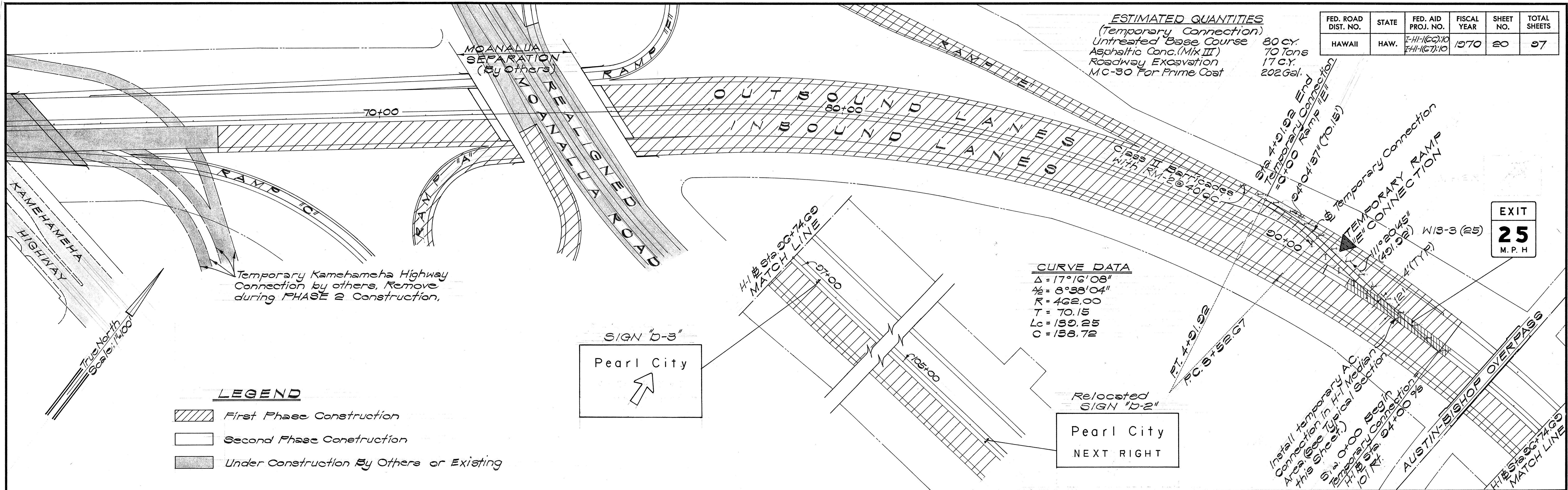




SURVEY PLOTTED BY	DATE
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	
NOTE BOOK	
NO.	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONSTRUCTION PHASING PLAN

INTERSTATE ROUTE H-1
PROJ. NO. I-H-1(66):10

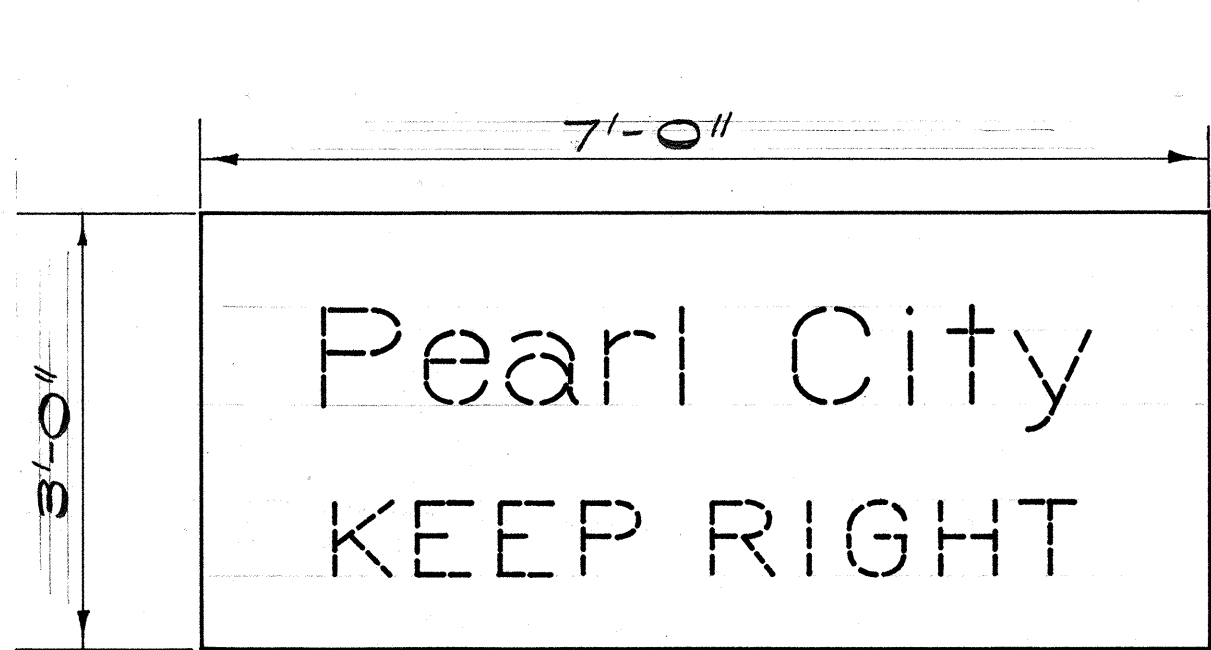
Scale: As Shown Date

SHEET No. / OF SHEETS

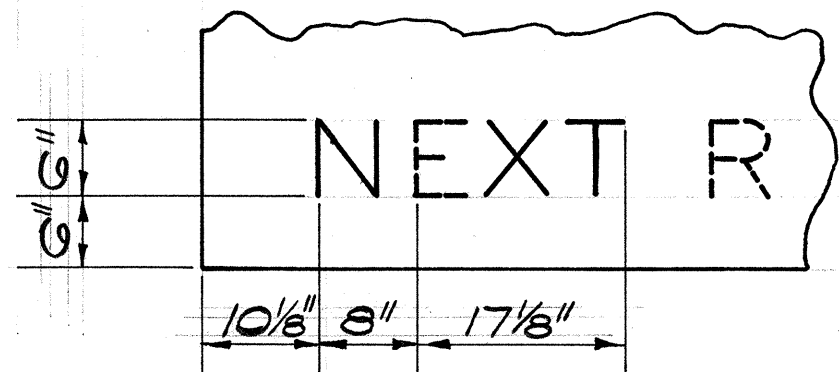
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(66):10 I-H-1(67):10	1970	21	27

GENERAL NOTES

1. Letters shall conform to the modified Series "E" letters shown in the "Standard Alphabets for Highway Signs", Bureau of Public Roads, 1961.
2. Arrows and Borders shall conform with details as shown on plans.
3. Arrows, Borders and Legend shall be of White Reflective Sheeting. Background shall be of Green Reflective Sheeting.
4. Sign Panels shall be made from 0.100" thick sheet Aluminum. * Existing Sign "D-2" similarly constructed.
5. Relocate Existing Sign "D-2" from Kamehameha Highway. (See Sht. G1 for existing location.)



NOTE:
Relocated Sign as indicated.
(Incidental to Relocation
of Sign.)

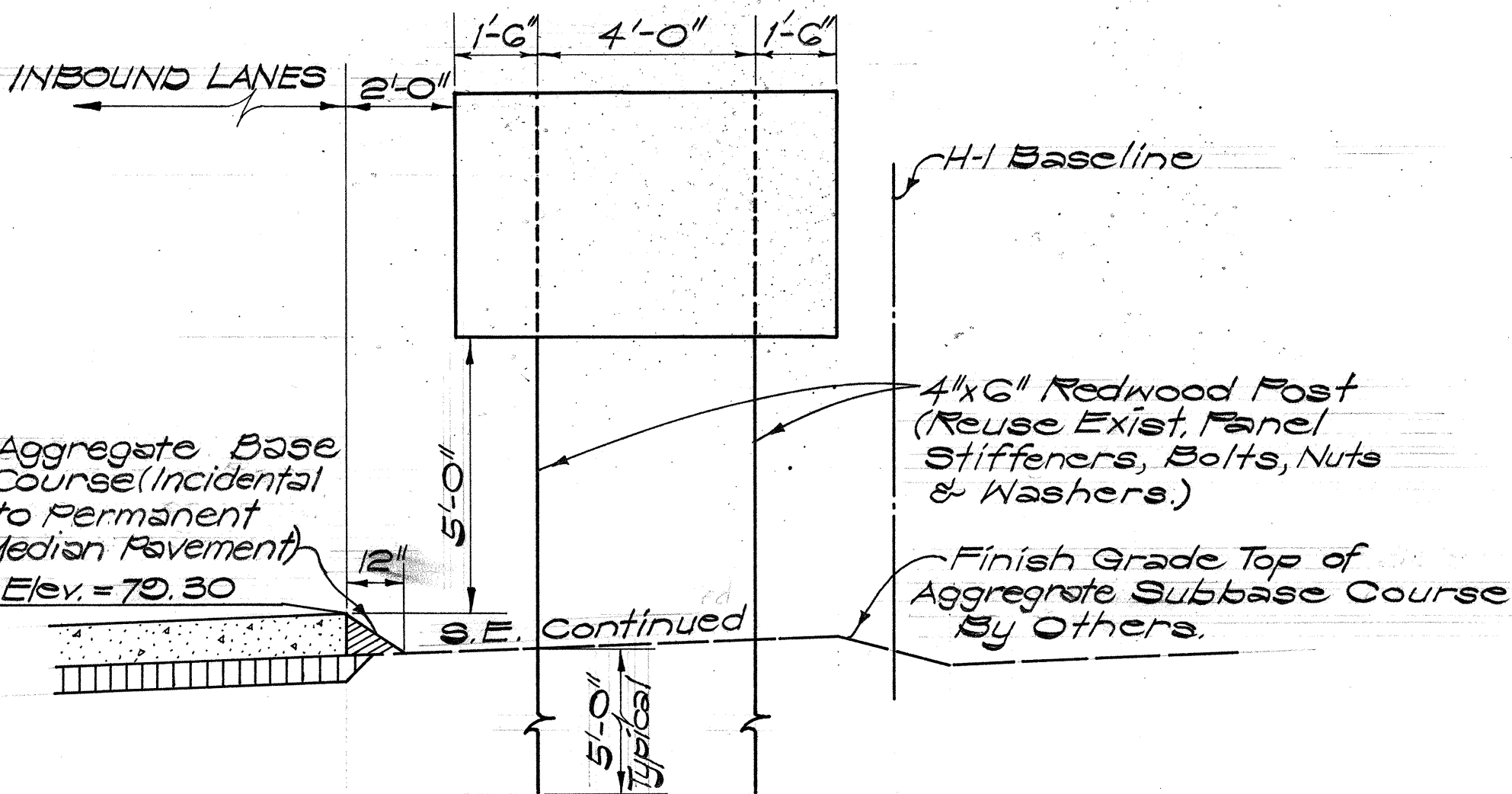
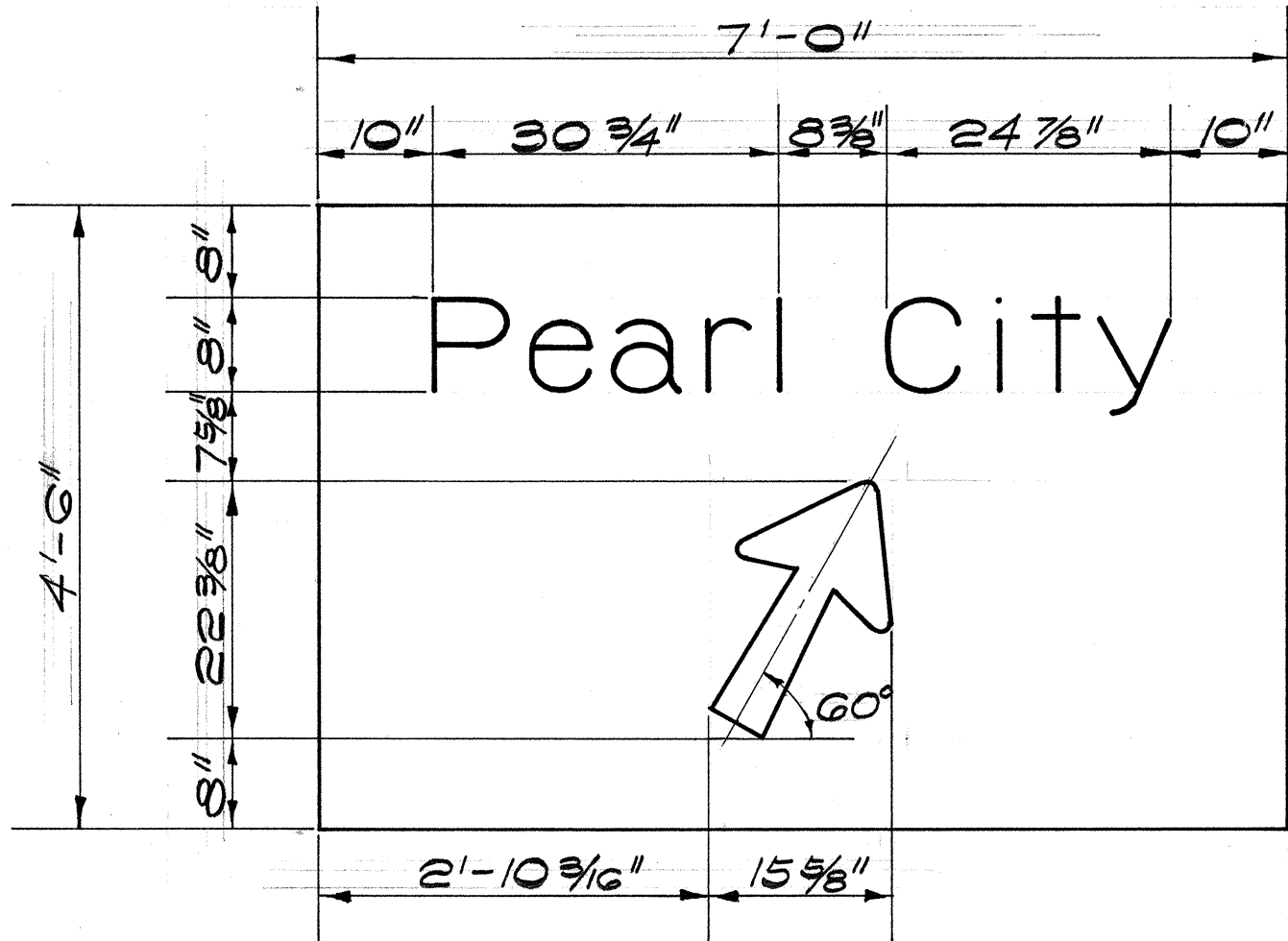


RELOCATED SIGN "D-2"

SIGN "D-3"

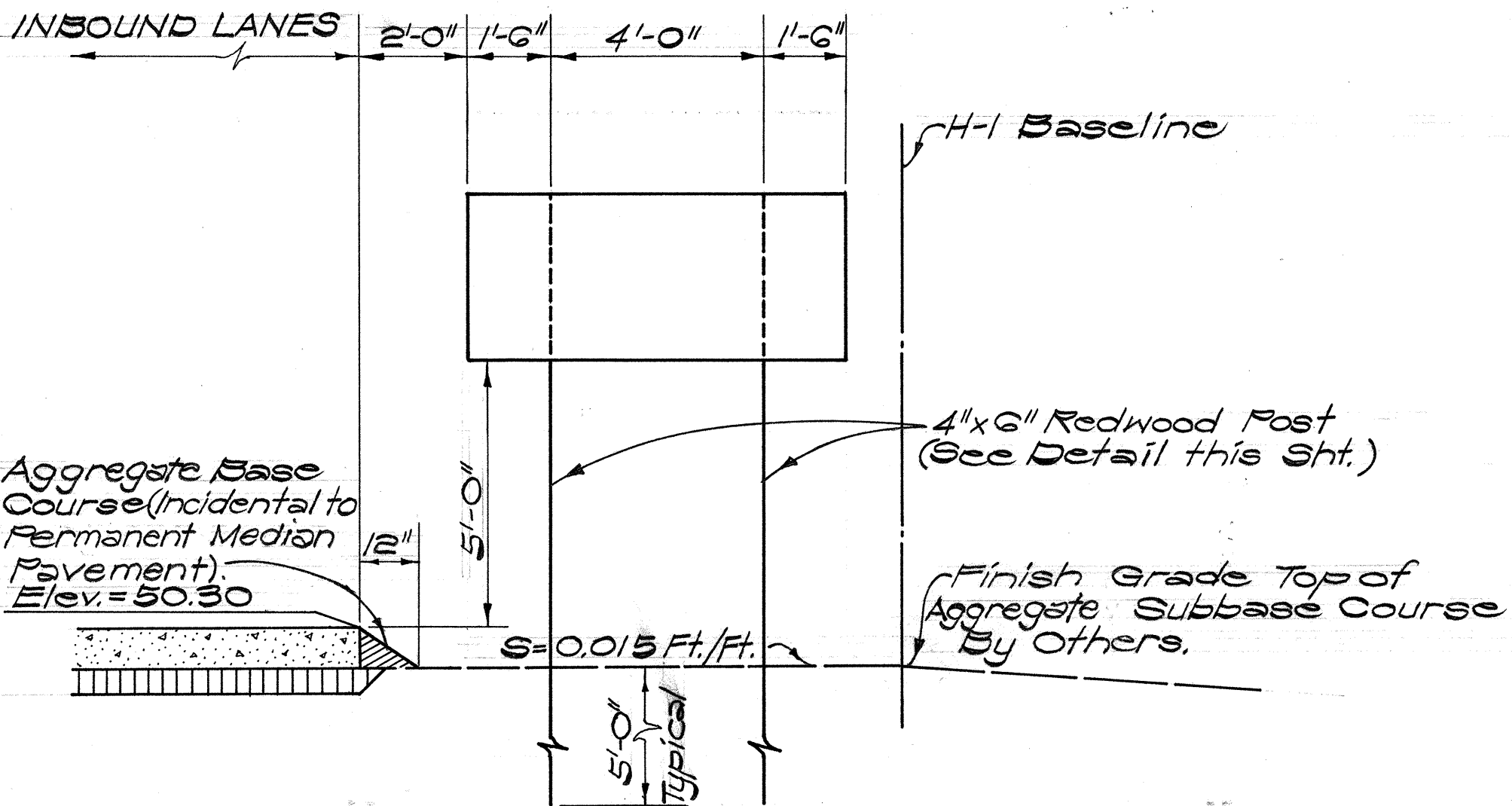
PANEL LAYOUT

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



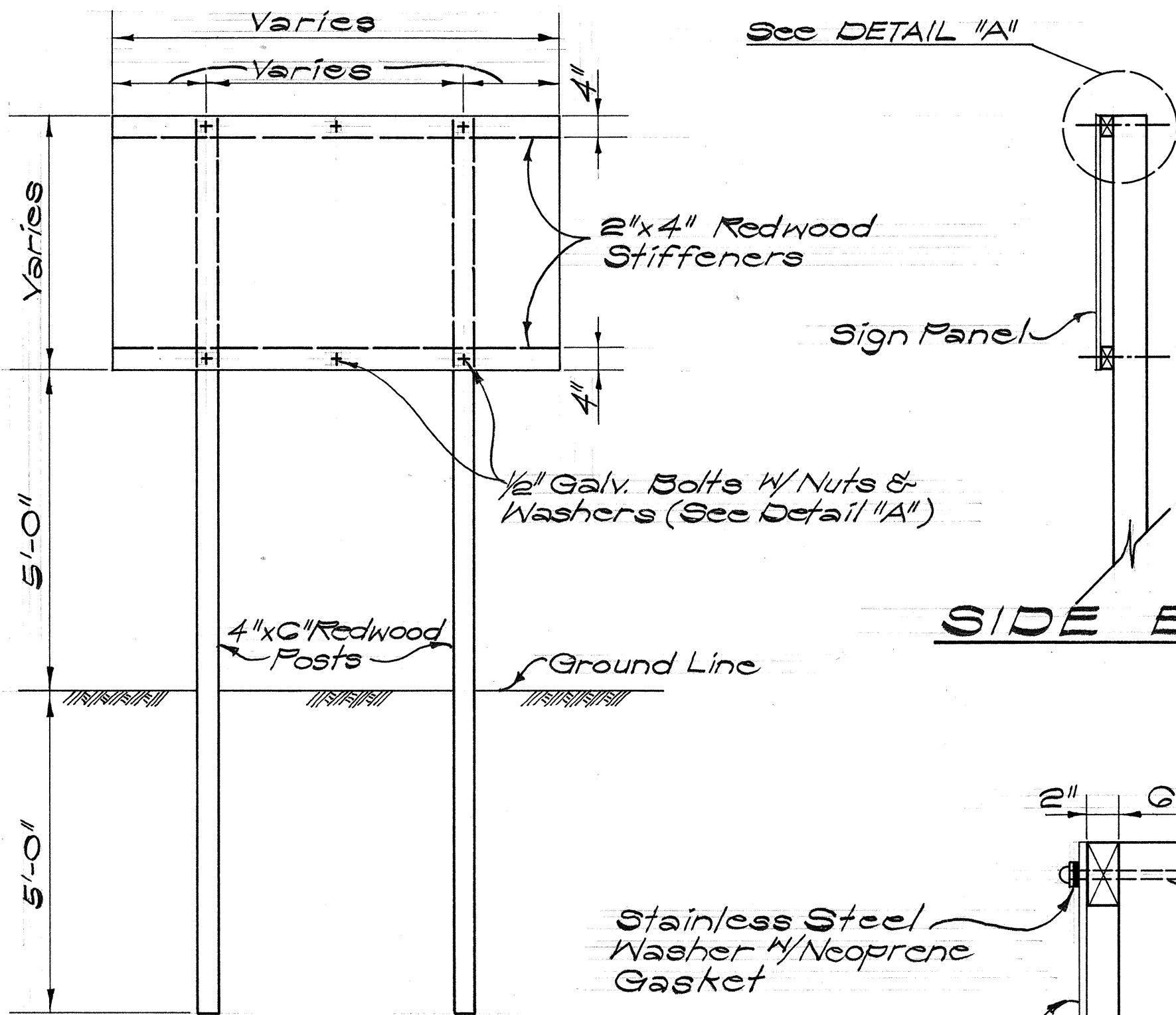
SIGN "D-2" (FRAME LAYOUT) - STA. 107+50

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



SIGN "D-3" (FRAME LAYOUT) - STA. 97+50

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



ELEVATION

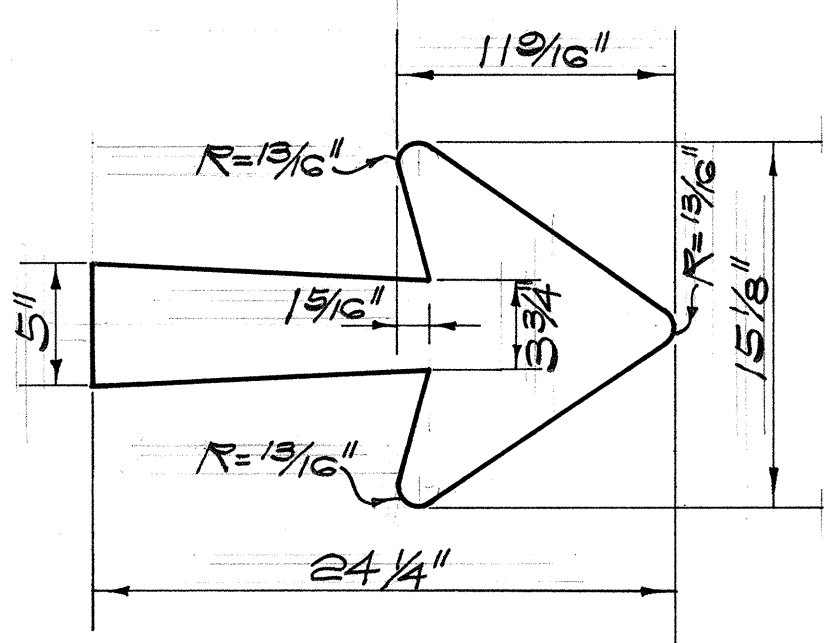
SIDE ELEV.

DETAIL "A"

DESTINATION SIGN
PANEL & POST

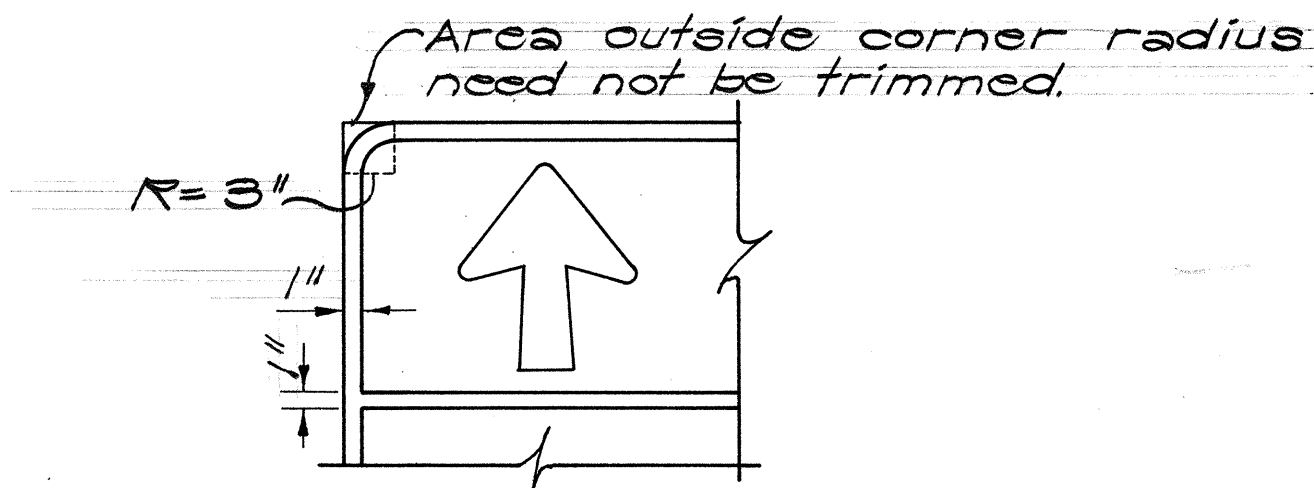
Not to Scale

NOTE:
Exist. Sign "D-2" Similarly
Constructed.



