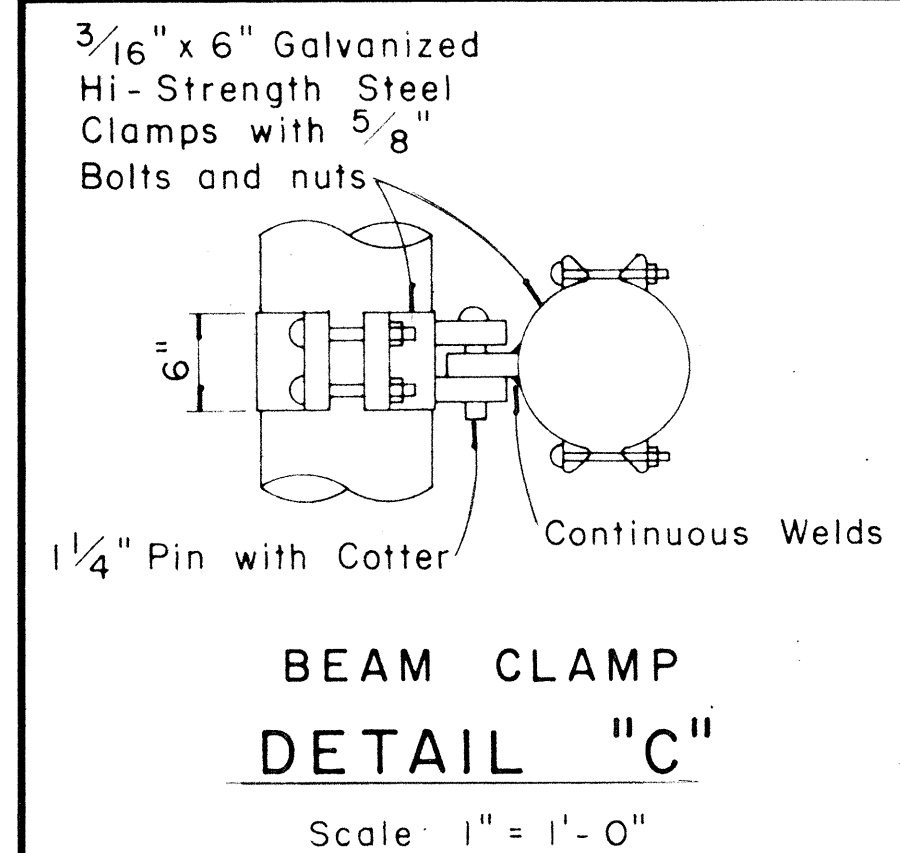
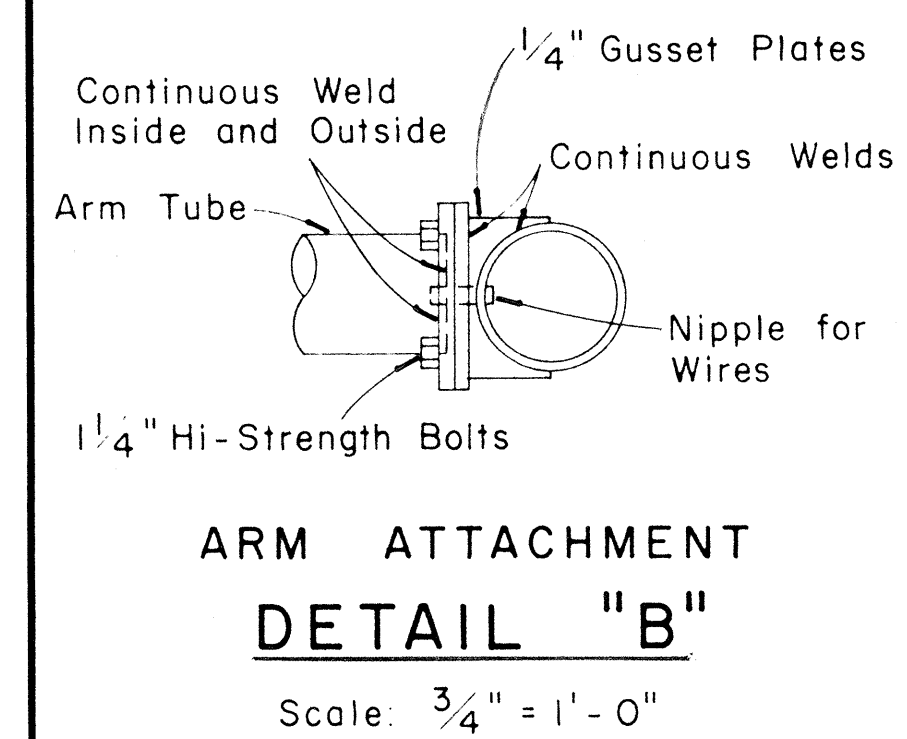
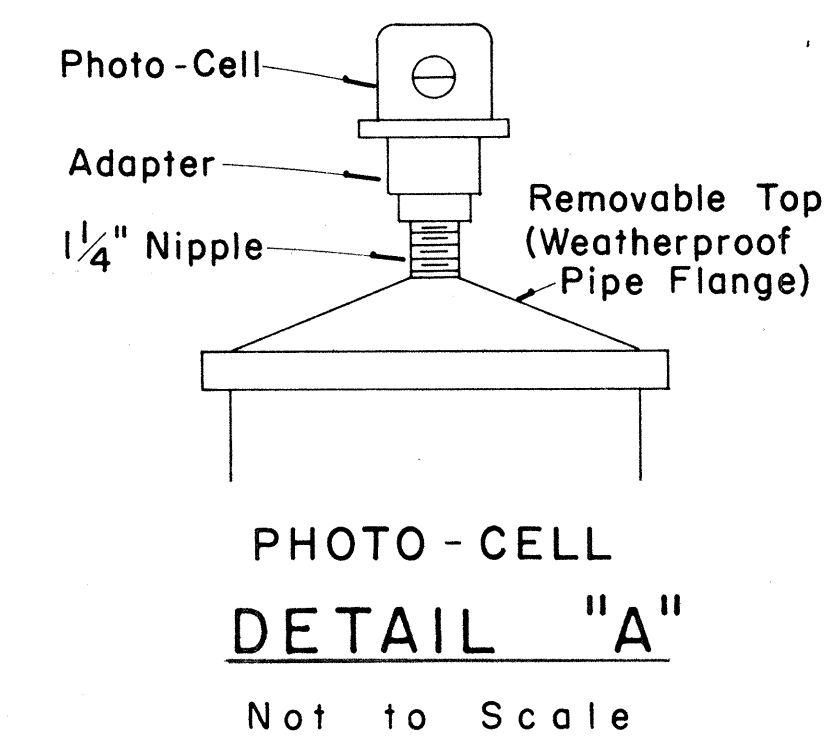
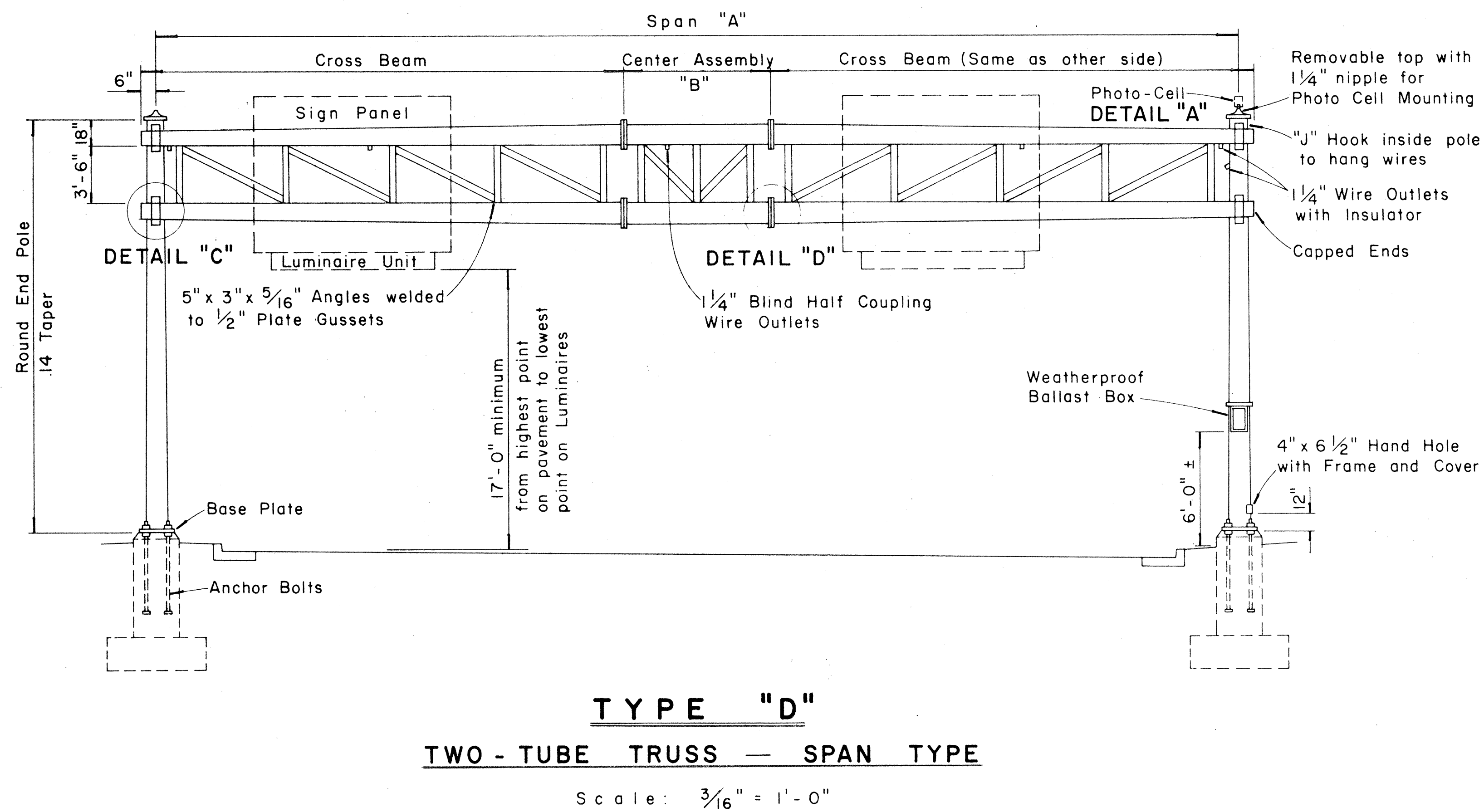
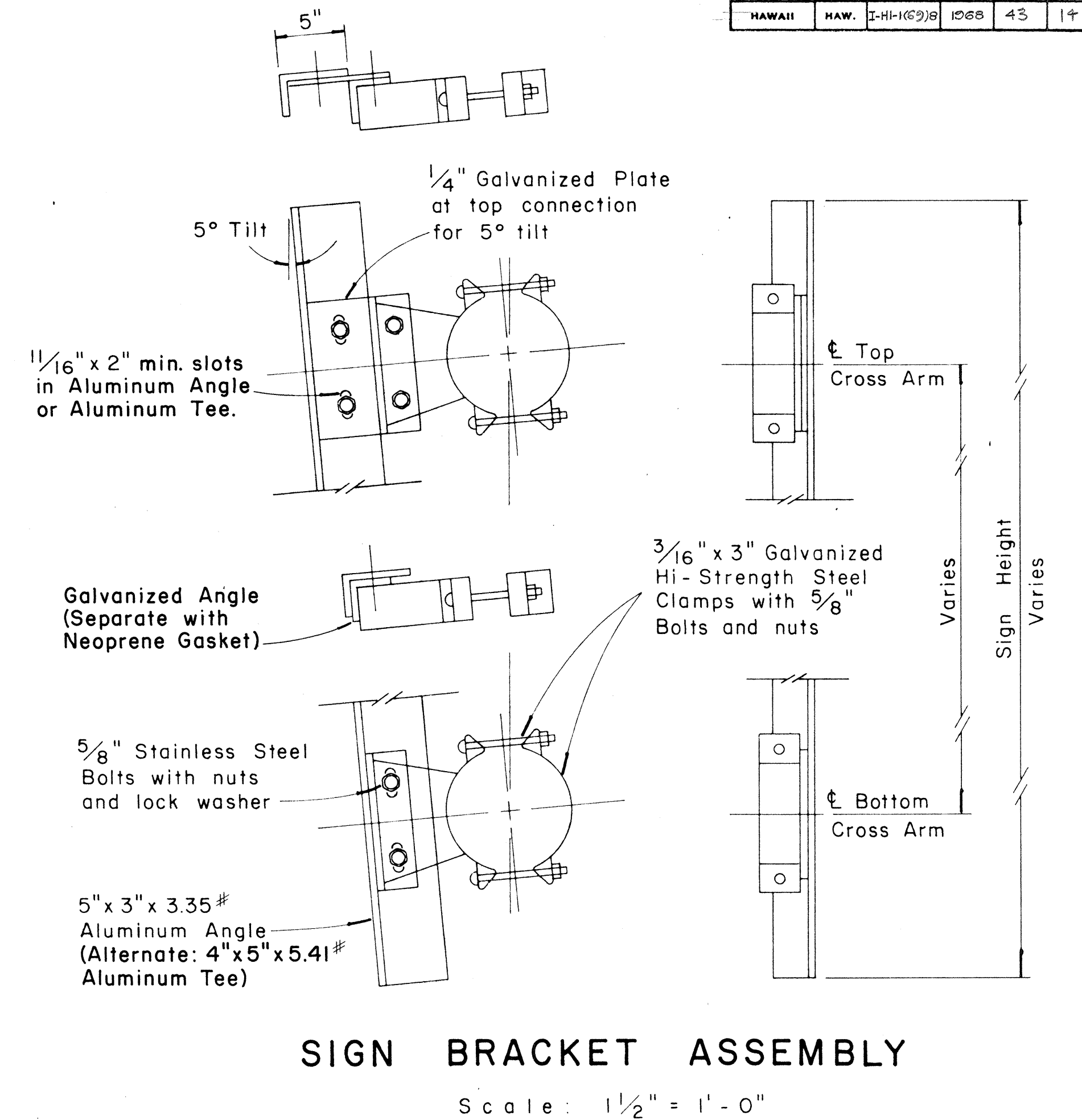
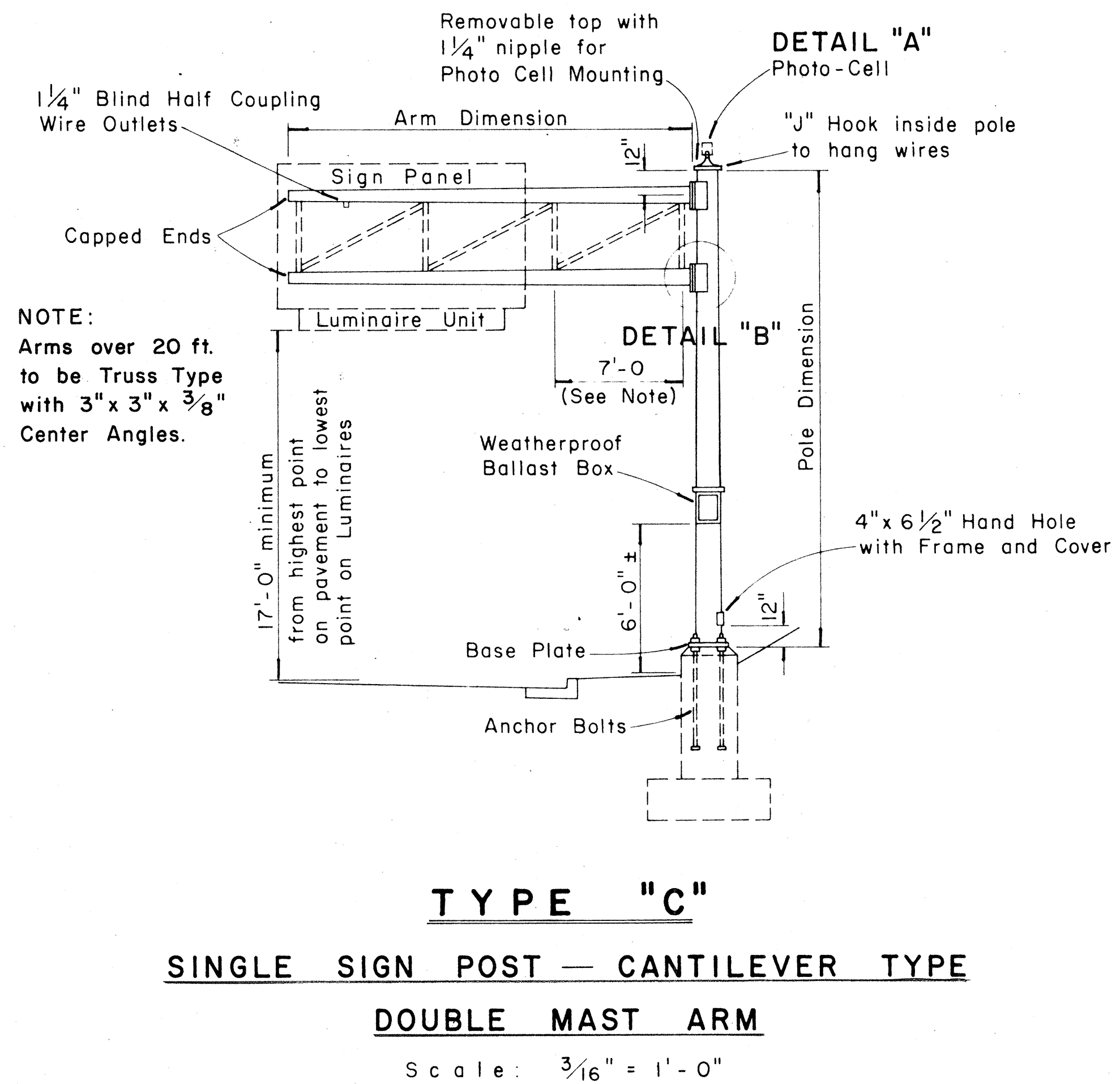
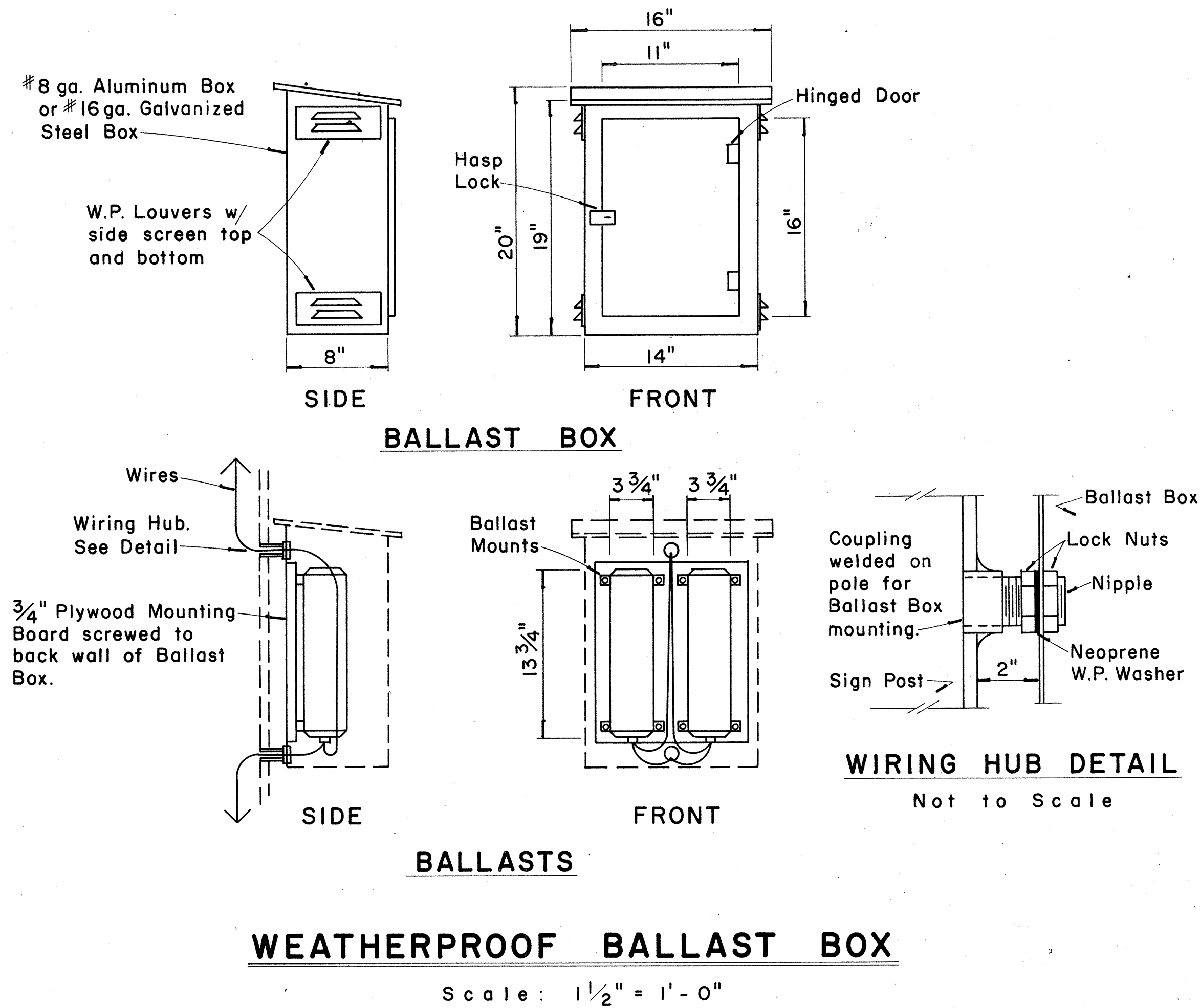


SECTION "A-A"

Scale: 1/2" = 1"

DESIGNED BY
CHECKED BY
DATE
NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-162/8	1968	43	147



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

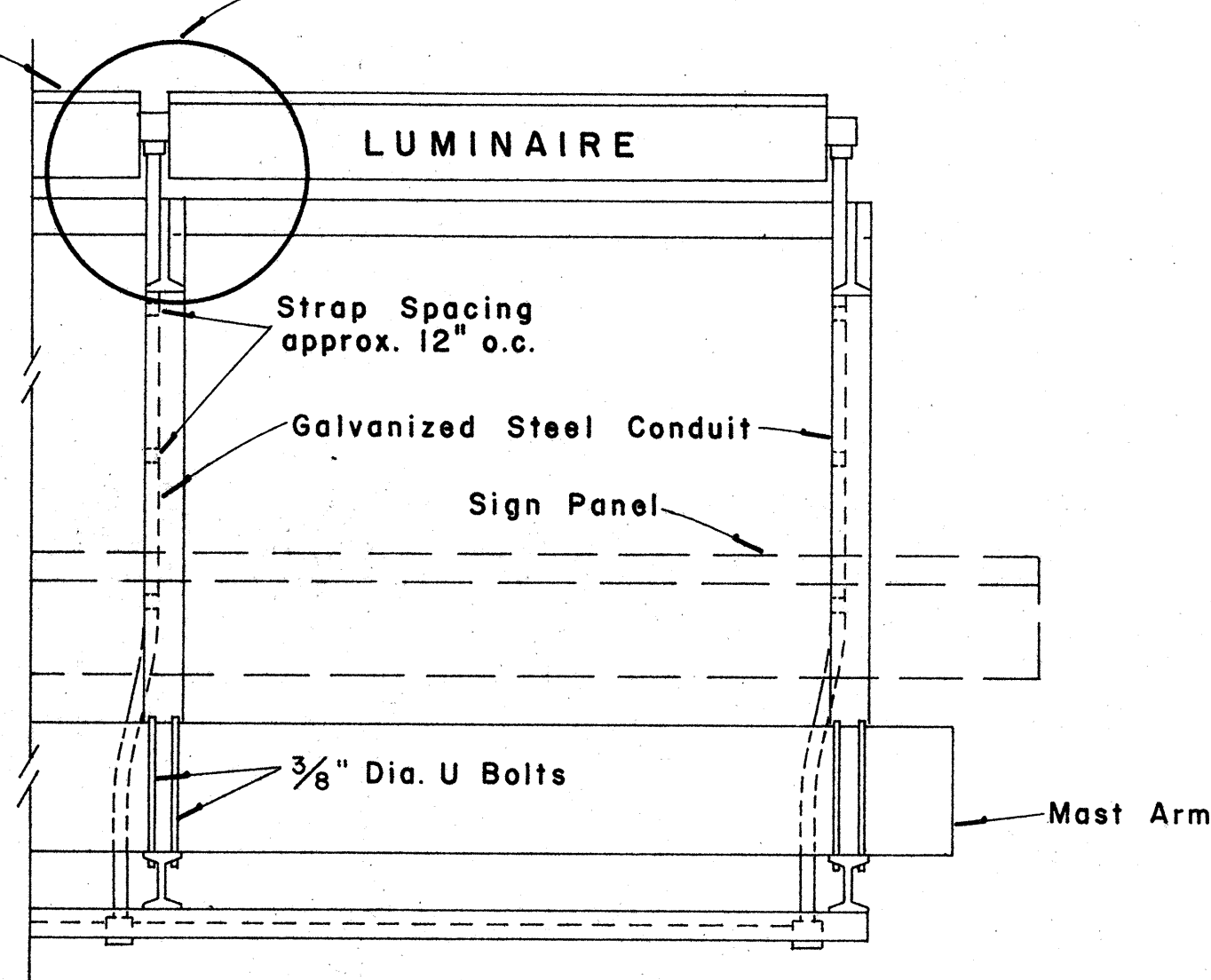
OVERHEAD SIGN SUPPORTS

Scale As Shown

SHEET No. 9 OF 23 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____

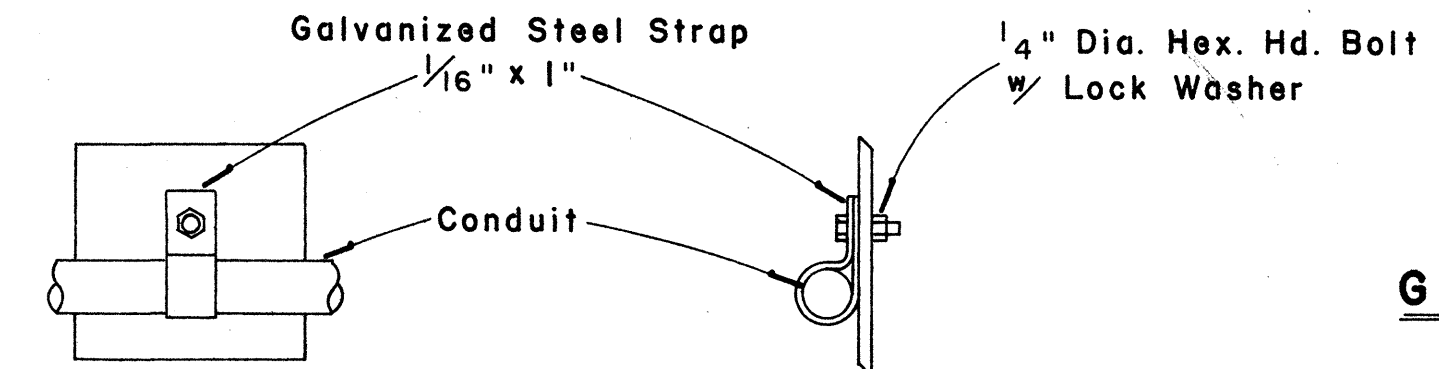
DETAIL "A"



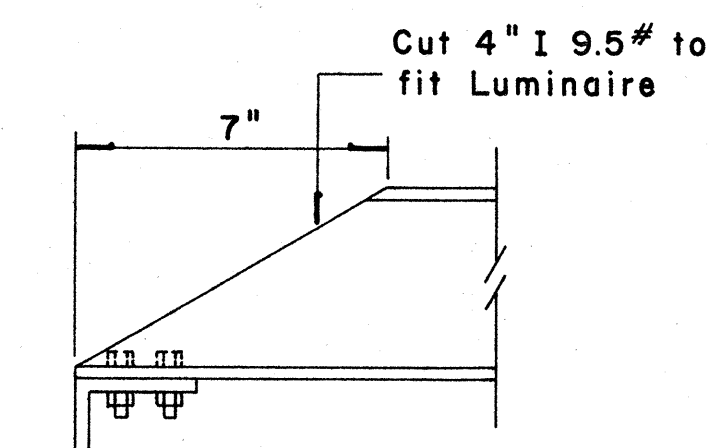
OVERHEAD

TOP VIEW

Scale: 1" = 1' - 0"



Scale: 3" = 1' - 0"

