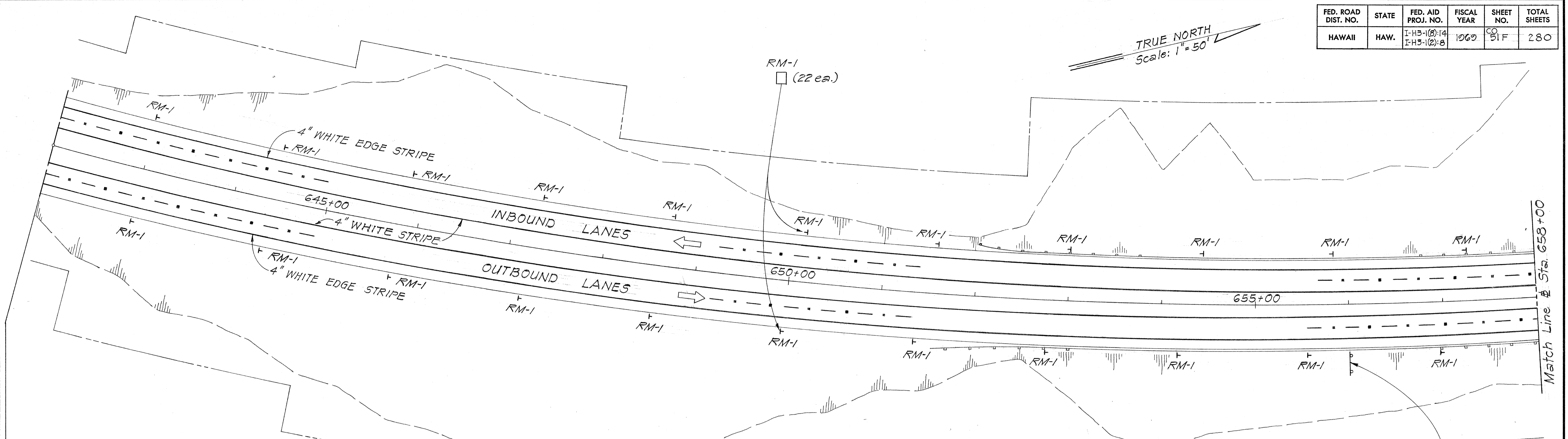


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1969	51 F	280

TRUE NORTH
Scale: 1" = 50'

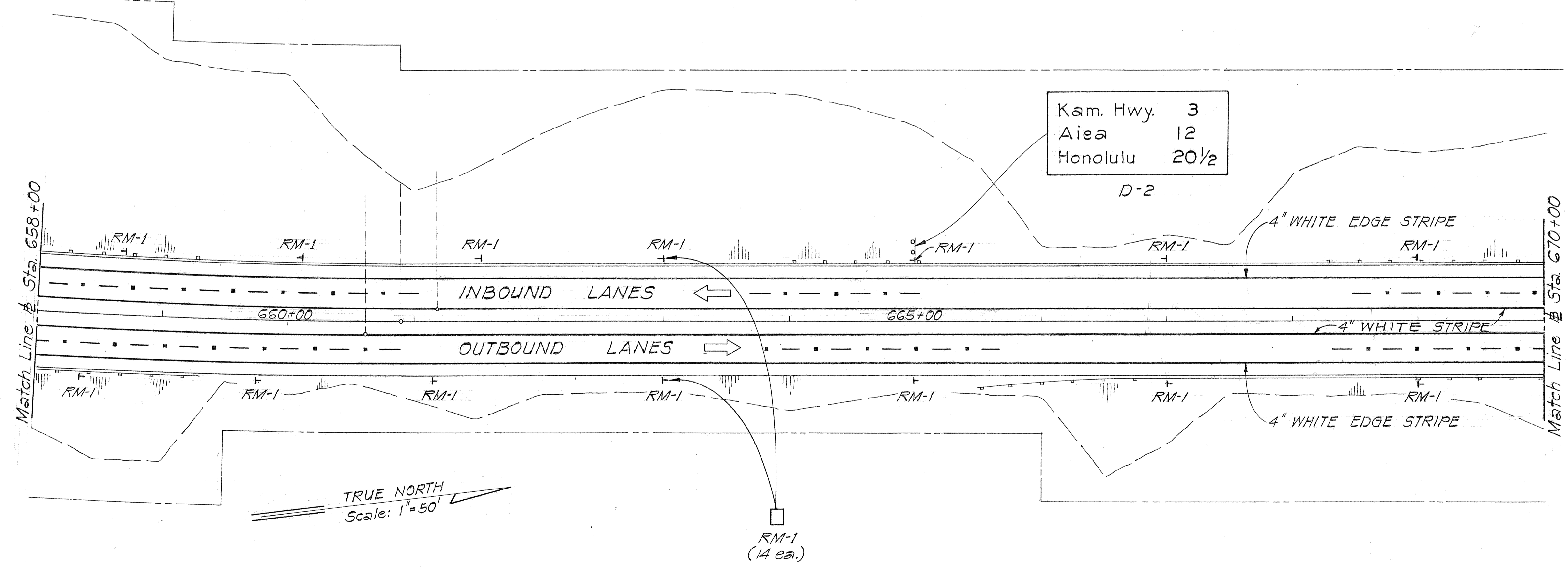


BEGINNING OF F.A.I. PROJ. NO. I-H3-1(8):14
STA. 642+00

NOTE:
Sta. 642+00 to Sta. 745+66.36
Install Raised Pavement Markers
(For Details See Plan Sht. 73.D "Lane Lines")

Kaneohe Bay Drive
EXIT 1 MILE
D-1

Kam. Hwy. 3
Aiea 12
Honolulu 20 1/2
D-2



TRUE NORTH
Scale: 1" = 50'

DATE	REVISION
DEC. 1972	REVISED MARKERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKINGS
AND SIGNING**

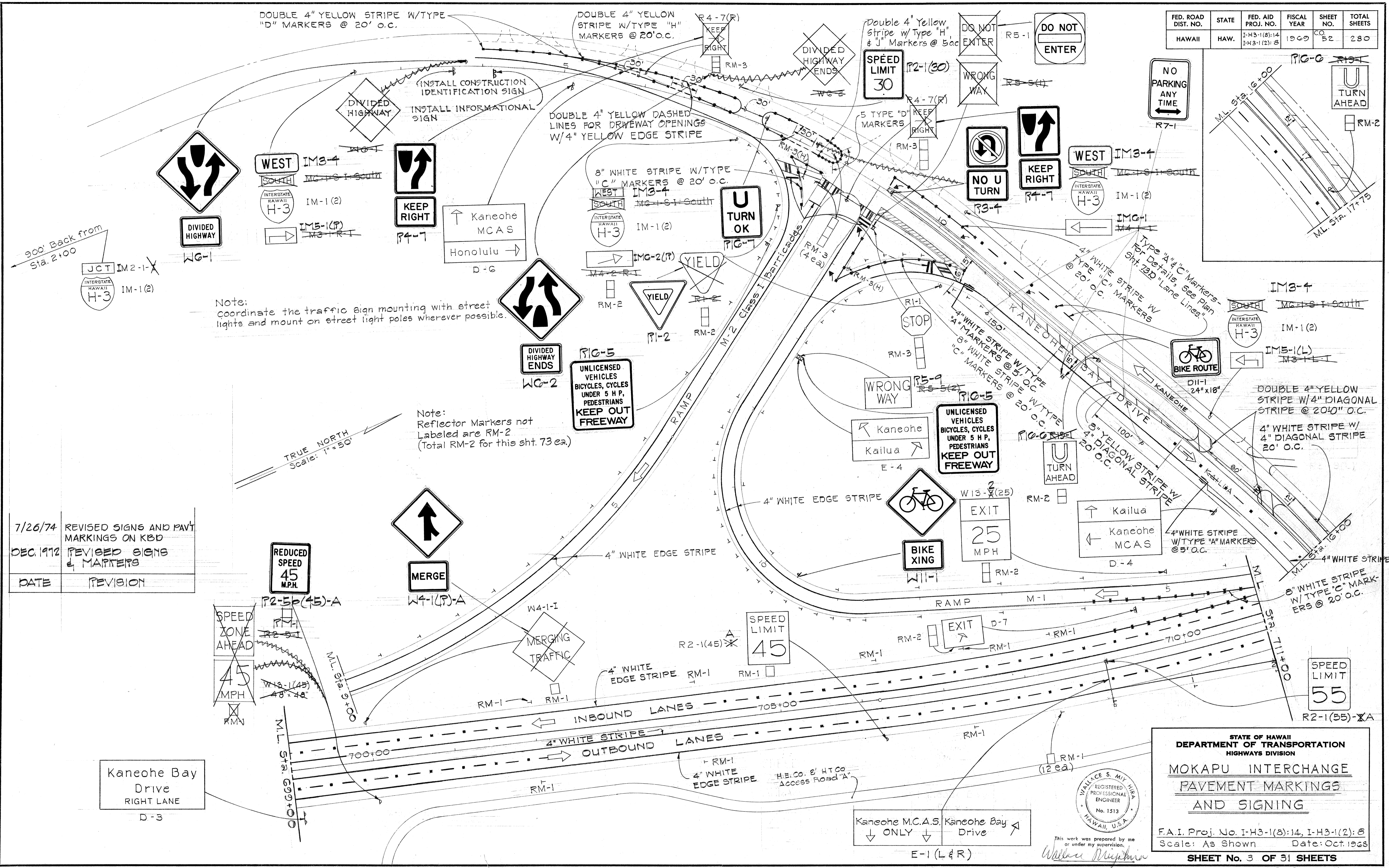
F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: 1" = 50' Date: Oct. 1969

SHEET No. 1 OF 31 SHEETS

C.O. 5111

DATE	BY
	DESIGNED BY
	DRAWN BY
	CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1969	52	280



Note: Coordinate the traffic sign mounting with street lights and mount on street light poles wherever possible.

Note: Reflector Markers not Labeled are RM-2 (Total RM-2 for this sht. 73 ea.)

DATE	REVISION
7/26/74	REVISED SIGNS AND PAVT MARKINGS ON KBD
DEC. 1972	REVISED SIGNS & MARKERS

Kaneohe Bay Drive
Right Lane
D-3

Kaneohe M.C.A.S. Drive
ONLY
E-1 (L & R)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**MOKAPU INTERCHANGE
PAVEMENT MARKINGS
AND SIGNING**

F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: As Shown Date: Oct. 1968

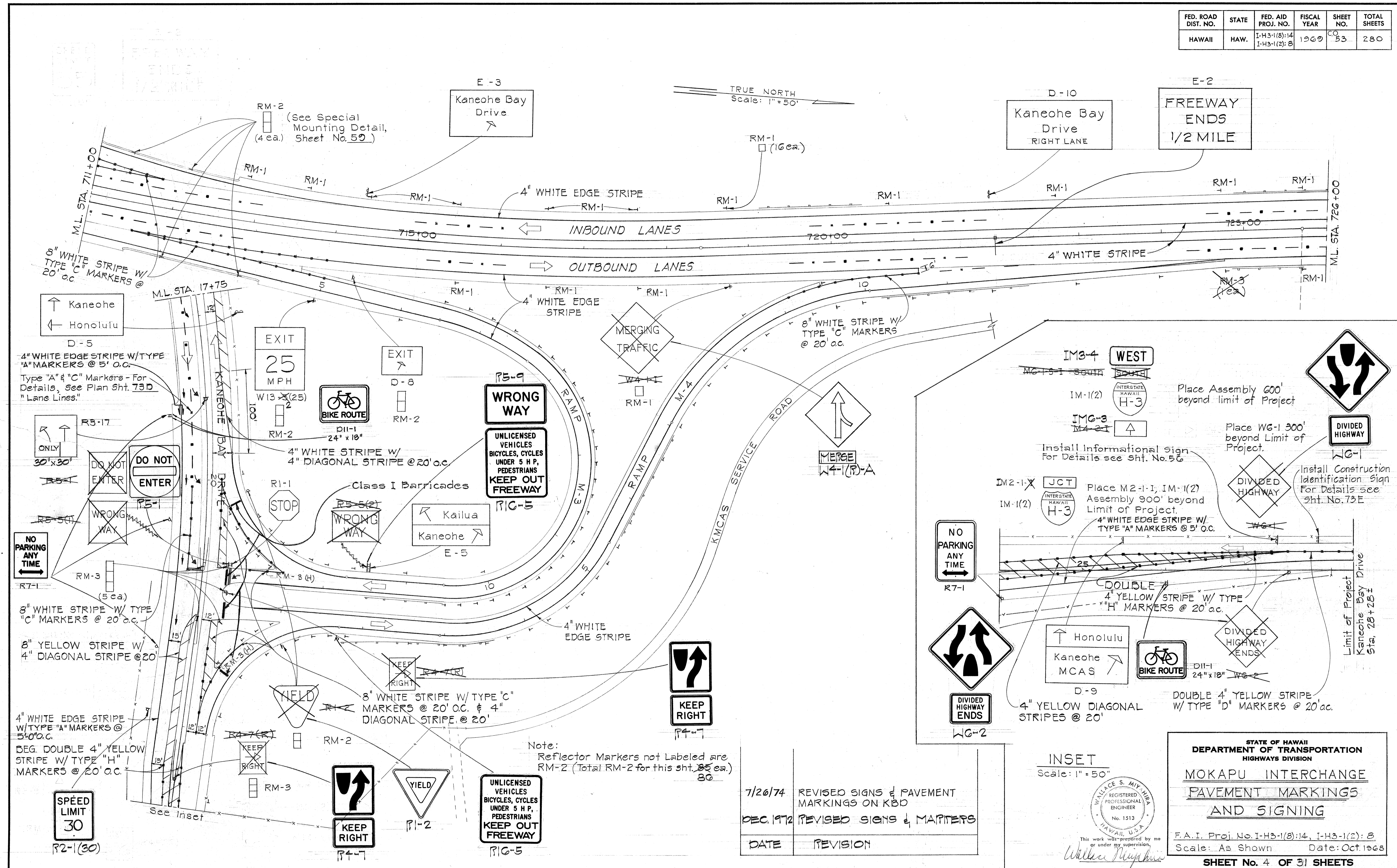
SHEET No. 3 OF 31 SHEETS

WALLACE S. MYRTH
REGISTERED PROFESSIONAL ENGINEER
No. 1513
HAWAII, U.S.A.

This work was prepared by me or under my supervision.
Wallace Myrth

SURVEY PLOTTED BY: _____
DATE: _____
DRAWN BY: _____
DESIGNED 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-H3-1(8):14 I-H3-1(2):8	1969	53	280

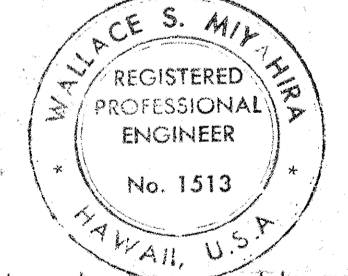


DATE	REVISION

Note:
Reflector Markers not Labeled are
RM-2 (Total RM-2 for this sht. 25 ea.)

DATE	REVISION
7/26/74	REVISED SIGNS & PAVEMENT MARKINGS ON KBD
DEC. 1972	REVISED SIGNS & MARKERS

INSET
Scale: 1" = 50'



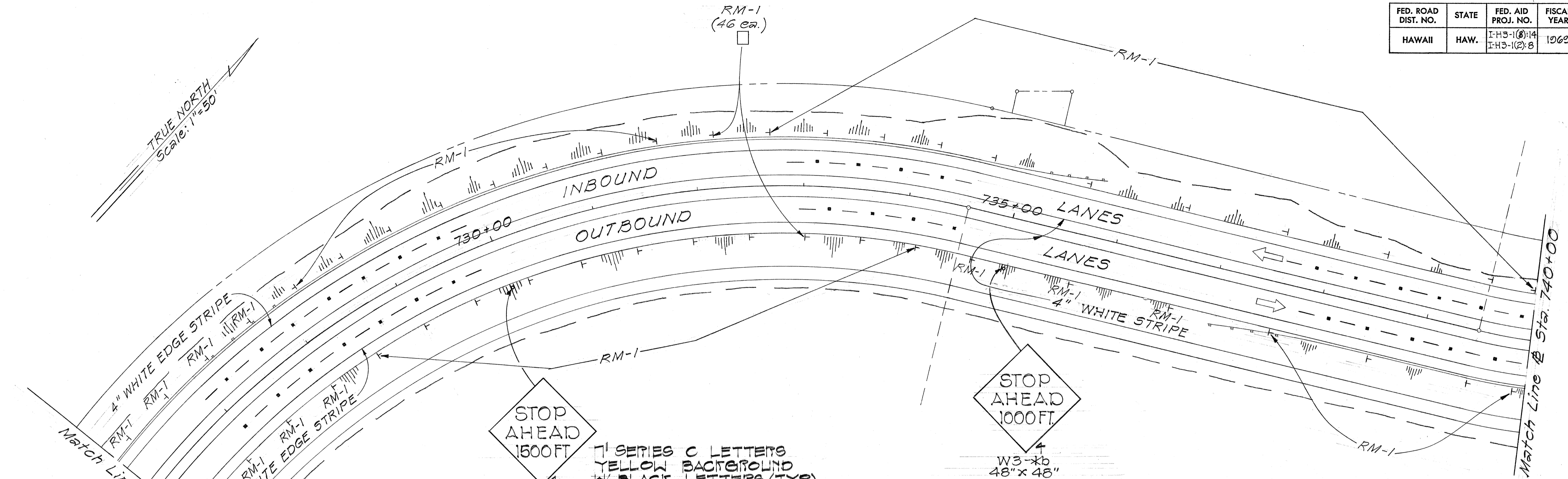
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**MOKAPU INTERCHANGE
PAVEMENT MARKINGS
AND SIGNING**

F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: As Shown Date: Oct. 1969

SHEET No. 4 OF 31 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1969	CO 53A	280



END OF F.A.I. PROJ.
No. I-H3-1(8):14
Sta. 745+66.36

SUMMARY OF REGULATORY & WARNING SIGNS AND ROUTE MARKERS

TYPE	DESCRIPTION	QUANTITY	
		w/post	w/o post
R1-1	STOP	2	
R1-2	YIELD	4	
R2-1(55)A	R2-1(55) SPEED LIMIT 55	2	1
R2-1(45)A	R2-1(45) SPEED LIMIT 45	1	
R2-1(30)	SPEED ZONE AHEAD LIMIT 30	x2	
W3-4a	STOP AHEAD-1500 FEET	1	
R3-17	ONLY	1	
R4-7(x)	KEEP RIGHT	4	
R5-1	DO NOT ENTER	x2	2
R5-9	R5-5(1) WRONG WAY		2
RIG-5	R5-5(2) WRONG WAY/KEEP OUT F.P.W.Y.	2	2
W4-1(R)A	W4-1 MERGING TRAFFIC & MERGE	2	
W6-1	DIVIDED HIGHWAY ENDS	2	
W6-2	DIVIDED HIGHWAY ENDS	2	
IM3-4-A	W13-1(45) 45 MPH Aux. Mkr. - WEST		1
W13-2(25)	W13-2(25) EXIT 25 M.P.H.	2	
RM-1		139	7
RM-2		18x3	7
RM-3		x8	5
RM-3(H)		4	
RM-2	Mounted on Bridge Rail		4
IM2-1(x)	Auxiliary Marker JCT		2
IM3-4	M6-KS-1 Auxiliary Marker - SOUTHWEST		x5
W3-4b	W3-4b STOP AHEAD-1000 FEET	1	
IMC-1	M4-K-1 Auxiliary Marker ←		1
IMC-3	M4-S-1 Auxiliary Marker ↑		1
IMC-2(P)	M4-R-1 Auxiliary Marker ↗		1
IM5-1(P)	M3-R-1 Auxiliary Marker →		1
IM5-1(L)	M3-L-1 Auxiliary Marker ←		1
IM-1(2)	Interstate Hawaii H-3	7	
IM-1(3)	Interstate Hawaii H-3	1	
W3-4c	W3-3c STOP AHEAD-500 FEET	1	
RIG-6	R19-1 U Turn Ahead	2	
R2-5b(45)A	REDUCED SPEED 45 MPH	1	

SUMMARY OF RAISED PAVEMENT MARKERS

TYPE	DESCRIPTION	QUANTITY
A	Non-Reflective White	3474
C	Red-Clear Reflective	429
D	2-Way Yellow Reflective	31
H	1-Way Yellow Reflective	42
J	Non-Reflective Yellow	6

SIGN SUMMARY - Cont.

TYPE	DESCRIPTION	QUANTITY
		w/post
W11-1	SIDE XING	1
R3-4	NO U TURN	2
RIG-7	U TURN OF	1

DEC. 1972	REVISED SIGNS, MARKERS & SUMMARIES
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKINGS AND SIGNING

FAI. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: 1"=50' Date: Oct., 1969

SHEET No. 5 OF 31 SHEETS

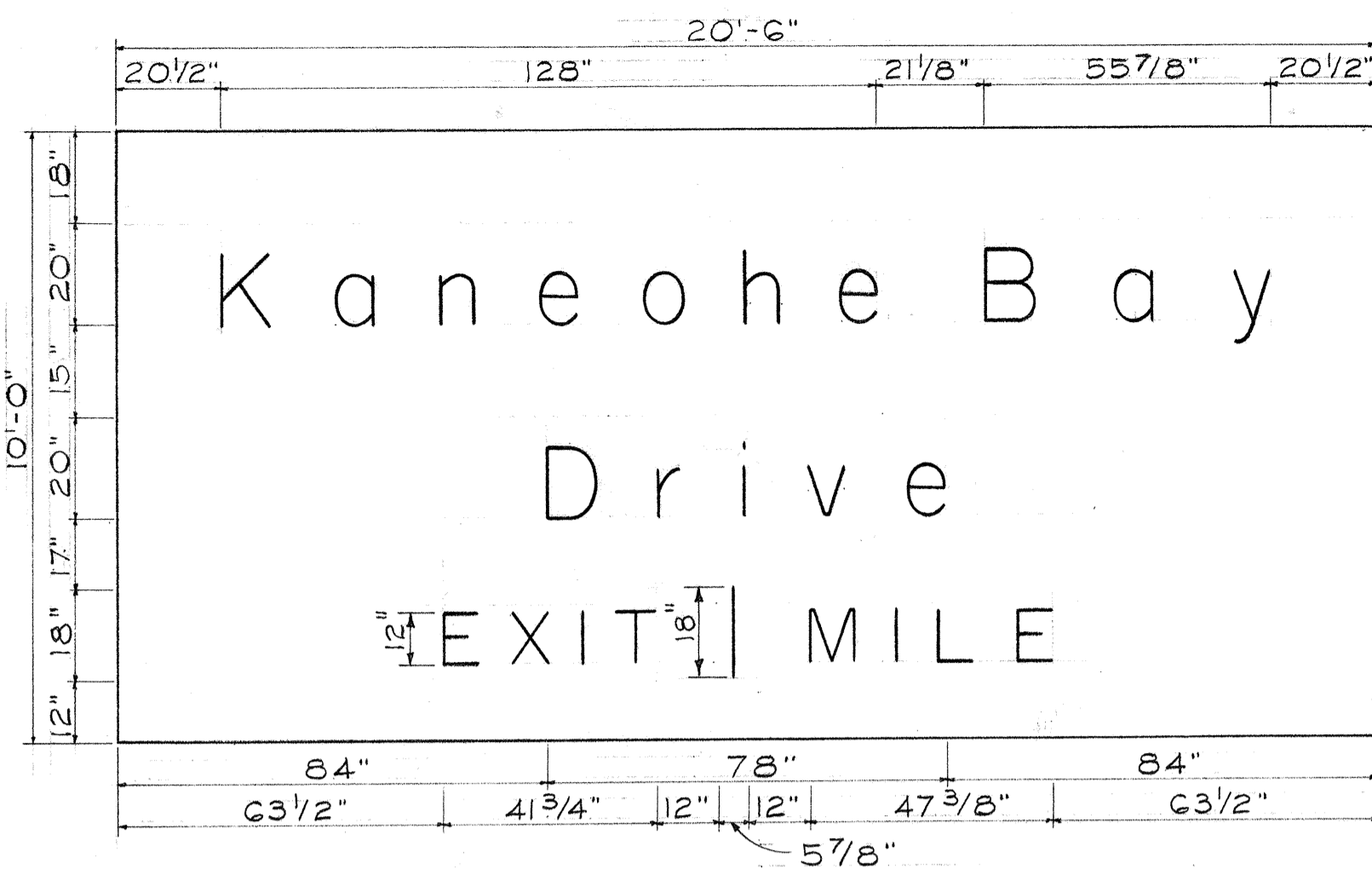
C.O. 53A

DATE	
DESIGNED BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

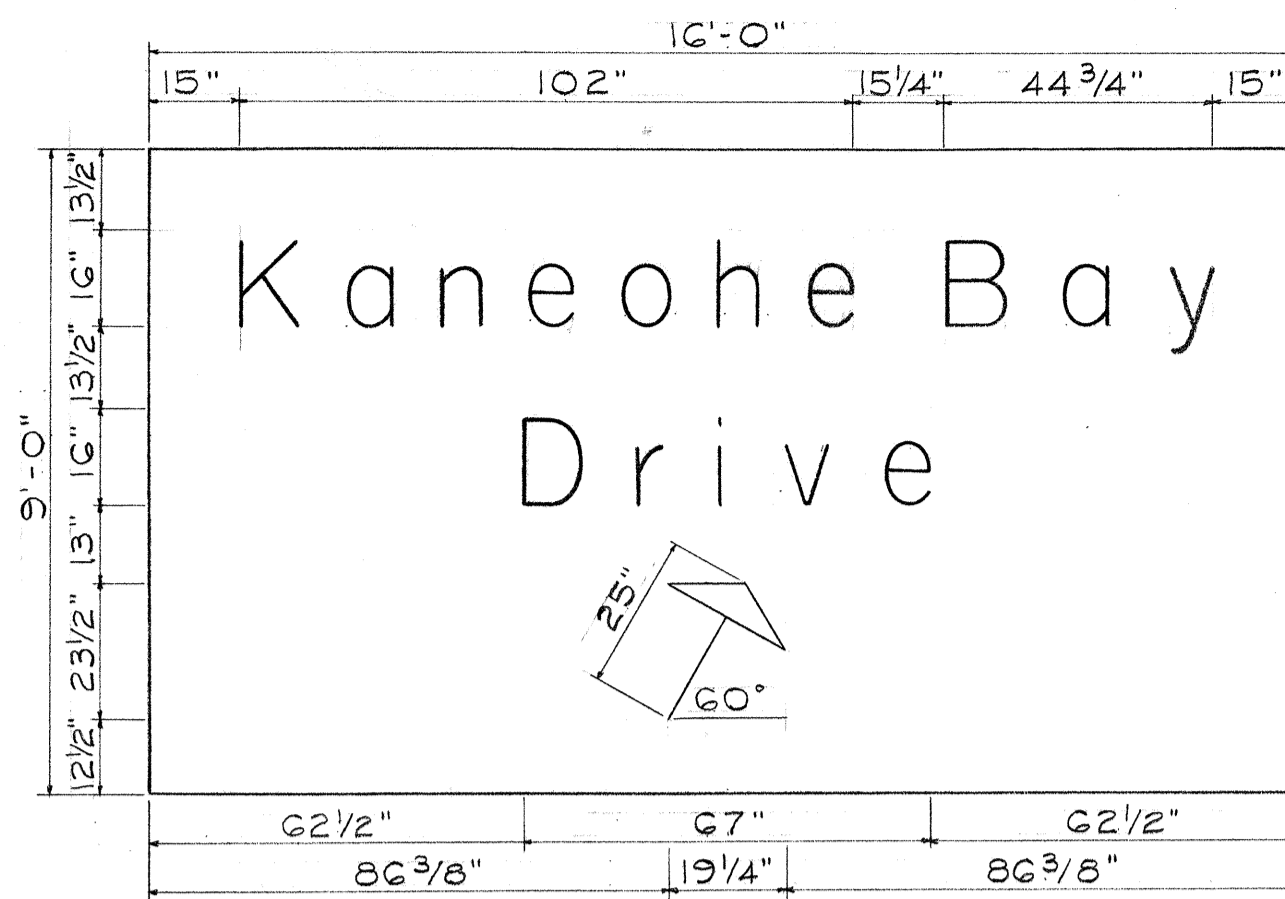
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1969	54	280

GENERAL NOTES:

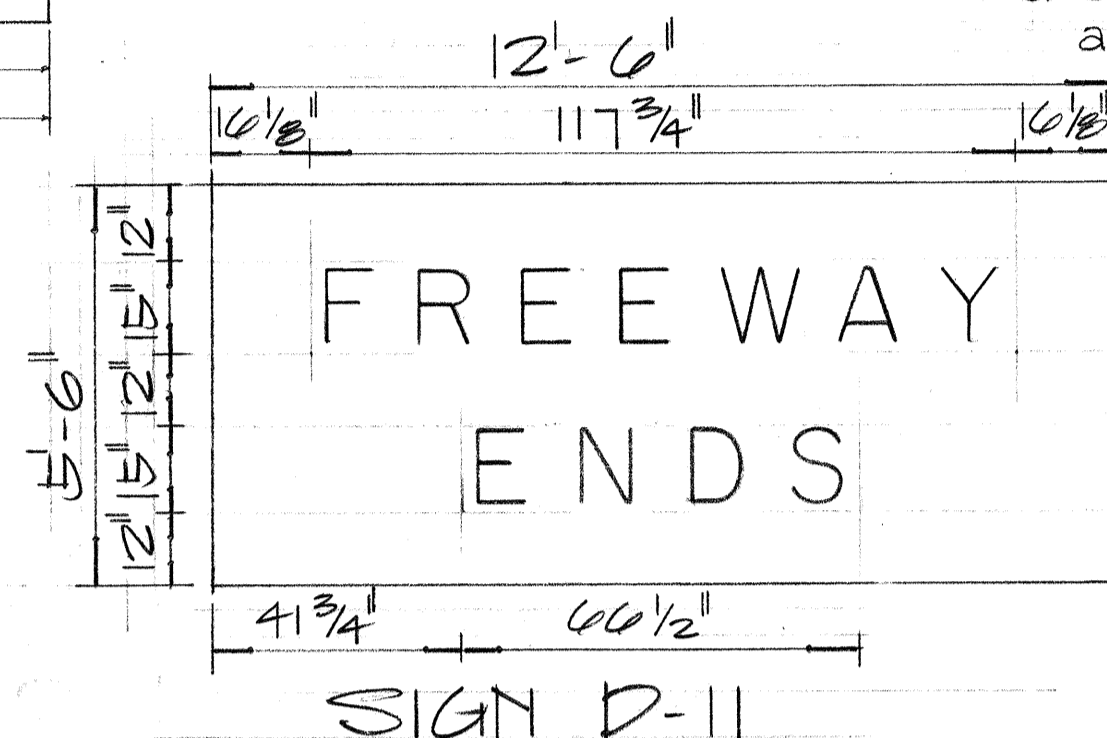
1. Sign message shall be lettered in upper case according to "Standard Alphabets for Highway Signs" Bureau of Public Roads, 1966. Use Series "E" modified letters unless otherwise noted.
2. Letters, arrows and borders shall be demountable aluminum cut-outs with white reflective sheeting or clear reflex reflectors, and shall be fastened on the sign panel with blind rivets. See Special Provisions.
3. Destination Signs (D) shall have white reflective sheeting on aluminum cut-outs on green reflective sheeting background.



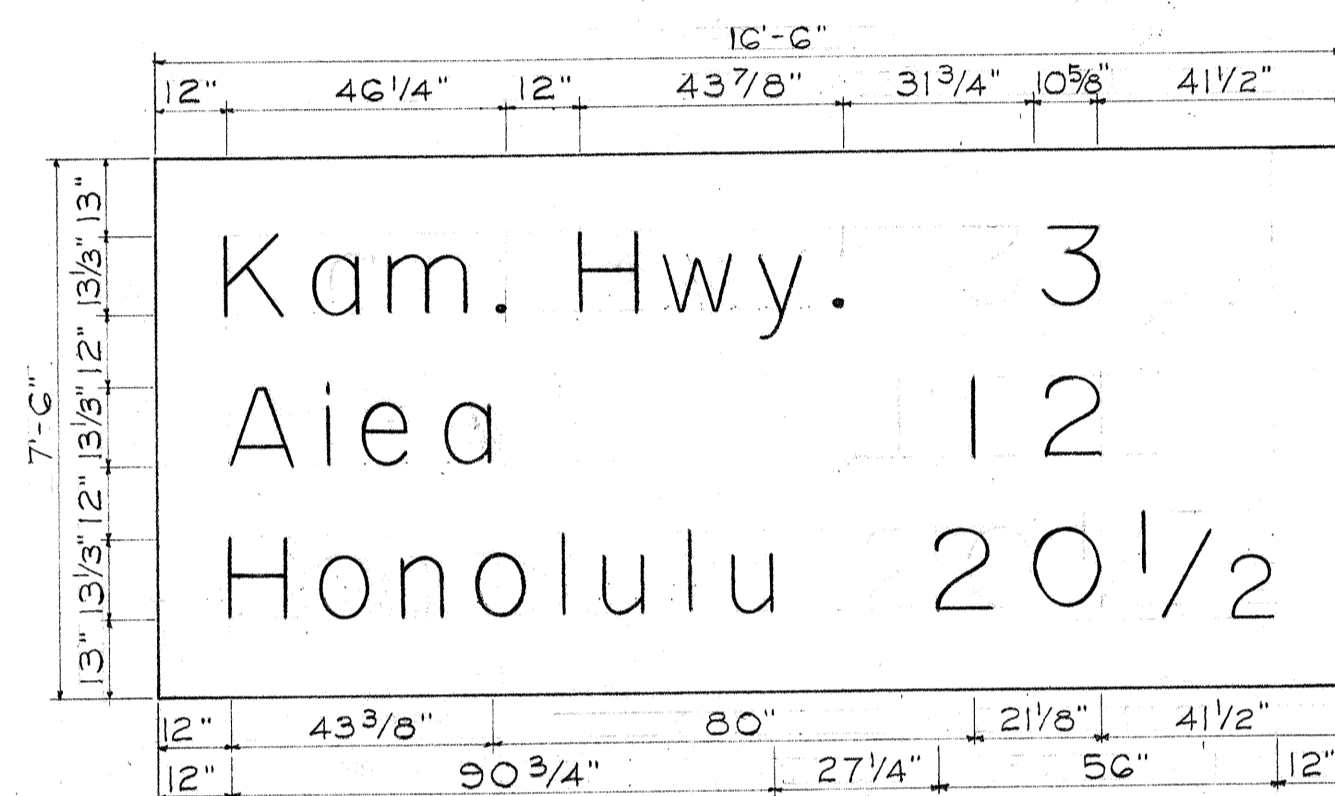
SIGN D-1
Scale: 3/8" = 1'-0"



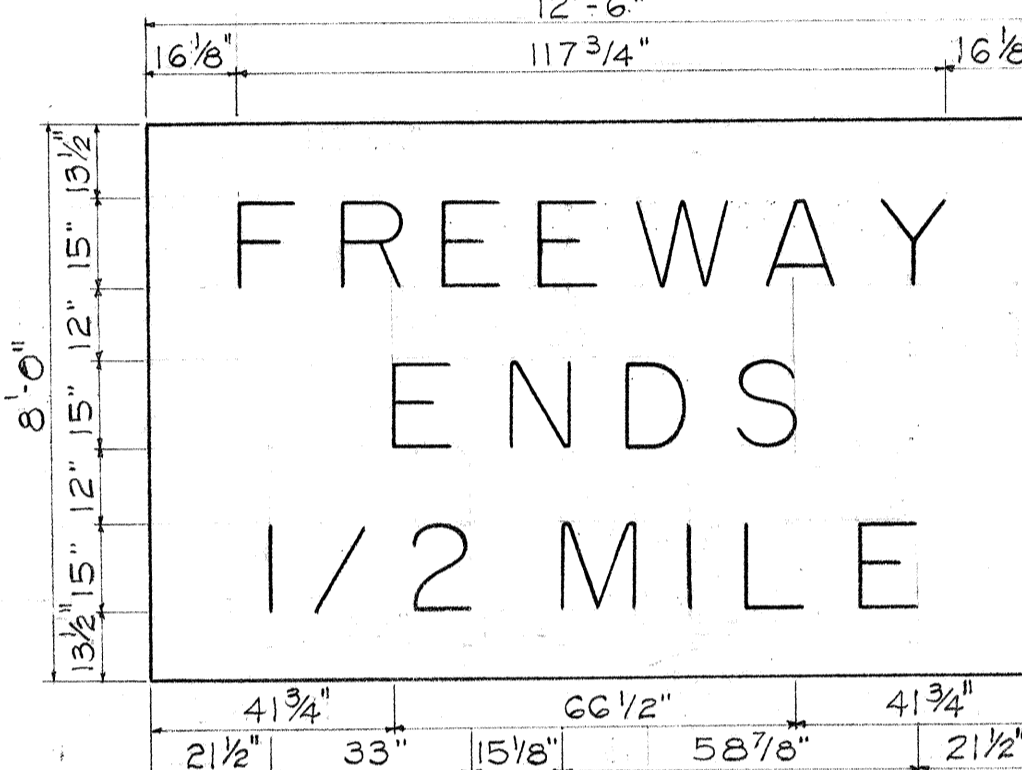
SIGN E-3
Scale: 3/8" = 1'-0"



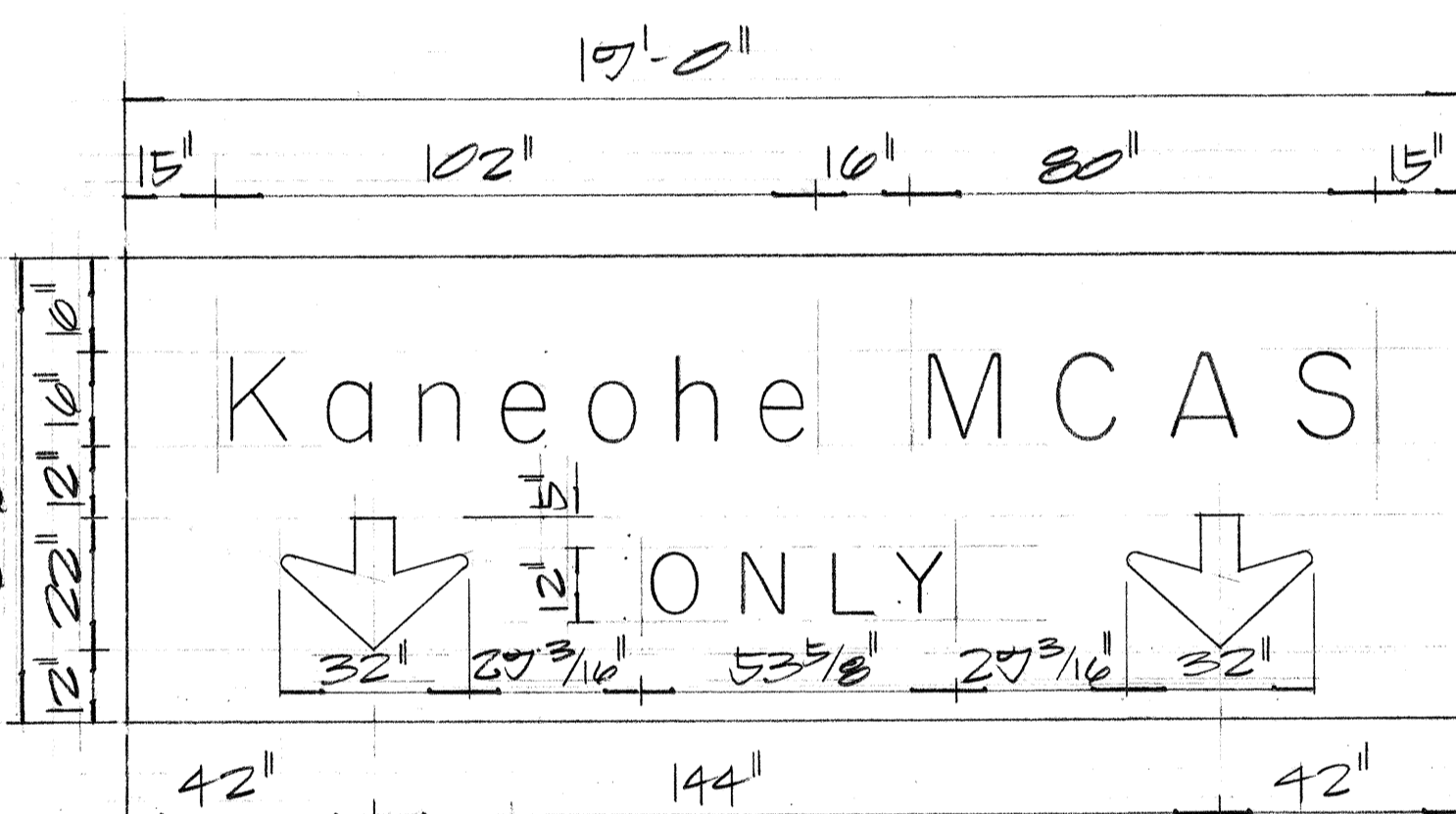
SIGN D-11



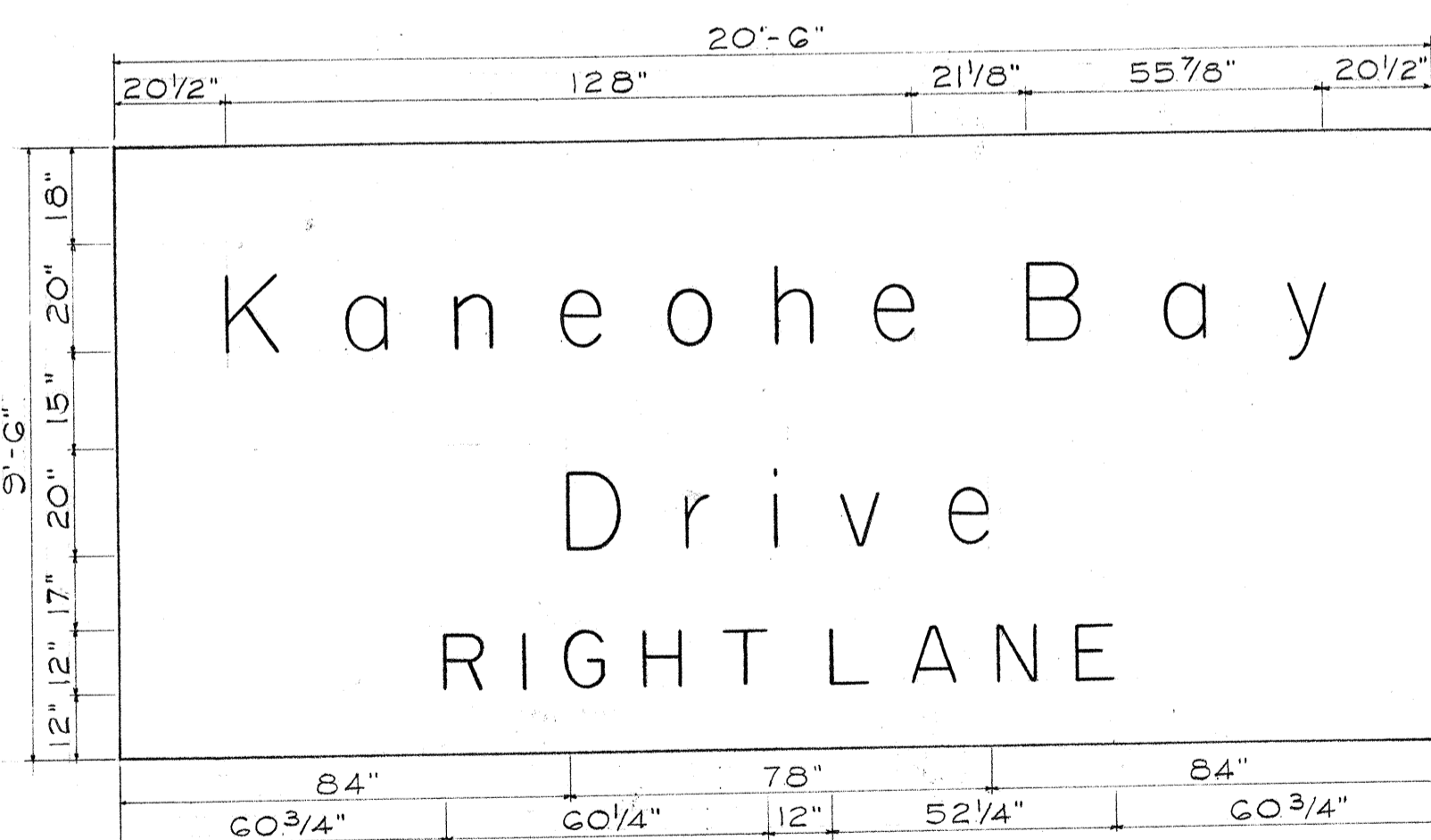
SIGN D-2
Scale: 3/8" = 1'-0"



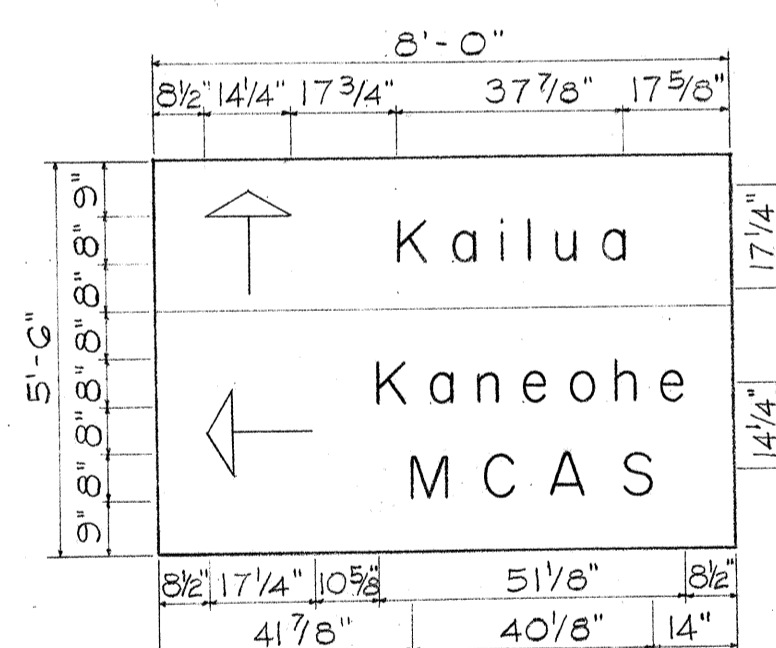
SIGN E-2
Scale: 3/8" = 1'-0"



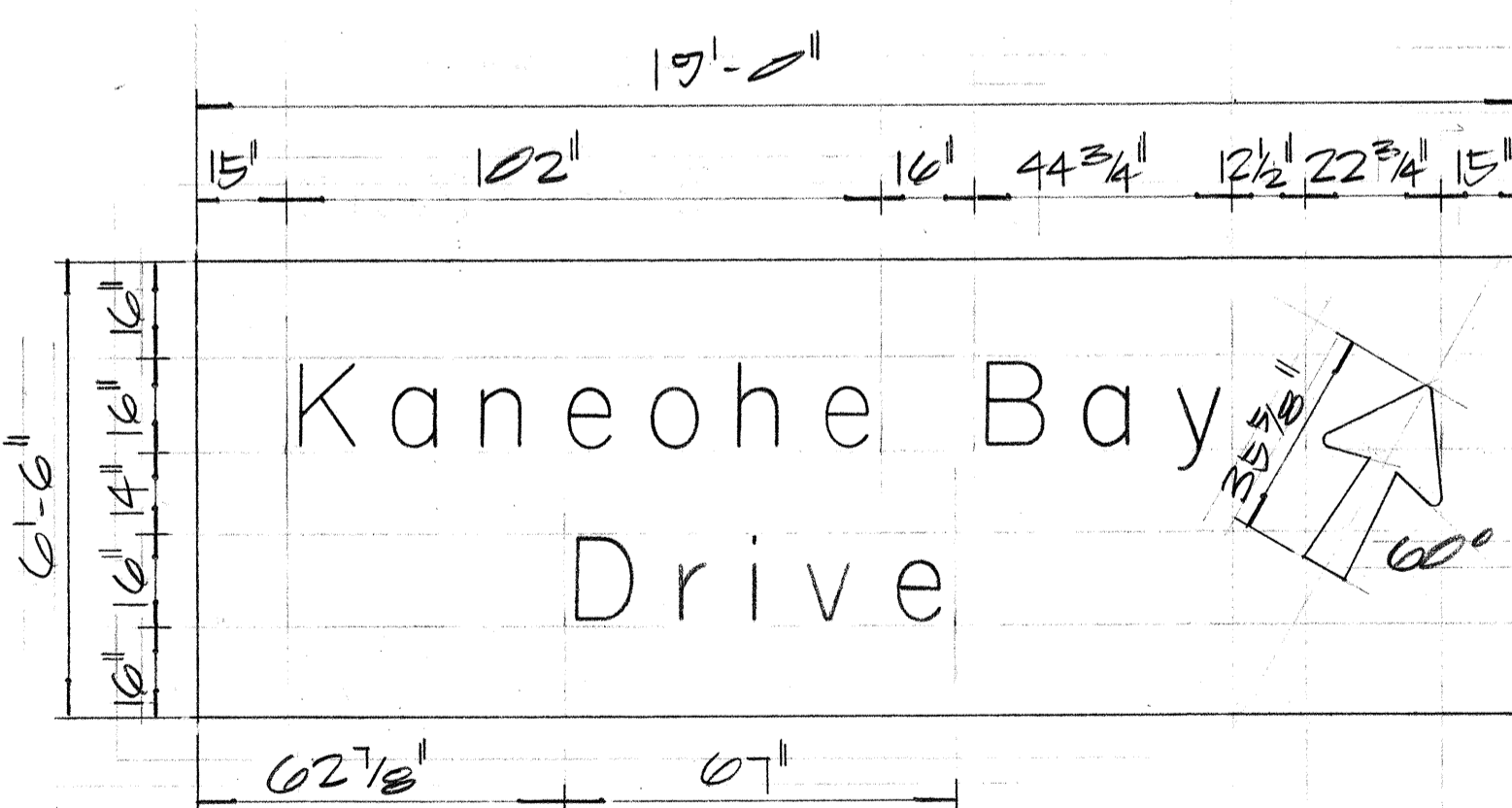
SIGN E-1(L)



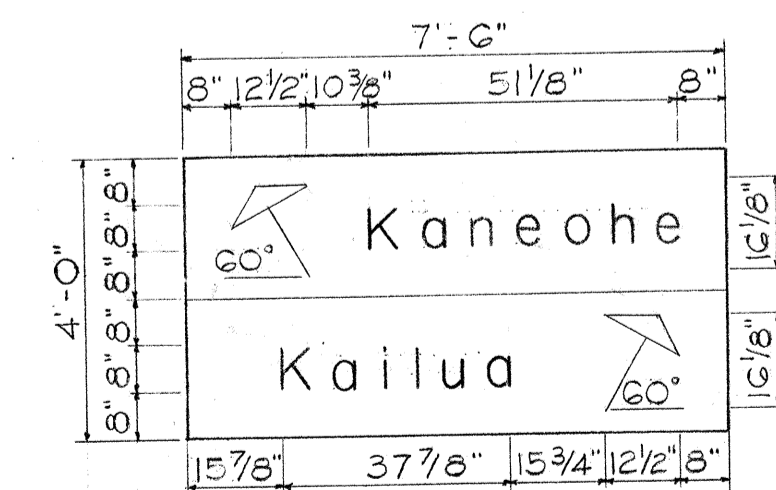
SIGN D-3 & D-10
Scale: 3/8" = 1'-0"



SIGN D-4
Scale: 3/8" = 1'-0"



SIGN E-1(R)

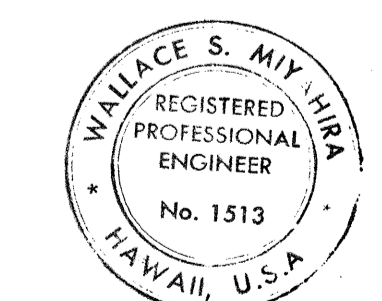


SIGN E-4
Scale: 3/8" = 1'-0"

SUMMARY OF DESTINATION AND EXPRESSWAY SIGNS

Sign No.	Message	Area(Sq.Ft)
D - 1	Kaneohe Bay Drive	205.00
D - 2	Kam Hwy, Aiea, Honolulu	123.75
D - 3	Kaneohe Bay Drive, RIGHT LANE	194.75
E - 1(R)	Kaneohe Bay Drive	123.50
E - 2	Freeway Ends, 1/2 MILE	100.00
E - 3	Kaneohe Bay Drive	144.00
D - 4	Kailua, Kaneohe MCAS	44.00
E - 4	Kaneohe, Kailua	30.00
D - 5	Kaneohe, Honolulu	32.00
D - 6	Kaneohe MCAS, Honolulu	44.00
D - 7	Exit	36.00
D - 8	Exit	36.00
E - 5	Kailua, Kaneohe	30.00
D - 9	Honolulu, Kaneohe MCAS	44.00
D - 10	Kaneohe Bay Drive, RIGHT LANE	194.75
D - SP(R)	SCENIC POINT	13.75
E - 1(L)	Kaneohe MCAS	123.50
D - 11	FREWAY ENDS	68.75

DATE	_____
DESIGNED BY	_____
DRAWN BY	_____
CHECKED BY	_____
NOTED BY	_____
NO.	_____



This work was prepared by me or under my supervision.
Wallace Myhr

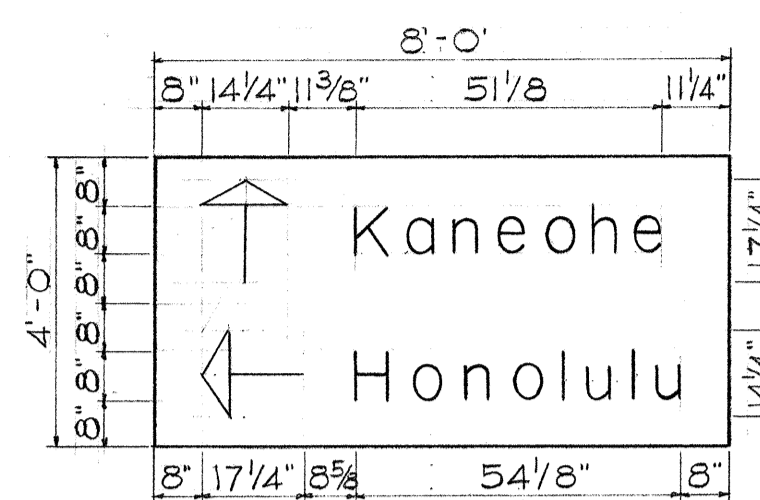
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PANEL LAYOUT

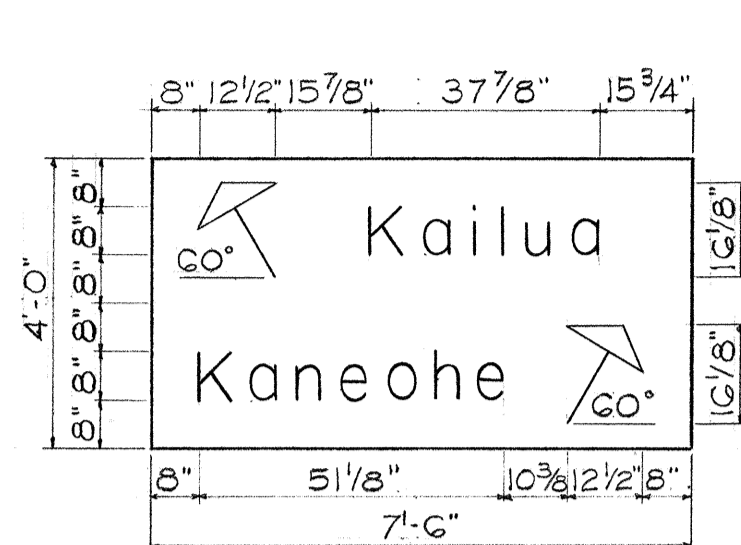
F.A.I. Proj. No I-H3-1(8):14, I-H3-1(2):8
Scale: As Shown Date: Oct 1968

SHEET No. 6 OF 31 SHEETS

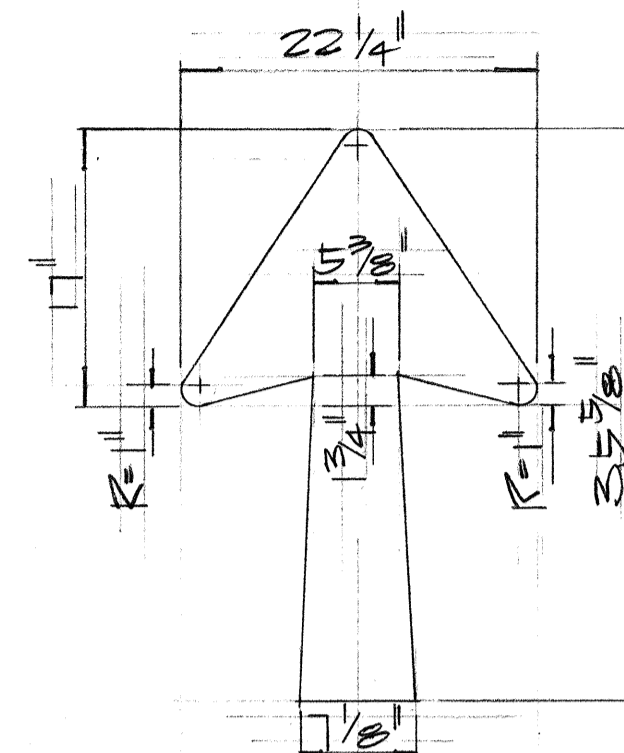
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1969	55	280



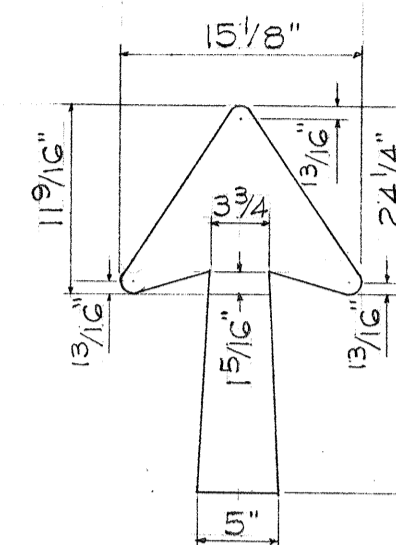
SIGN D-5
Scale: 3/8" = 1'-0"