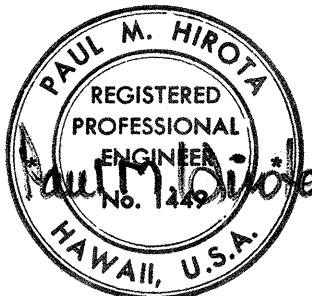
TYPE "A" ARROW DETAIL

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



BORDER DETAIL

Not to Scale



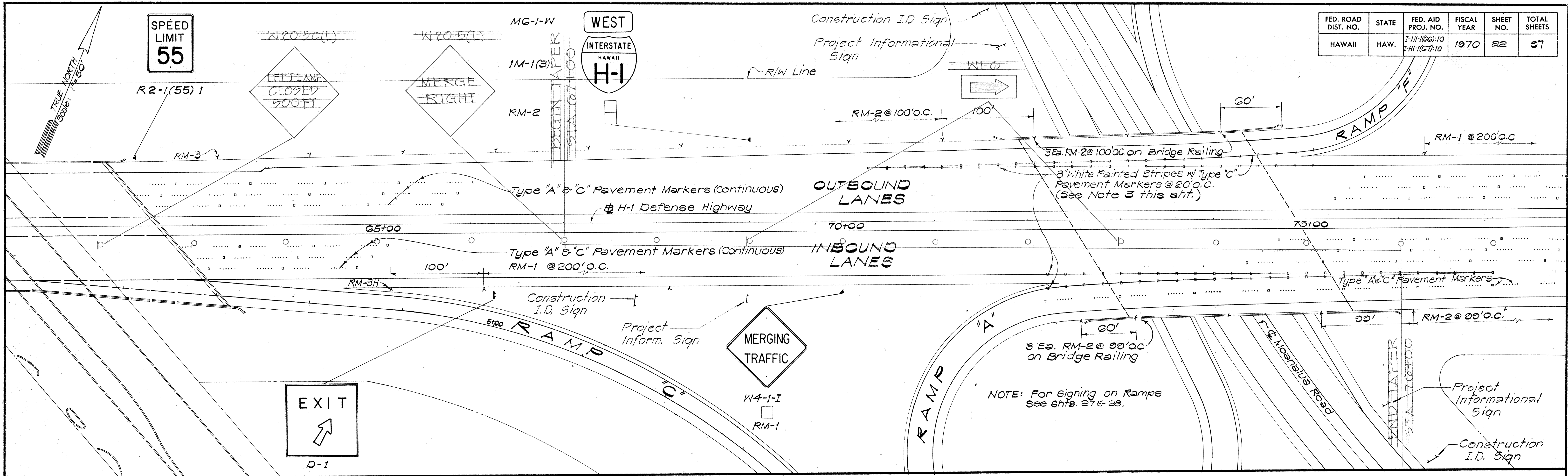
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
CONSTRUCTION PHASING
DETAILS

INTERSTATE ROUTE H-1
PROJ. No. I-H-1 (66):10

Scale: As Shown Date:
SHEET No. 2 OF 10 SHEETS

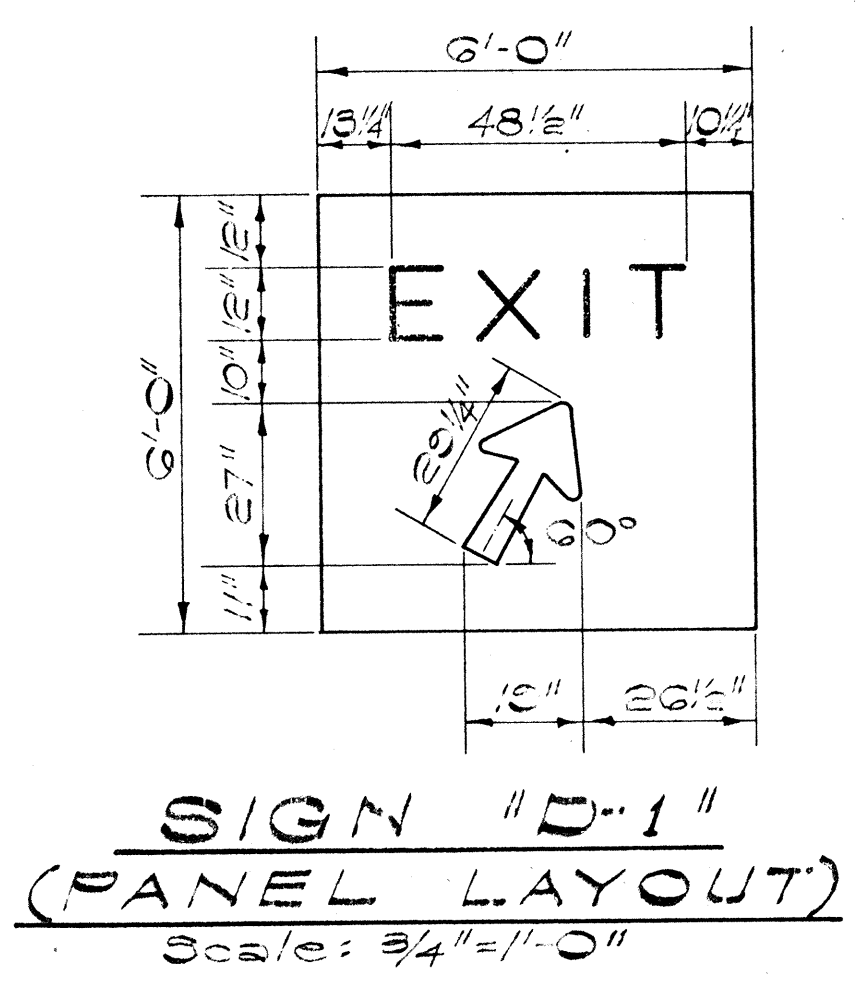
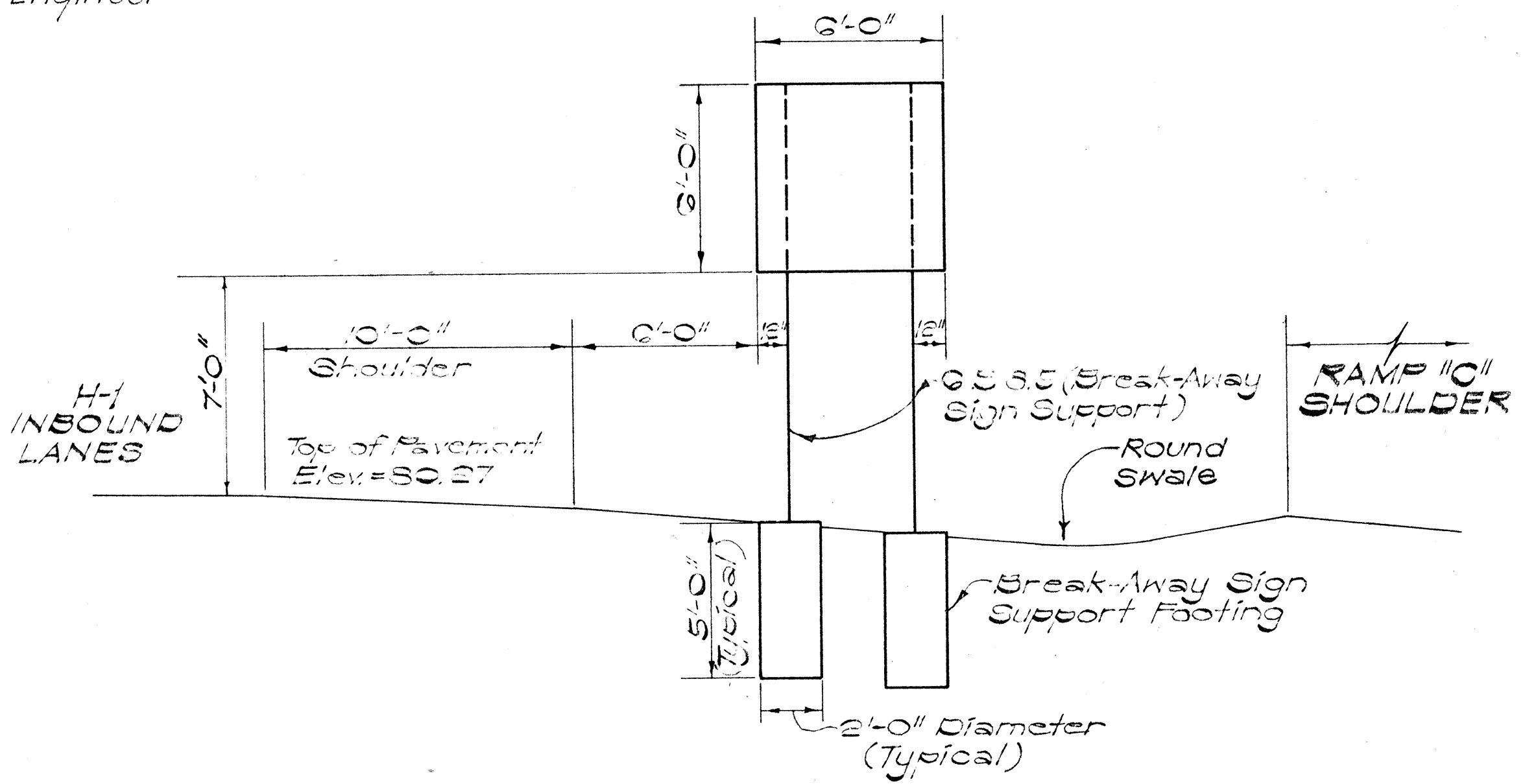
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(66):10 I-HI-1(67):10	1970	22	27



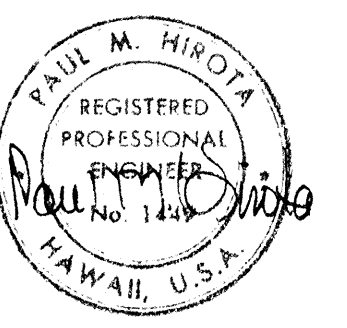
SUMMARY OF TRAFFIC SIGNS		
Type	Description	Amount
R1-1	STOP	2
R1-2-1	YIELD	2
R2-1(25)	SPEED LIMIT 25 M.P.H.	5
R2-1(55)-1	SPEED LIMIT 55 M.P.H.	7
R3-1	NO RIGHT TURN	2
R4-7(R)E	KEEP RIGHT	2
R5-1	DO NOT ENTER	2
R5-5(1)	WRONG WAY (24"x18")	2
R5-5(2)	WRONG WAY (36"x24")	1
R6-1	CYCLES, PEDESTRIANS KEEP OUT	2
RM-1	Reflector Marker (1 clear)	7
RM-2	Reflector Marker (2 amber)	326
RM-3	Reflector Marker on Bridge Railing (2 amber)	6
RM-3	Reflector Marker (3 amber)	6
RM-3(H)	Reflector Marker (3 amber Horizontal)	6
W4-1-1	MERGING TRAFFIC	4
W13-3(35)	EXIT 35 M.P.H.	2
MG-1-E	EAST	1
MG-1-W	WEST	1
MM-()	Mileage Marker-()	4
IM-1(3)	INTERSTATE HAWAII H-1	2
D-1	EXIT ↑	1 * (36)
Type "A"	Non-reflective white pavement marker	13434
Type "C"	Red-clear reflective pavement marker	1378

NOTE: Final location of Construction I.D. Sign and Project Informational Sign shall be determined by the Engineer

NOTE: For Arrow & Border Details & General Notes for Destination Sign See Sht. 22.



NOTES:
 *1. Number in parenthesis indicate panel size in square feet.
 2. Exact location of signs to be determined in the field by the Engineer.
 3. White painted stripes shall be by others & shall not be part of this contract.



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TRAFFIC SIGNS

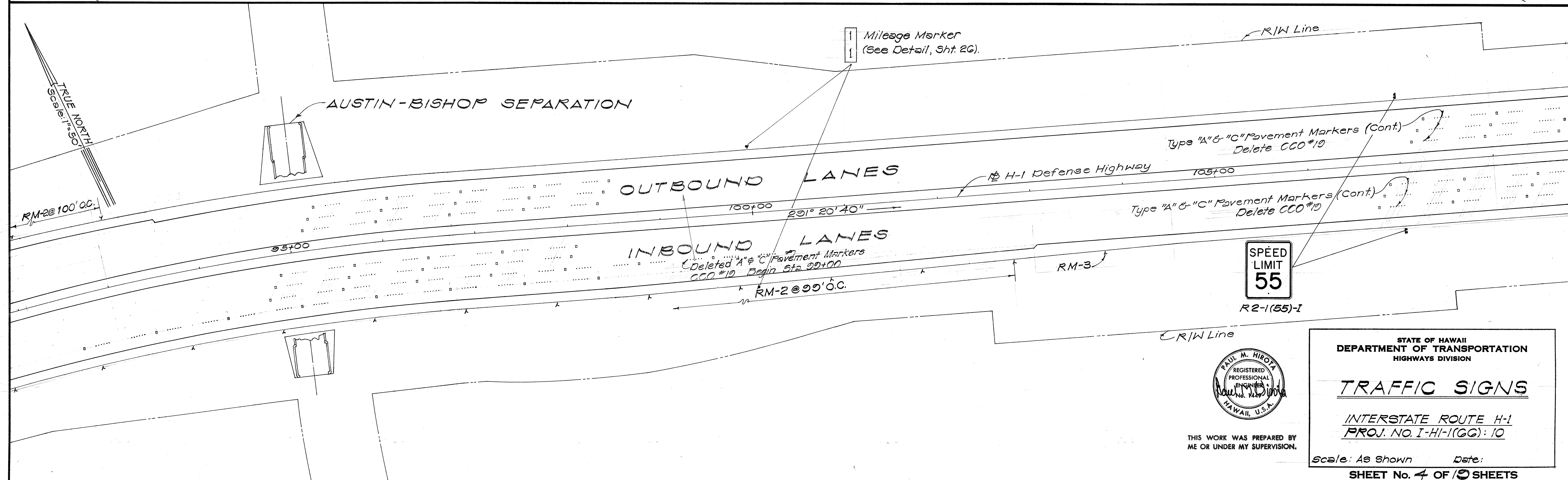
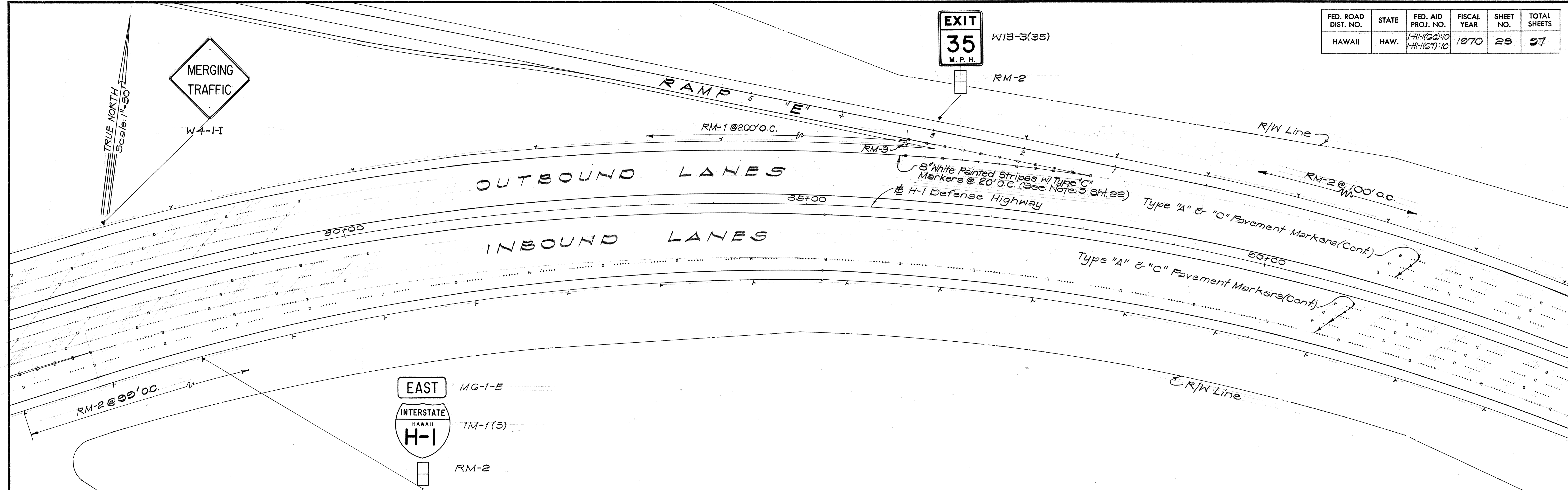
INTERSTATE ROUTE H-1
 PROJ. NO. I-HI-1(66):10

Scale: As Shown Date: _____

SHEET No. 3 OF 19 SHEETS

C.C.O. #34 22

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(GG)-10 I-HI-1(GT)-10	1970	23	97



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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNS

INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(GG)-10

Scale: As Shown Date: _____

SHEET No. 4 OF 9 SHEETS

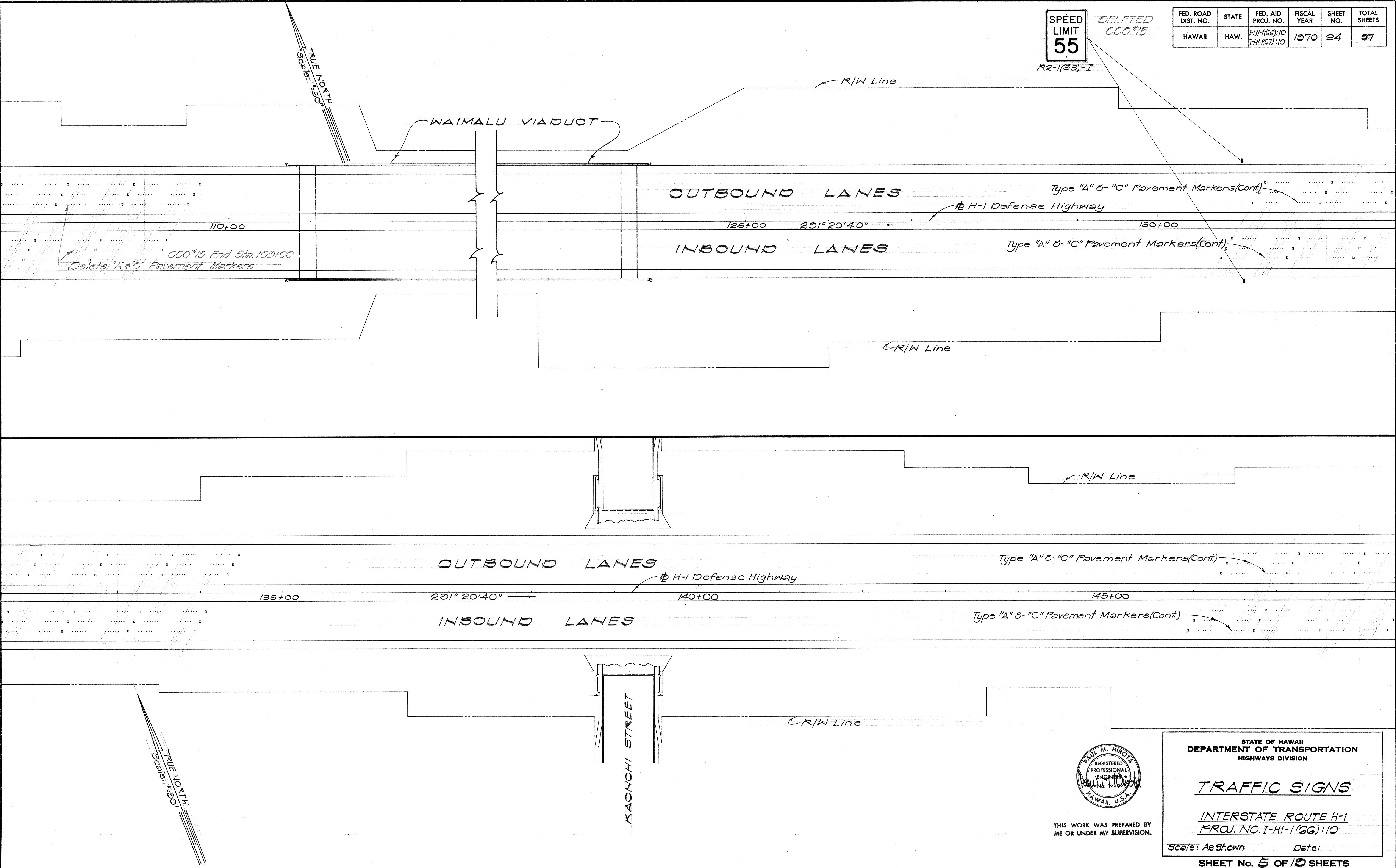
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	[H-1(66):10 [H-1(67):10	1970	24	97

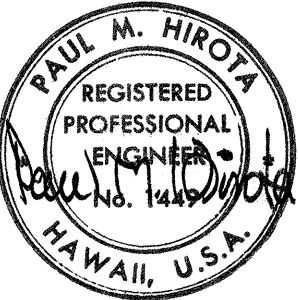
SPEED
LIMIT
55

DELETED
CCO#15

R2-1(55)-I



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



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

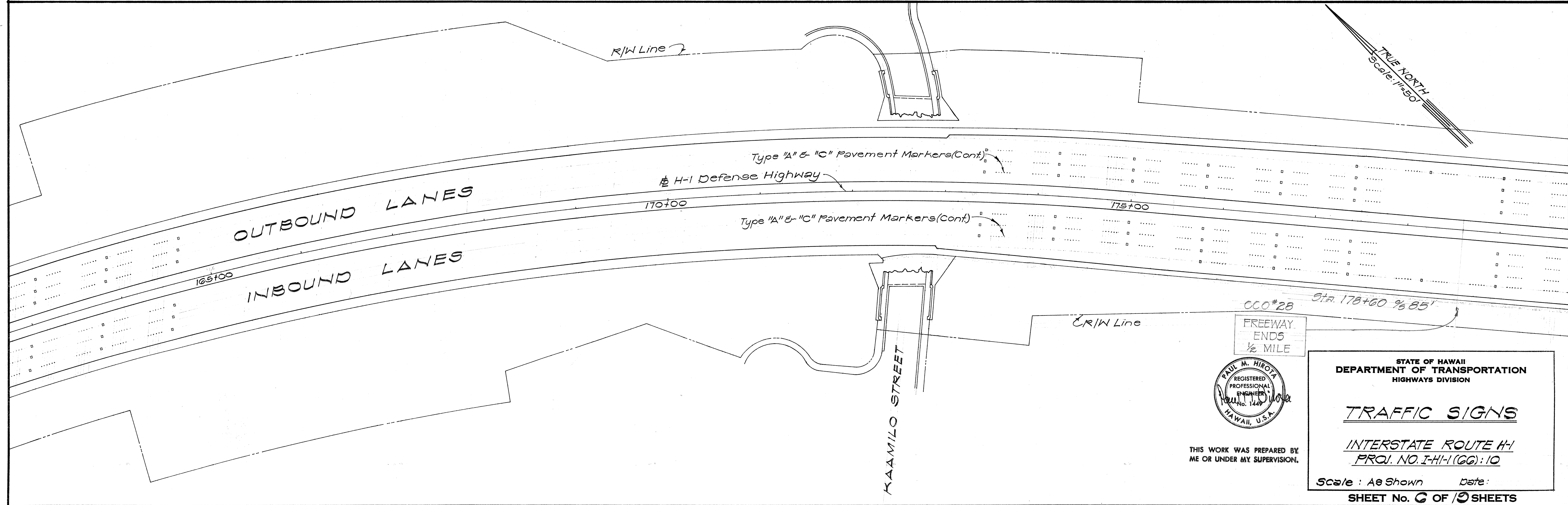
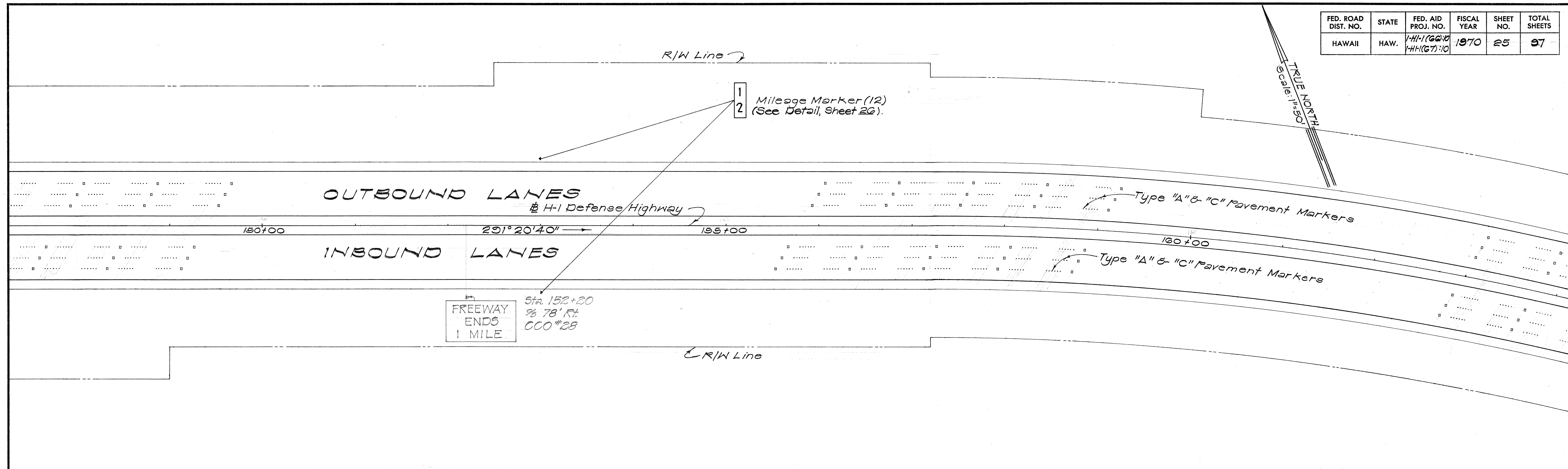
TRAFFIC SIGNS