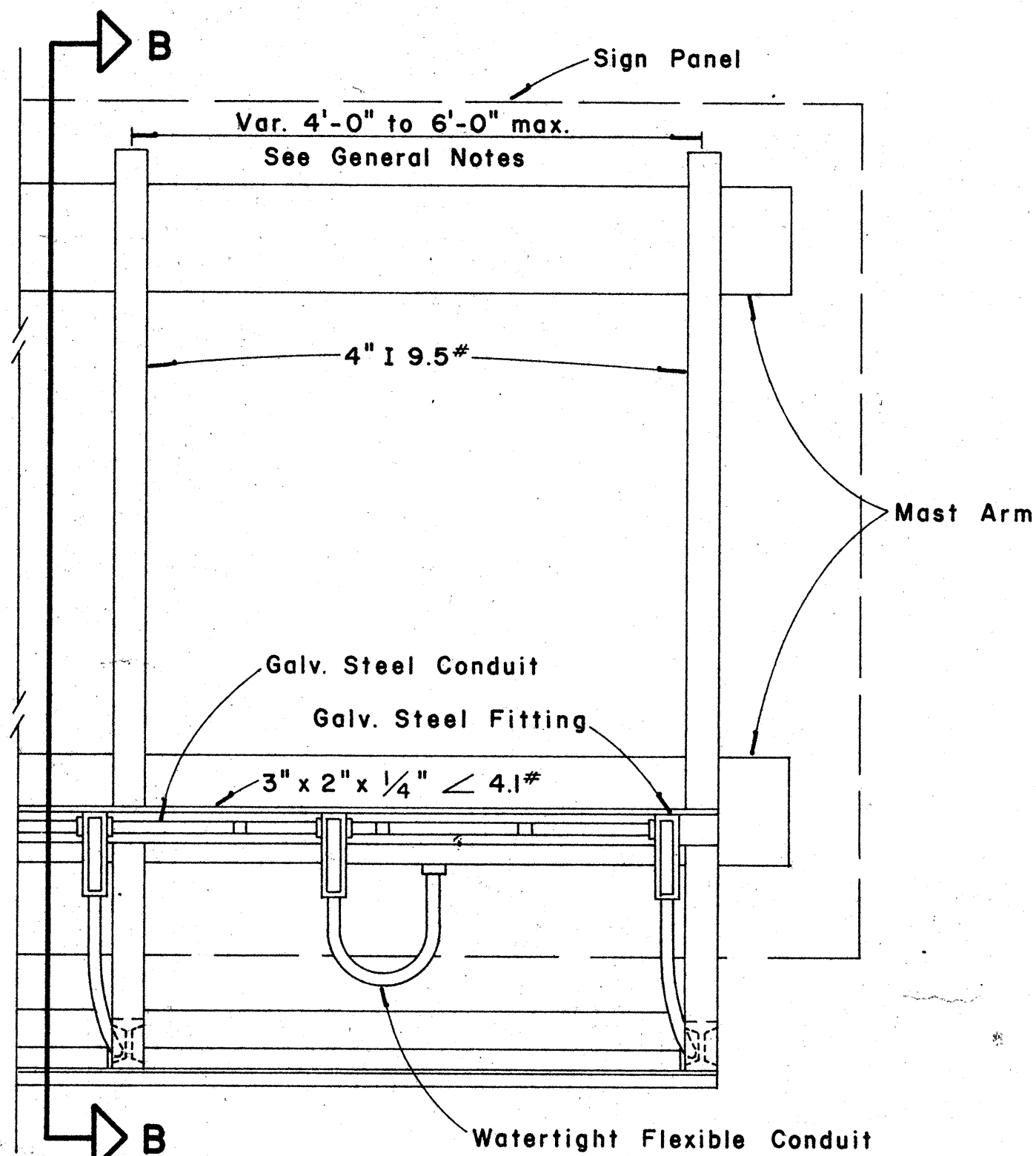


4" I 9.5#

3/8"

1/4"

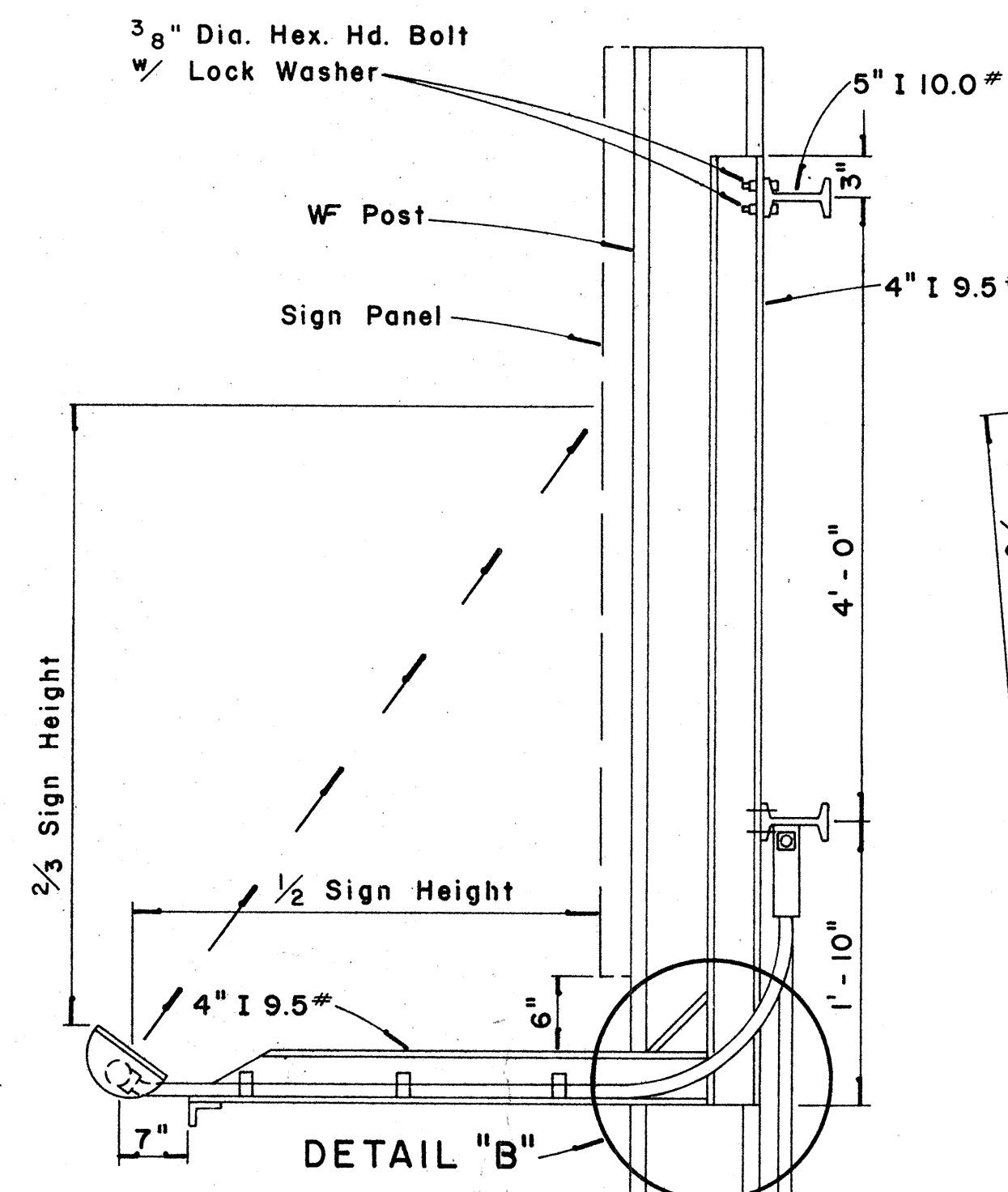
Scale: 3" = 1' - 0"



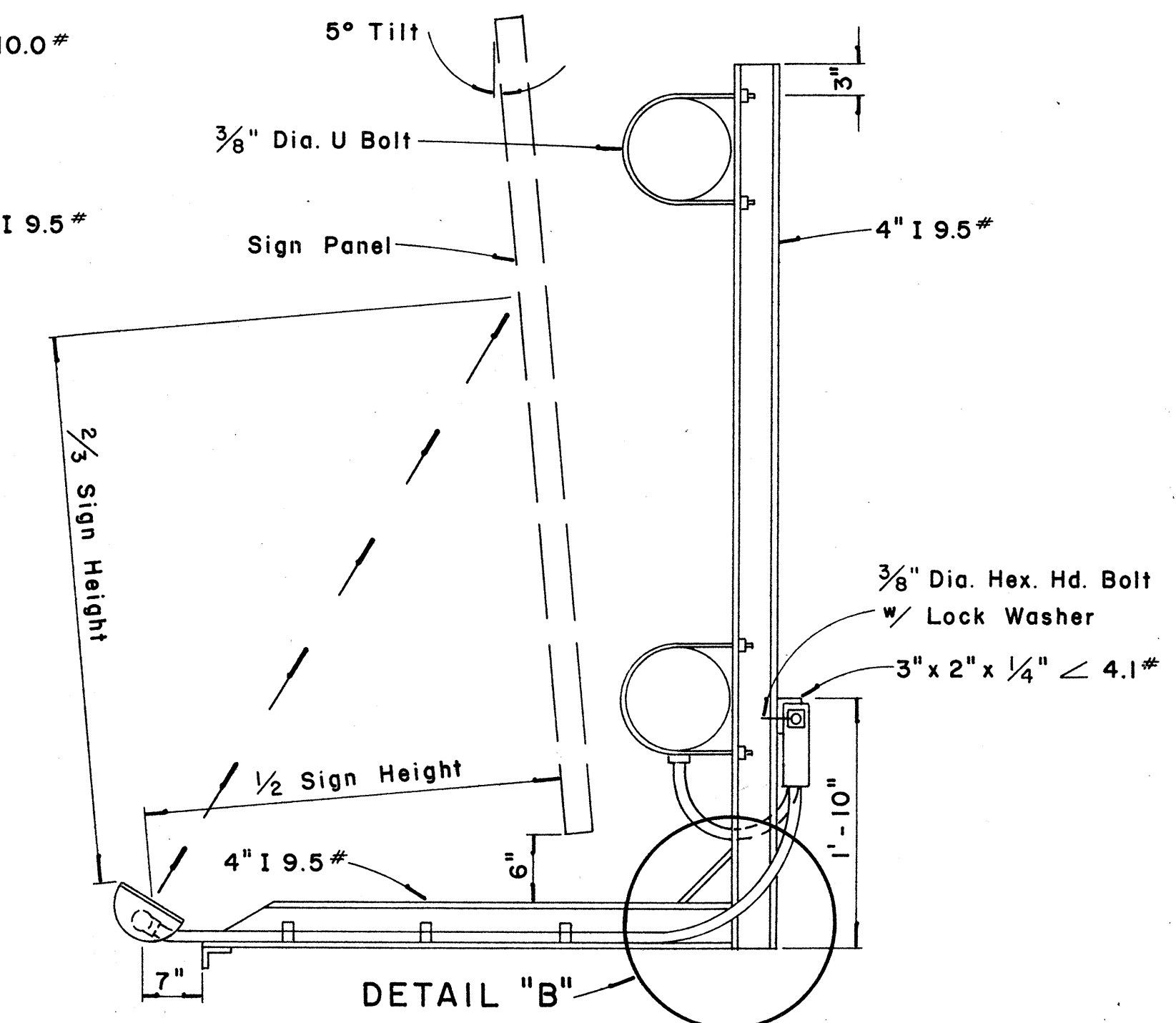
OVERHEAD

R E A R V I E W

Scale: 1" = 1' - 0"



Scale: 1" = 1' - 0"



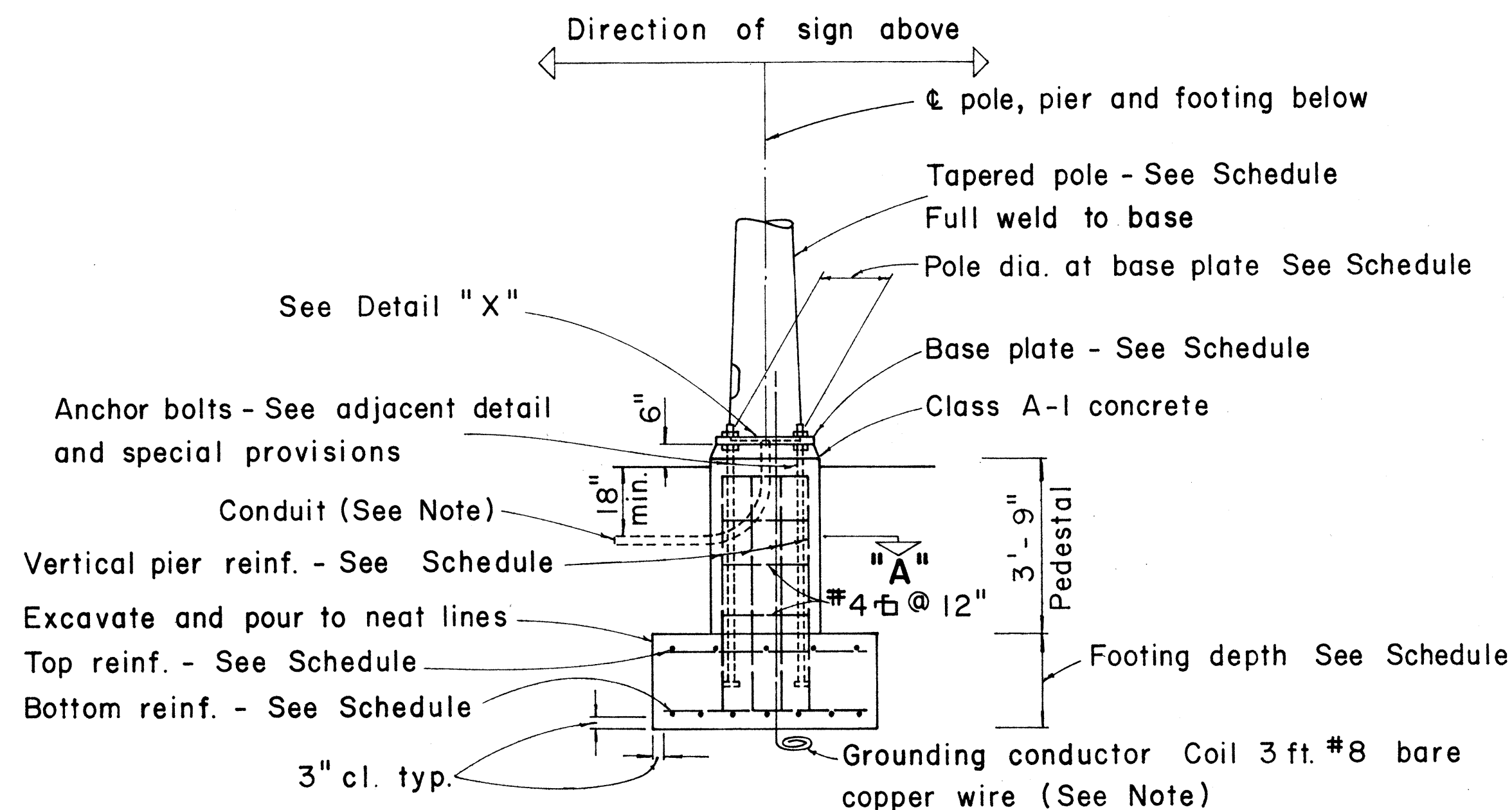
Scale: 1" = 1' - 0"

Scale: As Shown

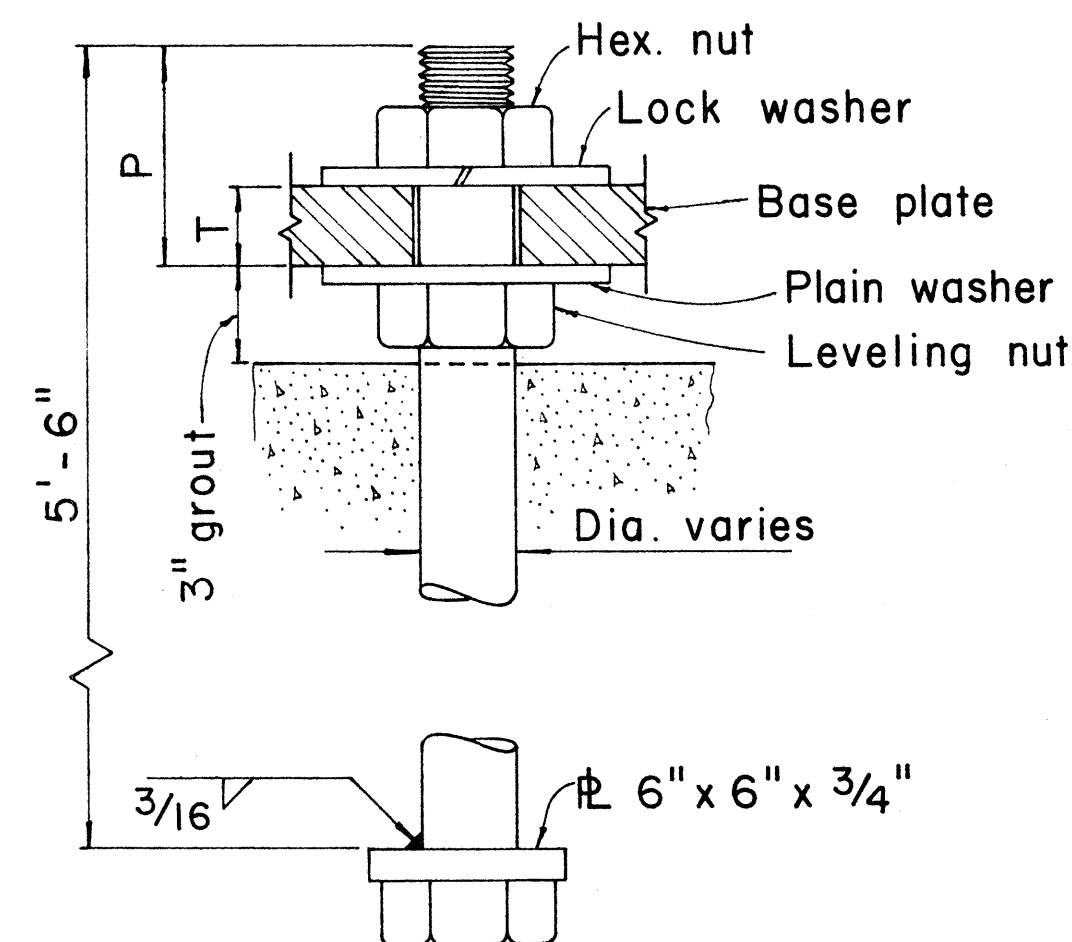
SHEET No. 10 OF 23 SHEETS

PRINTED ON NO. 1909H CLEARPRINT

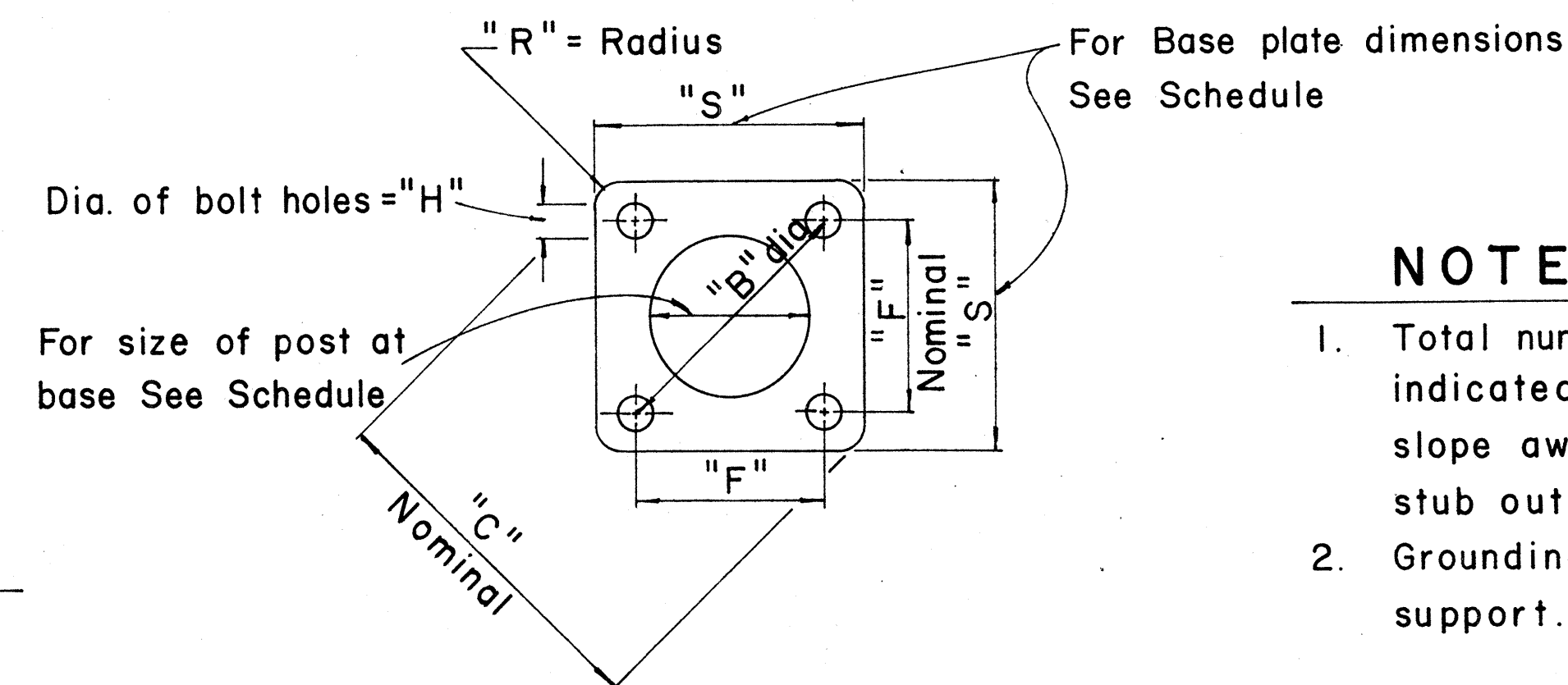
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HA-11(2)3	1968	45	144



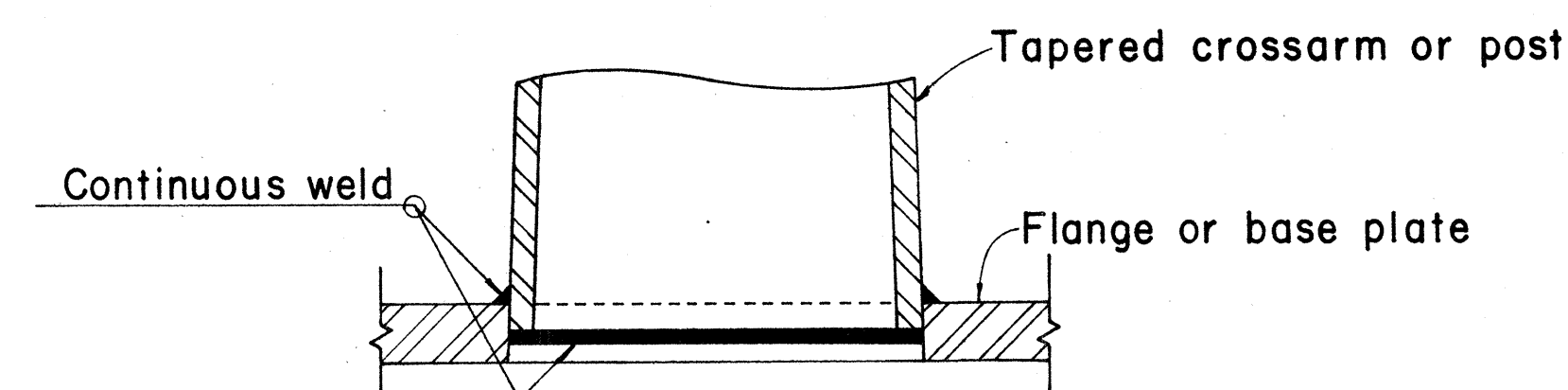
TYPICAL POLE
FOUNDATION DETAIL



TYPICAL ANCHOR BOLT
4 REQ'D



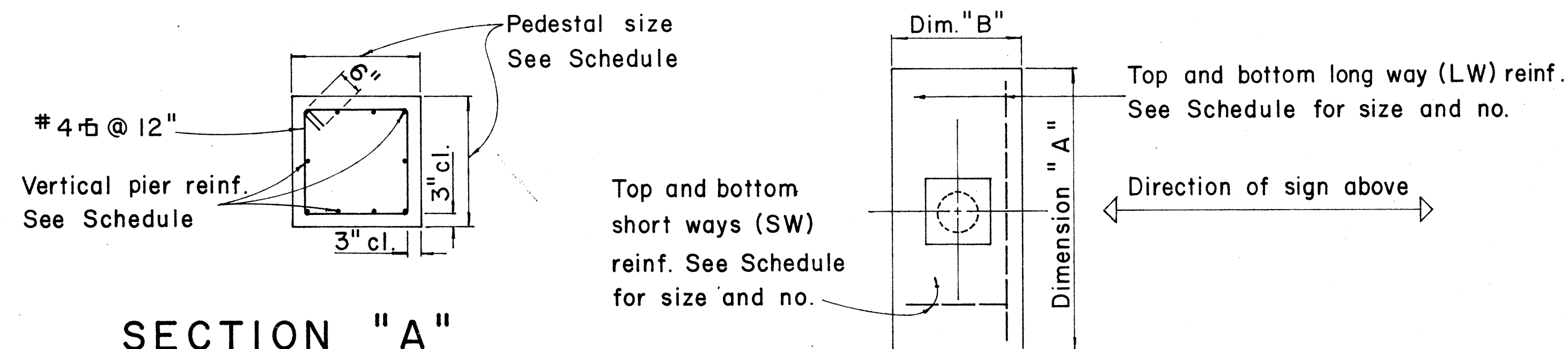
TYPICAL BASE PLATE



DETAIL "X"

NOTE:

1. Total number of conduits into pole foundation as indicated on Lighting plans. Conduits shall slope away from pole foundation. Conduit shall stub out 5'-0" min. for direct burial entry.
2. Grounding conductor shall be bonded to sign support.



SECTION "A"

TYPICAL FOOTING DETAIL

FOUNDATION SCHEDULE								
Type	Dimension		Depth	Bot Reinf.		Top Reinf.		Pedestal
	A	B		L. W.	S. W.	L. W.	S. W.	
I	7'-0"	3'-0"	2'-0"	3-#4	8-#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	19-#4	Do.		2'-9" 10-#11

DESIGNED BY	DATE
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

SHEET No. 11 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	111/698	1968	46	144

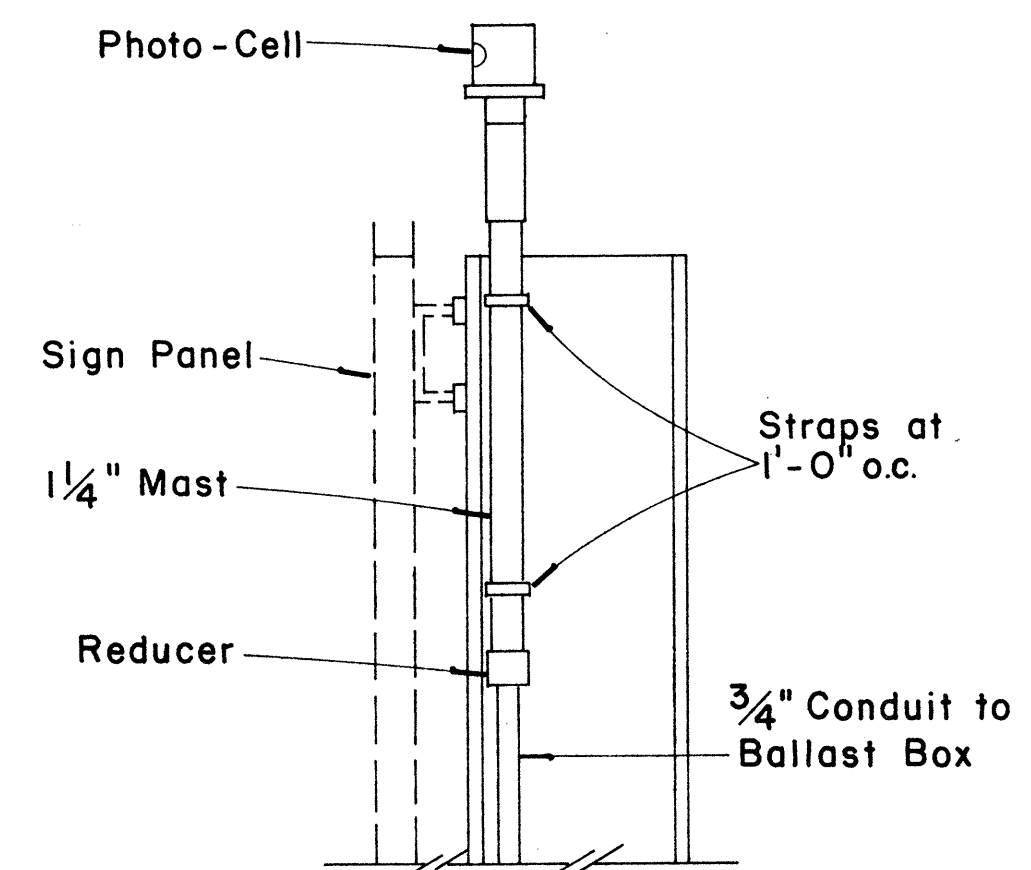
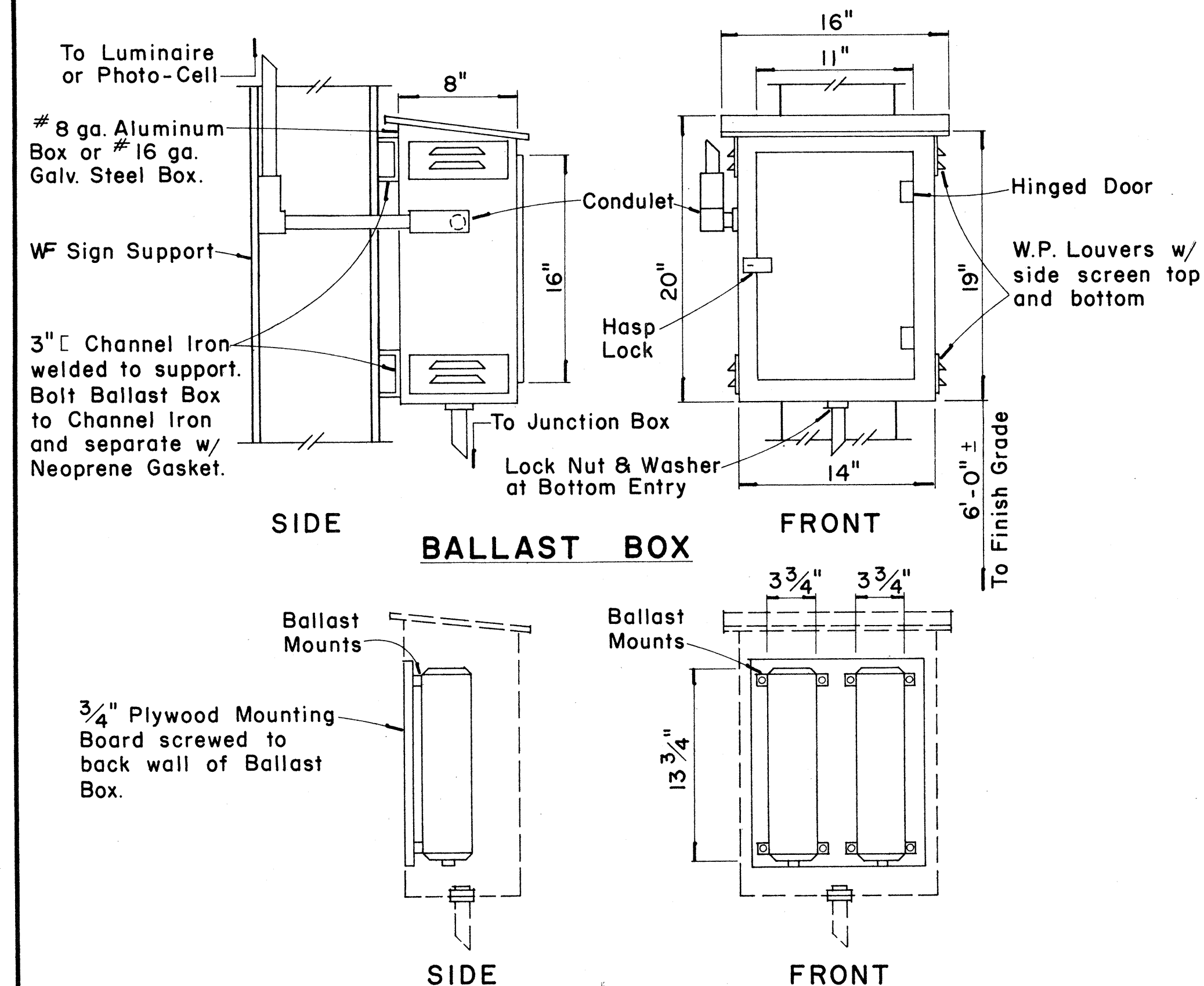