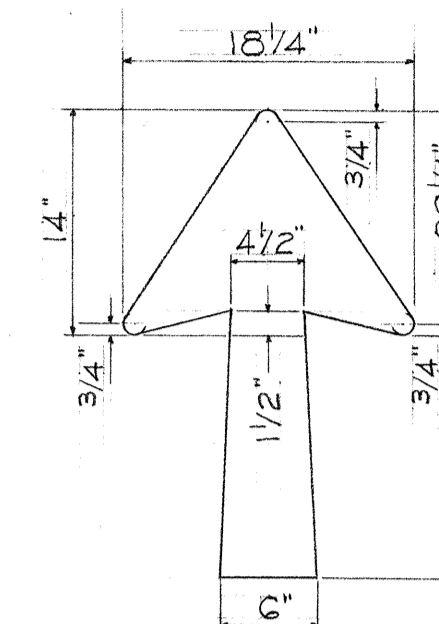
SIGN E-5
Scale: 3/8" = 1'-0"



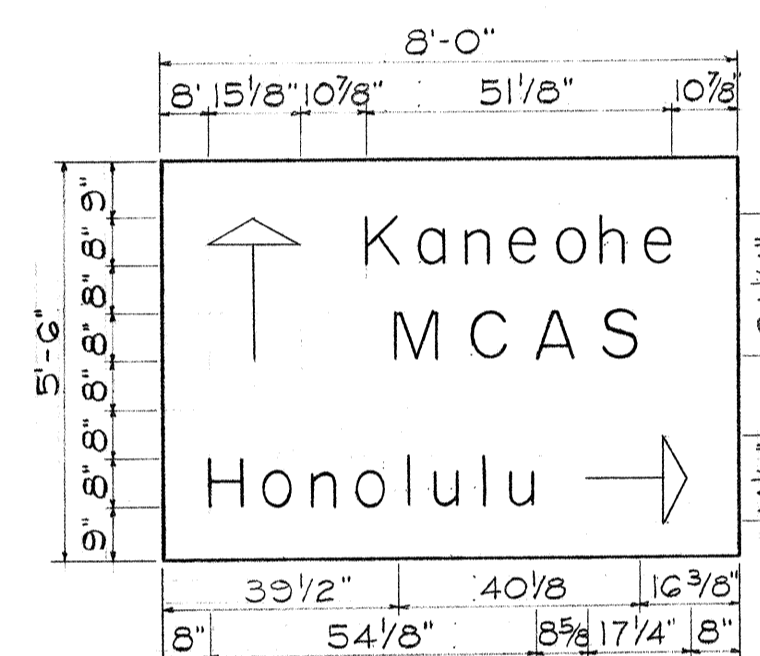
ARROW DETAIL
Scale: 1" = 1'-0"



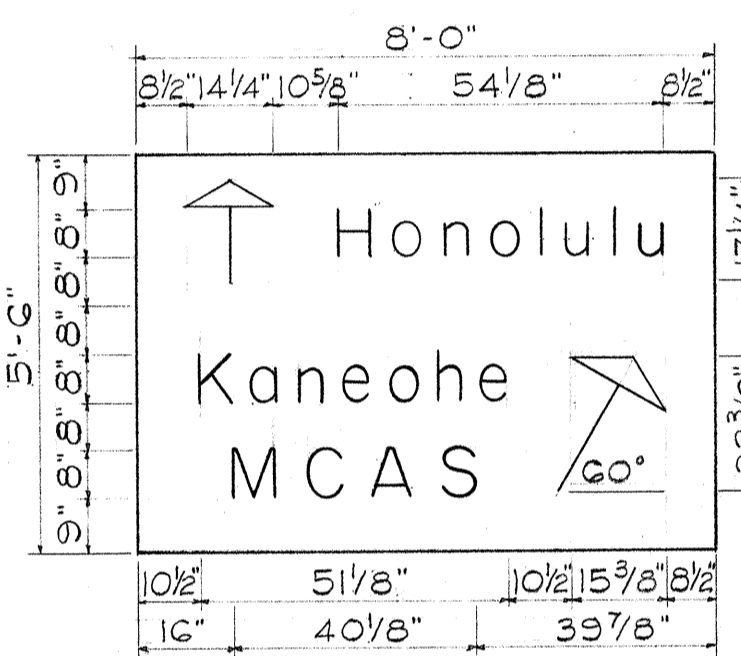
ARROW DETAIL
Scale: 1" = 1'-0"



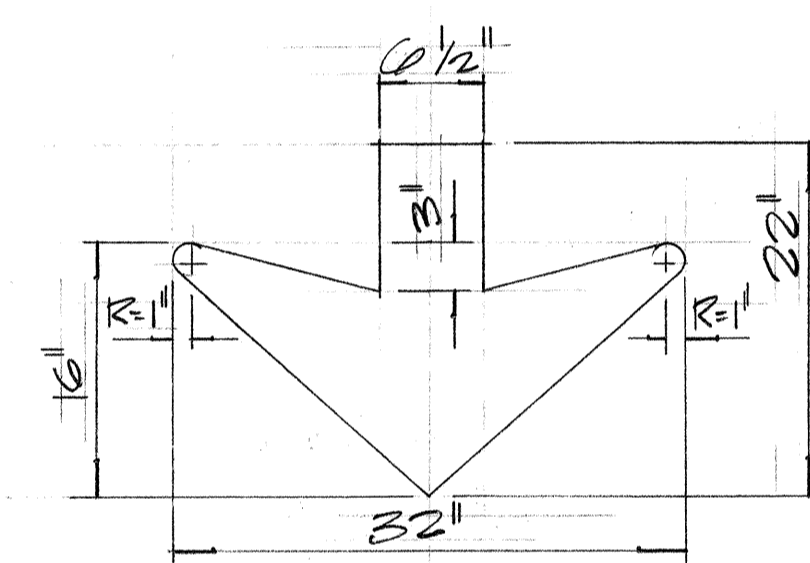
ARROW DETAIL
Scale: 1" = 1'-0"



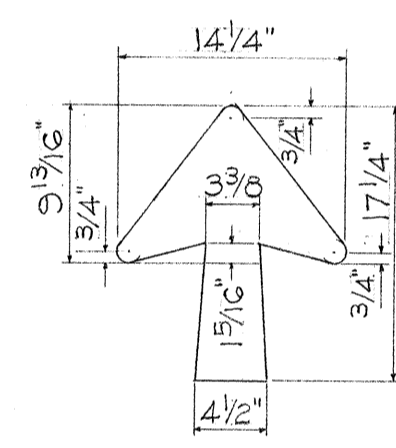
SIGN D-6
Scale: 3/8" = 1'-0"



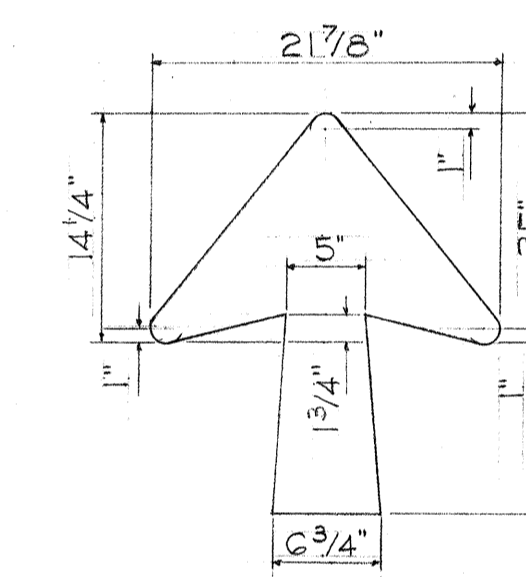
SIGN D-9
Scale: 3/8" = 1'-0"



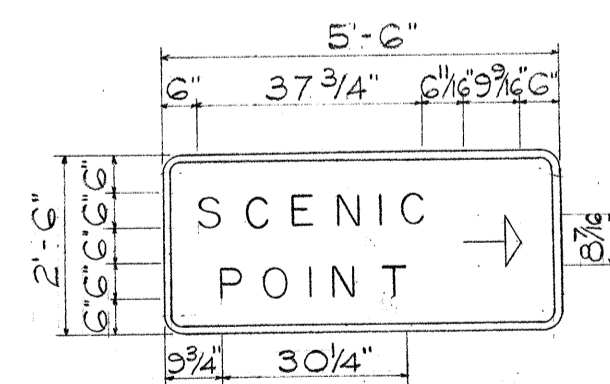
ARROW DETAIL
Scale: 1" = 1'-0"



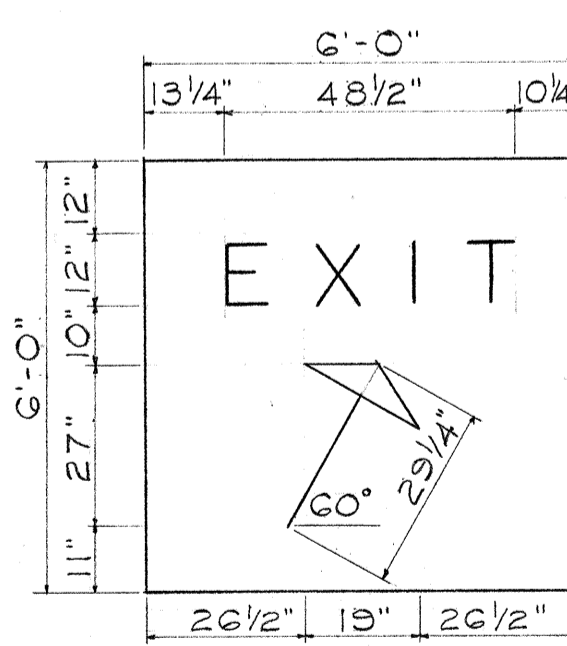
ARROW DETAIL
Scale: 1" = 1'-0"



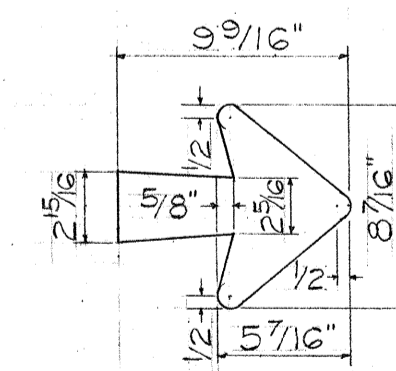
ARROW DETAIL
Scale: 1" = 1'-0"



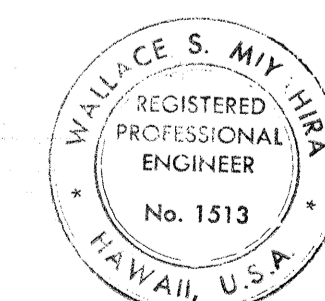
D-SP(R)
Scale: 3/8" = 1'-0"



SIGN D-7 & D-8
Scale: 3/8" = 1'-0"



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



This work was prepared by me or under my supervision.
Wallace S. Miyahira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

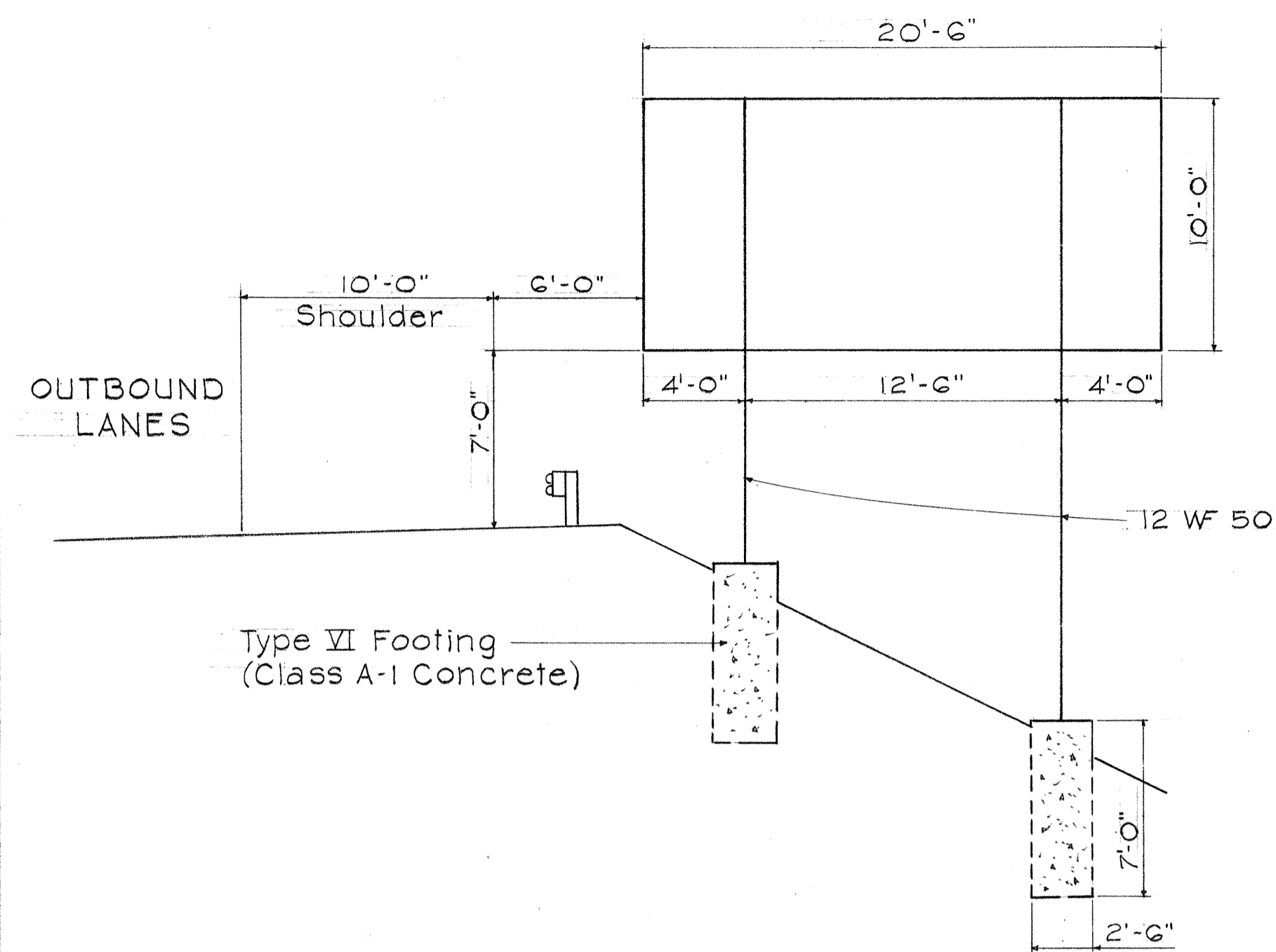
PANEL AND ARROW LAYOUT

F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: As Shown Date: Oct. 1968

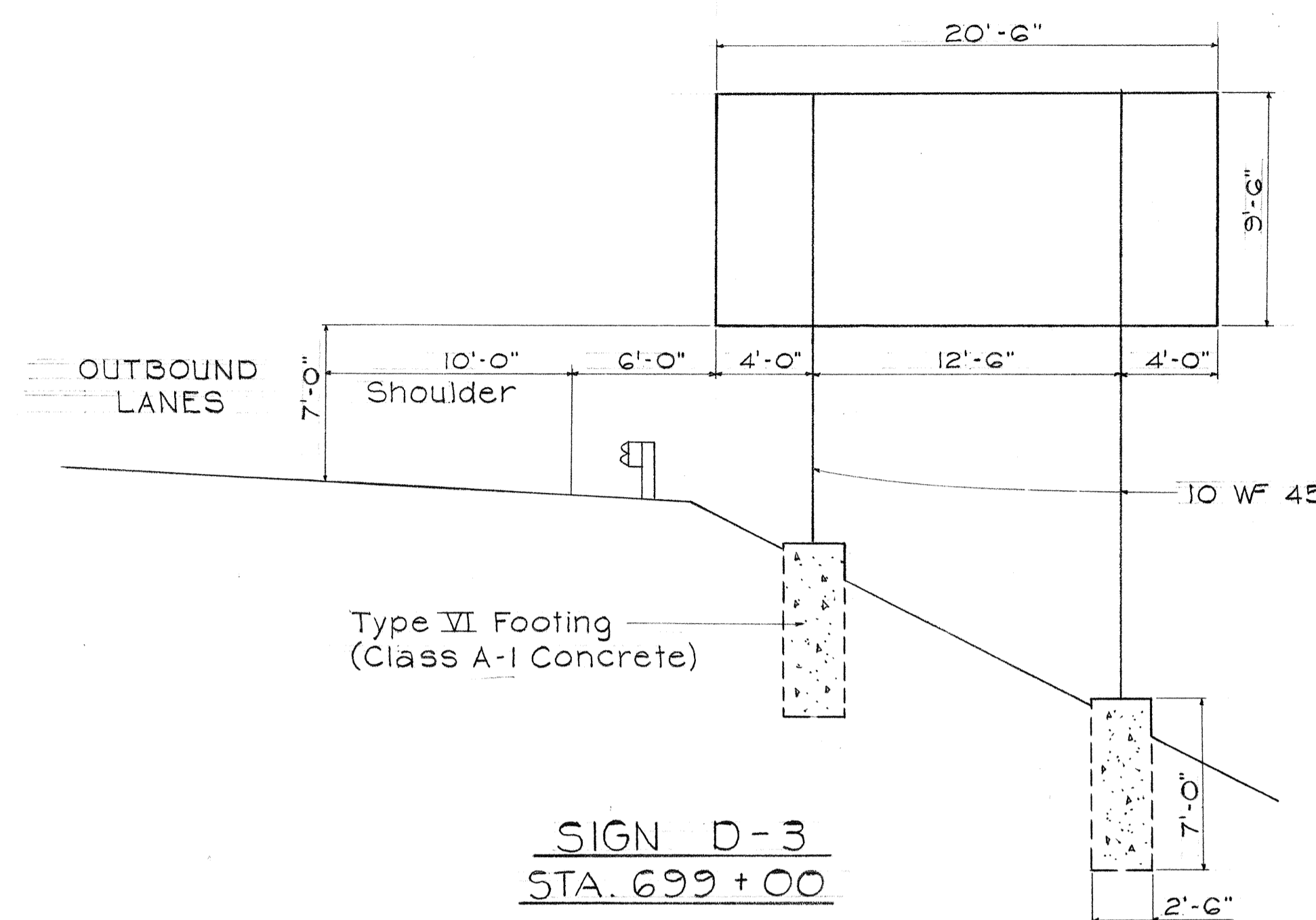
SHEET No. 7 OF 31 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1969	56	280

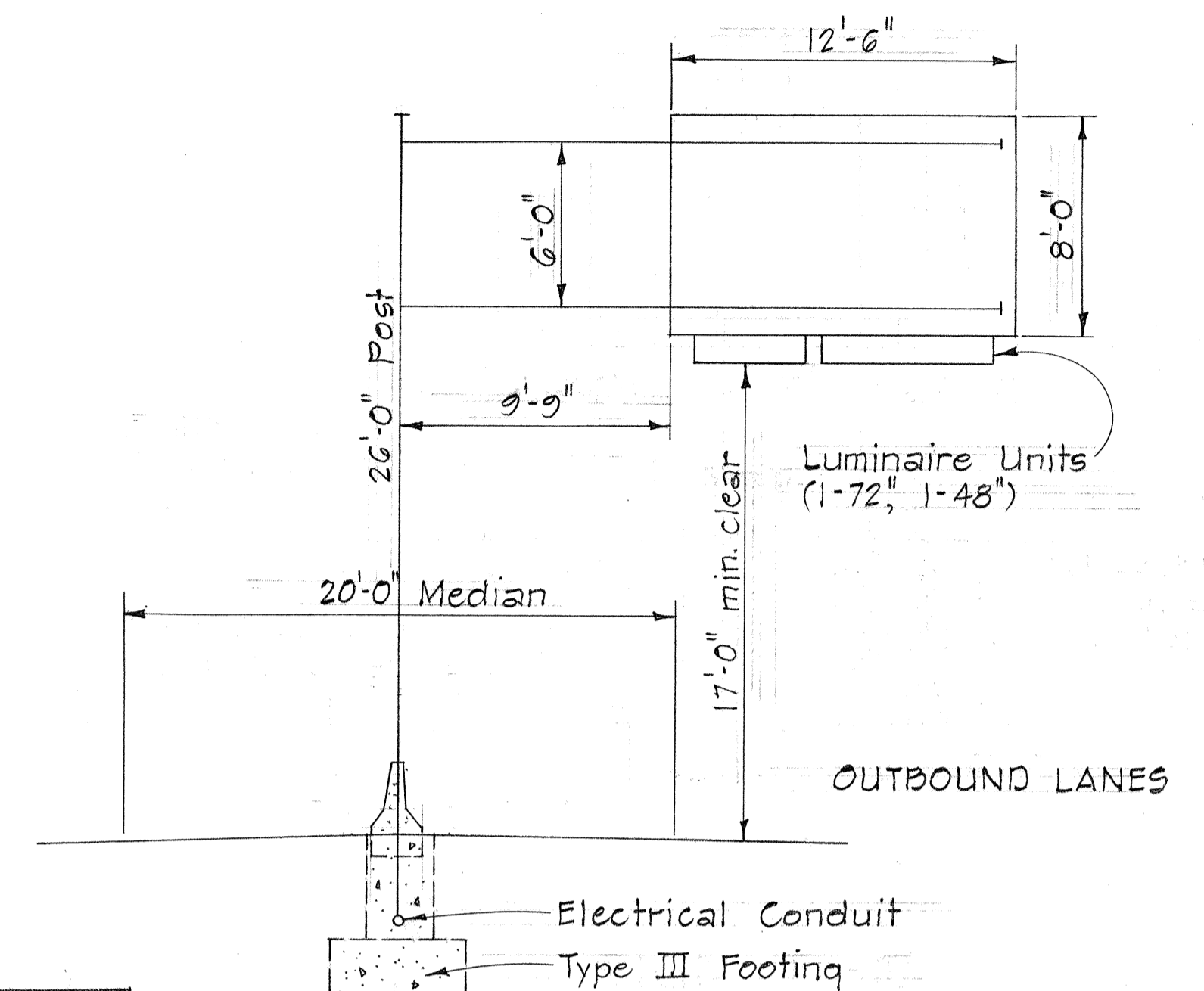
Revised: Sept. 21, 1970



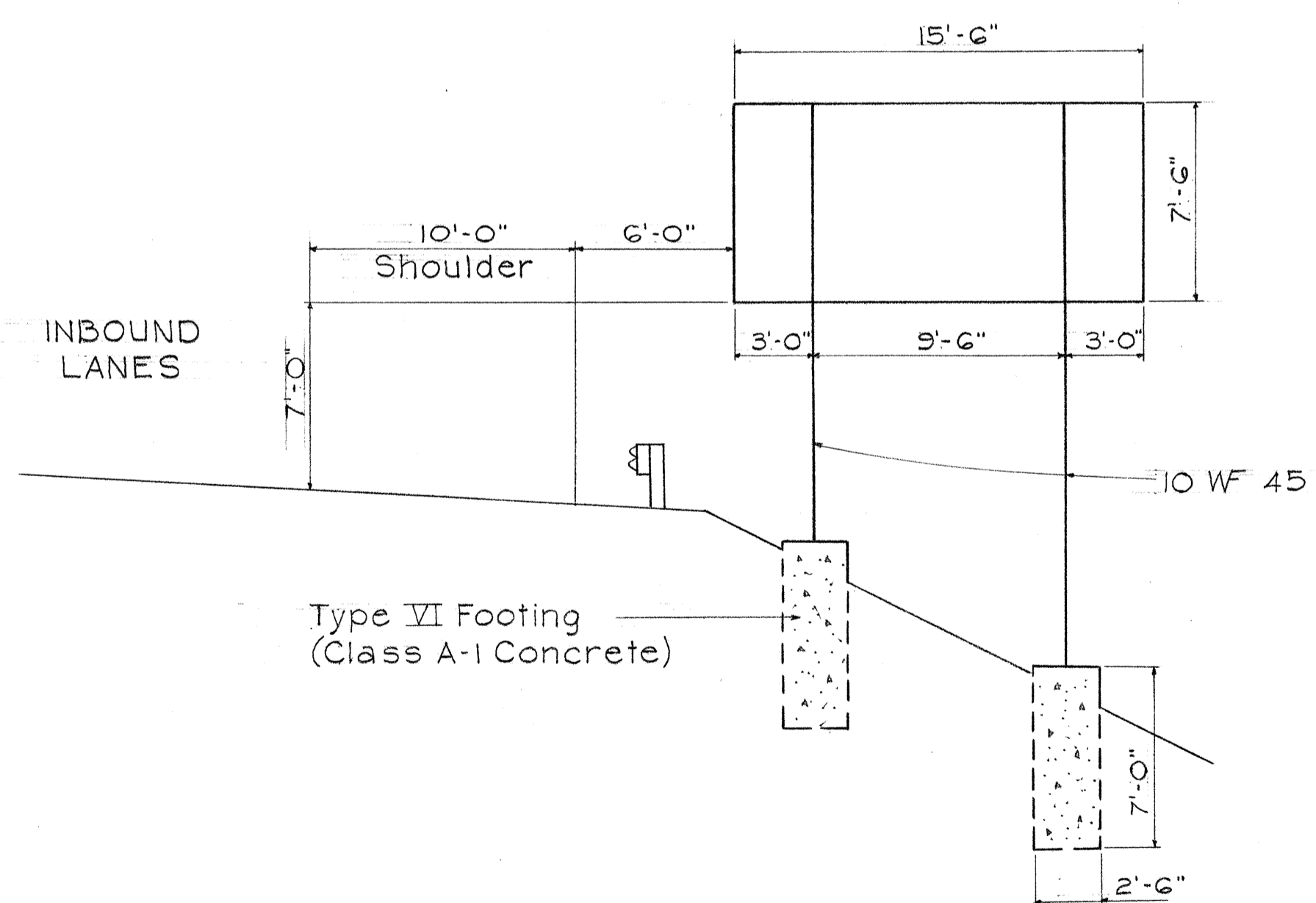
SIGN D-1
STA. 656 + 00



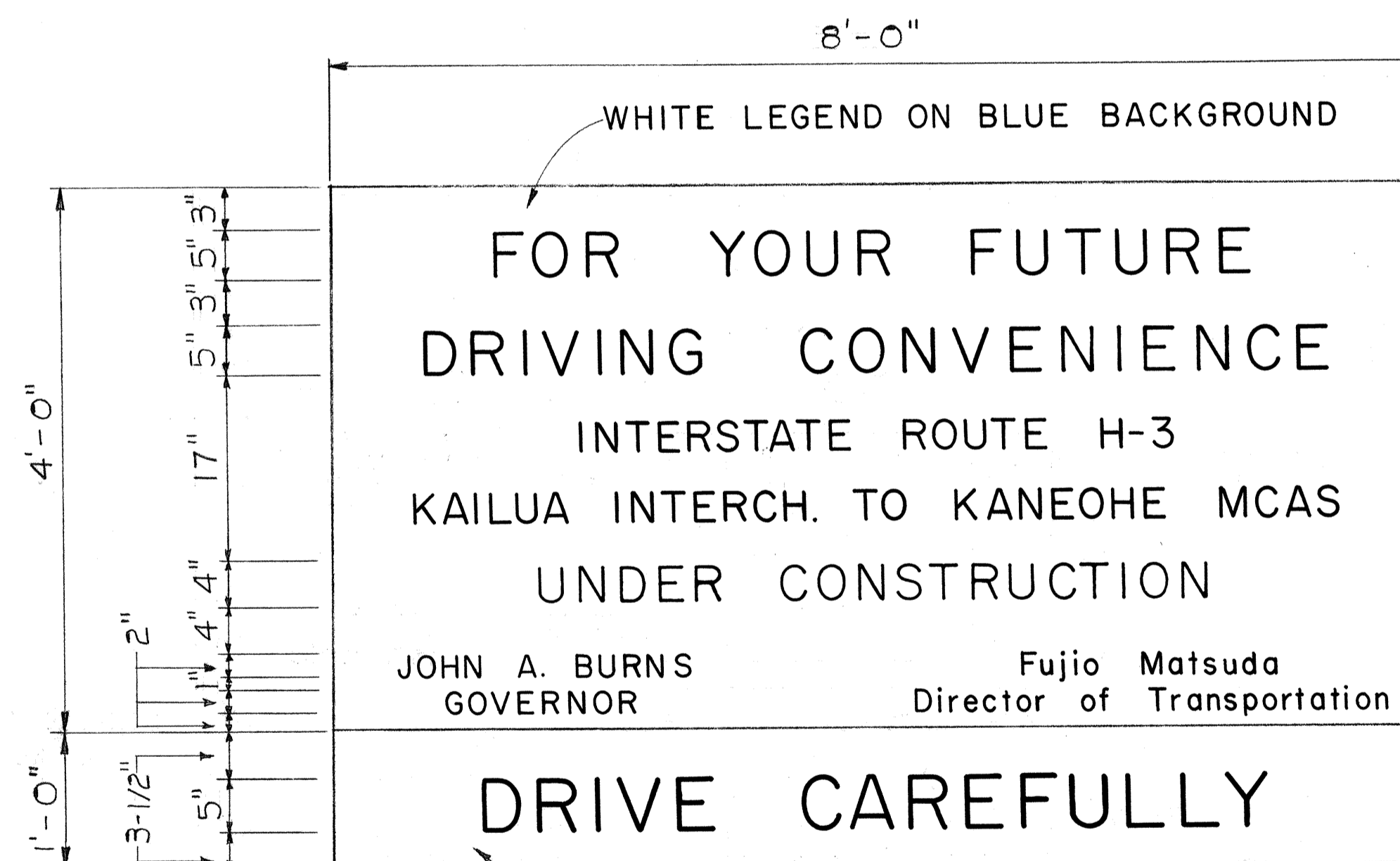
SIGN D-3
STA. 699 + 00



SIGN E-2
STA. 722 + 00



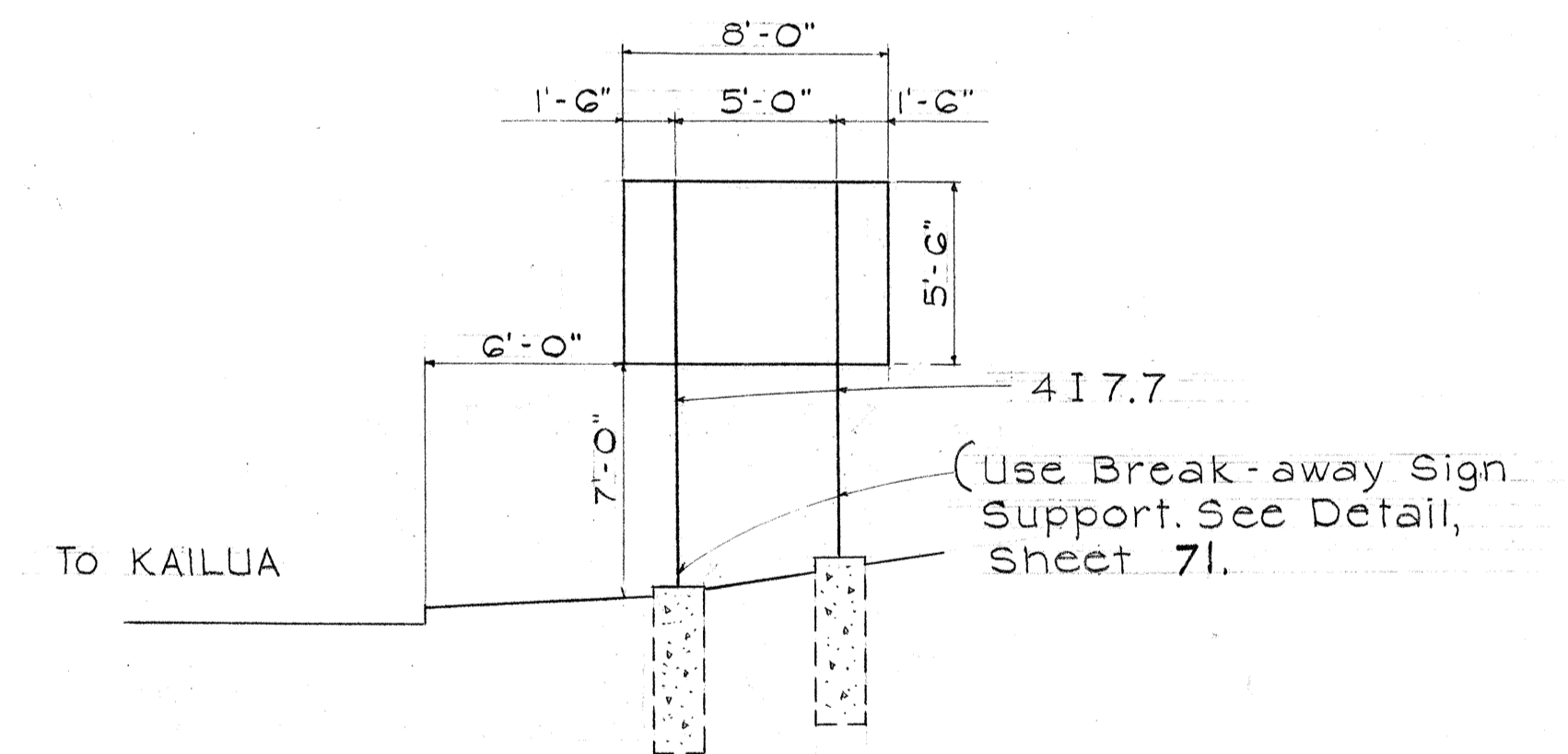
SIGN D-2
STA. 665 + 00



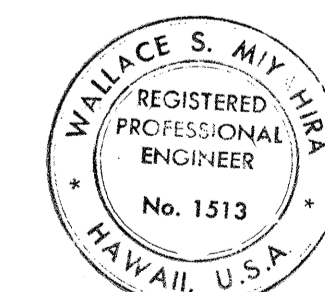
GENERAL NOTES

- The sign panels will be constructed by the State and will be available for pick up by the Contractor from the State Highway Maintenance Yard.
- The Contractor shall construct the sign supports and frames and install the sign panels at the locations shown on the plans and as ordered by the Engineer. For sign support and frame detail, see sht. 73E.
- At the end of construction the Contractor shall remove the sign panels and return it to the State Highway Maintenance Yard. Sign supports and frames shall be removed and cleared from the project site.

PROJECT INFORMATION SIGN
Scale: 1" = 1'-0"



SIGN D-4
KBD STA. 14 + 80 THIS SHT. SUPERSEDES SHT. NO. 56



This work was prepared by me or under my supervision.
Wallace S. Miyahara

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FRAME LAYOUT

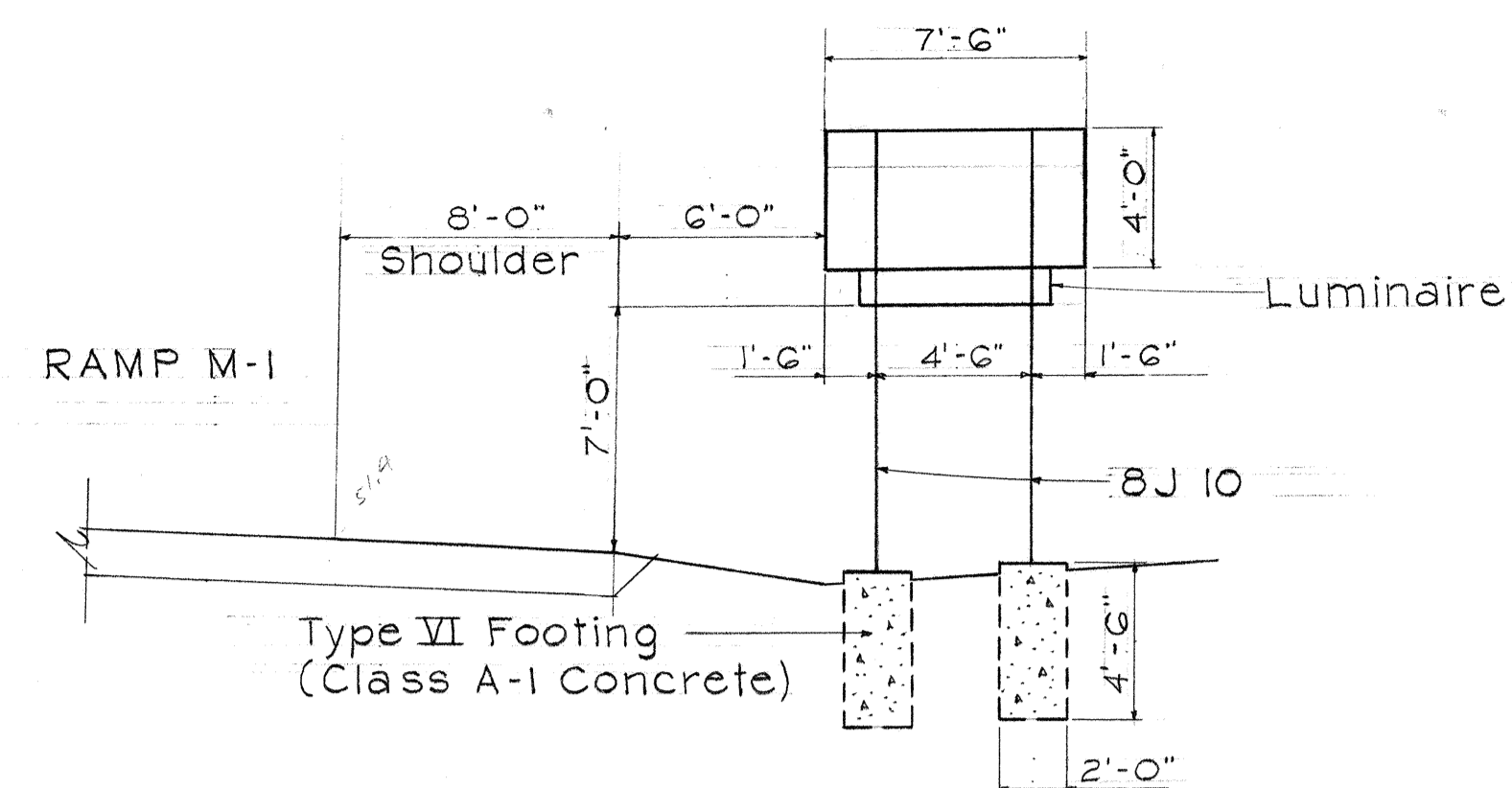
F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: 3/16" = 1'-0" Date: Oct. 1968

SHEET No. 8 OF 31 SHEETS

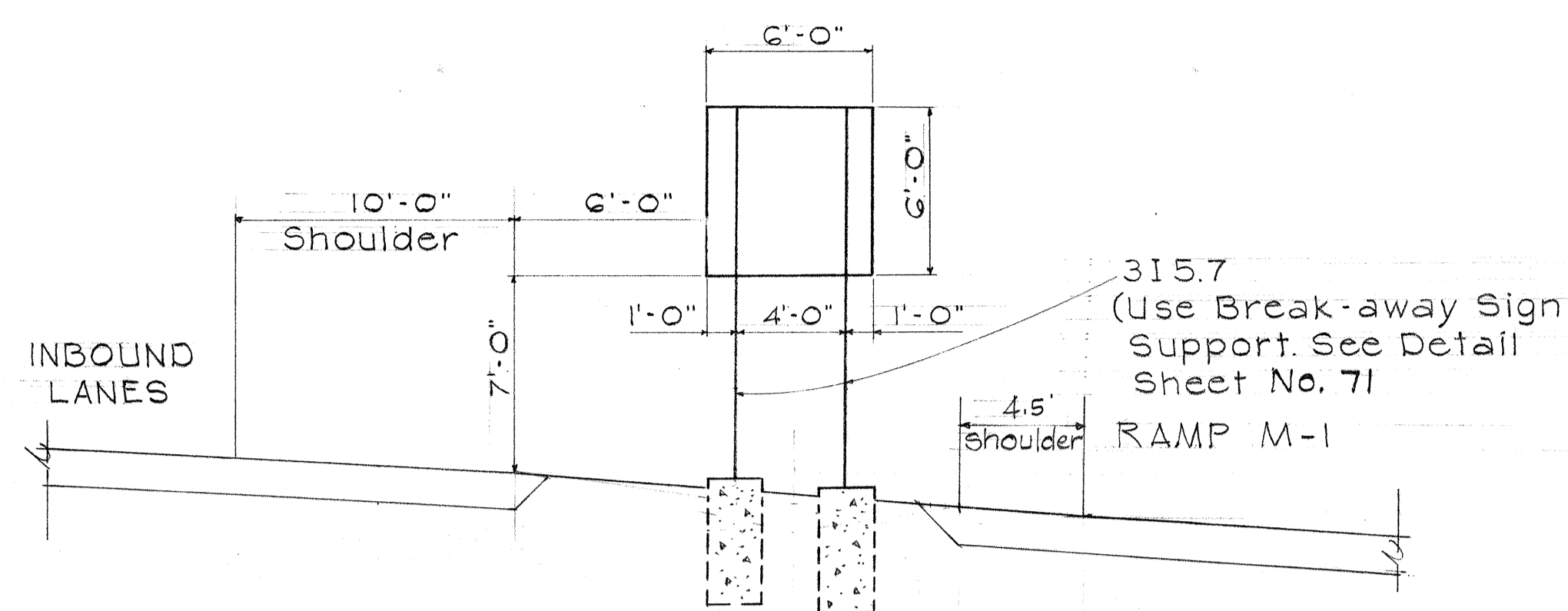
C056

DATE
SURVEY PLATTED BY
DRAWN BY
FRACED BY
QUANTITIES BY
CHECKED BY
ORIGINAL PLAN
NOTE BOOK
No.

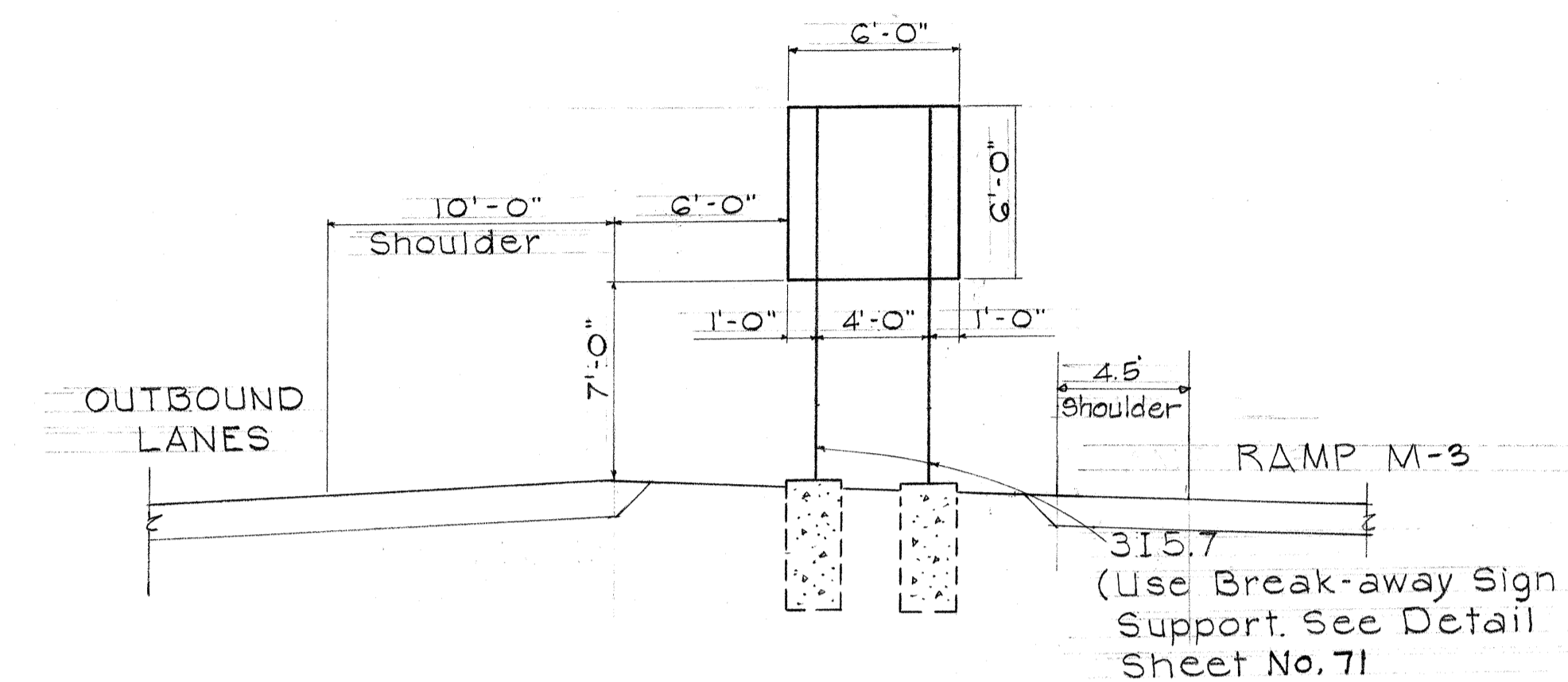
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2): 8	1969	57	280



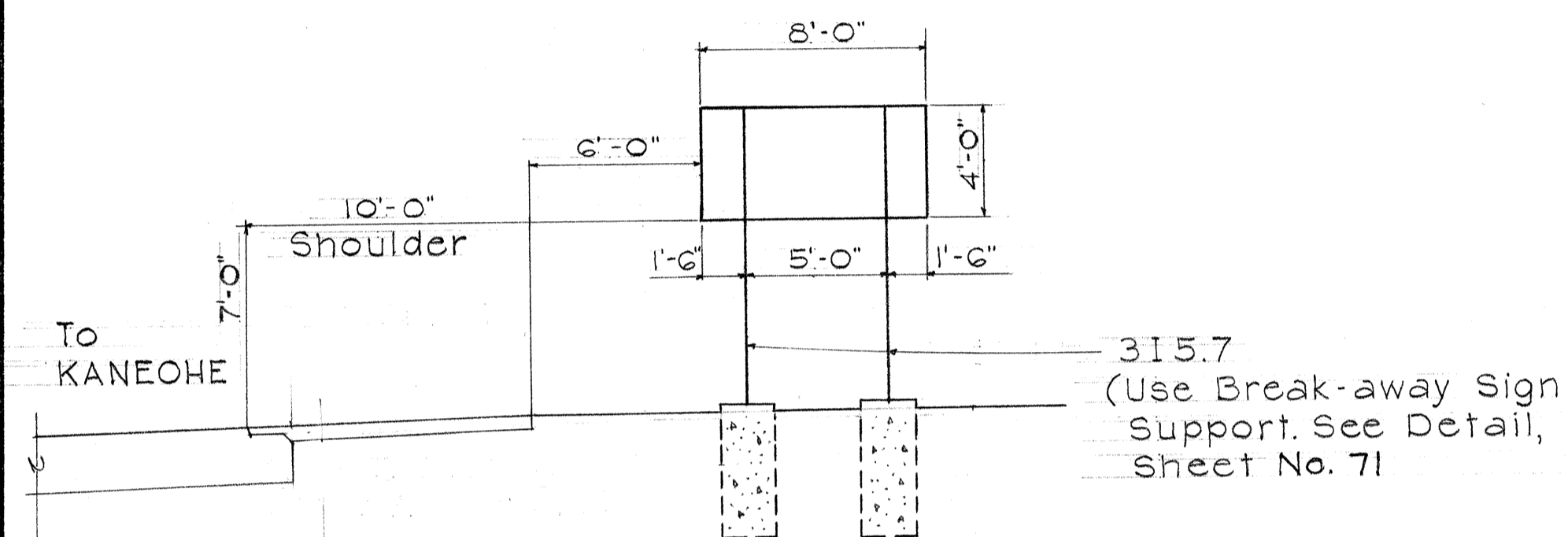
SIGN E-4
RAMP M-1 STA. 12+70



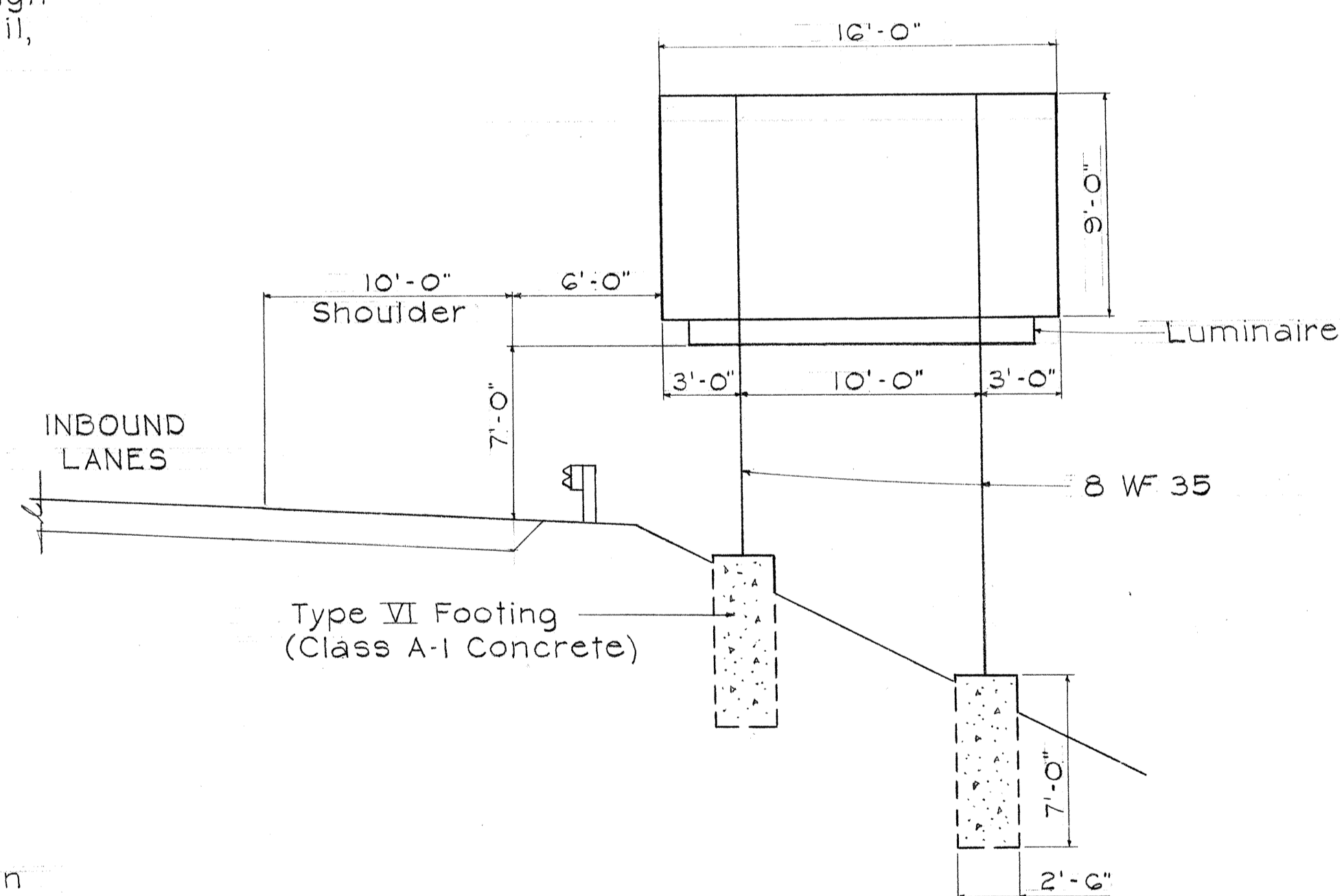
SIGN D-7
STA. 709+50



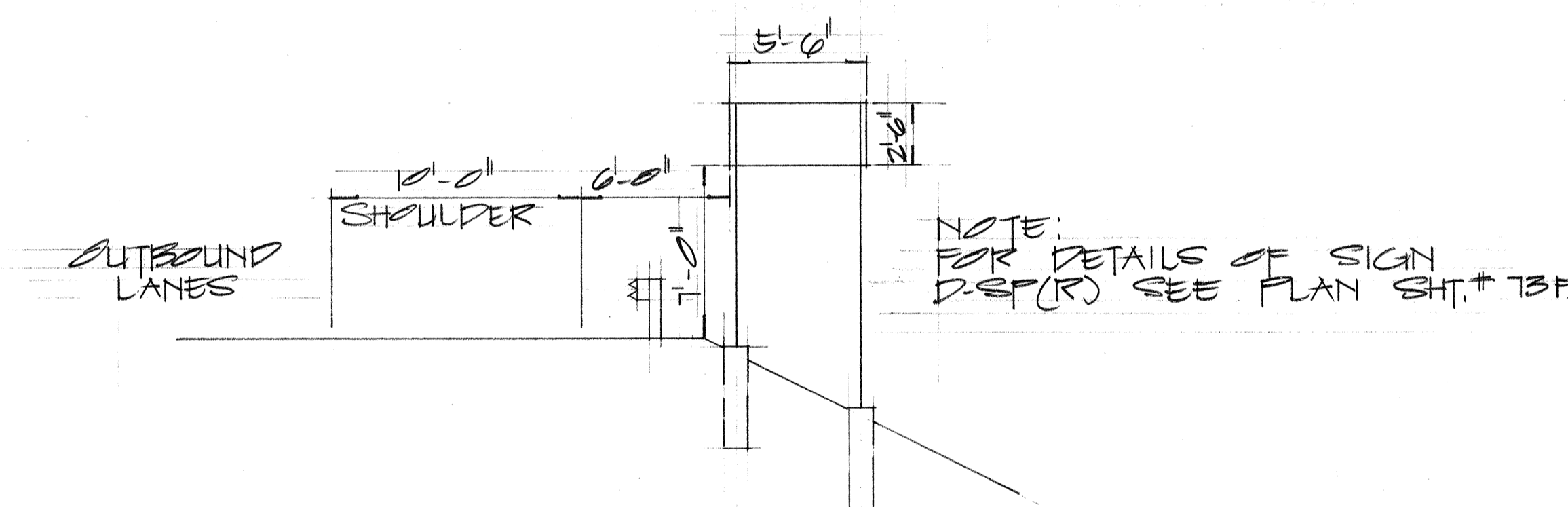
SIGN D-12
STA. 714+50



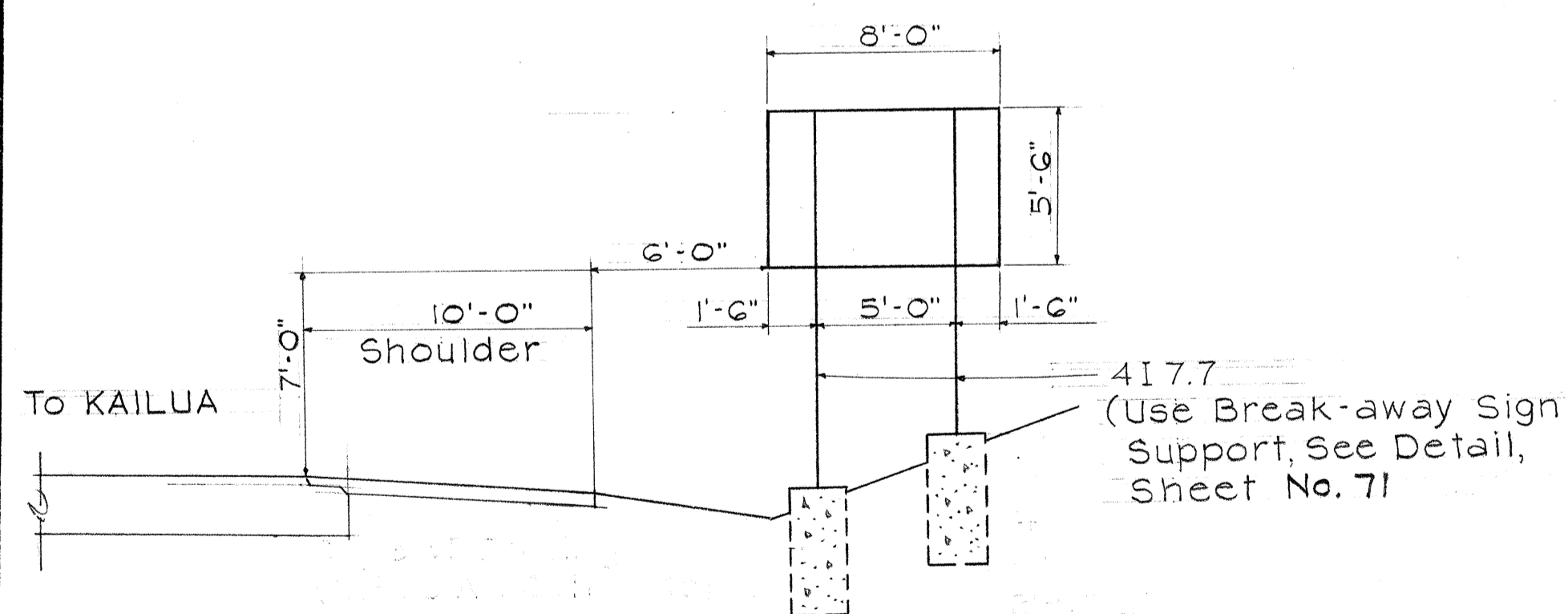
SIGN D-5
K.B.D. STA. 18+00



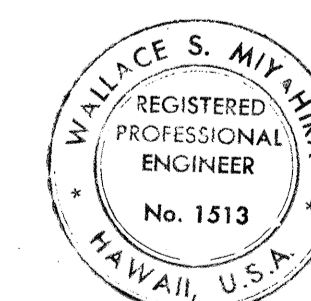
SIGN E-3
STA. 714+30



SIGN D-SP(R)
STA. 674+00



SIGN D-6
K.B.D. STA. 5+15



This work was prepared by me or under my supervision.
Wallace S. Miyahira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