INTERSTATE ROUTE H-1
PROJ. NO. I-H-1(66):10

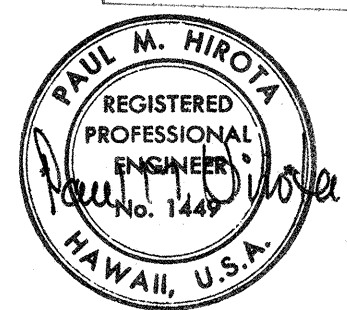
Scale: As Shown Date:

SHEET No. 5 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(66):10 I-HI-1(67):10	1970	25	97



ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

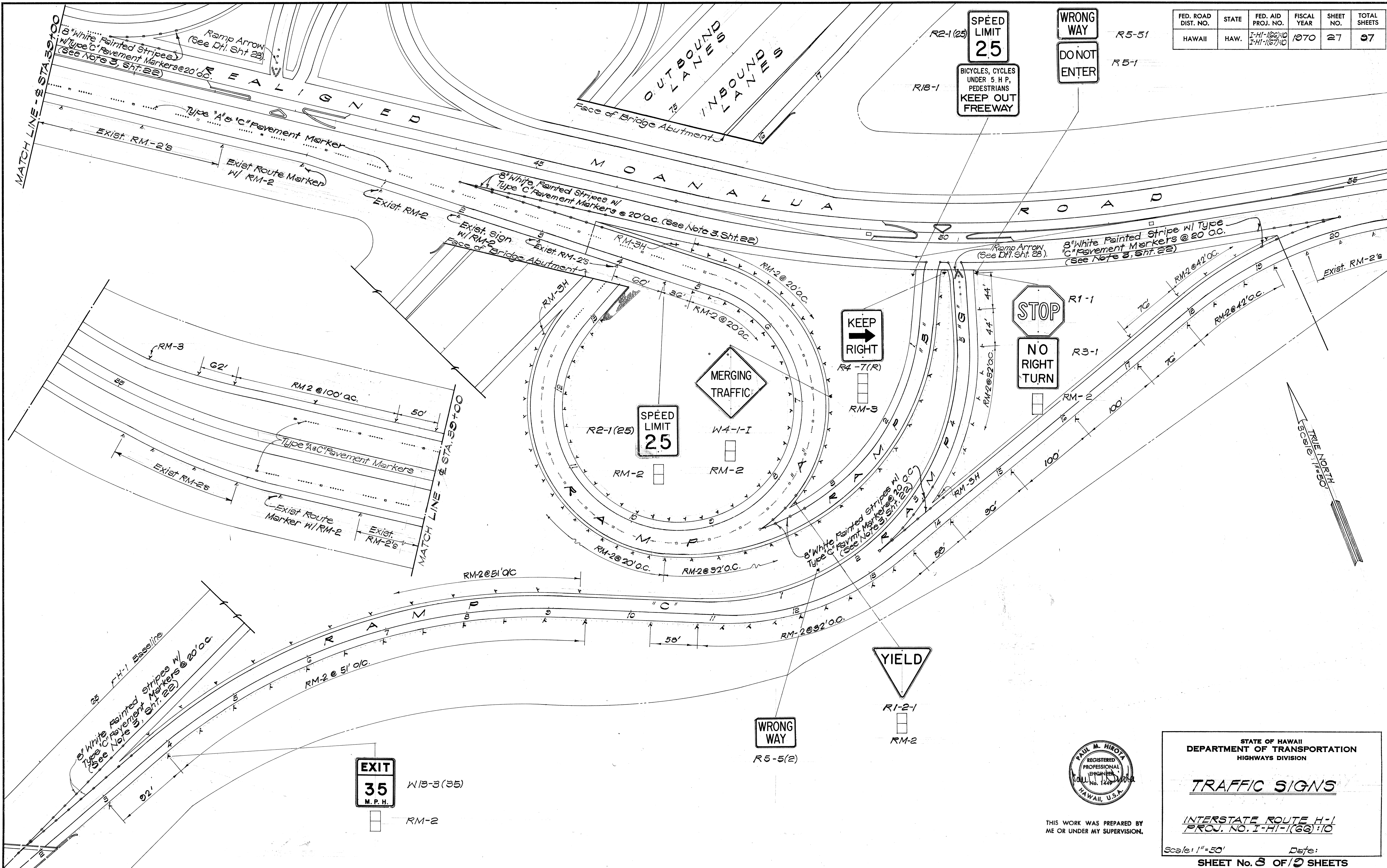
TRAFFIC SIGNS

INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(66):10

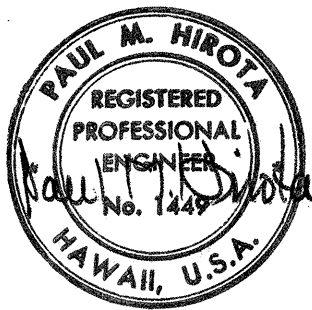
Scale: As Shown Date:

SHEET No. 6 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(66)10 I-HI-1(67)10	1970	27	97



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



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ME OR UNDER MY SUPERVISION.

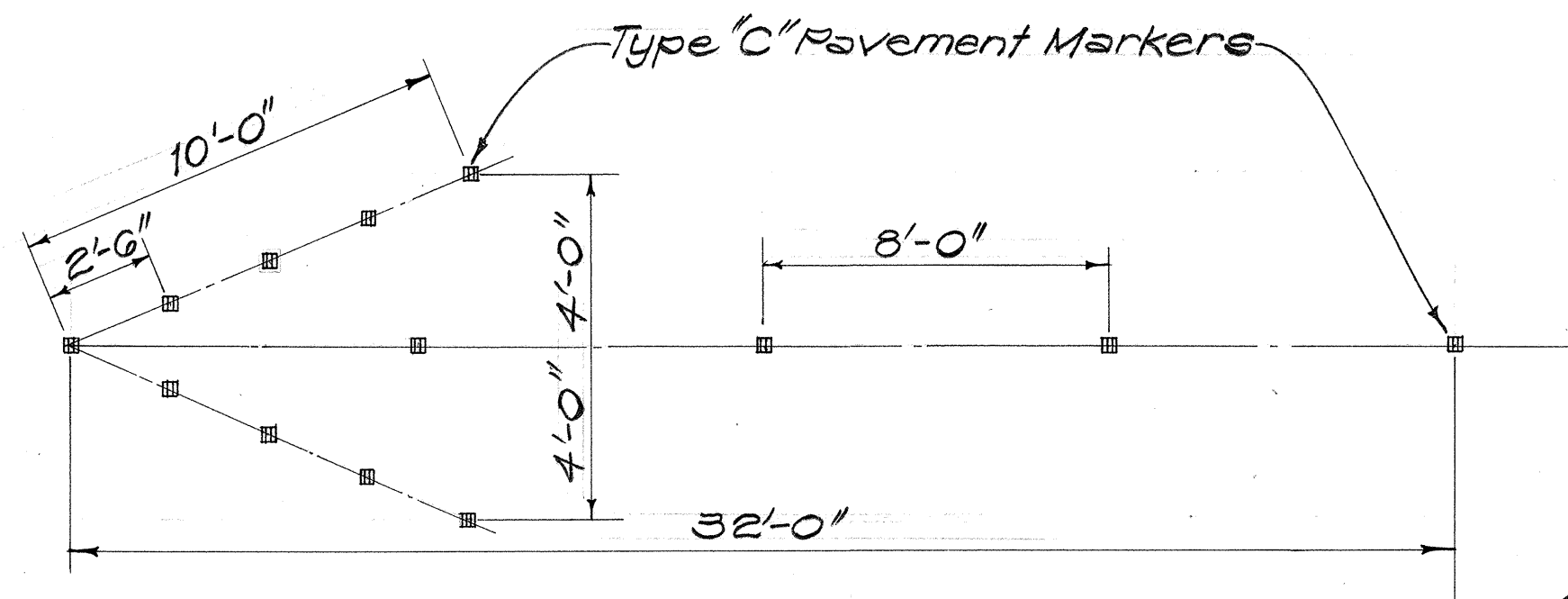
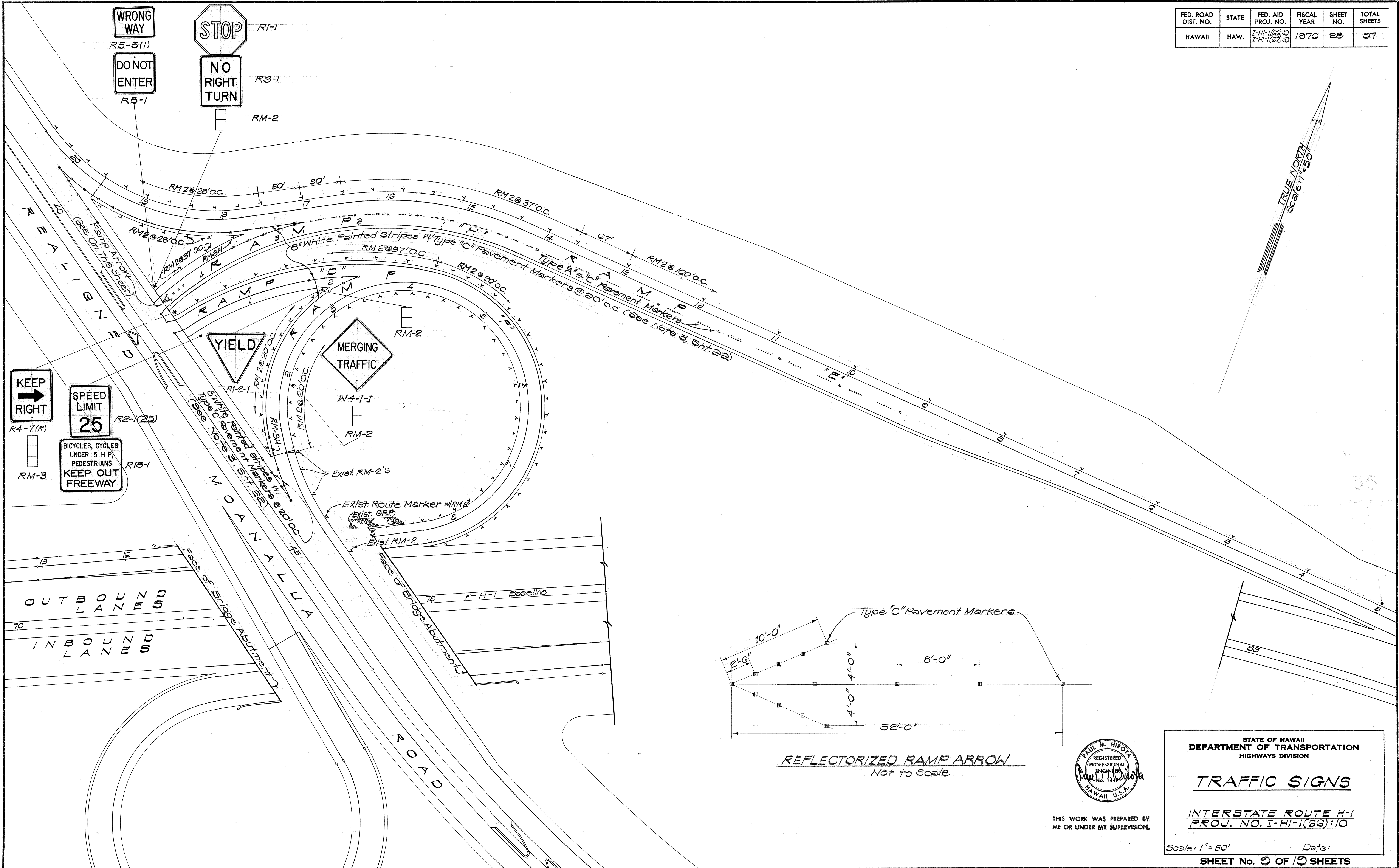
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNS

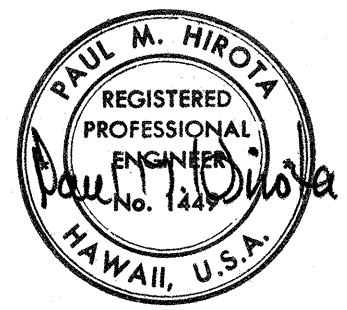
INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(66)10

Scale: 1" = 50' Date:
SHEET No. 3 OF 9 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(66):10 I-HI-1(67):10	1970	28	27



REFLECTORIZED RAMP ARROW
Not to Scale



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HIGHWAYS DIVISION

TRAFFIC SIGNS

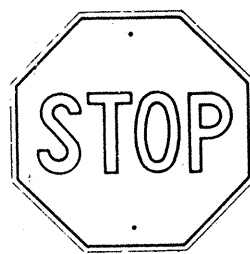
INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(66):10

Scale: 1" = 50' Date: _____

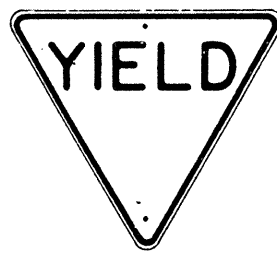
SHEET No. 28 OF 28 SHEETS

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

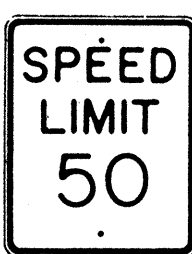
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(66)-10 1-H-1(67)-10	1970	29	57



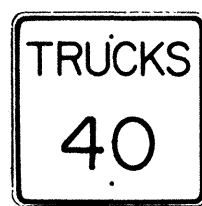
R1-1 30"x 30"



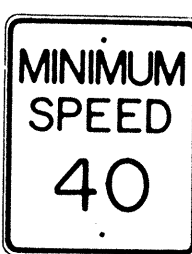
R1-2 36"x36"x36"
R1-2-E 48"x48"x48"
R1-2-I 60"x60"x60"



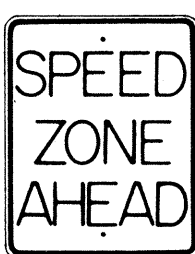
R2-1(50) 24"x30"
R2-1(50)-E 36"x48"
R2-1(50)-I 48"x60"



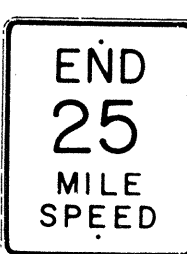
R2-2(40) 24"x24"
R2-2(40)-E 36"x36"
R2-2(40)-I 48"x48"



R2-4(40) 24"x30"
R2-4(40)-E 36"x48"
R2-4(40)-I 48"x60"



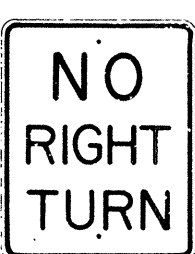
R2-5 24"x30"
R2-5-E 36"x48"
R2-5-I 48"x60"



R2-6(25) 24"x30"
R2-6(25)-E 36"x48"
R2-6(25)-I 48"x60"



R2-7 24"x30"
R2-7-E 36"x48"
R2-7-I 48"x60"



R3-1 24"x30"
R3-1-E 36"x48"



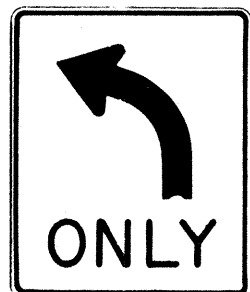
R3-2 24"x30"
R3-2-E 36"x48"



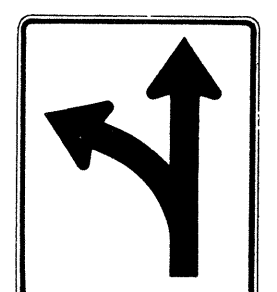
R3-3 24"x24"



R3-4 24"x30"
R3-4-E 36"x48"
R3-4-I 48"x60"



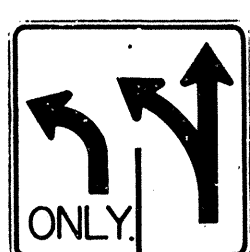
R3-5(L) 30"x36"



R3-6(L) 30"x36"



R3-7(R) 30"x30"



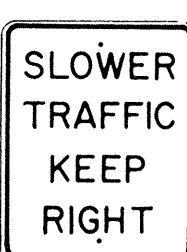
R3-8(L) 30"x30"



R4-1 24"x30"



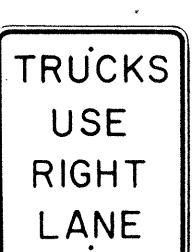
R4-2 24"x30"



R4-3 24"x30"
R4-3-E 36"x48"
R4-3-I 48"x60"



R4-4 24"x30"
R4-4-E 36"x48"
R4-4-I 48"x60"



R4-5 24"x30"
R4-5-E 36"x48"



R4-6 24"x30"
R4-6-E 36"x48"



R4-7(R) 24"x30"
R4-7(R)-E 36"x48"



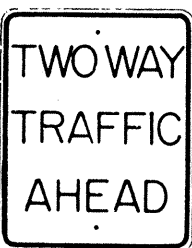
R5-1 24"x24"



R6-1(R) 36"x12"



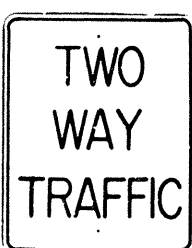
R6-2(R) 18"x24"



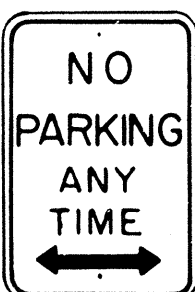
R6-3 24"x30"



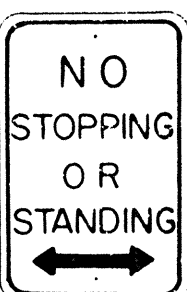
R6-4 24"x30"



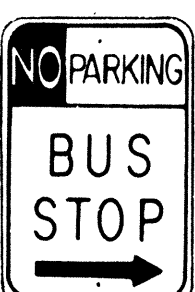
R6-5 24"x30"



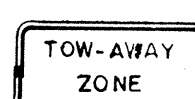
R7-1 12"x18"



R7-4 12"x18"
R7-4-E 24"x30"



R7-107(R) 12"x18"



R7-201 12"x6"



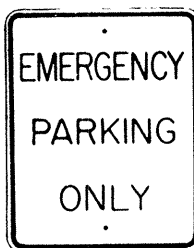
R8-1 24"x30"
R8-1-E 36"x48"
R8-1-I 48"x60"



R8-2 24"x30"
R8-2-E 36"x48"



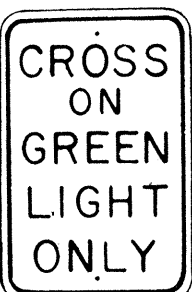
R8-3 24"x30"
R8-3-E 36"x48"



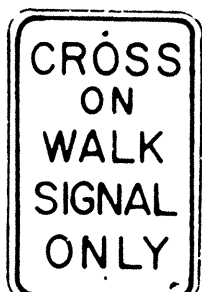
R8-4 24"x30"
R8-4-E 36"x48"
R8-4-I 48"x36"



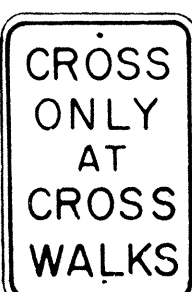
R9-1 18"x24"



R9-2 12"x18"



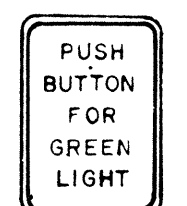
R9-3 12"x18"



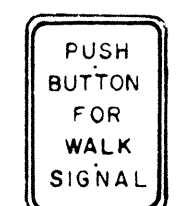
R9-4 12"x18"



R9-5 12"x18"



R9-6 9"x12"



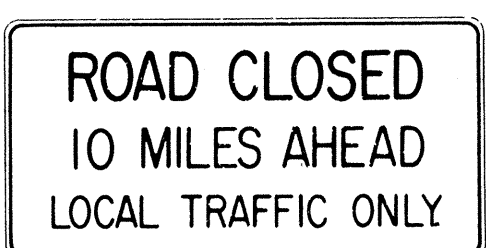
R9-7 9"x12"



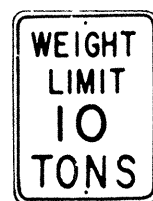
RIO-1 24"x30"
RIO-1-E 36"x48"
RIO-1-I 48"x60"



RIO-2 48"x30"



RIO-3(10) 60"x30"



RIO-4(10) 18"x24"

NOTE:

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE

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

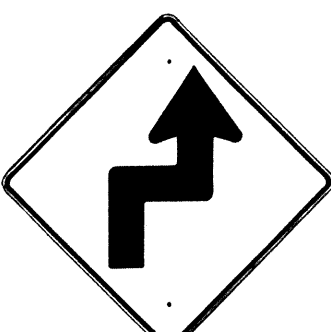
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HH(66)-10 HH(67)-10	1970	30	97



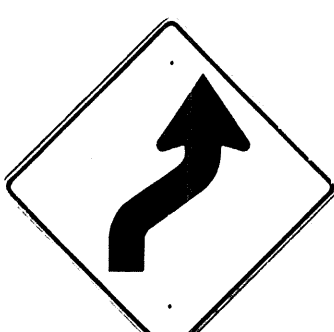
W1-1(R) 30" x 30"



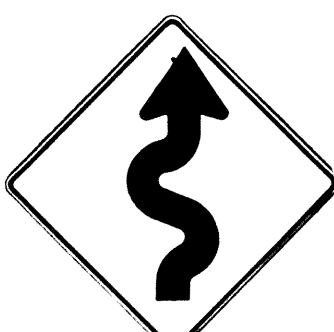
W1-2(R) 30" x 30"



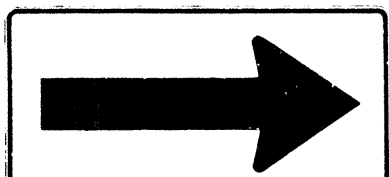
W1-3(R) 30" x 30"



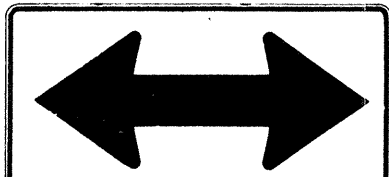
W1-4(R) 30" x 30"



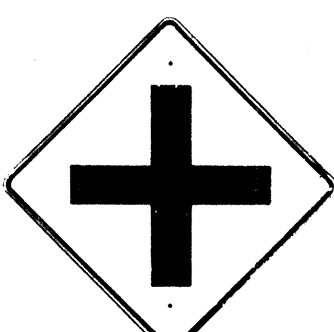
W1-5(R) 30" x 30"



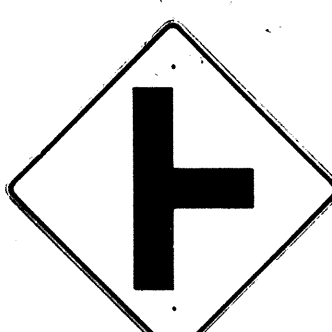
W1-6 48" x 24"



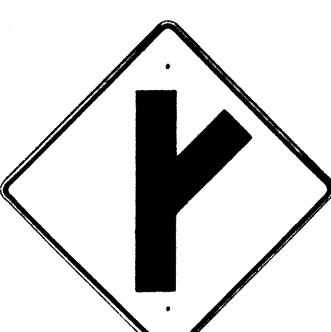
W1-7 48" x 24"



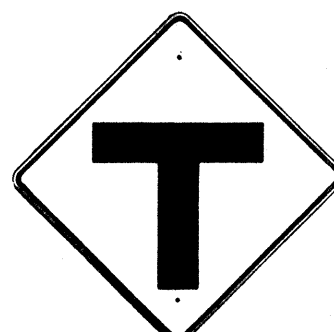
W2-1 30" x 30"



W2-2 30" x 30"



W2-3(R) 30" x 30"



W2-4 30" x 30"



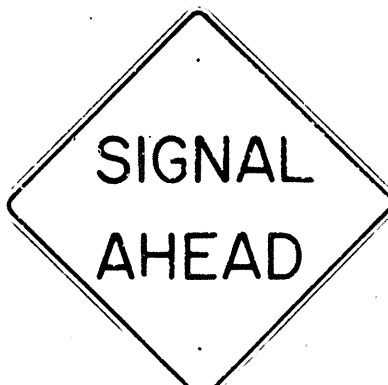
W2-5 30" x 30"



W3-1 30" x 30"



W3-2 30" x 30"



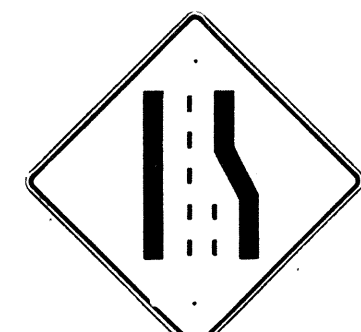
W3-3 36" x 36"



W4-1 30" x 30"

W4-1-E 36" x 36"

W4-1-I 48" x 48"



W4-2 30" x 30"

W4-2-E 36" x 36"



W5-1 30" x 30"