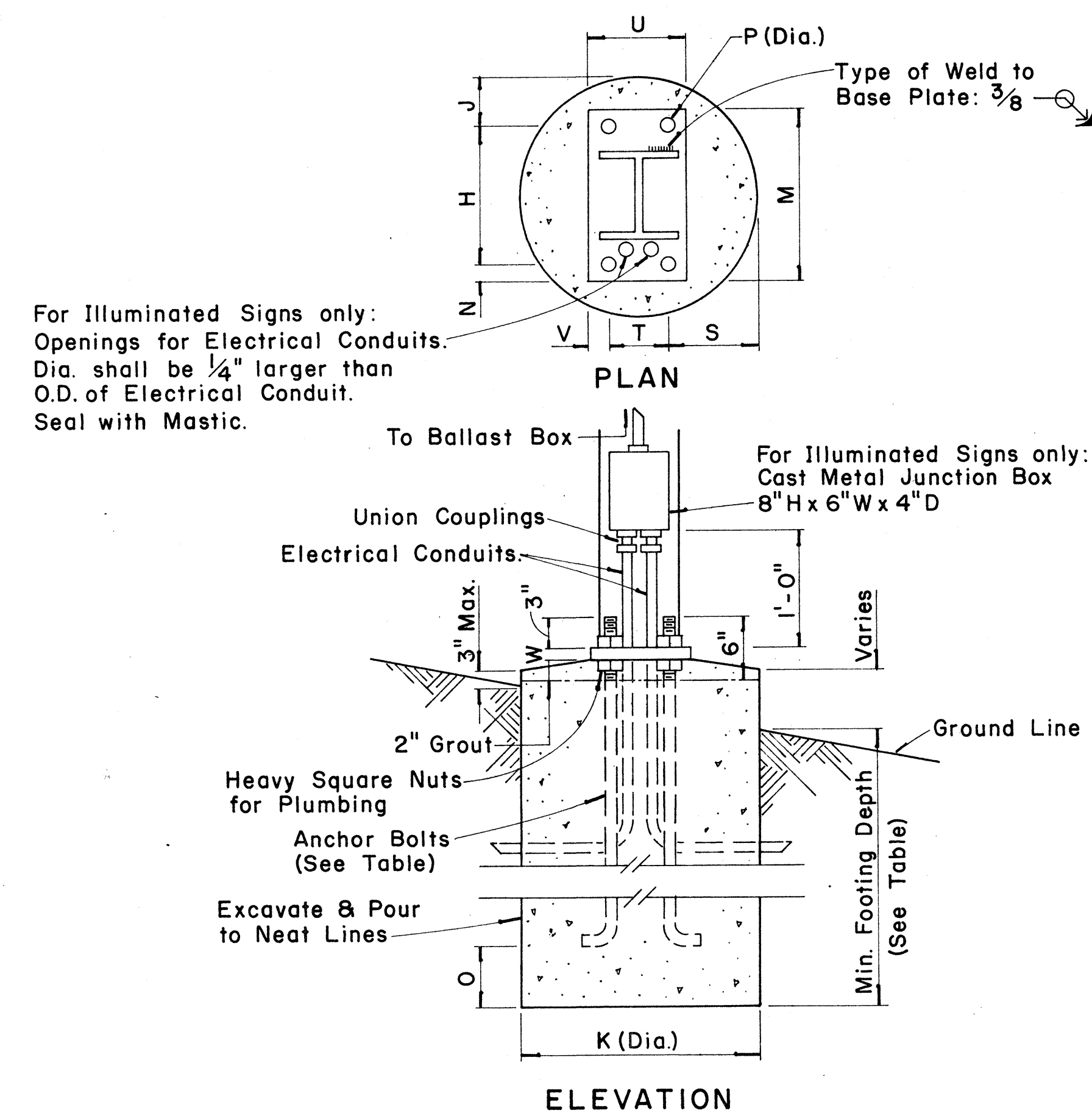
PHOTO-CELL DETAIL

Scale: 1 1/2" = 1'-0"



BALLASTS
WEATHERPROOF BALLAST BOX

Scale: 1 1/2" = 1'-0"



ELEVATION
TYPE VI FOOTING

Scale: 1" = 1'-0"

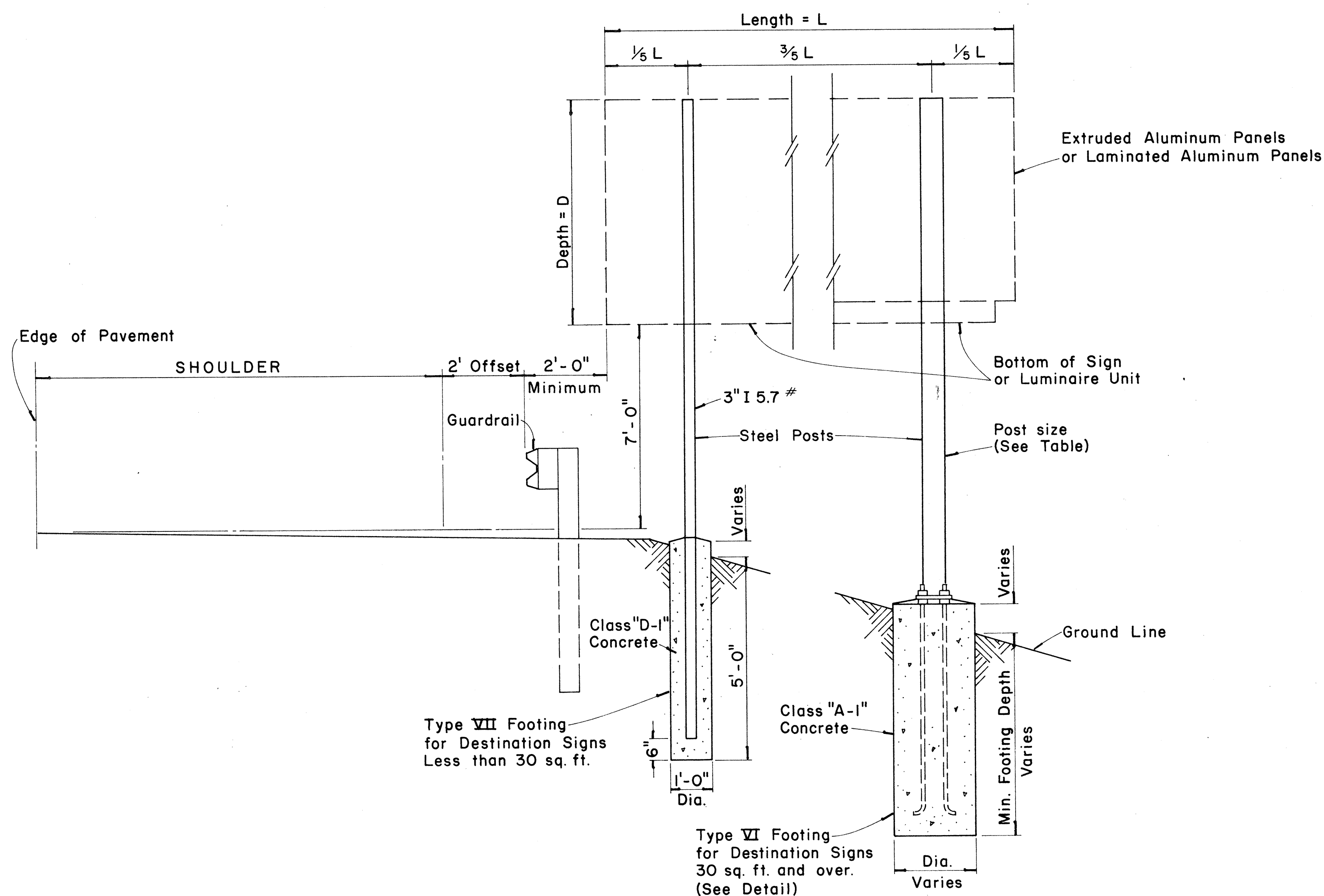
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
DESTINATION & GROUND MOUNTED
EXPRESSWAY SIGNS

Scale: As Shown
SHEET No. 12 OF 23 SHEETS

* For moment calculations only. Post shall be from top of foundation to top of sign.
** For fills with side slopes flatter than 4:1, Minimum Footing Depth shall be 4 1/2 feet.

DATA TABLE FOR TYPE VI FOOTING																	
POST SIZE	MAXIMUM SIGN AREA	POST HEIGHT TOP OF FOUNDATION TO CENTER OF SIGN *	D I M E N S I O N S												ANCHOR BOLT DIA.	MINIMUM FOOTING DEPTH	
			H	J	K	M	N	O	P	S	T	U	V	W		CUT	FILL**
8 J 10	50 sq. ft.	14'	14"	5"	24"	17¼"	1⅝"	6"	1¼"	9"	6"	10"	2"	1"	1⅛" ∅	4½'	4½'
8 WF 24	90 sq.ft.	21'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	5'
8 WF 35	190 sq. ft.	15'	16½"	6¾"	30"	20"	1¾"	6"	1⅜"	11¾"	6½"	10"	1¾"	1"	1¼" ∅	6'	7'
10 WF 45	190 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
10 WF 45	200 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
12 WF 50	230 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	7'	↓
12 WF 50	250 sq. ft.	23'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓



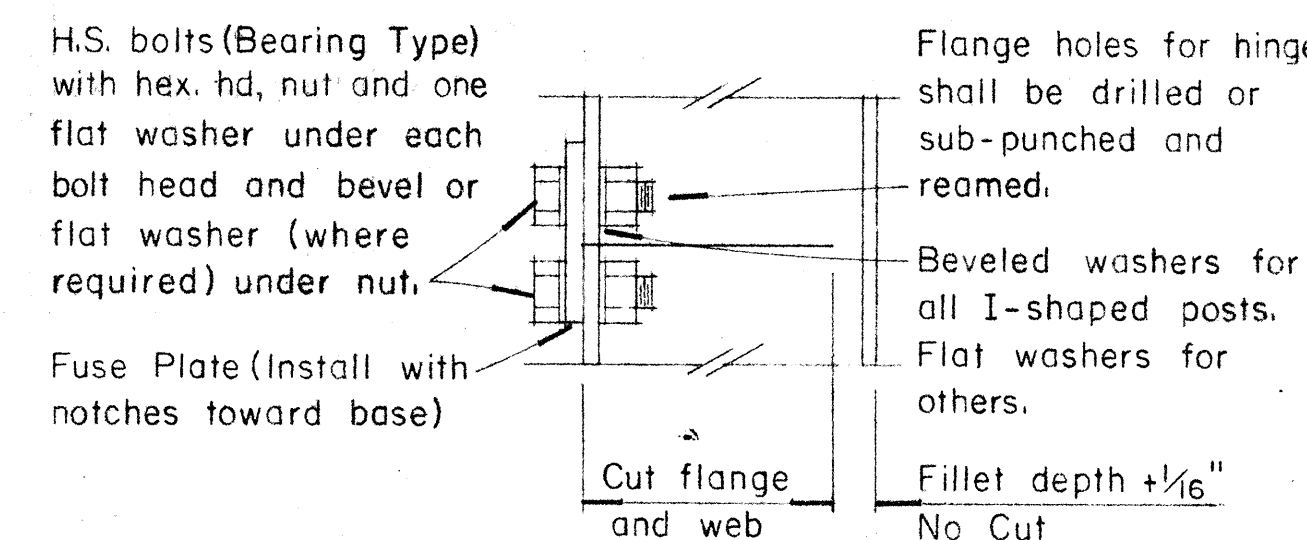
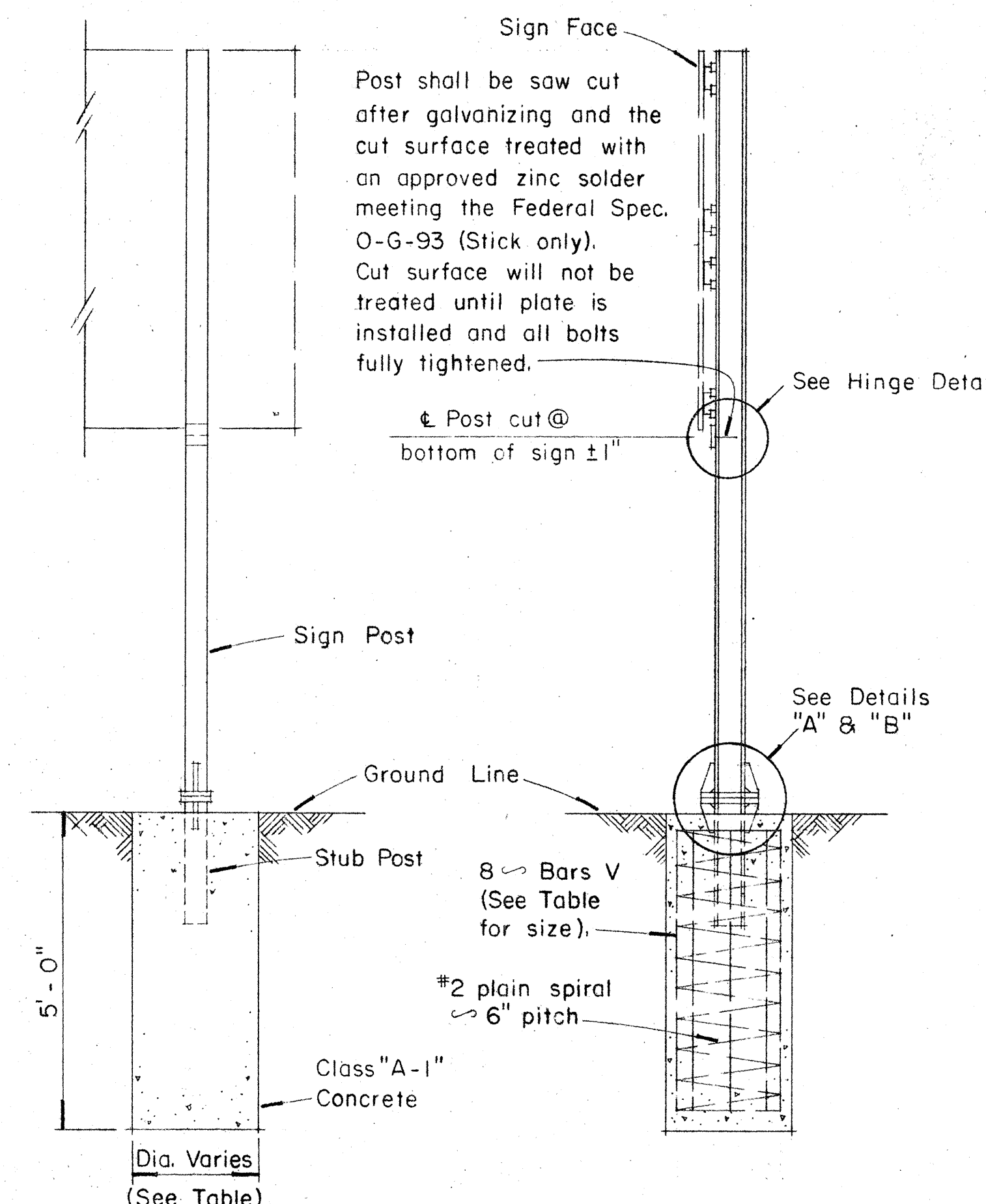
TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale

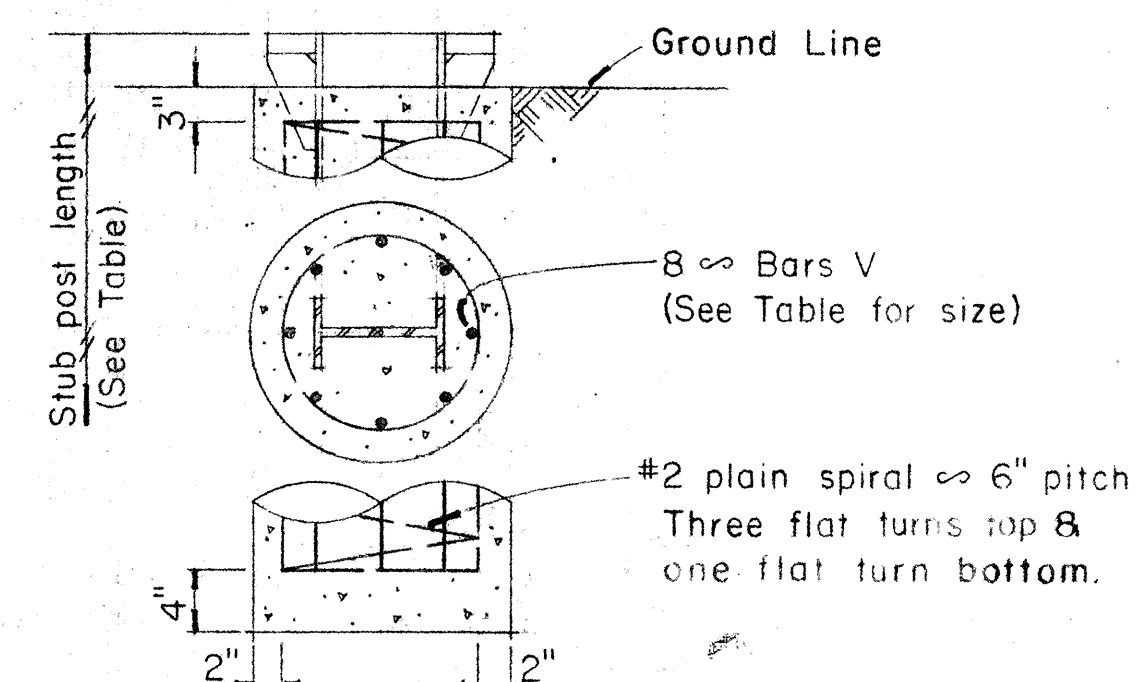
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTE BOOK	_____
CHECKED BY	_____
No.	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-11(69)B	1968	47	144

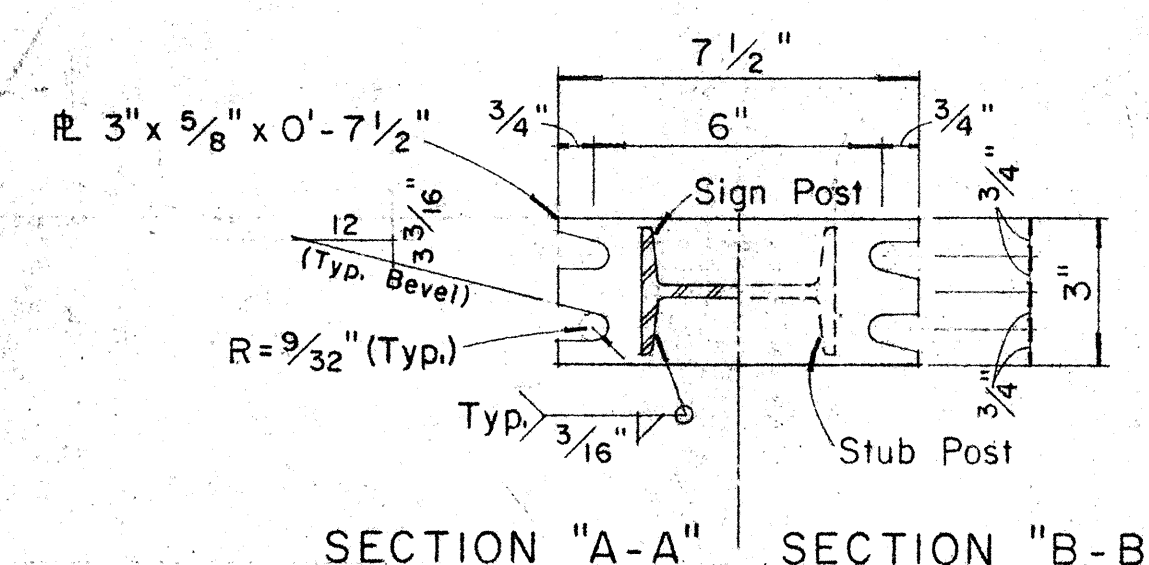
BASE CONNECTION DATA TABLE											FUSE PLATE DATA TABLE											FOUNDATION DATA				
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars Size	
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450#	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2"	1.09#	2'-0"	3"	2'-0"	#5	
6 B 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	1 1/16"	3/8"	5/8"	1.60#	2'-0"	3"	2'-0"	#5	
6 B 15.5											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	13/16"	1/2"	3/4"	3.75#	2'-6"	3"	2'-0"	#6	
8 WF 17											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	13/16"	1/2"	3/4"	3.27#	2'-6"	3"	2'-0"	#7	
8 WF 20	3/4" ϕ x 3 1/2" Torque = 750#	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	13/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	9/16"	7/8"	3.93#	3'-0"	2 1/2"	2'-0"	#8	
10 WF 21											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8"	4.75#	3'-0"	2 1/2"	2'-0"	#9	
10 WF 25											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8"	4.79#	3'-0"	2 1/2"	2'-0"	#10	
12 WF 27											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	15/16"	9/16"	7/8"	5.42#	3'-0"	2 1/2"	2'-0"	#11	
3 I 5.7	1/2" ϕ x 2 1/2" Torque = 200#	SEE DETAIL "A"									3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2"	0.64#	1'-6"	3 1/2"	1'-6"	#5	
4 I 7.7											3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2"	0.64#	1'-6"	3 1/2"	1'-6"	#5	



HINGE DETAIL

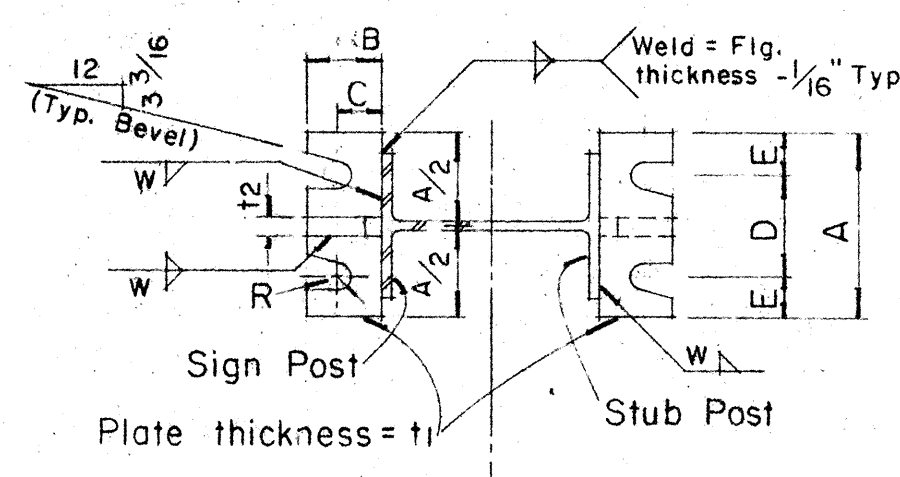


FOUNDATION DETAIL

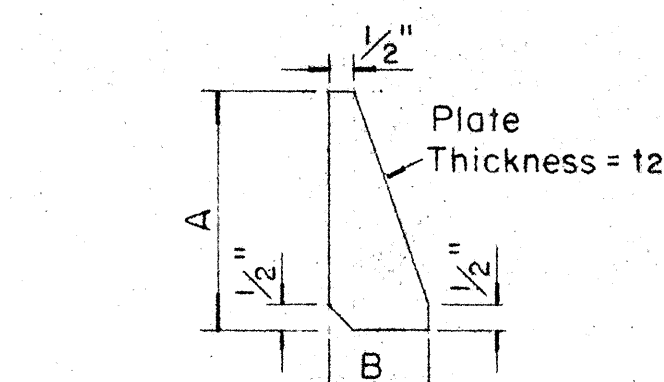


SECTION "A-A" SECTION "B-B"

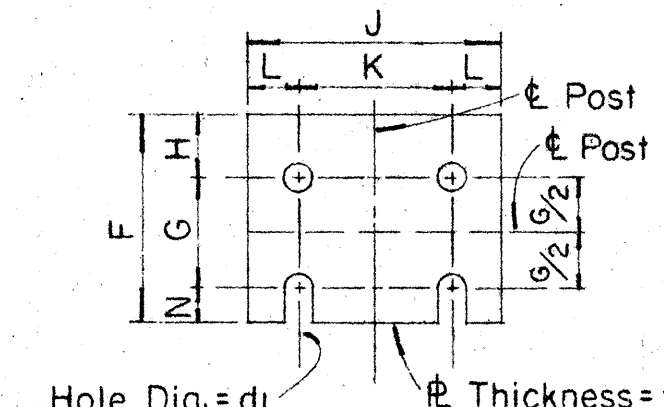
NOTE:
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



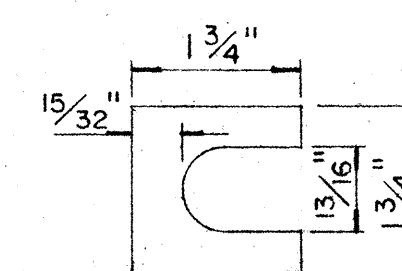
SECTION "C-C" SECTION "D-D"



STIFFENER PLATE DETAIL



FUSE PLATE DETAIL



SHIM DETAIL

Furnish 2 $\times$.012" $\pm$ thick and 2 $\times$.032" $\pm$ thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to A.S.T.M. - B 36.

GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM-A307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with the requirements of ASTM Specification A441.
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

Bolt Size	Min. Tension	Bolt Size	Min. Tension
1/2" ϕ	12050 Lbs.	3/4" ϕ	28400 Lbs.
5/8" ϕ	19200 Lbs.	7/8" ϕ	36050 Lbs.