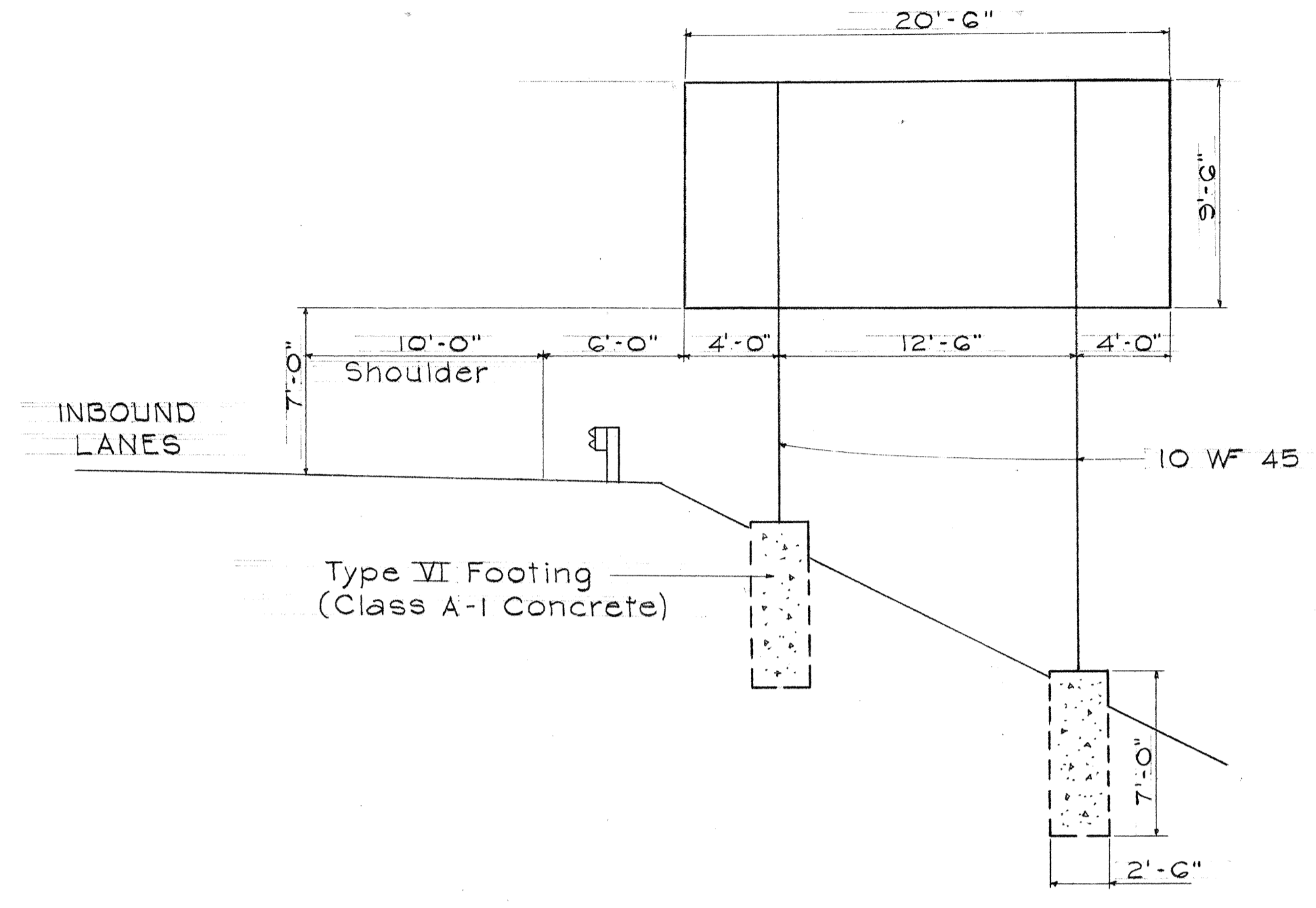
FRAME LAYOUT

F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2): 8
Scale: 3/16" = 1'-0" Date: Oct. 1968

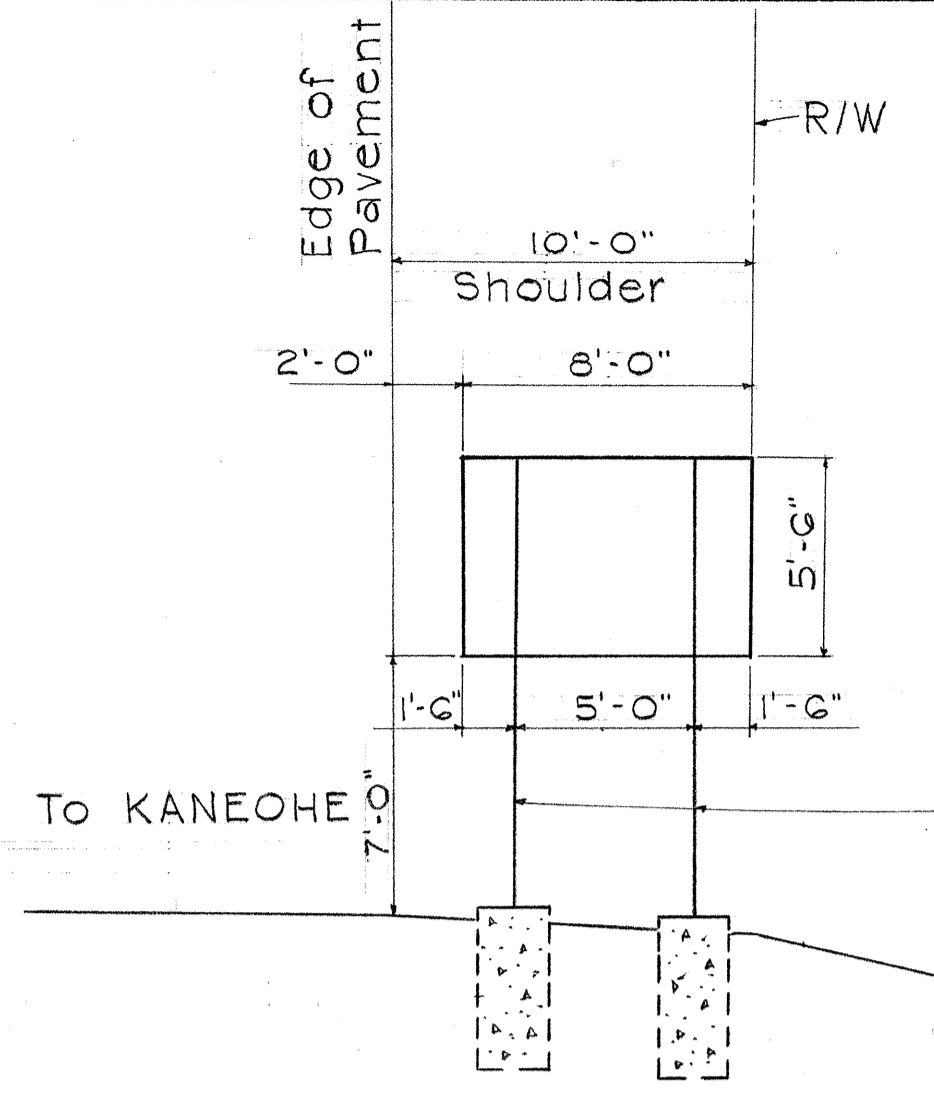
SHEET No. 9 OF 31 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1968	58	280

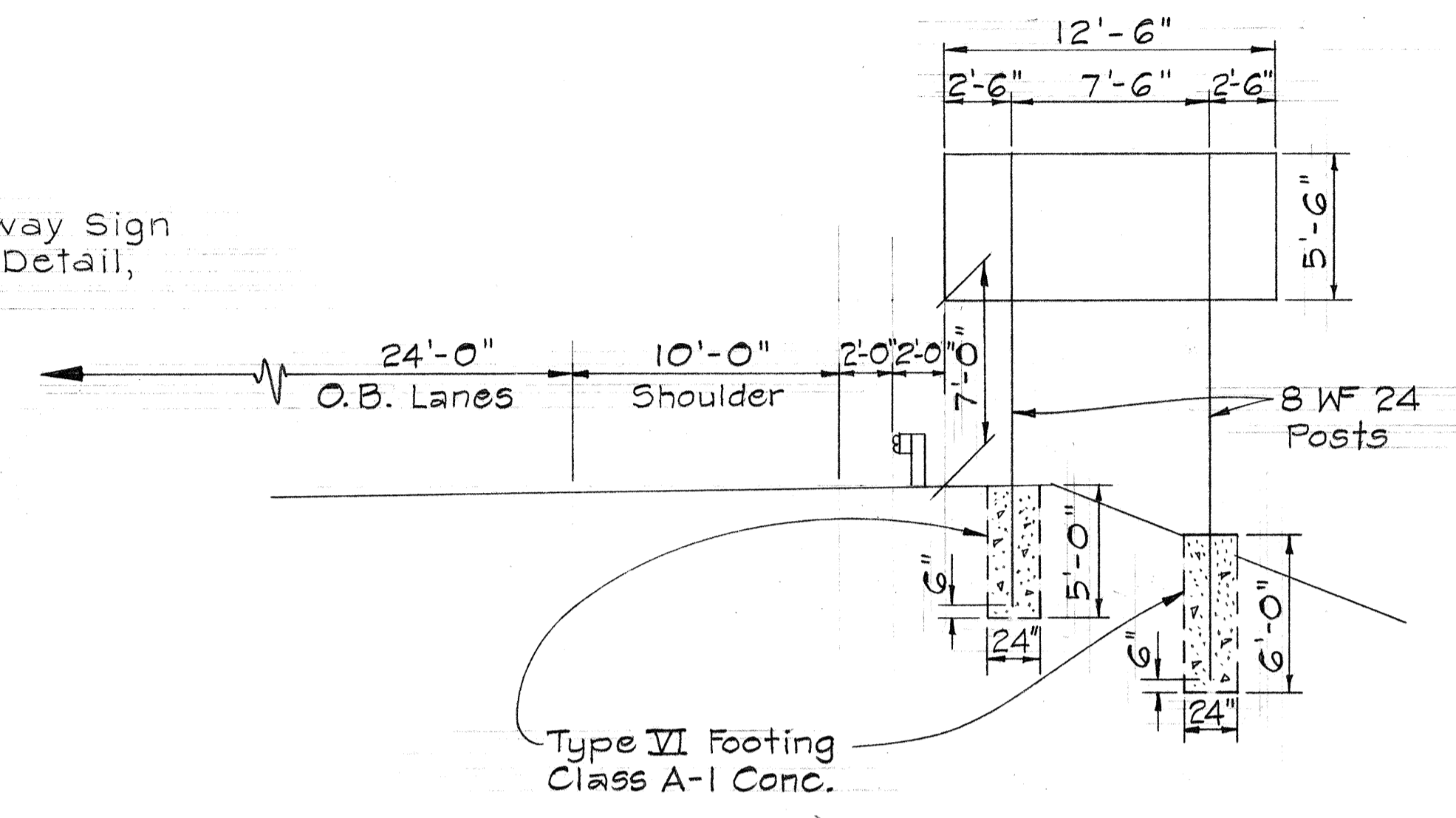
Revised: Sept. 21, 1970



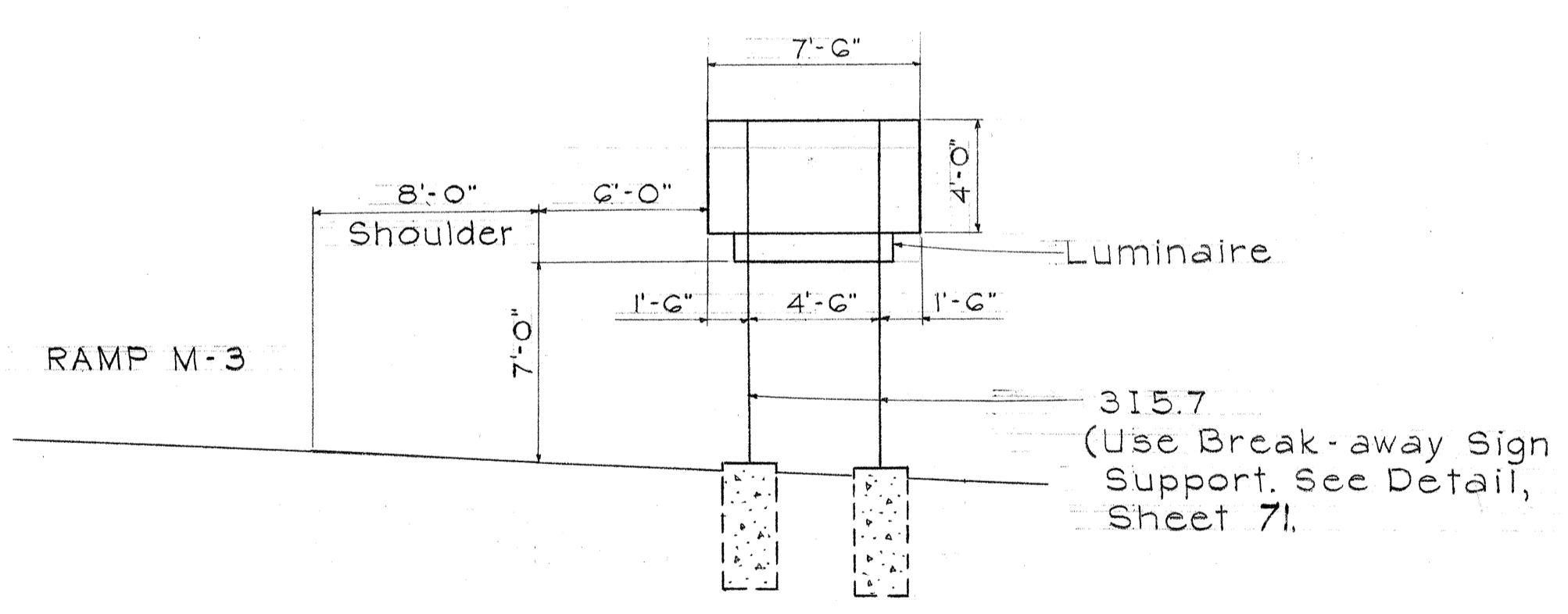
SIGN D-10
STA. 721+90



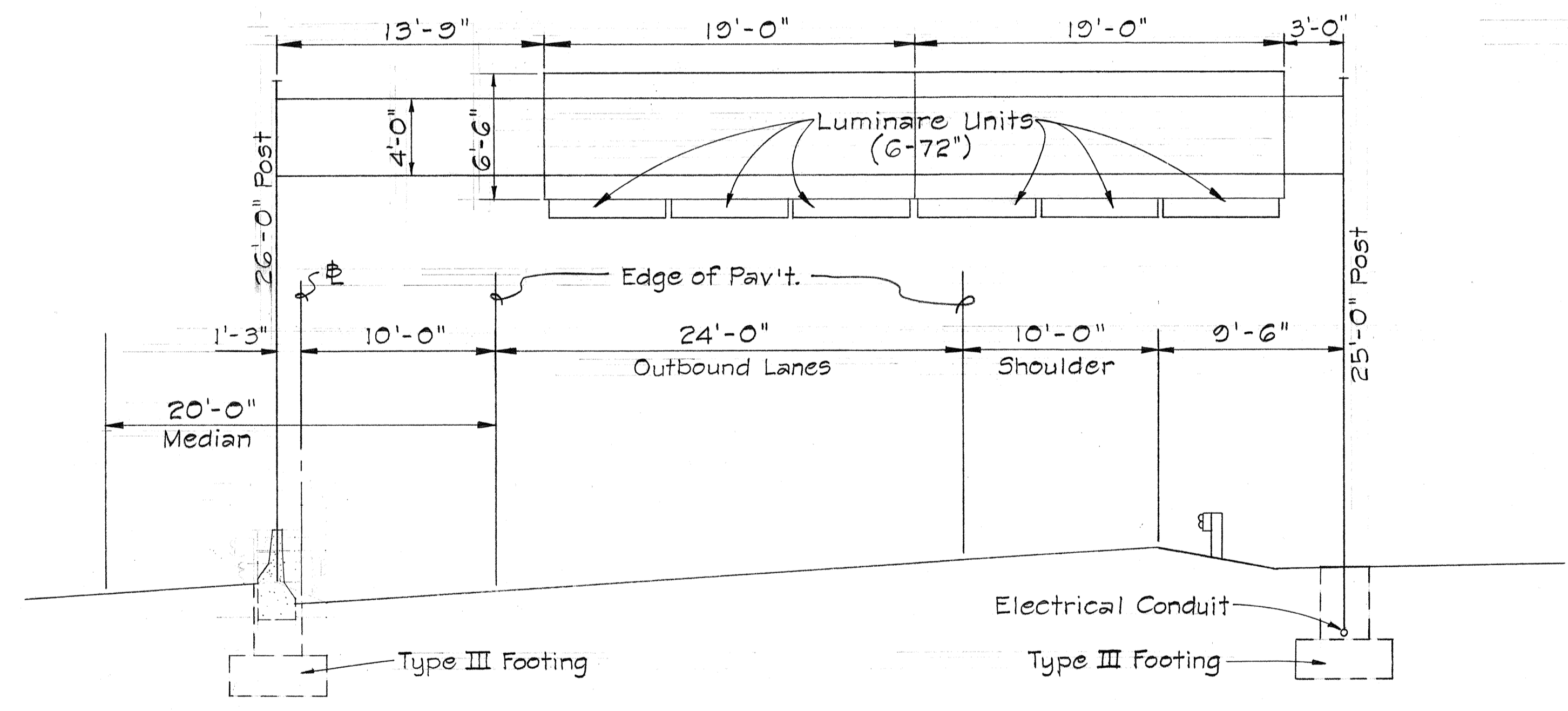
SIGN D-9
K.B.D STA. 25+50



SIGN D-11
STA. 745+00



SIGN E-5
RAMP M-3 STA. 12+40



SIGN E-1
STA. 709+00

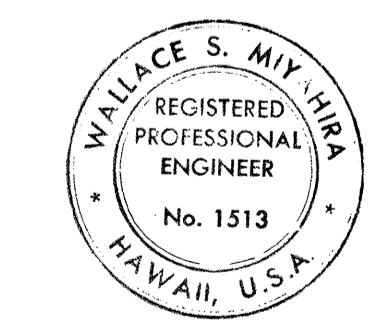
THIS SHT. SUPERSEDES
SHT. NO. 58

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FRAME LAYOUT

F.A.I. Proj No. I-H3-1(8):14, I-H3-1(2):8
Scale: 3/16" = 1'-0" Date: Oct. 1968

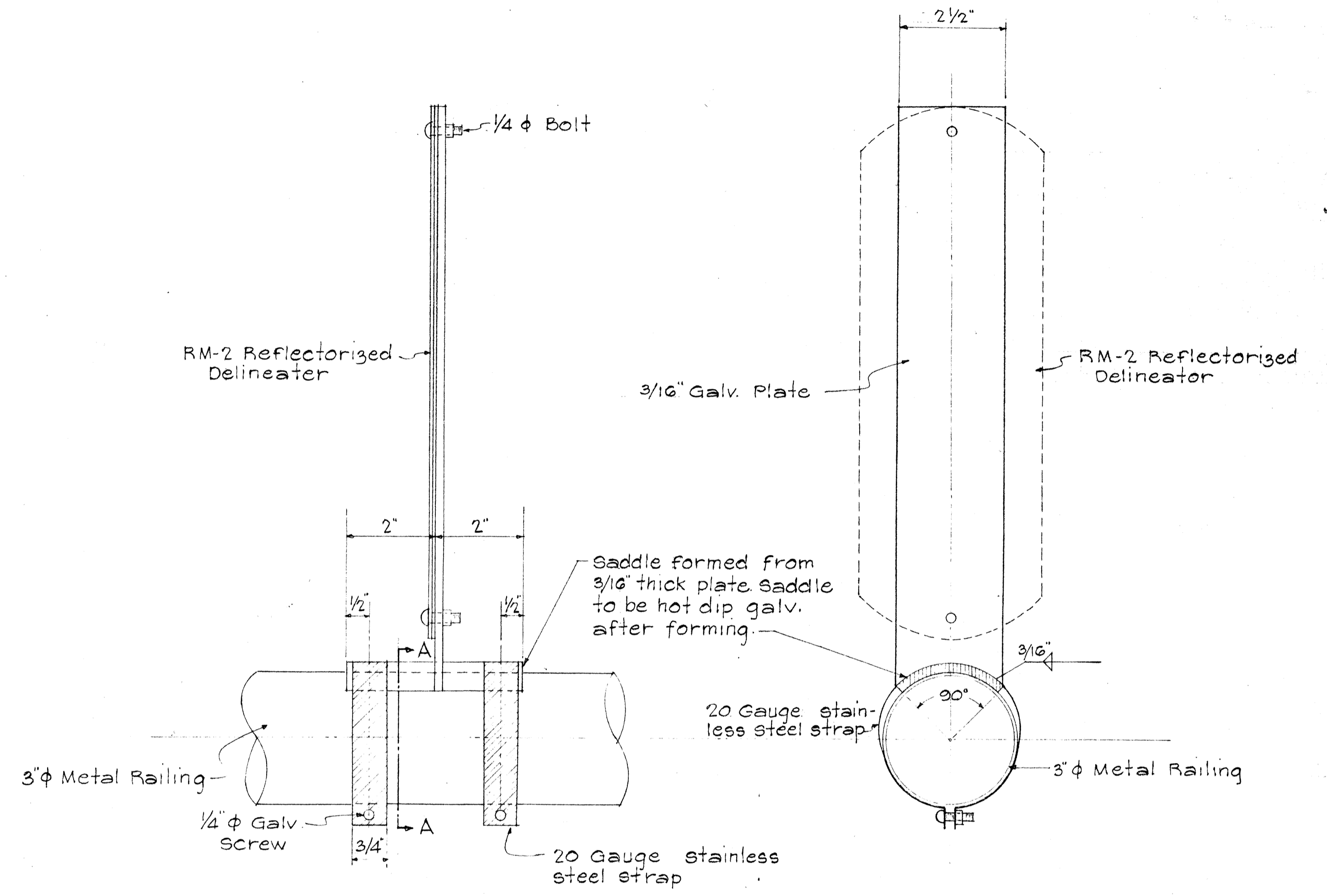
SHEET No. 10 OF 31 SHEETS



This work was prepared by me
or under my supervision.
Wallace S. Miyahira

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

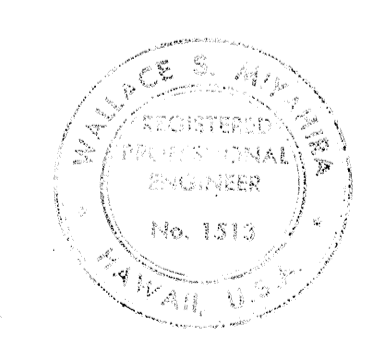
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8):14 I-H3-1(2):8	1968	59	280



ELEVATION SECTION A-A

STRUCTURE DELINEATOR DETAIL
HALF SCALE

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



Wallace S. Murphy

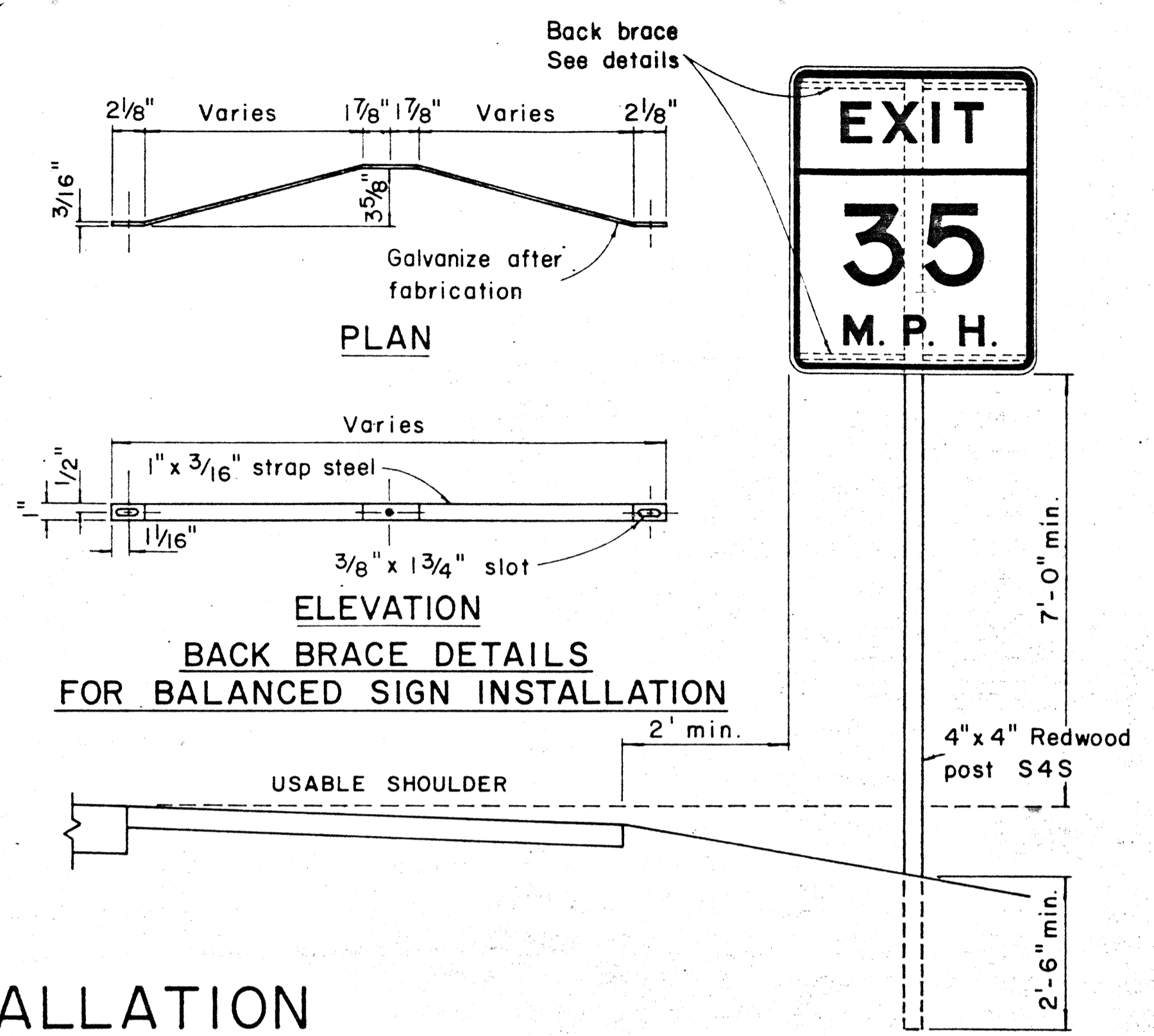
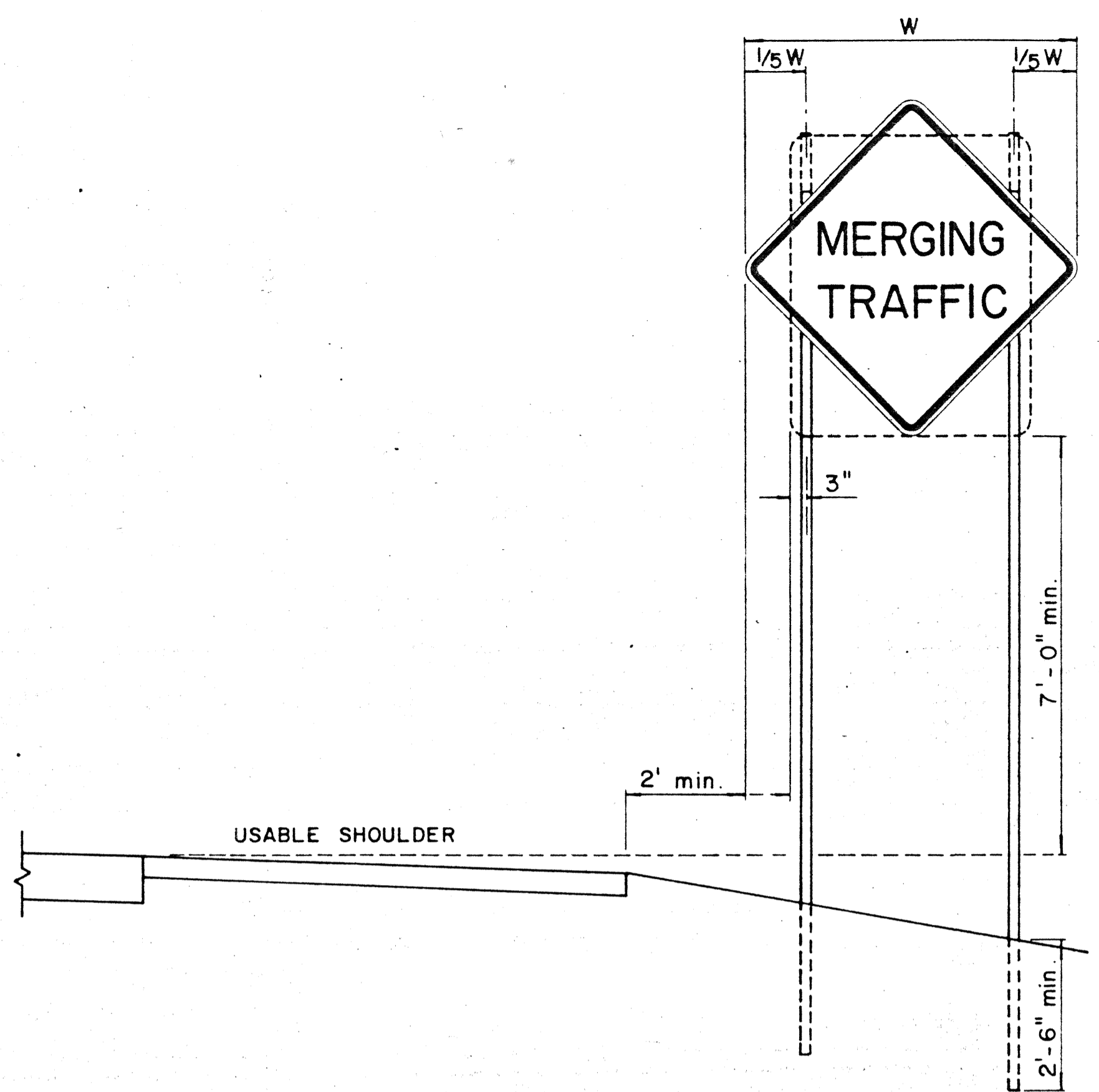
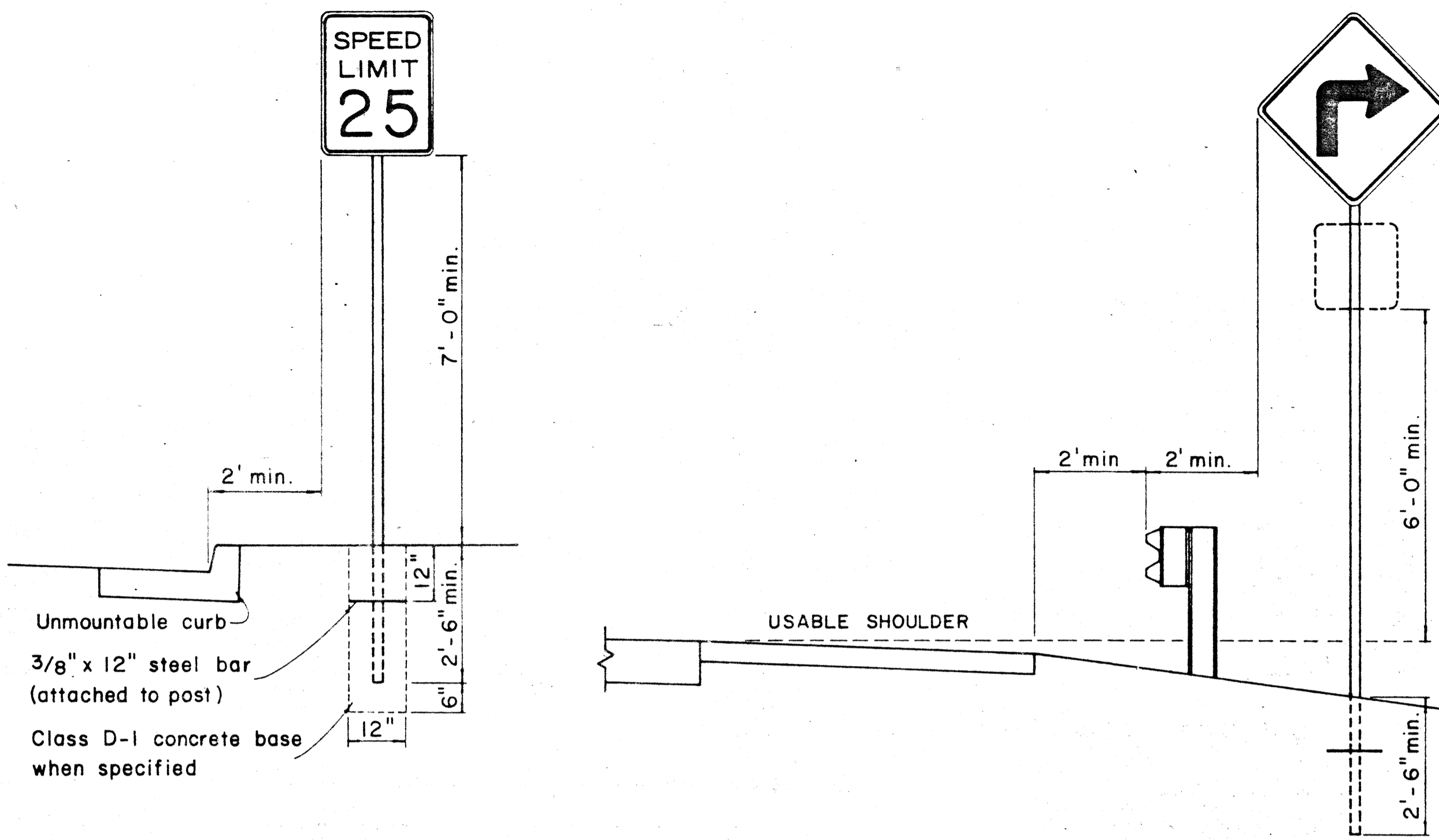
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SPECIAL SIGN MOUNTING

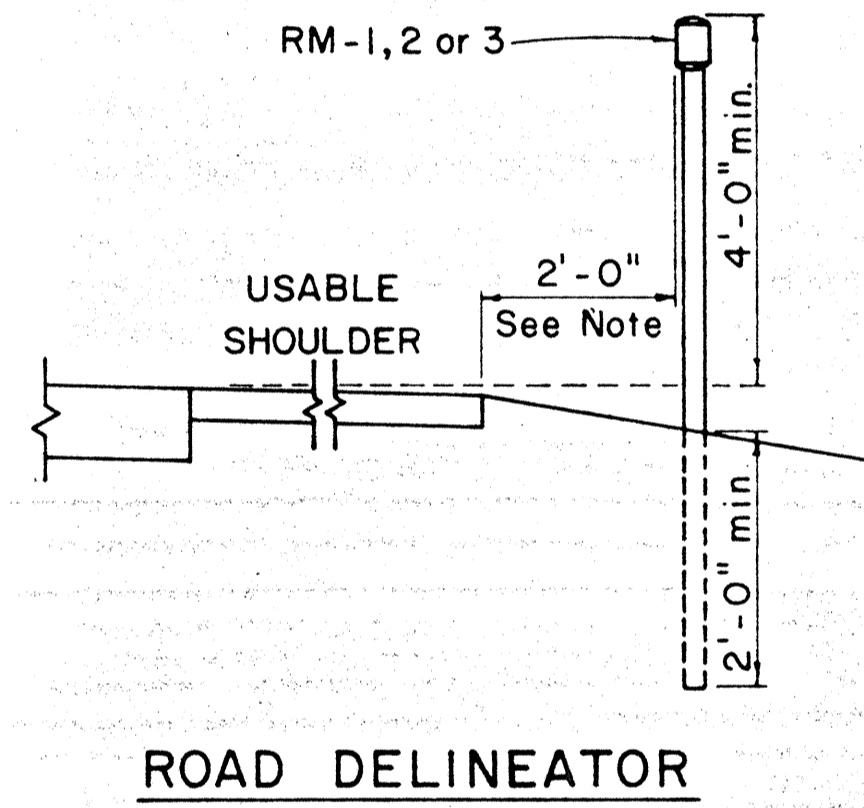
F.A.I. Proj. No. I-H3-1(8):14, I-H3-1(2):8
Scale: As Shown Date: Oct. 1968

SHEET No. 11 OF 31 SHEETS

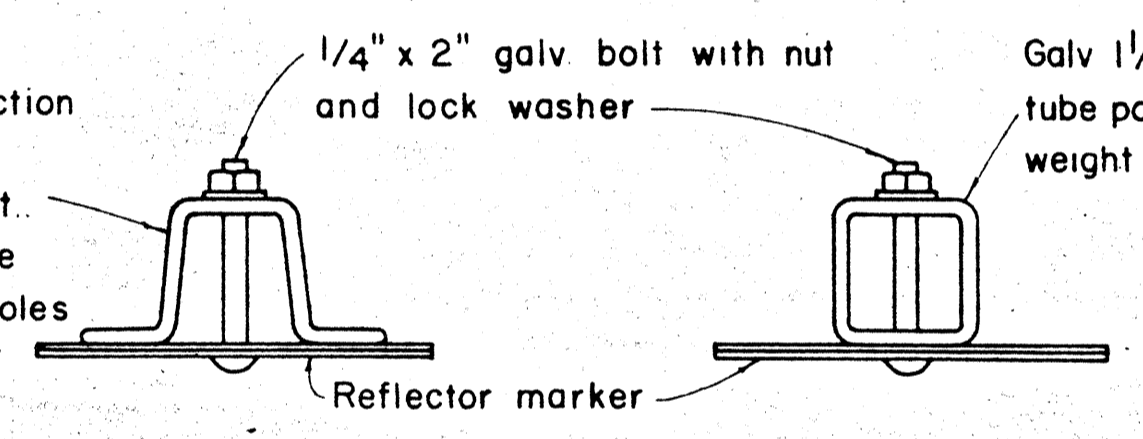
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(6)-14 I-H3-1(2)-8	1969	60	276



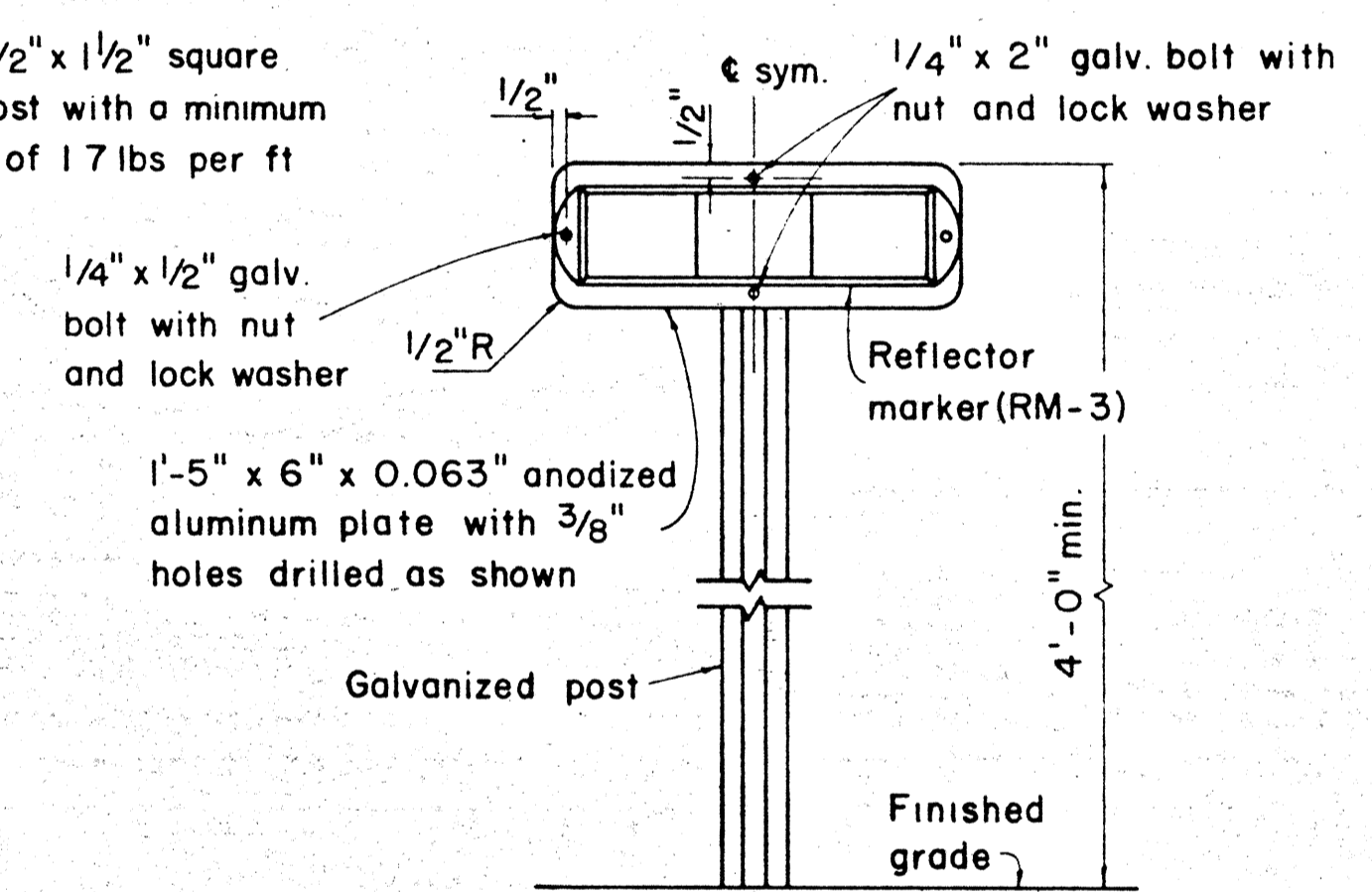
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



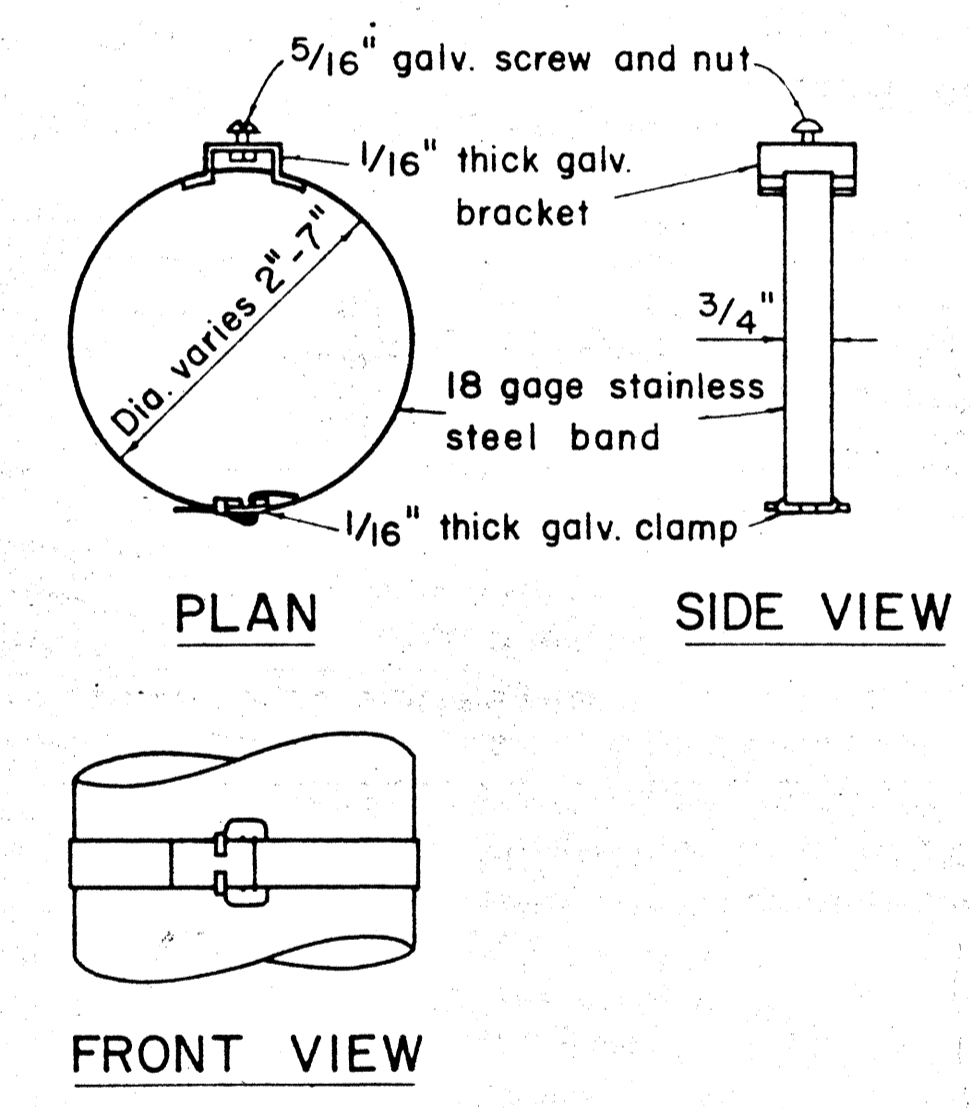
Galv. flanged channel 1/8" x 3 1/16" rolled section post with a minimum weight of 2 lbs. per ft. Upper 2 ft. shall have a single row of 3/8" holes centered in the web at 1" o.c.



TYPICAL SECTION OF ROAD DELINEATOR



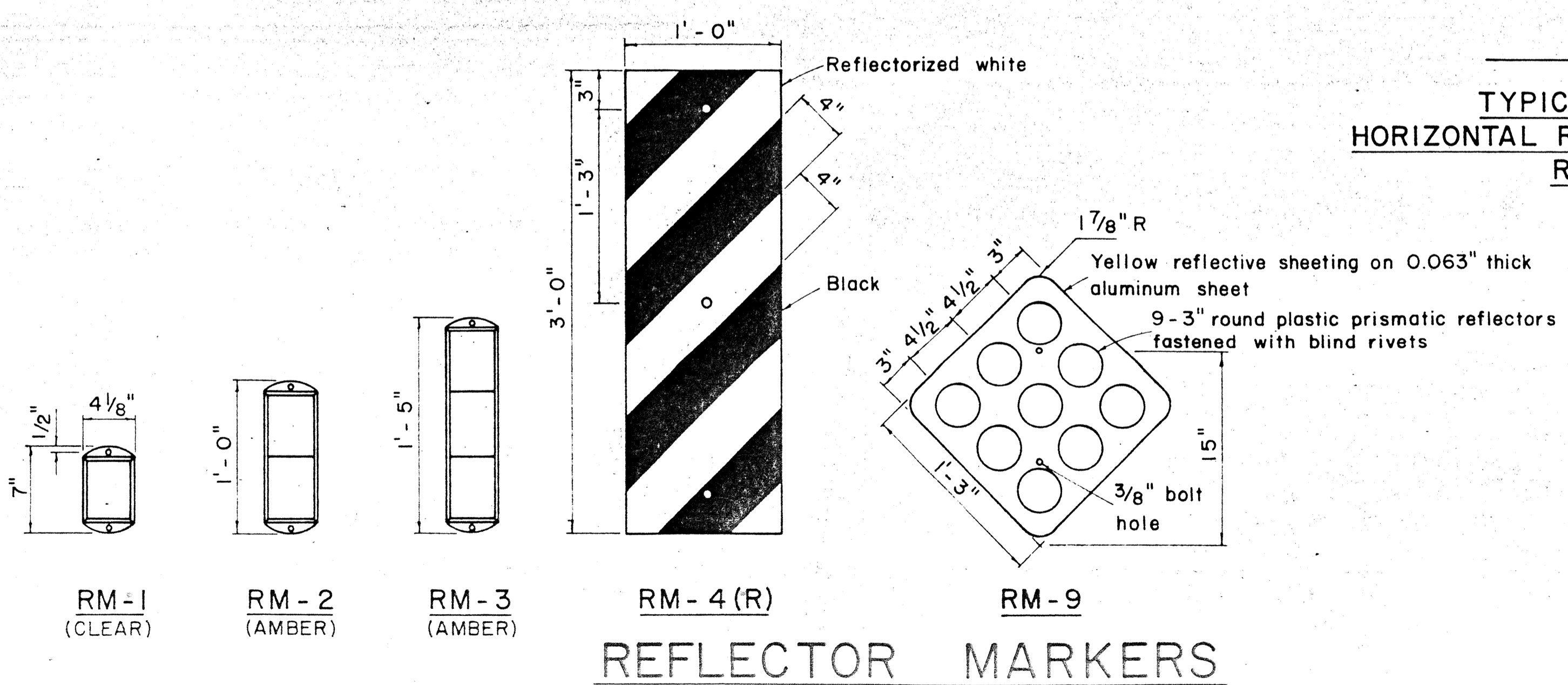
TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



TYPICAL BAND BRACKET FOR
MOUNTING TRAFFIC SIGNS

GENERAL NOTES:

1. Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
2. 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.
3. 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.
4. Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
5. 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.
6. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
7. (R) or (L) indicates right or left and shall be as shown on the plans.



REFLECTOR MARKERS

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

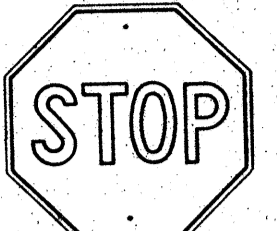
STANDARD DETAILS

MISCELLANEOUS SIGN DETAILS

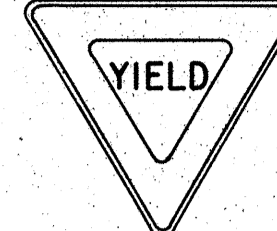
Not to scale March, 1968

SHEET No. 12 OF 31 SHEETS DT 100


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




R1-1 30" x 30"
R1-1-A 36" x 36"
4-WAY
R1-3 12" x 6"
R1-3-A 18" x 9"




R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



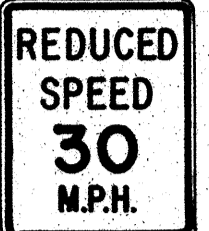
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



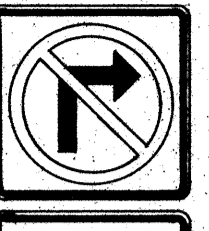
R2-2(40) 24" x 24"
R2-2(40)-A 48" x 48"



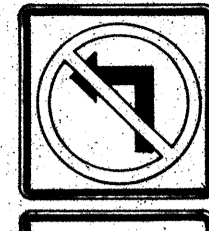
R2-4a(50/40) 24" x 48"
R2-4a(50/40)-A 48" x 96"




R2-5b(30) 24" x 30"
R2-5b(30)-A 48" x 60"



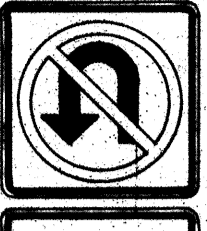
R3-1 24" x 24"
24" x 18"
R3-1-A 48" x 48"
48" x 36"




R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



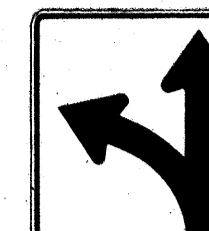
R3-3 24" x 24"
R3-3-A 48" x 48"




R3-4 24" x 24"
24" x 18"
R3-4-A 48" x 48"
48" x 36"




R3-5(L) 30" x 36"
R3-5(L)-A 48" x 60"



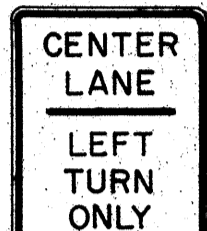
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"




R3-7(R) 30" x 30"
R3-7(R)-A 48" x 48"




R3-8(L) 30" x 30"
R3-8(L)-A 36" x 36"
R3-8(L)-B 48" x 48"




R3-9 24" x 30"




R4-1 24" x 30"




R4-2 24" x 30"




R4-3 24" x 30"
R4-3-A 48" x 60"



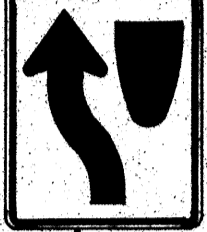
R4-5 24" x 30"



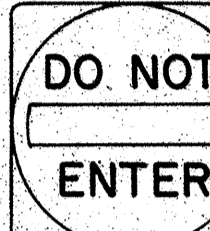
R4-6(500) 24" x 30"



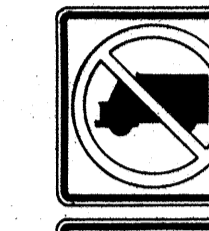
R4-7 24" x 30"
24" x 18"



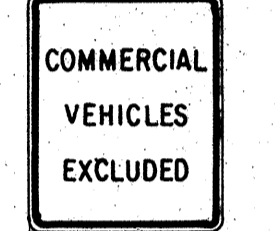
R4-8 24" x 30"
24" x 18"




R5-1 30" x 30"
R5-1-A 48" x 48"




R5-2 24" x 24"
24" x 18"




R5-4 24" x 30"




R5-6 24" x 24"
24" x 18"




R5-9 36" x 24"



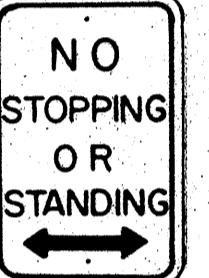
R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



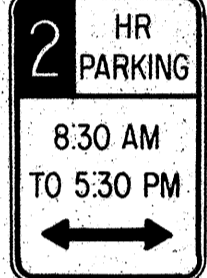
R7-1 12" x 18"
R7-1-A 24" x 30"




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



R7-107(R) 12" x 18"



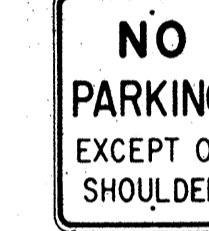
R7-108 12" x 18"




R7-201 12" x 6"
R7-201-A 24" x 12"



R8-1 24" x 30"




R8-2 24" x 30"




R8-3 24" x 30"



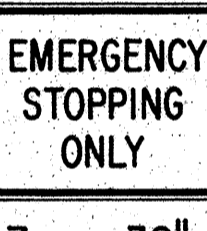
R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



R8-6 24" x 30"




R8-7 30" x 24"
R8-7-A 48" x 36"



R9-1 18" x 24"




R9-2 12" x 18"




R9-3 12" x 18"




R9-4 18" x 24"




R10-1 12" x 18"




R10-2 12" x 18"




R10-3 9" x 12"



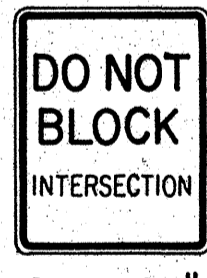
R10-4 9" x 12"




R10-5 24" x 30"




R10-6 24" x 36"



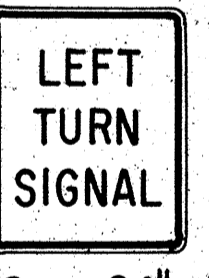
R10-7 24" x 30"



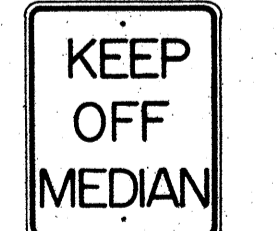
R10-8 24" x 30"




R10-9 24" x 30"



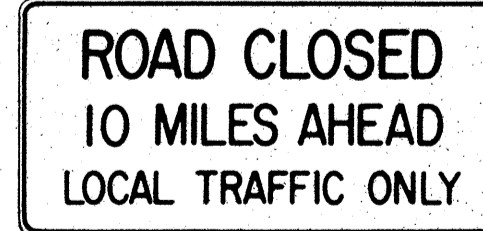
R10-10 24" x 30"



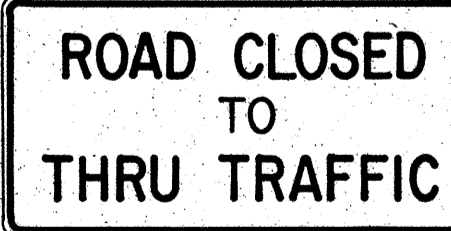
R11-1 24" x 30"



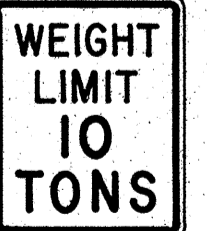
R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:
Erich Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:
Hubert J. J. J. 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.T.	3/20/72

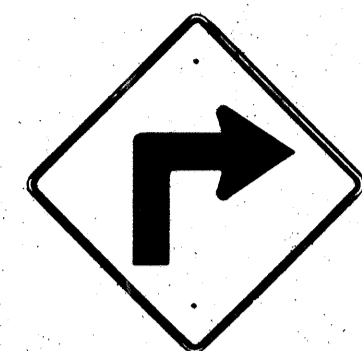
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

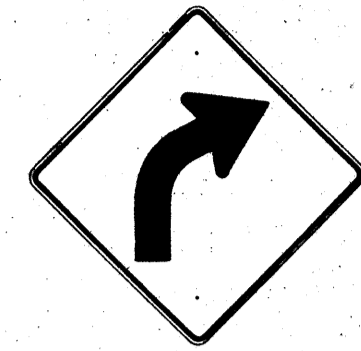
NOT TO SCALE

DATE _____
SURVEY PLOTTED BY _____
PLAN _____
DESIGNED BY _____
NOTE BOOK _____
QUANTITIES BY _____
CHECKED BY _____
No. _____

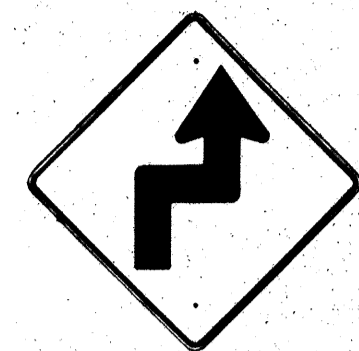
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



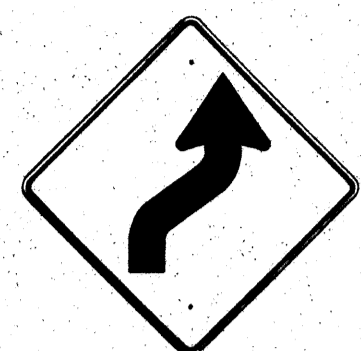
W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



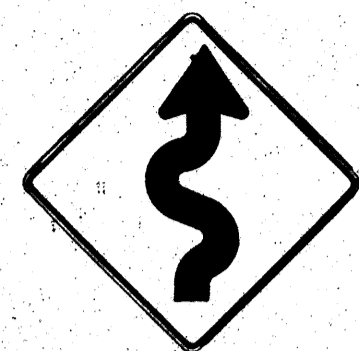
W1-2(R) 30"x30"
W1-2(R)-A 48"x48"



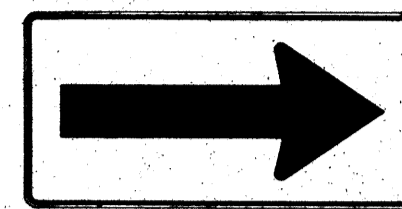
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