W5-1-E 36" x 36"



W5-2 30" x 30"



W5-3 30" x 30"



W6-1 36" x 36"



W6-2 36" x 36"



W7-1 30" x 30"



W8-1 30" x 30"



W8-2 30" x 30"



W8-3 30" x 30"



W8-4 30" x 30"



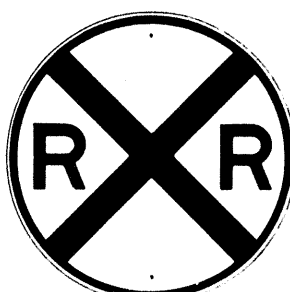
W8-5 30" x 30"



W9-1 30" x 30"



W9-2 30" x 30"



W10-1 36" DIAMETER



W11-1 30" x 30"



W11-5 30" x 30"



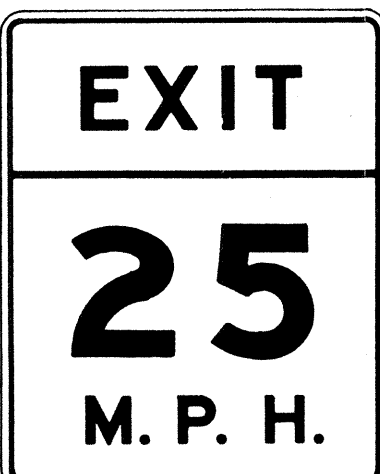
W12-2 36" x 36"



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



W13-2(25) 12" x 18"



W13-3(25) 48" x 60"

NOTE:

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

REVISED: September 26, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

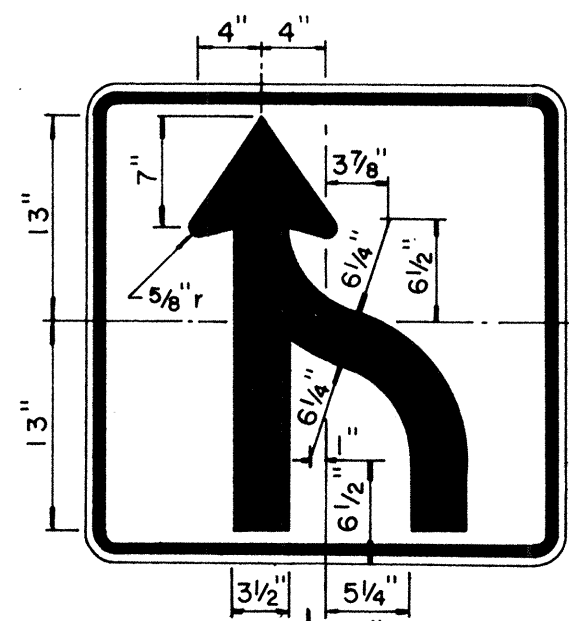
NOT TO SCALE

SHEET No. 11 OF 12 SHEETS DT 102

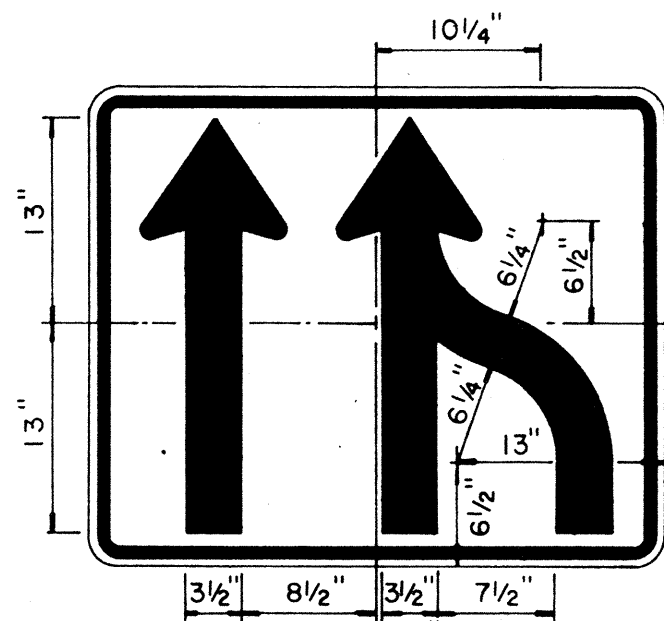
33 (1)

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

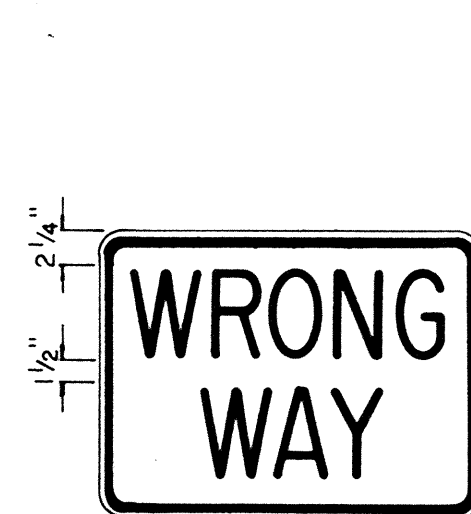
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-11(66)10 H-11(67)10	1970	31	97



R3-9 30" x 30"

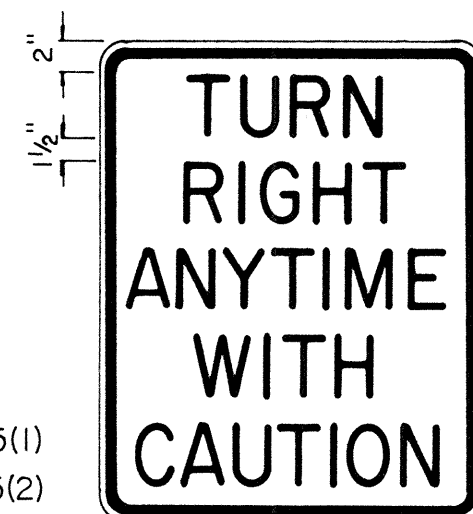


R3-10 36" x 30"

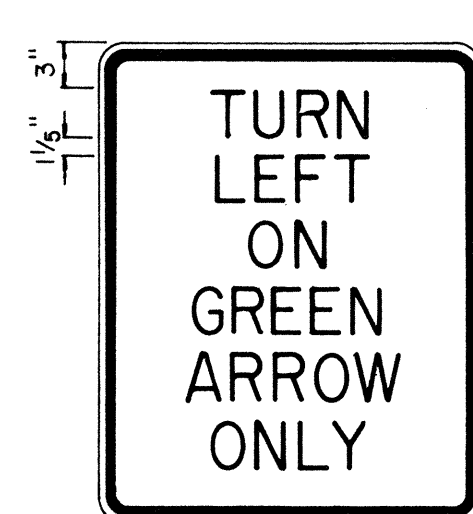


R5-5(1) 24" x 18"
R5-5(2) 36" x 24"

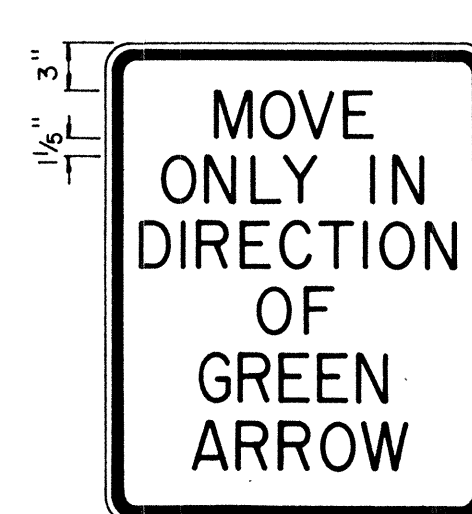
NOTE:
White legend and border
on Red background



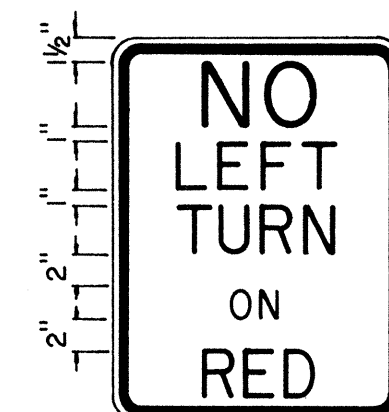
R15-1 24" x 30"



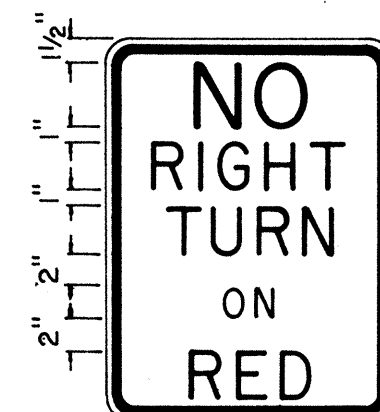
R16-1 24" x 30"



R16-2 24" x 30"



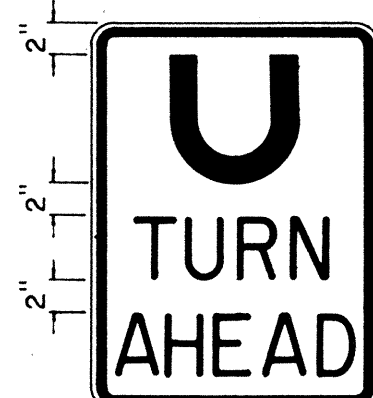
R17-1 18" x 24"



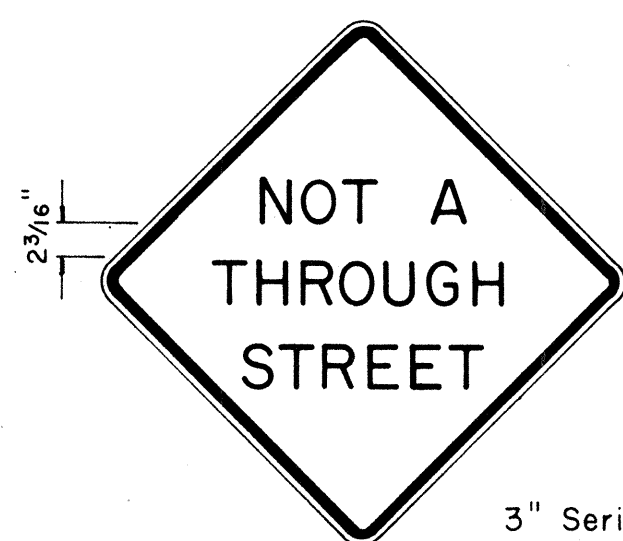
R17-2 18" x 24"



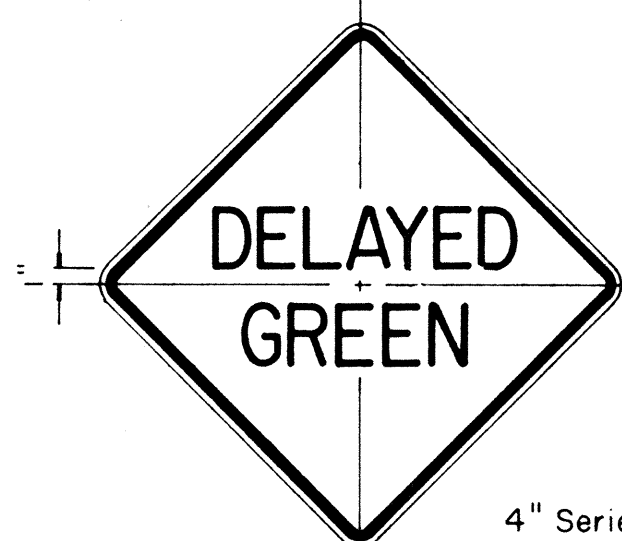
R18-1 36" x 30"



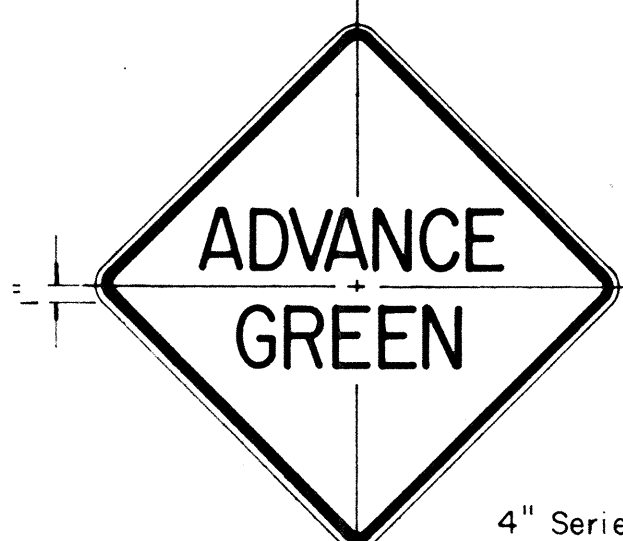
R19-1 18" x 24"



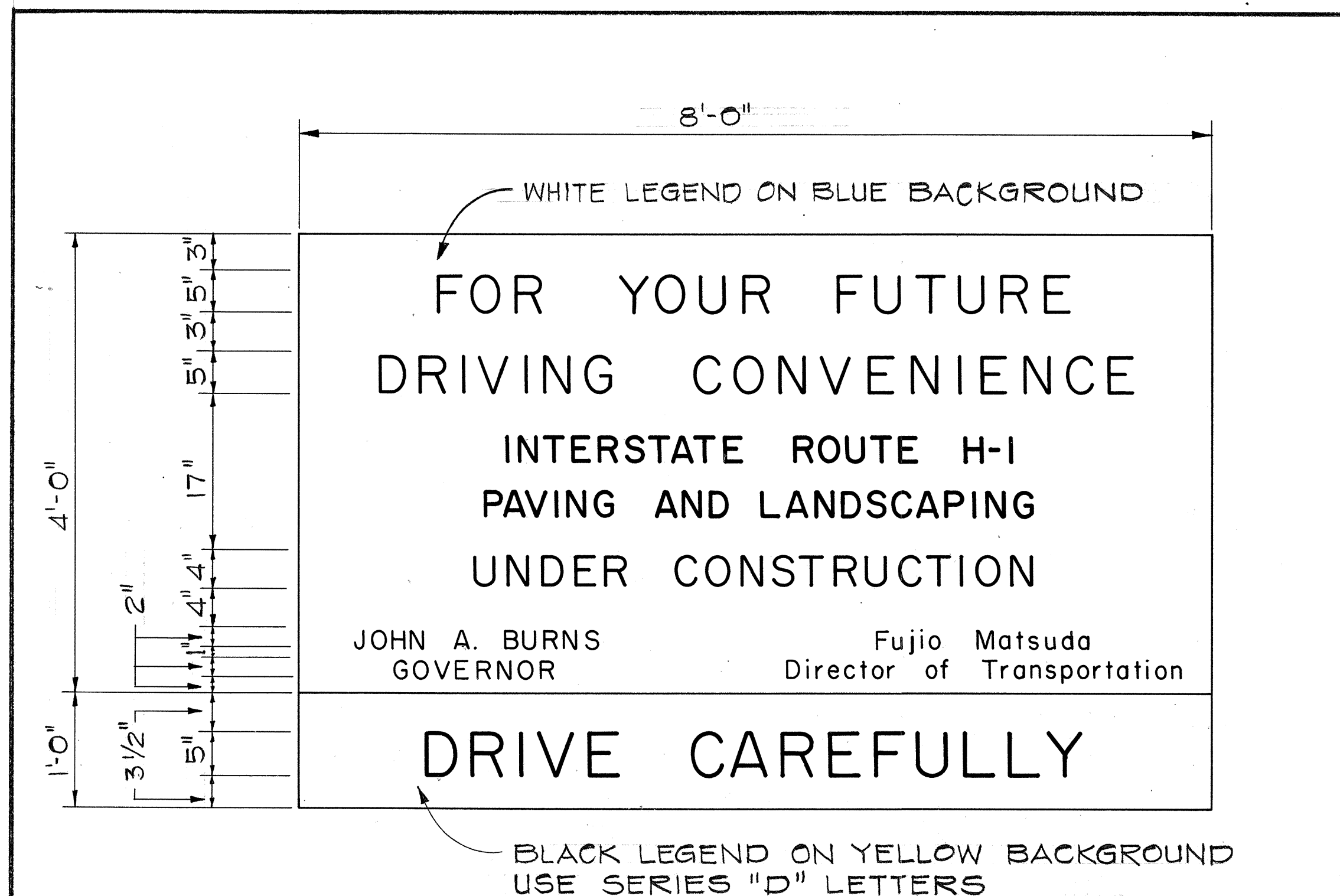
W13-4 24" x 24"



W15-1 24" x 24"



W15-2 24" x 24"



GENERAL NOTES

1. 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.
2. 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.
3. 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.
4. For Sign Frame see Sht. No. 32.

PROJECT INFORMATION SIGN

NOTE:

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS

REGULATORY — WARNING SIGNS

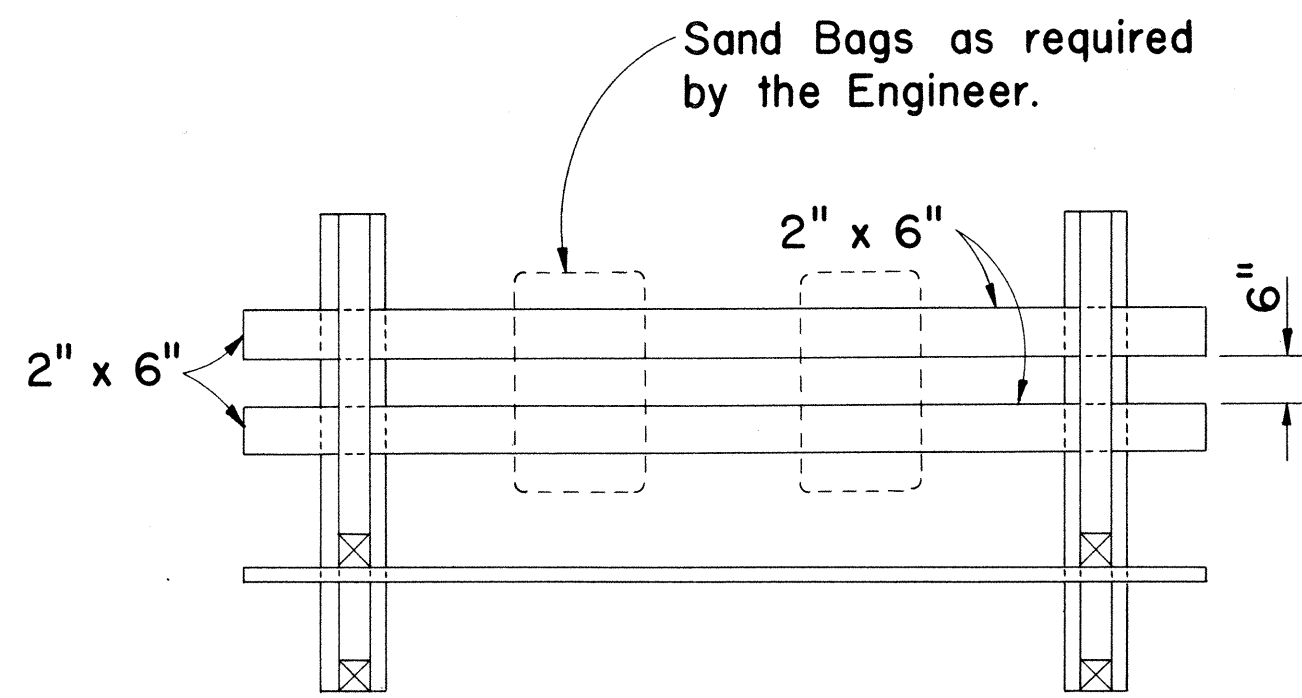
PROJECT INFORMATION SIGN

Scale: 1" = 1'-0"

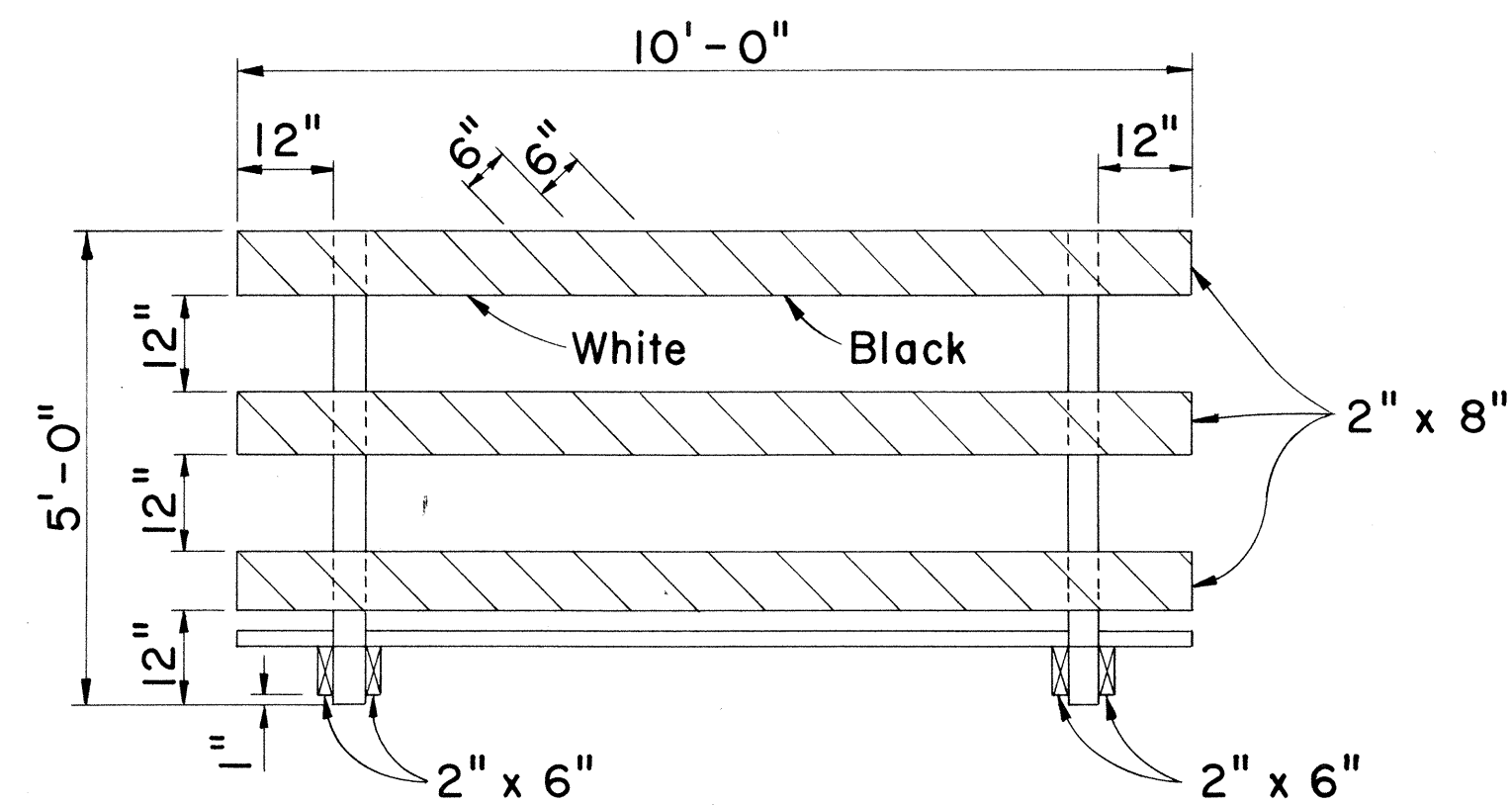
SHEET No. 12 OF 10 SHEETS

DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____

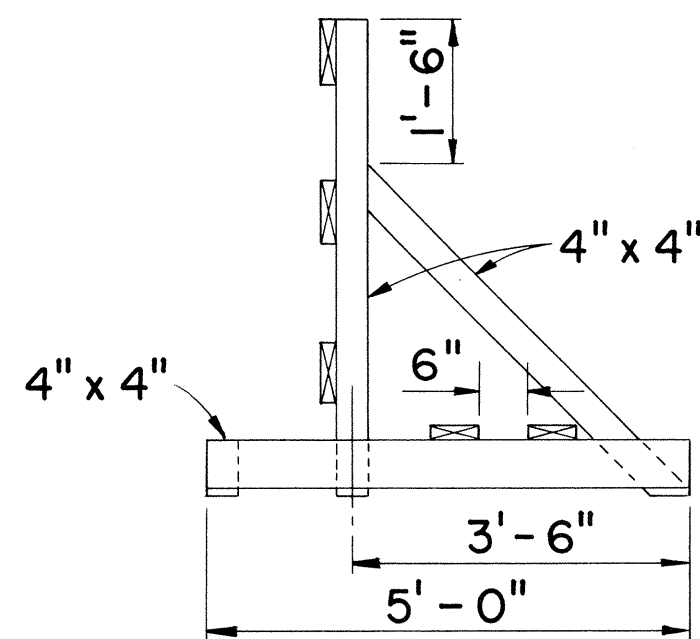
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(66)10 1-HI-1(67)10	1970	32	97