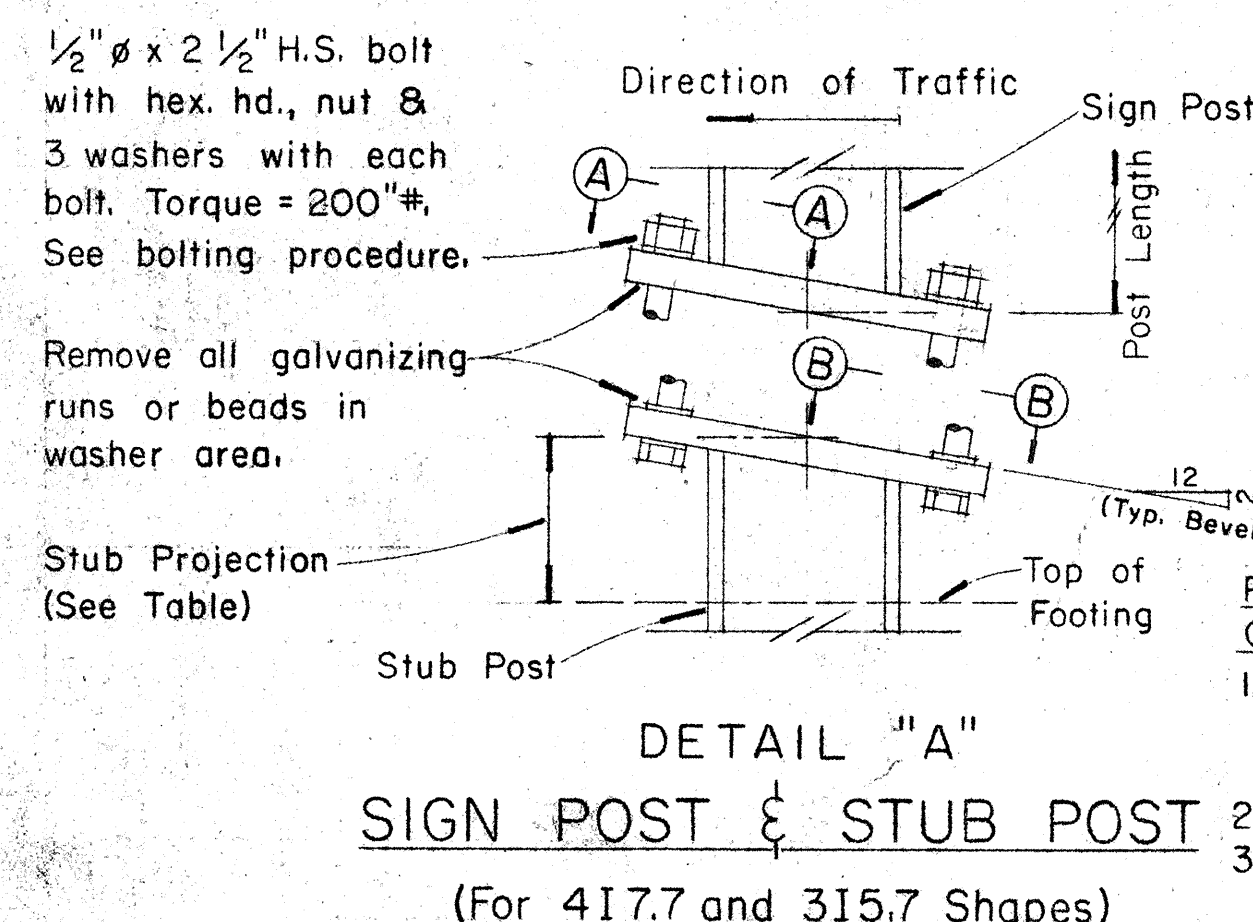
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS

Not to Scale

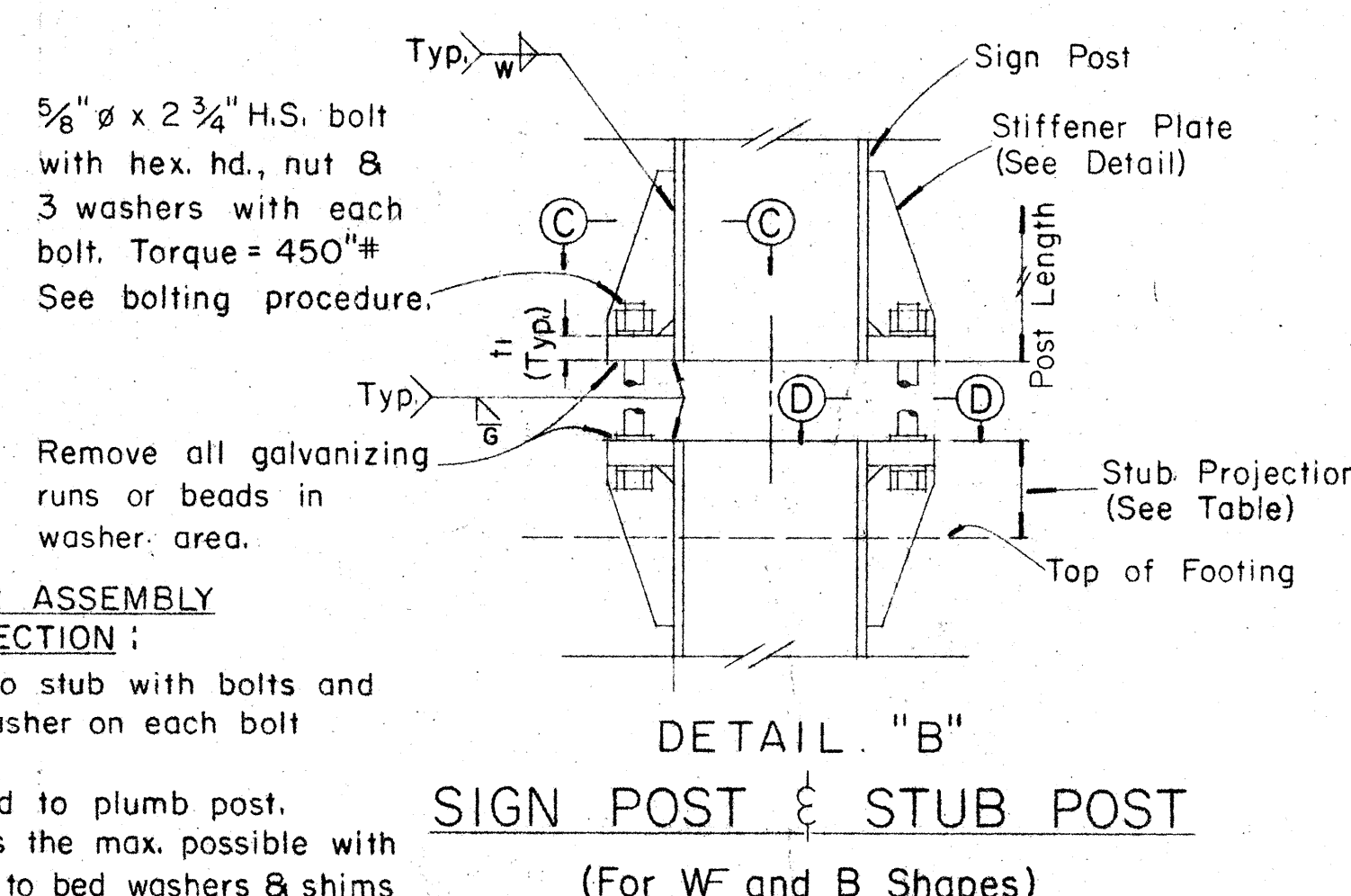
SHEET No. 13 OF 23 SHEETS

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
NO. _____



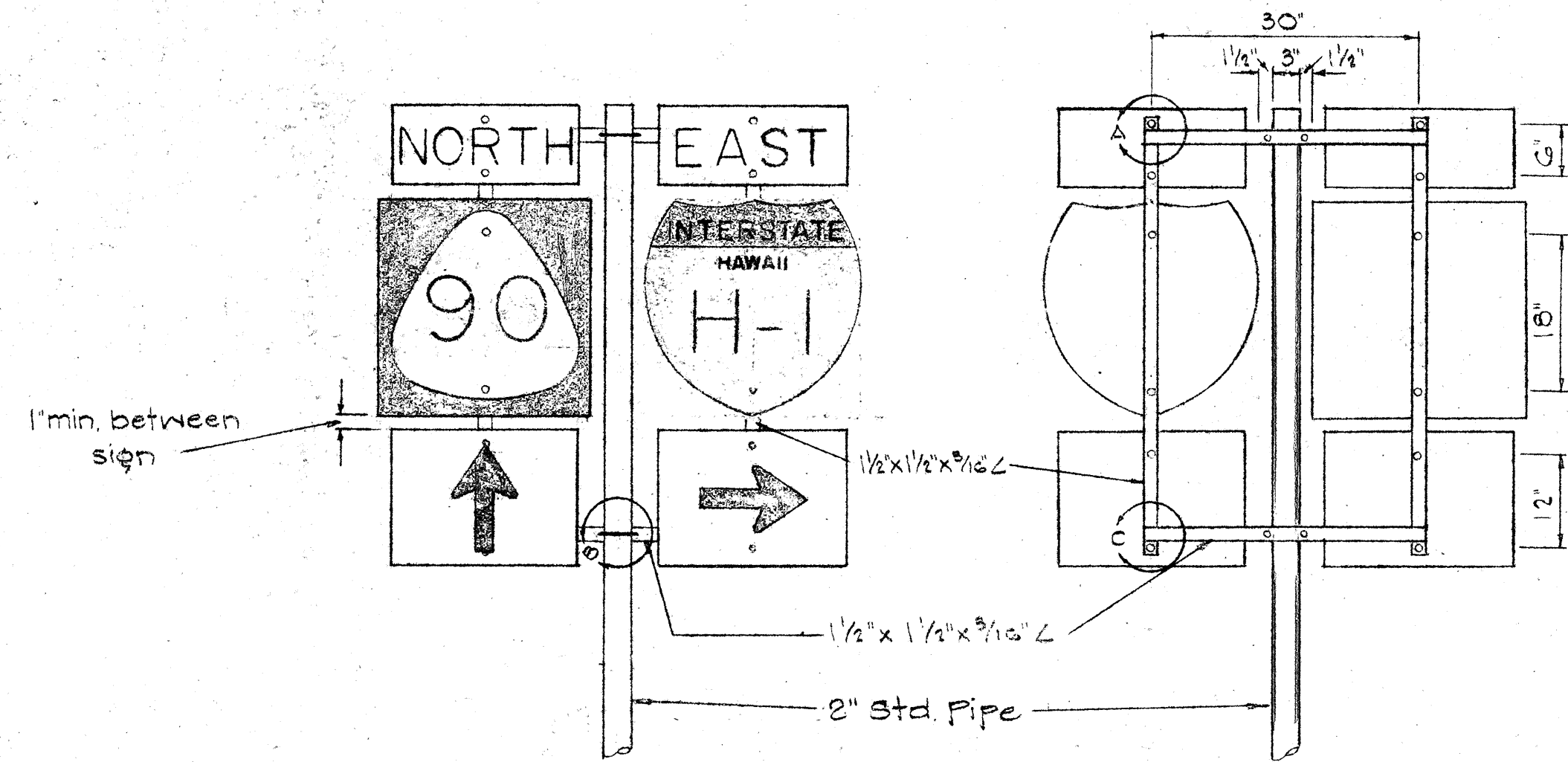
DETAIL "A"
SIGN POST & STUB POST
(For 4I7.7 and 3I5.7 Shapes)

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



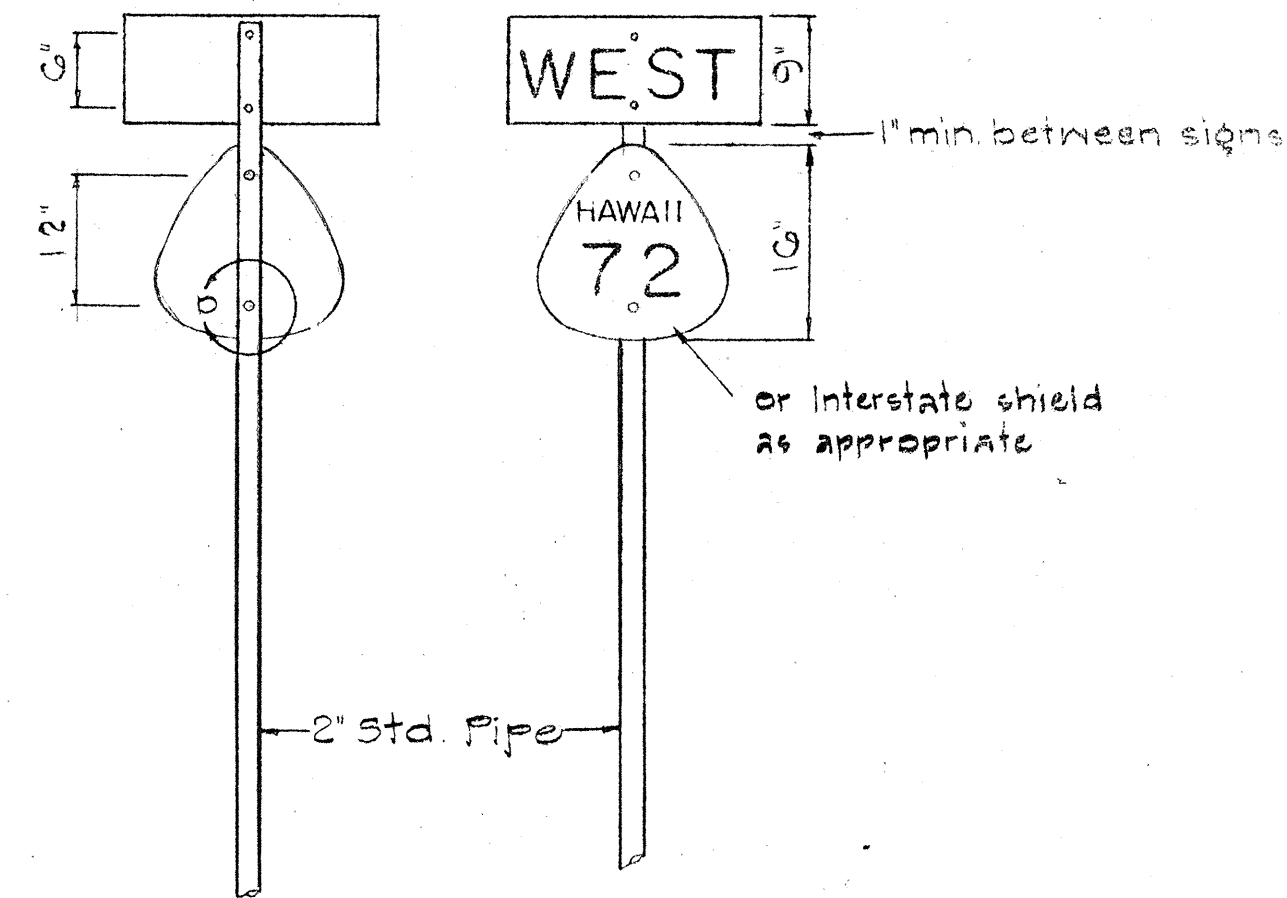
DETAIL "B"
SIGN POST & STUB POST
(For WF and B Shapes)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(52)B	1968	48	144



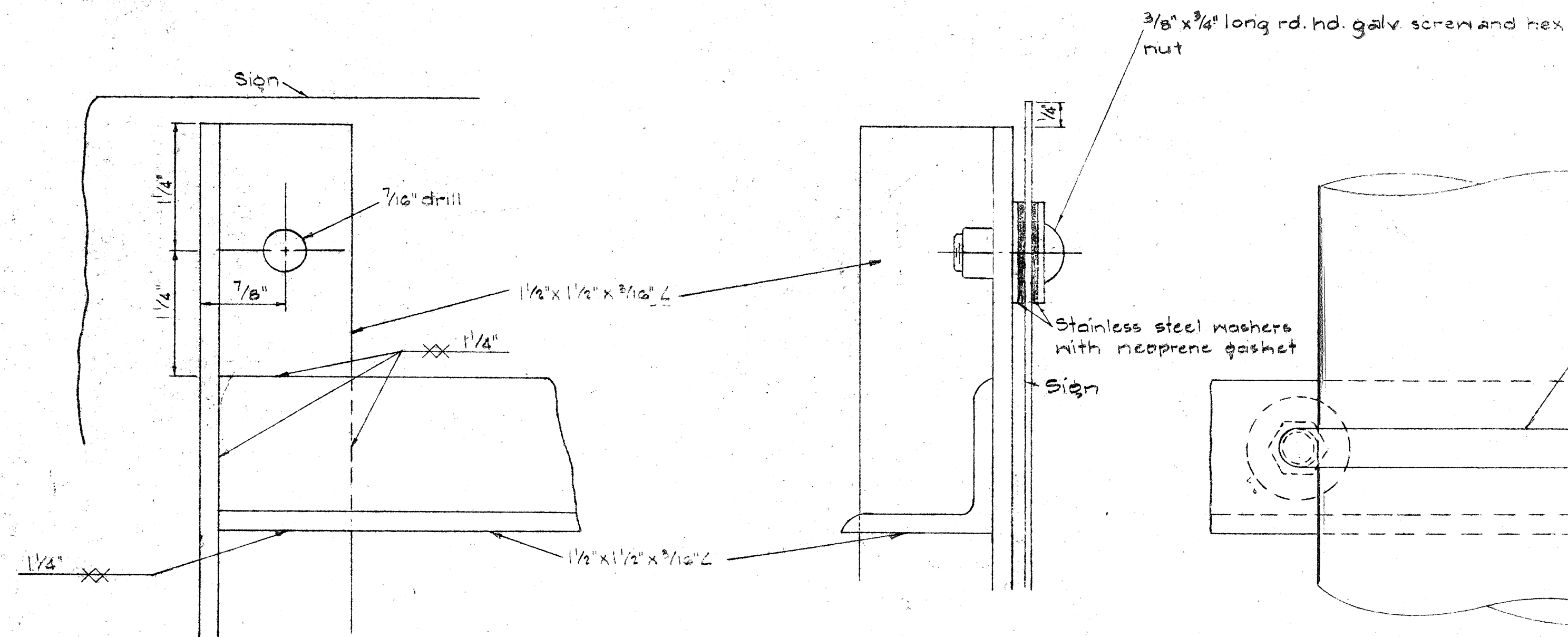
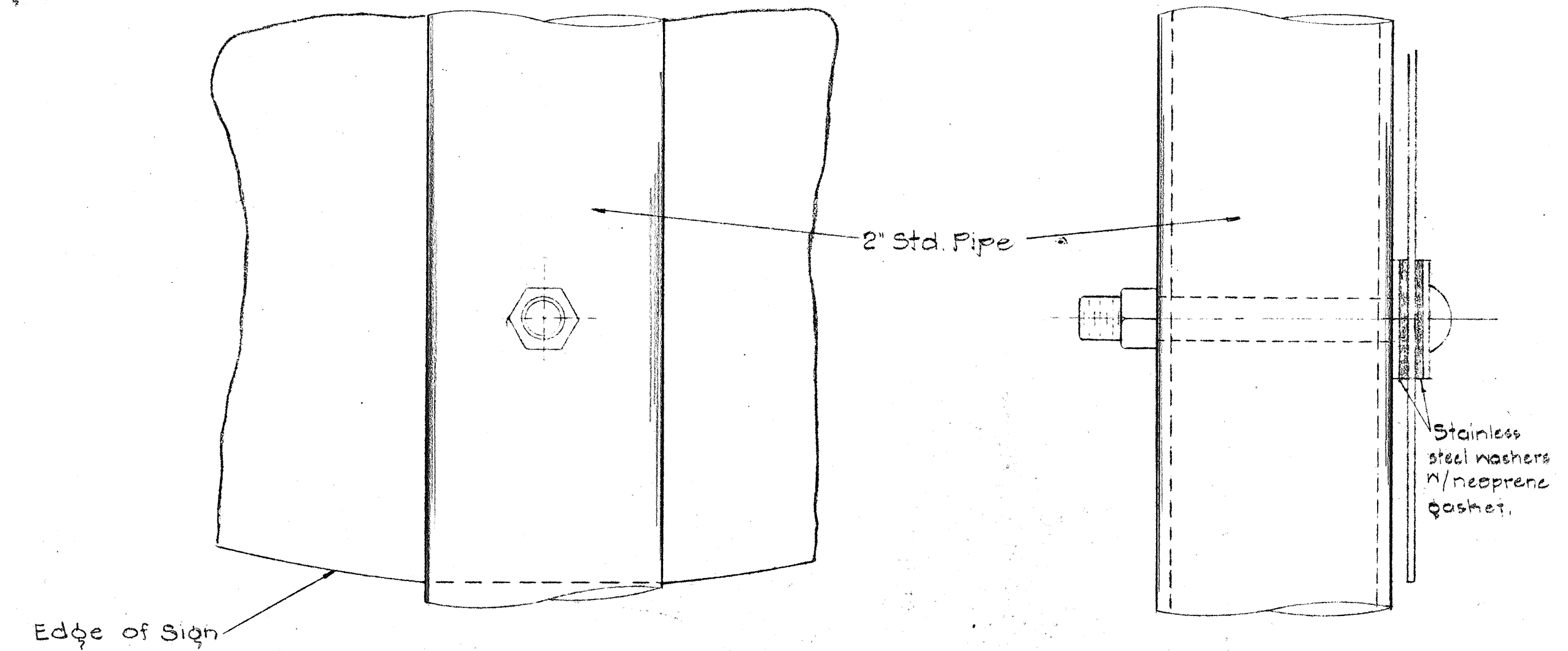
TYPE "B" ASSEMBLY

NOTE:
Minimum clearance between signs shall be 1 inch. (Larger clearances shall be in multiples of 1 inch.)

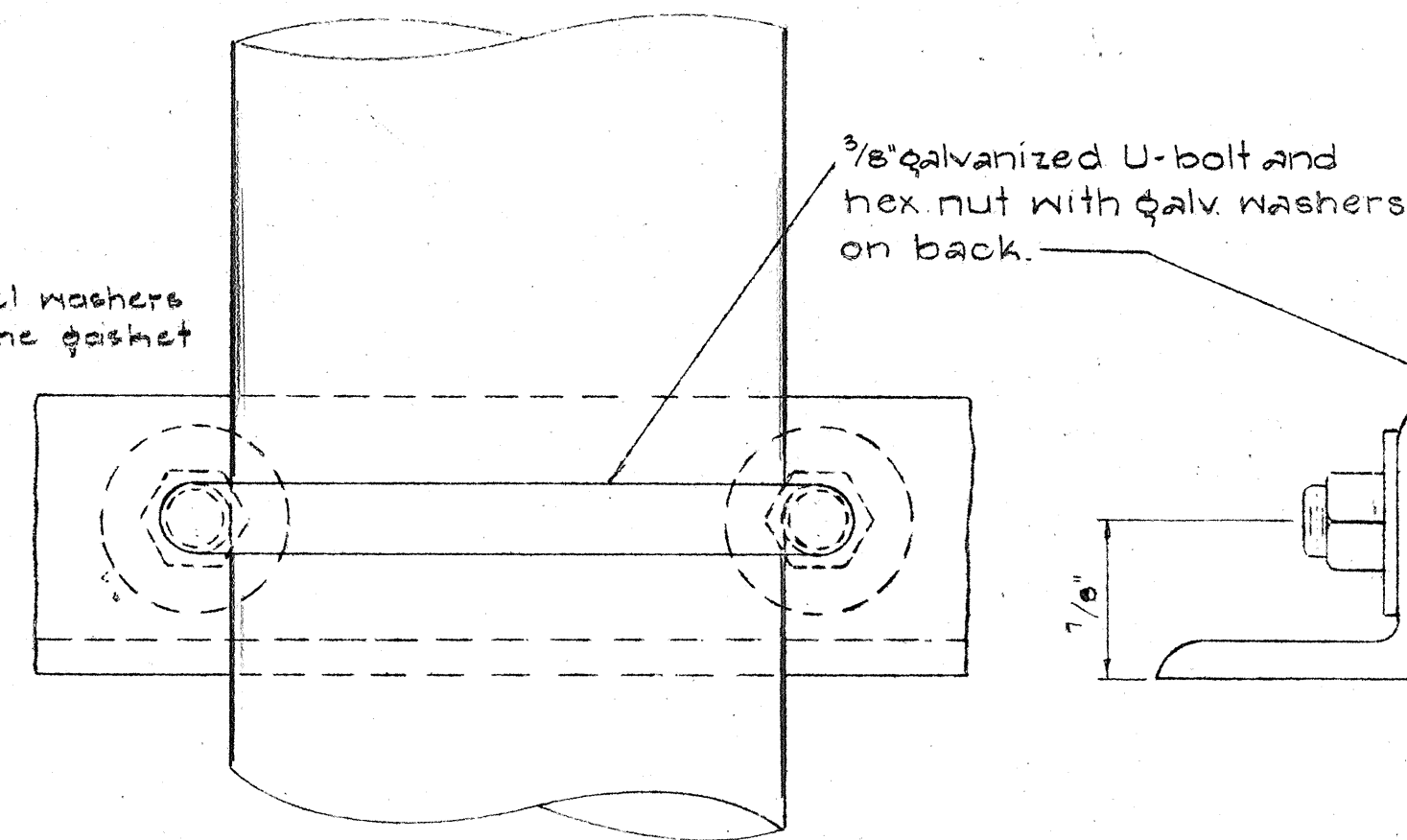


TYPE "A" ASSEMBLY

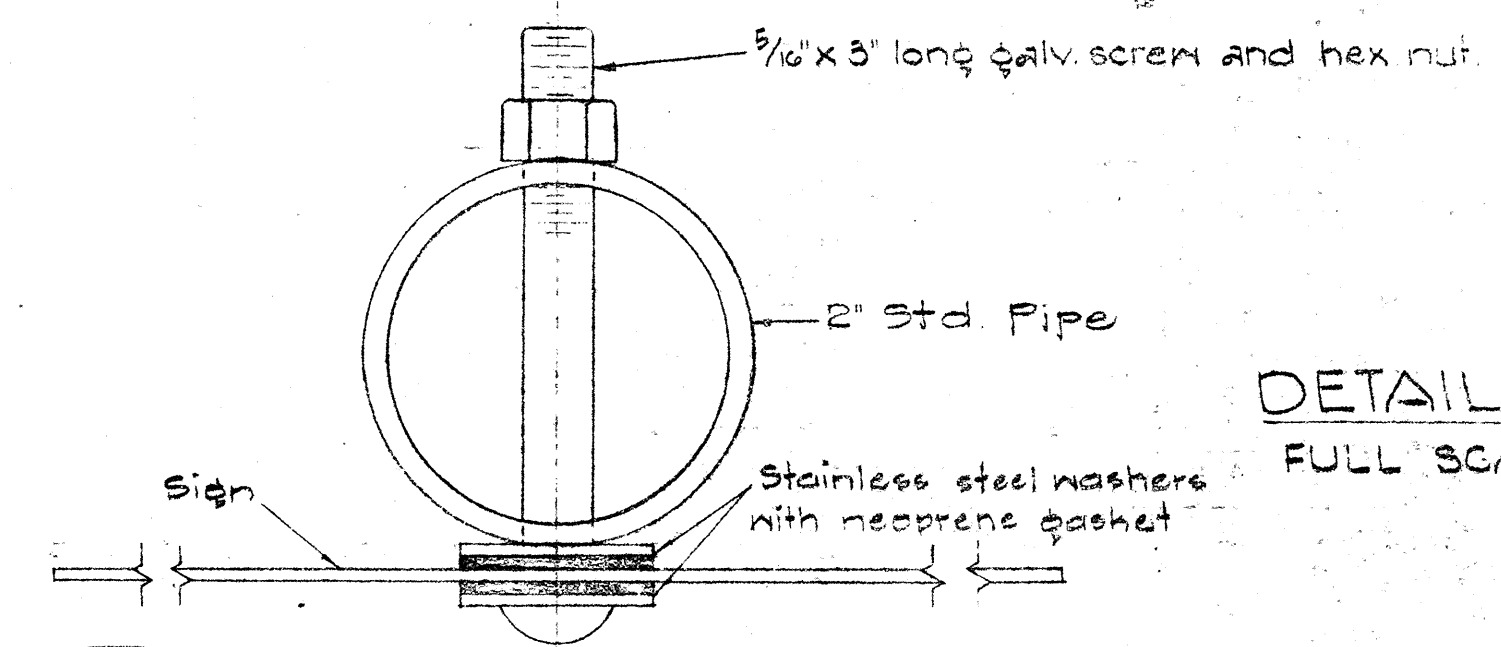
NOTE:
Use 2" Standard Pipe for Type "A" assembly.
Use 2" Standard Pipe for Type "B" assembly.



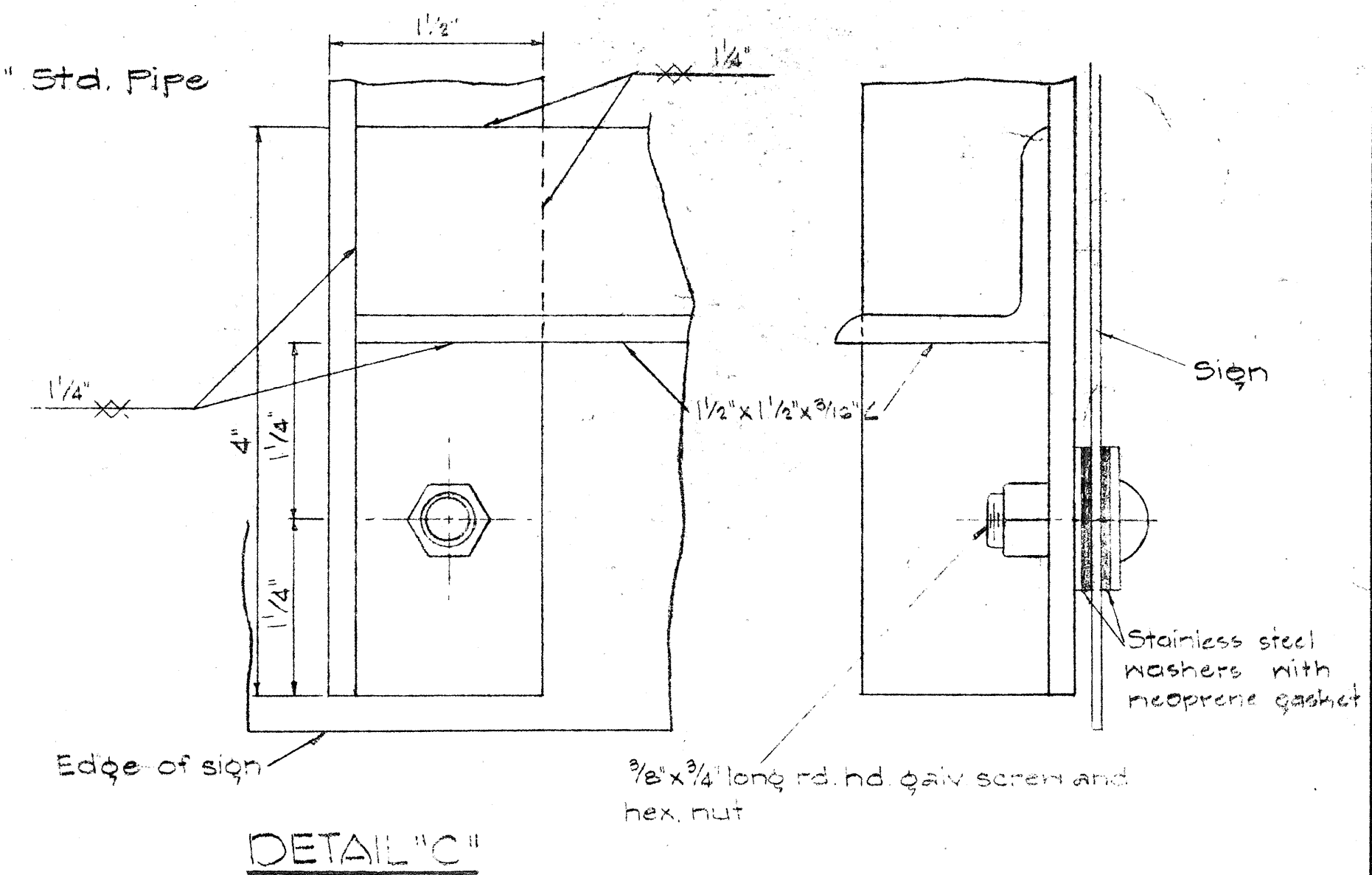
DETAIL "A"