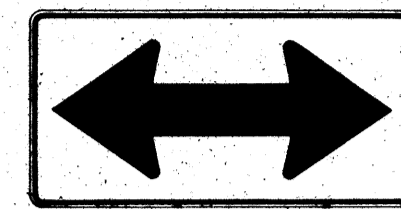
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



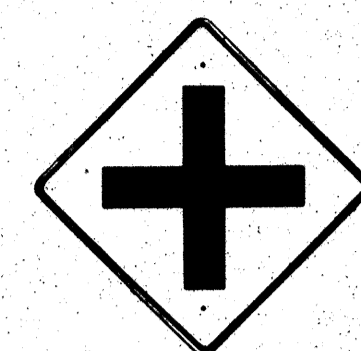
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



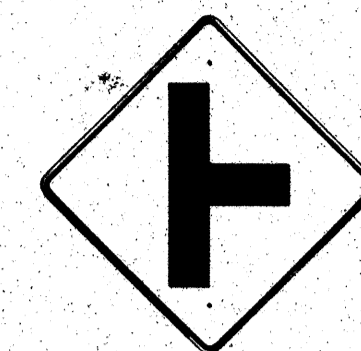
W1-6 48"x24"



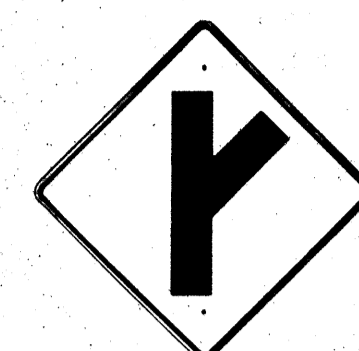
W1-7 48"x24"



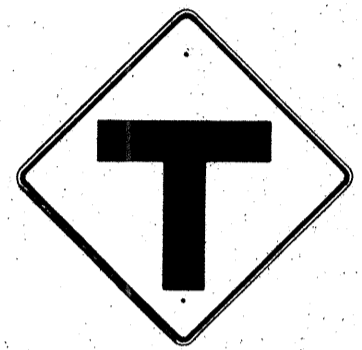
W2-1 30"x30"
W2-1-A 48"x48"



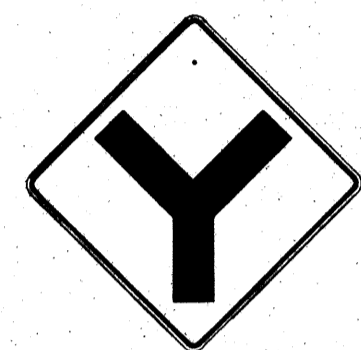
W2-2 30"x30"
W2-2-A 48"x48"



W2-3(R) 30"x30"
W2-3(R)-A 48"x48"



W2-4 30"x30"
W2-4-A 48"x48"



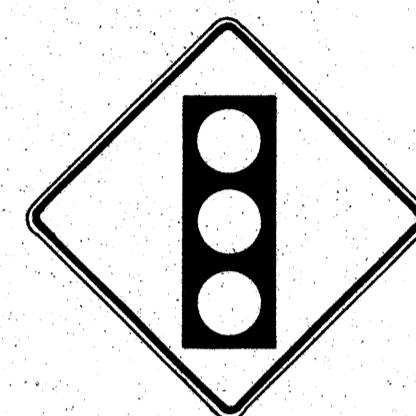
W2-5 30"x30"
W2-5-A 48"x48"



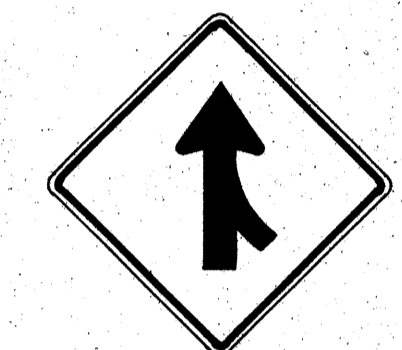
W3-1 30"x30"
W3-1-A 36"x36"



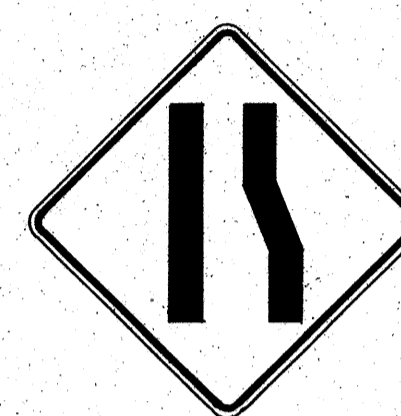
W3-2 30"x30"
W3-2-A 36"x36"



W3-3 36"x36"
24"x18"
SIGNAL AHEAD



W4-1(R) 30"x30"
24"x18"
MERGE
W4-1(R)-A 48"x48"
24"x18"



W4-2(R) 36"x36"
W4-2(R)-A 48"x48"



W5-1 36"x36"



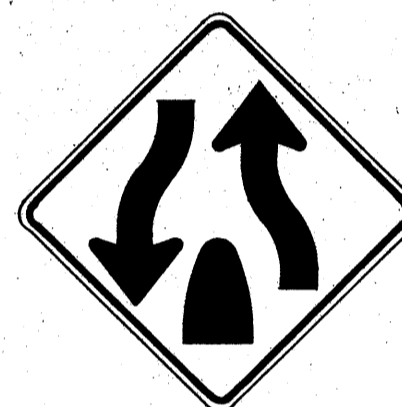
W5-2 30"x30"
W5-2-A 36"x36"



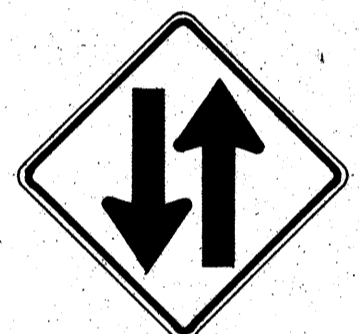
W5-3 36"x36"



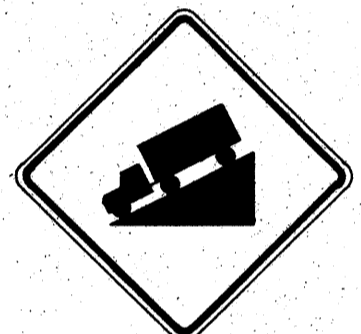
W6-1 36"x36"
24"x18"
DIVIDED HIGHWAY



W6-2 36"x36"
24"x18"
DIVIDED HIGHWAY ENDS



W6-3 30"x30"
24"x18"
TWO WAY TRAFFIC
W6-3-A 36"x36"
24"x18"
W6-3-B 48"x48"
24"x18"



W7-1 30"x30"
24"x18"
HILL
W7-1-A 36"x36"
24"x18"



W7-2 24"x18"



W8-1 30"x30"
W8-1-A 36"x36"



W8-2 30"x30"
W8-2-A 36"x36"



W8-3 30"x30"
W8-3-A 36"x36"



W8-4 30"x30"
W8-4-A 36"x36"



W8-5 30"x30"
24"x18"
SLIPPERY WHEN WET
W8-5-A 36"x36"
24"x18"



W9-1(R) 30"x30"
W9-1(R)-A 36"x36"
W9-1(R)-B 48"x48"



W9-2(L) 36"x36"
W9-2(L)-A 48"x48"



W10-1 36" Diameter



W11-1 30"x30"
24"x18"
BIKE XING
W11-1-A 36"x36"
24"x18"



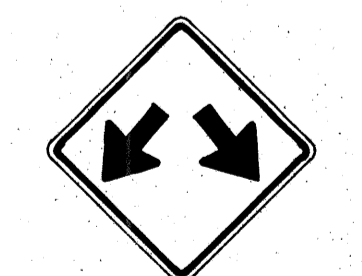
W11-2 30"x30"
24"x18"
PED XING
W11-2-A 36"x36"
24"x18"



W11-4 30"x30"
24"x18"
CATTLE XING
W11-4-A 36"x36"
24"x18"



W11-5 30"x30"
24"x18"
FARM MACHINERY
W11-5-A 36"x36"
24"x18"



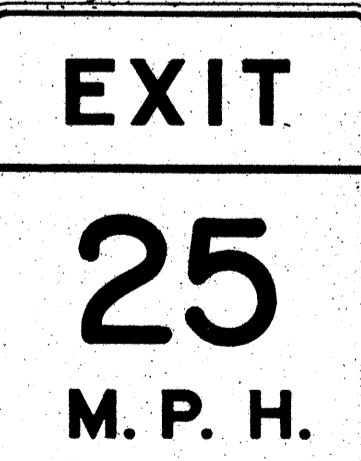
W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"



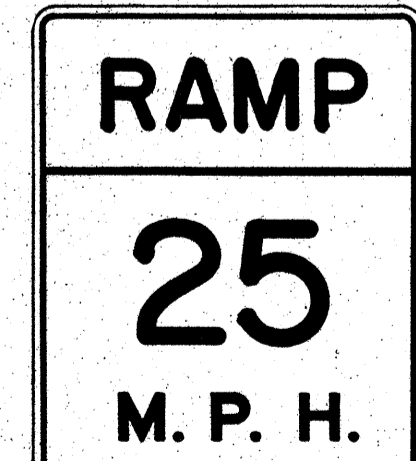
W12-2(12'-6") 36"x36"
24"x18"
LOW CLEARANCE



W13-1(25) 18"x18"
W13-1(25)-A 24"x24"



W13-2(25) 48"x60"



W13-3(25) 48"x60"



W14-1 30"x30"



W14-3 36"x48"x48"

GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
5. Signs prefixed with "CW" on the plans shall indicate orange and black construction signs.

APPROVAL RECOMMENDED:
E. Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:
W. D. ... 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.C.	3/20/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

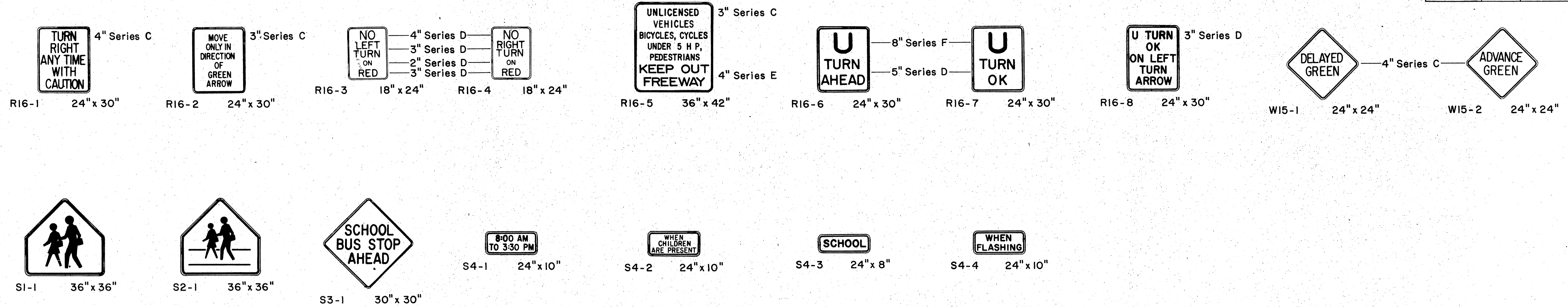
STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

SHEET No. OF SHEETS DT 102

DATE
DESIGNED BY
CHECKED BY
NO. 1

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



GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
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.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:
E. T. Tanaka
 TRAFFIC ENGINEER 3/17/12
 DATE

APPROVED:
Harold Zaksich
 ASSISTANT CHIEF, ENGINEERING 3-20-12
 DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 Approved 12-30-69	N.T.	3/20/12

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

NOT TO SCALE

SHEET No. OF SHEETS DT 103

C.O. 63

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

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



CW20-1a 48" x 48"



CW20-2d 48" x 48"



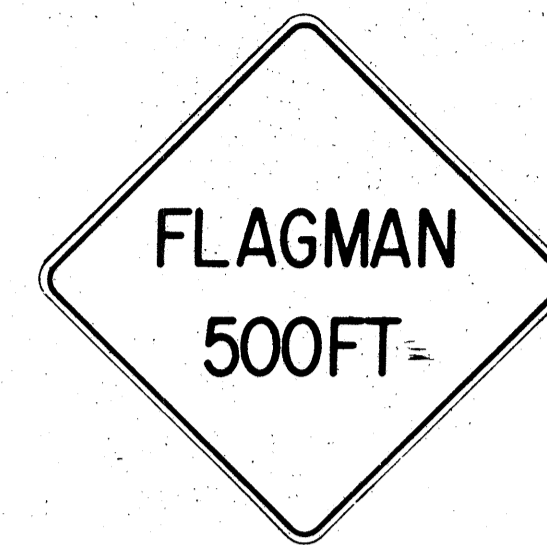
CW20-3b 48" x 48"



CW20-4d 48" x 48"



CW20-5d(L) 48" x 48"



CW20-7c 48" x 48"



CW21-1 30" x 30"



CW21-2 30" x 30"



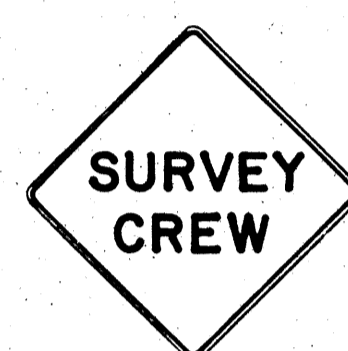
CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



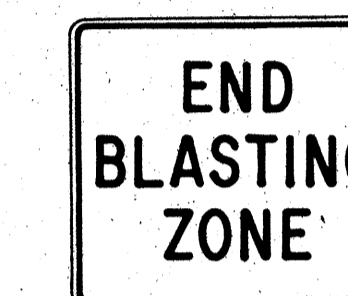
CW21-6 30" x 30"



CW22-1b 48" x 48"



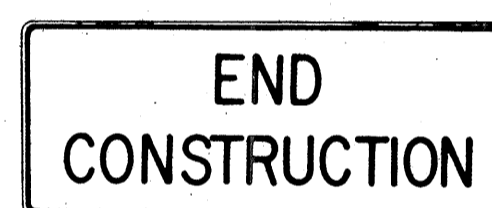
CW22-2 42" x 36"



CW22-3 42" x 36"



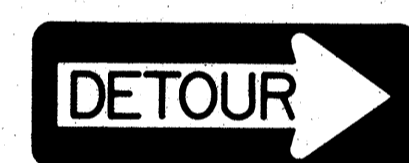
CG 20-1(5) 60" x 36"



CG 20-2 60" x 24"



CM4-9(R) 30" x 24"



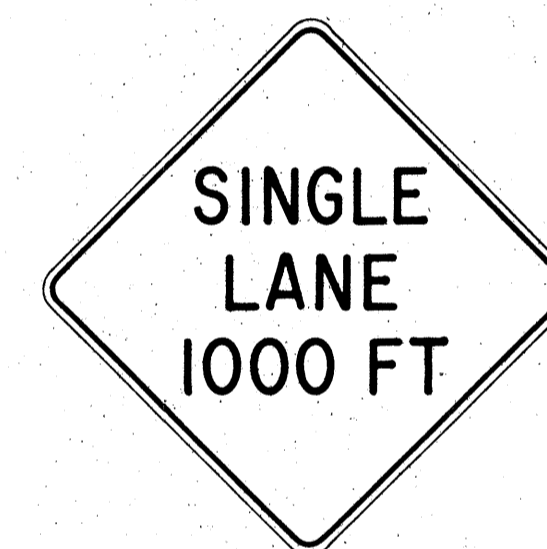
CM4-10(R) 48" x 18"



CG 20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
- All construction signs shall be reflectorized unless otherwise specified.
- All construction signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- For "CW" series signs, suffixes a,b,c and d are as follows:
a-1500 FT, b-1000 FT,
c-500 FT and d-AHEAD.

APPROVAL RECOMMENDED:
Eishi Tanaka 3/21/12
TRAFFIC ENGINEER DATE

APPROVED:
Muhammad Saleh 3/23/12
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	HT	3/23/12

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

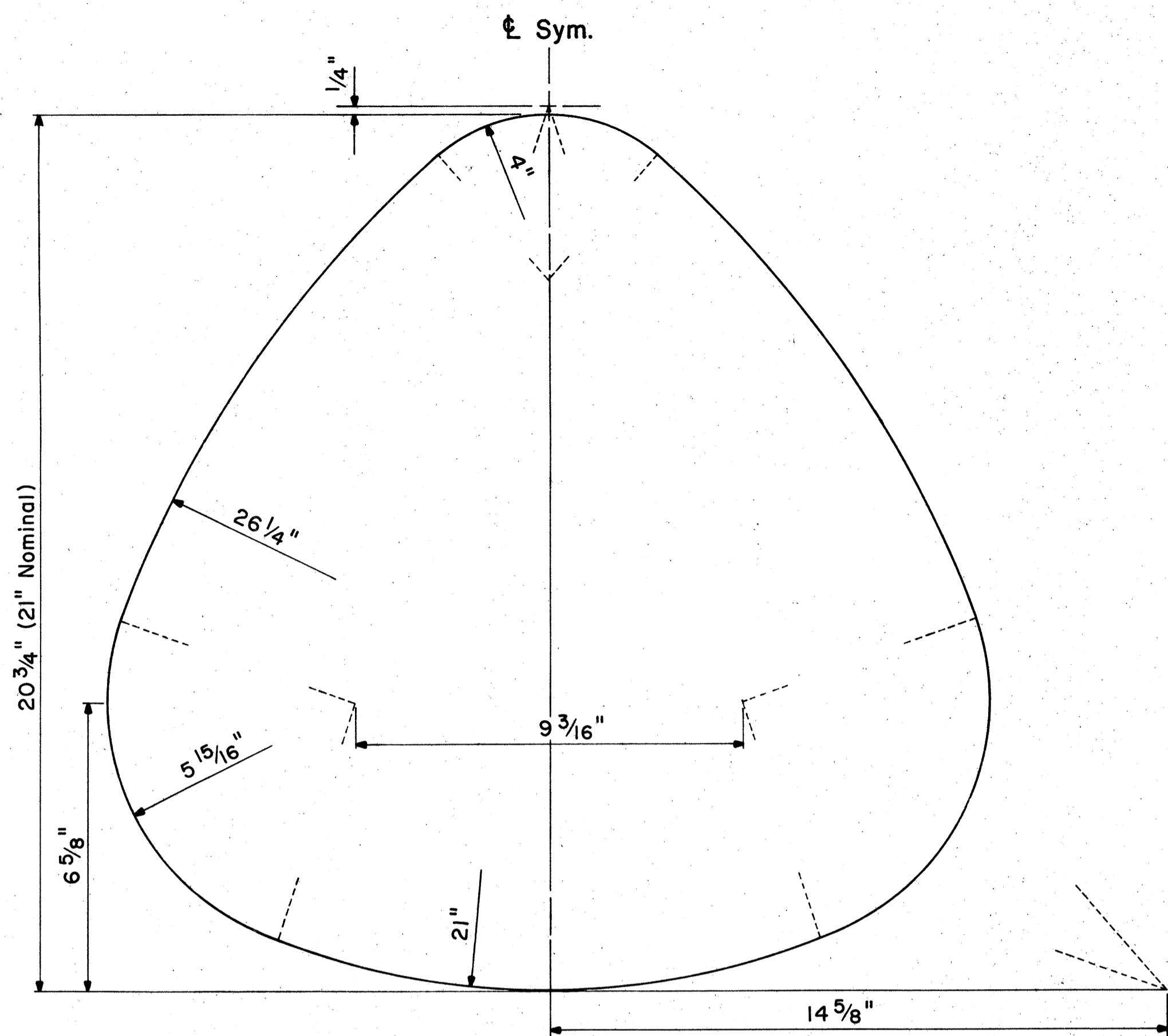
STANDARD DETAILS
CONSTRUCTION SIGNS

NOT TO SCALE

SHEET No. OF SHEETS DT 104

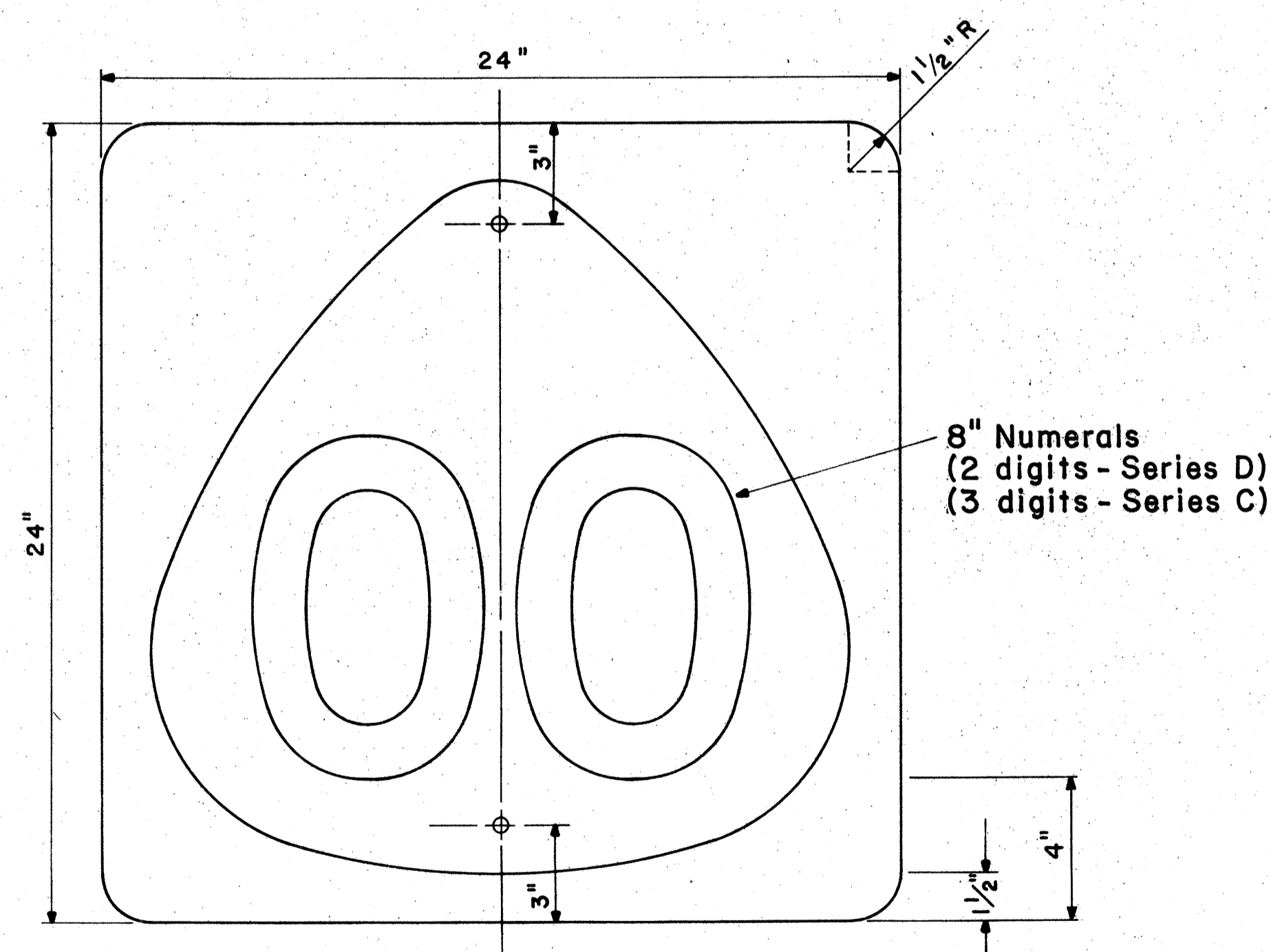
DATE	
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	

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



STATE ROUTE MARKER DETAIL

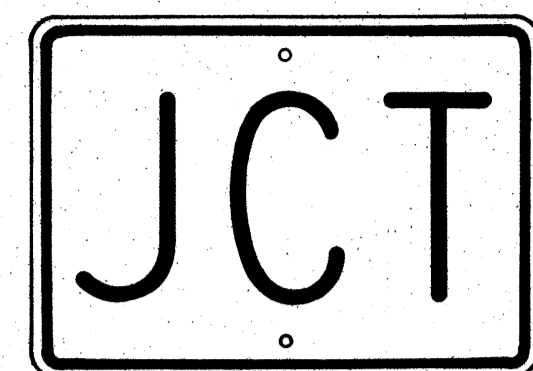
Not to Scale



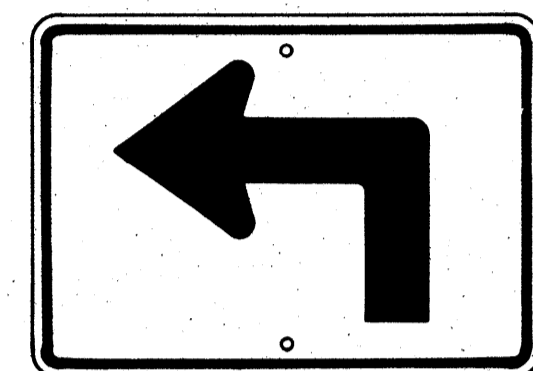
STATE ROUTE MARKER

MI-6(00) 24" x 24"

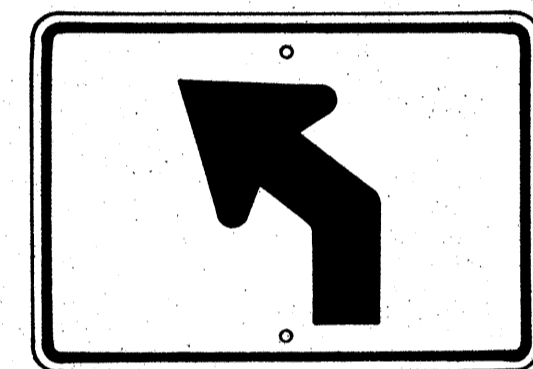
Scale: 1/4" = 1"



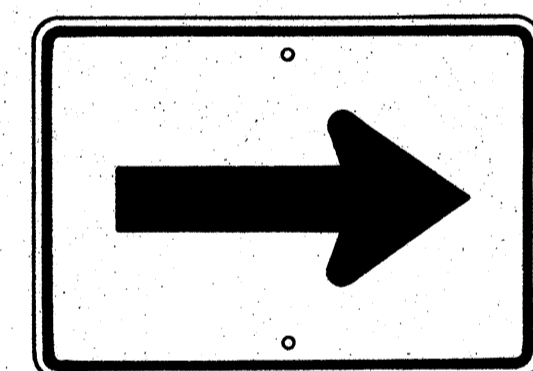
M2-1 21" x 15"



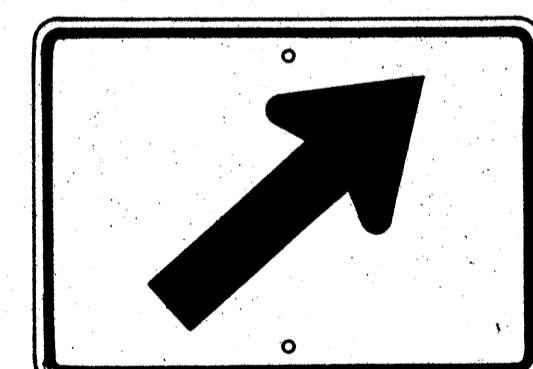
M5-1(L) 21" x 15"



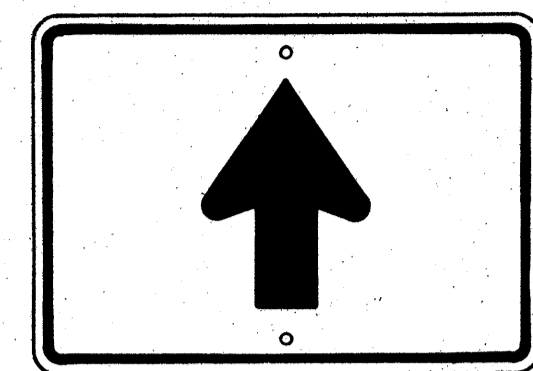
M5-2(L) 21" x 15"



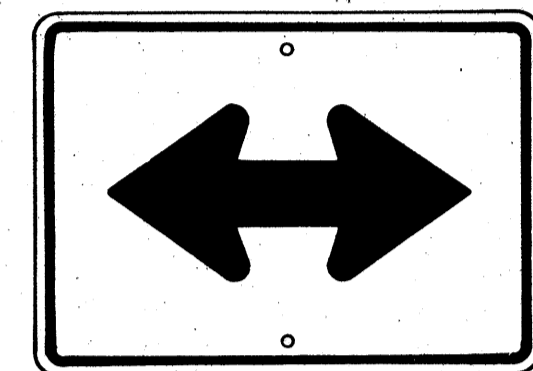
M6-1 21" x 15"



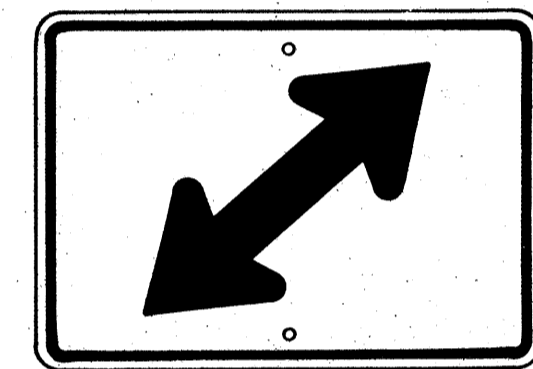
M6-2(R) 21" x 15"



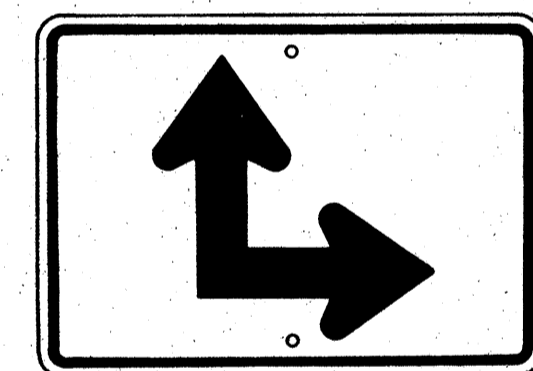
M6-3 21" x 15"



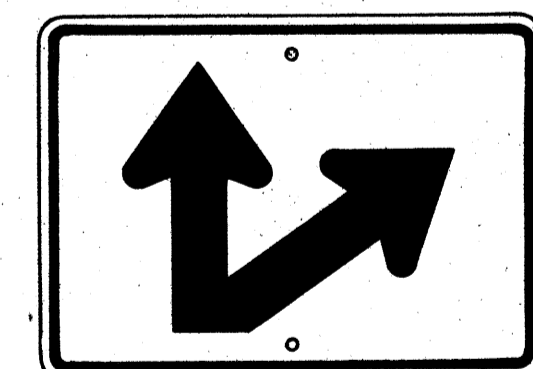
M6-4 21" x 15"



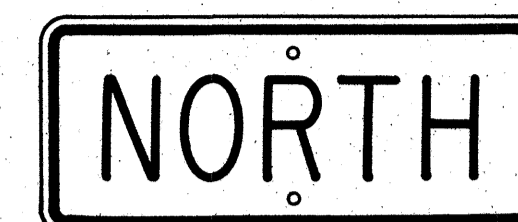
M6-5(R) 21" x 15"



M6-6(R) 21" x 15"



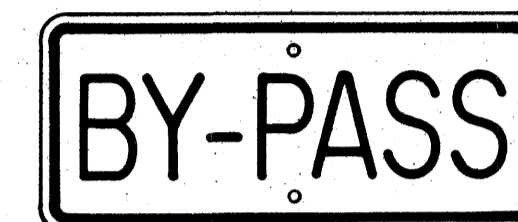
M6-7(R) 21" x 15"



M3-1 24" x 12"
M3-1-A 36" x 18"



M4-1 24" x 12"



M4-2 24" x 12"



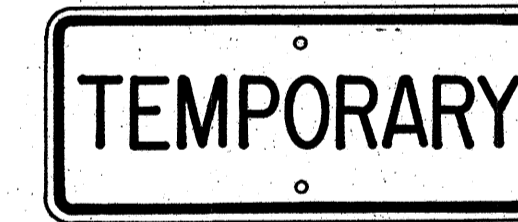
M4-3 24" x 12"



M4-5 24" x 12"



M4-6 24" x 12"



M4-7 24" x 12"



M4-8 24" x 12"

GENERAL NOTES

- Marker details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, "Standard Alphabets for Highway Signs," 1966 and "Standard Highway Signs."
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for marker message. (R) or (L) indicates right or left.
- Sign message of Cardinal Direction Marker (M3 series) shall be denoted by the following:
 - M3-1 : NORTH
 - M3-2 : EAST
 - M3-3 : SOUTH
 - M3-4 : WEST
- Markers prefixed with "IM" on the plans shall have a white legend on a blue background.

AUXILIARY MARKERS

Not to Scale

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 105 Approved 12-30-69	H.C.	6/1/72

APPROVAL RECOMMENDED:
Eishi Tanaka 6/6/72
 TRAFFIC ENGINEER DATE

APPROVED:
Shelton S. S. S. 6-1-72
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

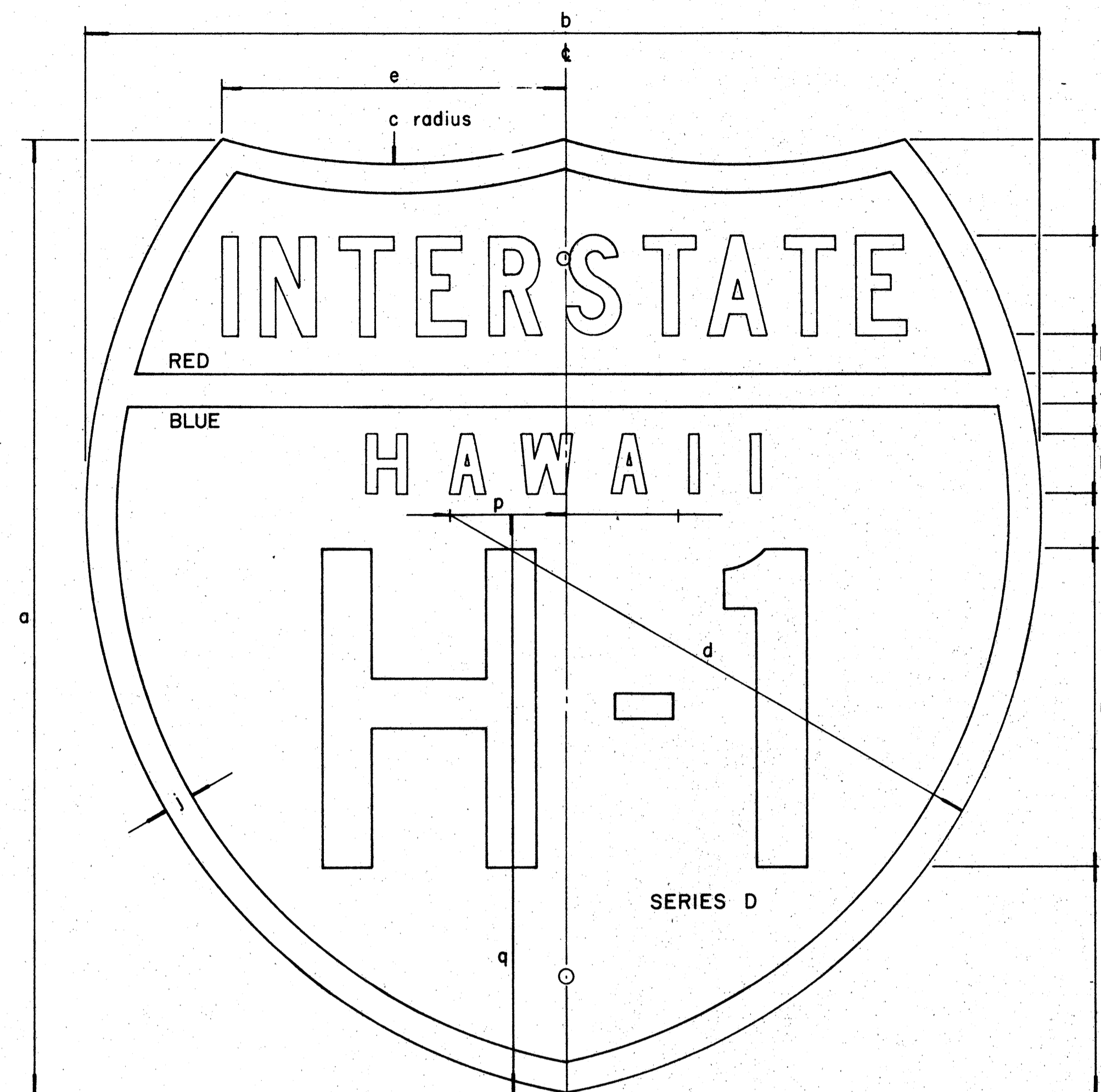
STANDARD DETAILS
STATE ROUTE MARKER
AND AUXILIARY MARKERS

Scale: As Shown

SHEET NO. OF SHEETS DT 105

DATE
 DRAWN BY
 TRACED BY
 DESIGNED BY
 CHECKED BY
 No.

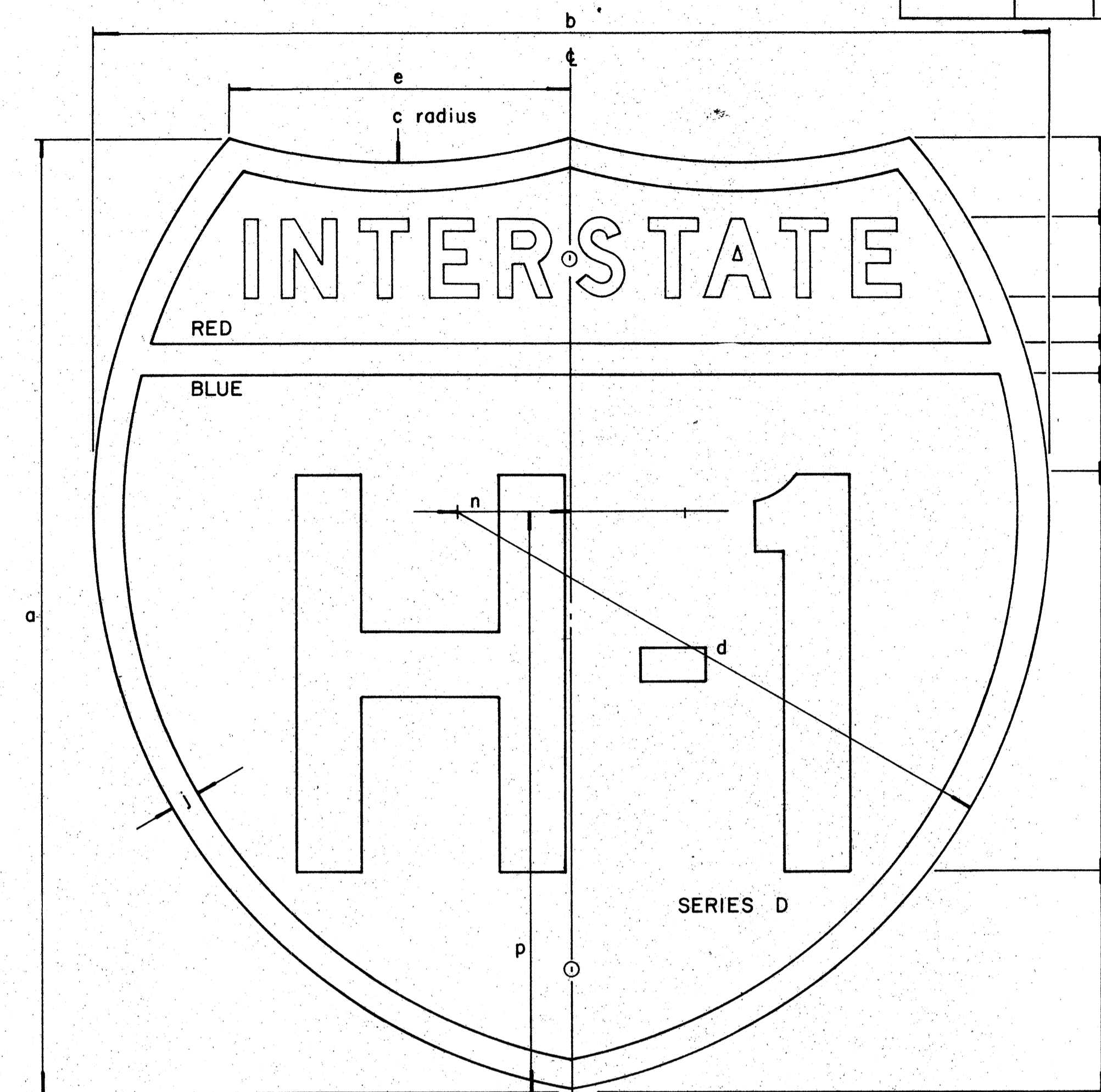
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



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, 1966
- 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.

APPROVAL RECOMMENDED:

Eishi Tanaka
TRAFFIC ENGINEER 12/29/69
DATE

APPROVED:

John E. ...
ASSISTANT CHIEF, ENGINEERING 12-29-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

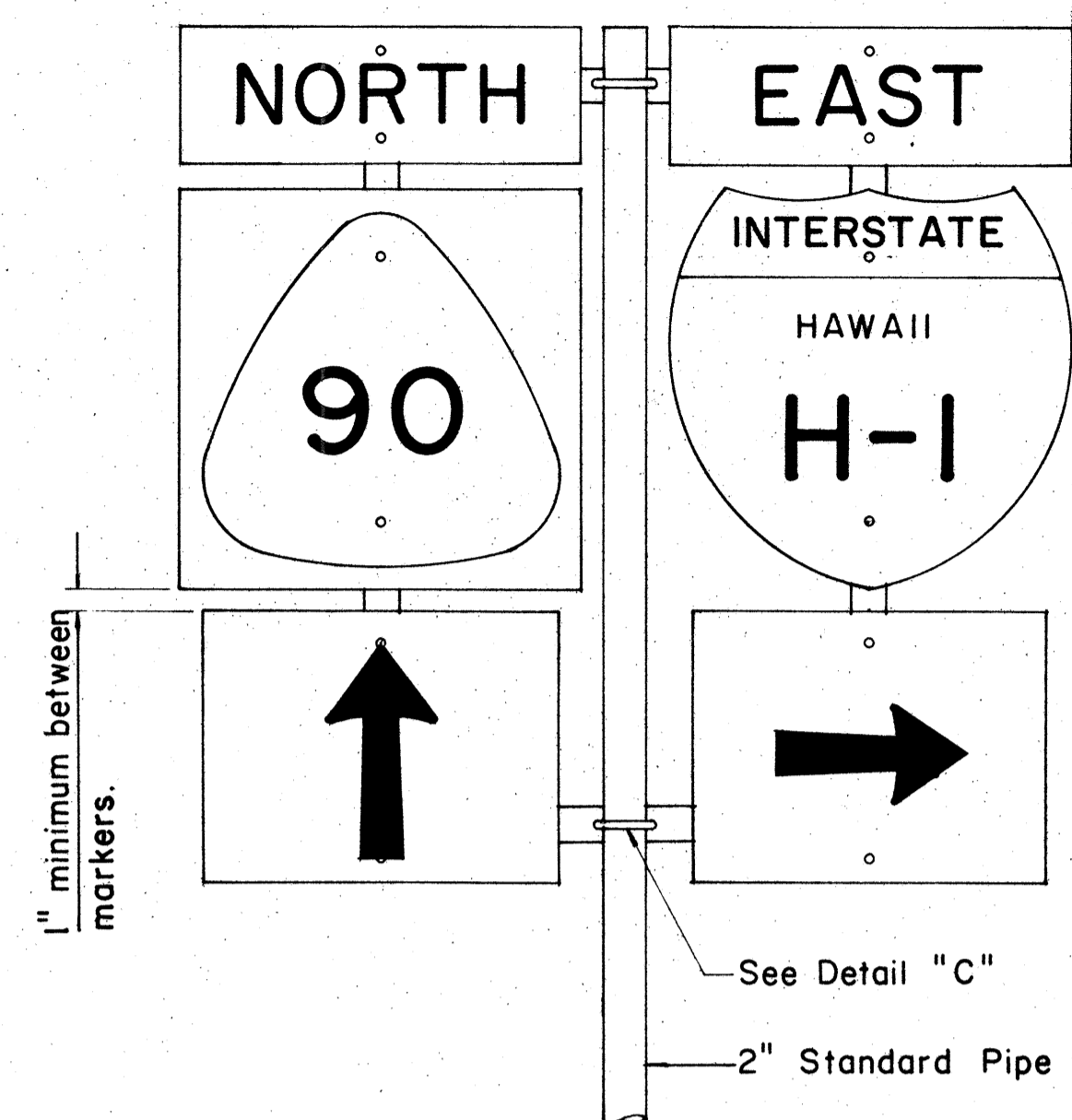
STANDARD DETAILS
INTERSTATE ROUTE MARKERS

SHEET No. OF SHEETS DT 106

C.O. 66

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

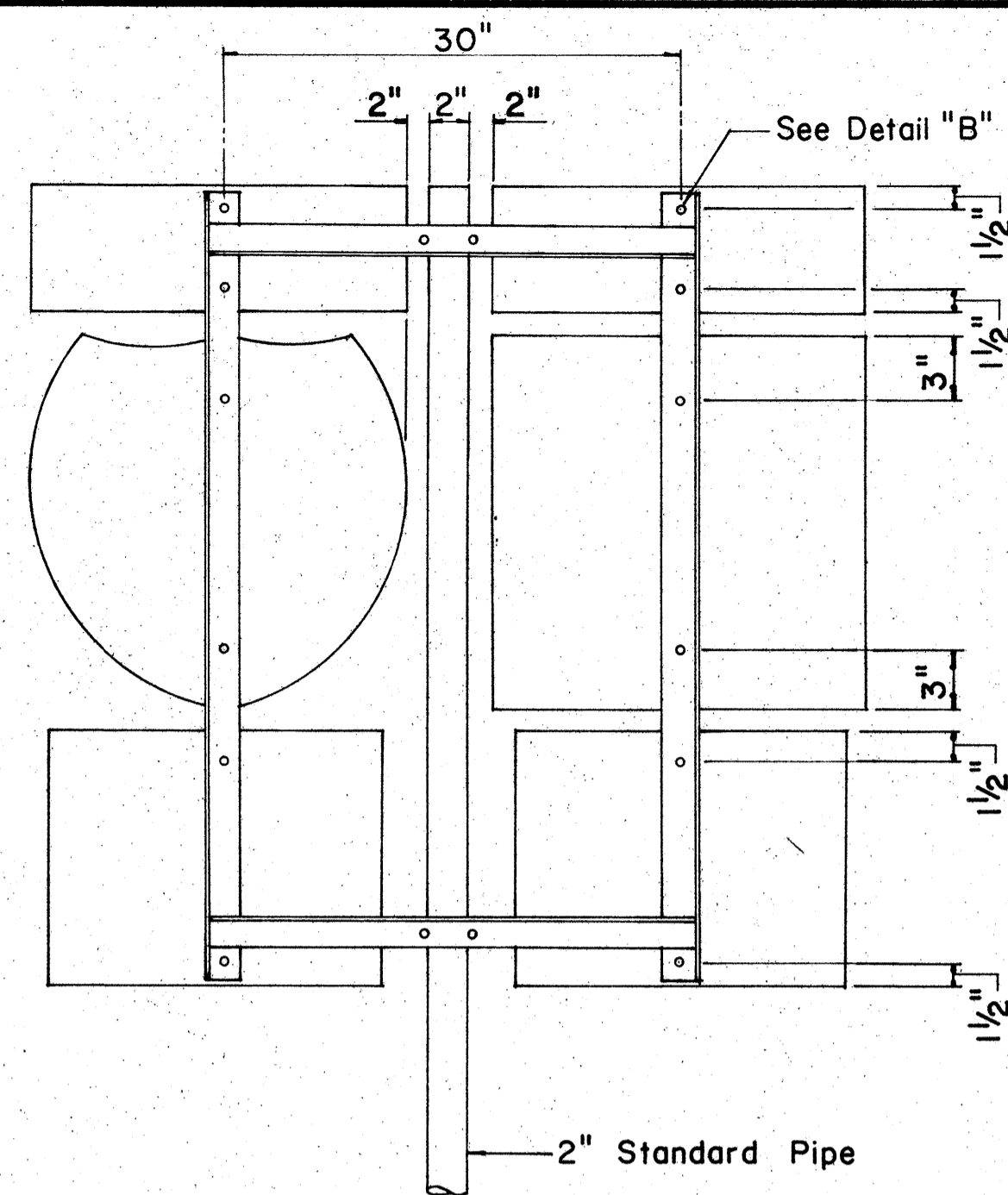
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



FRONT ELEVATION

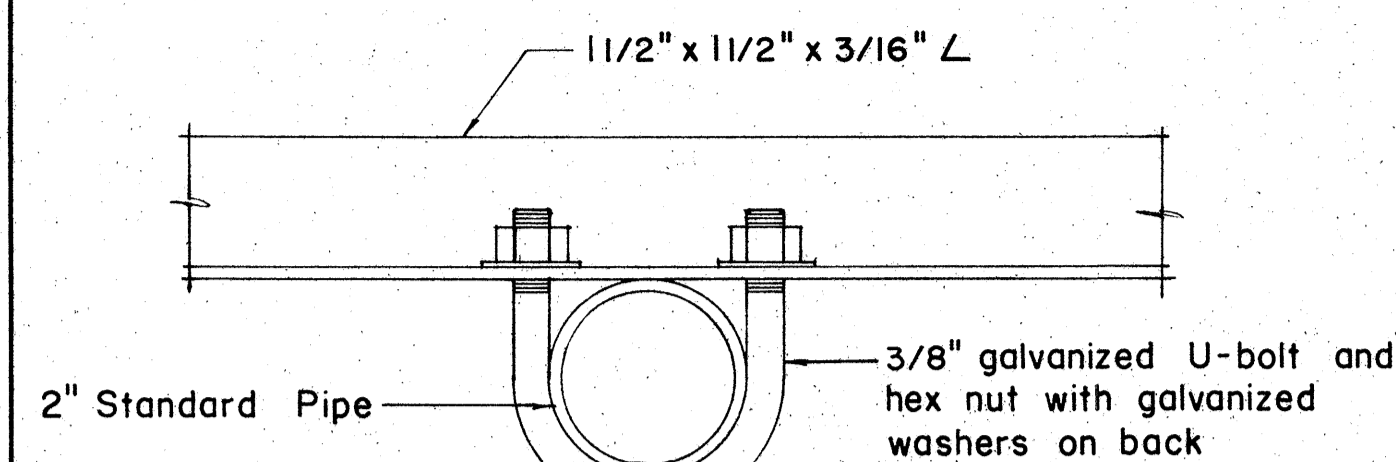
TYPE "B" ASSEMBLY

Not to Scale

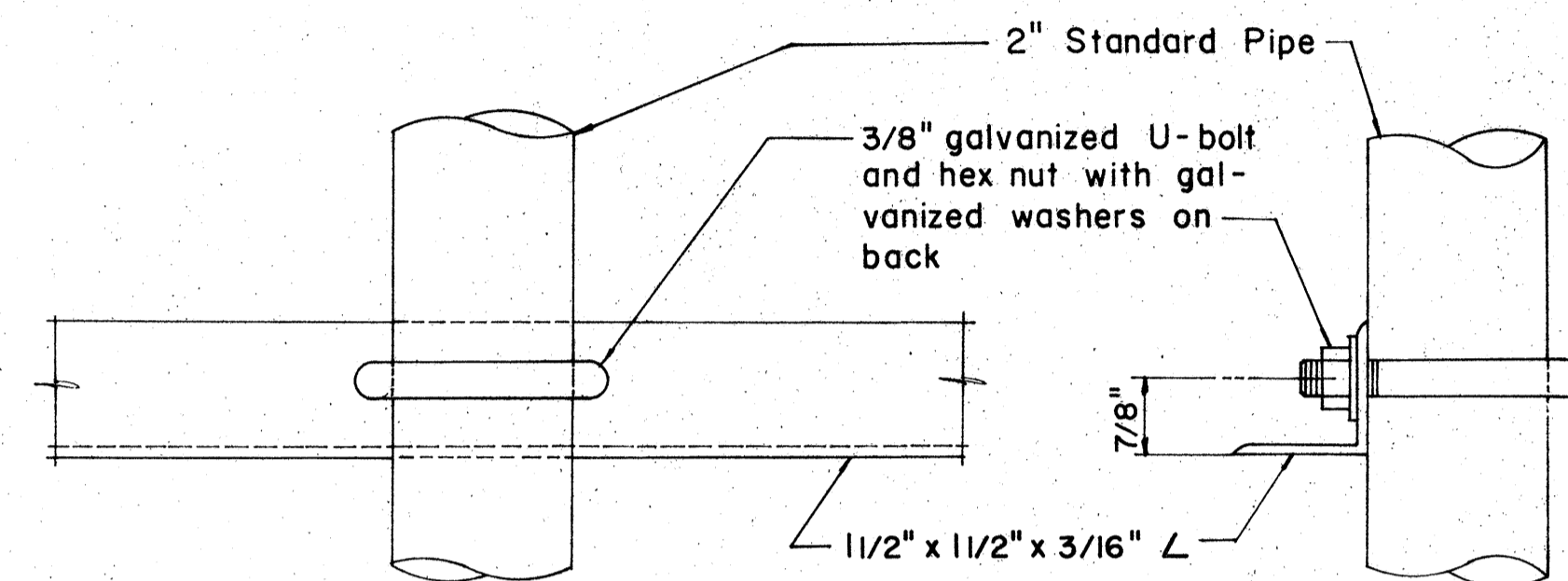


REAR ELEVATION

NOTE:
 1. Minimum clearance between markers shall be one inch. (Larger clearances shall be in multiples of one inch.)
 2. Pipe post for Type "A" & Type "B" Assembly shall be 2" Standard Pipe.