PLAN VIEW



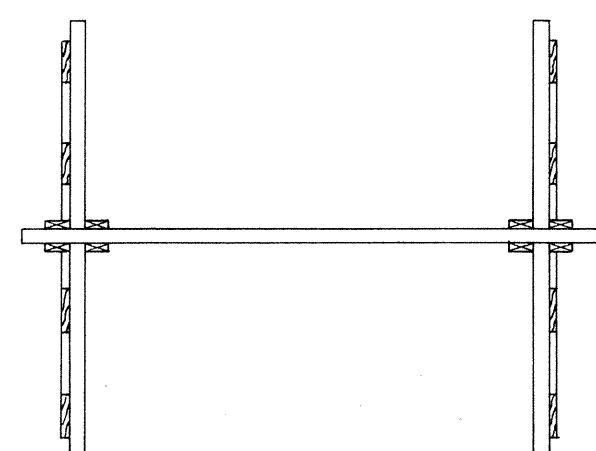
FRONT VIEW



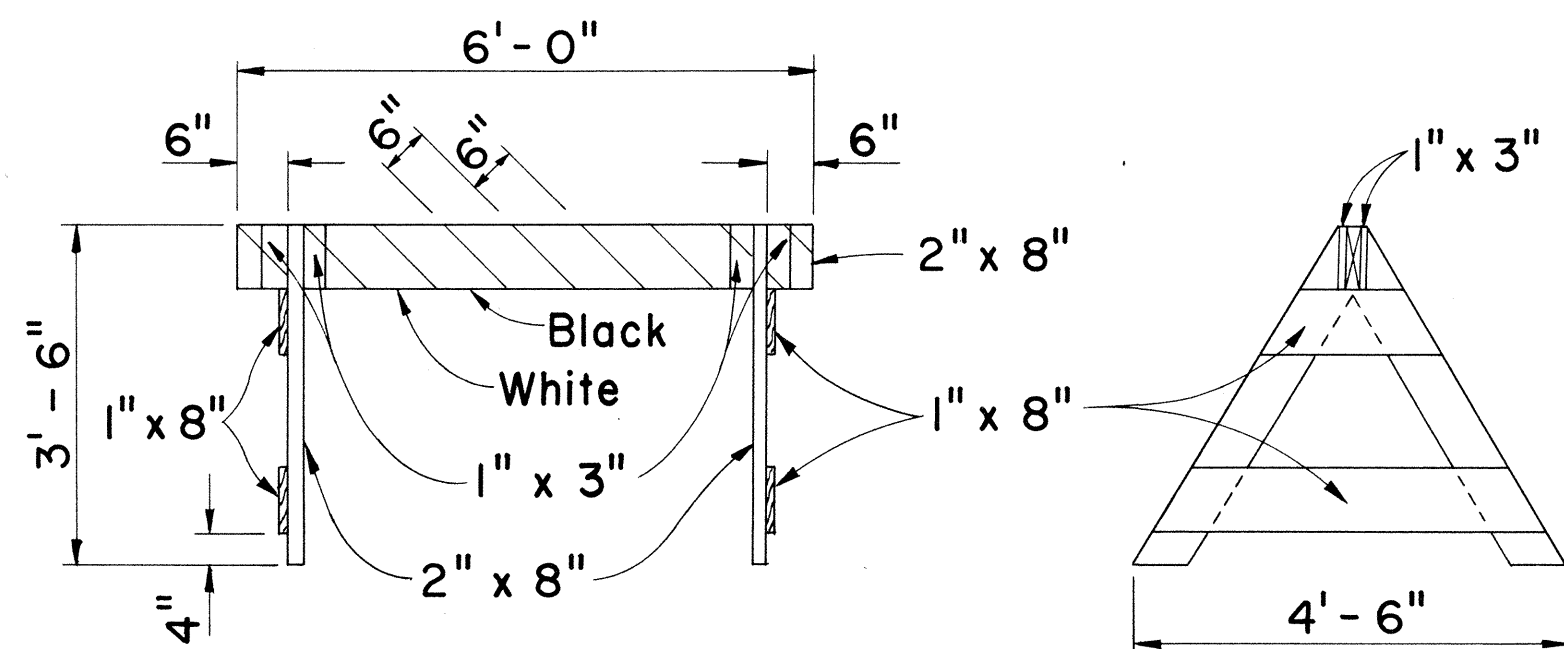
END VIEW

CLASS I BARRICADE

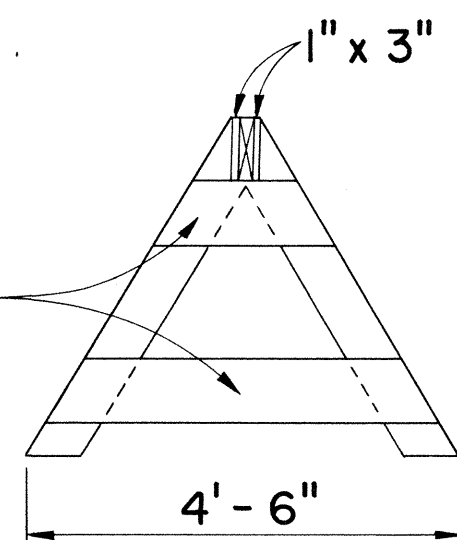
Scale: 1/2" = 1'-0"



PLAN VIEW



FRONT VIEW



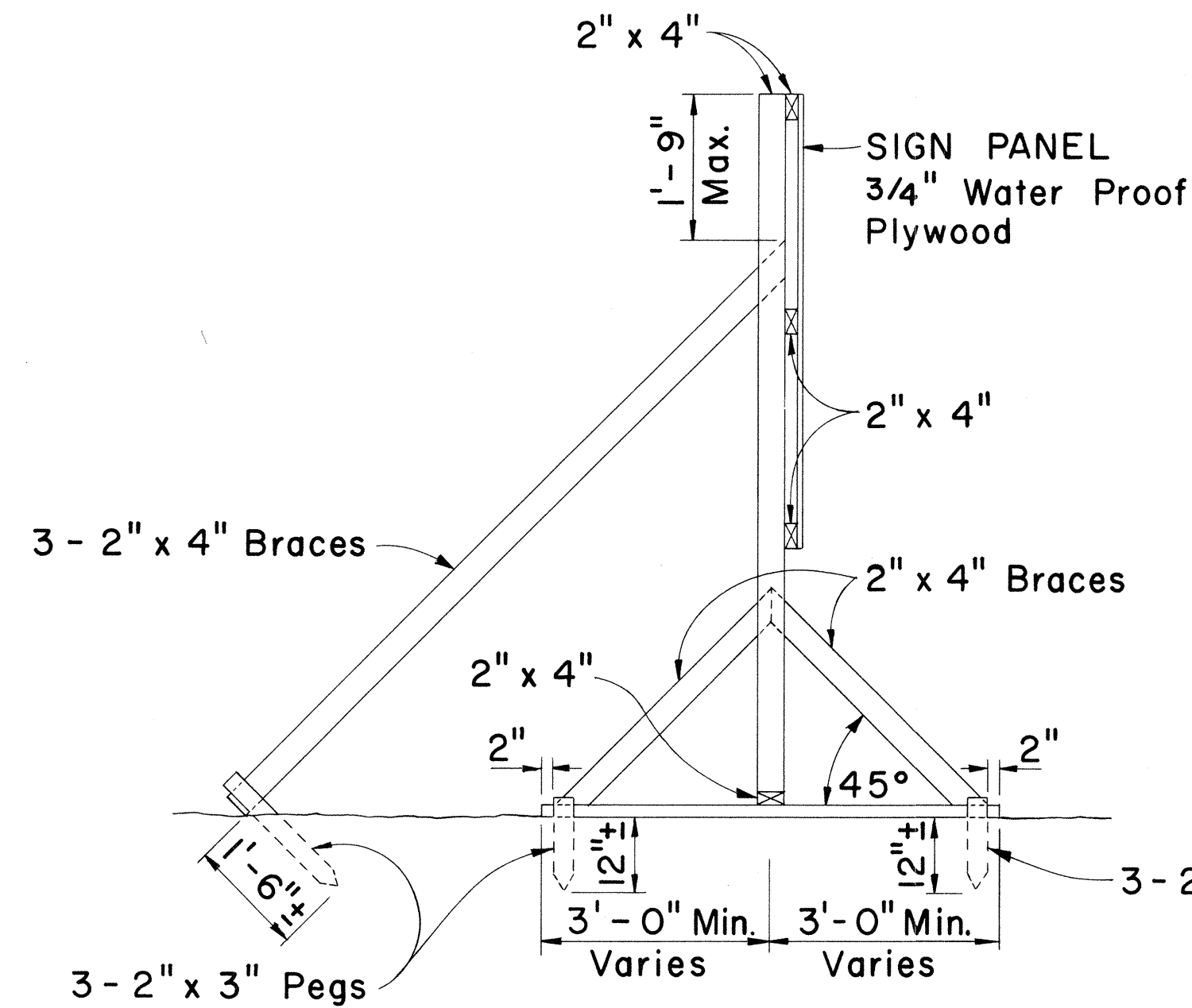
END VIEW

CLASS II BARRICADE

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

GENERAL NOTES

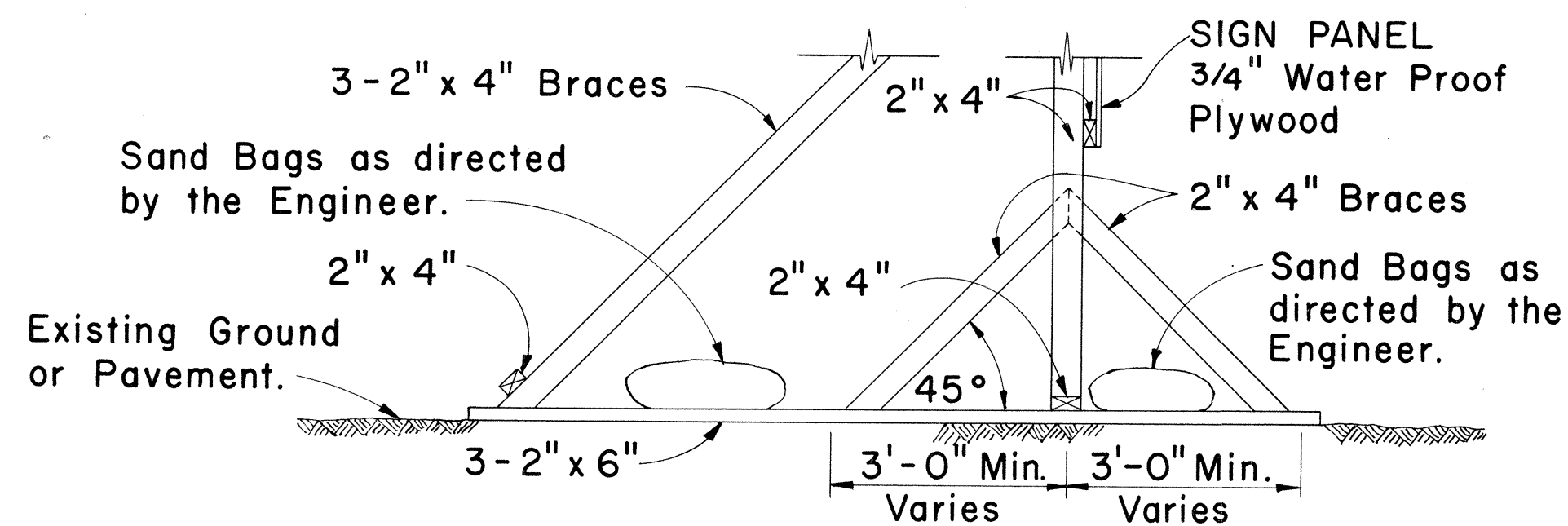
1. The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
2. The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.



SIDE VIEW

(SIGN FRAME ANCHORED IN GROUND)

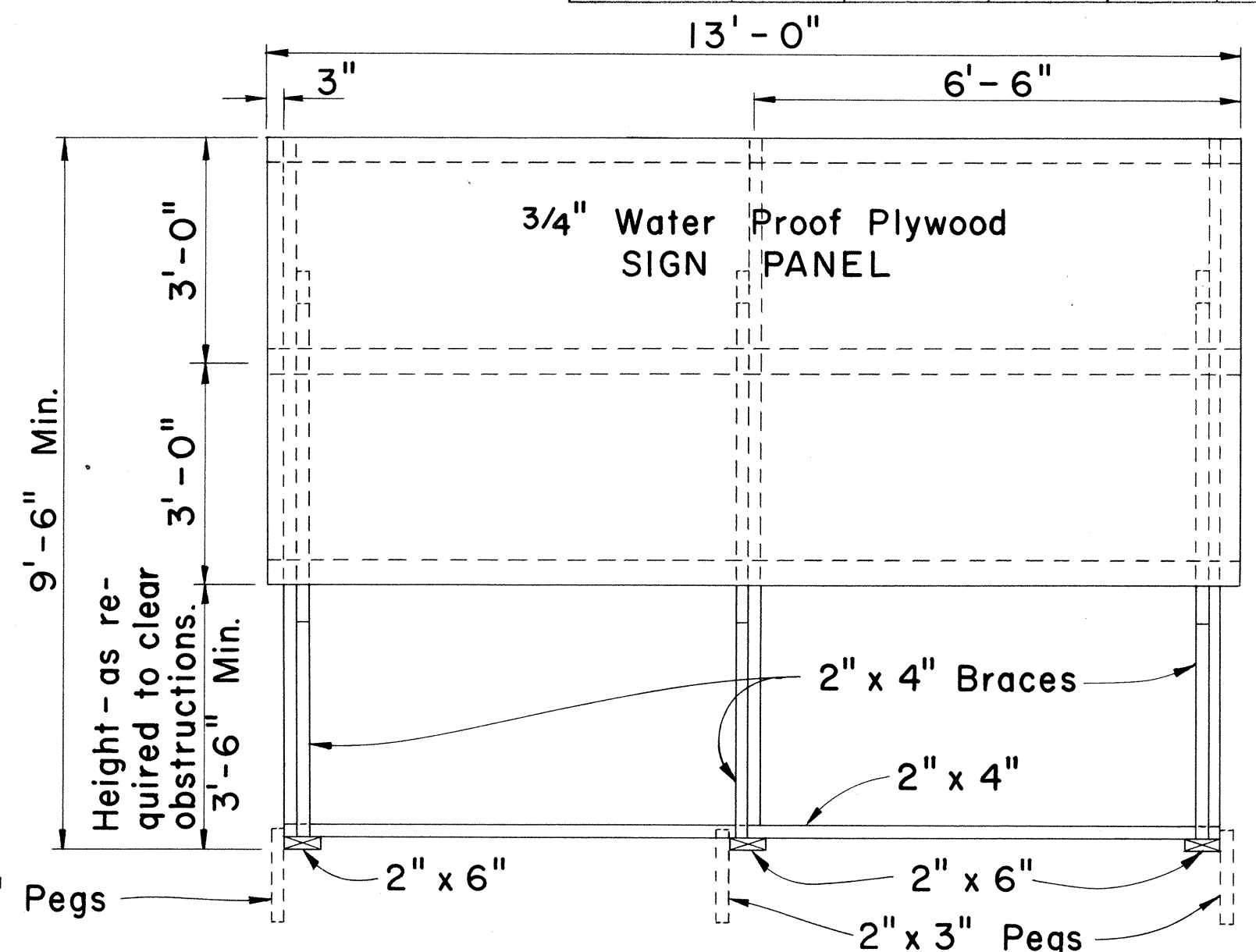
Scale: 1/2" = 1'-0"



SIDE VIEW

(SIGN FRAME WEIGHTED DOWN)

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

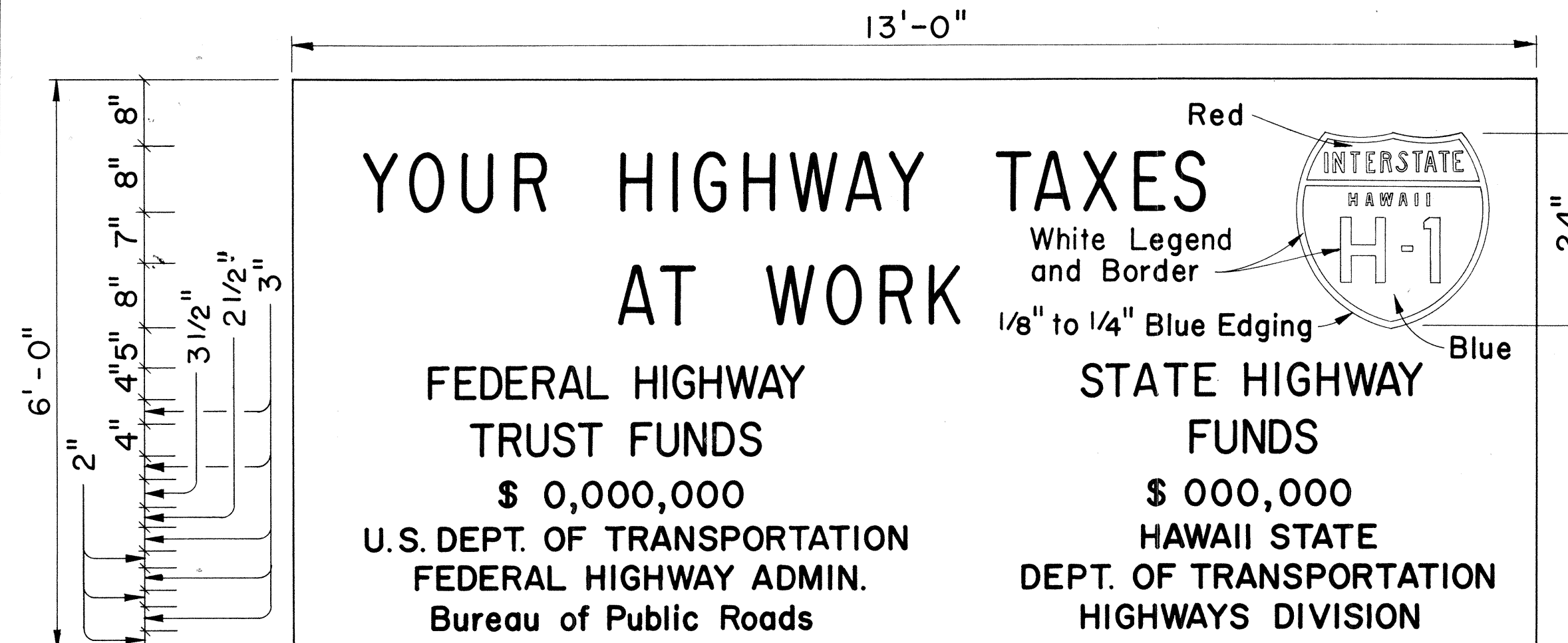


FRONT VIEW

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

GENERAL NOTES

1. The sign legend shall be black on white background except for the Interstate Route marker which shall be as shown on the plan.
2. The Contractor shall construct, install and maintain the project signs at the locations shown on the Plans and as ordered by the Engineer.
3. Letters shall be Series "C" of the sizes shown on the Plan and shall conform with the "Standard Alphabet for Highway Signs", Bureau of Public Roads, 1952.
4. The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.



SIGN PANEL

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

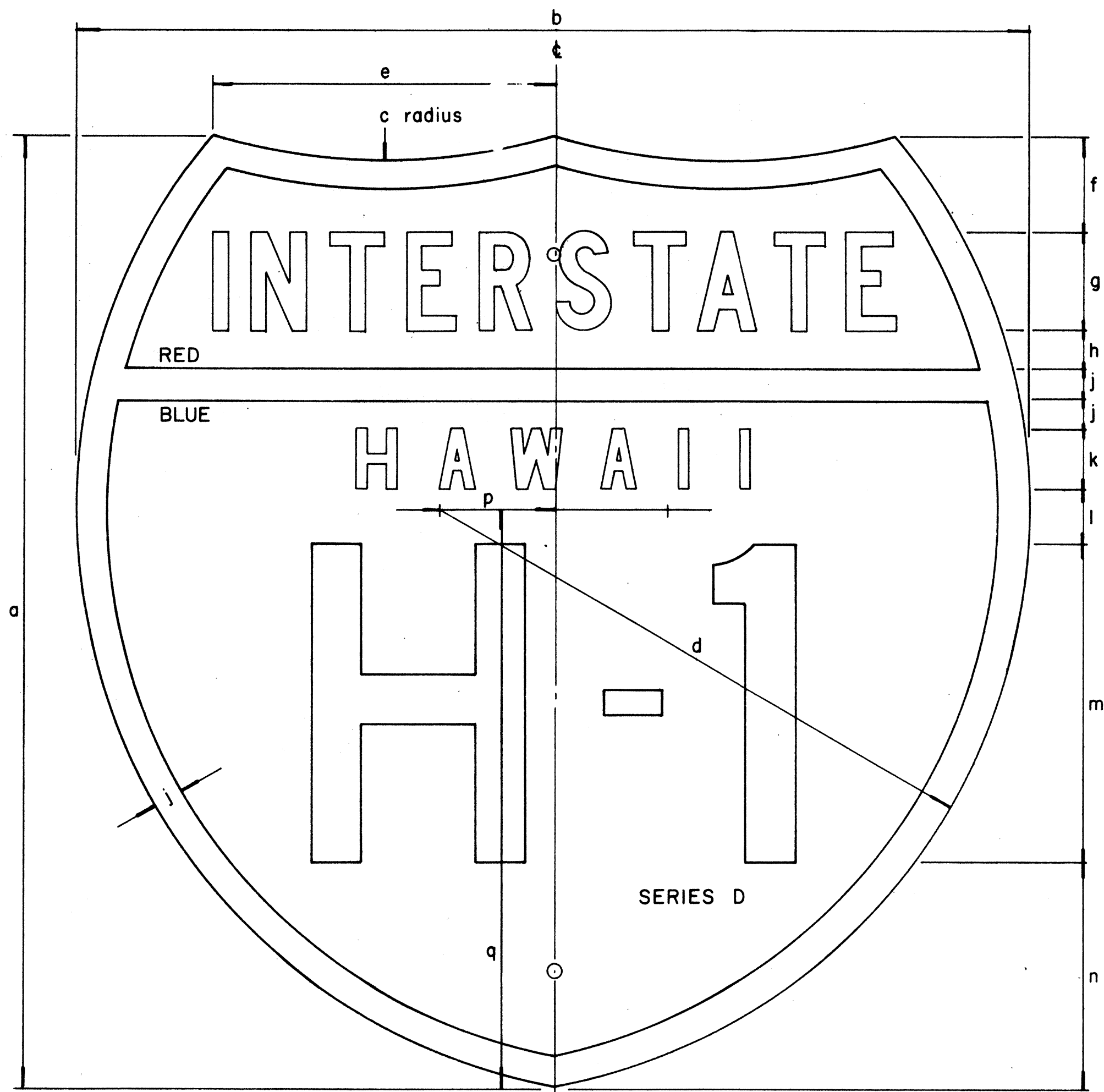
INTERSTATE SYSTEM CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL DETAILS	
CONSTRUCTION IDENTIFICATION SIGN AND WOOD BARRICADES	
SCALE : As Shown	DATE :

ORIGINAL	DATE	BY
PLAN		
NOTE BOOK		
CHECKED BY		

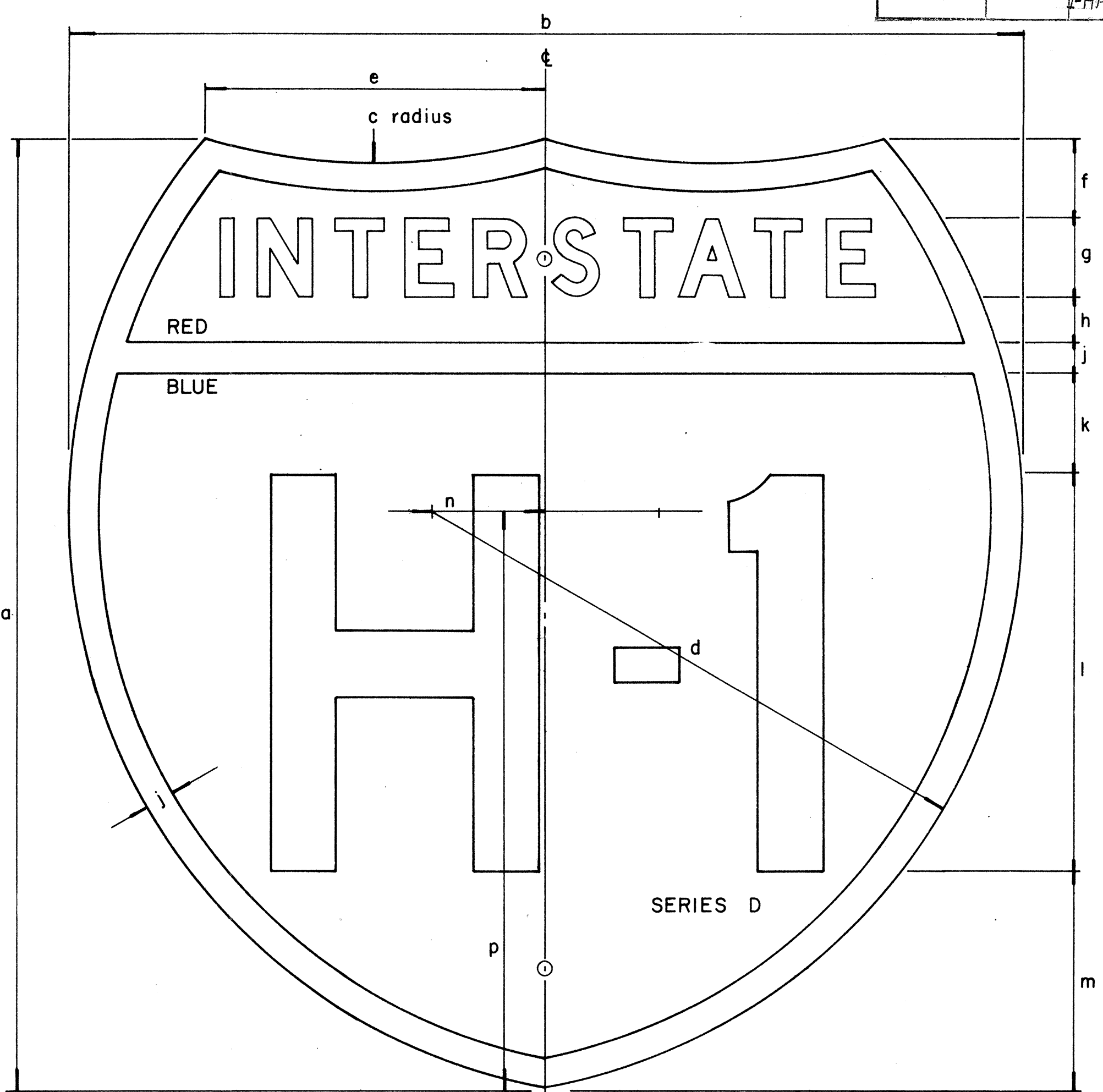
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-162-10 HI-167-10	1970	33	37