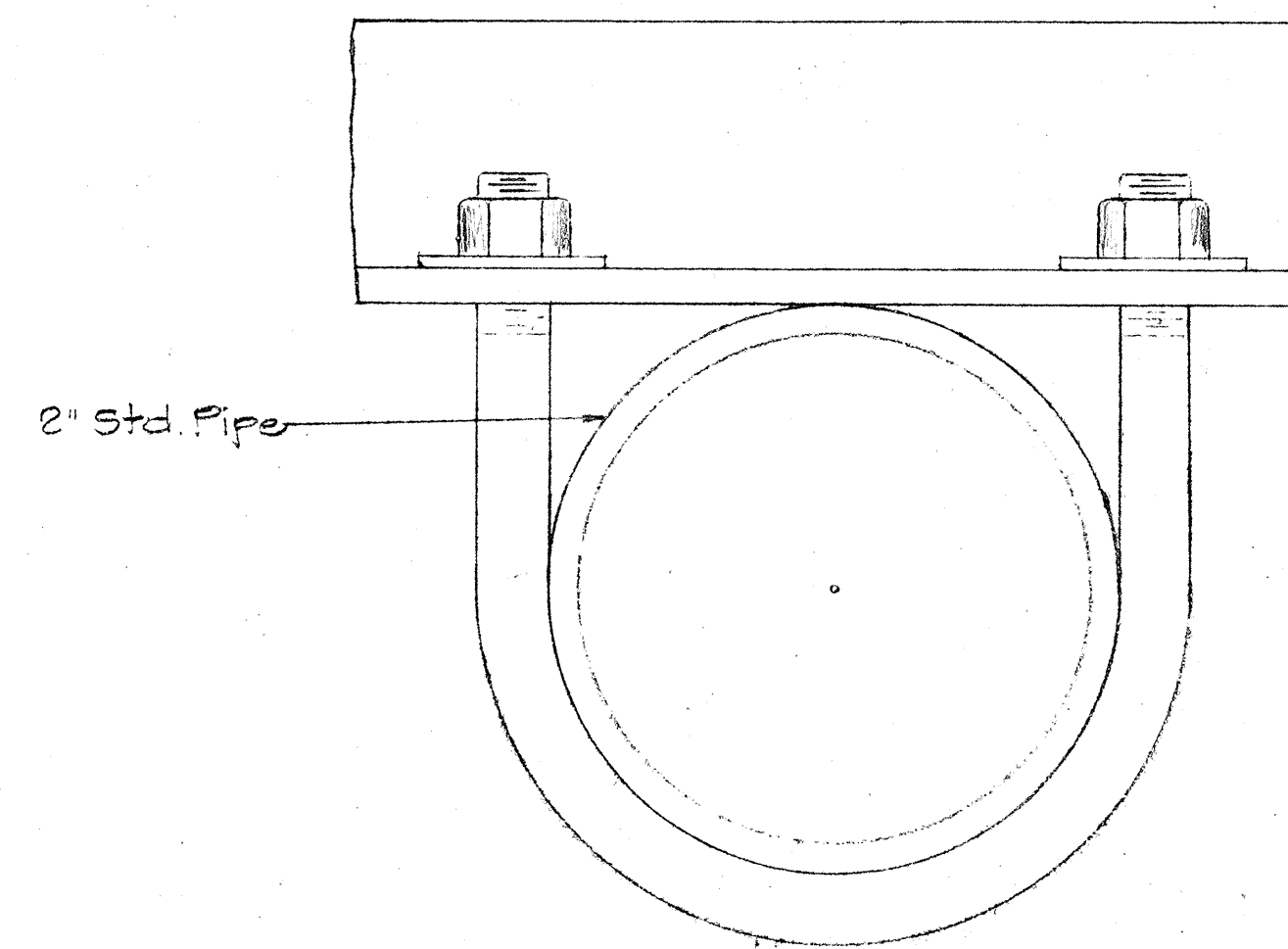
DETAIL "B"



DETAIL "D"
FULL SCALE



DETAIL "C"

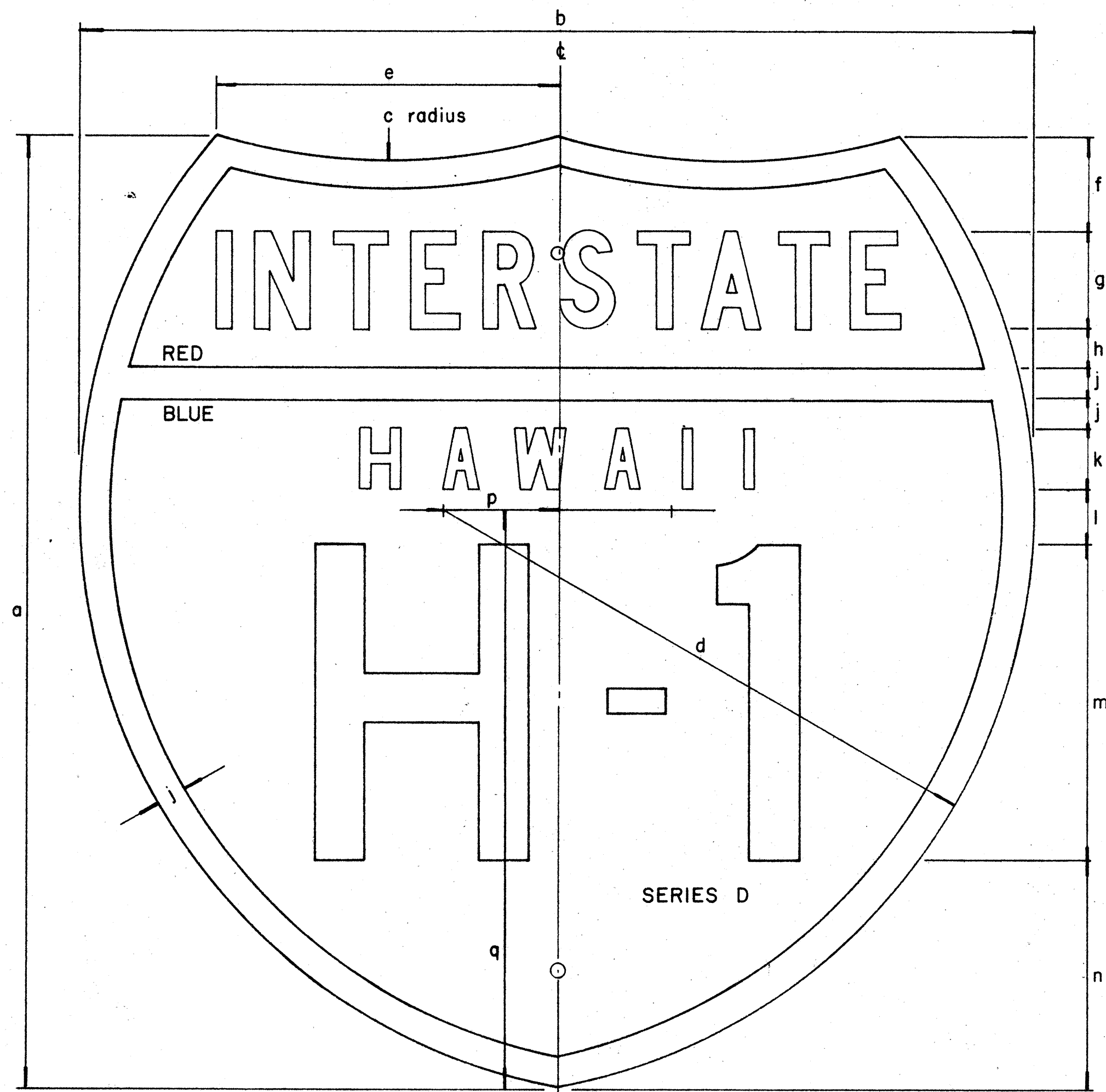


NOTE:
For height and lateral location of Route Marker Assembly, see Sheet No. 51

REVISED: JULY 9, 1968

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DETAILS OF
ROUTE MARKER ASSEMBLY
Not to Scale

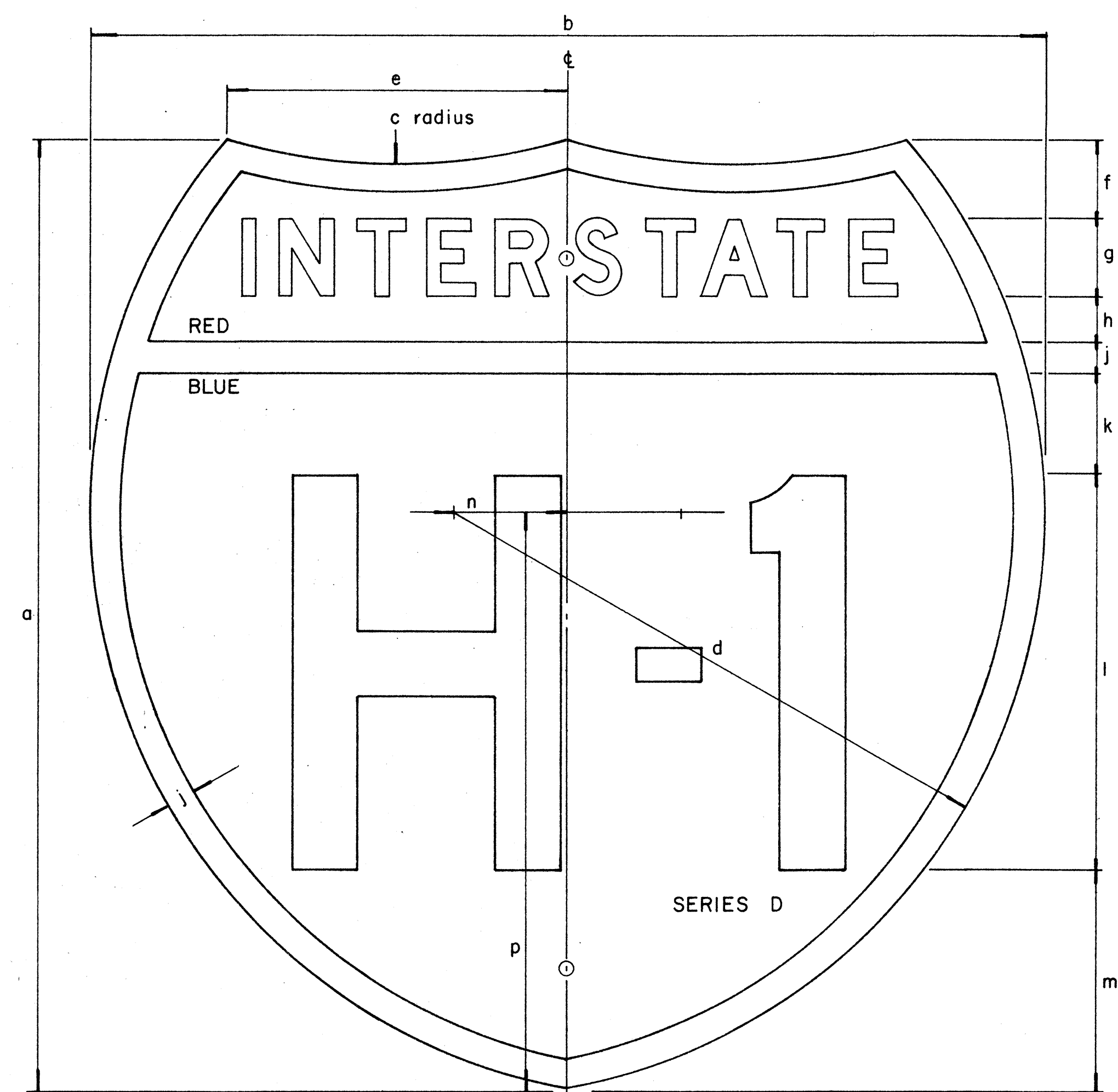
SHEET No. 14 OF 23 SHEETS



INTERSTATE ROUTE MARKER
IM-1()

INTERSTATE SHIELDS - INDEPENDENT USE

()	a	b	c	d	e	f	g	h	j	k	l	m	n	p	q
1	18	21	13 1/8	12 9/16	9 3/16	12 5/32	1 7/8 C	3/4	9/16	1 1/8 D	1 1/32	6	4 5/16	2 1/16	12 7/16
2	24	24	15	14 7/8	8 5/8	2 3/8	2 1/2 C	1	3/4	1 1/2 D	1 3/8	8	5 3/4	2 7/8	14 5/8
3	36	36	22 1/2	22 5/16	12 15/16	3 9/16	3 3/4 C	1 1/2	1 1/8	2 1/4 D	2 1/16	12	8 5/8	4 5/16	21 15/16



INTERSTATE ROUTE MARKER
IM-2()

INTERSTATE SHIELDS ON GUIDE SIGNS

()	a	b	c	d	e	f	g	h	j	k	l	m	n	p
2	24	24	15	14 7/8	8 5/8	2	2 D	1 3/16	3/4	2 9/16	10	5 1/2	2 7/8	14 5/8
3	36	36	22 1/2	22 5/16	12 15/16	3 7/16	3 C	1 5/16	1 1/8	3 1/8	15	9	4 5/16	21 15/16
4	48	48	30	29 3/4	17 1/4	4 3/4	5 C	2	1 1/2	4	18	12 3/4	5 3/4	29 1/4

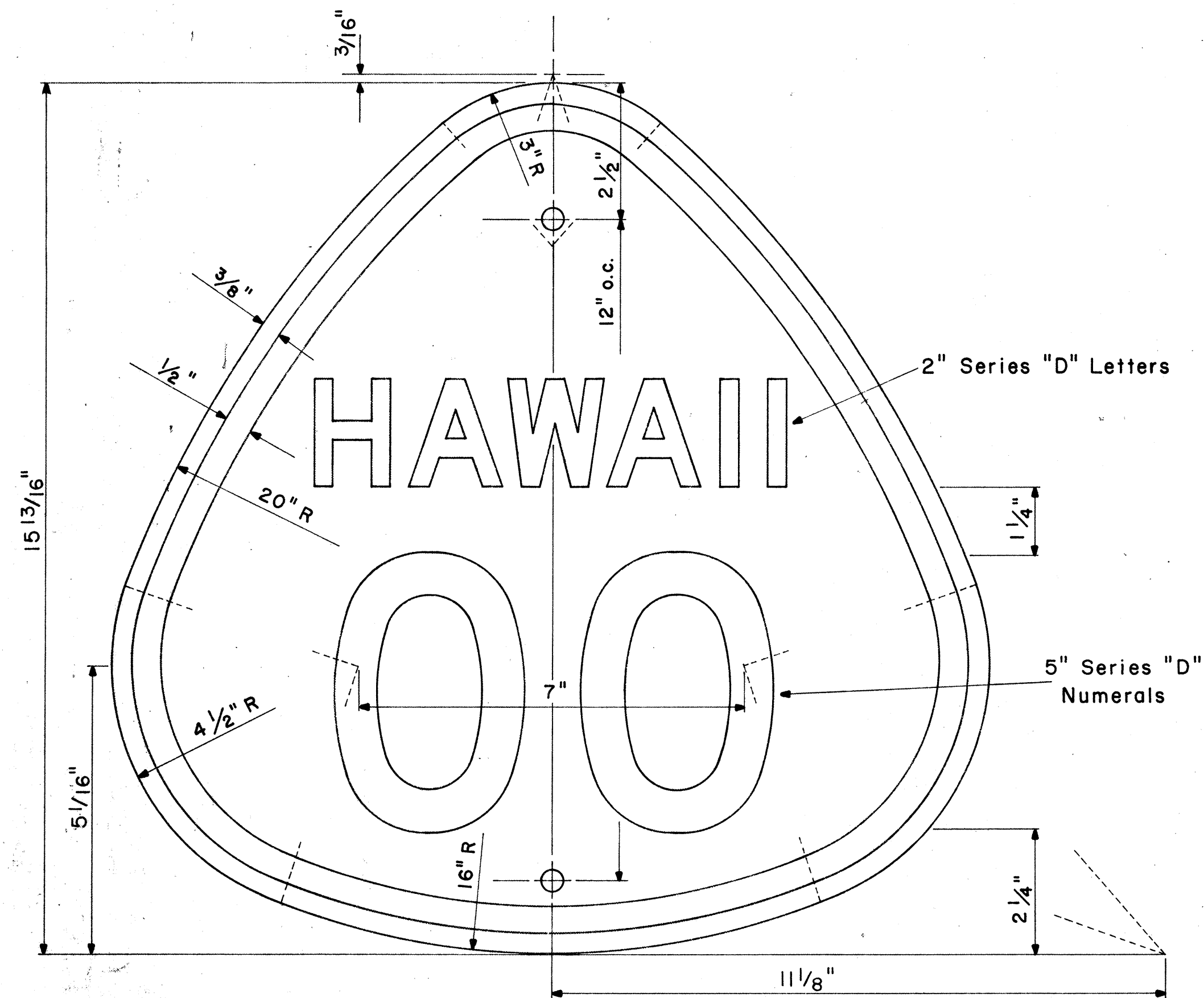
GENERAL NOTES

- The shape, dimensions, symbols, wording, lettering, color and reflectorizing of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June, 1961 and the BPR manual "Standard Highway Signs," dated September, 1961, unless otherwise specified.
- All letters and figures shall conform to the manual "Standard Alphabets for Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1952
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- The Interstate Route Marker shall be a cut-out shield, in a red, white and blue design as shown on the plans.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

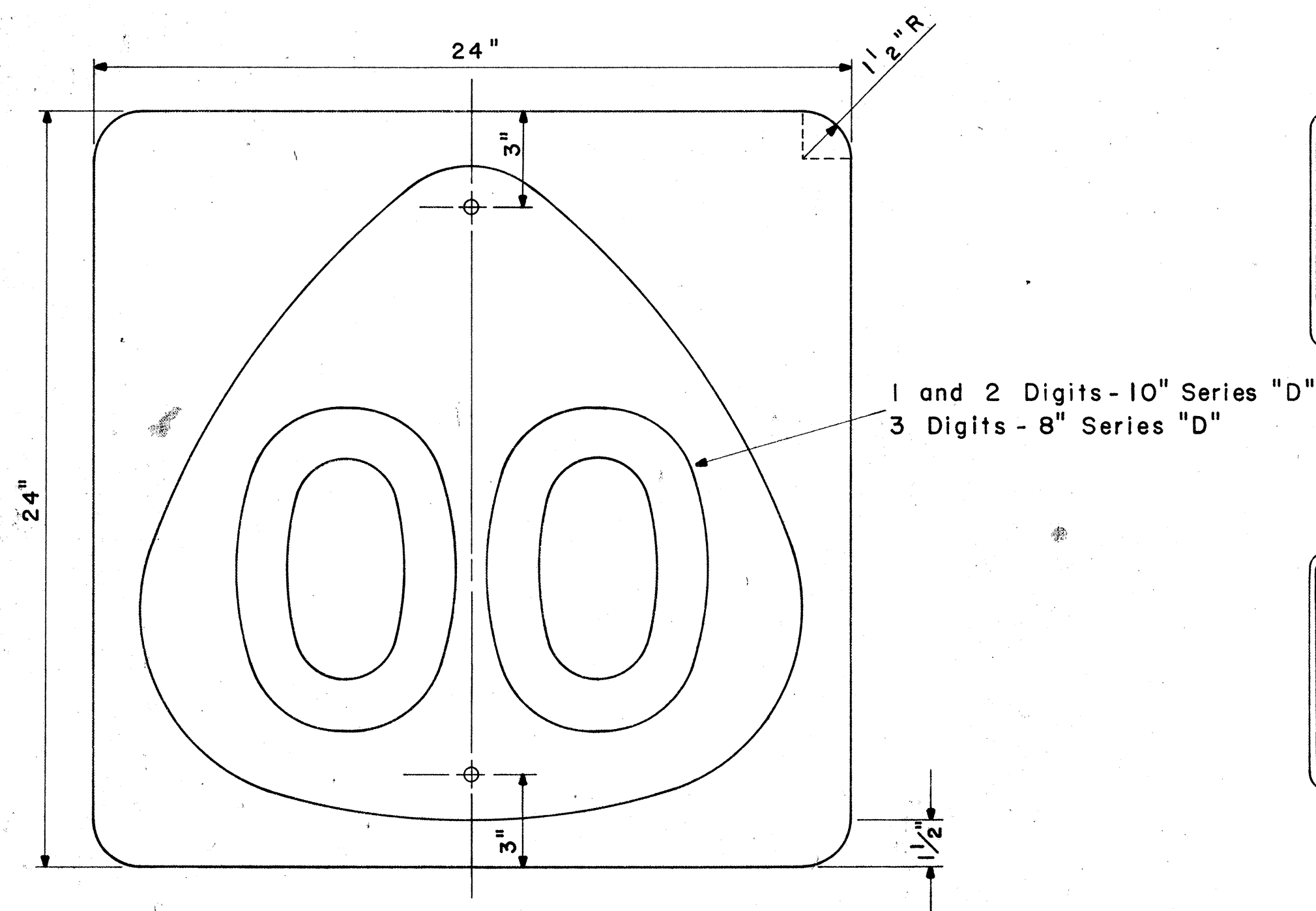
STANDARD DETAILS
INTERSTATE ROUTE MARKERS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	111(62)8	1968	50	144



STATE ROUTE MARKER
M1-3(OO)

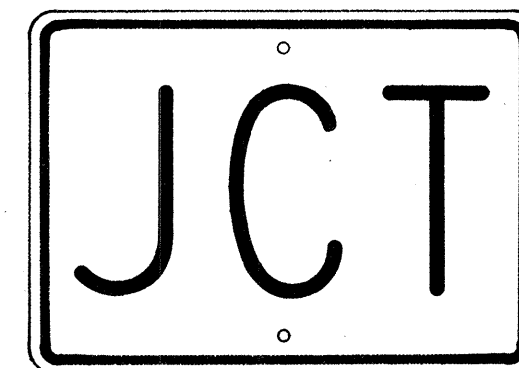
Scale: 1/2" = 1"



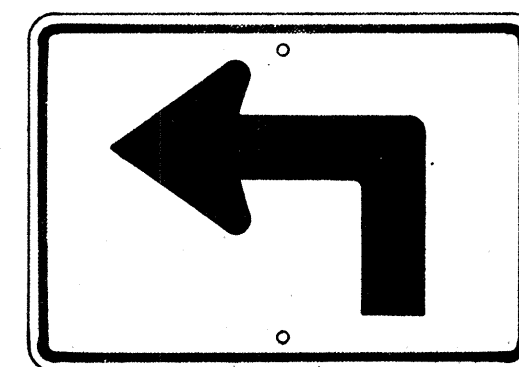
STATE ROUTE MARKER
M1-4(OO)

Scale: 1/4" = 1"

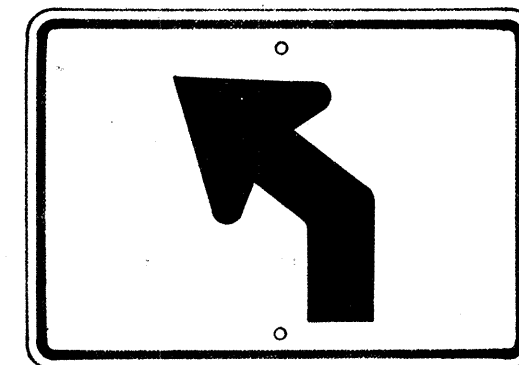
NOTE:
Multiply all dimensions of State Route Marker M1-3
by 1.3 for the dimensions of the shield for M1-4.



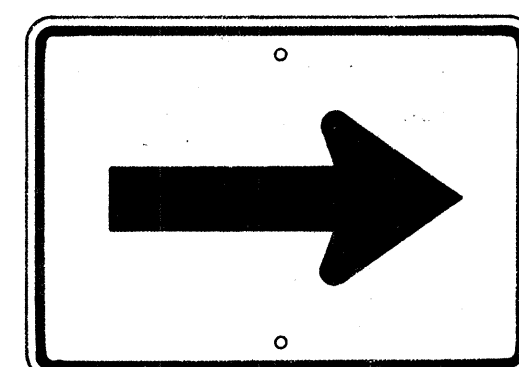
M2-1
21" x 15"



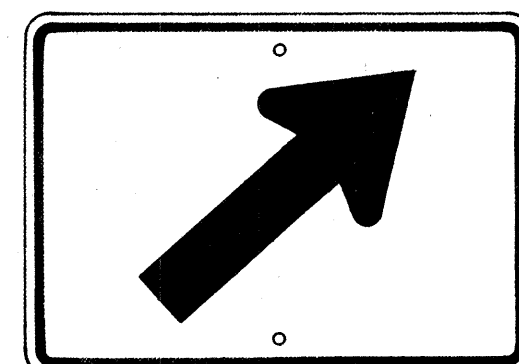
M3-1-L
* M3-1-R
21" x 15"



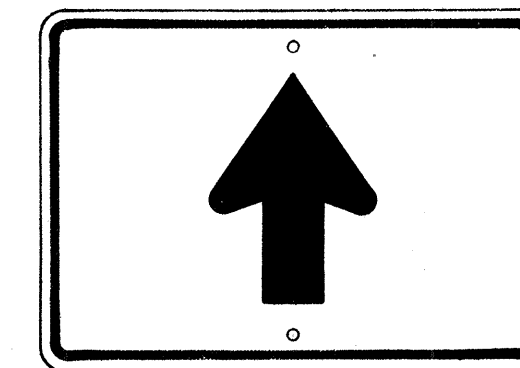
M3-2-L
* M3-2-R
21" x 15"



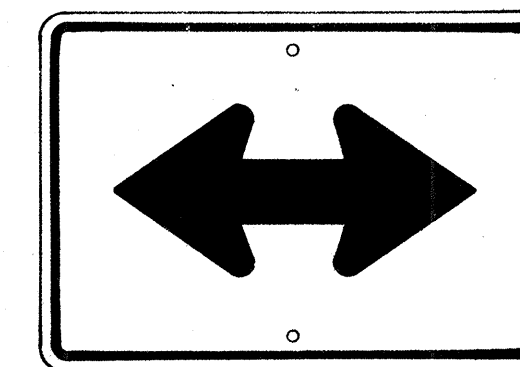
M4-1
21" x 15"



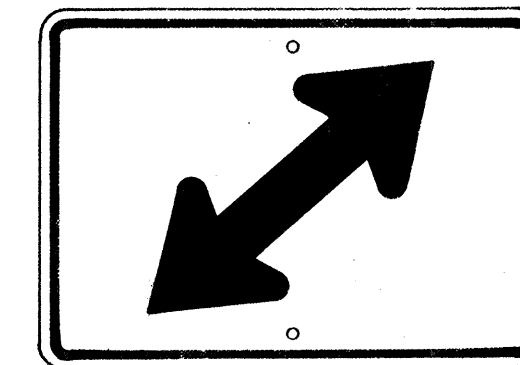
M4-2-R
* M4-2-L
21" x 15"



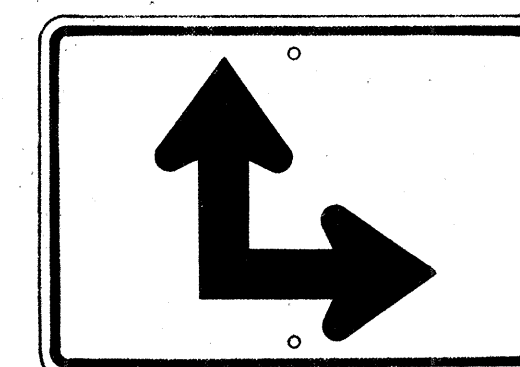
M4-3
21" x 15"



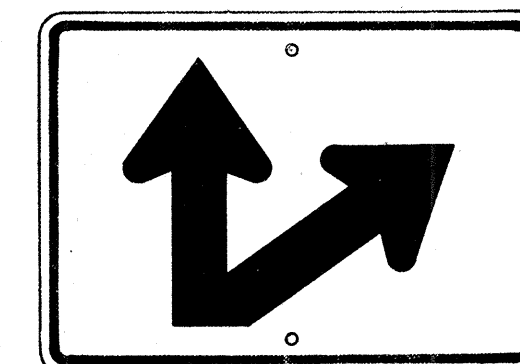
M4-4
21" x 15"



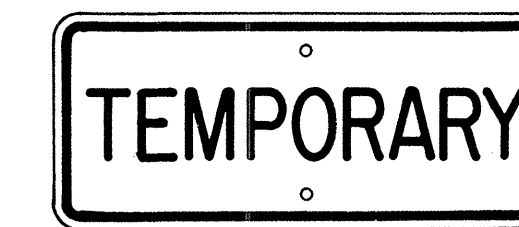
M4-5-R
* M4-5-L
21" x 15"



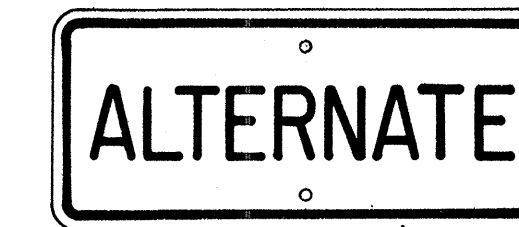
M4-6-R
* M4-6-L
21" x 15"



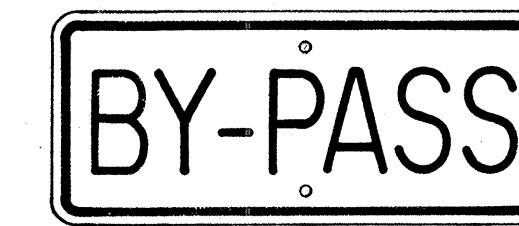
M4-7-R
* M4-7-L
21" x 15"



M5-1
21" x 9"



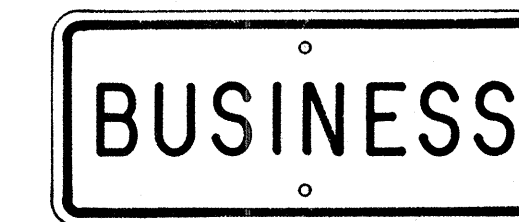
M5-2
21" x 9"



M5-3
21" x 9"



M5-4
21" x 9"



M5-5
21" x 9"



M5-6
21" x 9"



M6-1-N
21" x 9"
(See Note 6)



M7-1
18" x 12"

GENERAL NOTES

- The shape, color, dimensions, symbols, wording, lettering and reflectorizing of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961, unless otherwise specified.
- All letters and figures shall conform to the manual "Standard Alphabets for Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1952.
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- All markers shall have a black legend on a white background unless otherwise specified.
- Sign message of Cardinal Direction Marker (M6-1) shall be denoted by the following suffixes:
M6-1-N : NORTH
M6-1-E : EAST
M6-1-S : SOUTH
M6-1-W : WEST
- Auxiliary markers denoted with the suffix "I" (M4-1-I) shall have a white legend on a blue background.
- Cardinal Direction Marker (M6-1) with suffix I (3) shall have a white legend on a blue background and shall be 30" x 15" in size.
- For M1-3 and M1-4 signs, number in () indicates route number and shall be as shown on the plan.