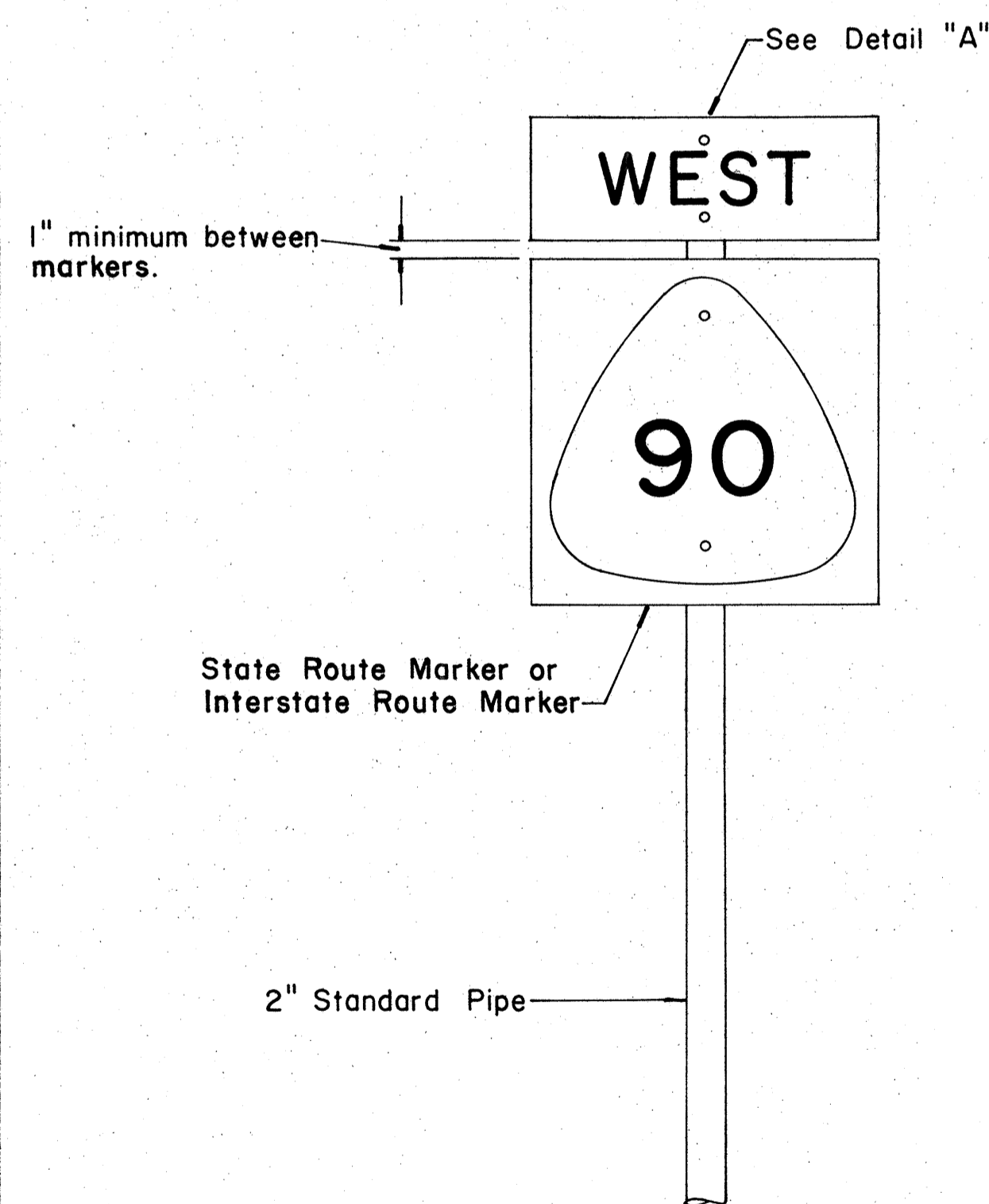
PLAN



FRONT ELEVATION

SIDE ELEVATION

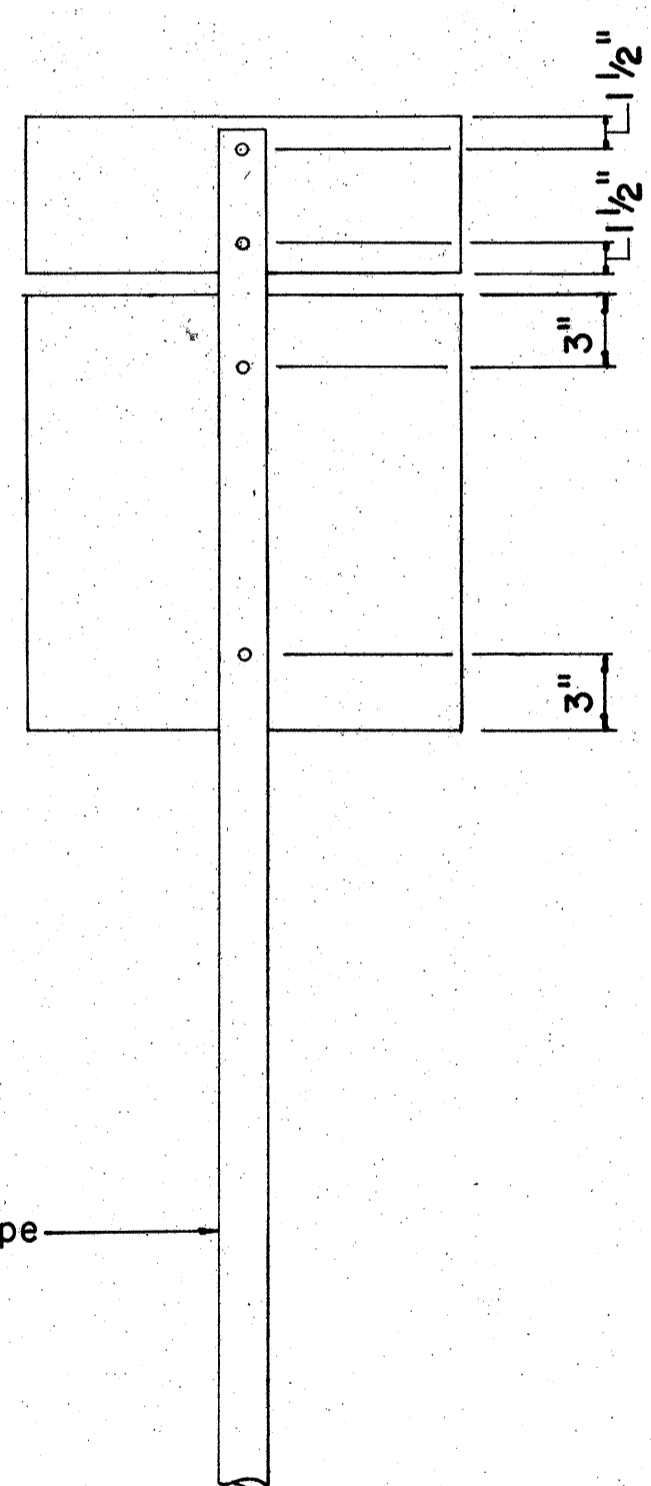
DETAIL "C"



FRONT ELEVATION

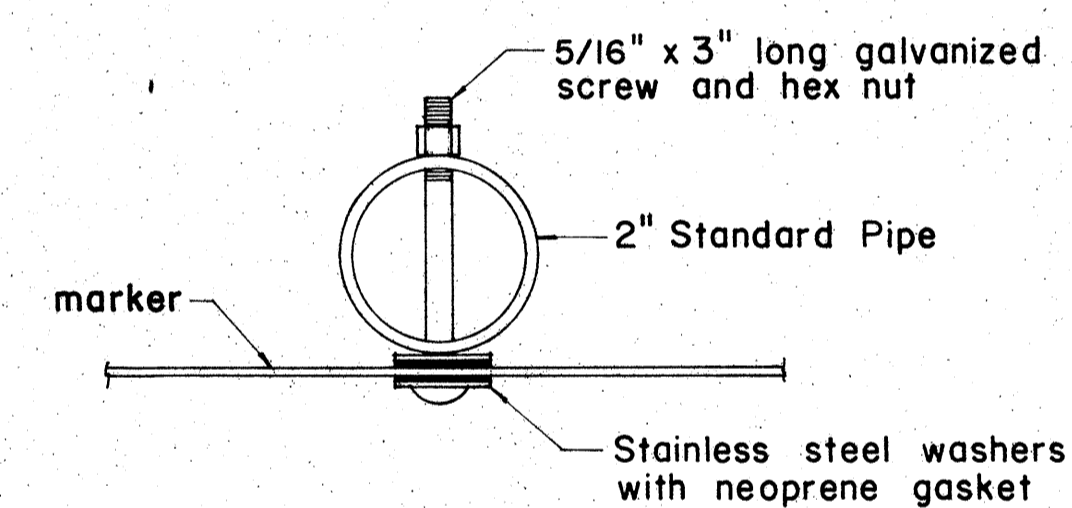
TYPE "A" ASSEMBLY

Not to Scale

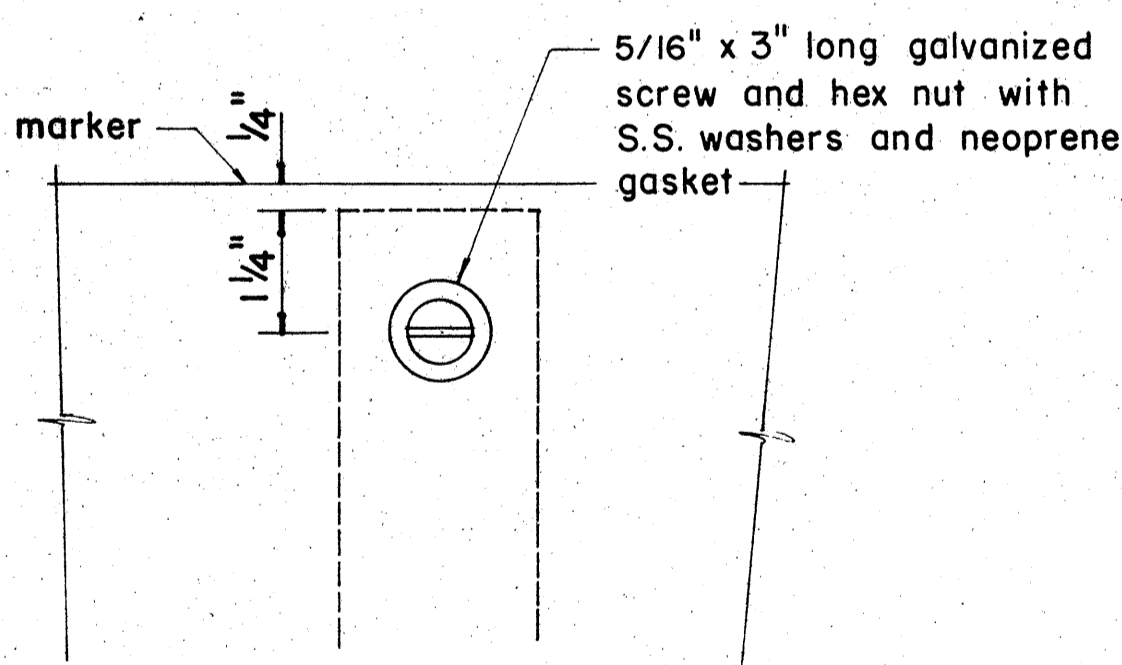


REAR ELEVATION

NOTE:
 For height and lateral location of Route Marker Assembly, see plan sheet DT 100.

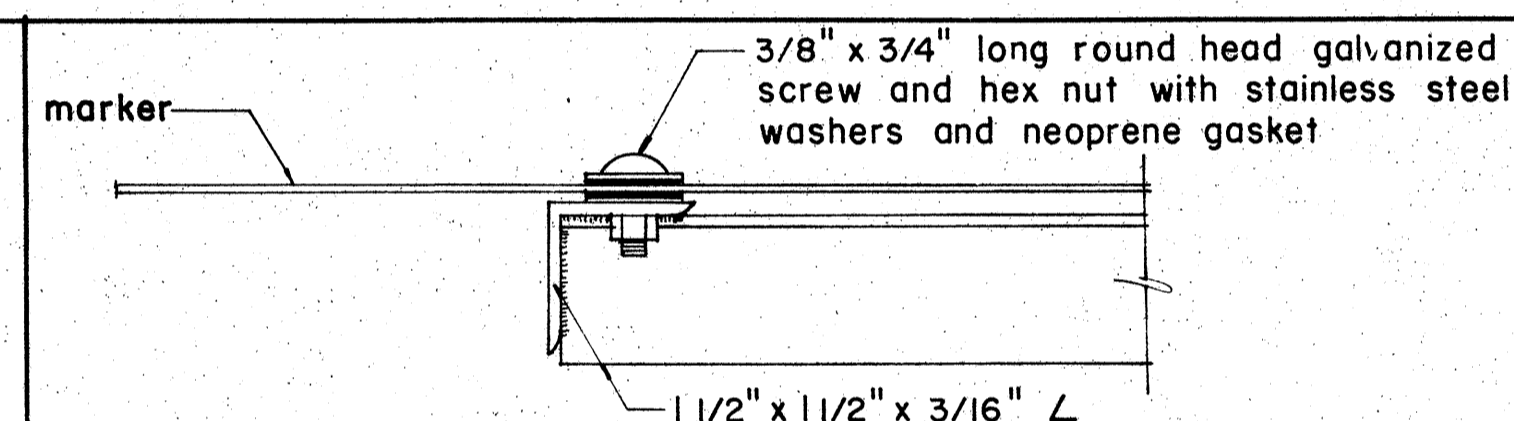


PLAN

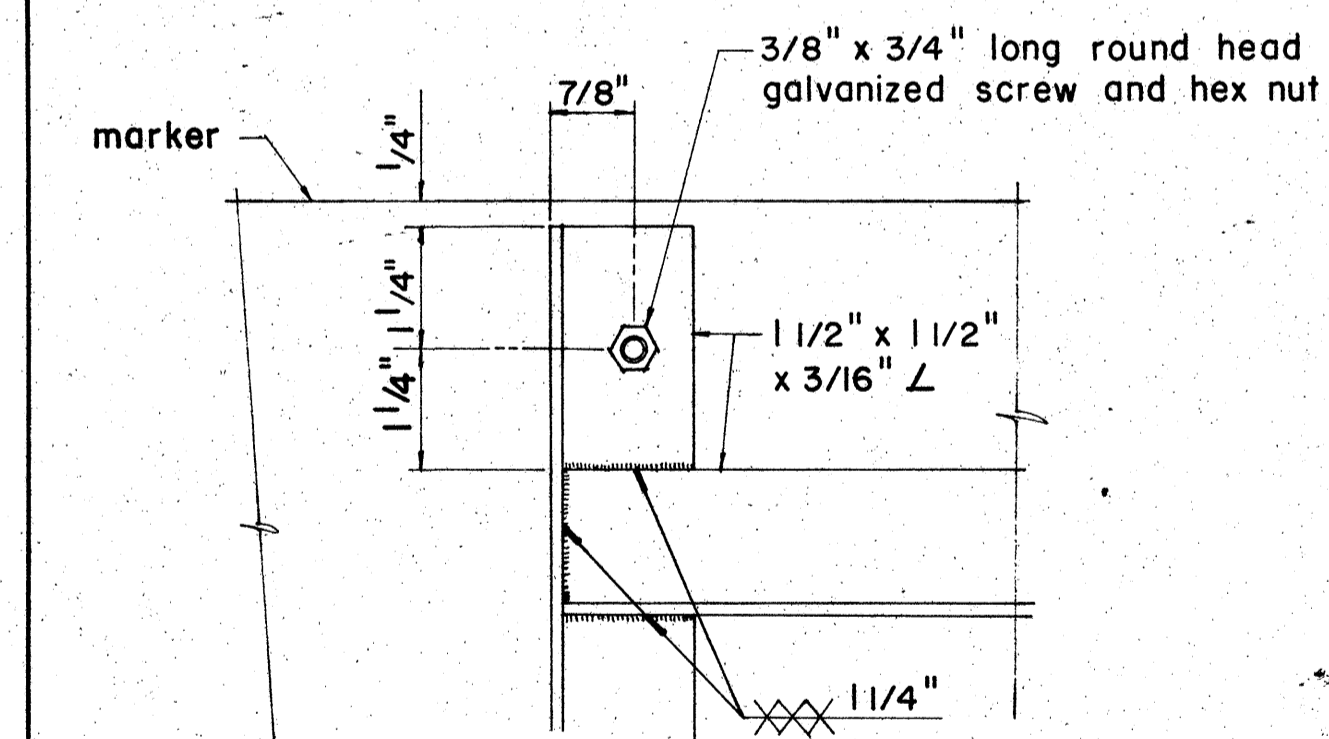


FRONT ELEVATION

DETAIL "A"

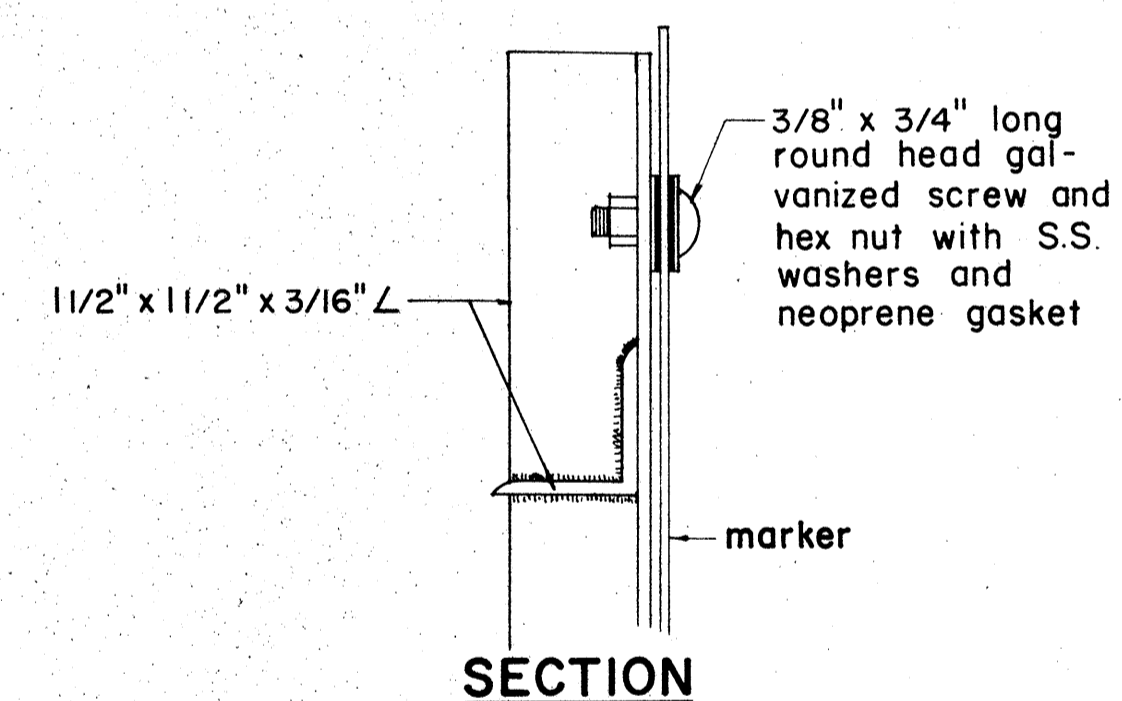


PLAN



ELEVATION

DETAIL "B"



SECTION

APPROVAL RECOMMENDED:
Etsuki Tanaka 12/29/69
 TRAFFIC ENGINEER DATE

APPROVED:
Shelton S. Sakai 12-30-69
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revisions to Route Marker Assemblies.	H.T.	6/1/72

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

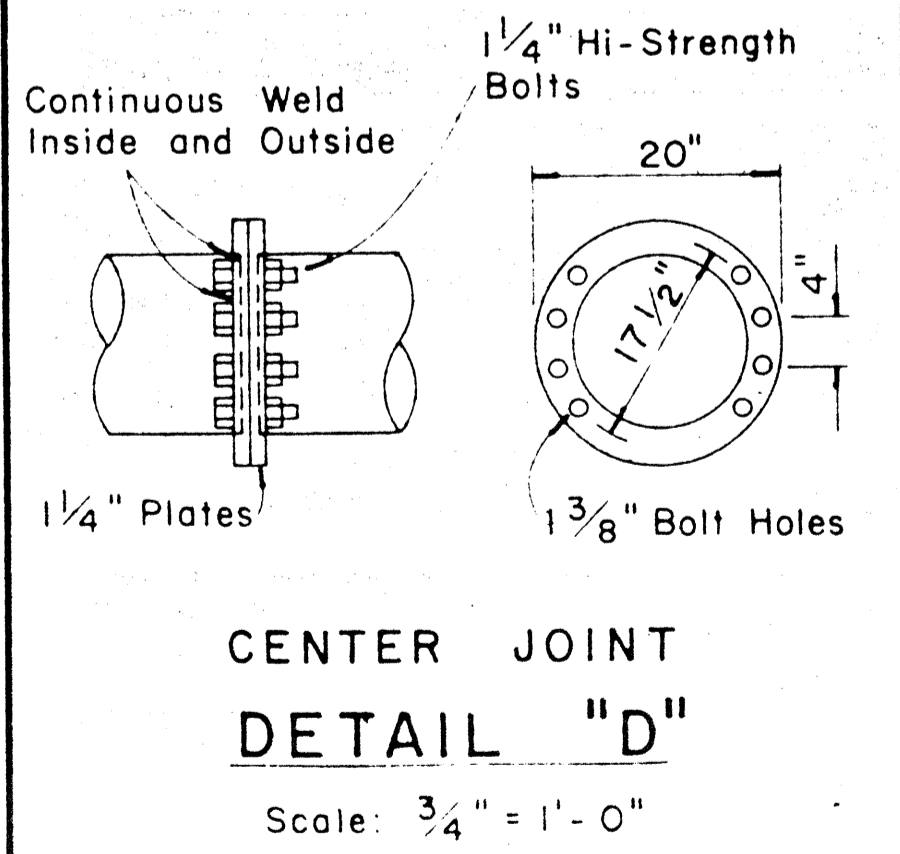
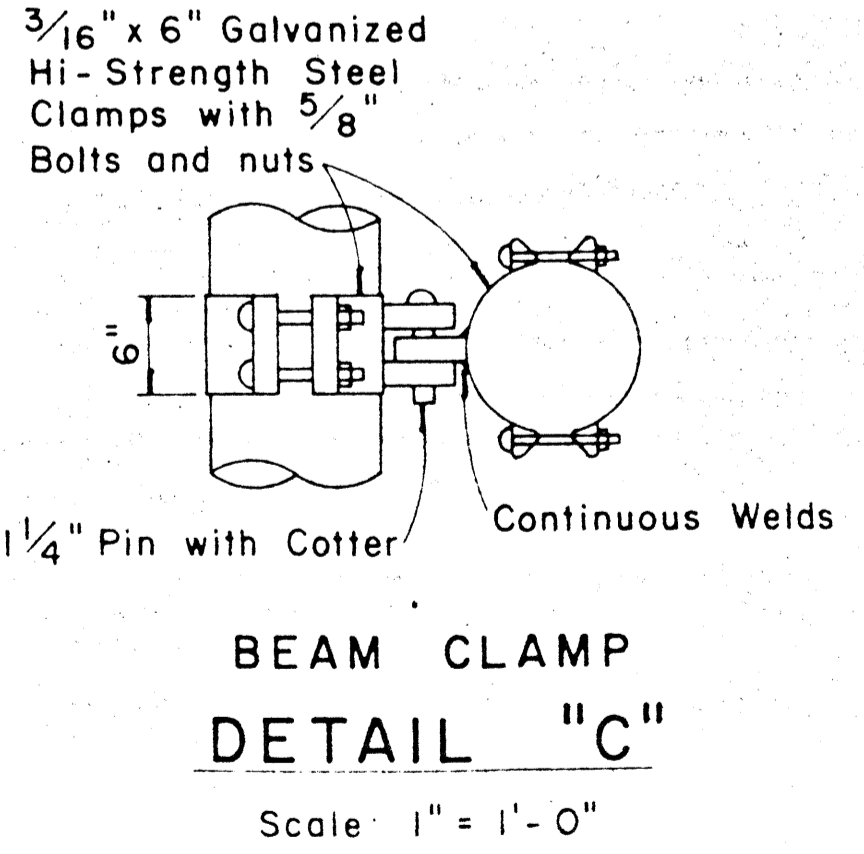
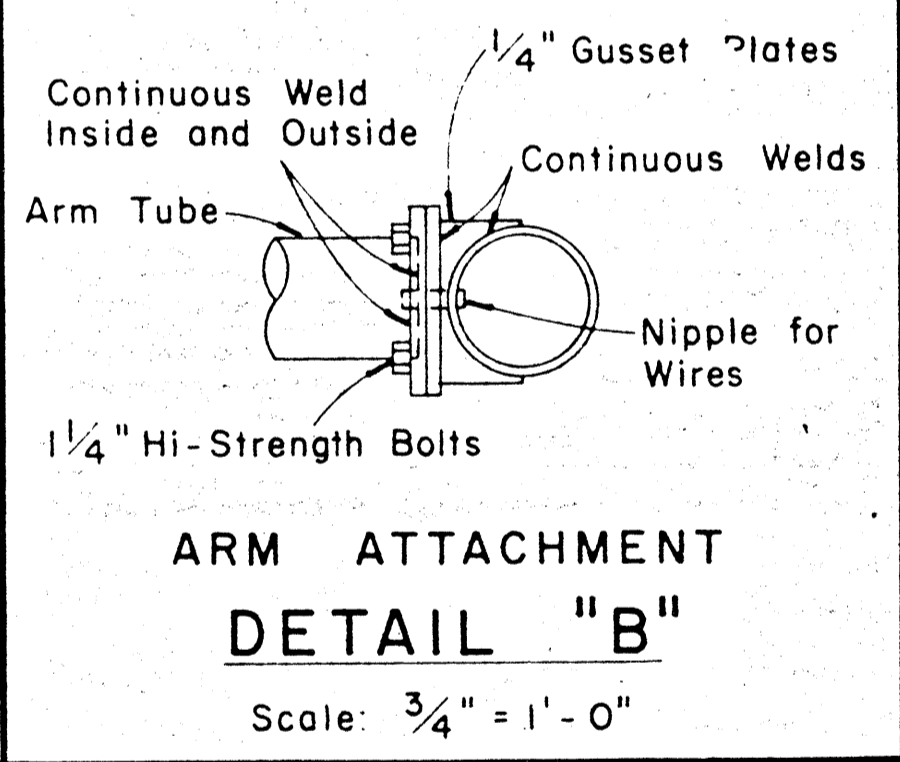
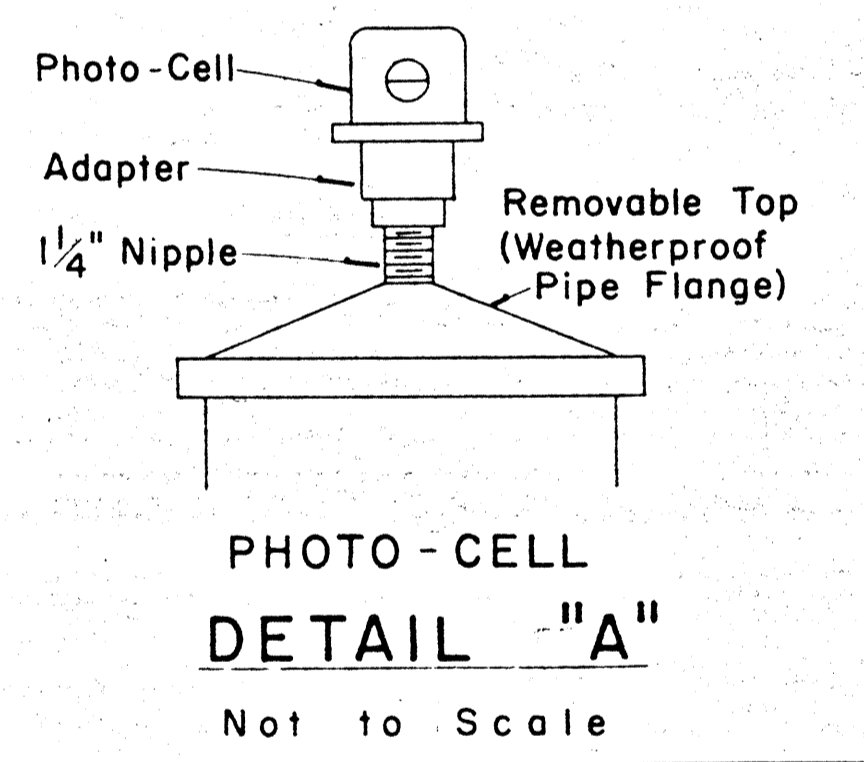
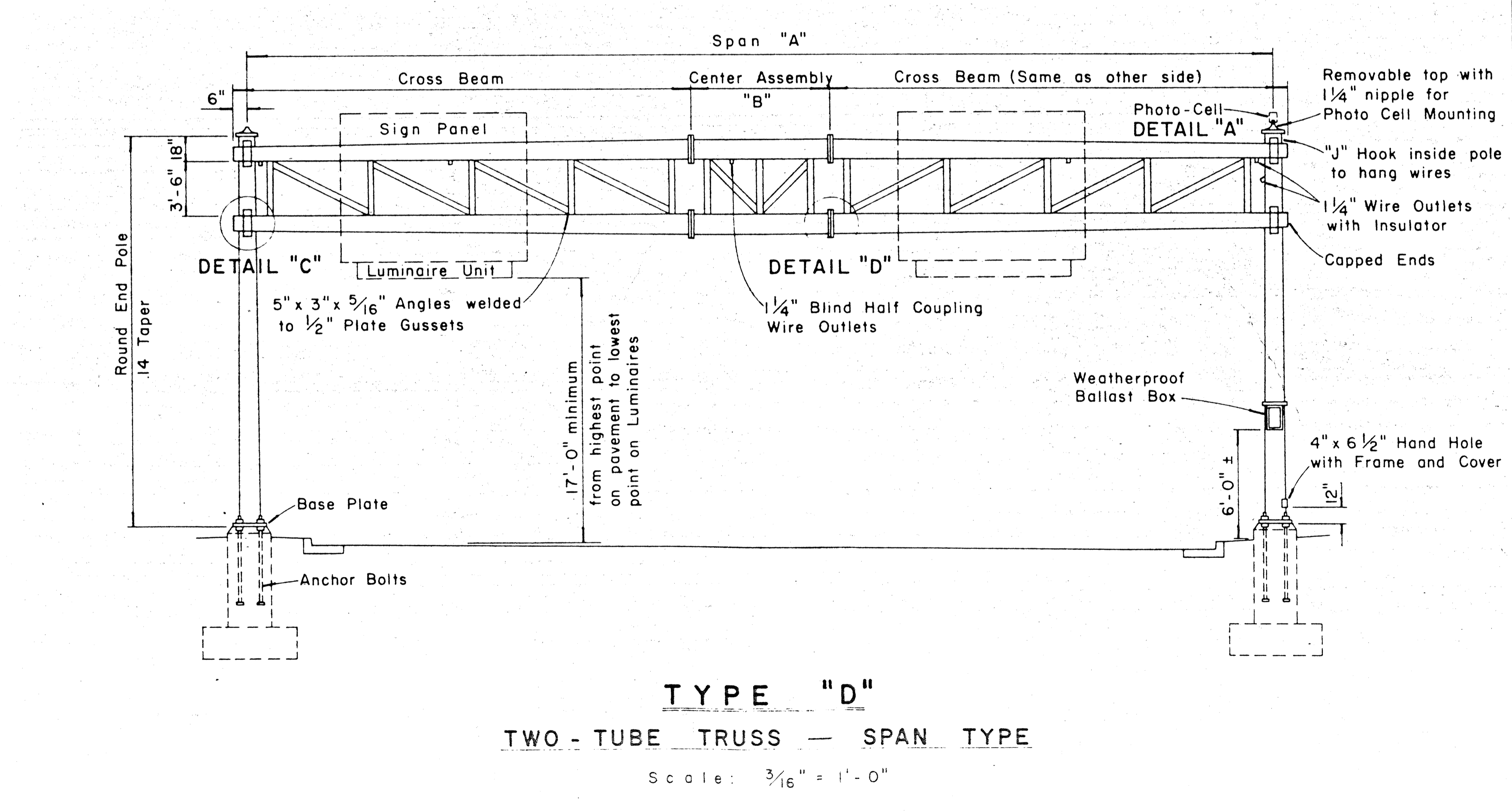
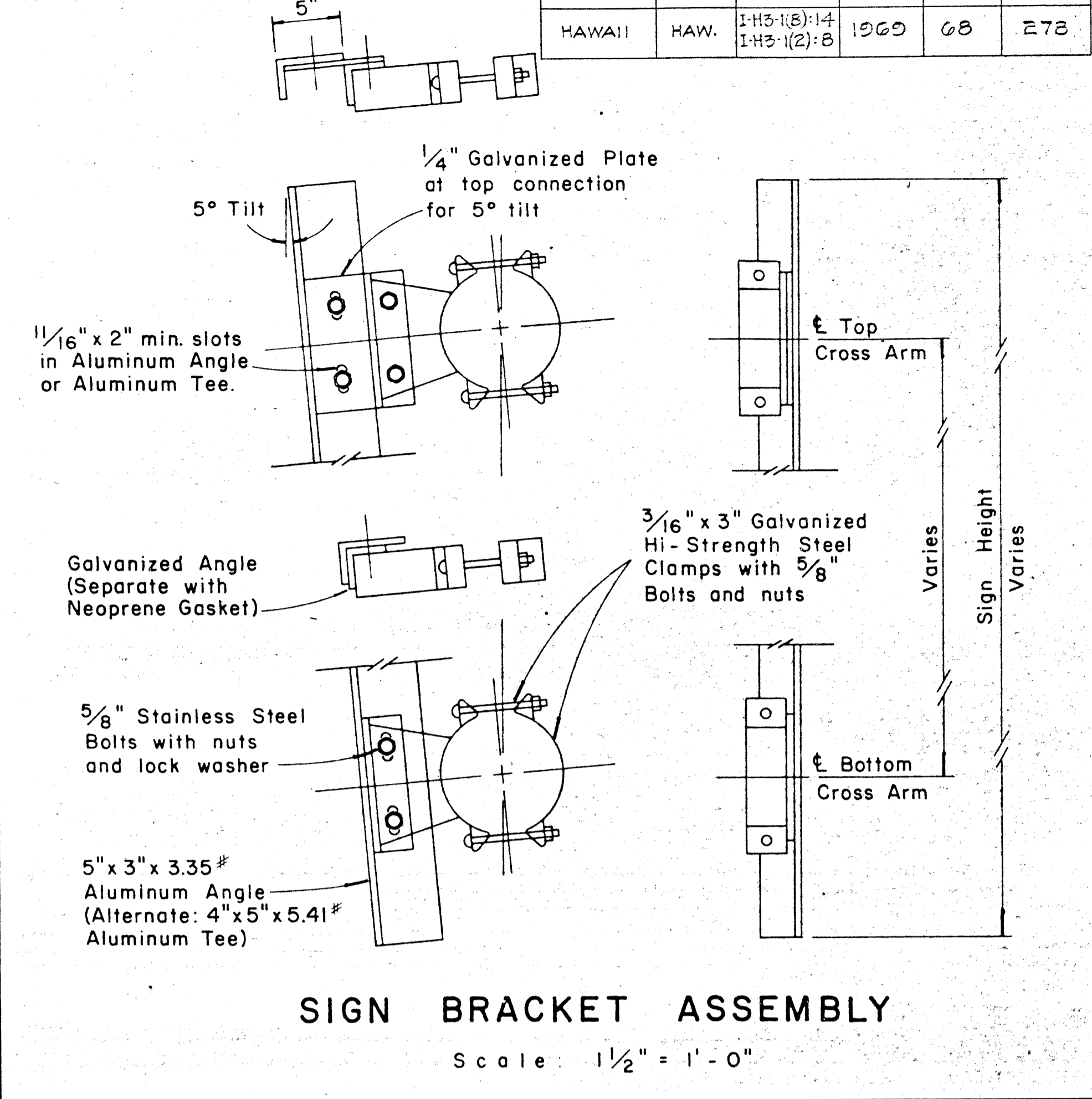
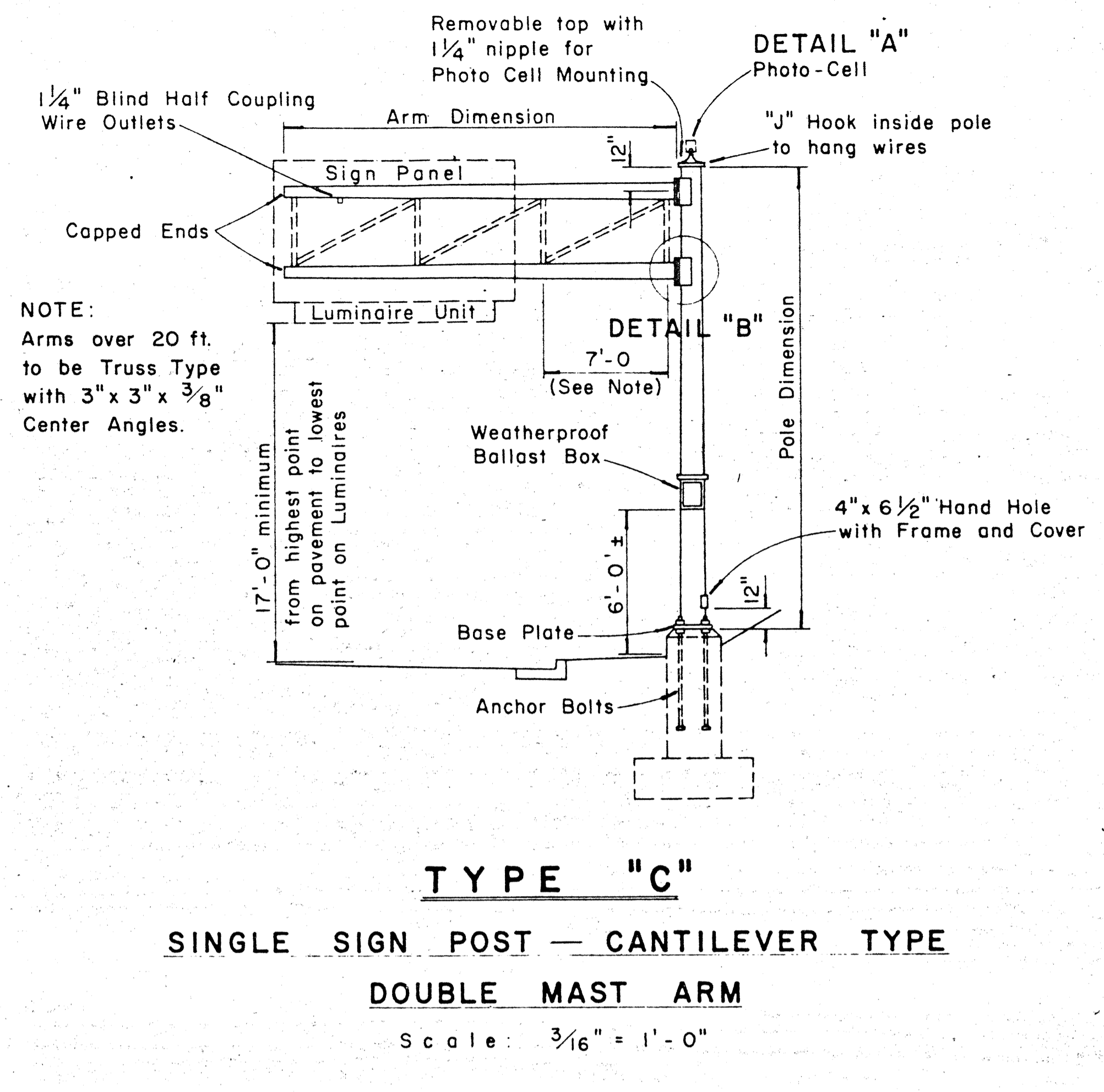
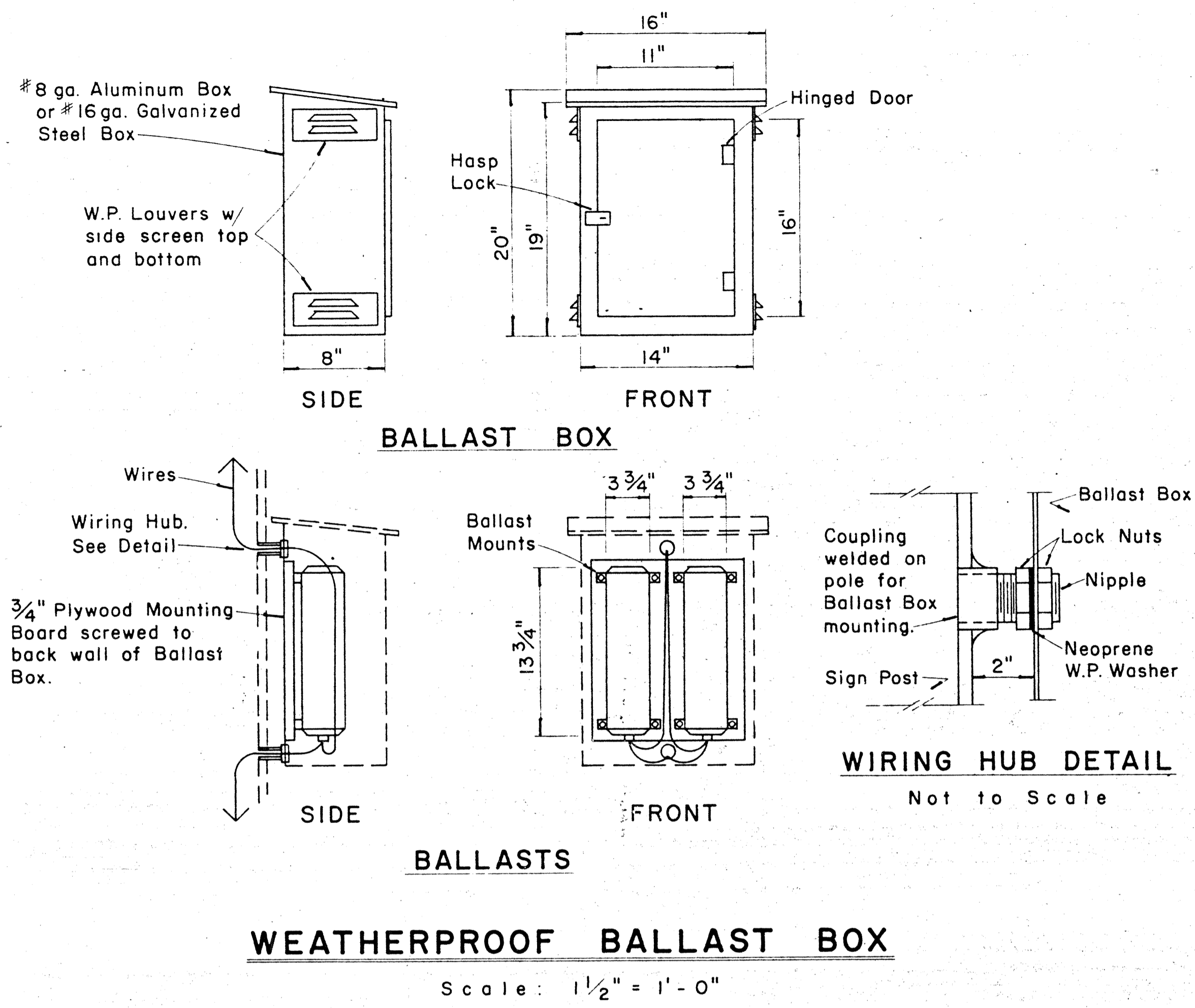
STANDARD DETAILS
ROUTE MARKER ASSEMBLIES

Scale: As Shown

SHEET No. OF SHEETS DT 107

DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 ORIGINAL PLAN _____
 NOTE BOOK _____
 No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1H3-(5)-14 1H3-(2)-8	1969	68	278



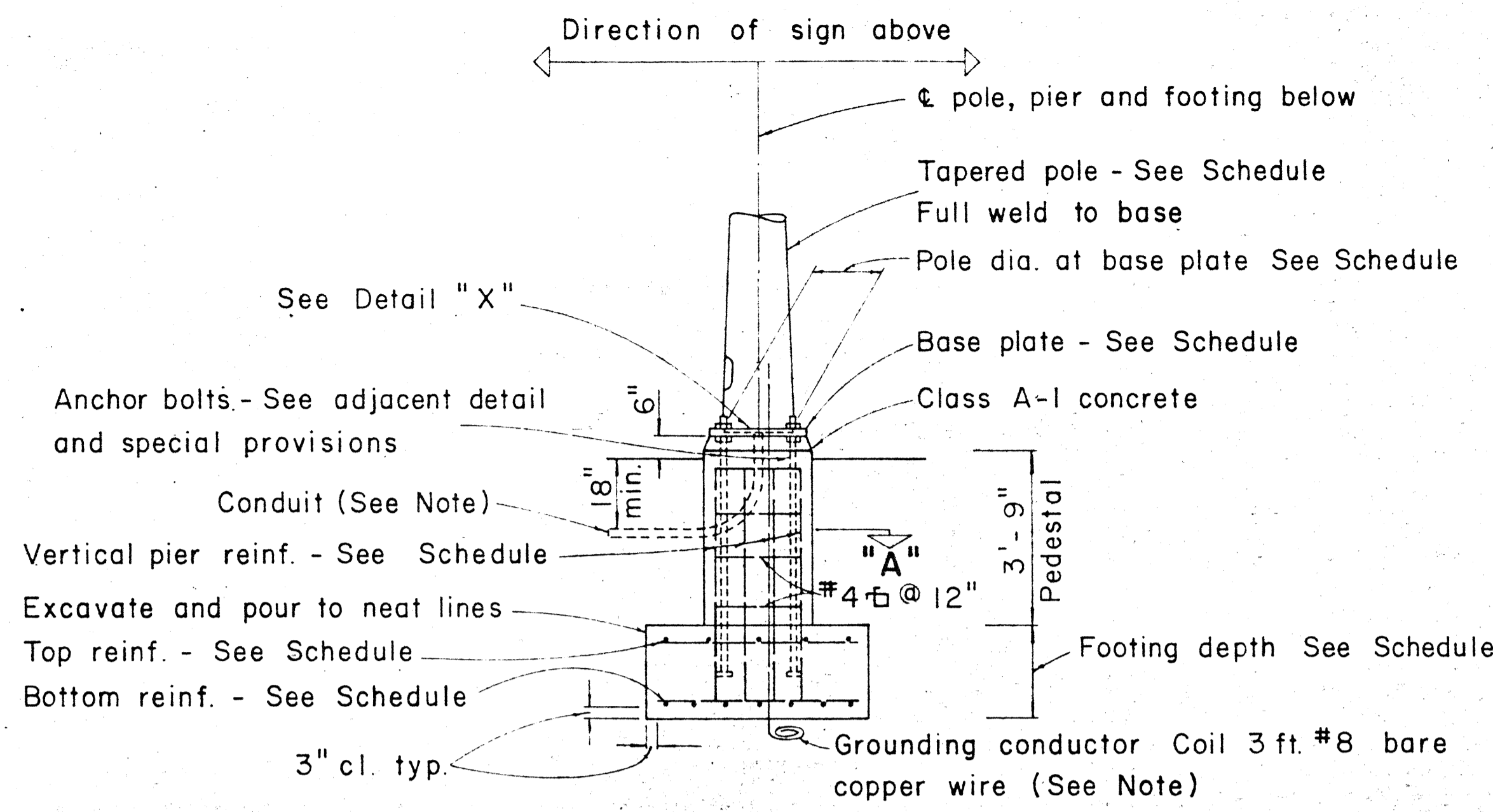
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
OVERHEAD SIGN SUPPORTS

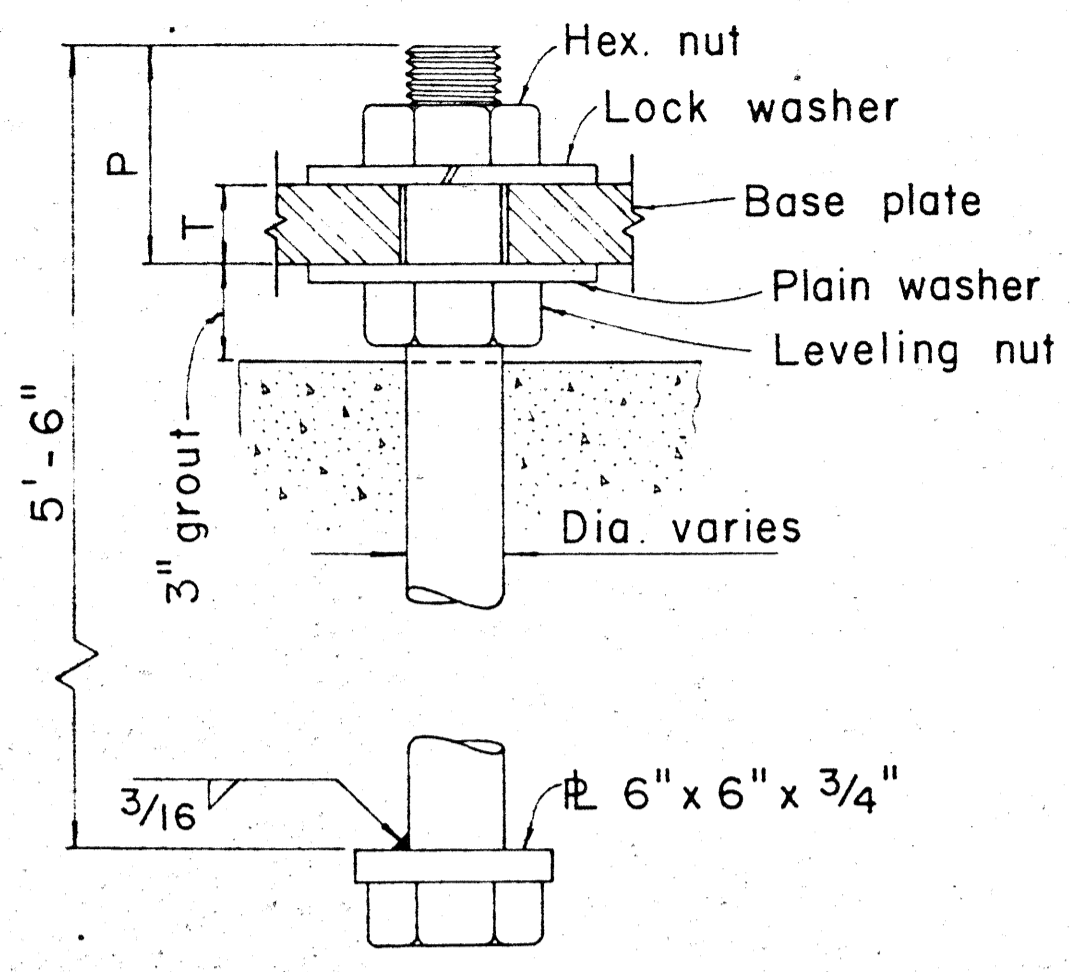
Scale As Shown
SHEET No. 20 OF 31 SHEETS

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

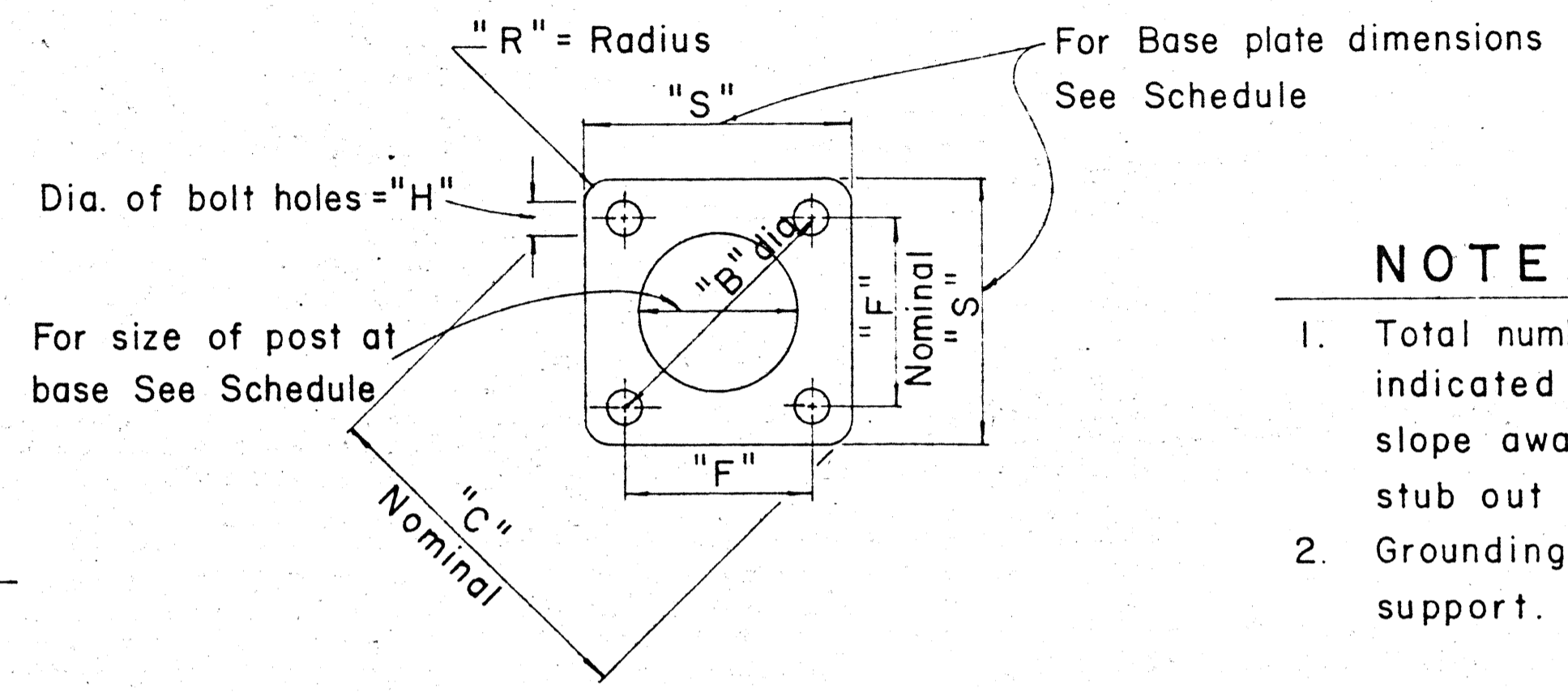
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HAWAII	HAW.	I-43-1(6)-14 I-43-1(2)-8	1969	69	278



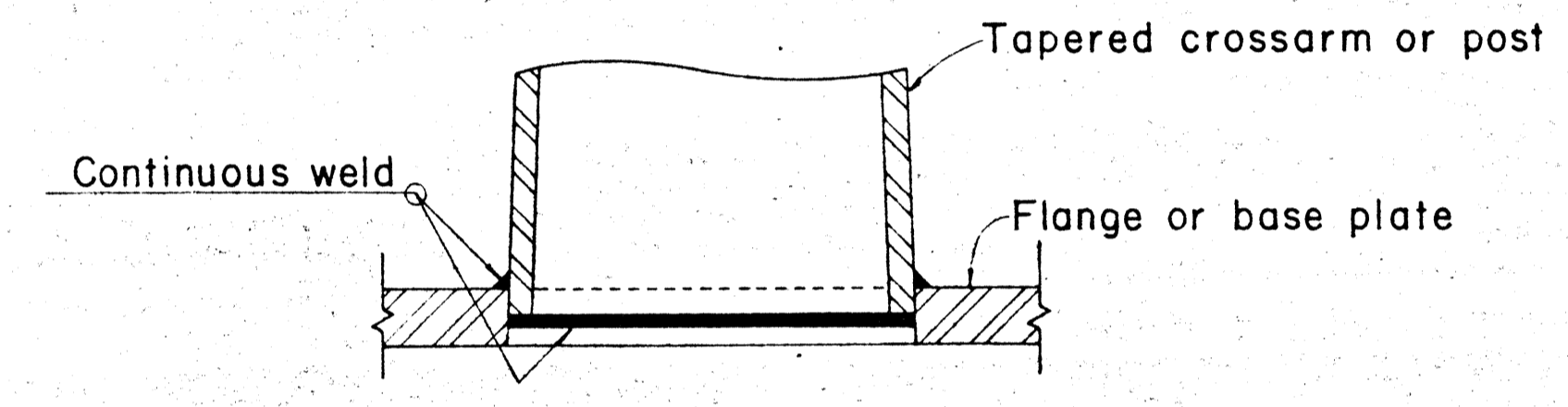
TYPICAL POLE FOUNDATION DETAIL



TYPICAL ANCHOR BOLT 4 REQ'D



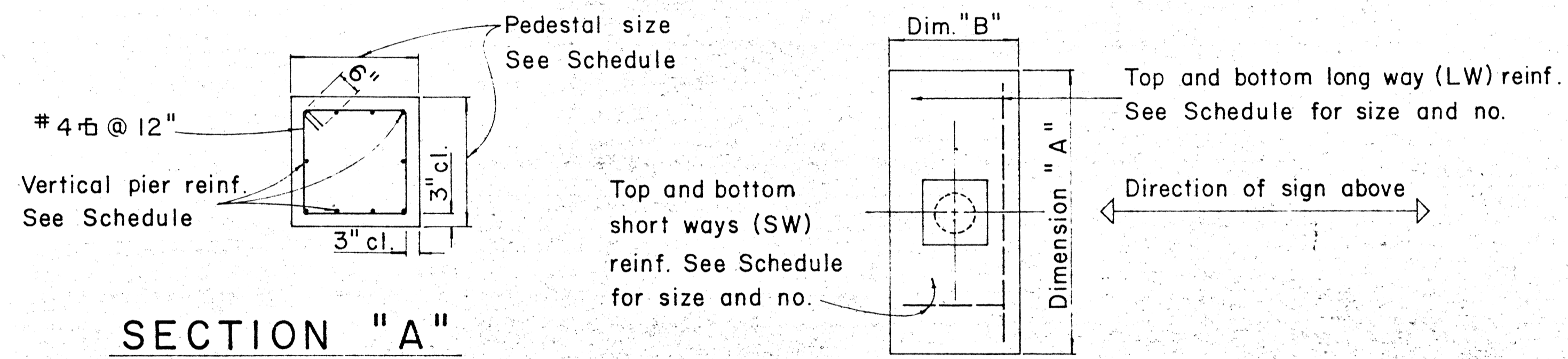
TYPICAL BASE PLATE



DETAIL "X"

NOTE:

- 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.
- Grounding conductor shall be bonded to sign support.



SECTION "A"

TYPICAL FOOTING DETAIL

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	8-#4	#4 @ 12 each way	1'-11"
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	

TYPE C - DOUBLE MASTARM - SINGLE POST - CANTILEVER						
Sign No.	Station	Arm Dimension	Post Dimension	Base Plate	Footing	
					Type	Anchor Bolts
E-2	722+00 Rt.	3 qa. 9' x 22'-0"	3 qa. 18" x 26'-0"	26 1/2" x 2' x 26 1/2"	III	4 @ 2" Dia.