INTERSTATE ROUTE MARKER
IM-1()

INTERSTATE SHIELDS - INDEPENDENT USE

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



INTERSTATE ROUTE MARKER
IM-2()

INTERSTATE SHIELDS ON GUIDE SIGNS

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

GENERAL NOTES

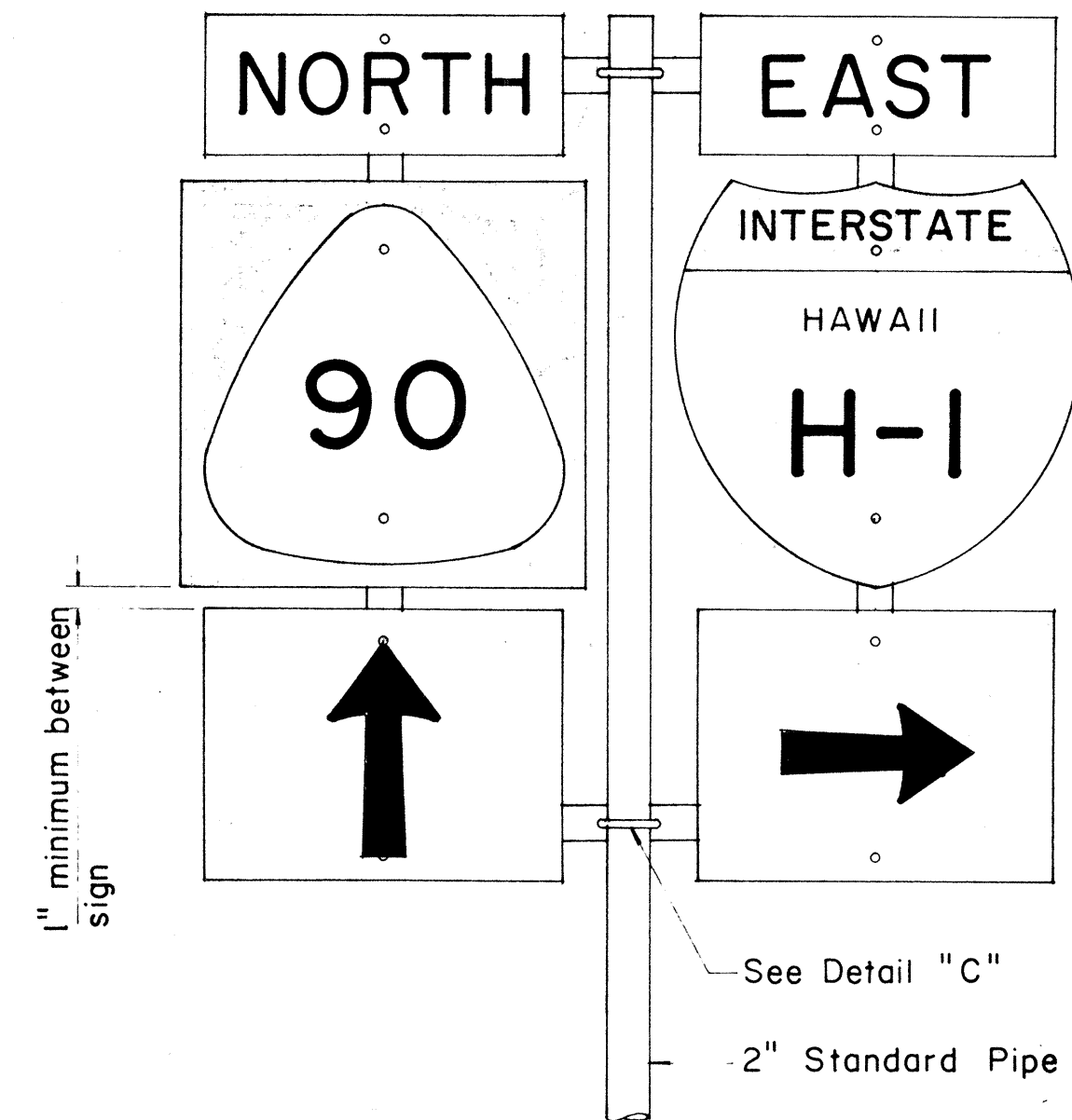
- The shape, dimensions, symbols, wording, lettering, color and reflectorizing of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June, 1961 and the BPR manual "Standard Highway Signs," dated September, 1961, unless otherwise specified.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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
INTERSTATE ROUTE MARKERS

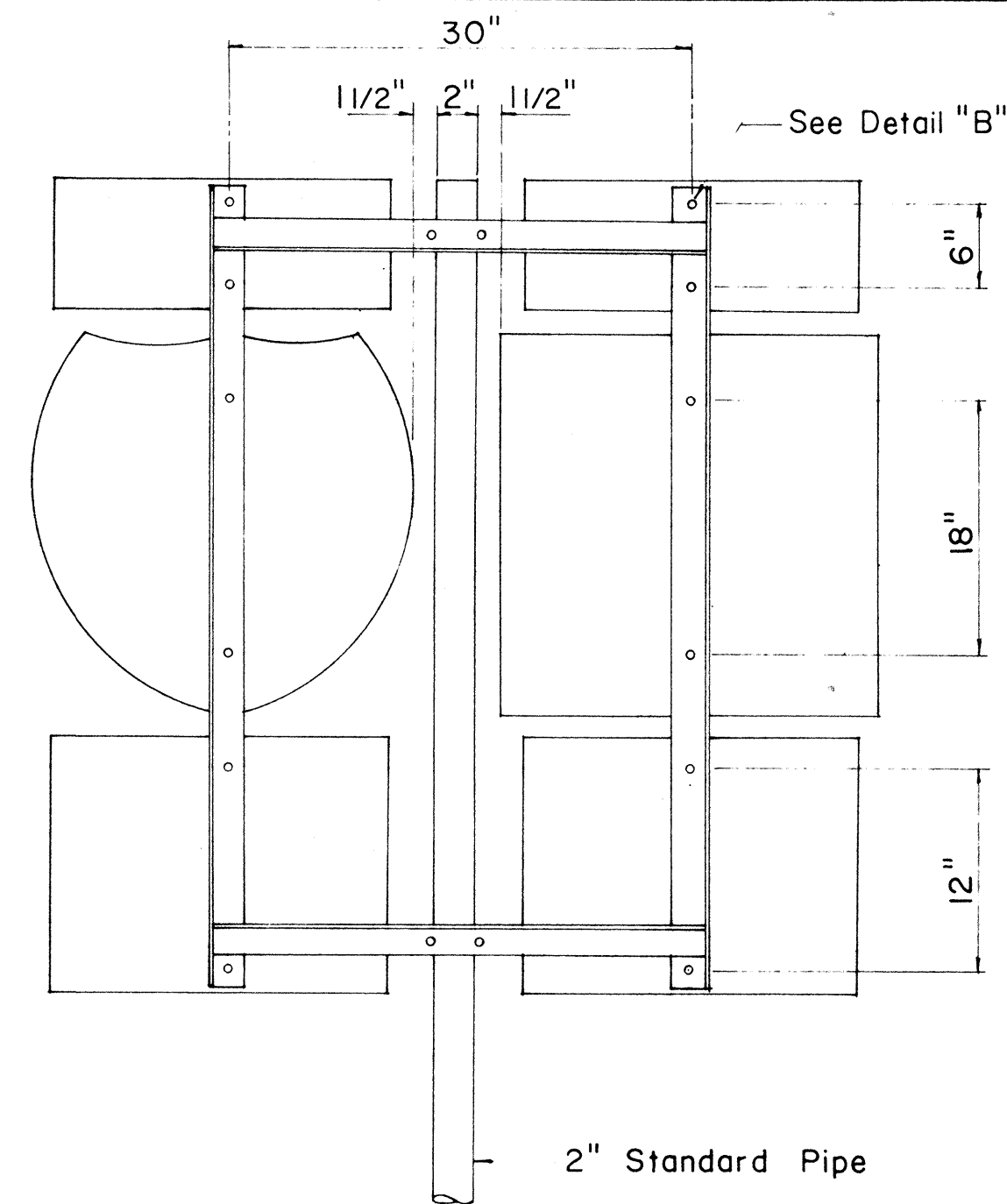
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-16010 HI-16710	1970	34	97



FRONT ELEVATION

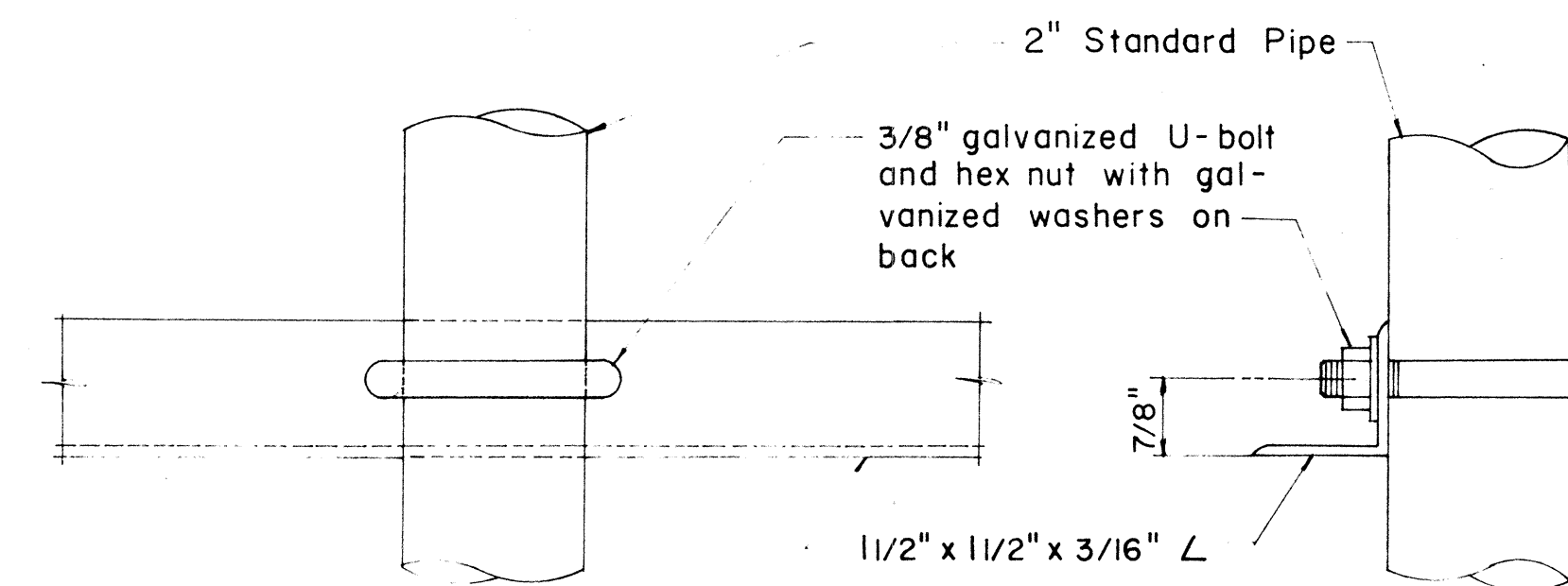
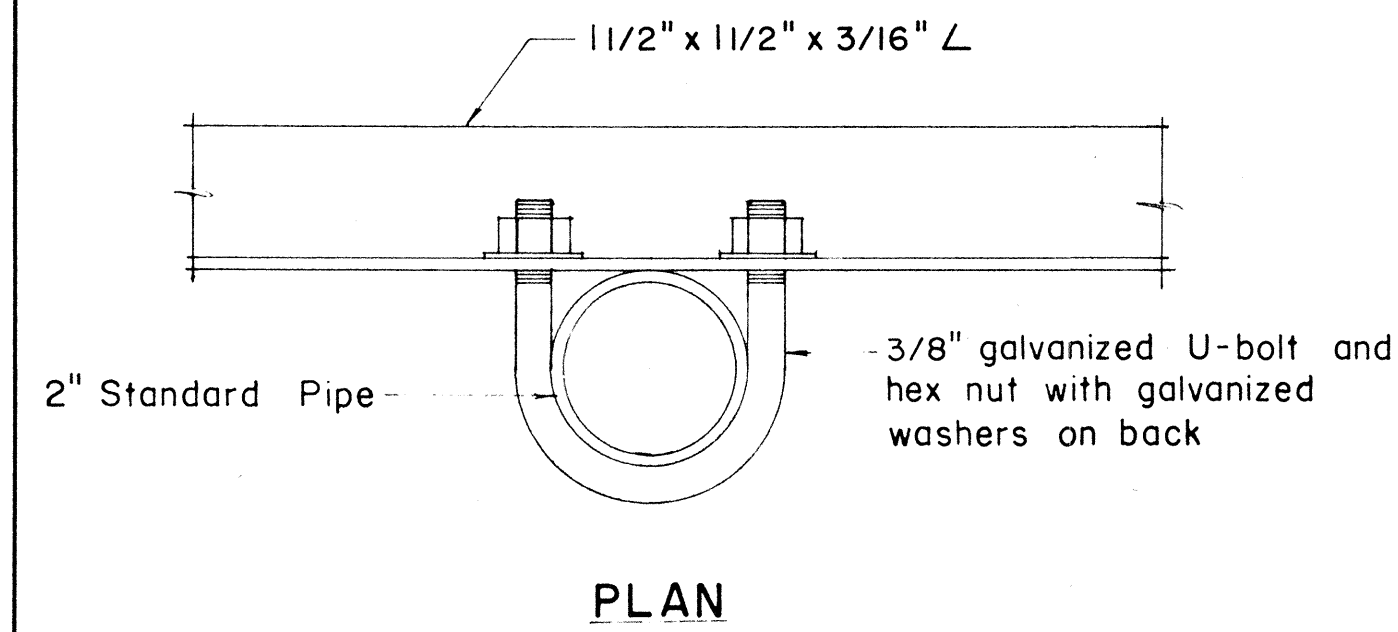
TYPE "B" ASSEMBLY



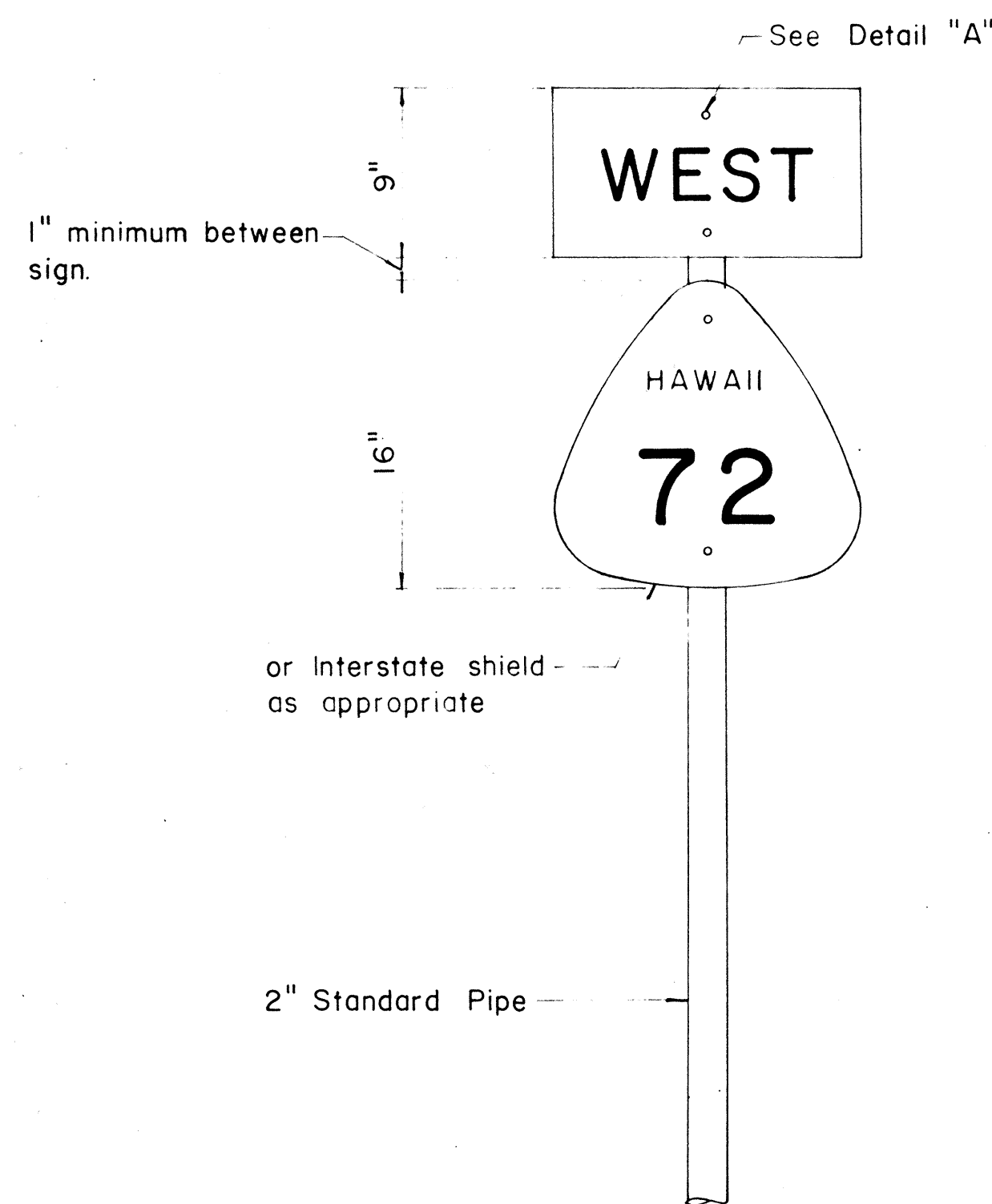
REAR ELEVATION

NOTE:

1. Minimum clearance between signs 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.

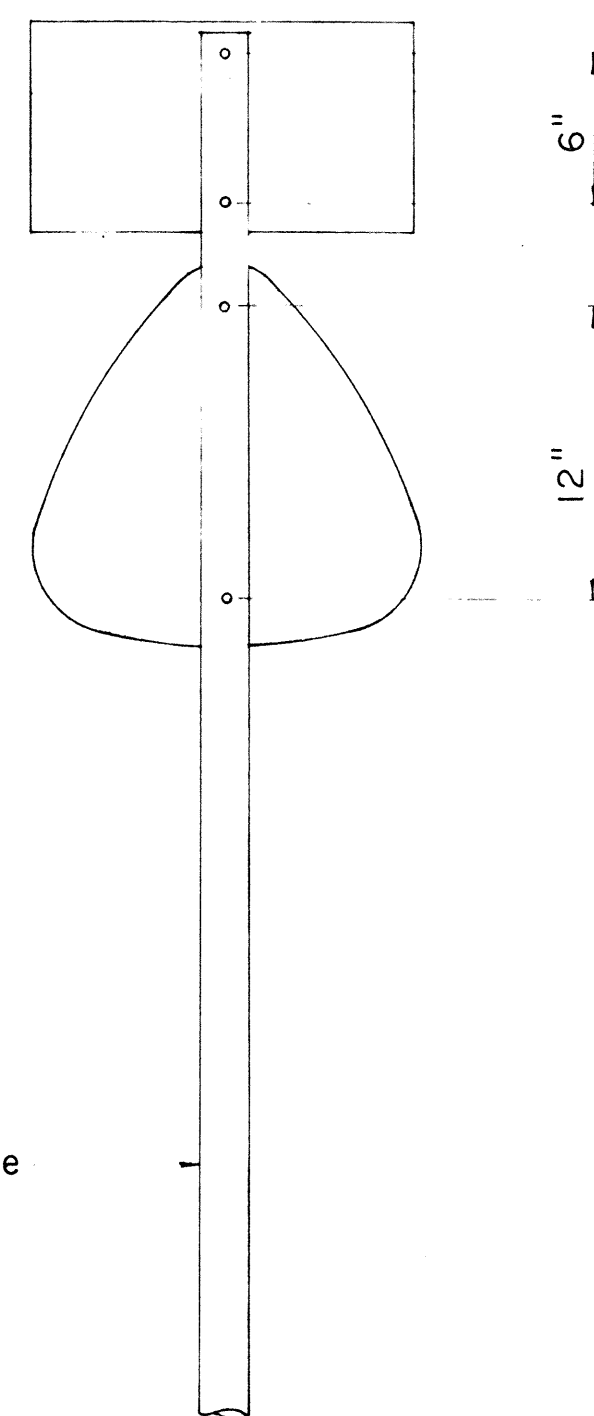


DETAIL "C"



FRONT ELEVATION

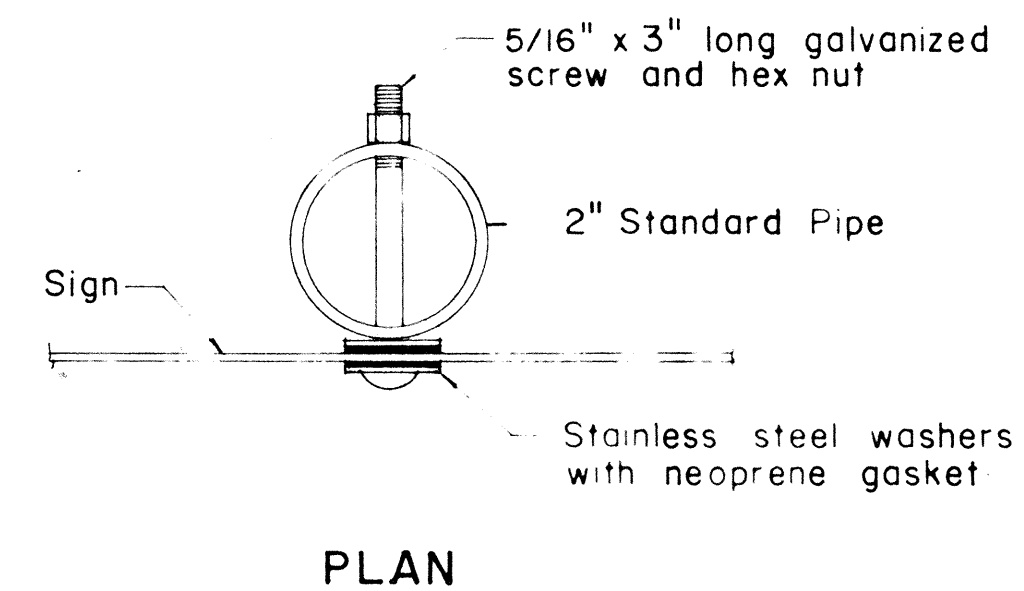
TYPE "A" ASSEMBLY



REAR ELEVATION

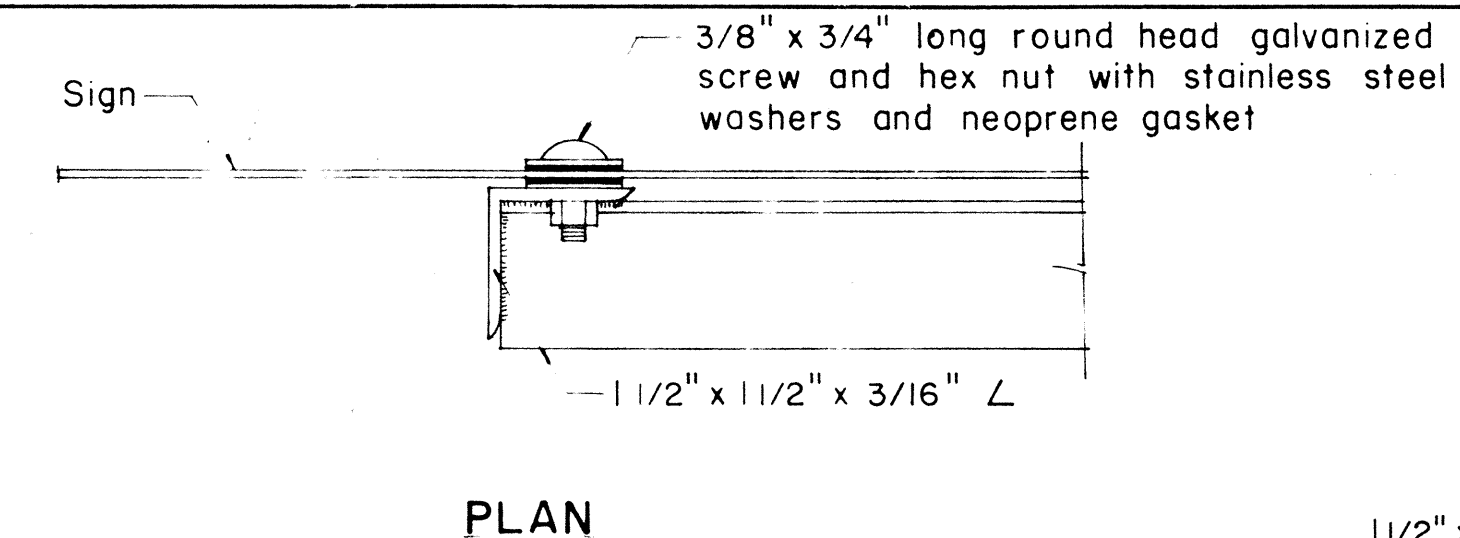
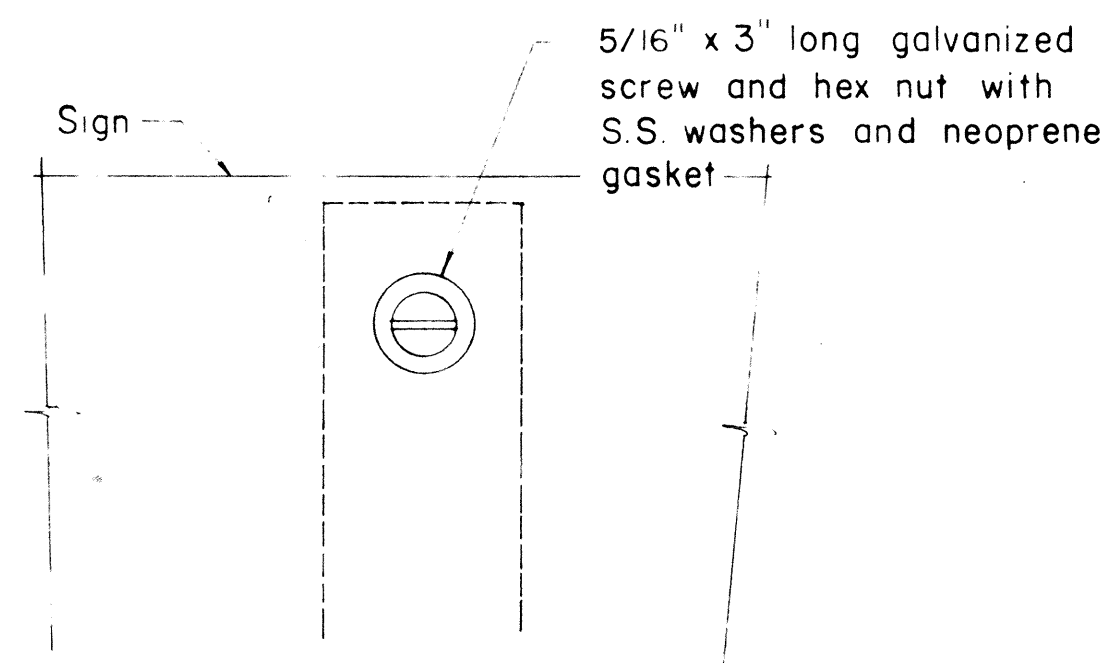
NOTE:

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



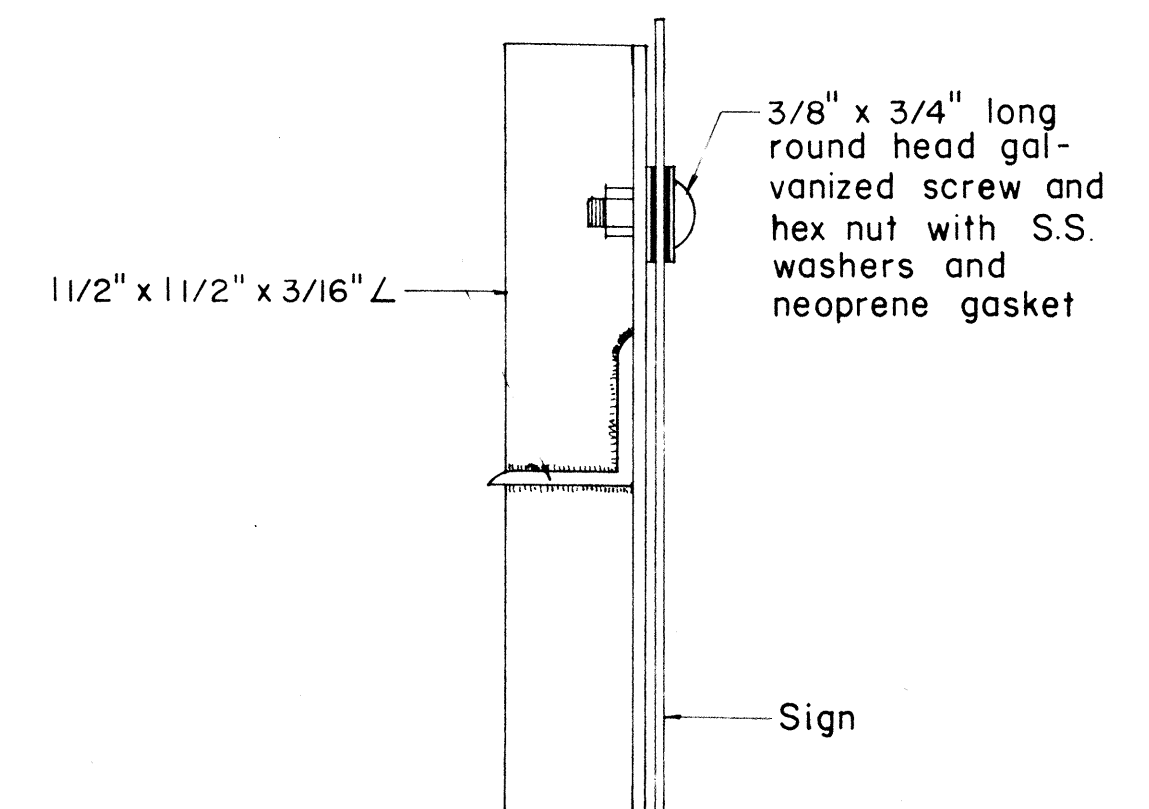
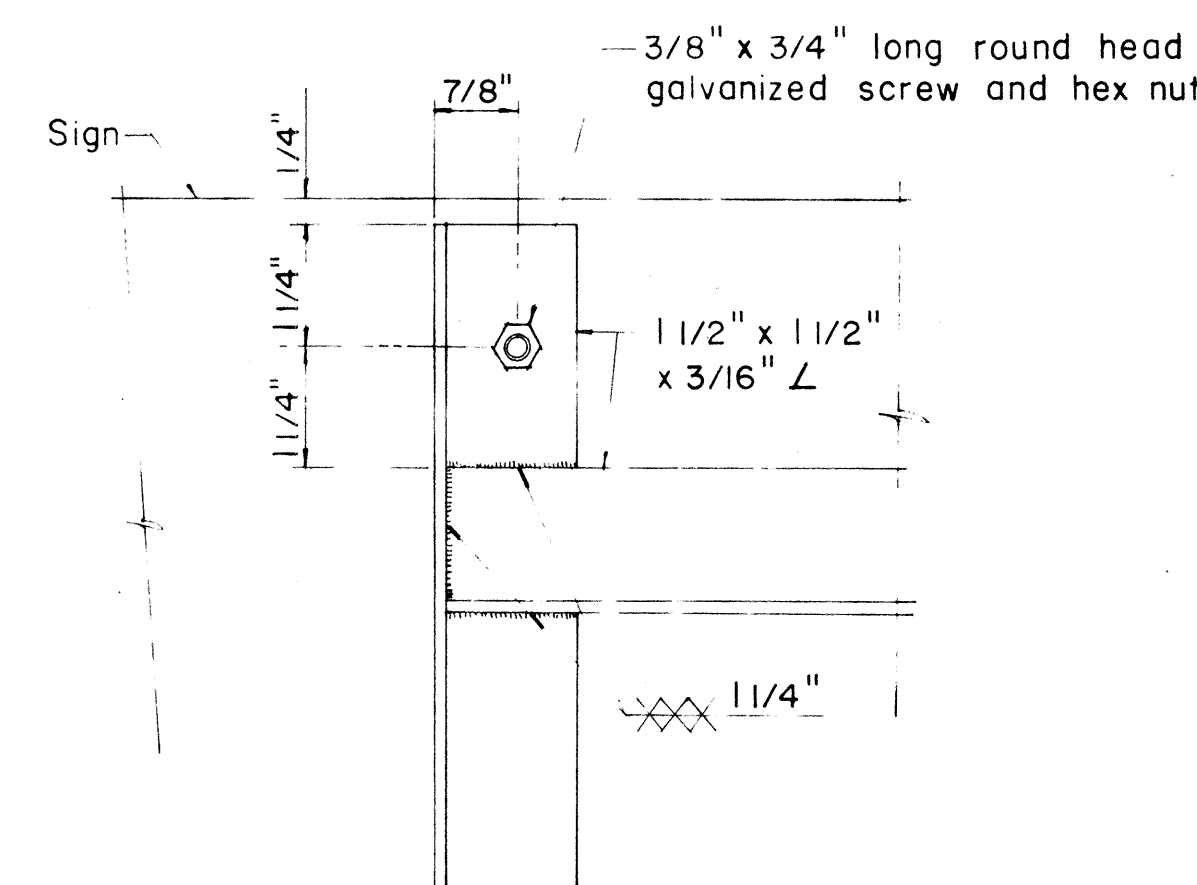
FRONT ELEVATION

DETAIL "A"



ELEVATION

DETAIL "B"

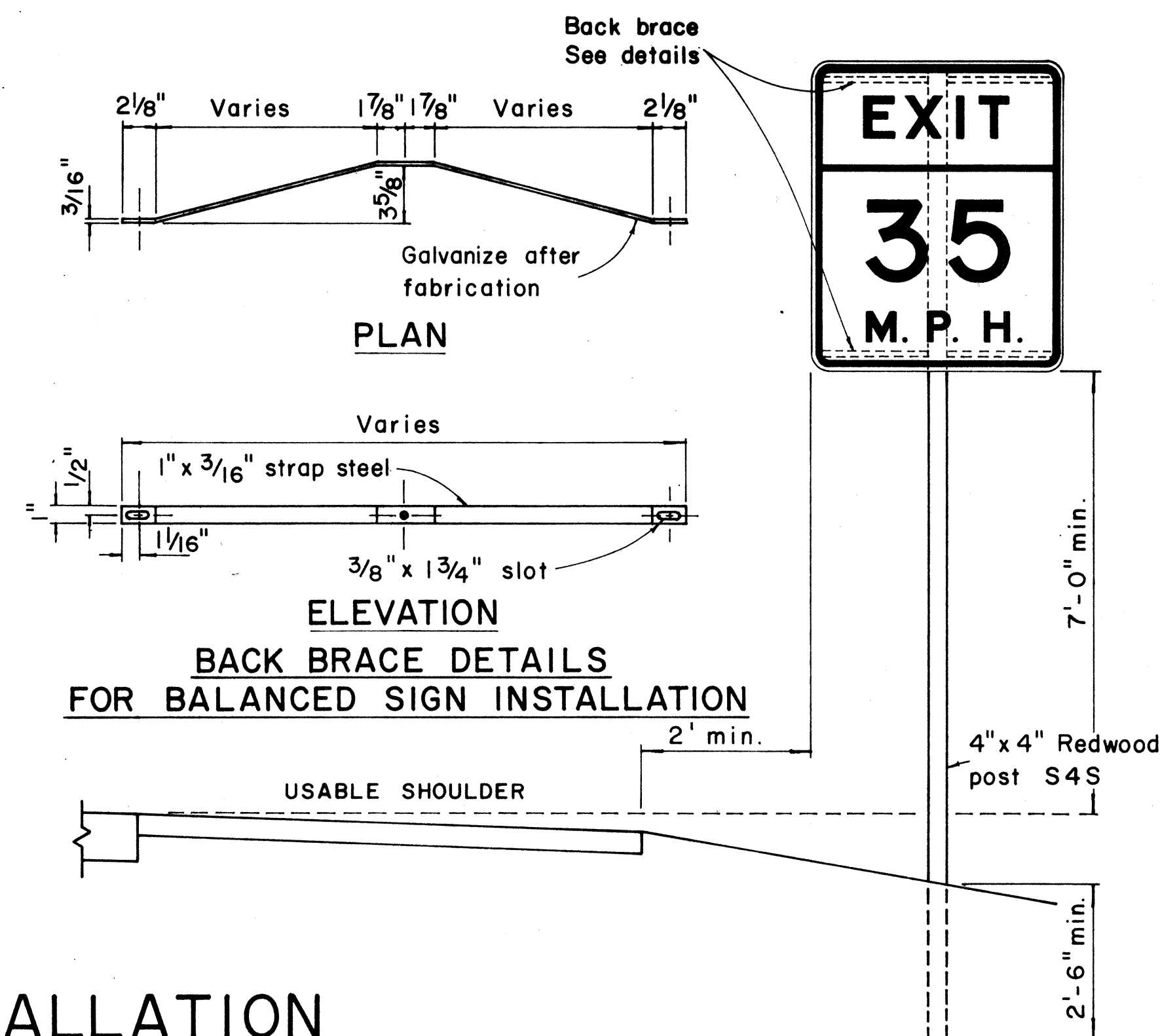
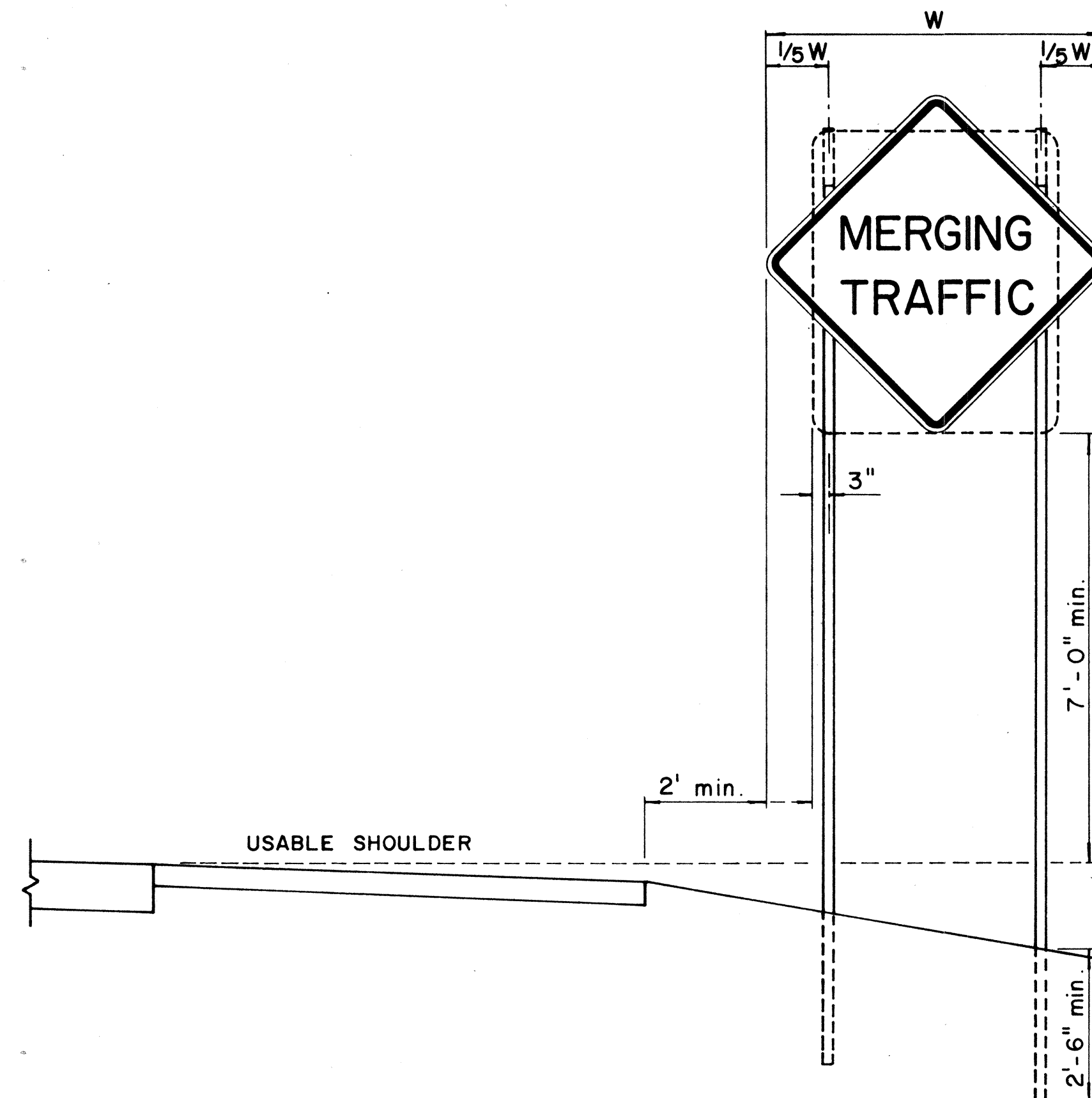
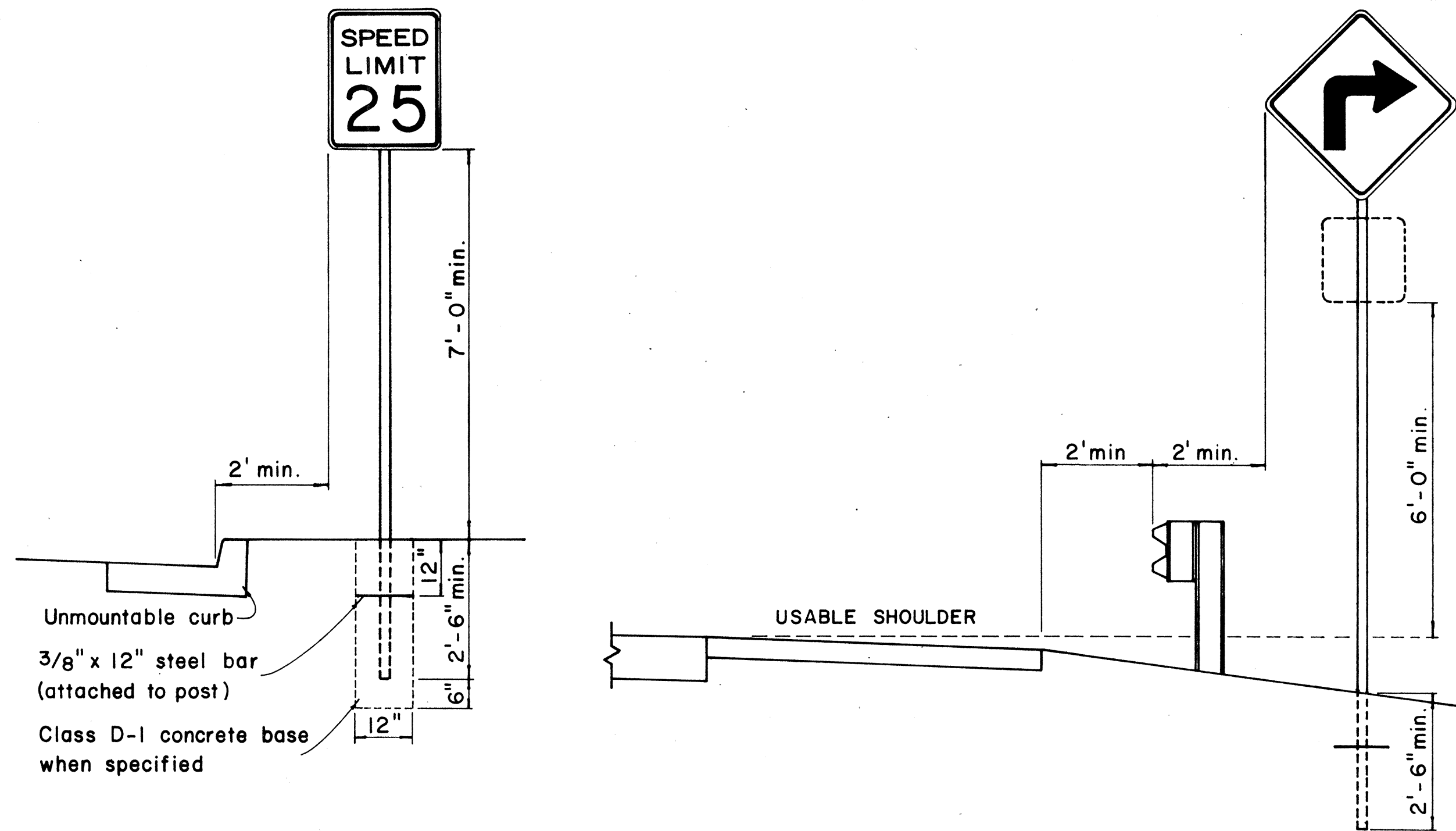


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

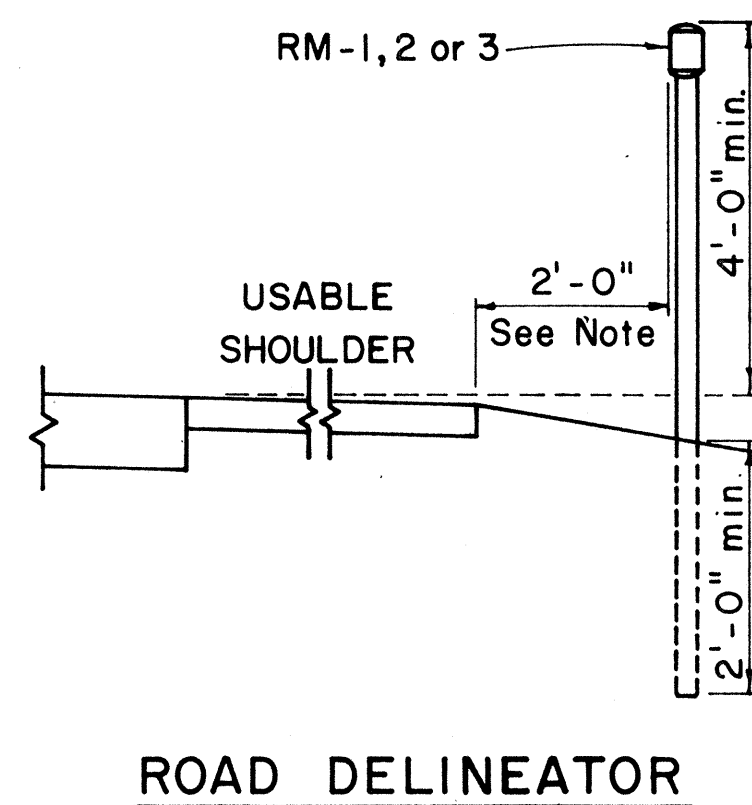
DETAILS
OF
ROUTE MARKER ASSEMBLY

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
ORIGINAL	
PLAN	
SECTION	
DETAIL	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(63)10 I-HI-1(67)10	1970	35	97

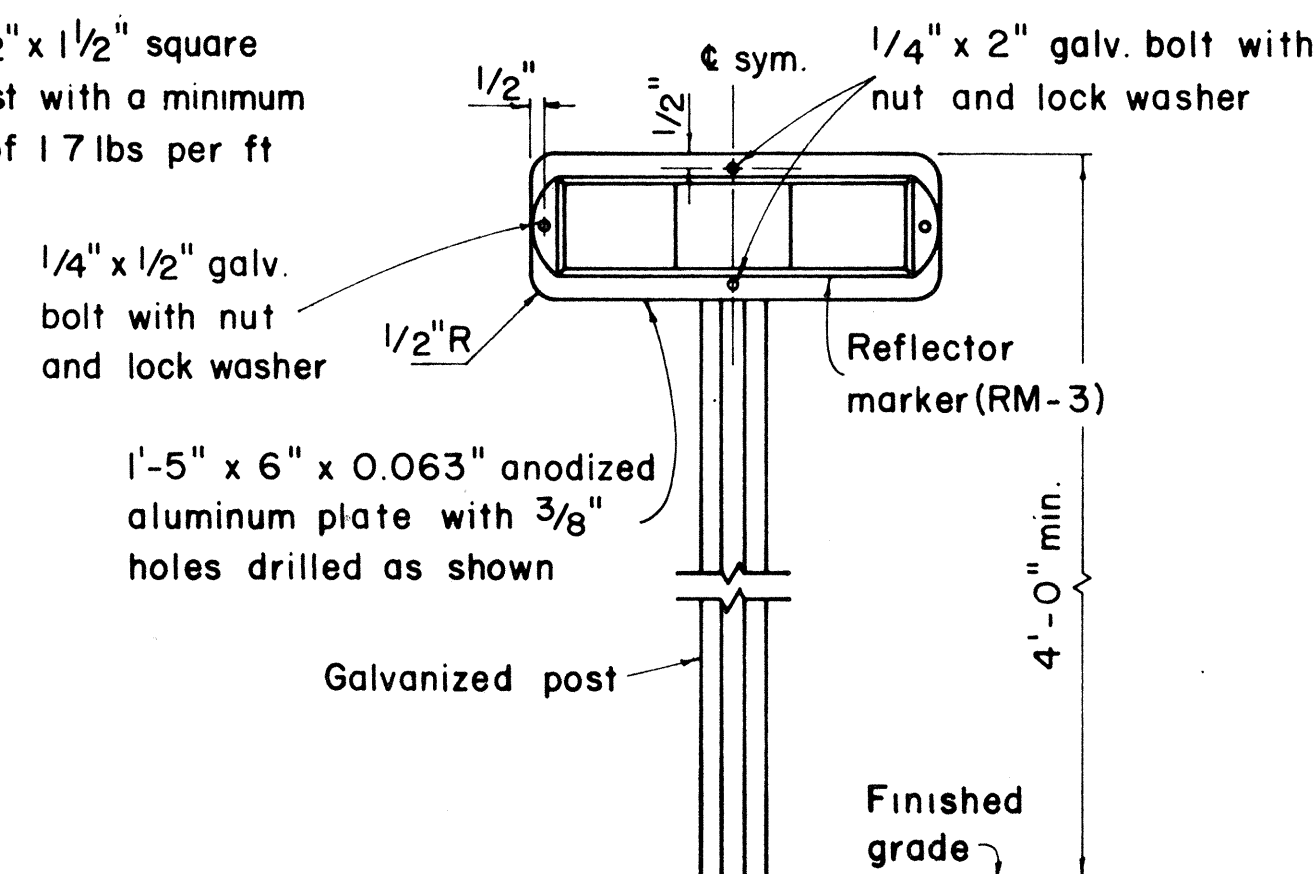
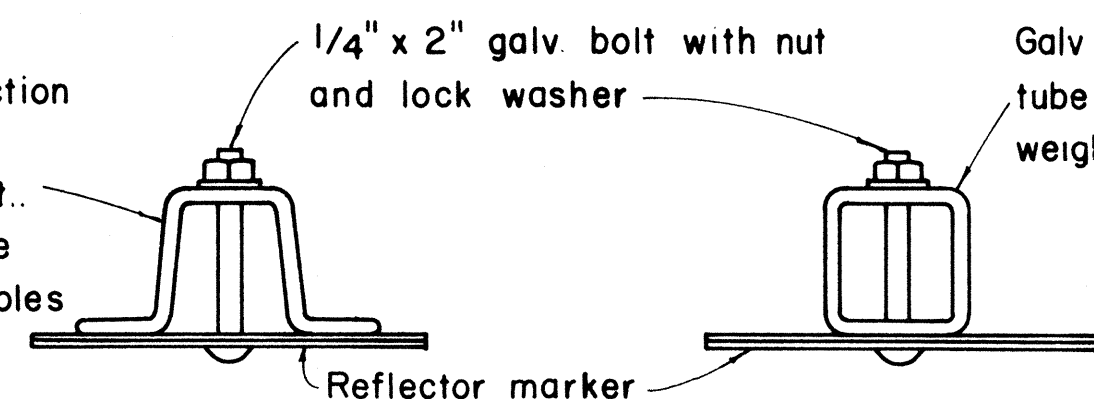