AUXILIARY MARKERS

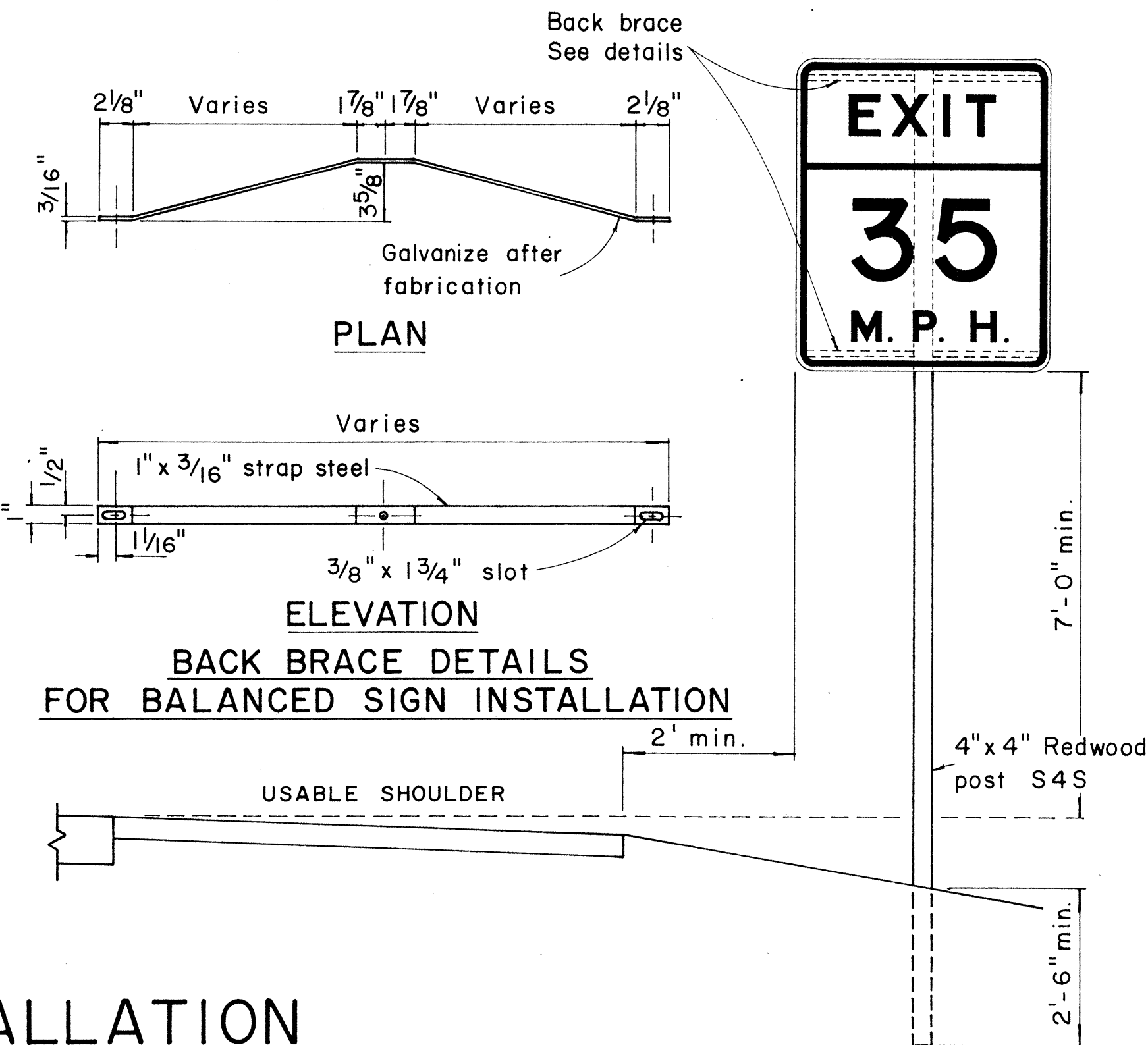
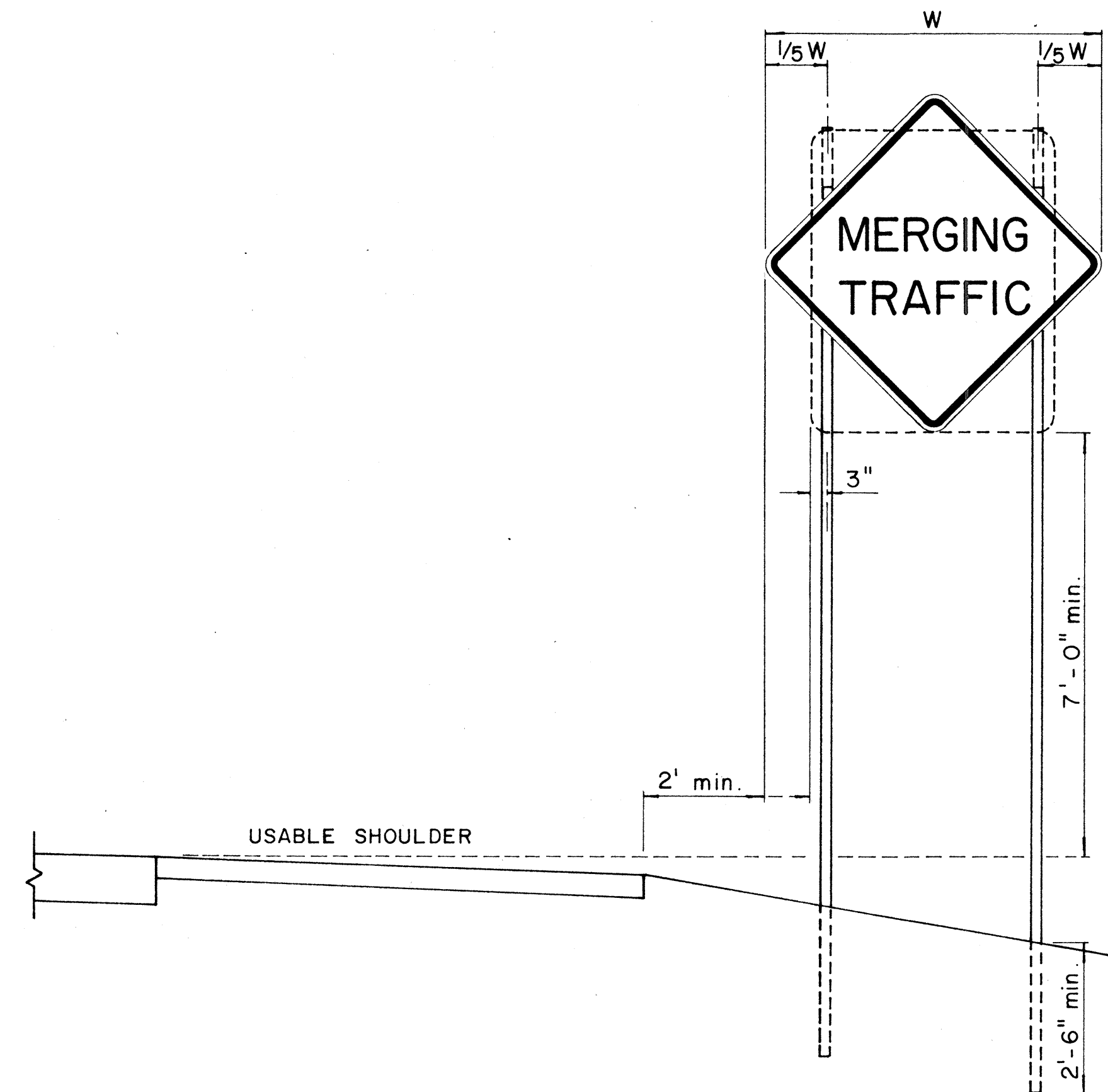
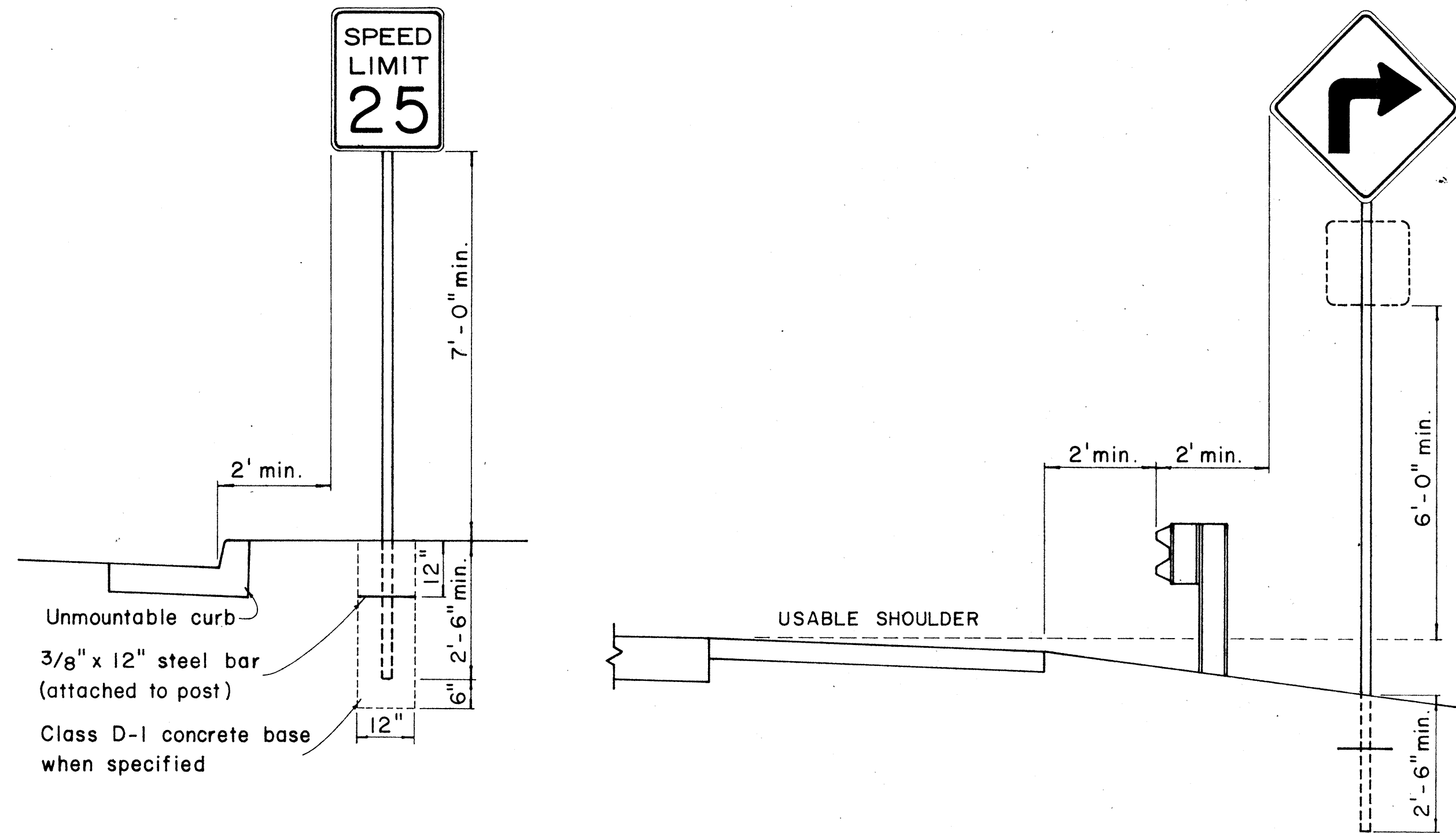
Scale: 1/8" = 1"

* NOTE:
Signs shall be similar but opposite in direction.

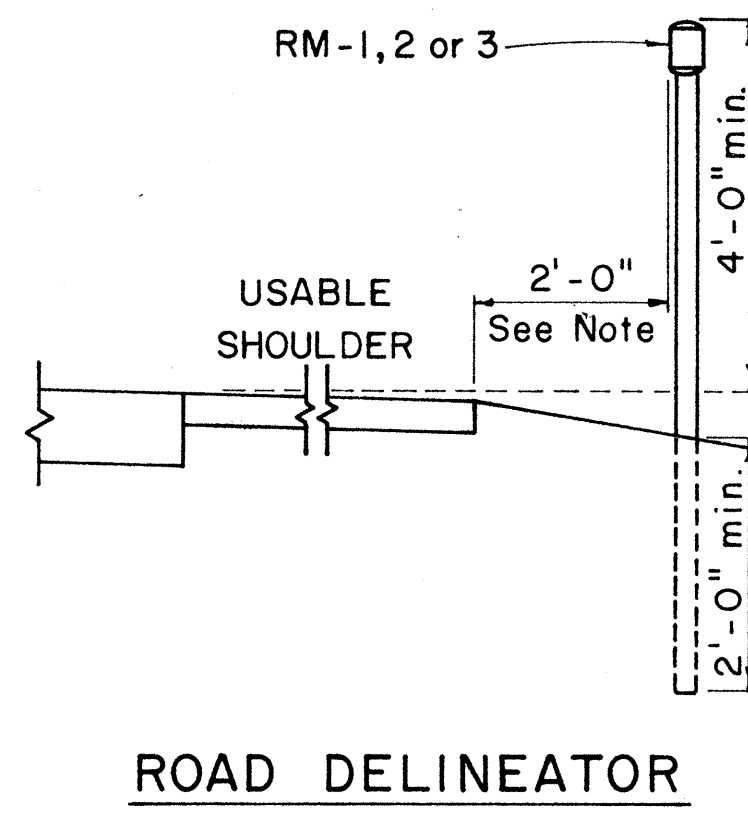
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
STATE ROUTE MARKERS
AND
AUXILIARY MARKERS
Scale: As Noted
SHEET NO 16 OF 23 SHEETS

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(67)8	1968	51	144

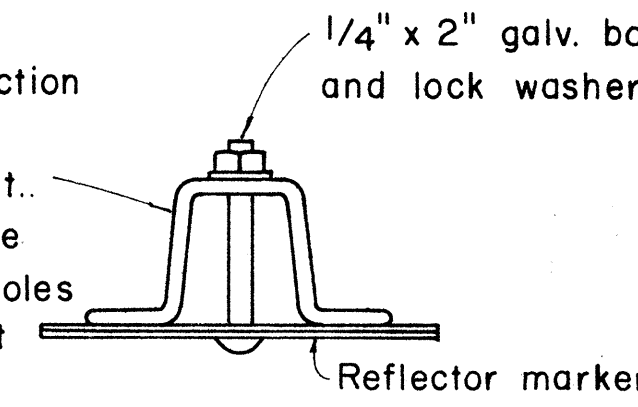


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



Galv. flanged channel 1/8" x 3/16" rolled section post with a minimum weight of 2 lbs. per ft. Upper 2 ft. shall have a single row of 3/8" holes centered in the web at 1" o.c.

TYPICAL SECTION OF ROAD DELINEATOR



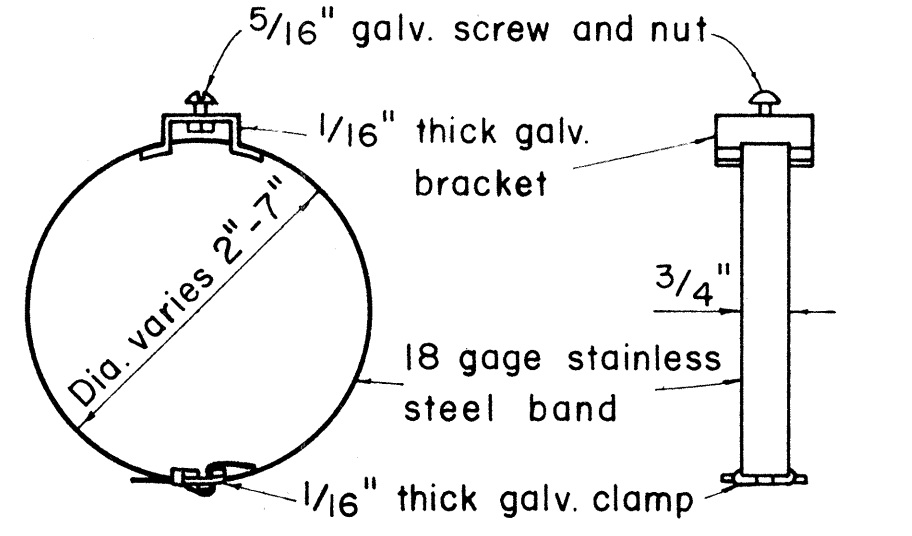
Galv. 1/2" x 1/2" square tube post with a minimum weight of 1.7 lbs. per ft.

1/4" x 1/2" galv. bolt with nut and lock washer

1'-5" x 6" x 0.063" anodized aluminum plate with 3/8" holes drilled as shown

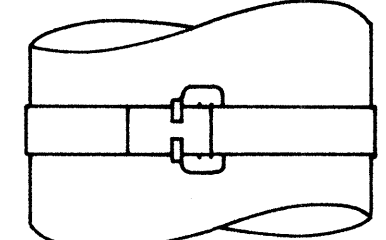
Galvanized post

TYPICAL DETAIL HORIZONTAL REFLECTOR MARKER RM-3H



PLAN

SIDE VIEW

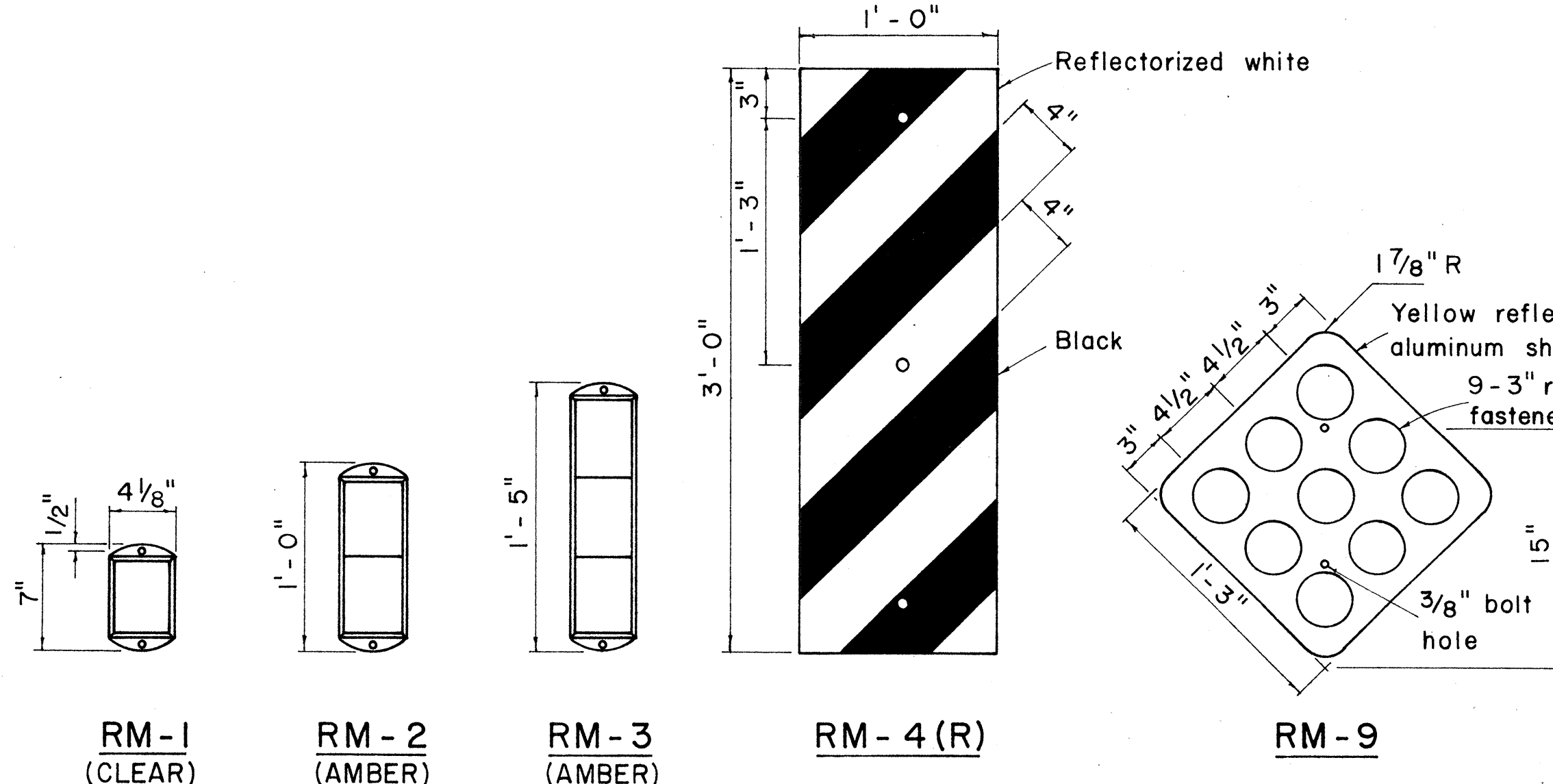


FRONT VIEW

TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

GENERAL NOTES:

- Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 2" galv. standard pipe or two 2" x 2" galv. sq. tube post or 4" x 4" redwood post S4S.
- Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06 stainless steel washers with neoprene rubber gasket.
- Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
- Reflector markers RM-1, 2, 3 shall be glass sphere reflector markers with 4" x 5" reflector units (as shown) or plastic prismatic reflector markers with 3" diameter reflector units.
- Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
- (R) or (L) indicates right or left and shall be as shown on the plans.



REFLECTOR MARKERS

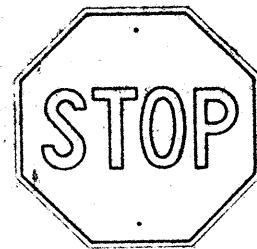
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

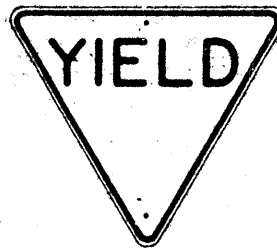
Not to scale March, 1968

SHEET No. 17 OF 23 SHEETS

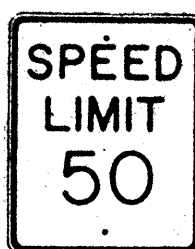
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(69)8	1968	52	144



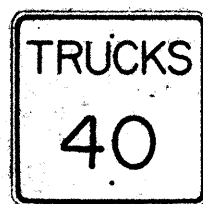
R1-1 30"x 30"



R1-2 36"x 36"x 36"
R1-2-E 48"x 48"x 48"
R1-2-I 60"x 60"x 60"



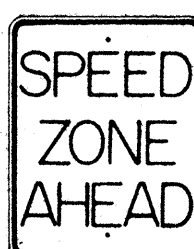
R2-1(50) 24"x 30"
R2-1(50)-E 36"x 48"
R2-1(50)-I 48"x 60"



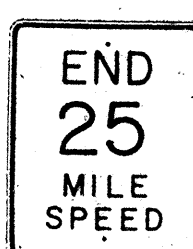
R2-2(40) 24"x 24"
R2-2(40)-E 36"x 36"
R2-2(40)-I 48"x 48"



R2-4(40) 24"x 30"
R2-4(40)-E 36"x 48"
R2-4(40)-I 48"x 60"



R2-5 24"x 30"
R2-5-E 36"x 48"
R2-5-I 48"x 60"



R2-6(25) 24"x 30"
R2-6(25)-E 36"x 48"
R2-6(25)-I 48"x 60"



R2-7 24"x 30"
R2-7-E 36"x 48"
R2-7-I 48"x 60"



R3-1 24"x 30"
R3-1-E 36"x 48"



R3-2 24"x 30"
R3-2-E 36"x 48"



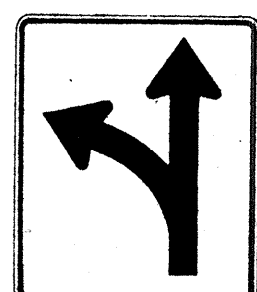
R3-3 24"x 24"



R3-4 24"x 30"
R3-4-E 36"x 48"
R3-4-I 48"x 60"



R3-5(L) 30"x 36"



R3-6(L) 30"x 36"



R3-7(R) 30"x 30"



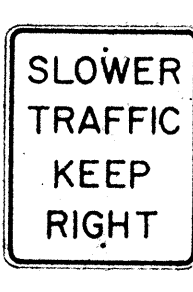
R3-8(L) 30"x 30"



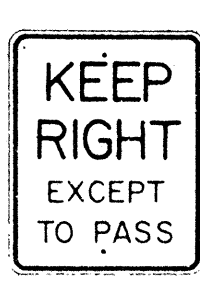
R4-1 24"x 30"



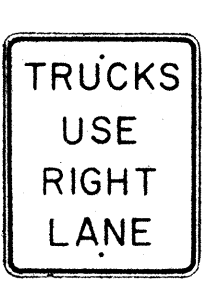
R4-2 24"x 30"



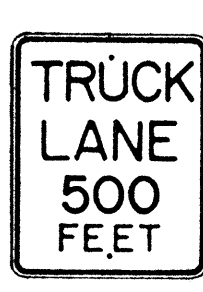
R4-3 24"x 30"
R4-3-E 36"x 48"
R4-3-I 48"x 60"



R4-4 24"x 30"
R4-4-E 36"x 48"
R4-4-I 48"x 60"



R4-5 24"x 30"
R4-5-E 36"x 48"



R4-6 24"x 30"
R4-6-E 36"x 48"



R4-7(R) 24"x 30"
R4-7(R)-E 36"x 48"



R5-1 24"x 24"



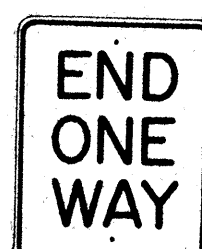
R6-1(R) 36"x 12"



R6-2(R) 18"x 24"



R6-3 24"x 30"



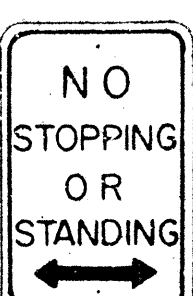
R6-4 24"x 30"



R6-5 24"x 30"



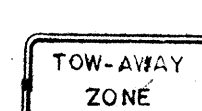
R7-1 12"x 18"



R7-4 12"x 18"
R7-4-E 24"x 30"



R7-107(R) 12"x 18"



R7-201 12"x 6"



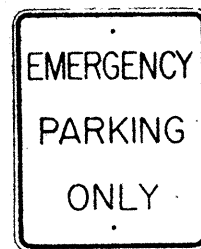
R8-1 24"x 30"
R8-1-E 36"x 48"
R8-1-I 48"x 60"



R8-2 24"x 30"
R8-2-E 36"x 48"



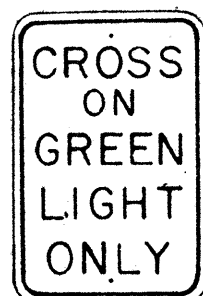
R8-3 24"x 30"
R8-3-E 36"x 48"



R8-4 24"x 30"
R8-4-E 36"x 48"
R8-4-I 48"x 36"



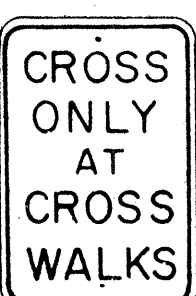
R9-1 18"x 24"



R9-2 12"x 18"



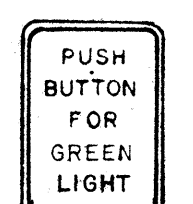
R9-3 12"x 18"



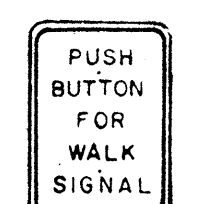
R9-4 12"x 18"



R9-5 12"x 18"



R9-6 9"x 12"



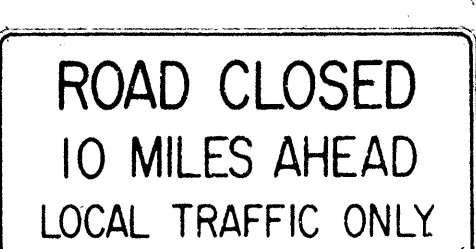
R9-7 9"x 12"



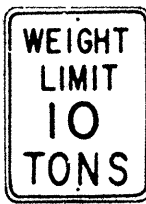
R10-1 24"x 30"
R10-1-E 36"x 48"
R10-1-I 48"x 60"



R10-2 48"x 30"



R10-3(10) 60"x 30"



R10-4(10) 18"x 24"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All regulatory signs shall be reflectorized unless otherwise specified.
3. All regulatory signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
4. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
5. For R2 signs, number in () indicates speed and shall be as shown on the plans.
6. (R) or (L) indicates right or left and shall be as shown on the plans.
7. For R10-4 sign, number in () indicates weight and shall be as shown on the plan.