TYPE D TWO-TUBE TRUSS - SPAN TYPE								
Sign No.	Station	Cross Beams	Center Section "B"	Post Dimension		Base Plate	Footing	
				Left	Right		Type	Anchor Bolts
E-1	709+00	0 qa. 15" x 54'-9"	None	3 qa. 18" x 26'-0"		26 1/2" x 2' x 26 1/2"	III	4 @ 2" Dia.
					3 qa. 18" x 25'-0"	26 1/2" x 2' x 26 1/2"	III	4 @ 2" Dia.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS & SCHEDULES

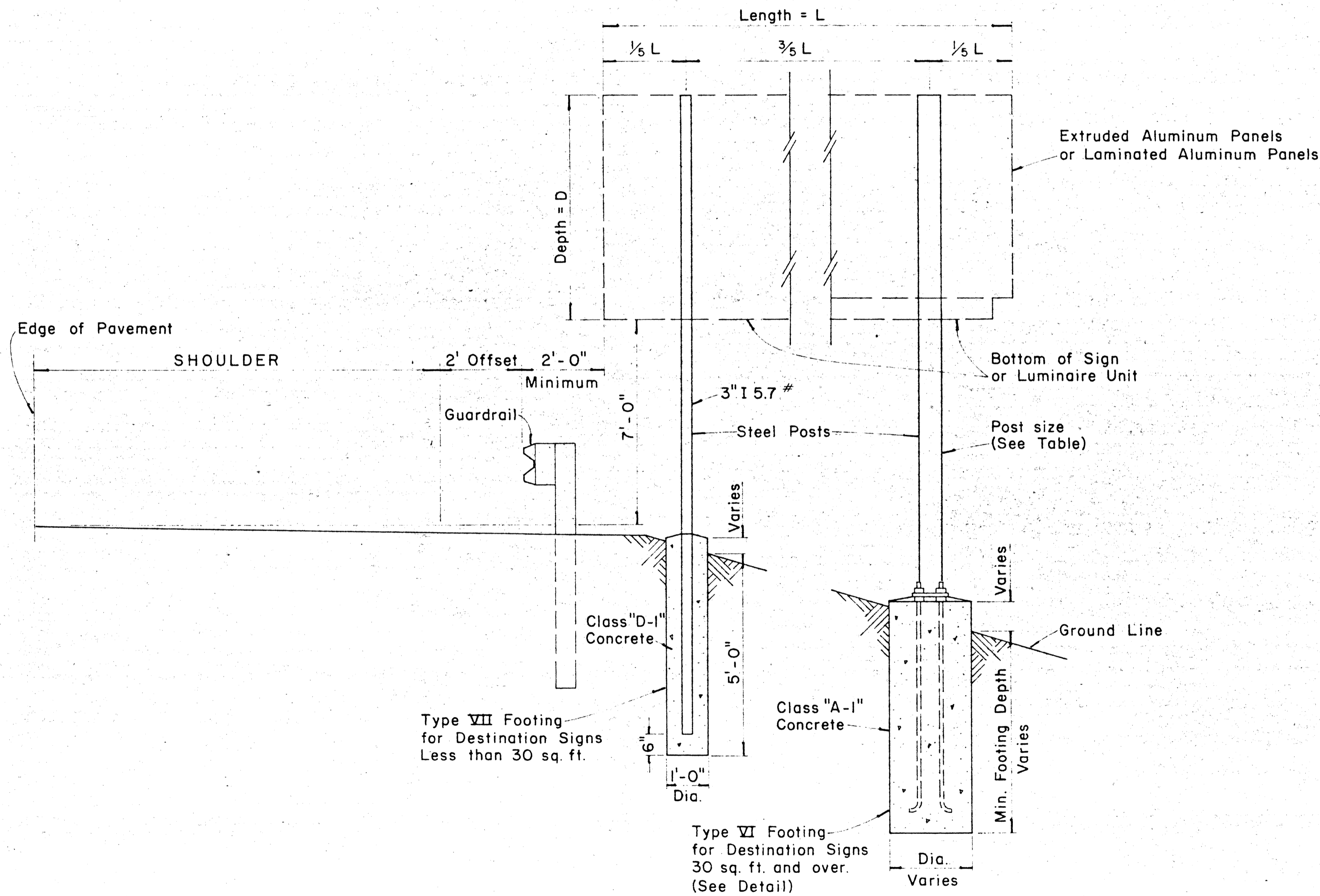
NOT TO SCALE

SHEET No. 21 OF 31 SHEETS

SURVEY PLOTTED BY: _____ DATE: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 NOTE BOOK NO. _____
 QUANTITIES BY: _____
 DESIGNED BY: _____

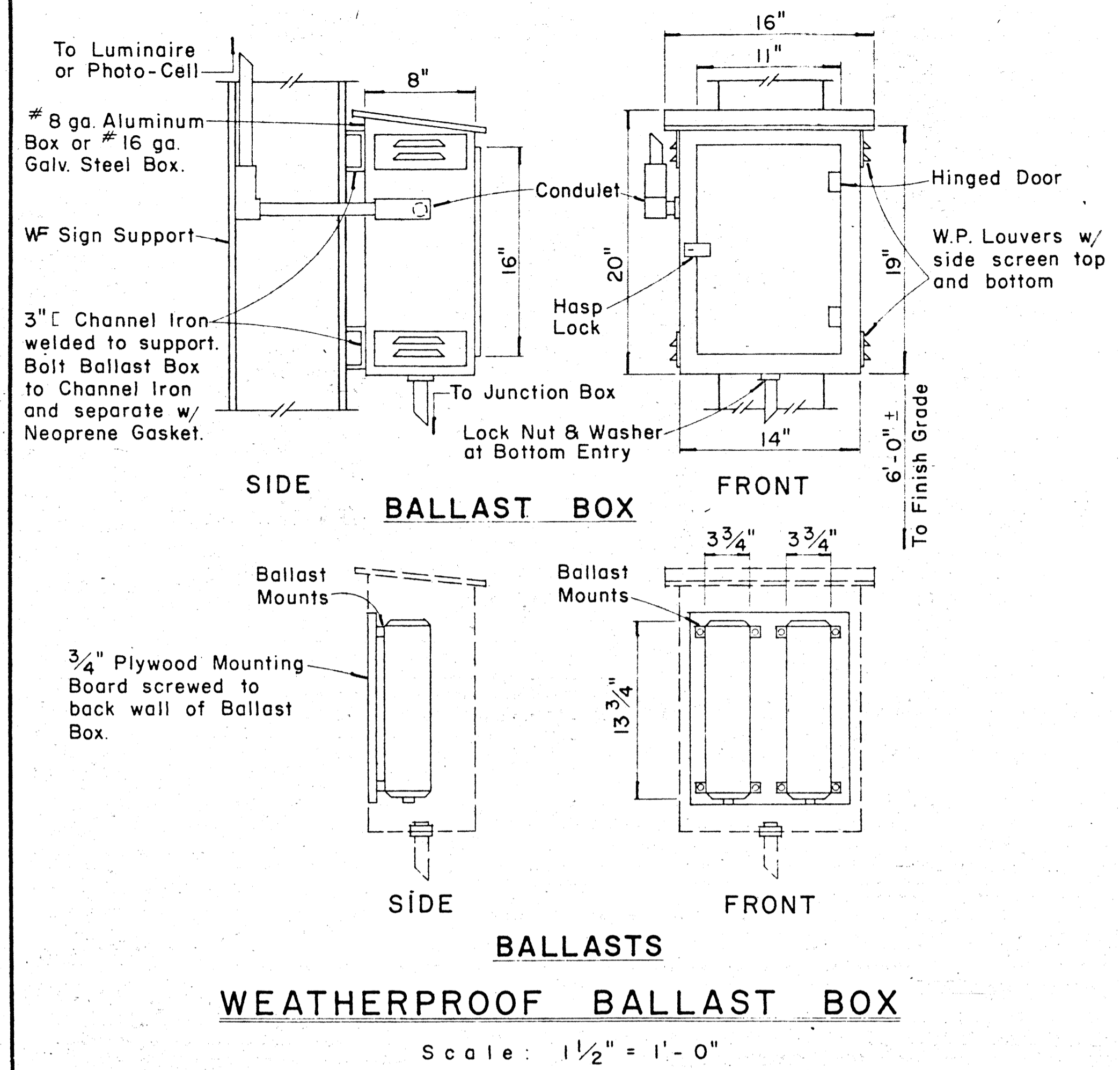
* For moment calculations only. Post shall be from top of foundation to top of sign.
 ** For fills with side slopes flatter than 4:1, Minimum Footing Depth shall be 4½ feet.

DATA TABLE FOR TYPE VI FOOTING																	
POST SIZE	MAXIMUM SIGN AREA	POST HEIGHT TOP OF FOUNDATION TO CENTER OF SIGN *	DIMENSIONS											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"	1⅝"Ø	4½'	4½'
8 WF 24	90 sq. ft.	21'															5'
8 WF 35	190 sq. ft.	15'	16½"	6¾"	30"	20"	1¾"	6"	1⅝"	11¾"	6½"	10"	1¾"	1"	1¼"Ø	6'	7'
10 WF 45	190 sq. ft.	25'															
10 WF 45	200 sq. ft.	25'															
12 WF 50	230 sq. ft.	25'															
12 WF 50	250 sq. ft.	23'															



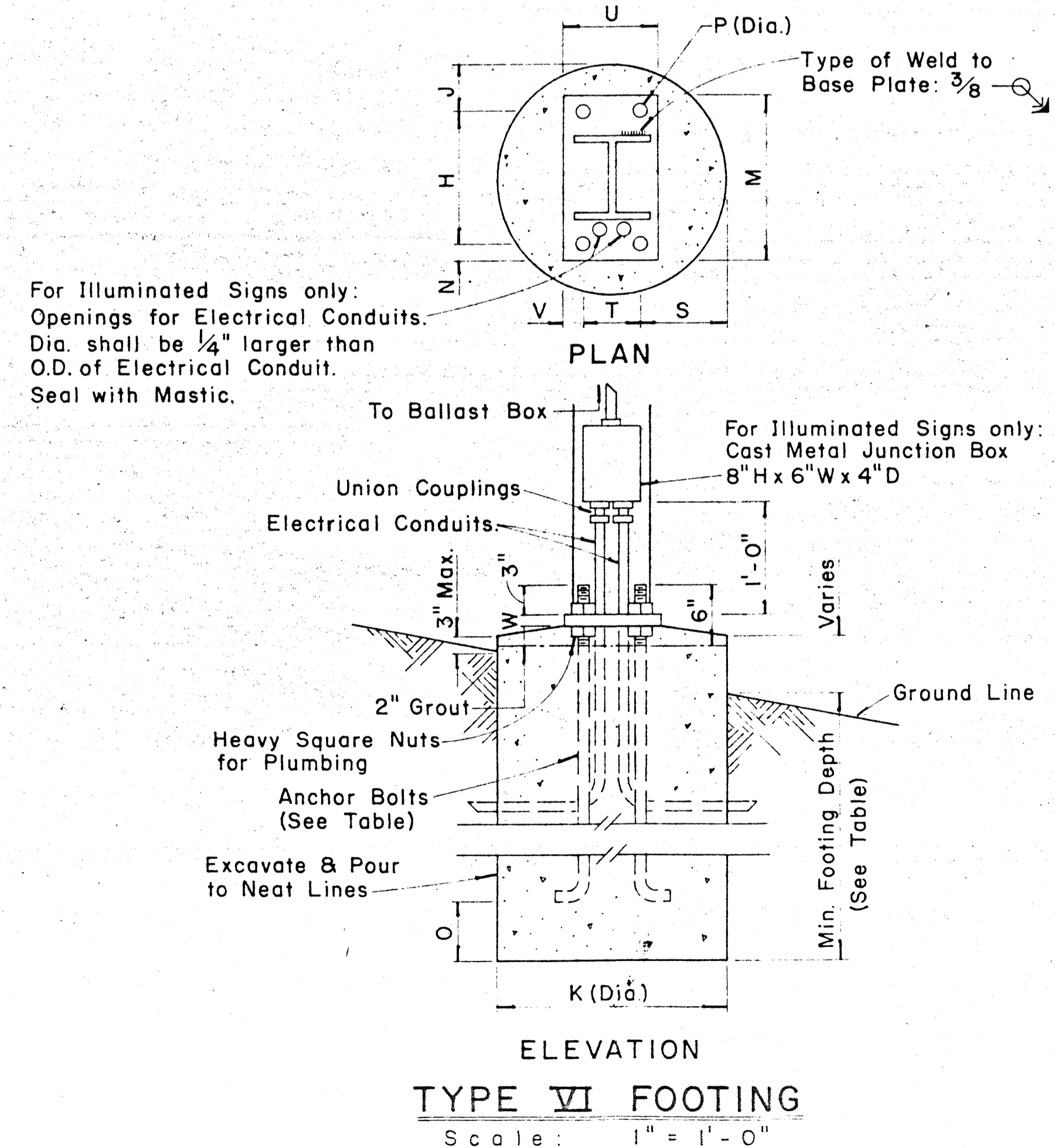
TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale



WEATHERPROOF BALLAST BOX

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



TYPE VI FOOTING

Scale: 1" = 1'-0"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(2)-14 1-H3-1(2)-B	1969	70	278

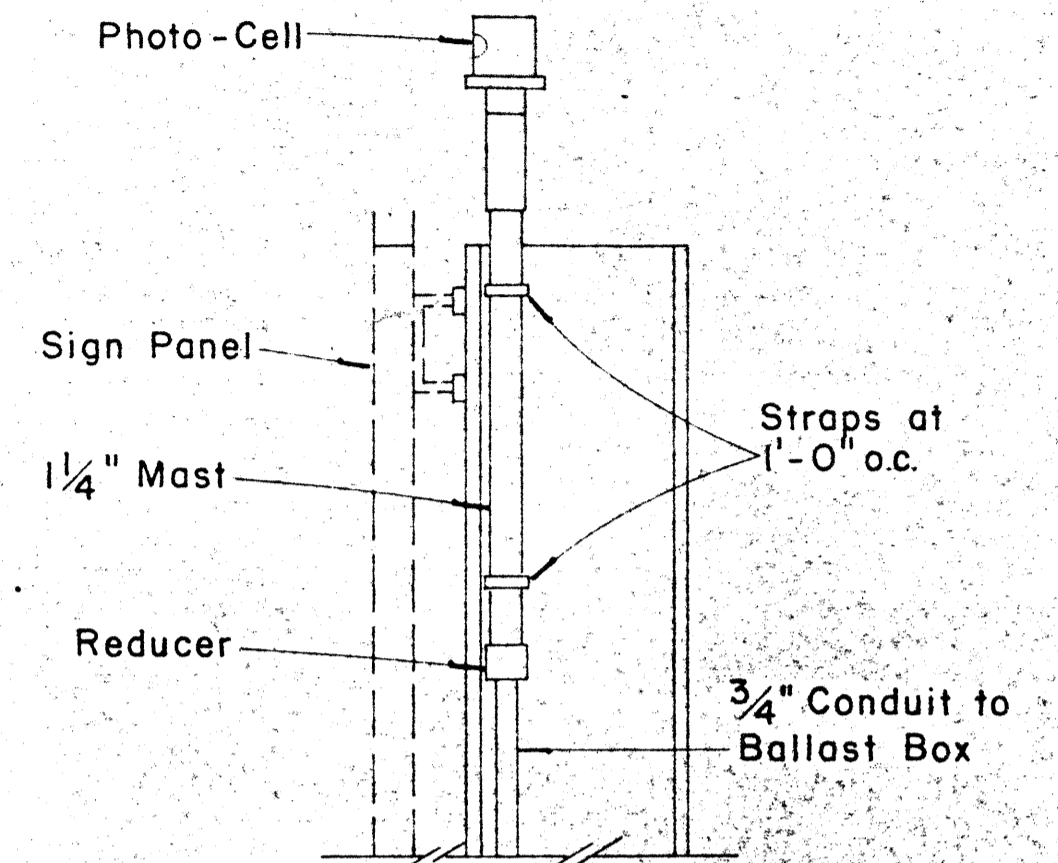


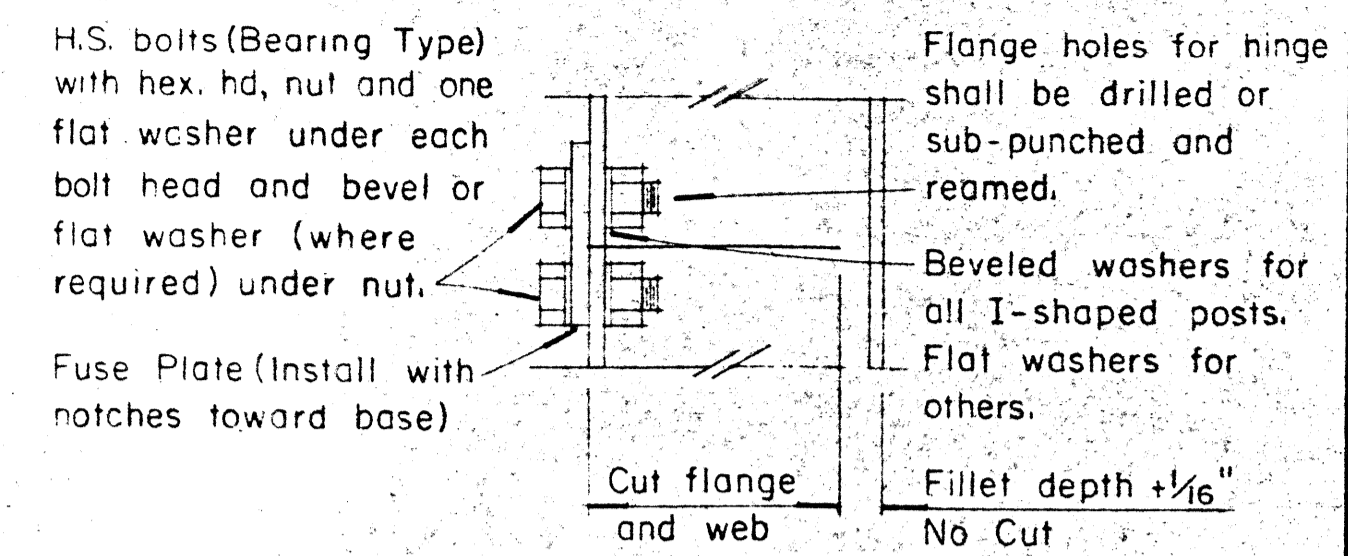
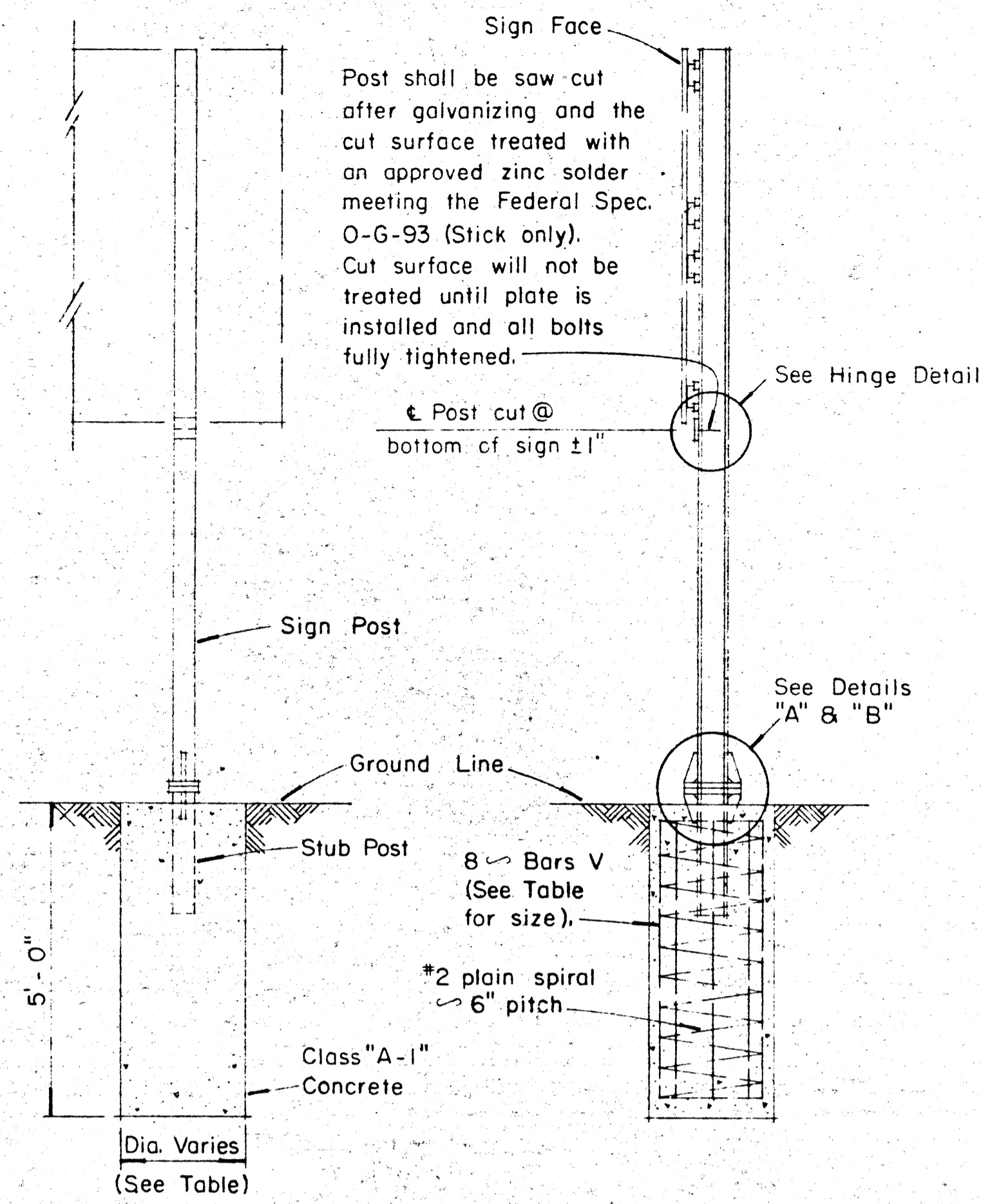
PHOTO-CELL DETAIL

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

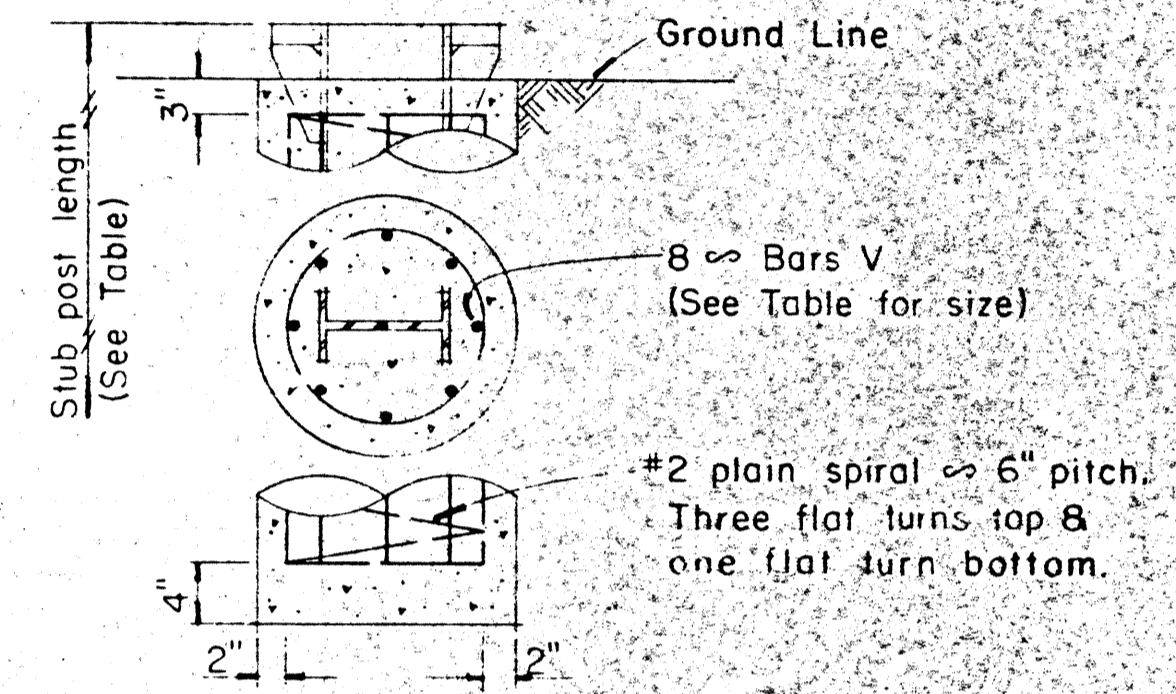
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
 STANDARD DETAILS
 DESTINATION & GROUND MOUNTED
 EXPRESSWAY SIGNS
 Scale: As Shown
 SHEET No. 22 OF 31 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(8)-14 1-H3-1(2)-8	1969	71	278

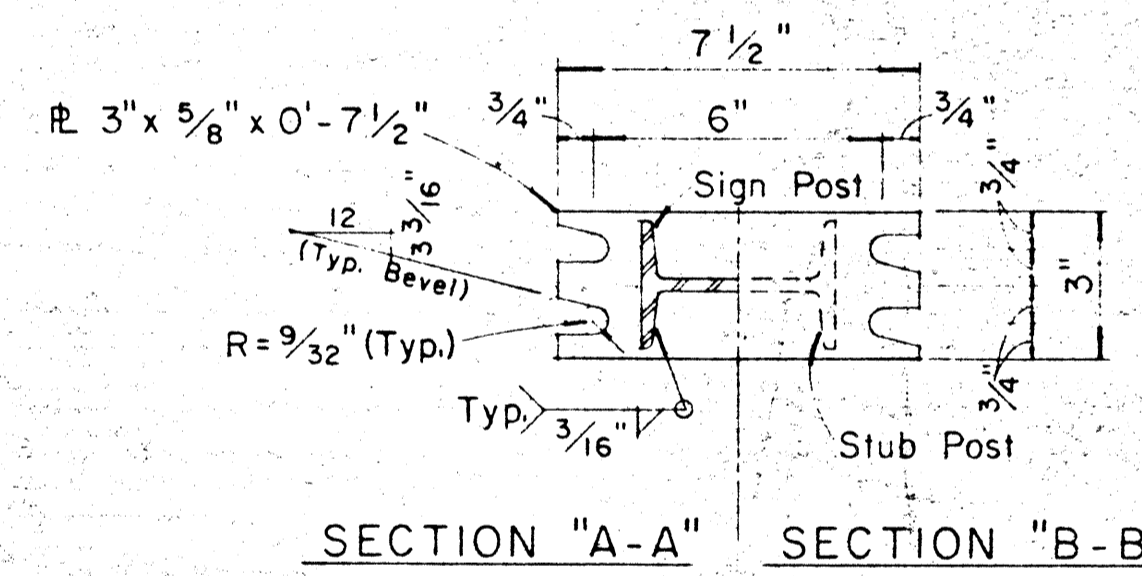
BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE										FOUNDATION DATA					
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size
6 B 8.5											3 3/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2"	1.09*	2'-0"	3"	2'-0"	#5
6 B 12	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"	1 1/32"	3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	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"	1 3/16"	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"	1 3/16"	1/2"	3/4"	3.27*	2'-6"	3"	2'-0"	#7
8 WF 20											4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	1 5/16"	9/16"	7/8"	3.93*	3'-0"	2 1/2"	2'-0"	#8
10 WF 21	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"	1 3/32"	5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	1 5/16"	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"	1 5/16"	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"	1 5/16"	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									



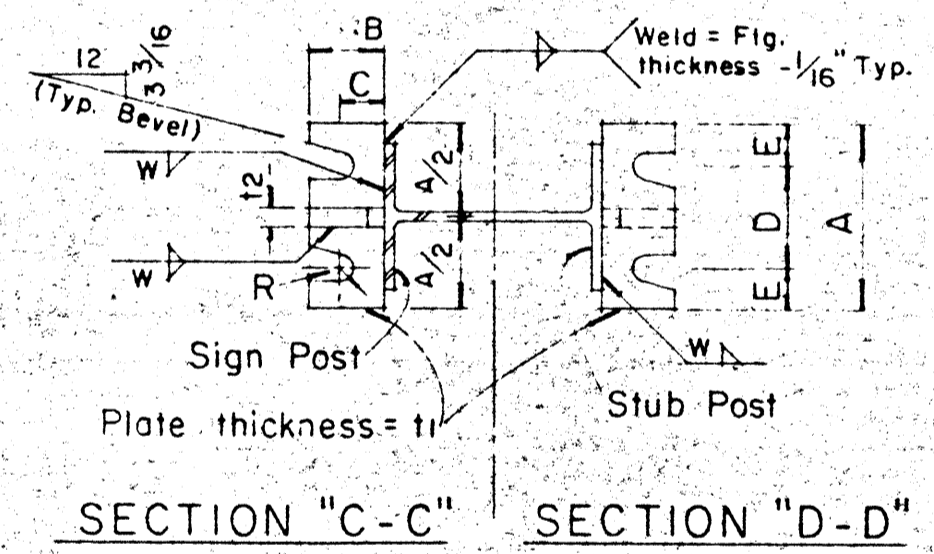
HINGE DETAIL



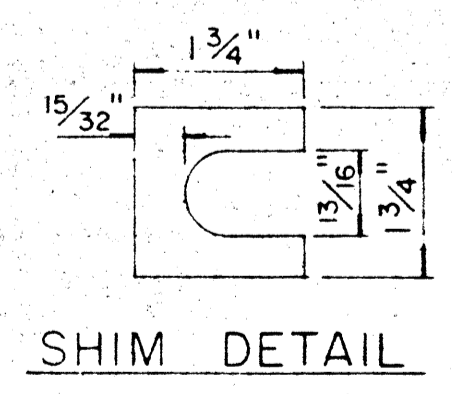
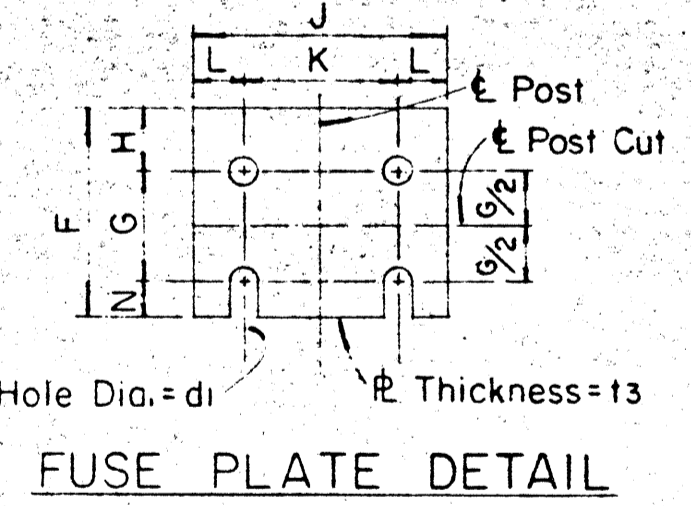
FOUNDATION DETAIL



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



STIFFENER PLATE DETAIL

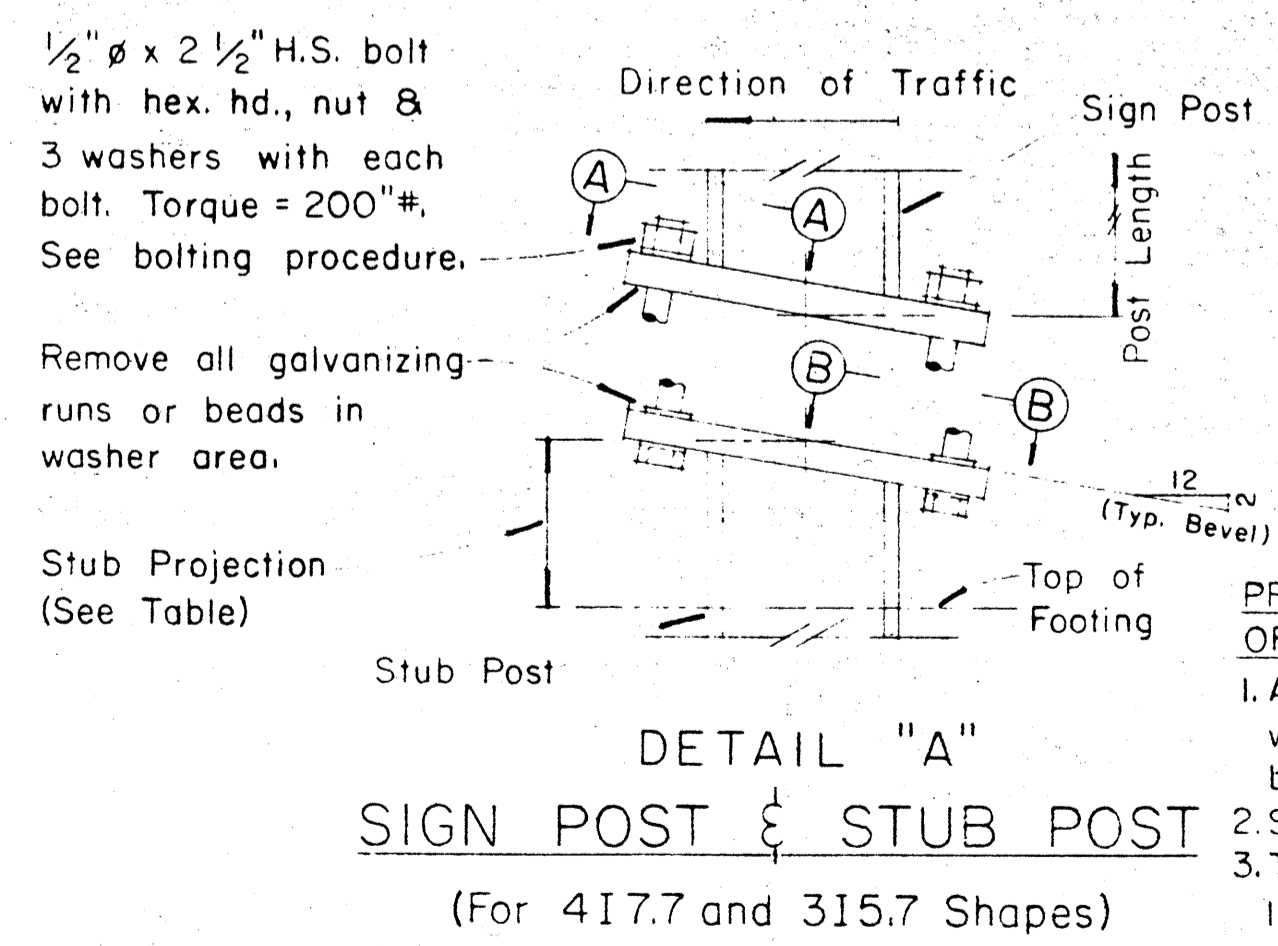


Furnish 2 ∞ .012" ± thick and 2 ∞ .032" ± thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to A.S.T.M. - B 36.

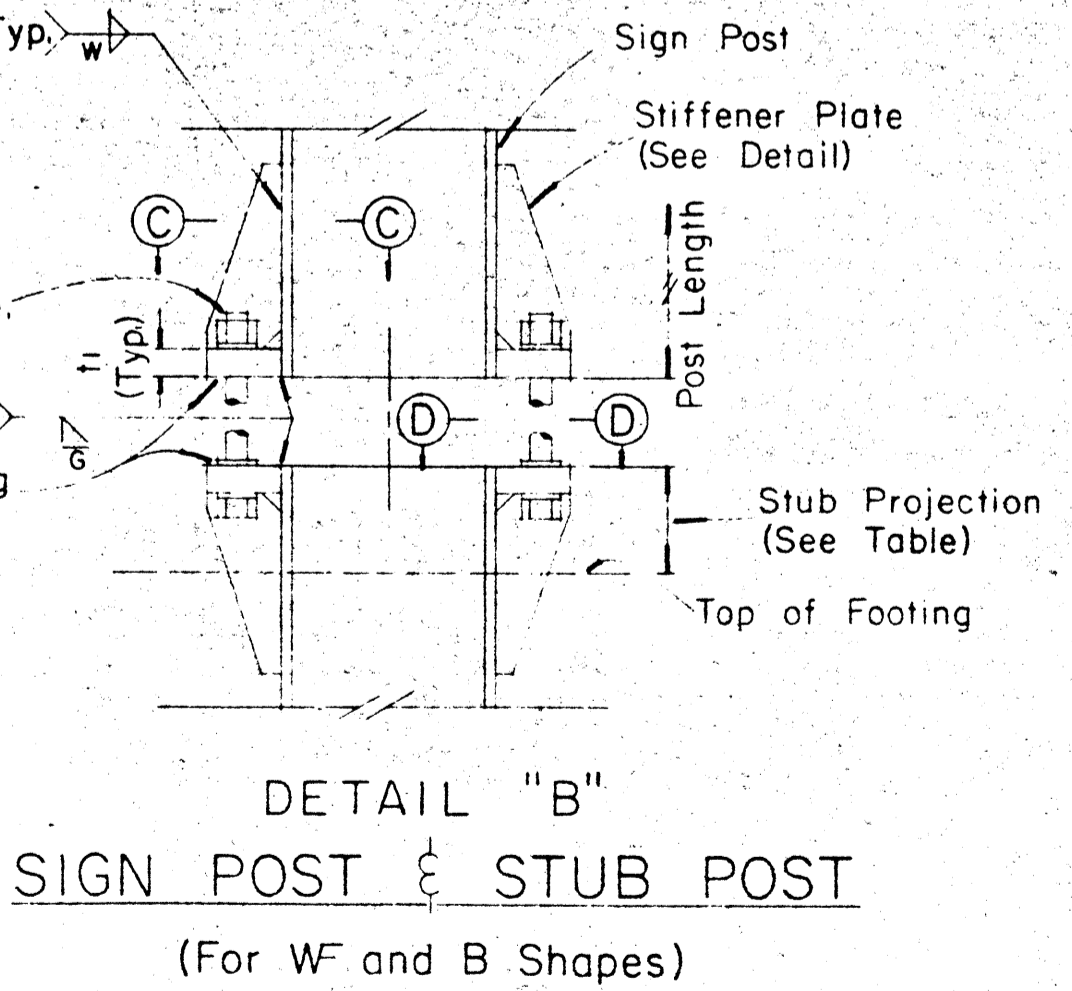
GENERAL NOTES

- Design conforms with AASHO 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 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.



- 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.

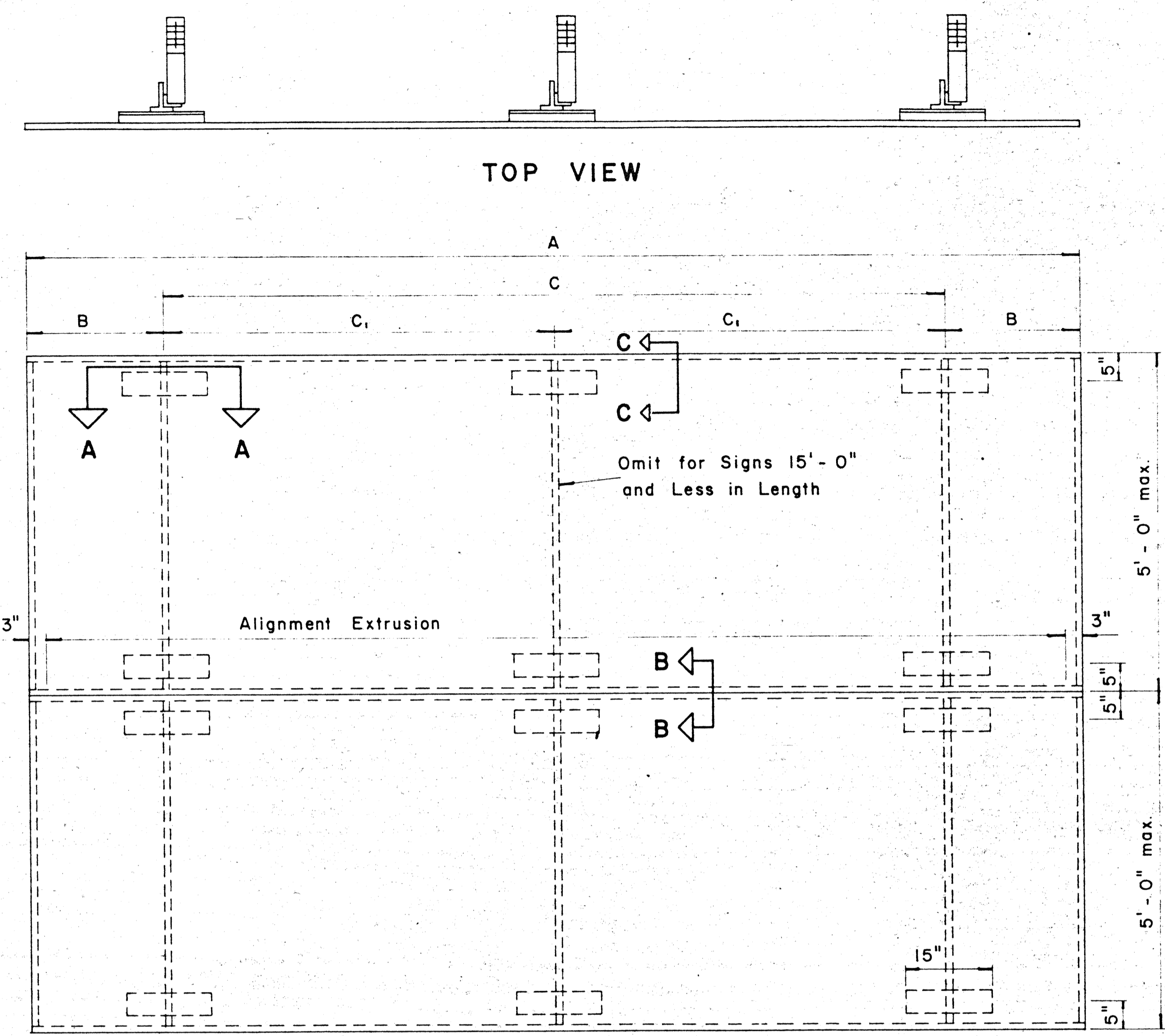


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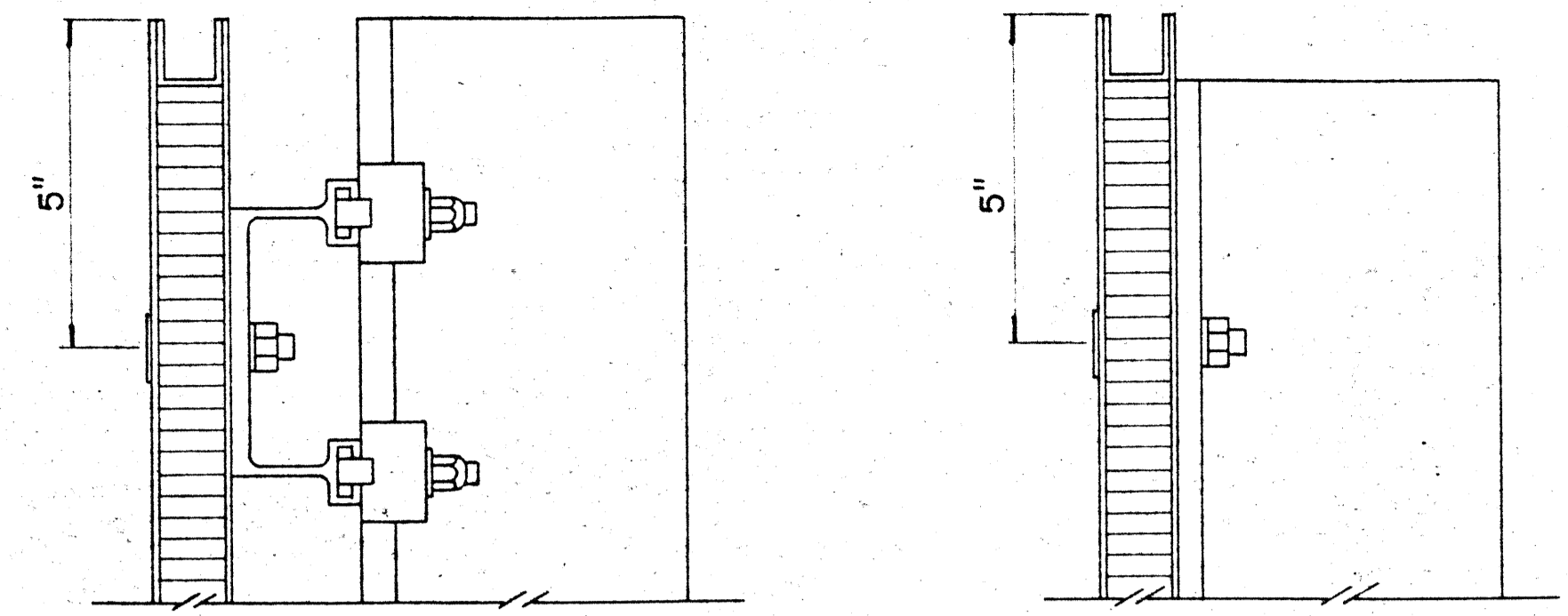
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(5)-14 I-H3-1(2)-8	1969	72	278

(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

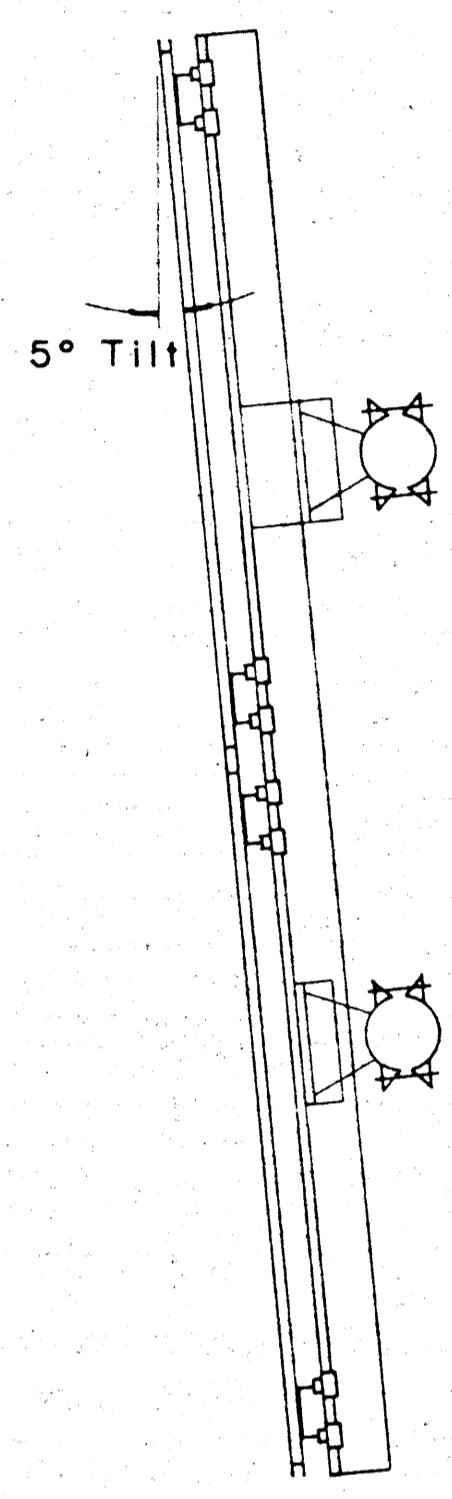
PANEL THICK.	LENGTH OF SIGN A	NO. OF SUPPORTS	OVERHANG		SUPPORT SPACING C or C ₁
			B	C or C ₁	
1"	6'-0"	2	12"		48"
1"	6'-6"	2	15"		48"
1"	7'-0"	2	15"		54"
1"	7'-6"	2	18"		54"
1"	8'-0"	2	18"		60"
1"	8'-6"	2	20"		62"
1"	9'-0"	2	22"		64"
1"	9'-6"	2	23"		68"
1"	10'-0"	2	24"		72"
1"	10'-6"	2	24"		78"
1"	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"



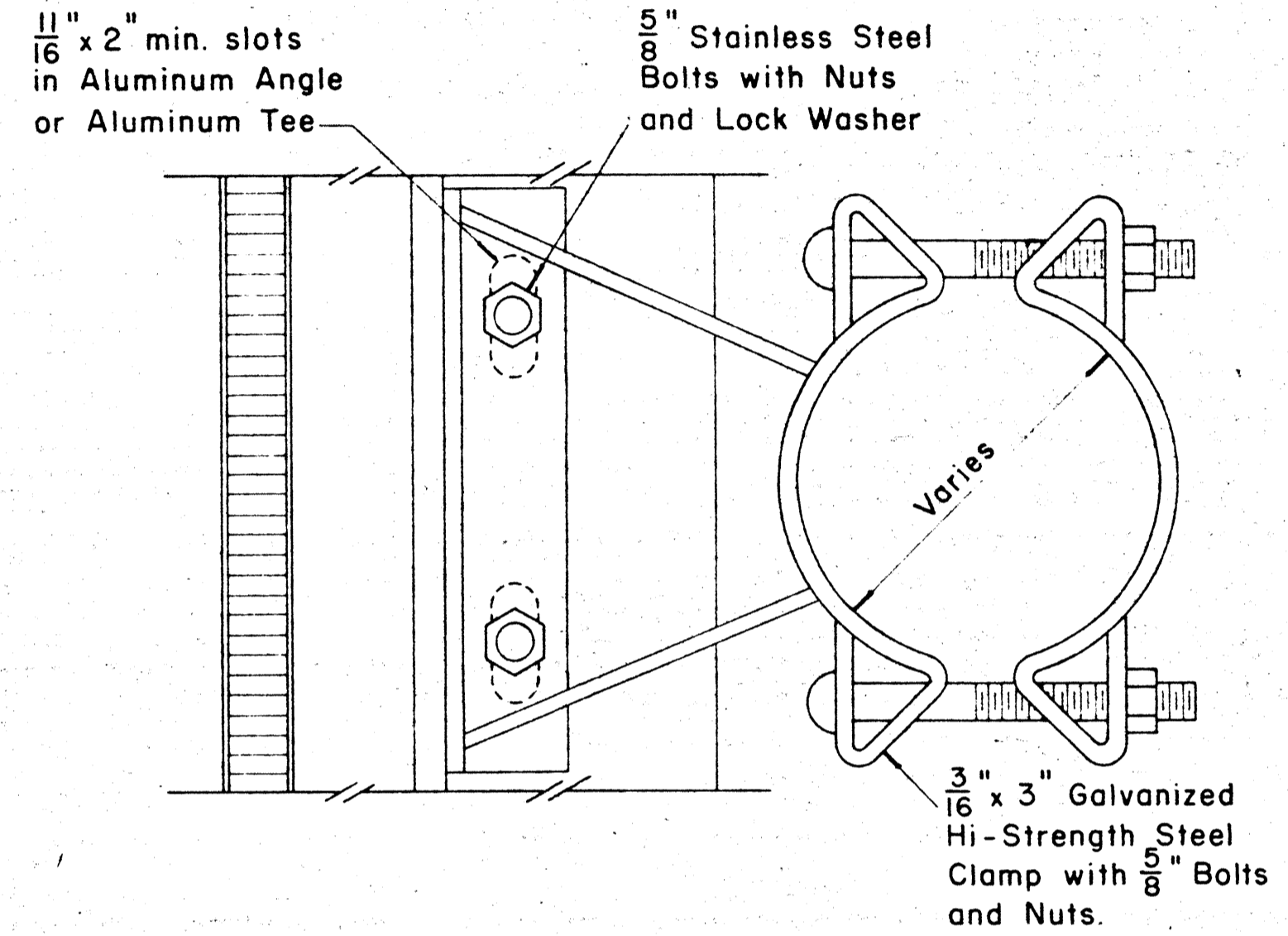
ELEVATION
TYPICAL SIGN ASSEMBLY
Scale: $\frac{3}{4}$ " = 1'-0"



SECTION "C-C" Scale: $\frac{3}{8}$ " = 1"
SECTION "C-C" (Alternate) Scale: $\frac{3}{8}$ " = 1"

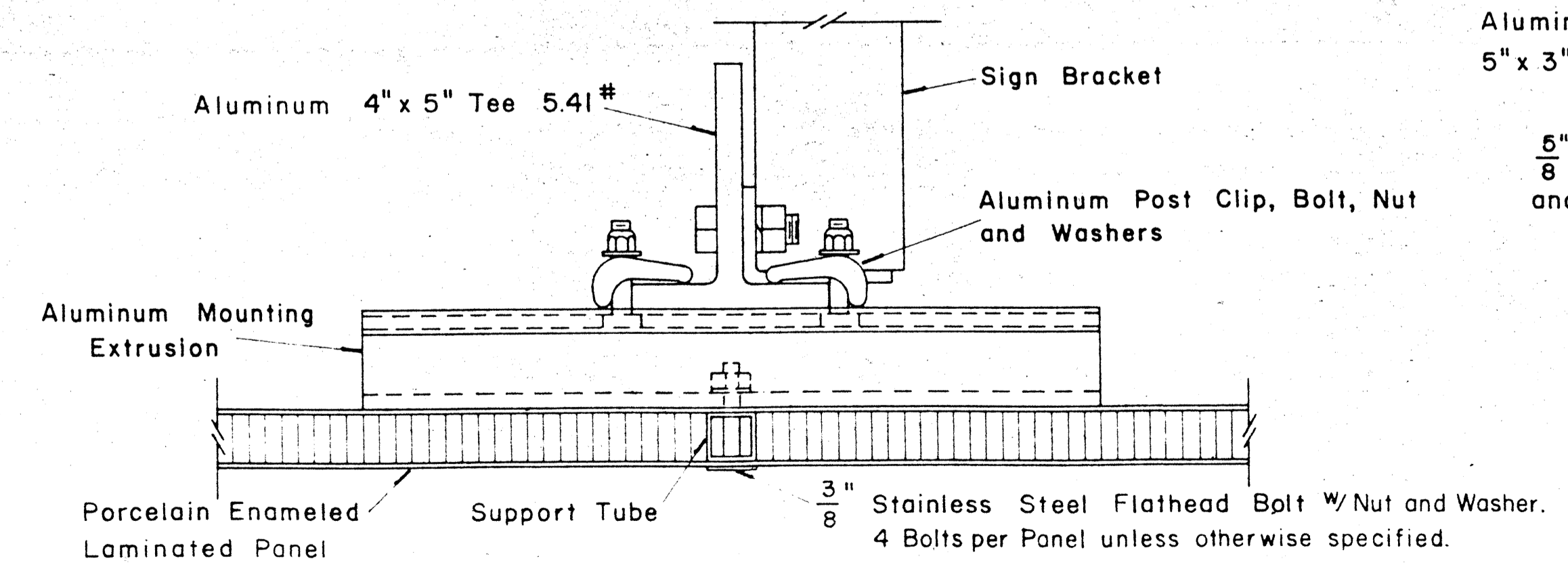


SIDE VIEW

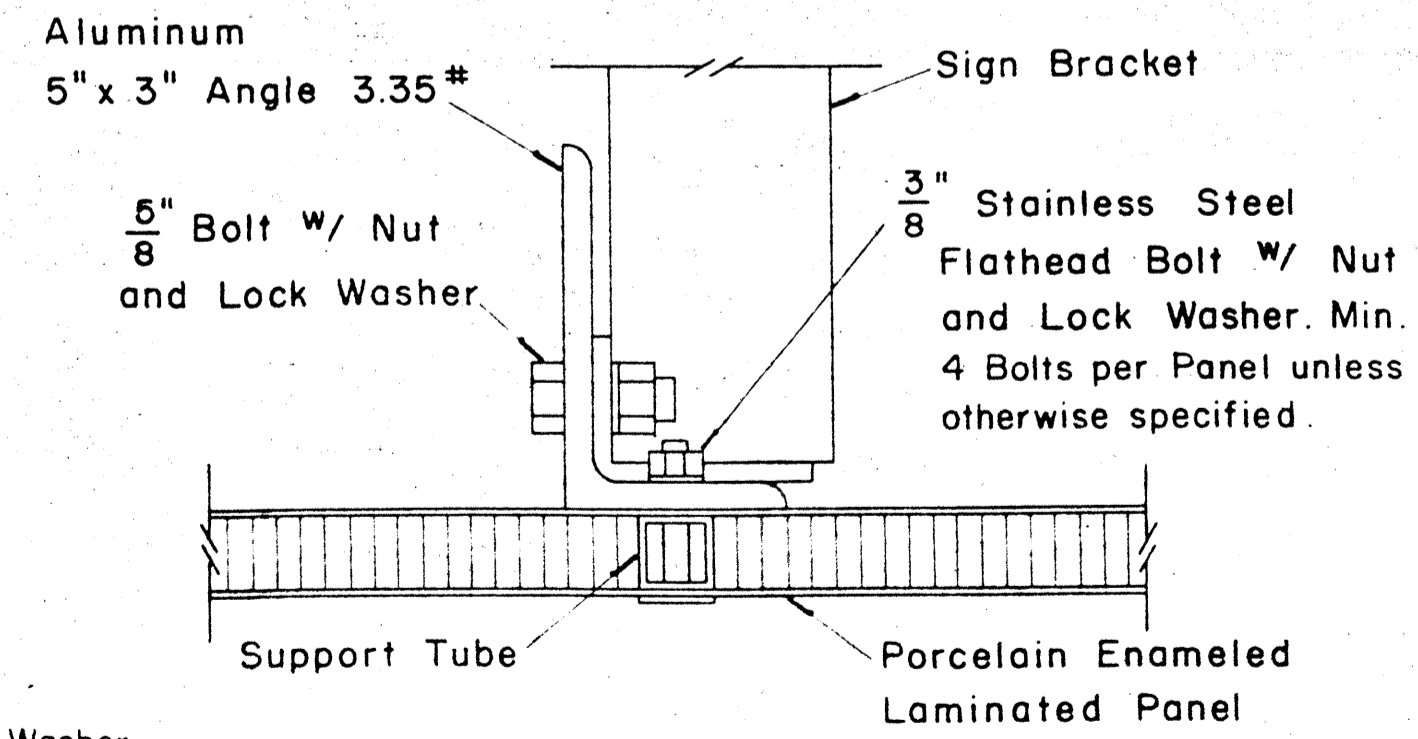


SIGN BRACKET ASSEMBLY

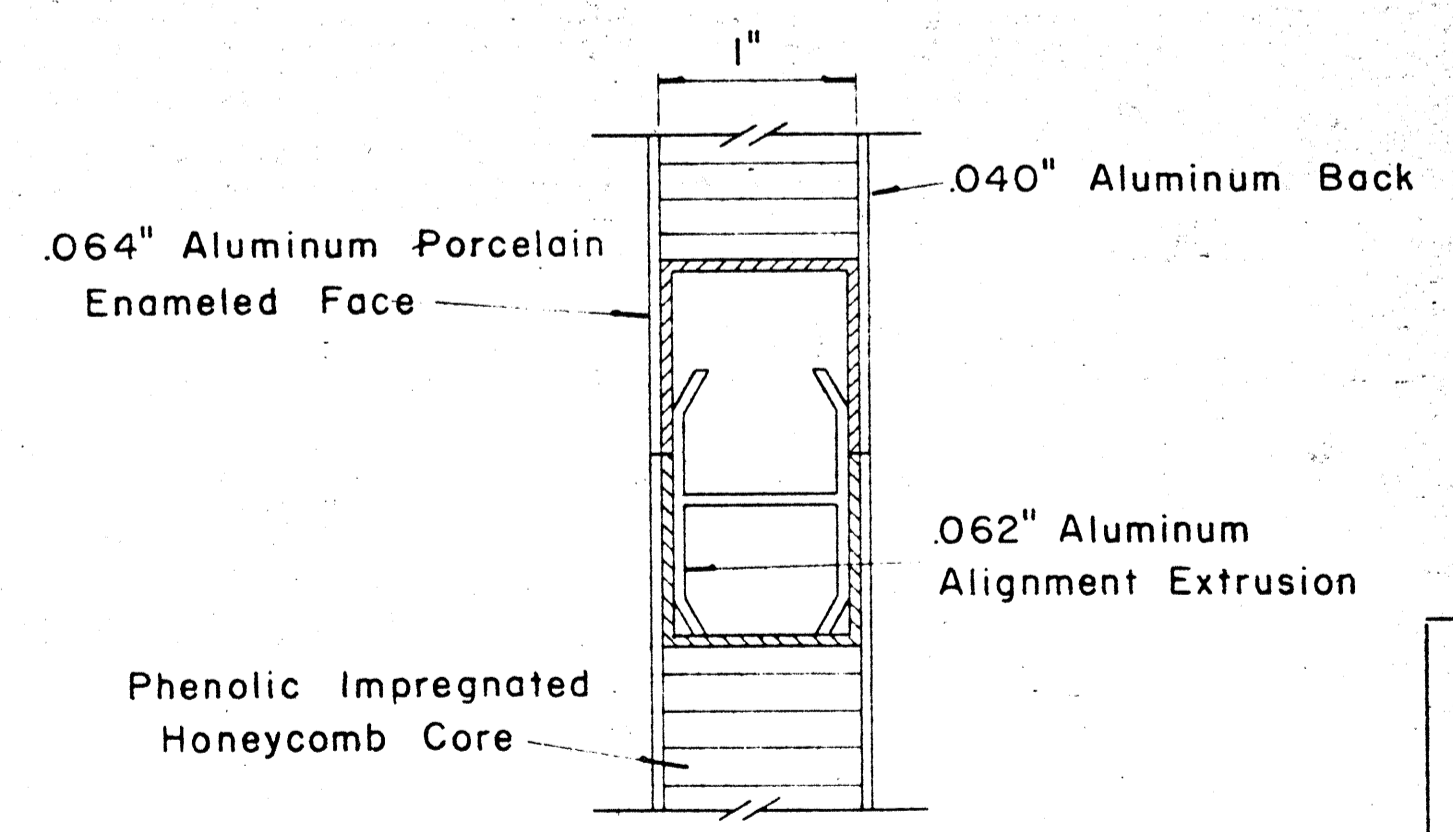
Scale: $\frac{3}{8}$ " = 1"
NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