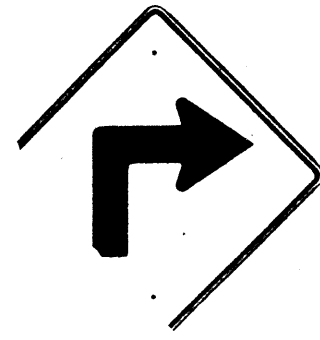
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

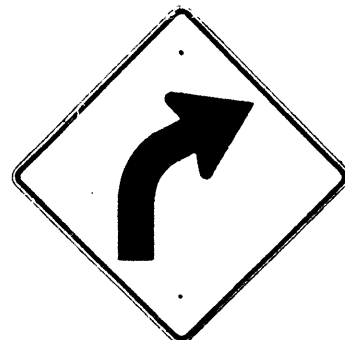
NOT TO SCALE

SHEET No. 18 OF 23 SHEETS

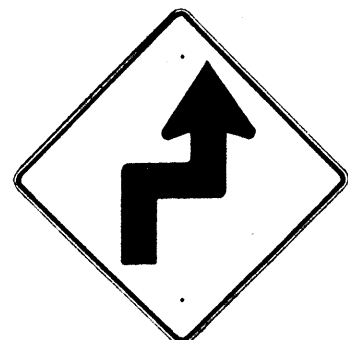
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-11(69)B	1968	53	144



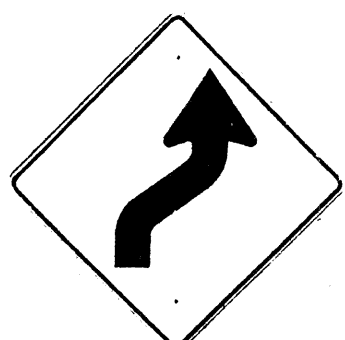
W1-1(R) 30" x 30"



W1-2(R) 30" x 30"



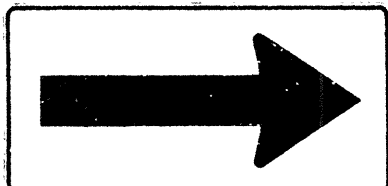
W1-3(R) 30" x 30"



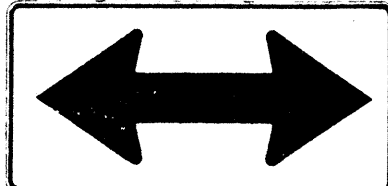
W1-4(R) 30" x 30"



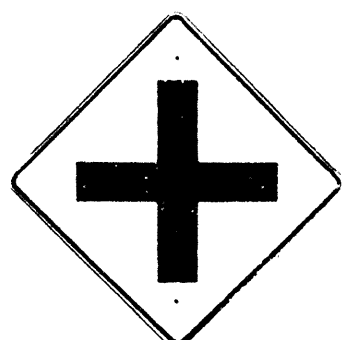
W1-5(R) 30" x 30"



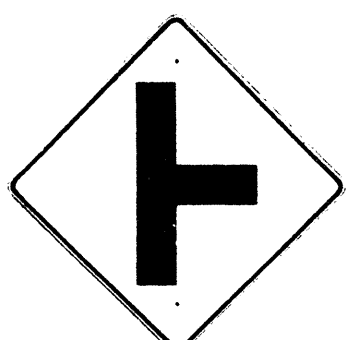
W1-6 48" x 24"



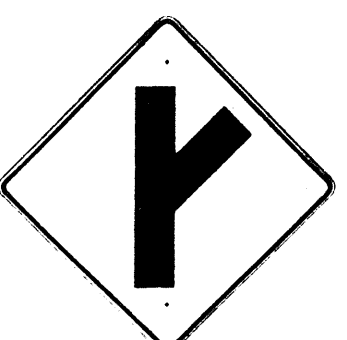
W1-7 48" x 24"



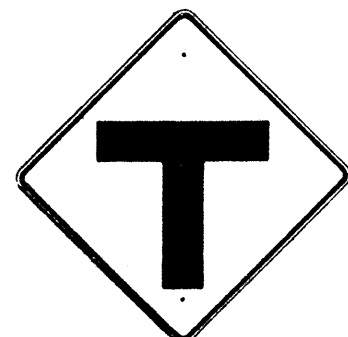
W2-1 30" x 30"



W2-2 30" x 30"



W2-3(R) 30" x 30"



W2-4 30" x 30"



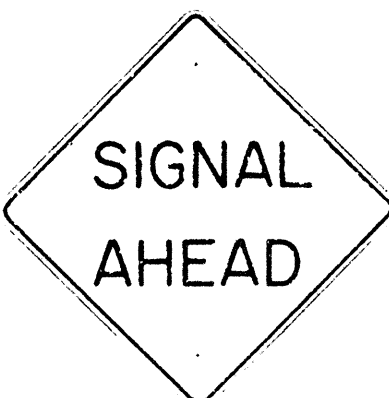
W2-5 30" x 30"



W3-1 30" x 30"



W3-2 30" x 30"



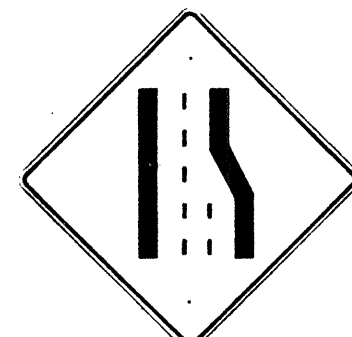
W3-3 36" x 36"



W4-1 30" x 30"

W4-1-E 36" x 36"

W4-1-I 48" x 48"



W4-2 30" x 30"

W4-2-E 36" x 36"



W5-1 30" x 30"

W5-1-E 36" x 36"



W5-2 30" x 30"



W5-3 30" x 30"



W6-1 36" x 36"



W6-2 36" x 36"



W7-1 30" x 30"



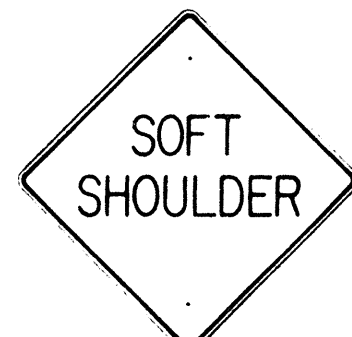
W8-1 30" x 30"



W8-2 30" x 30"



W8-3 30" x 30"



W8-4 30" x 30"



W8-5 30" x 30"



W9-1 30" x 30"



W9-2 30" x 30"



W10-1 36" DIAMETER



W11-1 30" x 30"



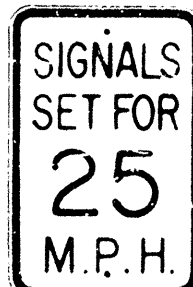
W11-5 30" x 30"



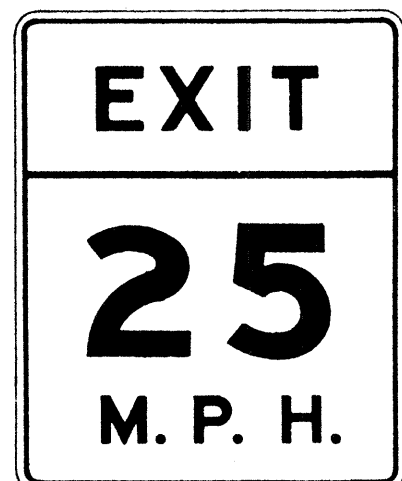
W12-2 36" x 36"



W13-1(35) 18" x 18"
W13-1(35)-E 24" x 24"



W13-2(25) 12" x 18"



W13-3(25) 48" x 60"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. (R) or (L) indicates right or left and shall be as shown on the plan.
5. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
6. For W13 sign, number in () indicates speed and shall be as shown on the plans.

REVISED: September 26, 1967

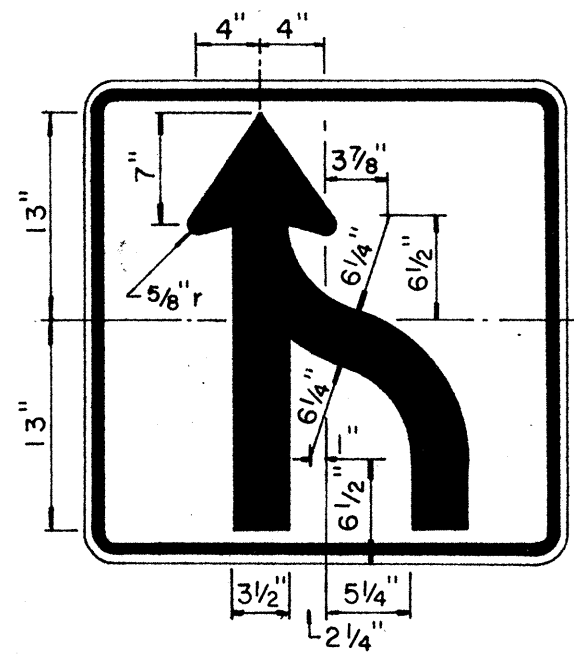
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

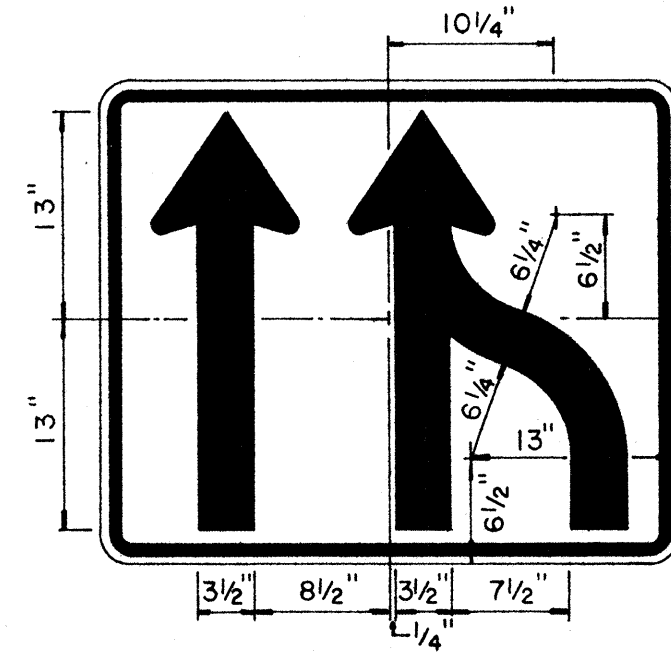
NOT TO SCALE

SHEET No. 19 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(59)8	1968	54	144



R3-9 30" x 30"

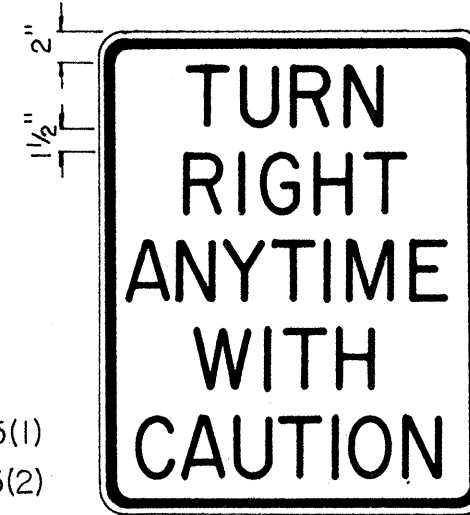


R3-10 36" x 30"

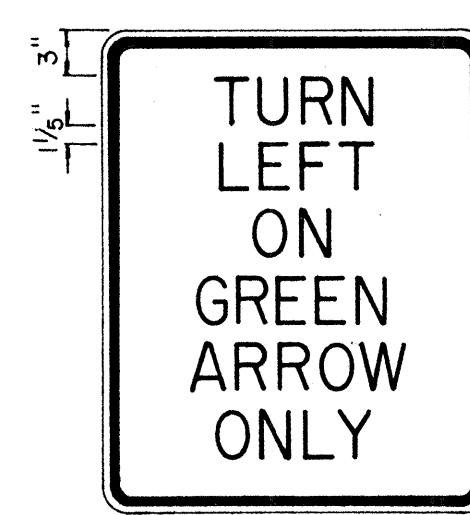


R5-5(1) 24" x 18"
R5-5(2) 36" x 24"

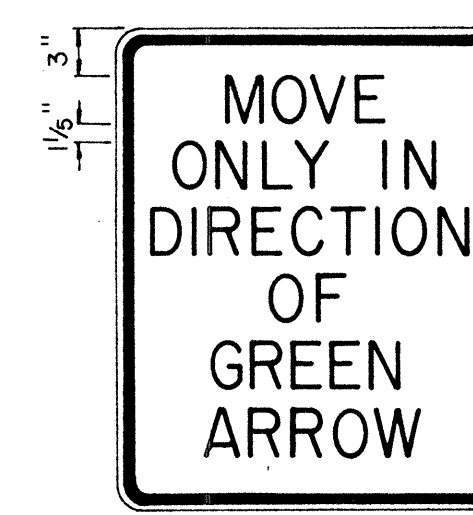
NOTE:
White legend and border
on Red background.



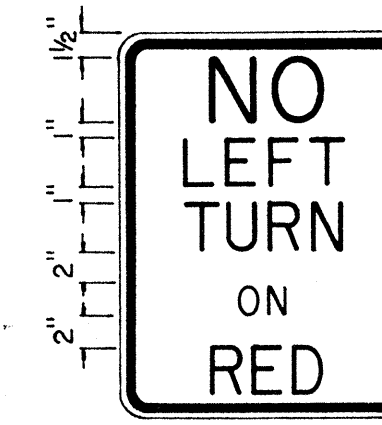
R15-1 24" x 30"



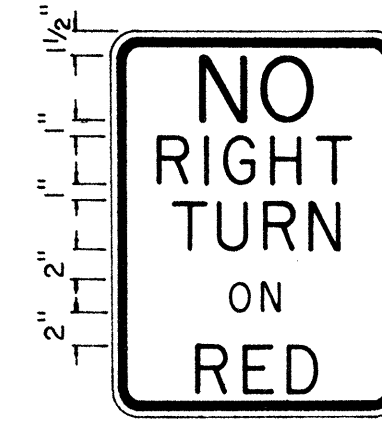
R16-1 24" x 30"



R16-2 24" x 30"



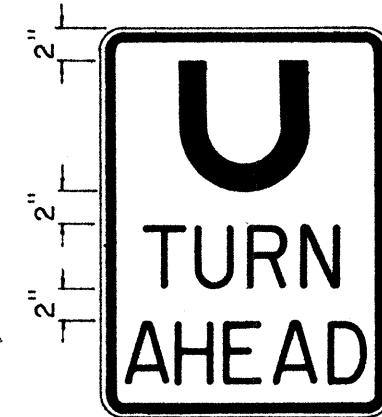
R17-1 18" x 24"



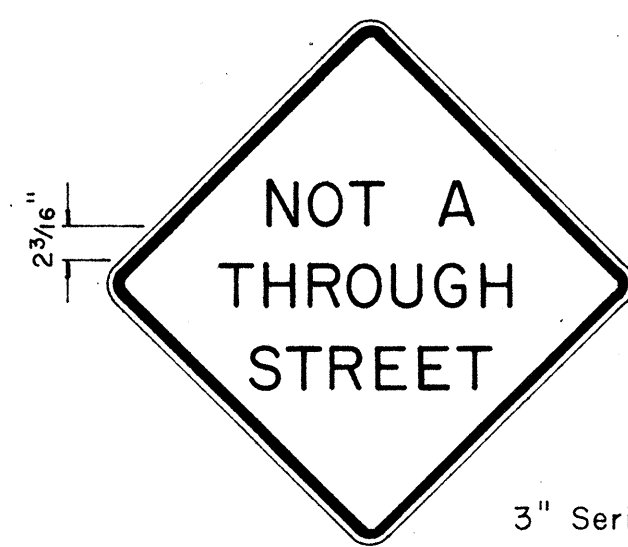
R17-2 18" x 24"



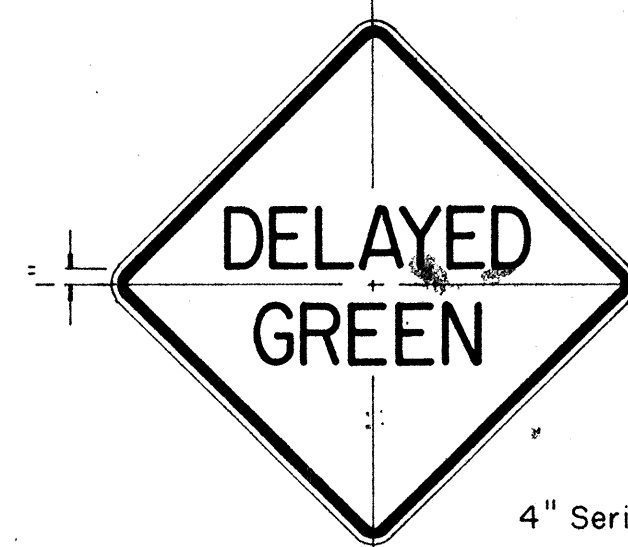
R18-1 36" x 30"



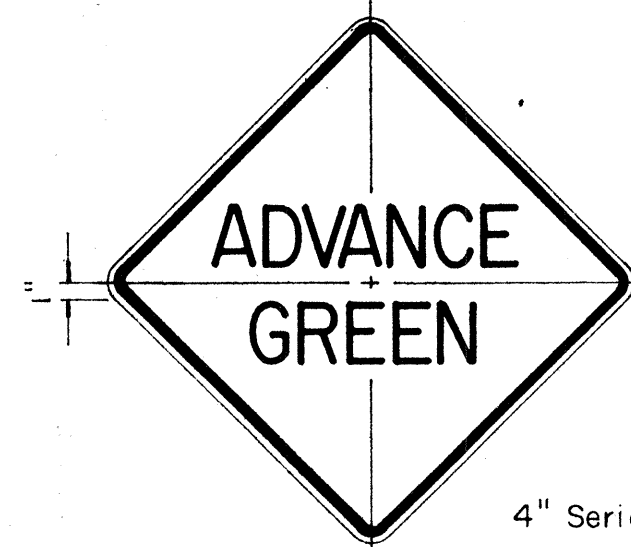
R19-1 18" x 24"



W13-4 24" x 24"



W15-1 24" x 24"



W15-2 24" x 24"

NOTE:

1. The shape, color, plate details, lettering and reflectorization of Regulatory signs (Prefix R) and Warning signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All regulatory and warning signs shall be reflectorized unless otherwise specified.
3. All regulatory and warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BY	DRAWN BY	
CHECKED BY	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS
REGULATORY & WARNING SIGNS

Scale: 1" = 1' - 0"

SHEET No. 20 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-11(69)B	1968	35	144



W7-2 48" x 48"



W8-7 30" x 30"



W14-1 30" x 30"



W20-1a 48" x 48"



W20-2d 48" x 48"



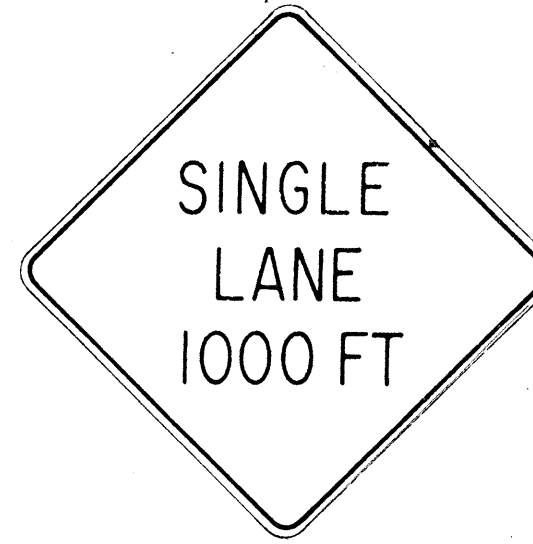
W20-3b 48" x 48"



W20-4d 48" x 48"



W20-5d(L) 48" x 48"



W20-6b 48" x 48"



W20-7c 48" x 48"



W21-1 30" x 30"



W21-2 24" x 24"



W21-3 36" x 36"



W21-4 30" x 30"



W21-5 30" x 30"



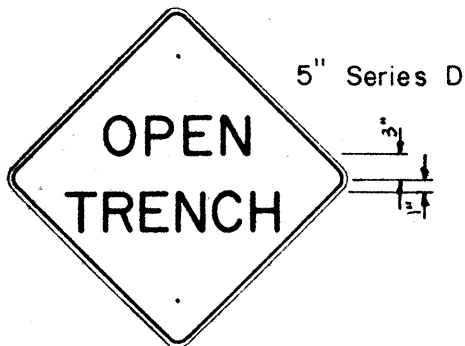
W21-6 30" x 30"



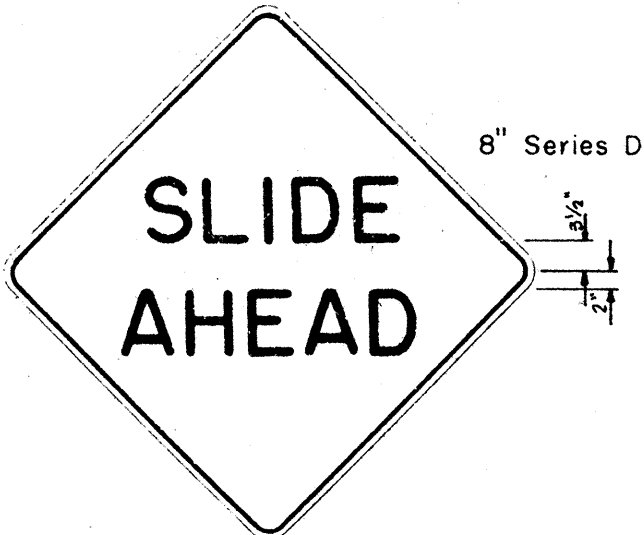
W22-1 30" x 30"



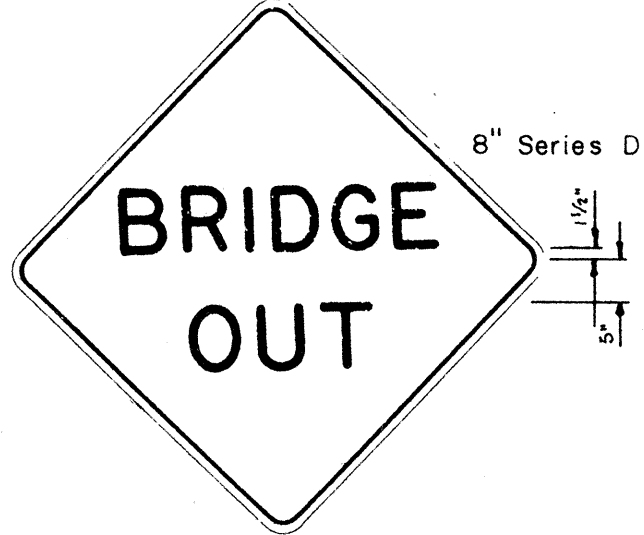
W22-2 30" x 30"



W22-3 30" x 30"



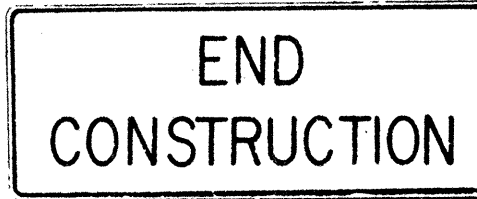
W22-4 48" x 48"



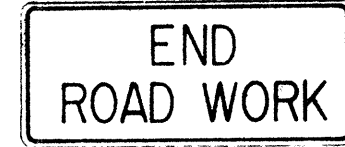
W22-5 48" x 48"



G20-1(5) 60" x 36"



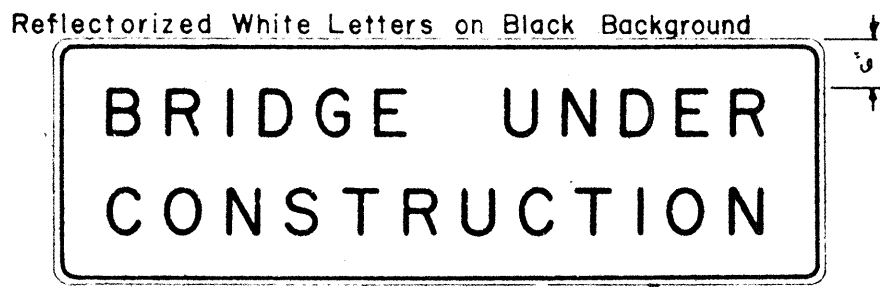
G20-2 60" x 24"



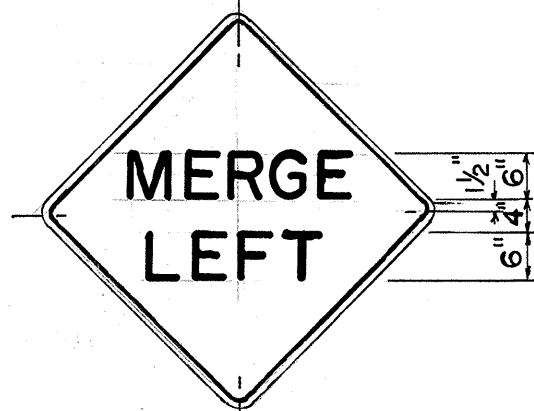
G20-3 42" x 18"



M5-7(L) 48" x 18"



CW-1 96" x 30"



W4-4 36" x 36"

- NOTE:
- The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
 - All signs shall be reflectorized unless otherwise specified.
 - All signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
 - For W20 series signs, suffixes a,b,c and d are as follows: a 1500 FT, b 1000 FT, c 500 FT and d AHEAD.
 - (R) or (L) indicates right or left and shall be as shown on the plans.
 - Number in () indicates miles and shall be as shown on the plans.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

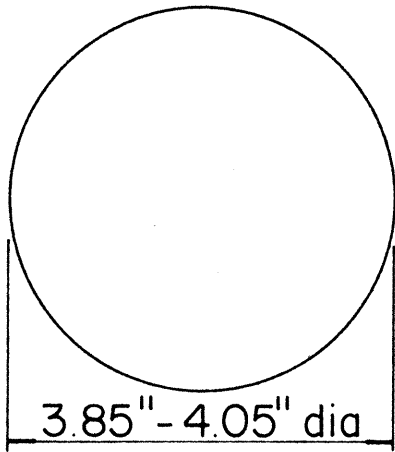
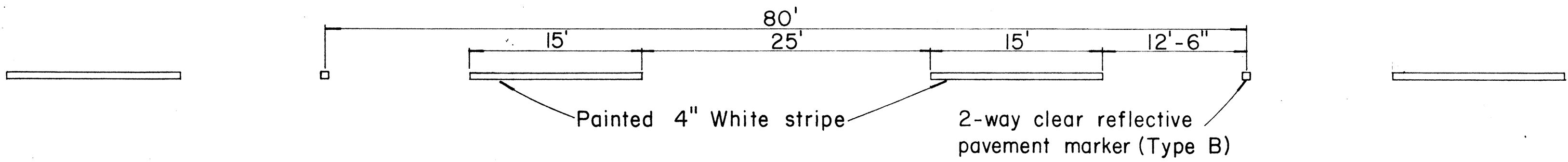
NOT TO SCALE

SHEET No. 21 OF 23 SHEETS

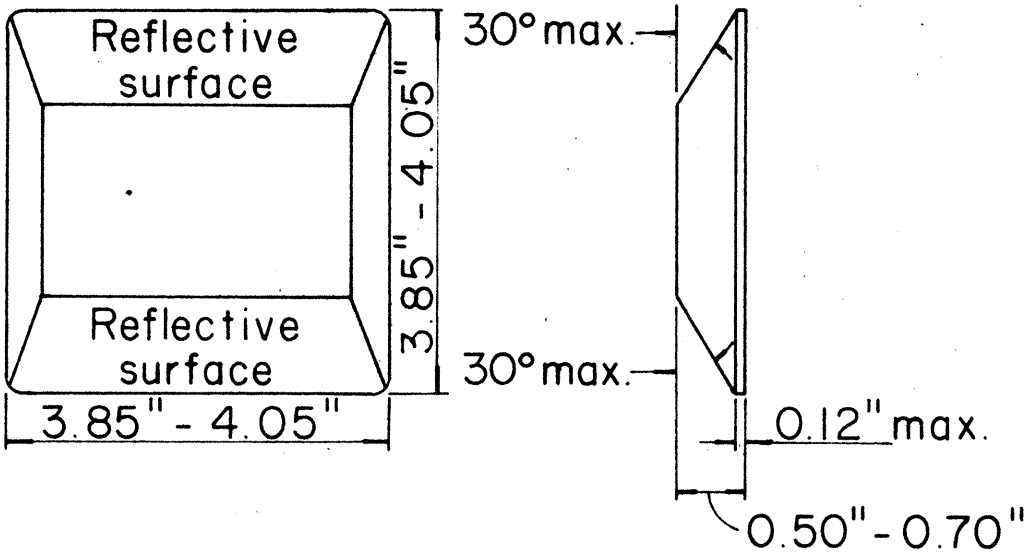
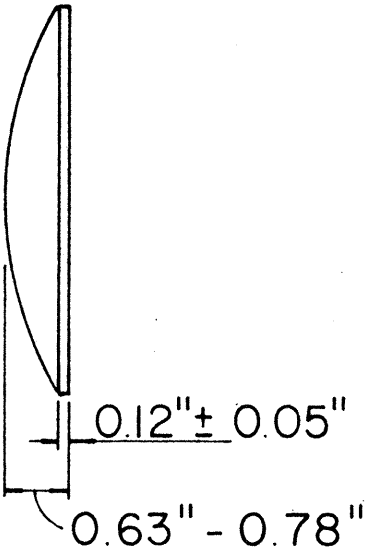
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BY	DRAWN BY	
CHECKED BY	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(69)-8	1968	56	144

① CENTER LINES ON TWO - LANE RURAL ROADS AND CITY STREETS



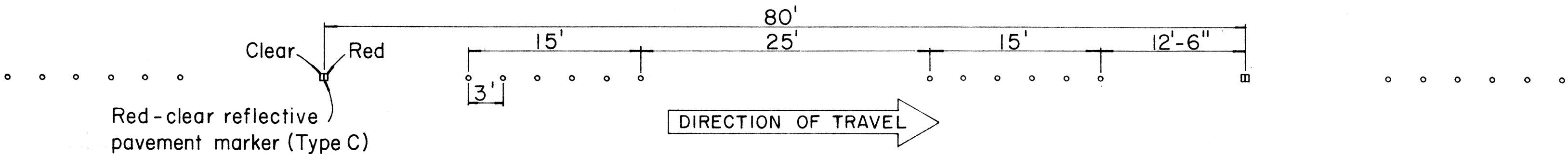
TYPE A
Non - reflective white marker



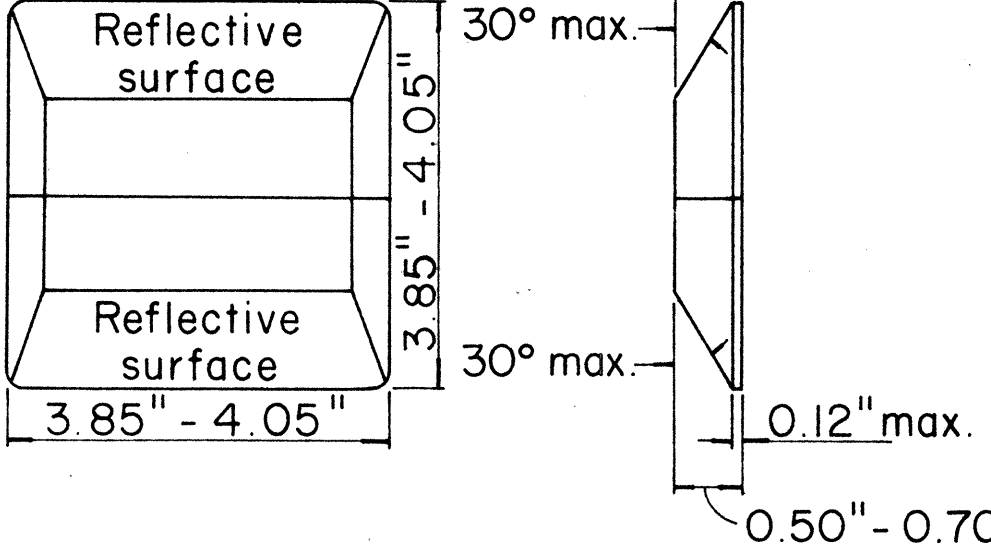
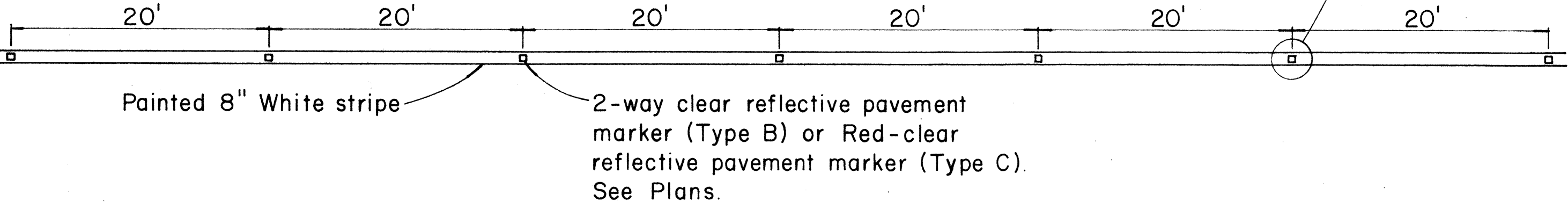
TYPE B
2-way clear reflective surface

TYPE D
2-way yellow reflective surface

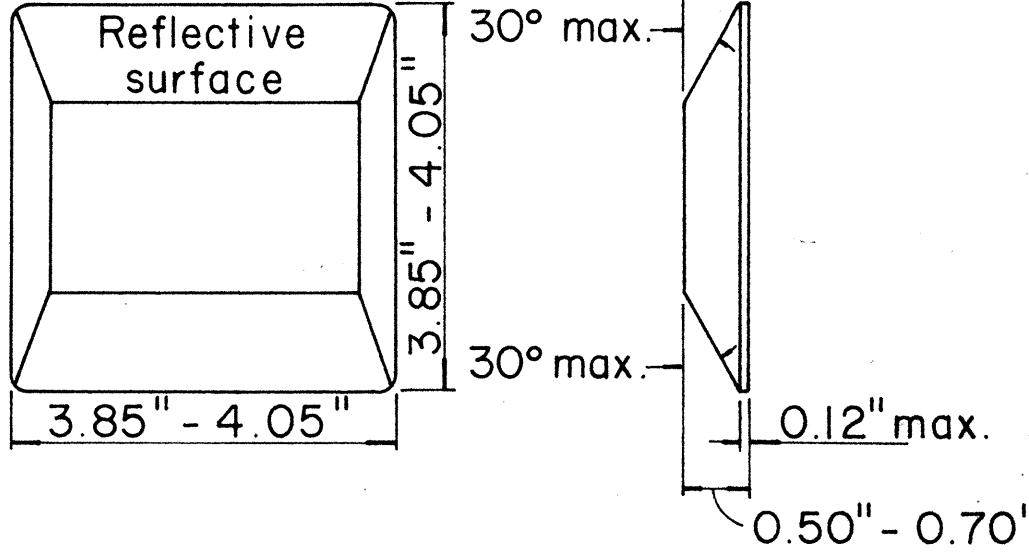
② LANE LINES



③ CHANNELIZING LINES

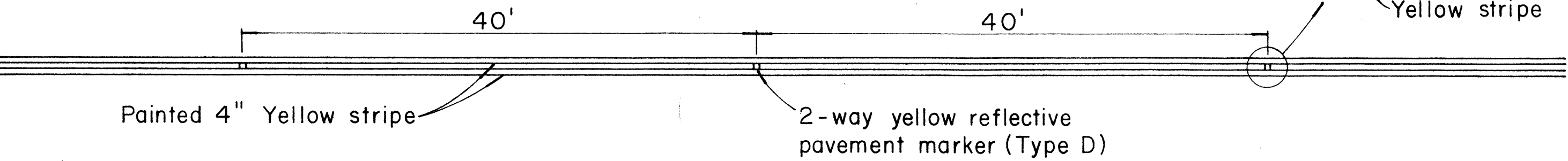


TYPE C
Red - clear reflective surface



TYPE H
One - way yellow reflective surface

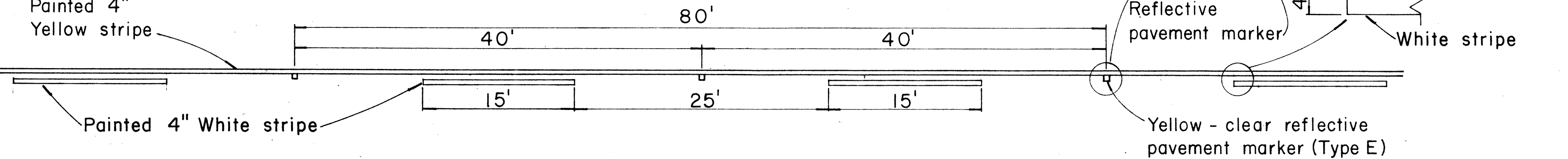
④ YELLOW DOUBLE CENTER LINES



TYPE E
Yellow - clear reflective surface

TYPE G
One - way clear reflective surface

⑤ NO PASSING - PASSING ZONES ON TWO - LANE ROADS



NOTE:
Painted stripes to be done by State forces

REVISED: Aug. 26, 1968

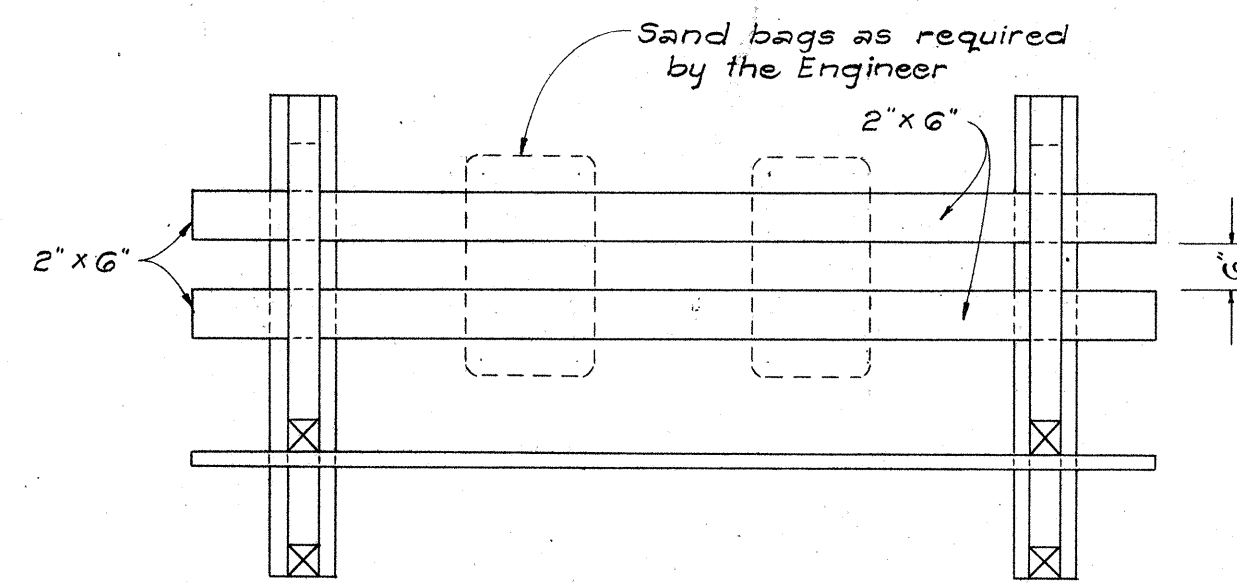
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
RAISED PAVEMENT MARKERS

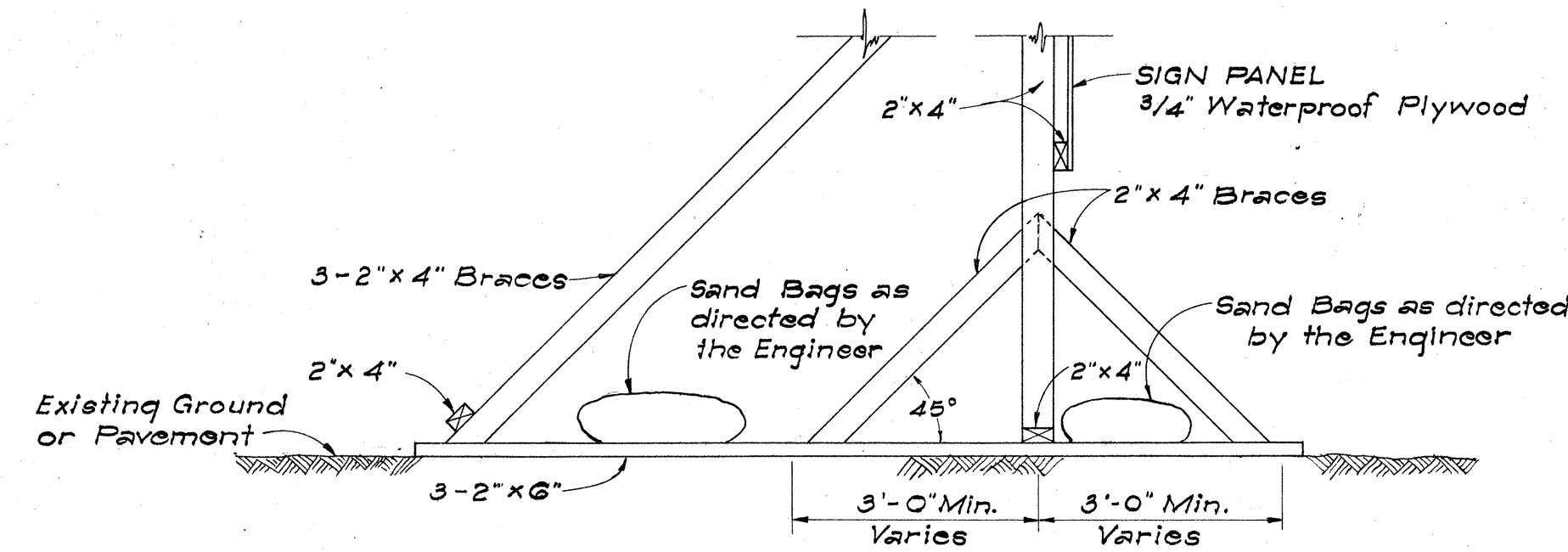
Not to Scale

Sept., 1967

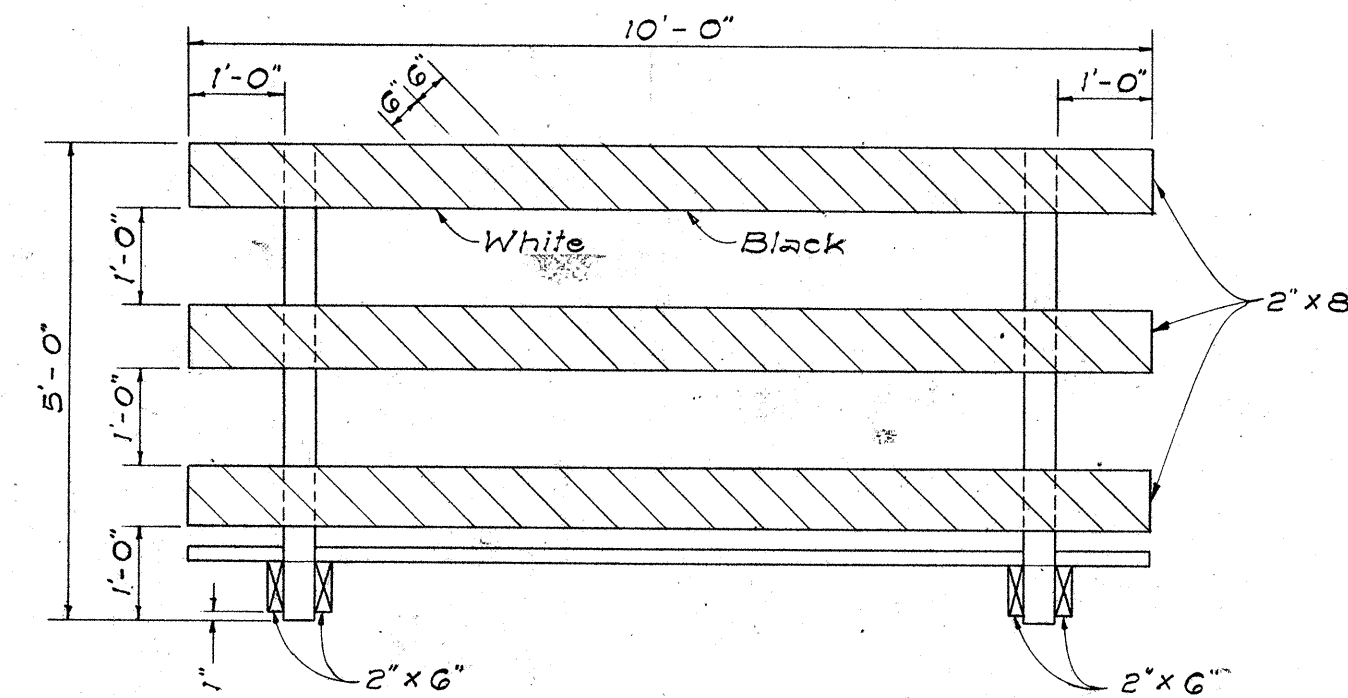
SHEET No. 22 OF 23 SHEETS



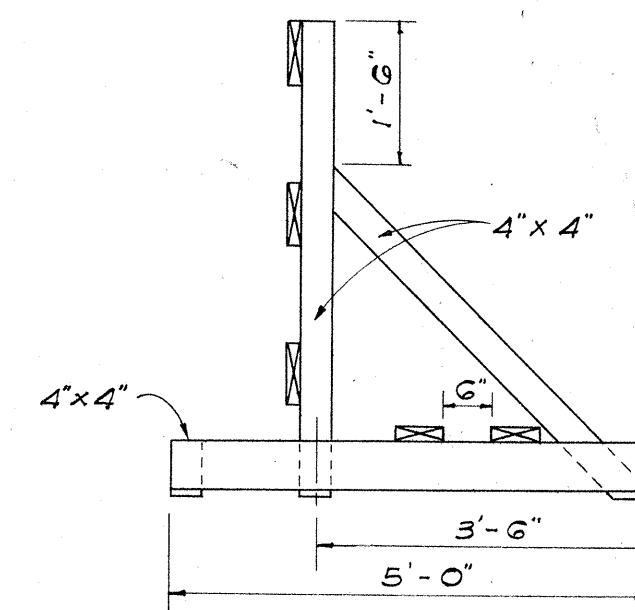
PLAN VIEW



SIDE VIEW
(SIGN FRAME WEIGHTED DOWN)

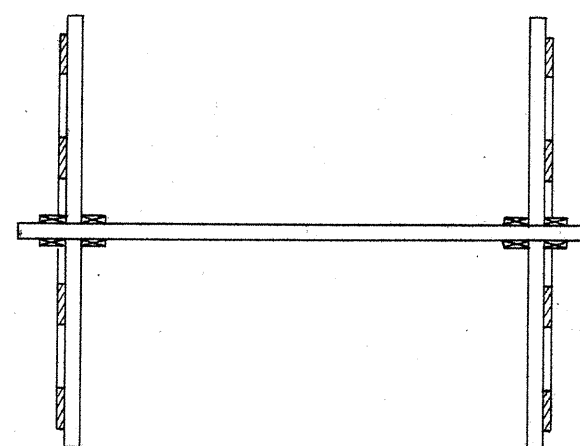


FRONT VIEW

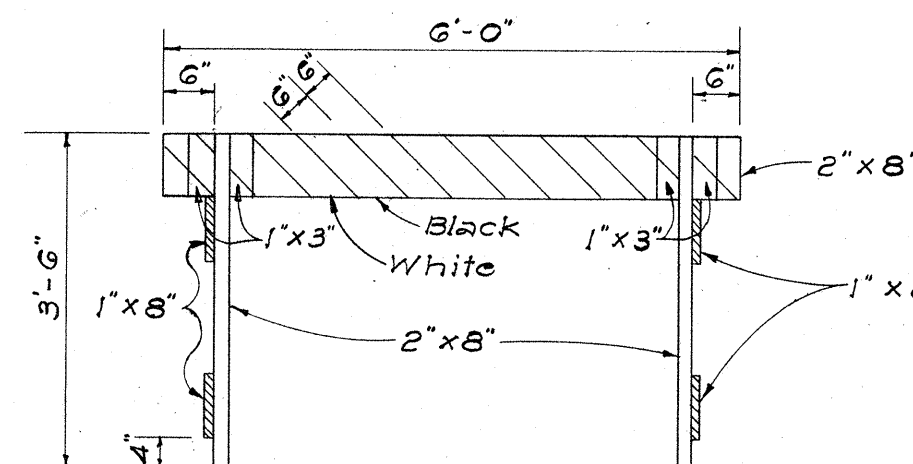


END VIEW

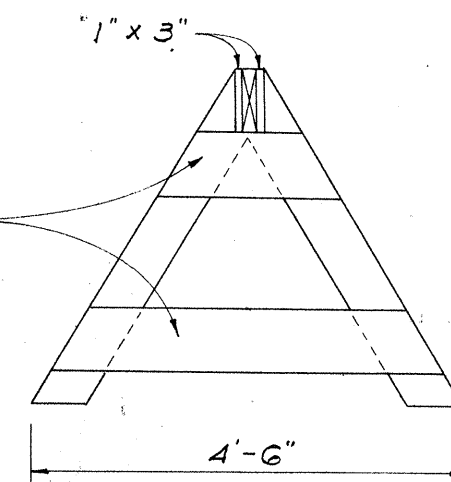
CLASS I BARRICADE



PLAN VIEW



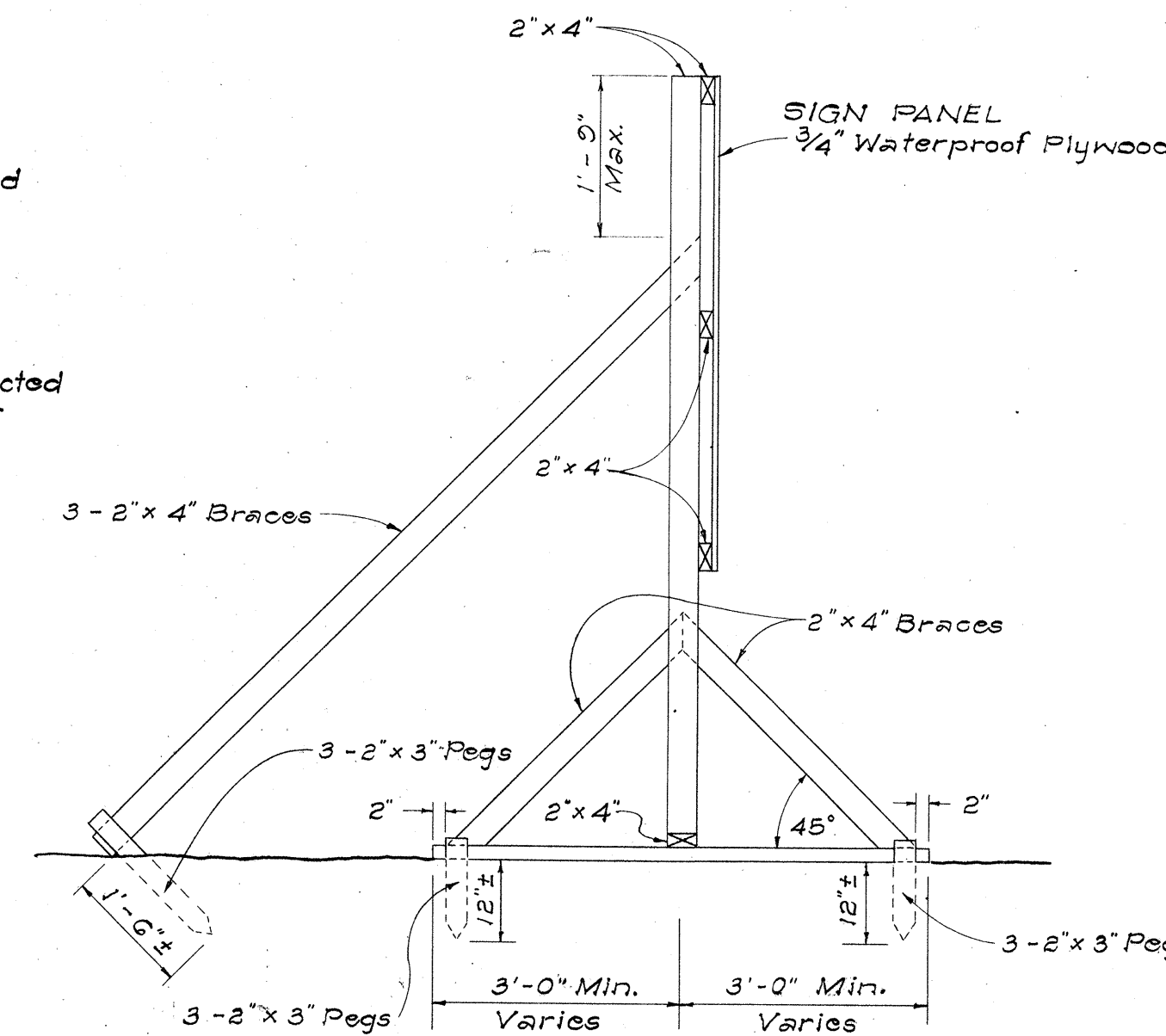
FRONT VIEW



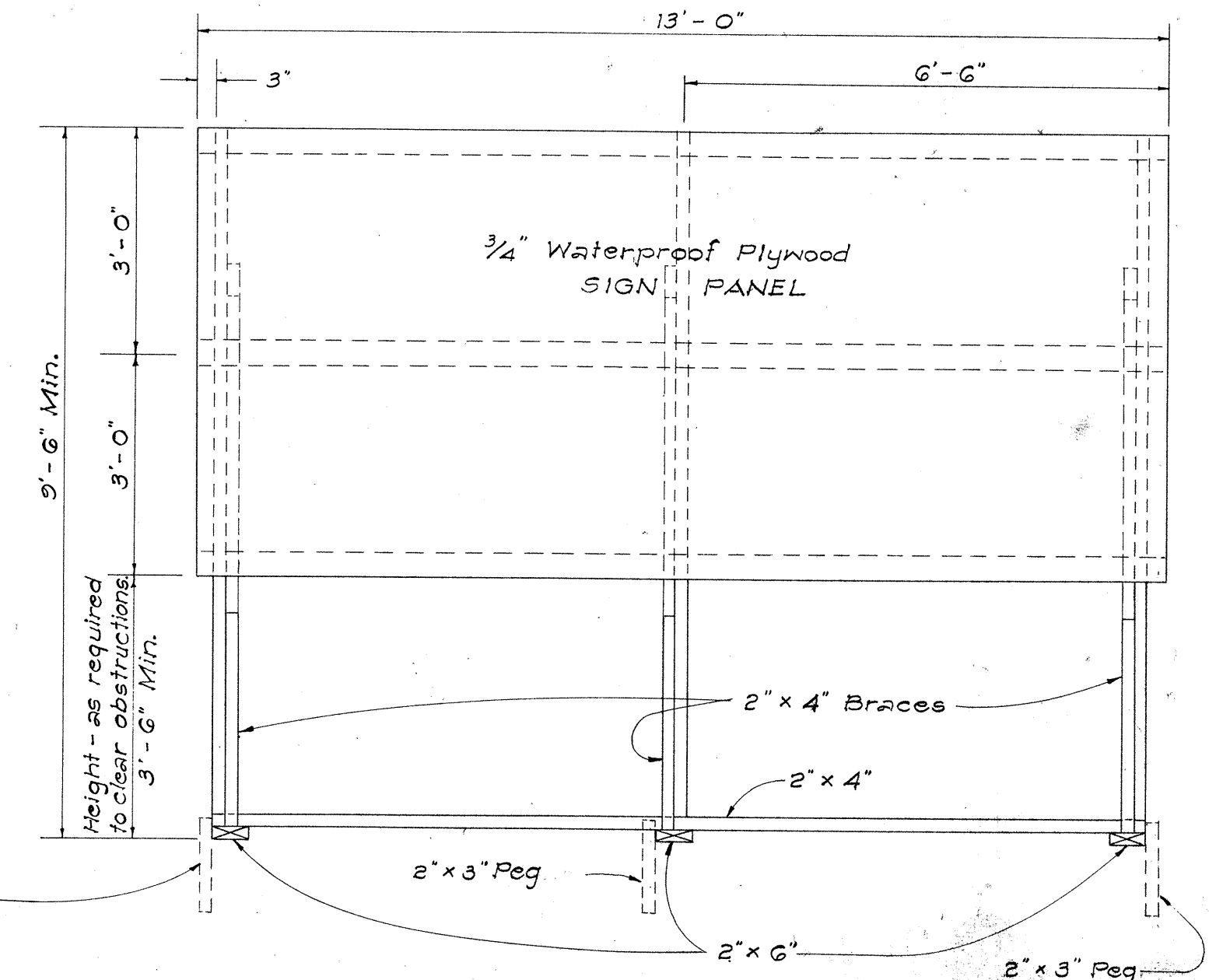
END VIEW

CLASS II BARRICADE

Scale: 1/2" = 1'-0"



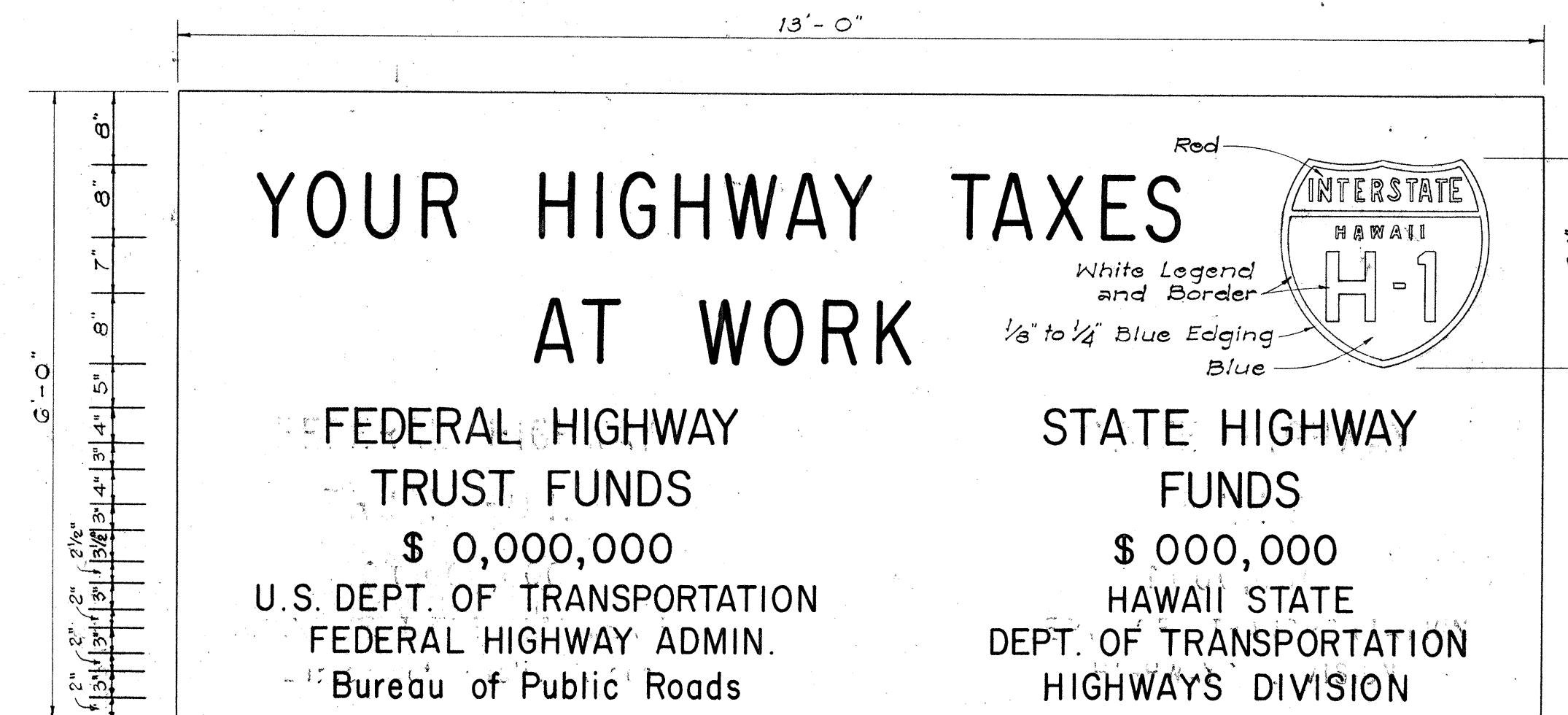
SIDE VIEW
(SIGN FRAME ANCHORED IN GROUND)



FRONT VIEW

ELEVATIONS

Scale: 1/2" = 1'-0"



SIGN PANEL

Scale: 3/4" = 1'-0"

INTERSTATE SYSTEM CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown

NOTES:

- A. CONSTRUCTION IDENTIFICATION SIGNS**
- The sign legend shall be black on white background except for the Interstate Route marker which shall be as shown on the plan.
 - The Contractor shall construct, install and maintain the project signs at the locations shown on the Plans and as ordered by the Engineer.
 - The signs shall be removed and stockpiled upon completion of the project as ordered by the Engineer and are to become State property.
 - Letters shall be Series 'C' of the sizes shown on the Plan and shall conform with the Standard Alphabet for Highway Signs, Bureau of Public Roads, 1952.
 - The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.
- B. WOOD BARRICADES**
- The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans and as ordered by the Engineer.
 - The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.

REVISED: October 2, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
CONSTRUCTION IDENTIFICATION SIGN
AND
WOOD BARRICADES

SCALE: As Shown

DATE: OCT. 1968

SHEET No. 23 OF 23 SHEETS