SECTION "A-A"
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

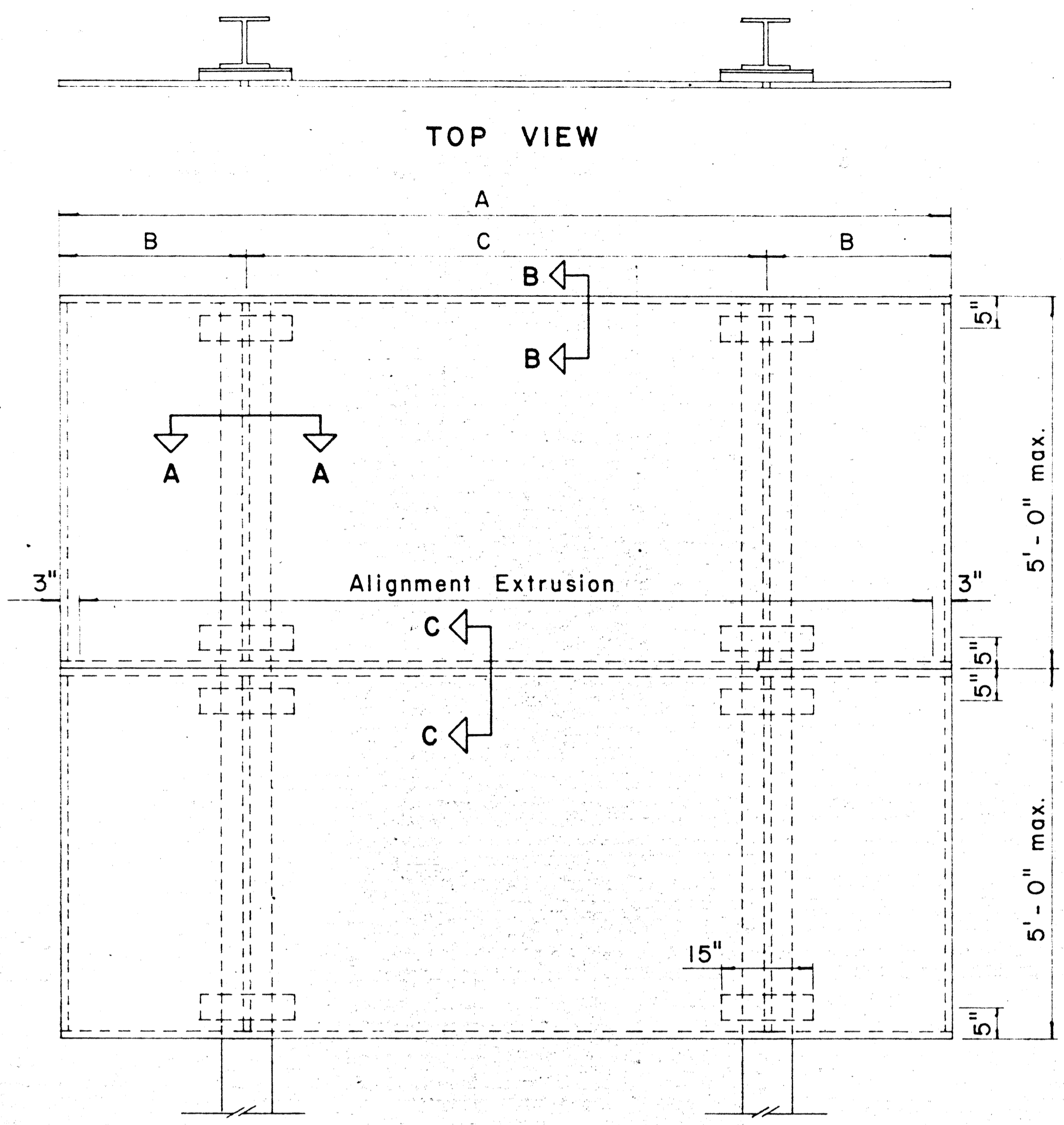
SHEET No. 24 OF 31 SHEETS DT 203

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
DRAWN BY: _____
SCALE: _____
PROJECT NO.: _____

(GROUND MOUNTED SIGNS)

SUPPORT SPACING TABLE

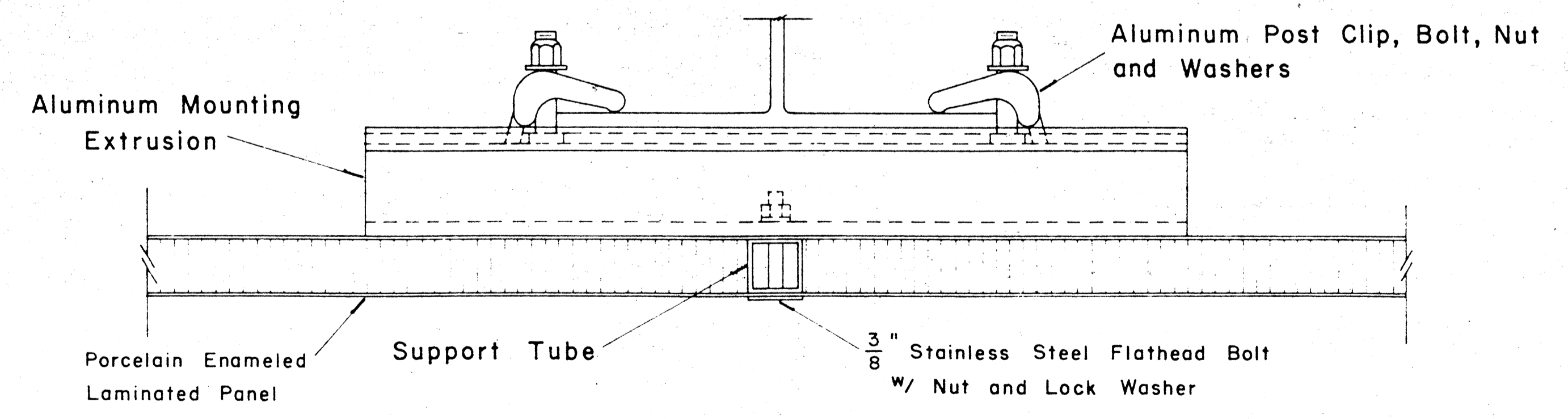
PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG		SUPPORT SPACING
			A	B	
1"	6'-0"	2	12"	48"	
1"	6'-6"	2	15"	48"	
1"	7'-0"	2	15"	54"	
1"	7'-6"	2	18"	54"	
1"	8'-0"	2	18"	60"	
1"	8'-6"	2	20"	62"	
1"	9'-0"	2	22"	64"	
1"	9'-6"	2	23"	68"	
1"	10'-0"	2	24"	72"	
1"	10'-6"	2	24"	78"	
1"	11'-0"	2	24"	84"	
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"	



ELEVATION

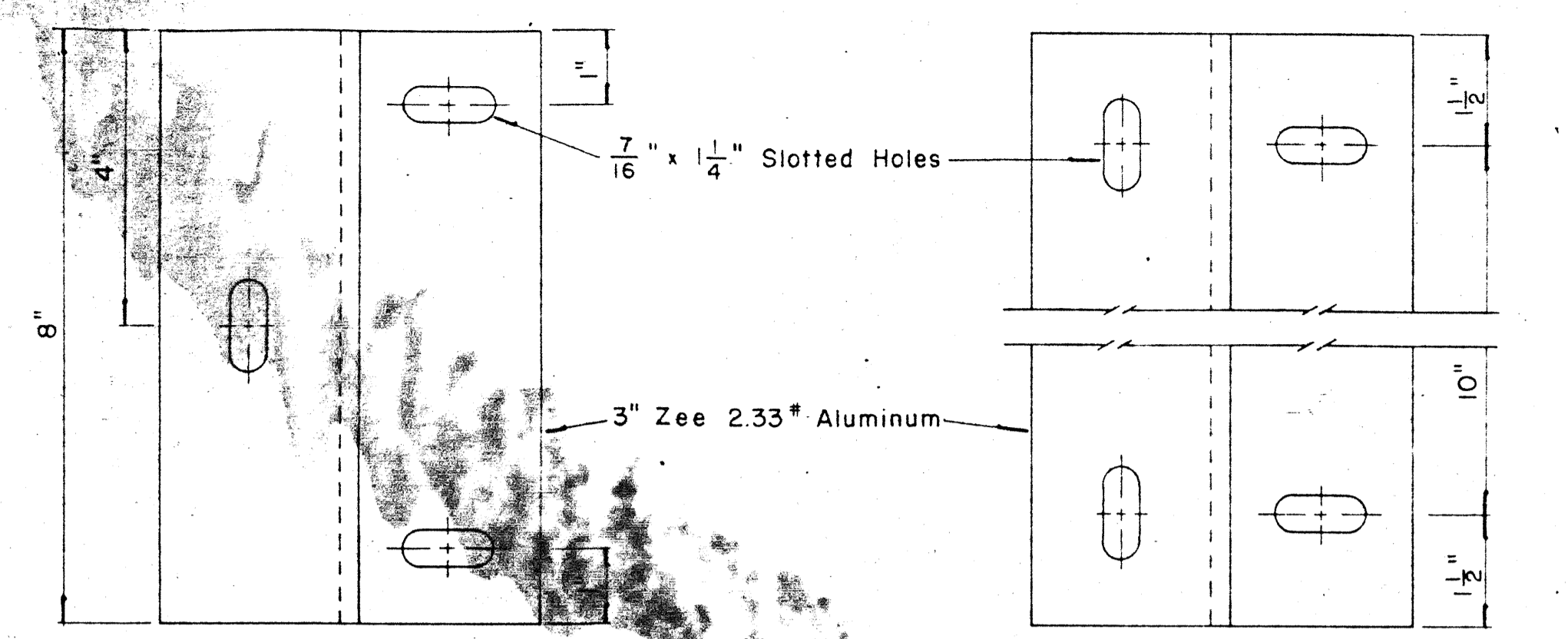
TYPICAL SIGN ASSEMBLY

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



SECTION "A-A"

Scale: $\frac{1}{2}$ " = 1"

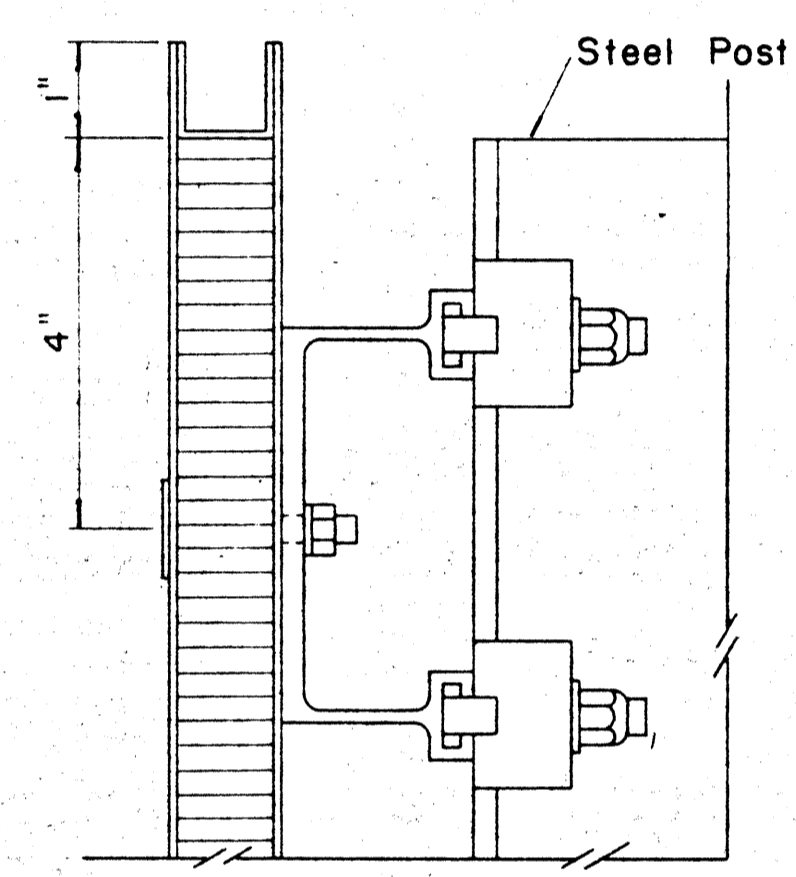


END MOUNTING

INTERMEDIATE MOUNTING

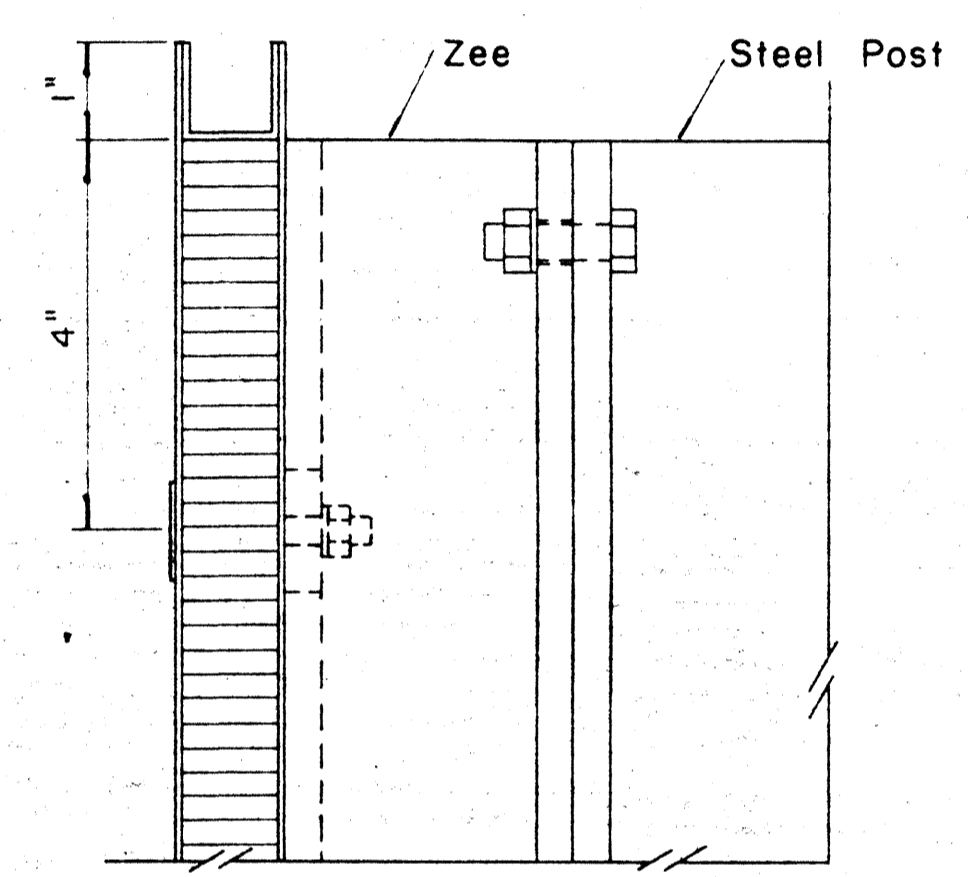
ZEE MOUNTING DETAILS

Scale: $\frac{1}{2}$ " = 1"



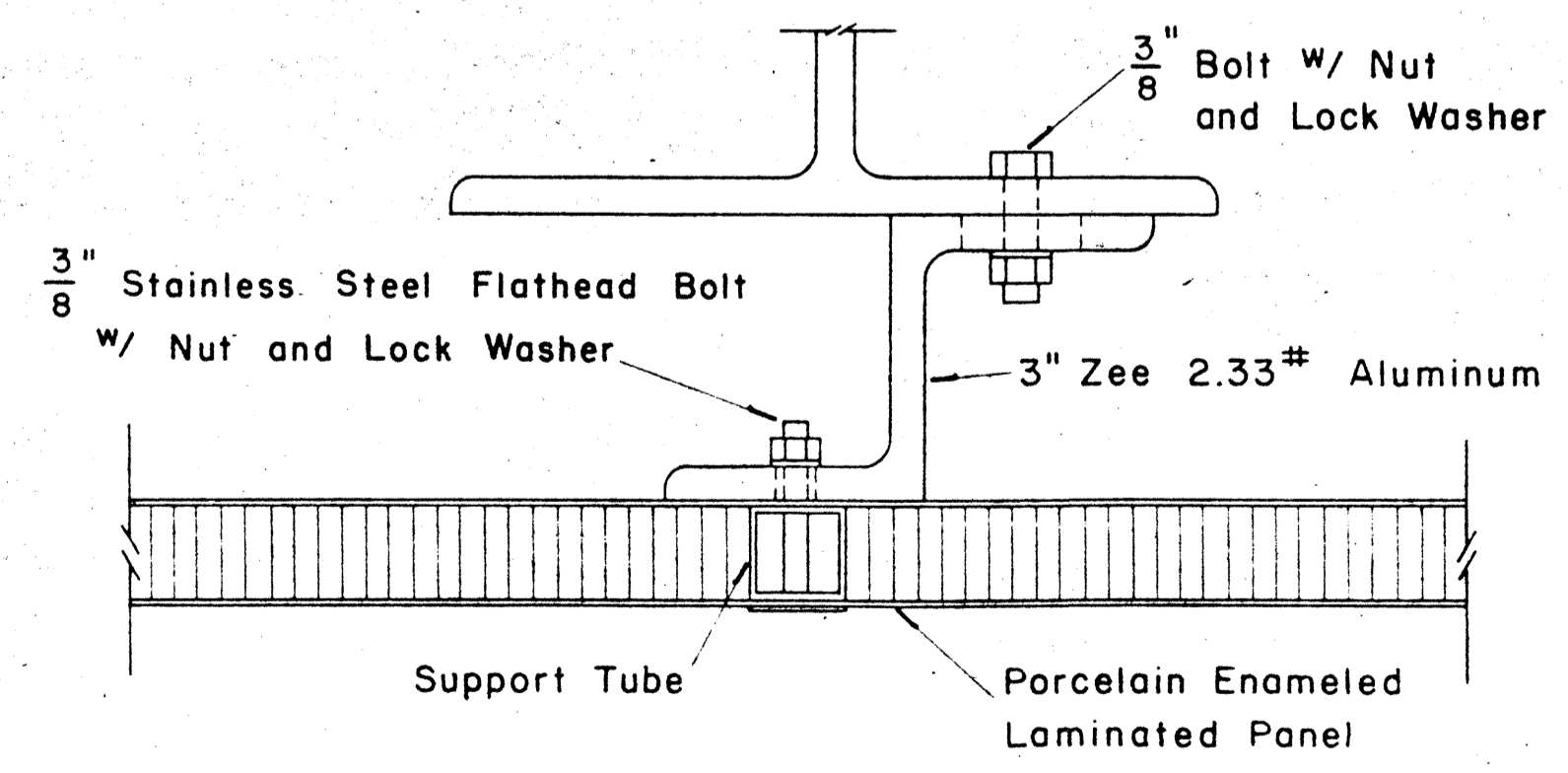
SECTION "B-B"

Scale: $\frac{1}{2}$ " = 1"



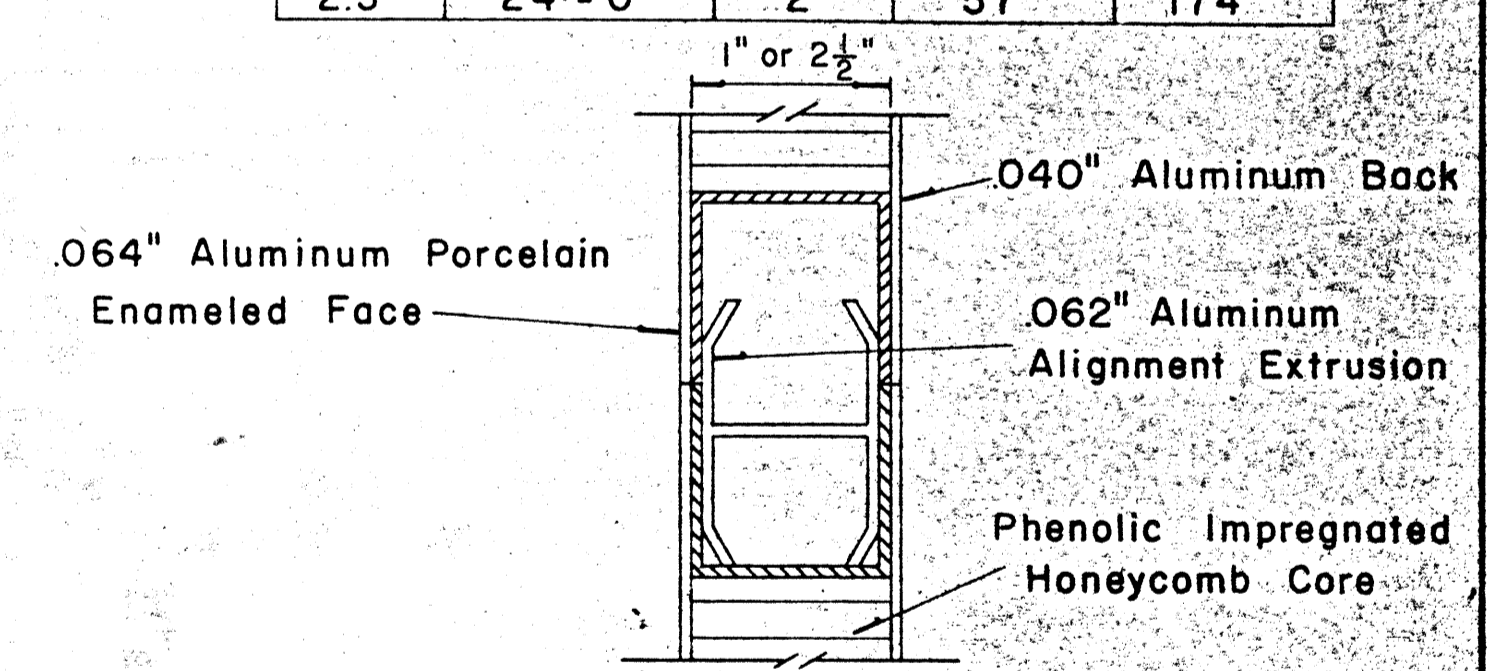
SECTION "B-B"
(Alternate)

Scale: $\frac{1}{2}$ " = 1"



SECTION "A-A"
(Alternate)

Scale: $\frac{1}{2}$ " = 1"



CLOSURE DETAIL SECTION "C-C"

FULL SCALE

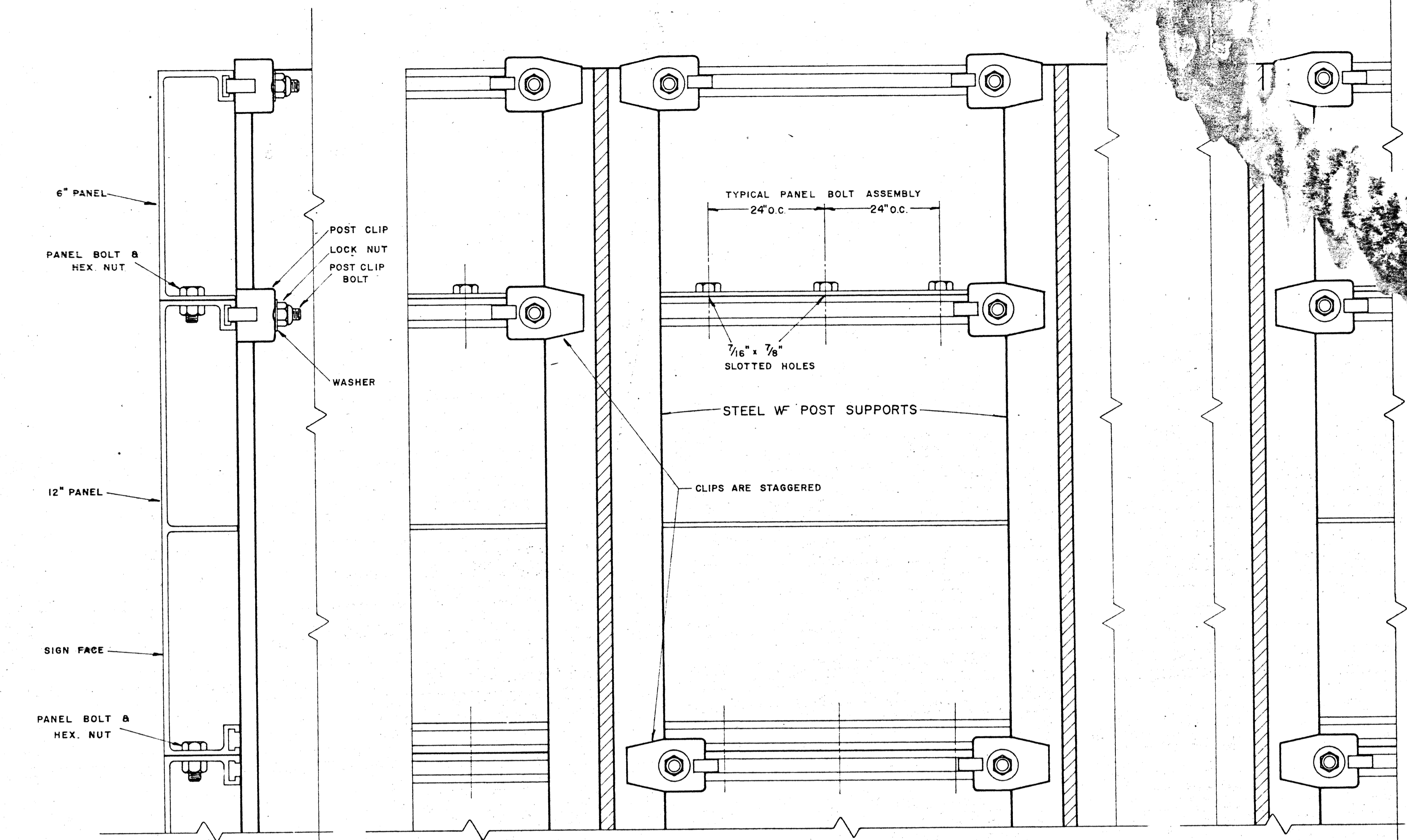
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)

Scale: As Shown

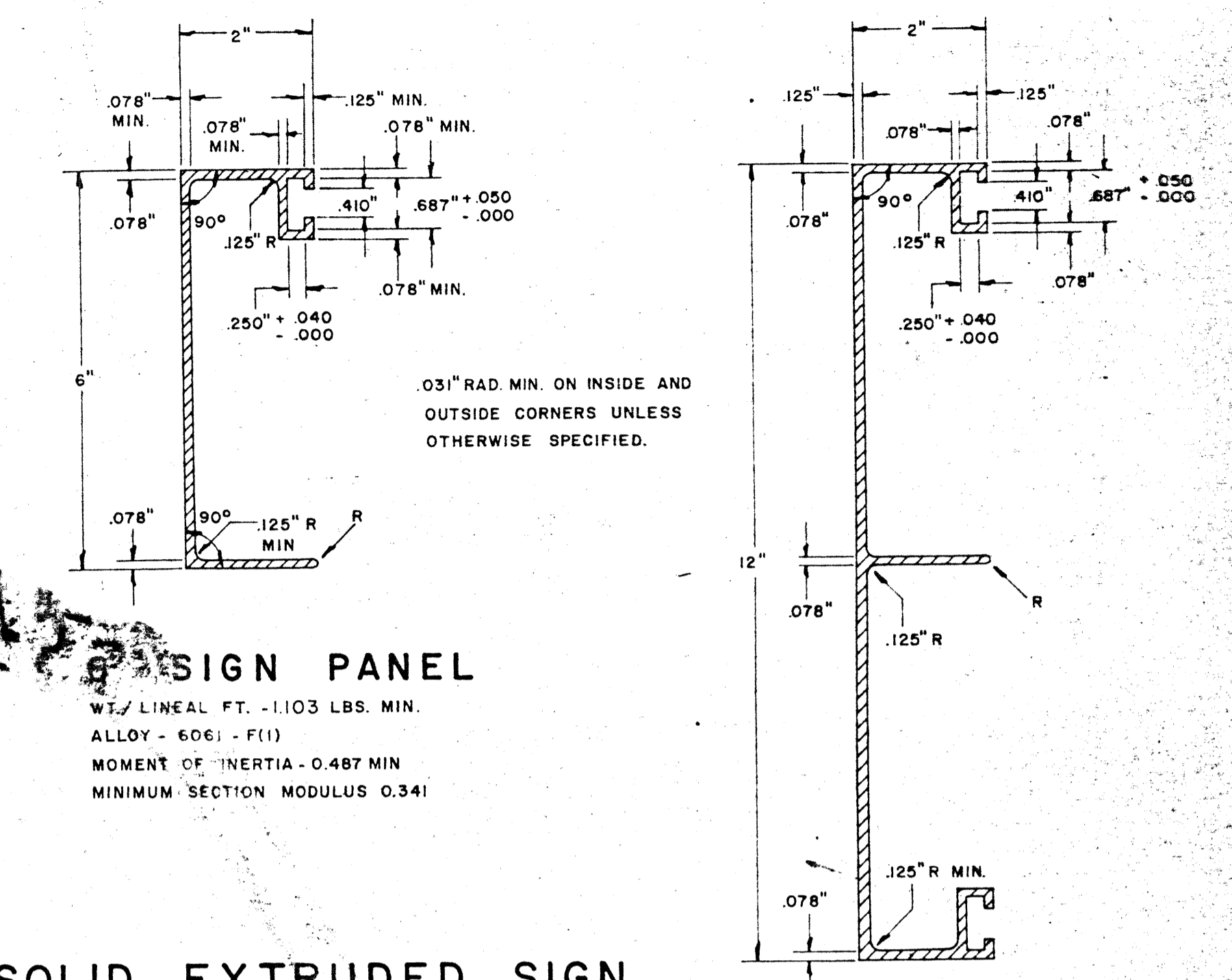
DATE: _____
DESIGNED BY: _____
DRAWN BY: _____
CHECKED BY: _____
No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(8)-14 I-H3-1(2)-8	1969	73A	278



**SIDE VIEW
TYPICAL SIGN ASSEMBLY**

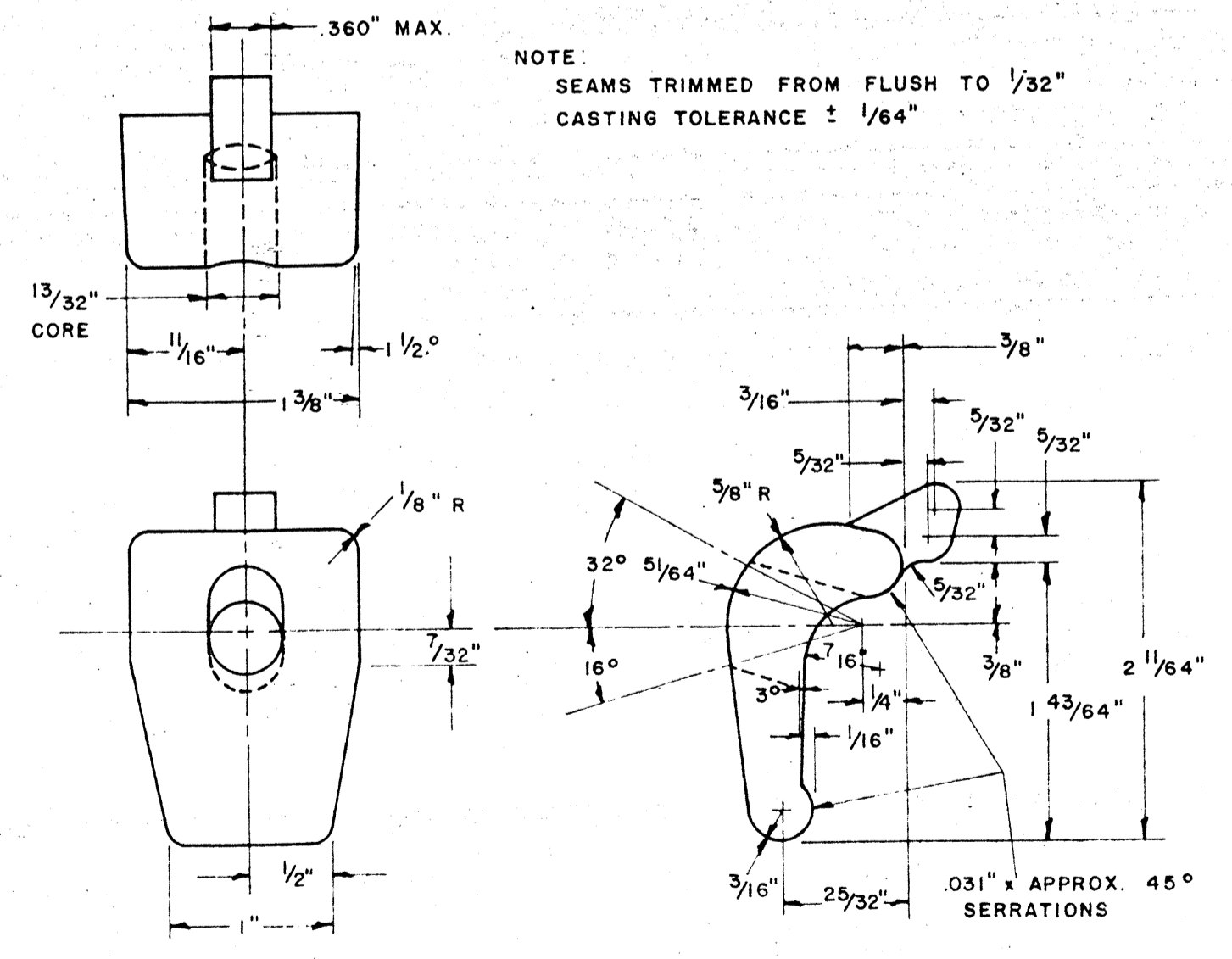
**REAR VIEW
TYPICAL SIGN ASSEMBLY**



6\"/>

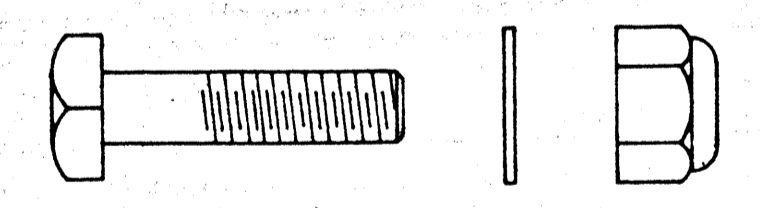
**SOLID EXTRUDED SIGN
PANEL DETAILS**

12\"/>



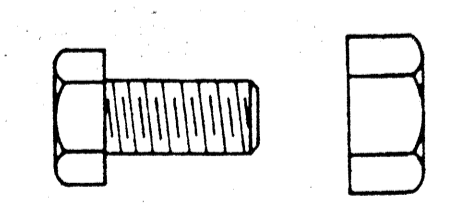
POST CLIP DETAIL

ALLOY 356 - T6



POST CLIP BOLT ASSEMBLY

3/8" - 16 x 1 3/4" LONG SQ. HD. BOLT - ALLOY 2024 - T4
 3/8" - 16 LOCK NUT - ALLOY 2017 - T4
 2 5/32" ID x 3/4" OD x .08" WASHER - ALLOY ALCLAD 2024 - T4



PANEL BOLT ASSEMBLY

3/8" - 16 x 3/4" LONG HEX. HD. BOLT - ALLOY 2024 - T4
 3/8" - 16 HEX. NUT - ALLOY 6061 - T6
 FLAT WASHER - ALLOY ALCLAD 2024 - T4

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

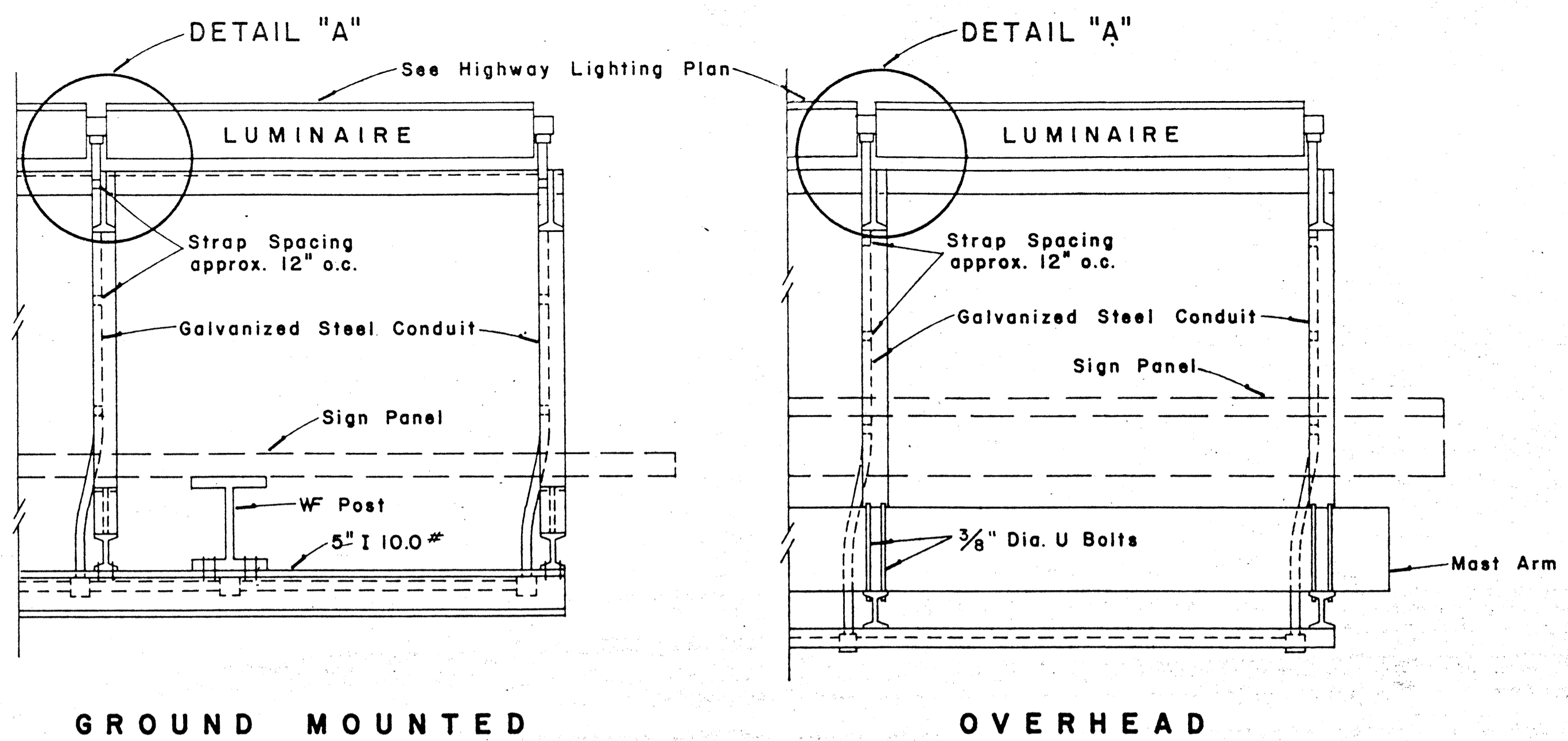
SURVEY PLOTTED BY: _____
 ORIGINAL DESIGNED BY: _____
 PLAN DRAWN BY: _____
 NOTE BOOK QUANTITIES CHECKED BY: _____
 NO. _____

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(2)-14 I-H3-1(2)-5	1969	73B	276

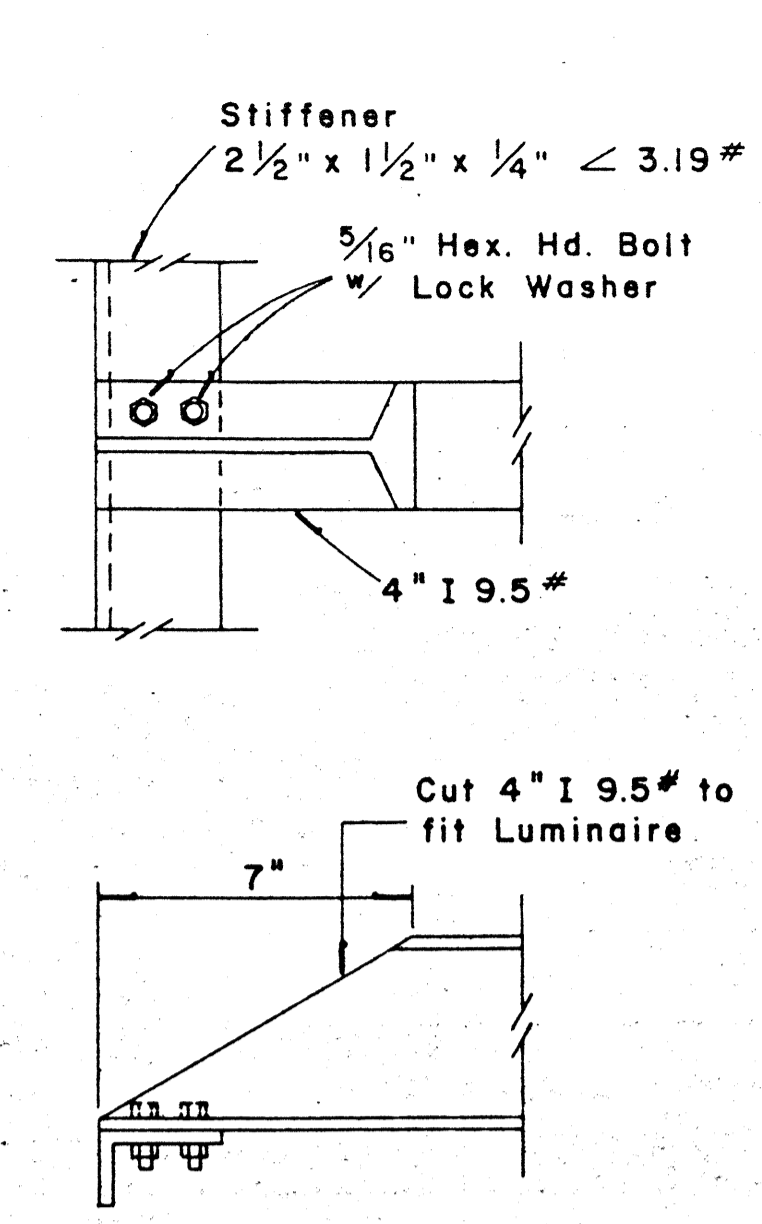
GENERAL NOTES

1. Conduit sizes: $\frac{3}{4}$ " 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 to fit 4'-0" to 6'-0" luminaires with fittings. Eight feet (8'-0") 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.



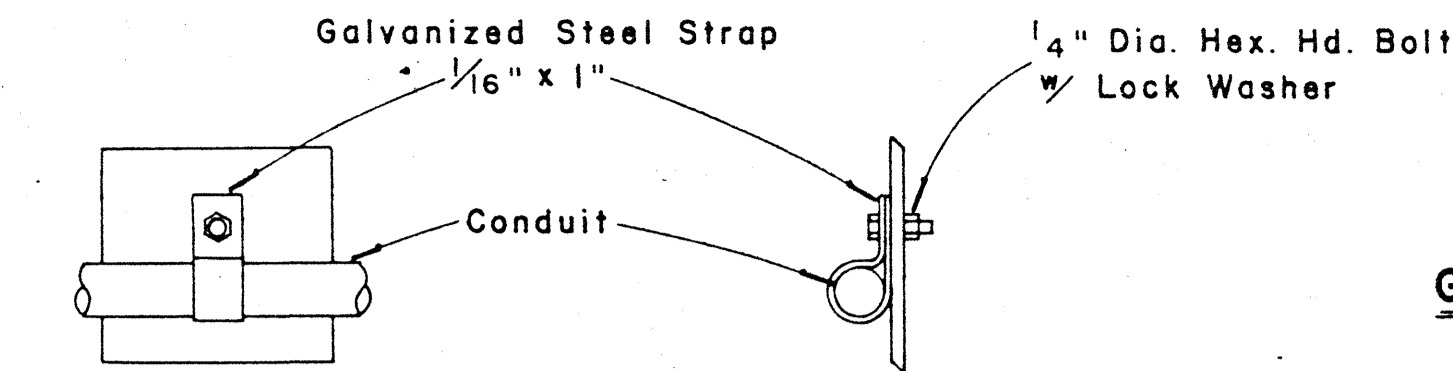
**TOP VIEW
LUMINAIRE MOUNTING**

Scale: 1" = 1'-0"



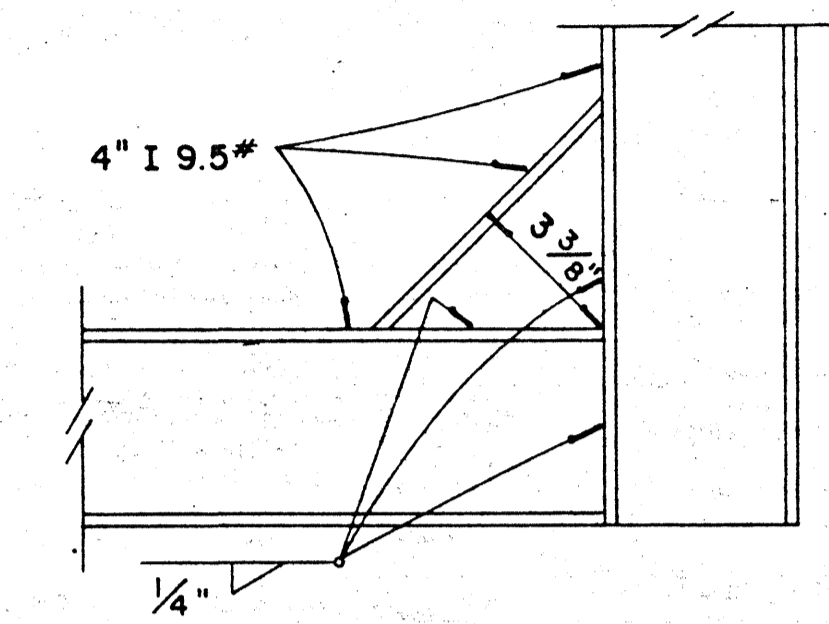
DETAIL "A"

Scale: 3" = 1'-0"



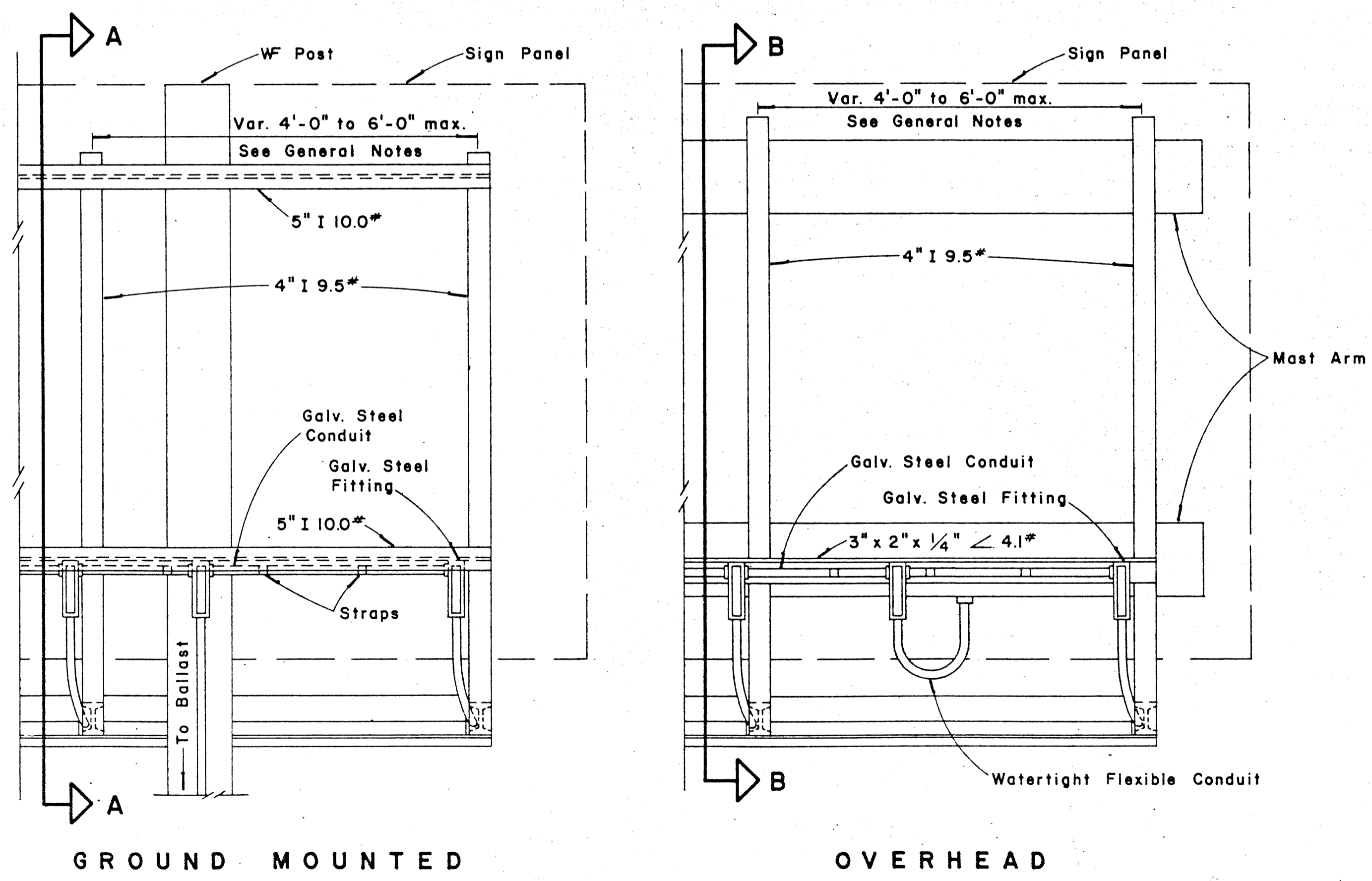
CONDUIT STRAP DETAIL

Scale: 3" = 1'-0"



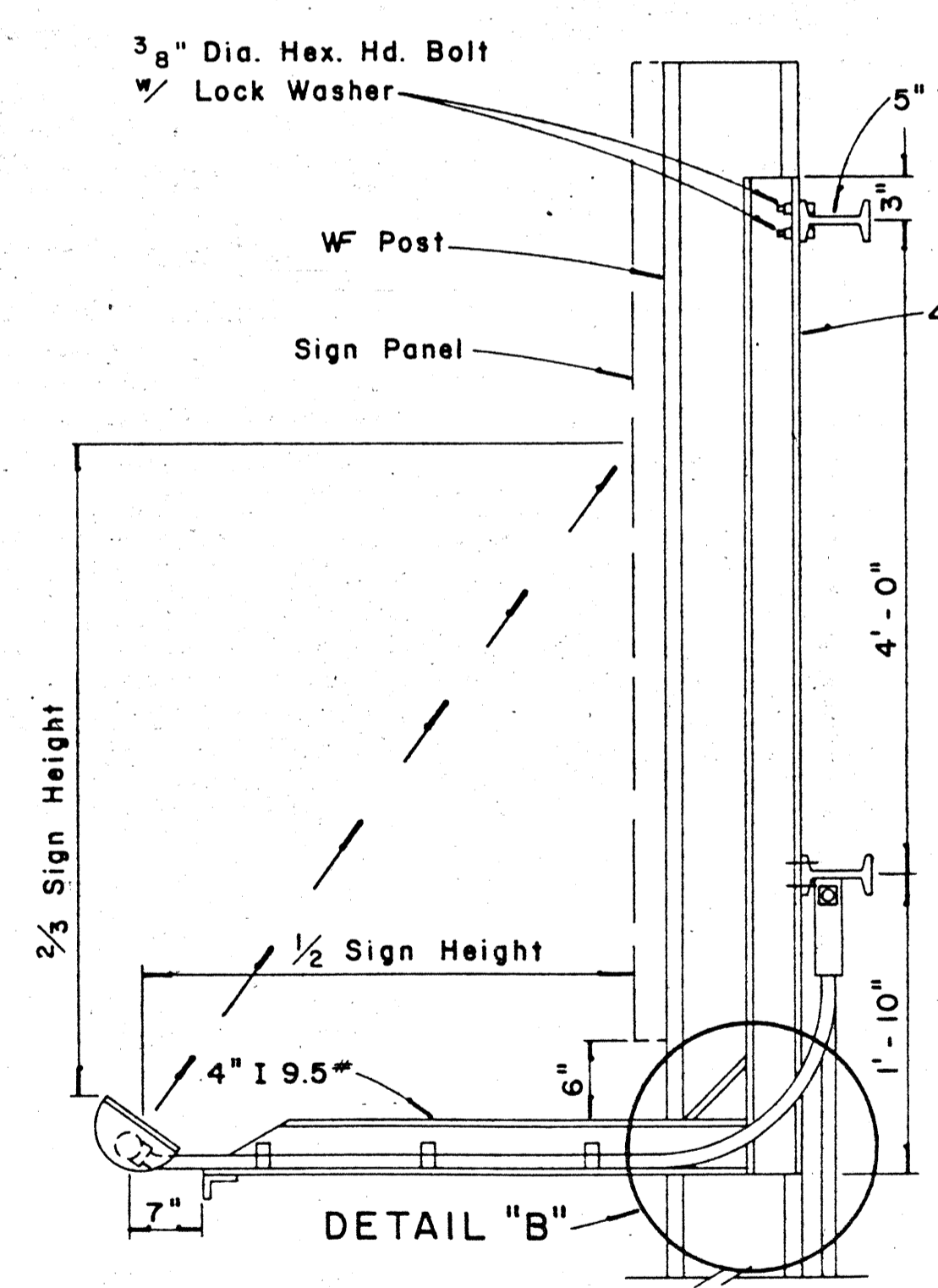
DETAIL "B"

Scale: 3" = 1'-0"



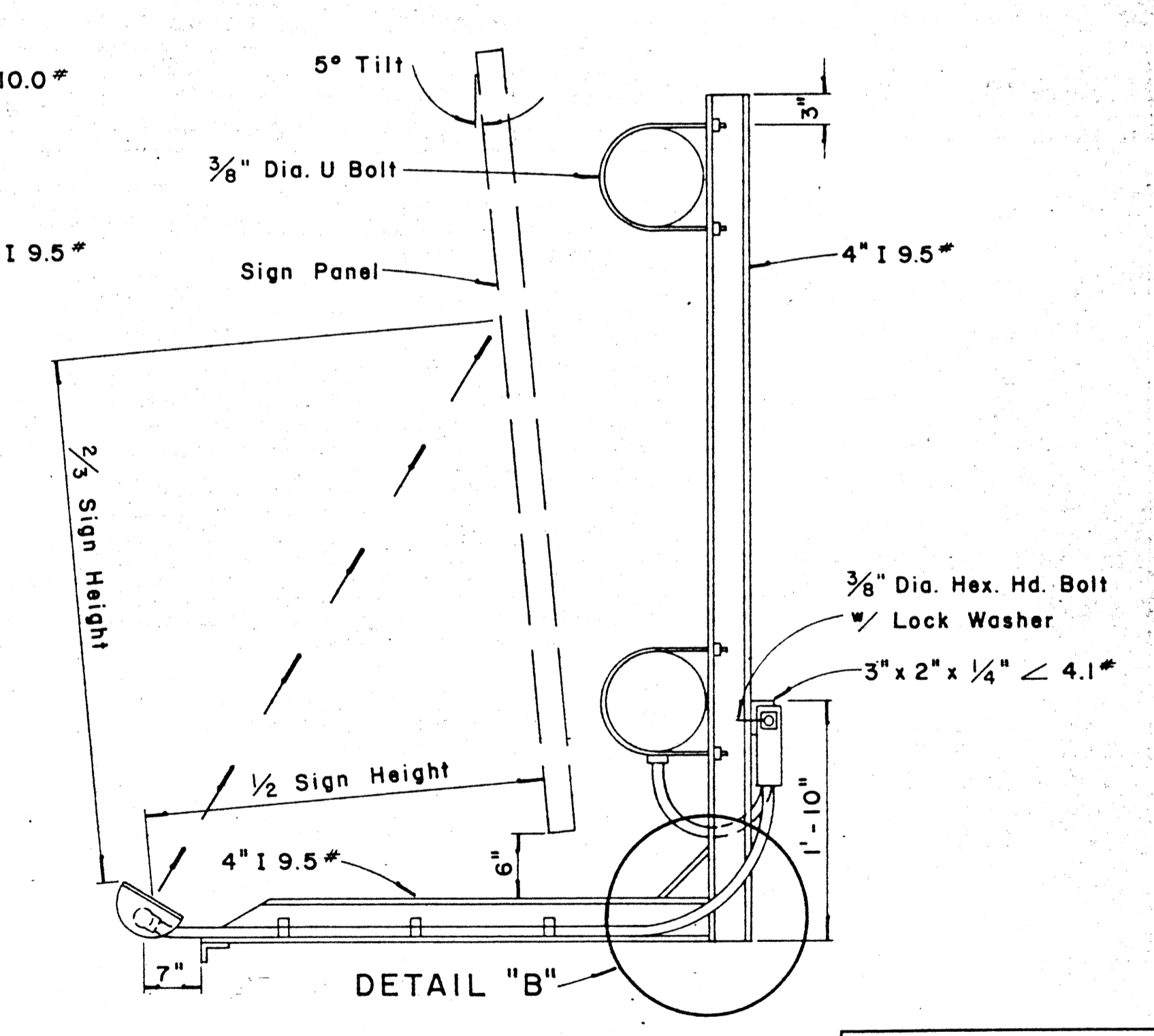
**REAR VIEW
LUMINAIRE MOUNTING**

Scale: 1" = 1'-0"



SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EXPRESSWAY SIGNS
LUMINAIRE MOUNTINGS**

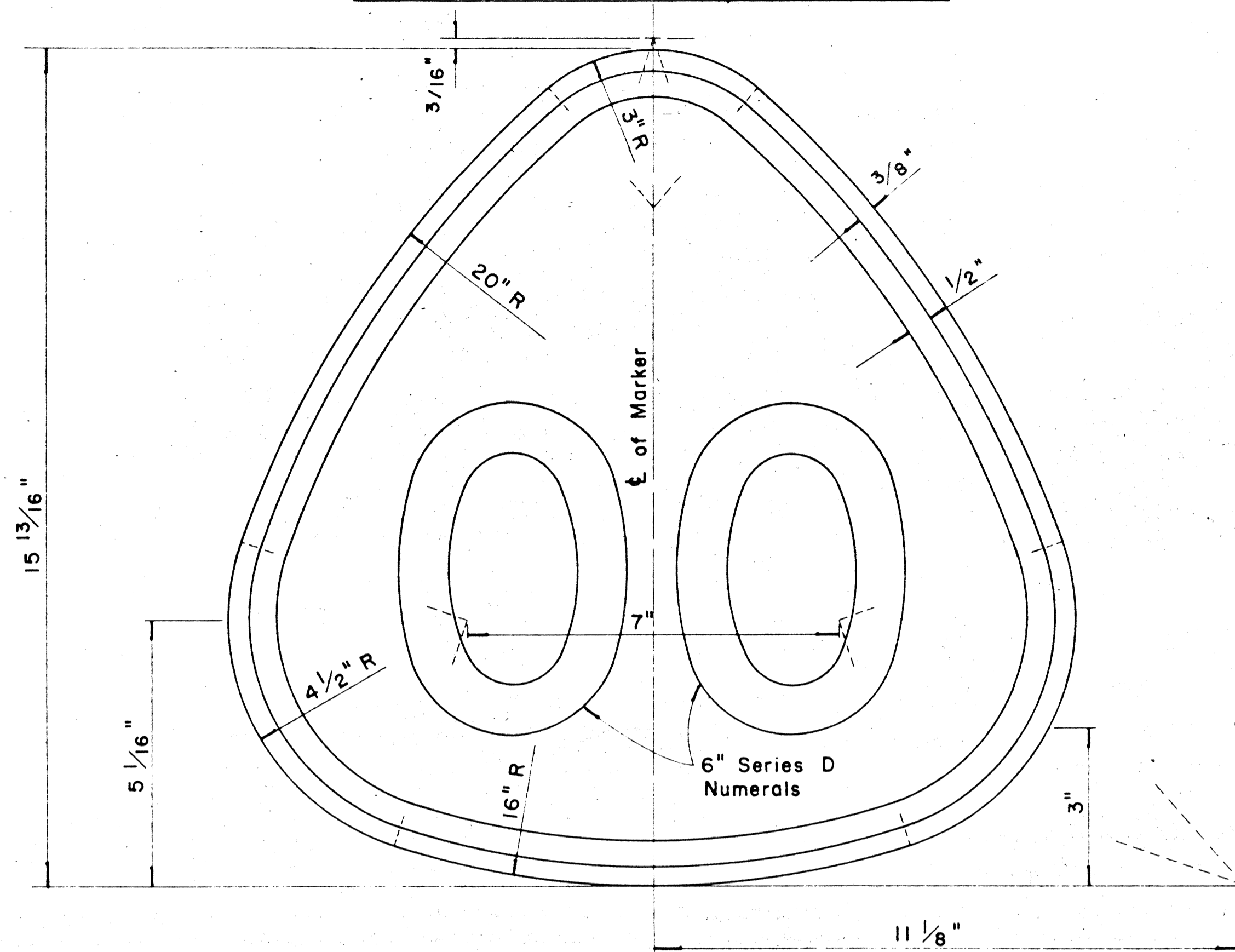
Scale: As Shown

SHEET No. 27 OF 31 SHEETS DT 206

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
DRAWN BY: _____
SCALE: _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(6)-14 1-H3-1(2)-8	1969	73C	278

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



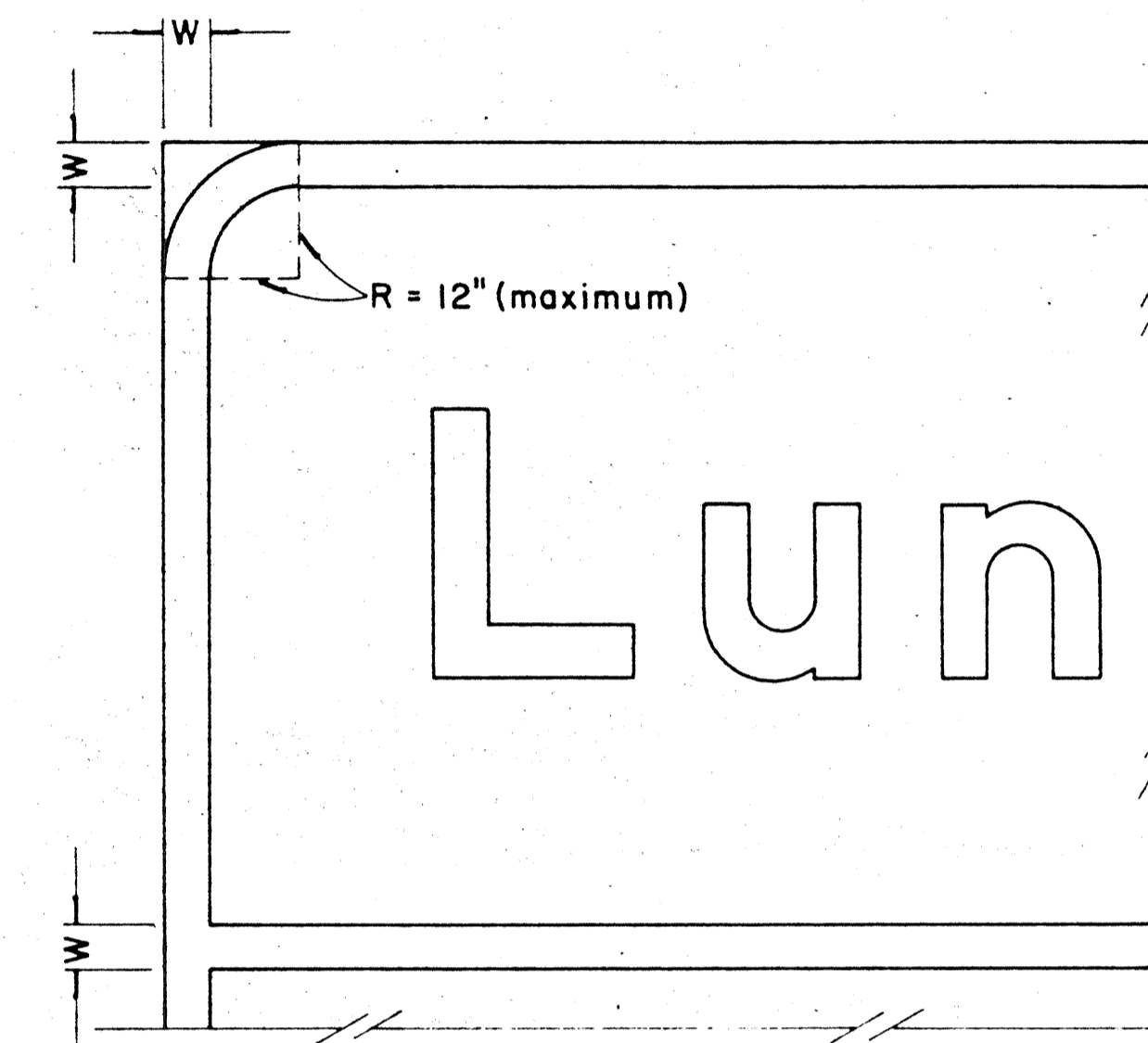
**STATE ROUTE MARKER
FOR
DESTINATION & EXPRESSWAY SIGNS**

Scale: Half Size

NOTE:

1. 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.
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.

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:

1. Area outside corner radius need not be trimmed.
2. All borders shall be embossed cut-outs, white and reflectorized.
3. 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**

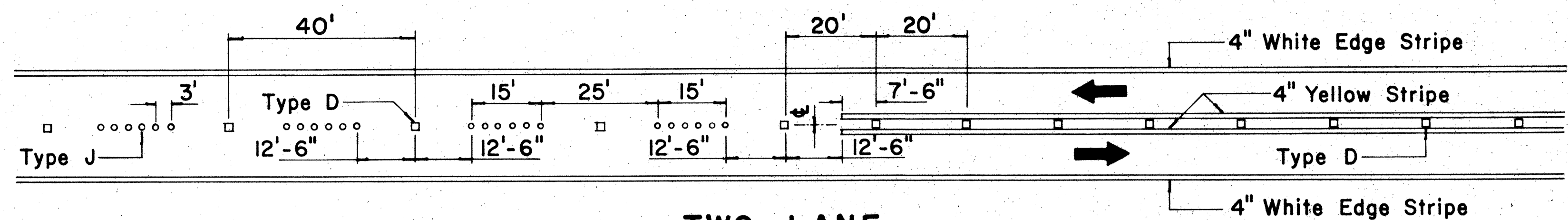
Scale: As Shown

SHEET No. 28 OF 31 SHEETS DT 200

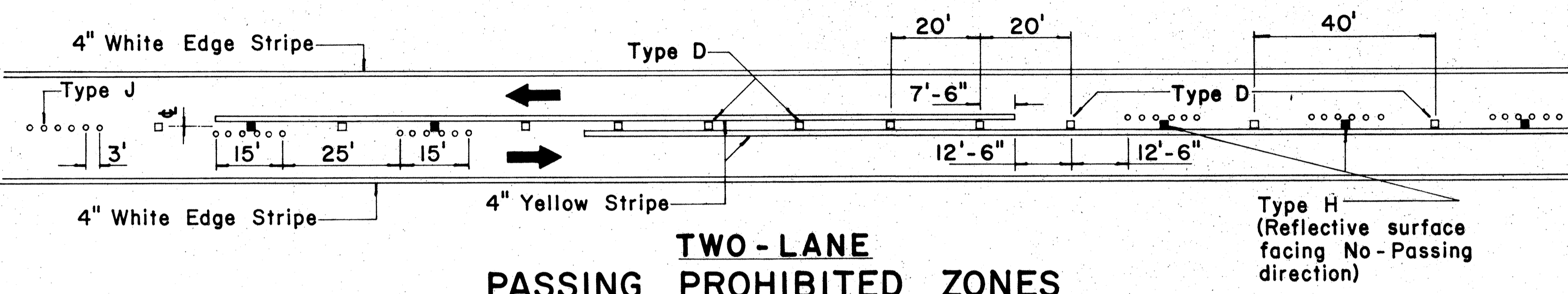
73C

SURVEY PLOTTED BY: _____ DATE: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 QUANTITIES BY: _____
 CHECKED BY: _____
 DINAL LAM
 NOTE BOOK
 No. _____

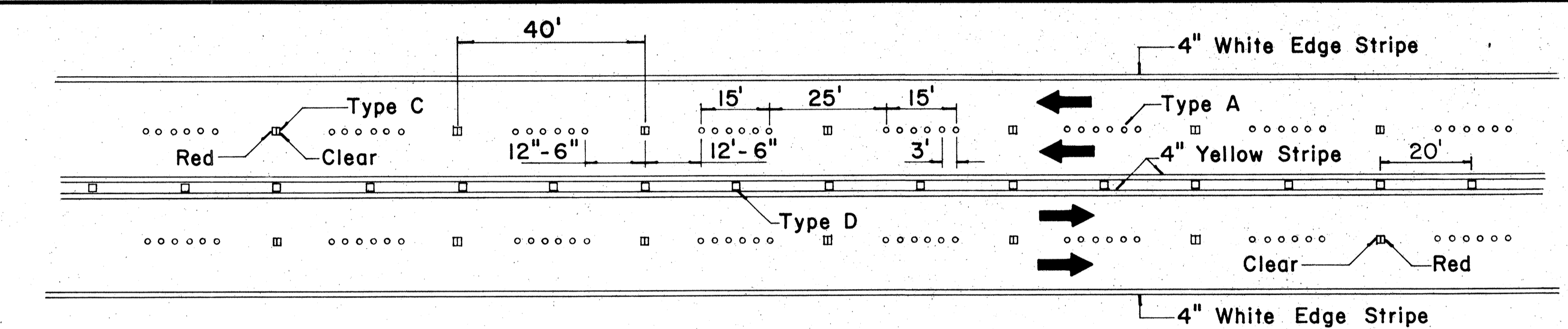
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



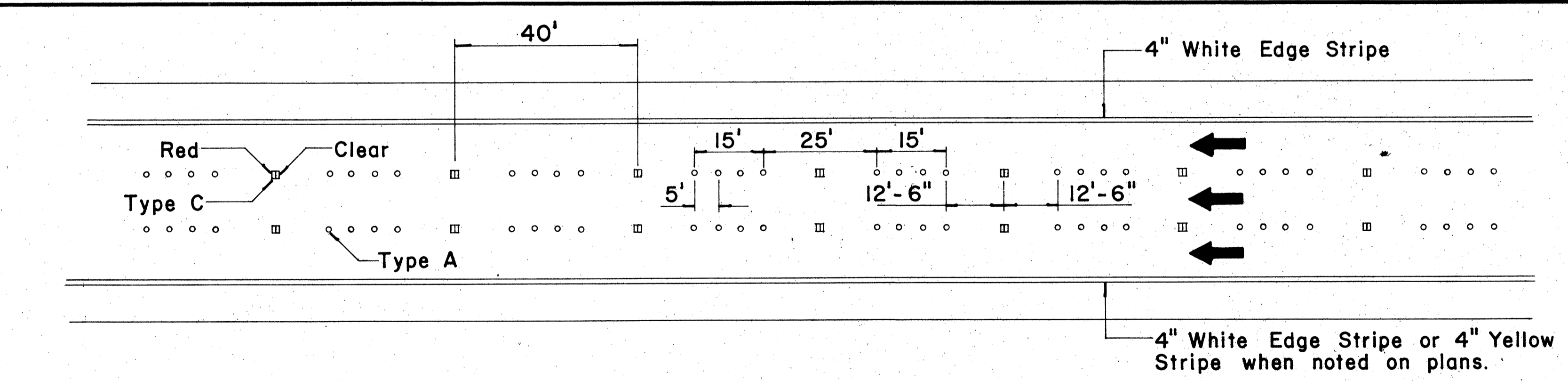
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**



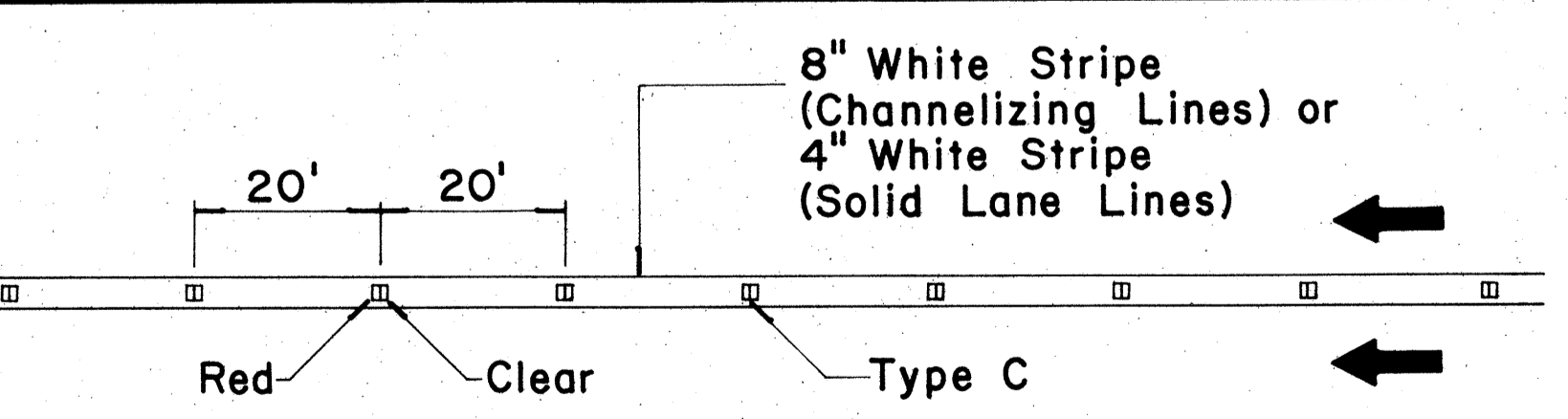
**TWO-LANE
PASSING PROHIBITED ZONES**



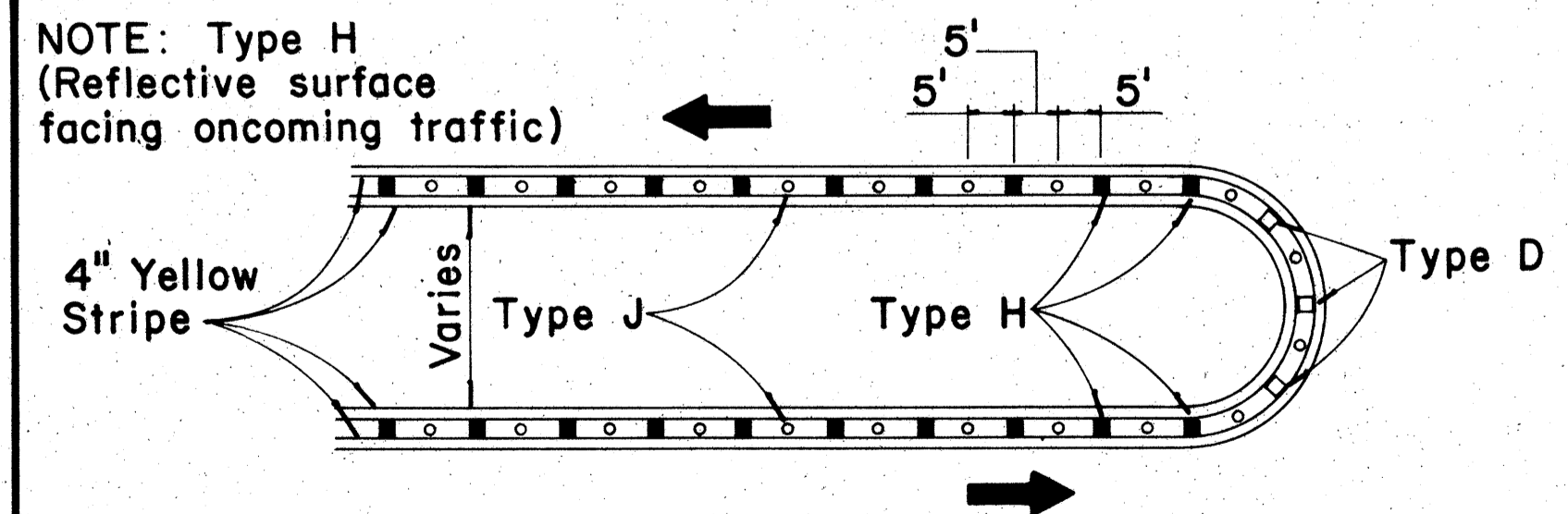
**MULTI-LANE
LANE LINES AND CENTER LINE**



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



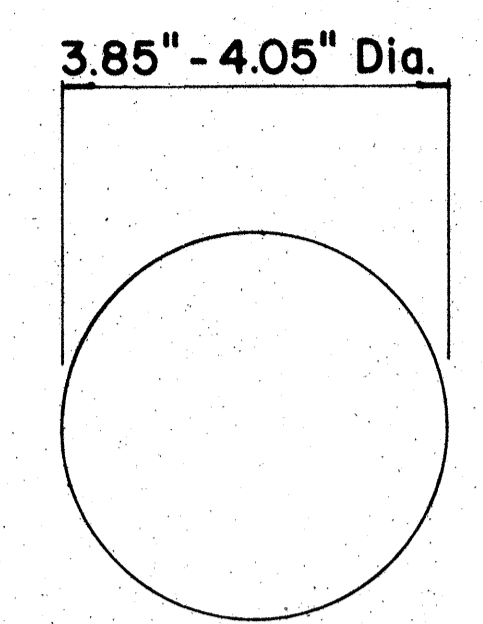
MEDIAN NOSE DELINEATION

TWO - LANE

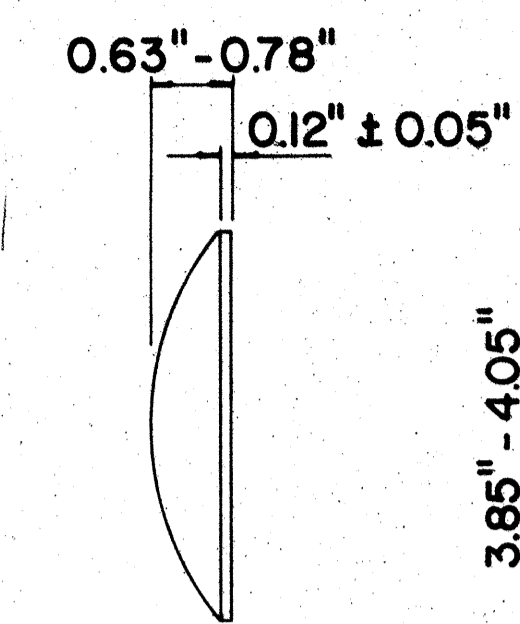
MULTI - LANE

FREEWAY

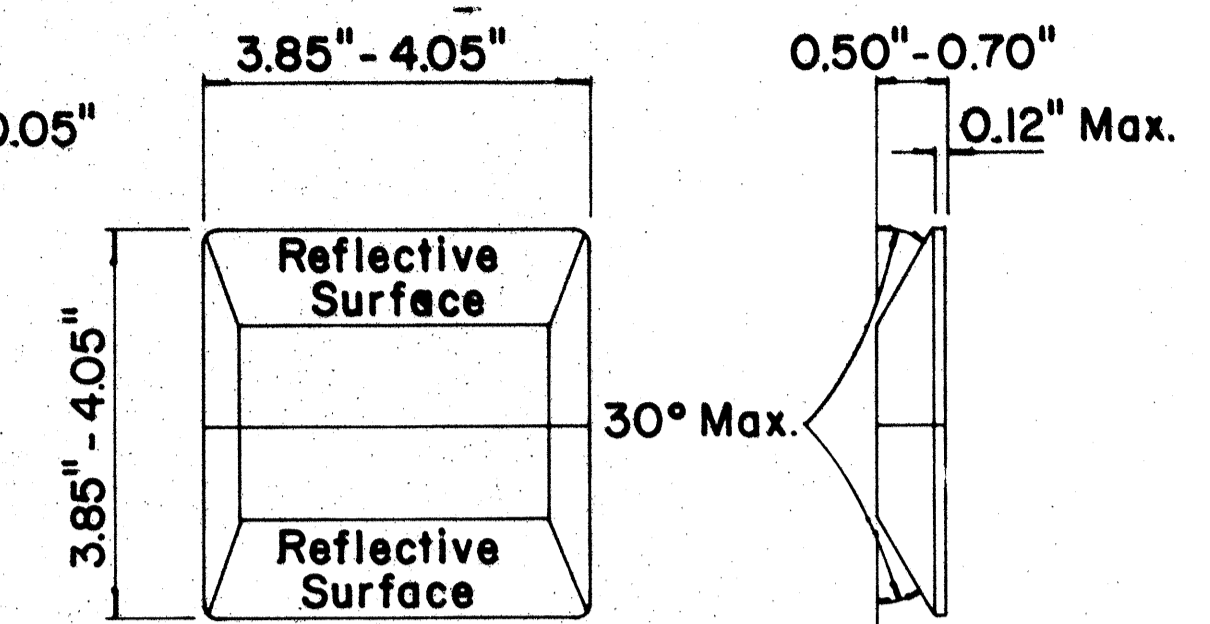
MISCELLANEOUS



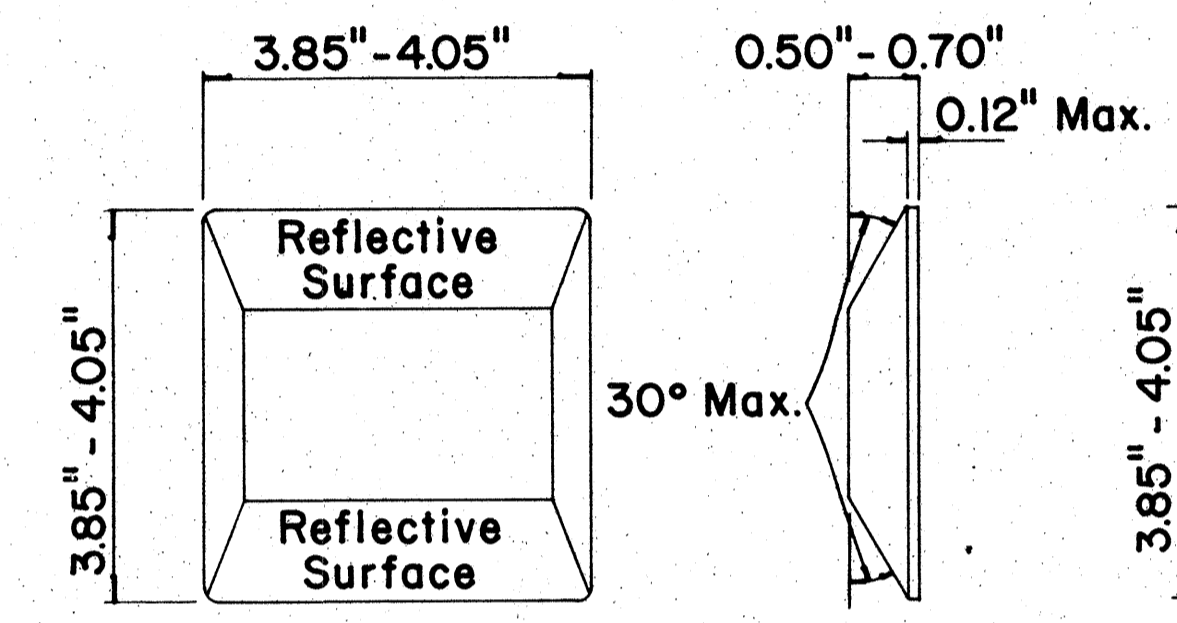
**TYPE A
NON-REFLECTIVE WHITE MARKER**



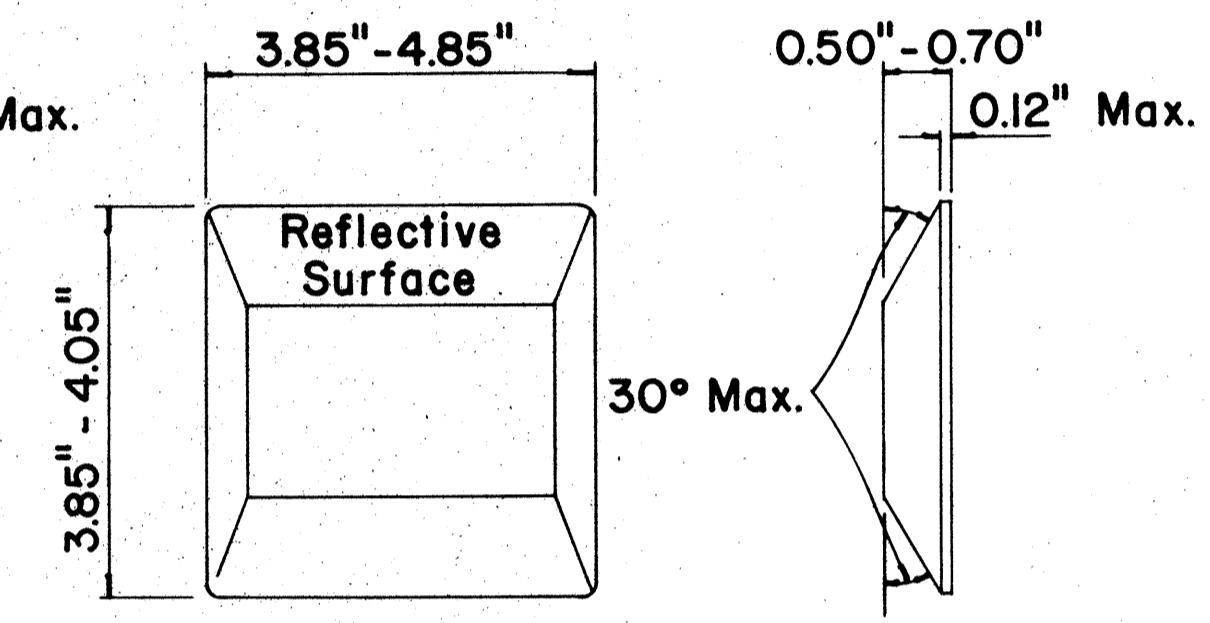
**TYPE J
NON-REFLECTIVE YELLOW MARKER**



**TYPE C
RED-CLEAR REFLECTIVE MARKER**



**TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER**



**TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER**

GENERAL NOTES

1. Painted stripes to be done by State forces unless otherwise specified.

APPROVAL RECOMMENDED:
Erich Tanaka 11/18/71
 TRAFFIC ENGINEER DATE

APPROVED:
Shelton Zateish 11/18/71
 ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72

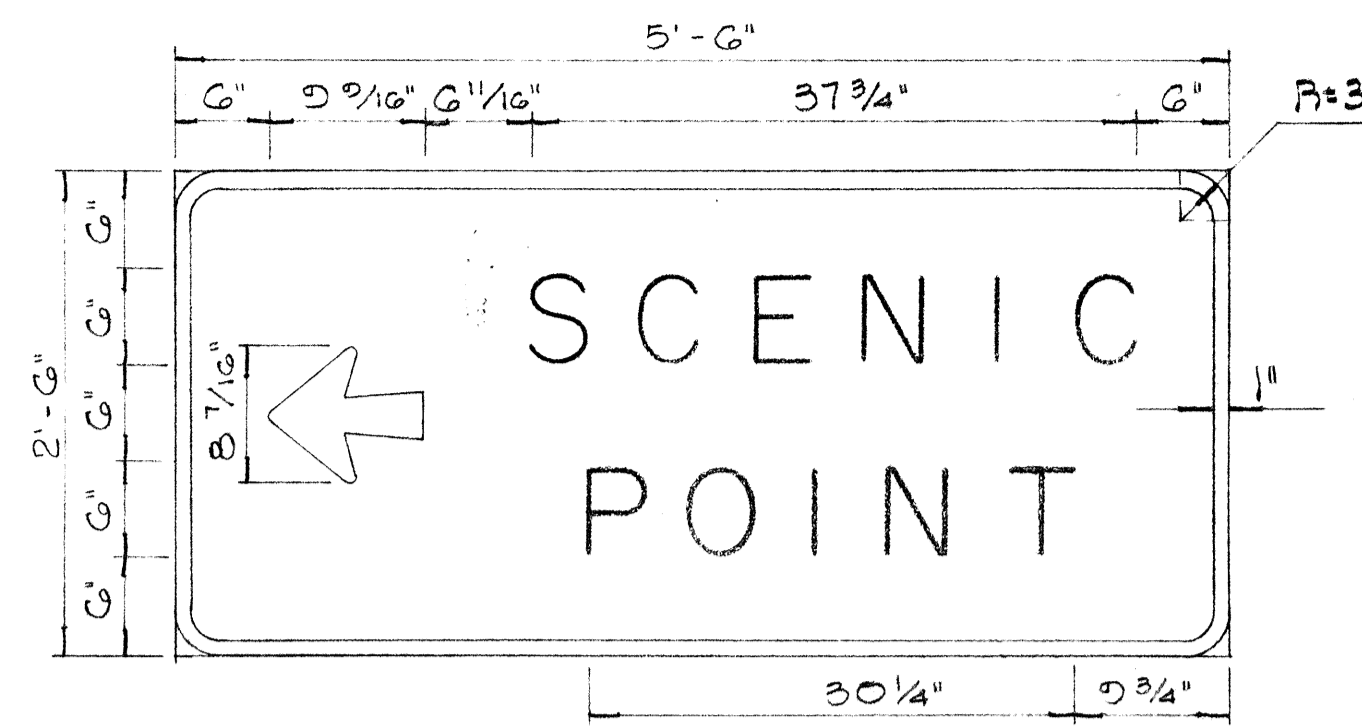
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

**STANDARD DETAILS
 RAISED PAVEMENT MARKERS**

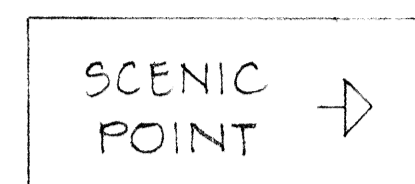
Not to Scale October 1971
 SHEET No. OF SHEETS DT 300

SURVEY PLOTTED BY: _____ DATE: _____
 ORIGINAL PLAN: _____
 DESIGNED BY: _____
 NOTE BOOK: _____
 QUANTITIES BY: _____
 CHECKED BY: _____

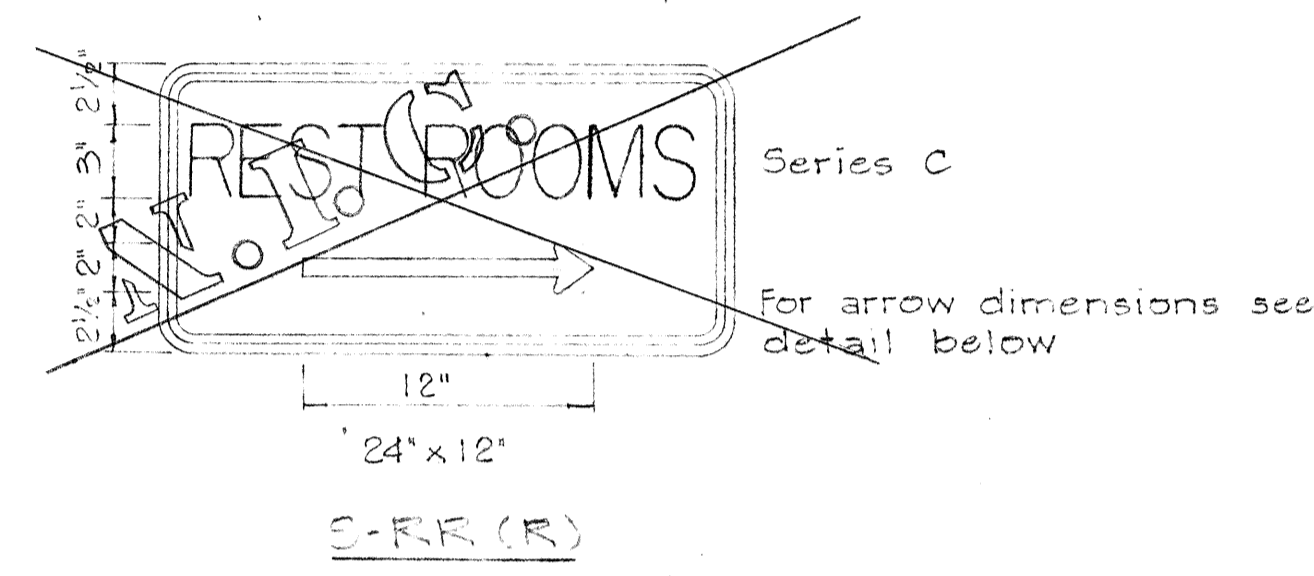
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-(2)14 I-H3-(2)8	1967	73F	280



D-SP(L)



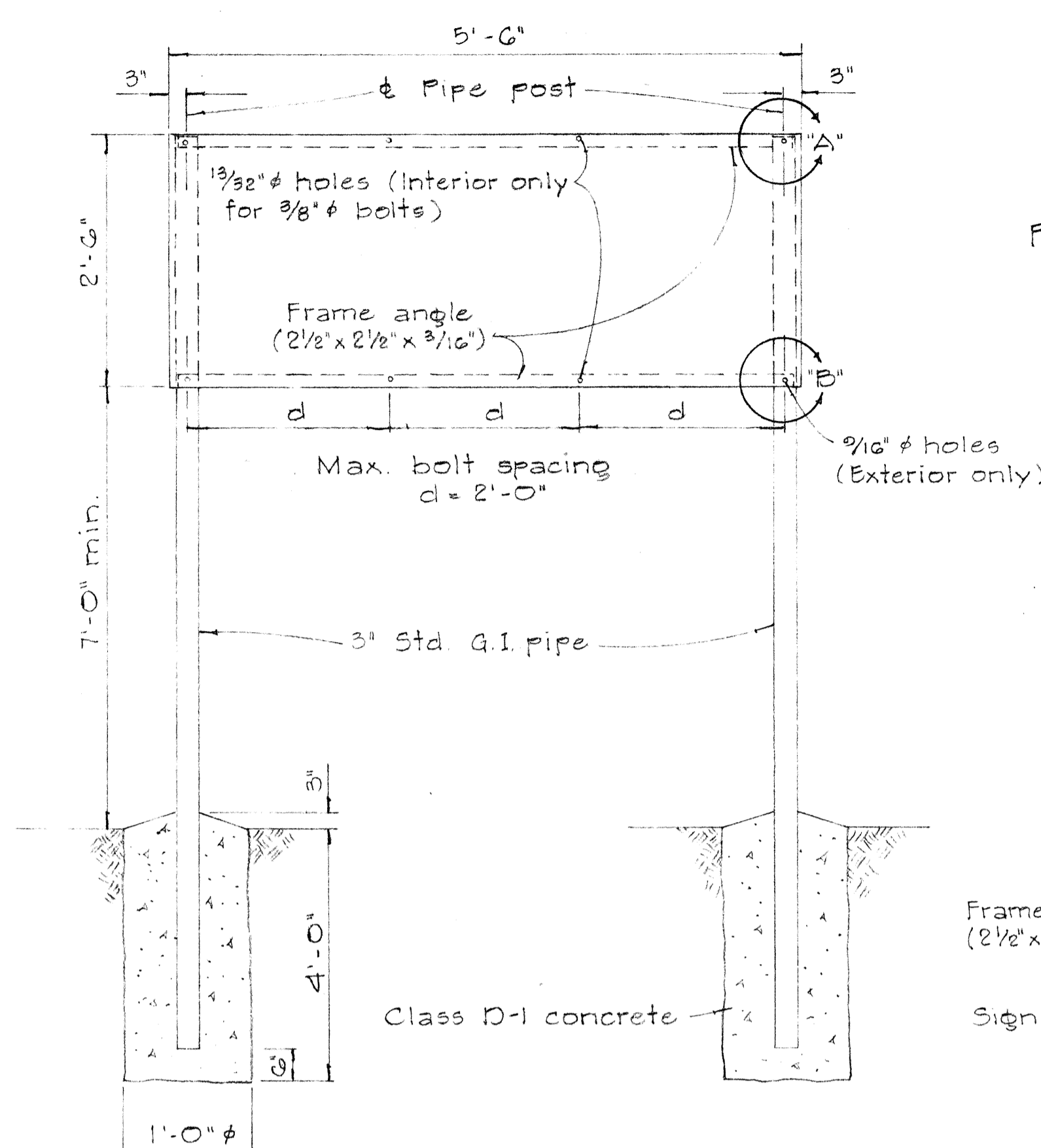
D-SP(R)



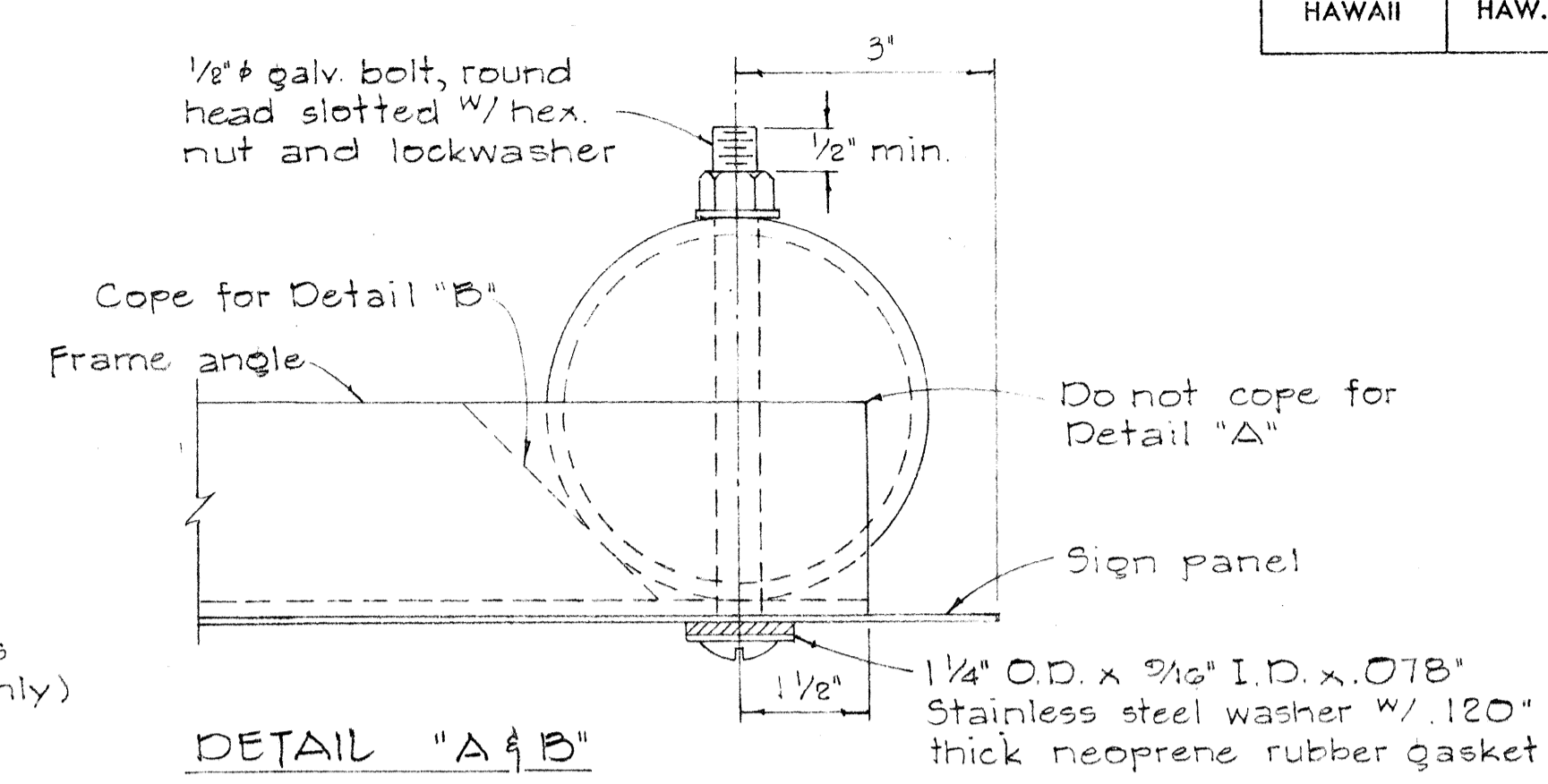
D-RR(R)

GENERAL NOTES

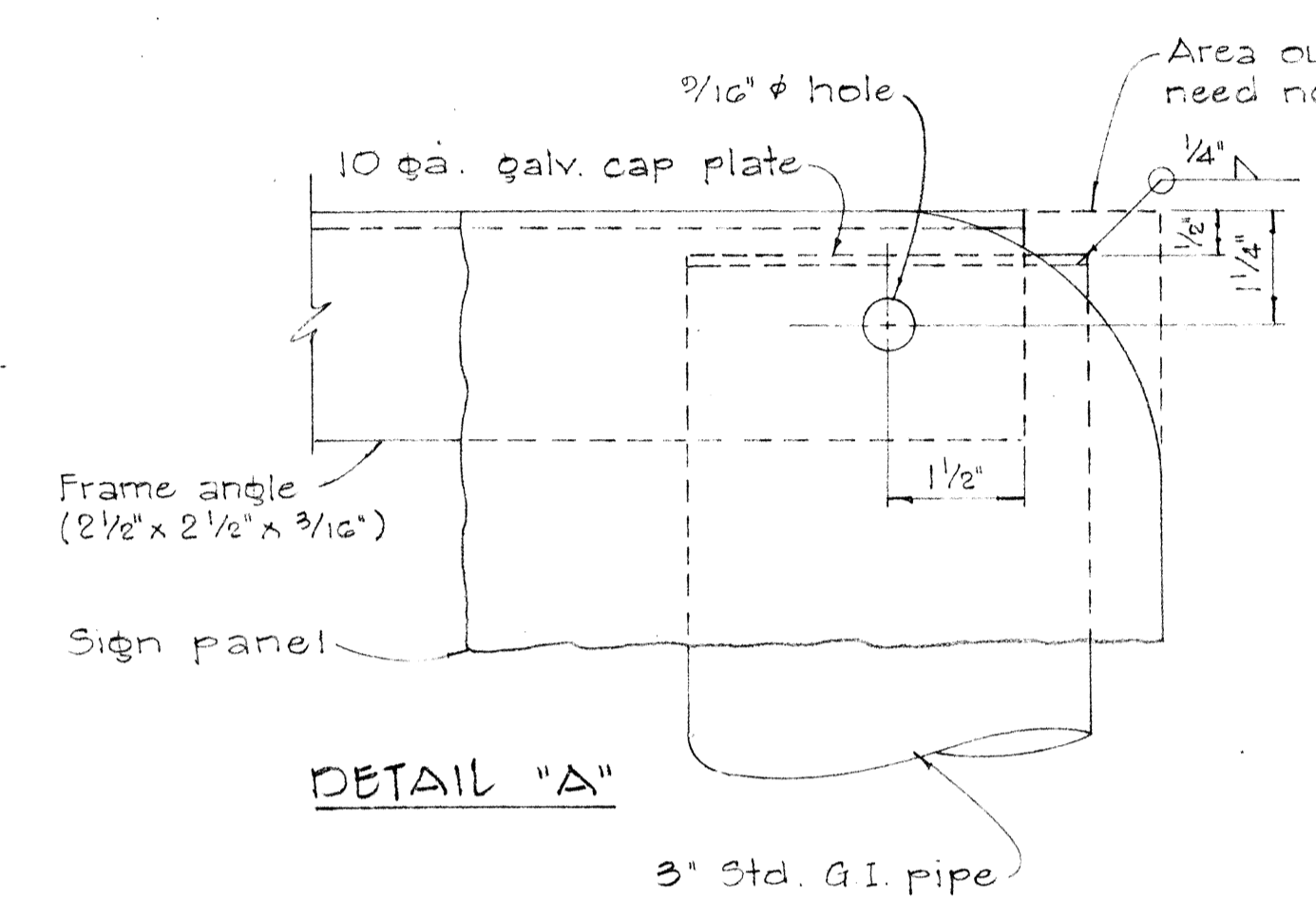
1. Sign message shall be lettered in upper case according to "Standard Alphabets for Highway Signs," Bureau of Public Roads, 1952, and lower case according to "Standard Lower Case Alphabets for Highway Signs," Bureau of Public Roads, 1962. Use Series "E" modified letters unless otherwise noted.
 2. Arrows shall conform with details as shown on plan.
 3. Signs legends and borders shall be reflectorized white on reflectorized green background unless otherwise noted.
 4. Sign panels shall be made from 0.100" thick sheet aluminum.
 5. Sign D-SP(L) shall be reflectorized white on reflectorized blue background.
- (R) or (L) indicates right or left and shall be as shown on the plans.



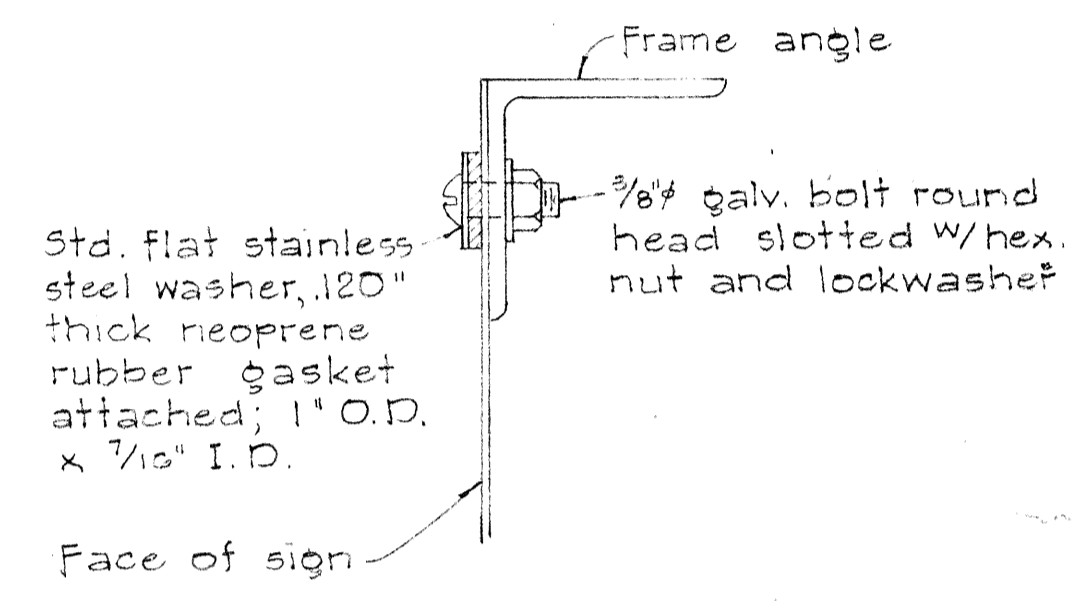
D-SP ELEVATION



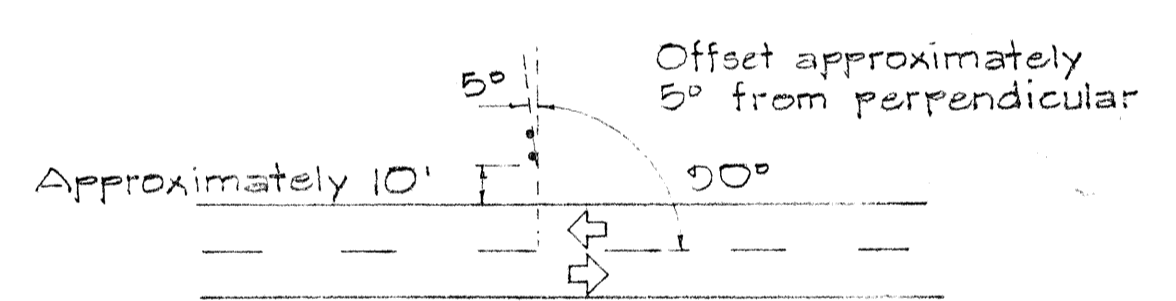
DETAIL "A & B"



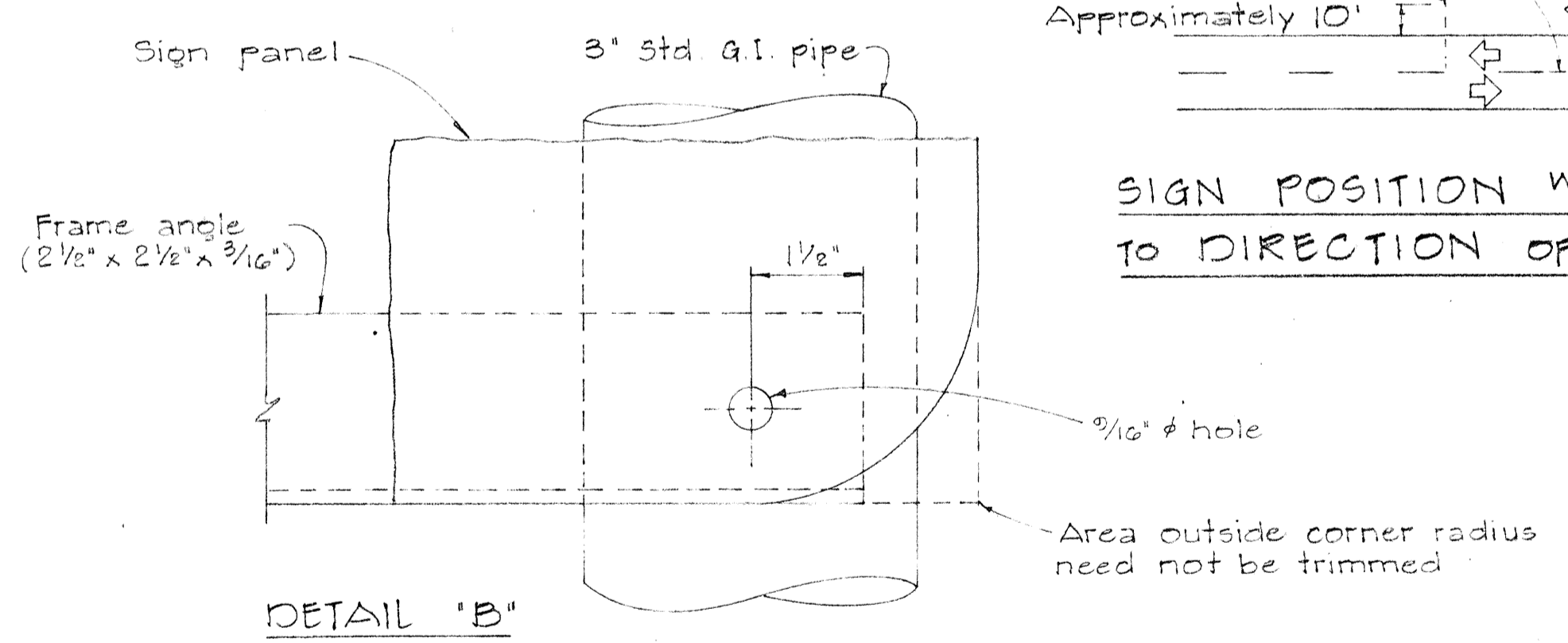
DETAIL "A"



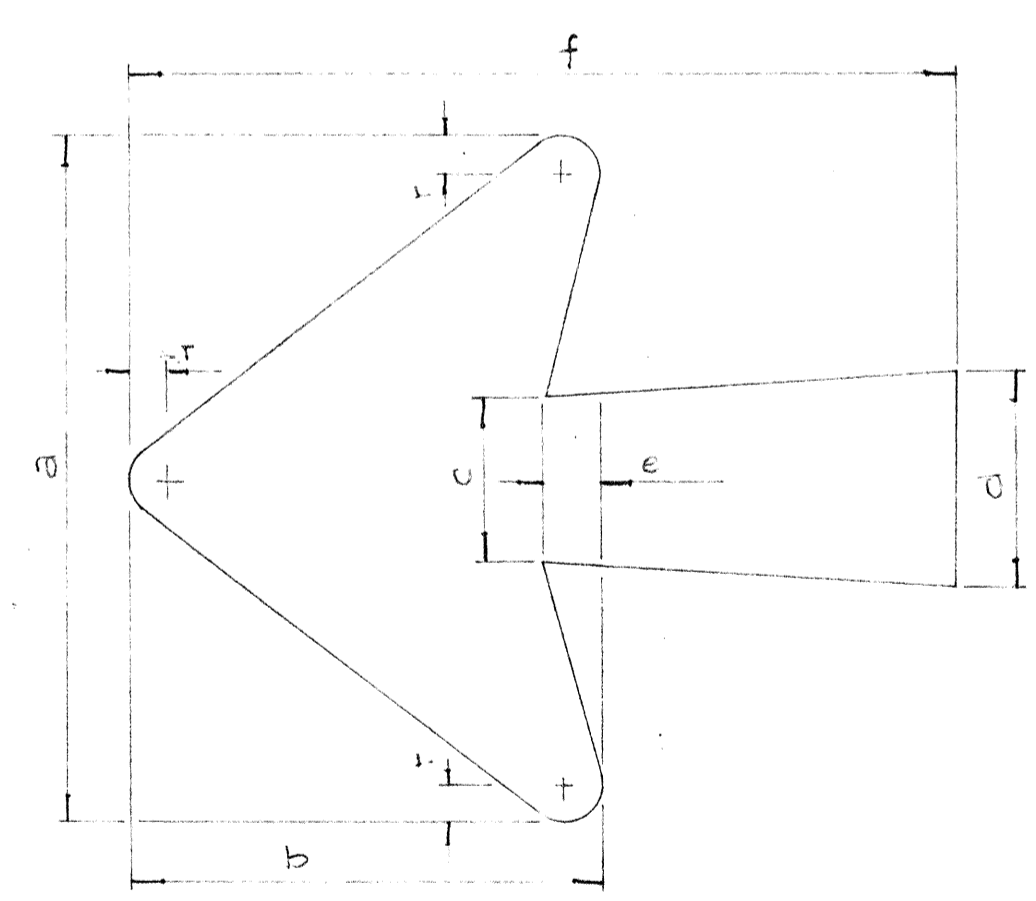
ATTACHMENT OF SIGN PANEL TO FRAME



SIGN POSITION W/ RELATION TO DIRECTION OF TRAFFIC

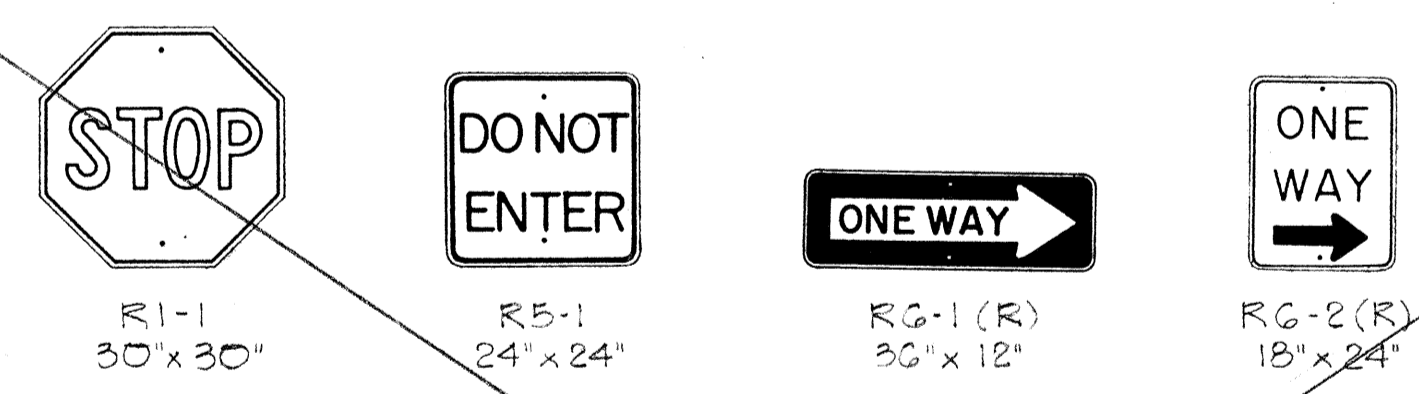


DETAIL "B"



Arrow Size	Arrow Dimensions in inches						
	a	b	c	d	e	f	r
8 7/16" x 2 9/16"	8 7/16	5 1/16	2 3/16	2 3/16	5/8	2 9/16	3/8
2" x 12"	2	1 1/2	3/4	3/4	1/2	12	1/8

TYPICAL ARROW DETAILS



NOTES:

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 3/8 inch bolt holes drilled at appropriate locations unless otherwise noted.
4. (R) or (L) indicates right or left and shall be as shown on the plans.

REGULATORY SIGNS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DESTINATION SIGNS
MISCELLANEOUS DETAILS

FBI PROJ. I-H3-(2)14, I-H3-(2)8

SCALE: AS SHOWN

SHEET No. 31 OF 31 SHEETS

7311