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION

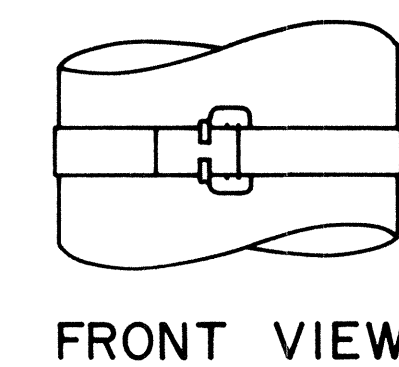
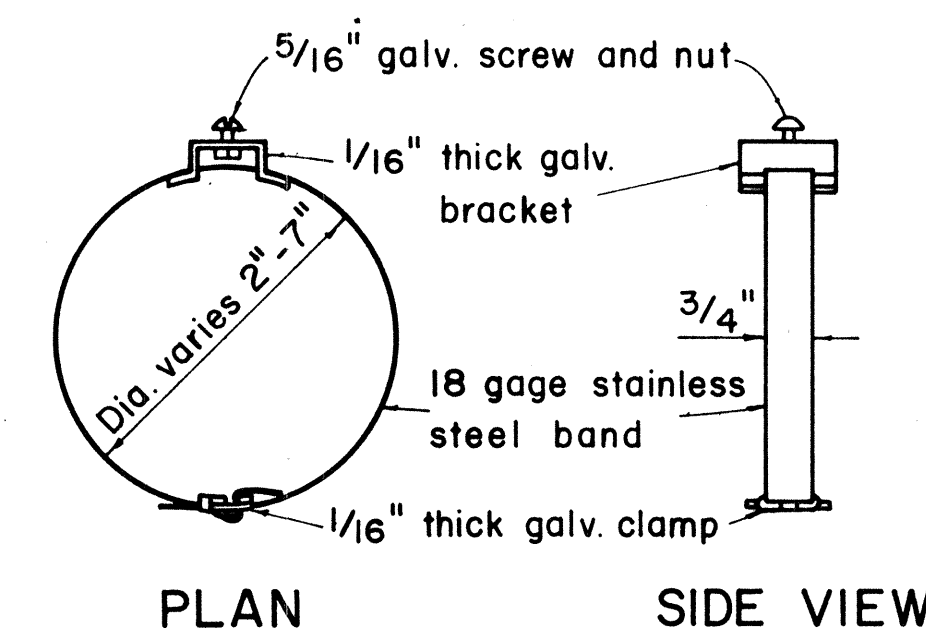


Galv. flanged channel
1/8" x 3 1/16" rolled section
post with a minimum
weight of 2 lbs. per ft.
Upper 2 ft. shall have
a single row of 3/8" holes
centered in the web at
1" o.c.

TYPICAL SECTION OF ROAD DELINEATOR



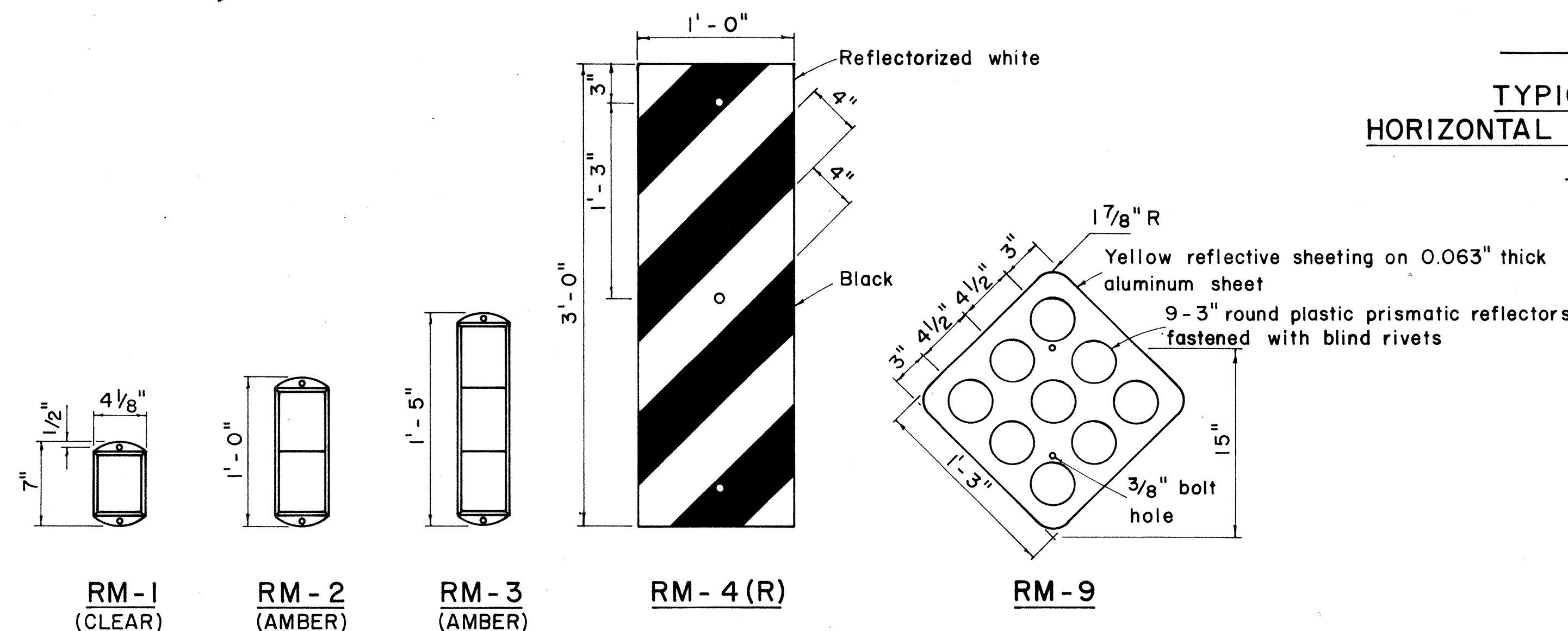
TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



TYPICAL BAND BRACKET FOR
MOUNTING TRAFFIC SIGNS

GENERAL NOTES:

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



REFLECTOR MARKERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

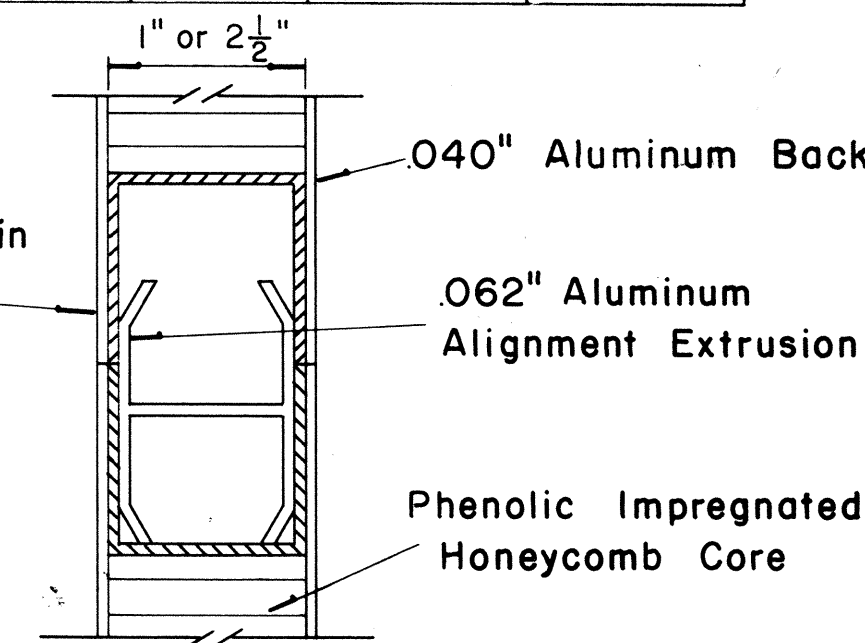
Not to scale March, 1968

SHEET NO. 16 OF 19 SHEETS DT 100

33 5

(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

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

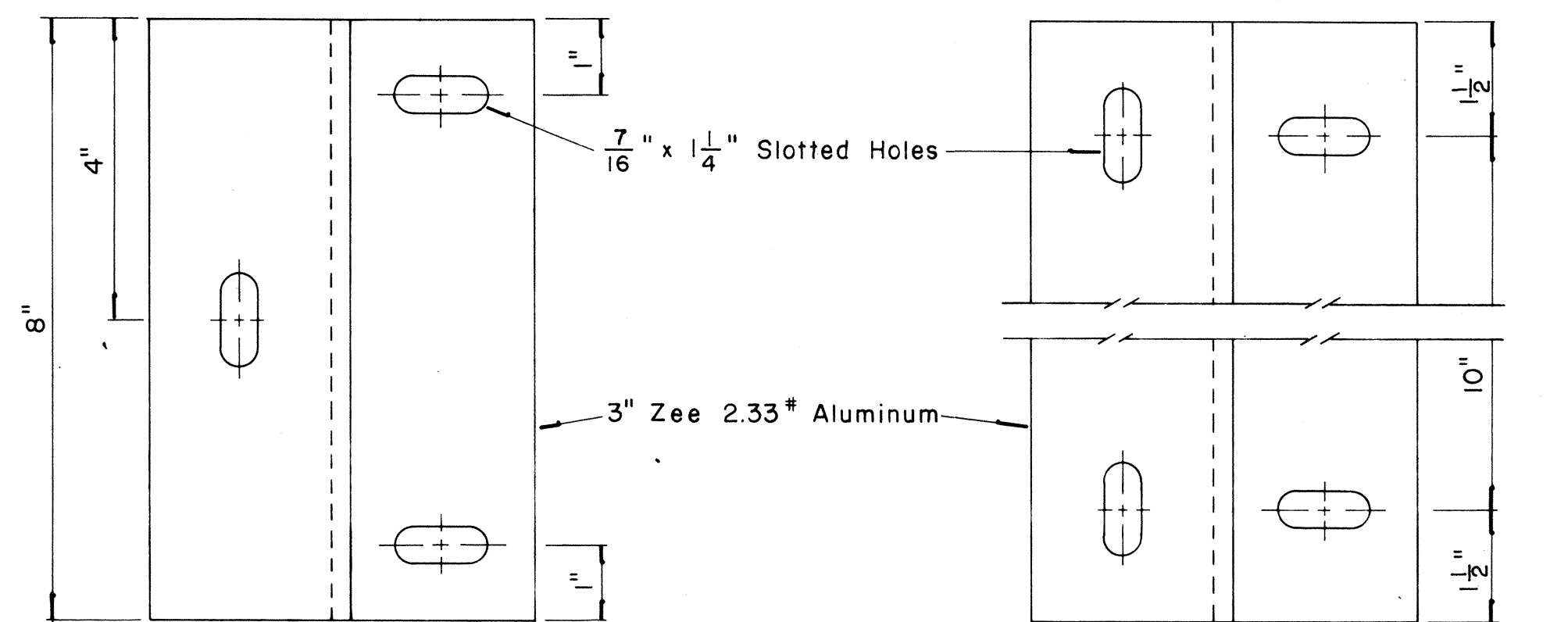


CLOSURE DETAIL
SECTION "C-C"
FULL SCALE

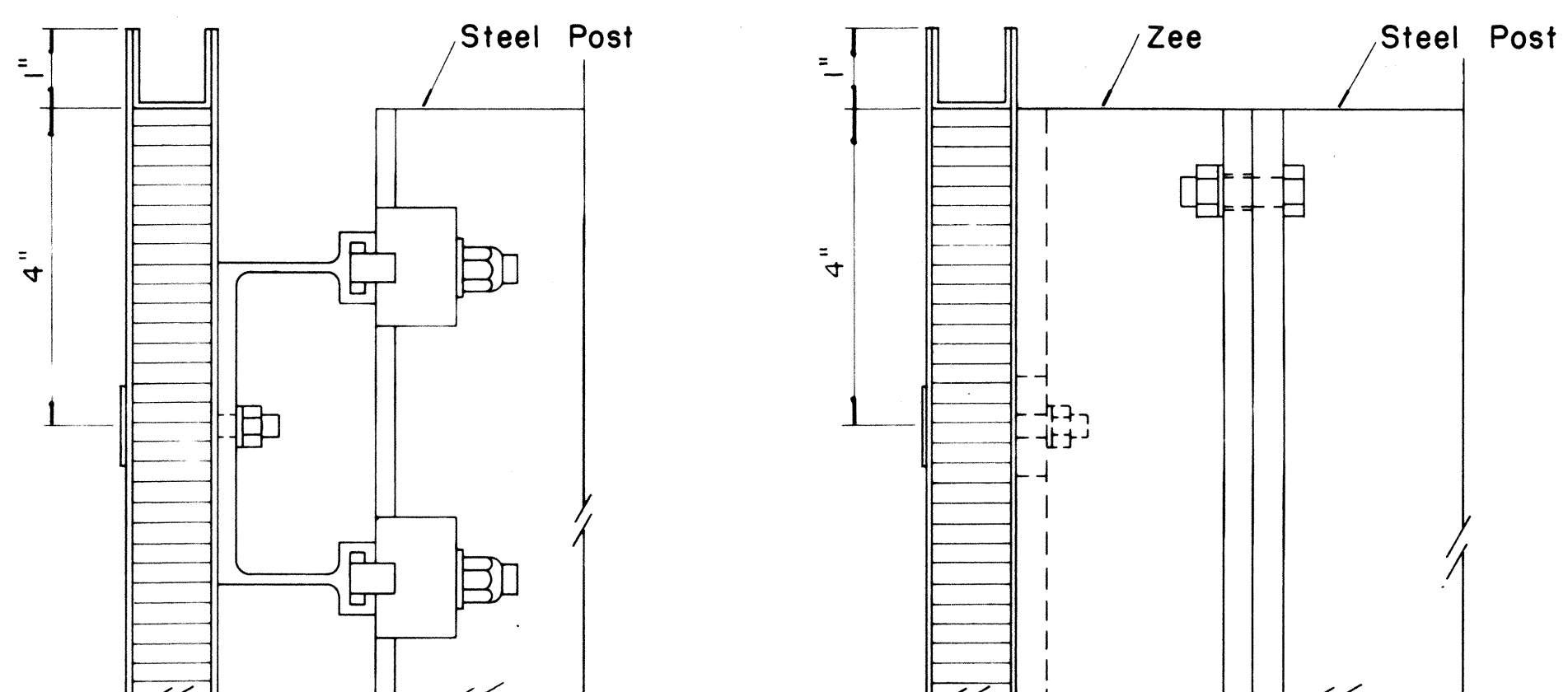
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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

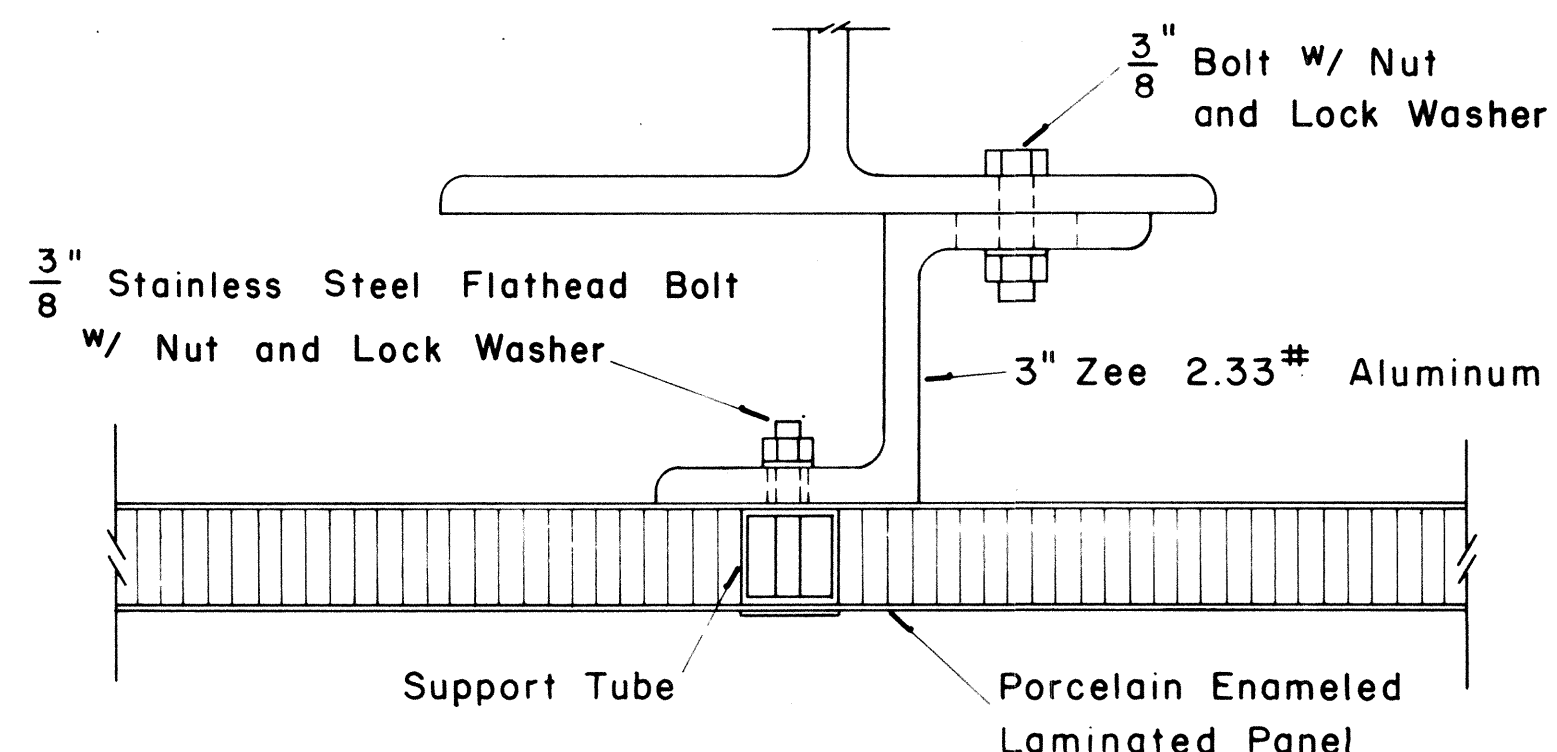
SHEET No. 17 OF 19 SHEETS DT 206



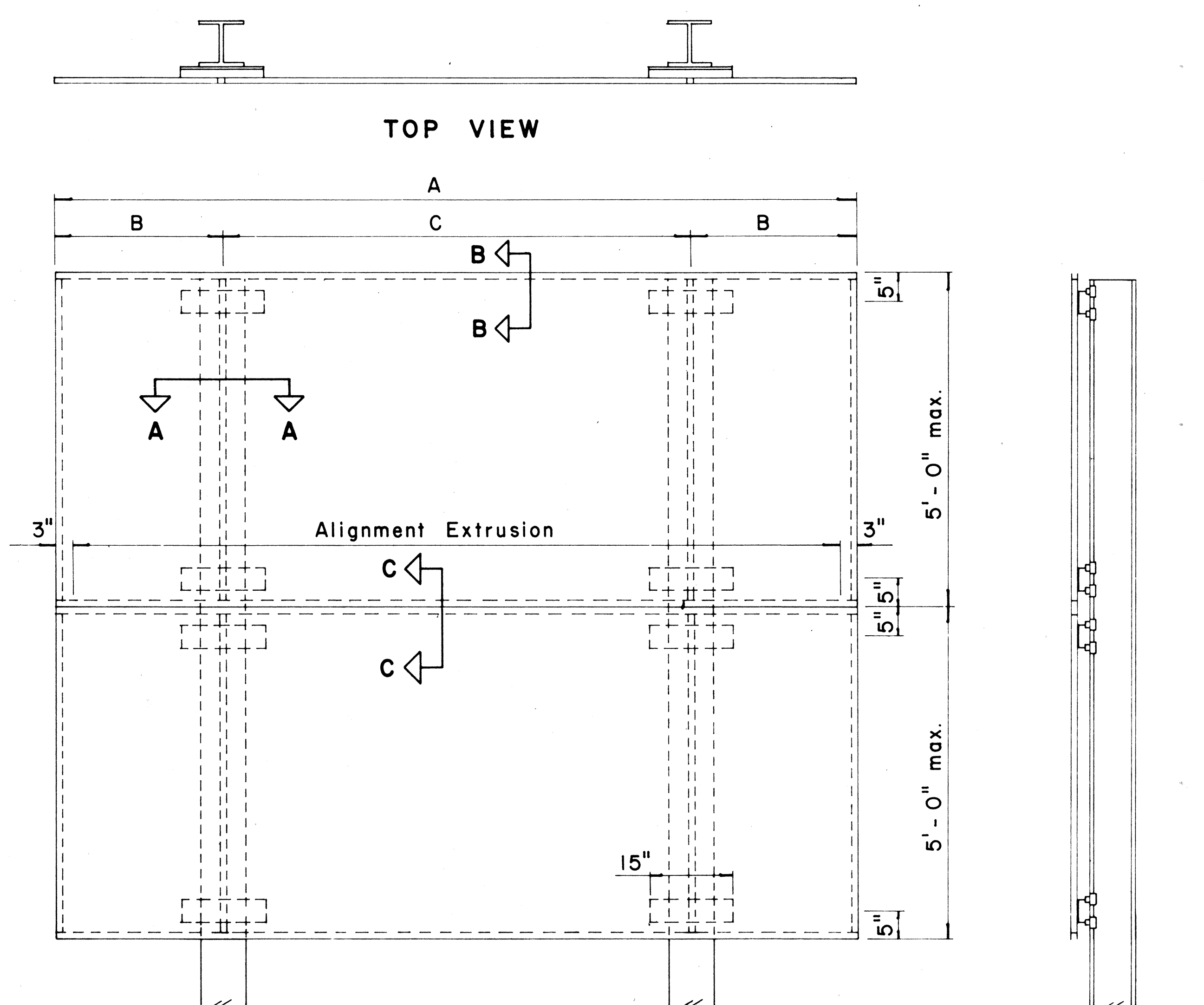
END MOUNTING INTERMEDIATE MOUNTING
ZEE MOUNTING DETAILS
Scale: 1/2" = 1'



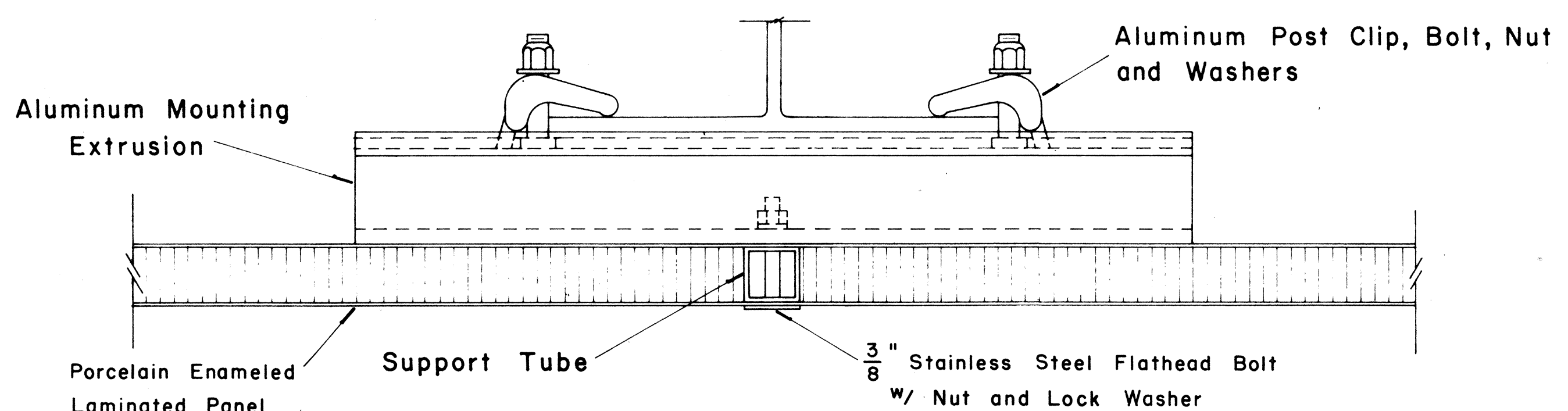
SECTION "B-B" SECTION "B-B" (Alternate)
Scale: 1/2" = 1' Scale: 1/2" = 1'



SECTION "A-A" (Alternate)
Scale: 1/2" = 1'



ELEVATION SIDE VIEW
TYPICAL SIGN ASSEMBLY
Scale: 3/4" = 1' - 0"

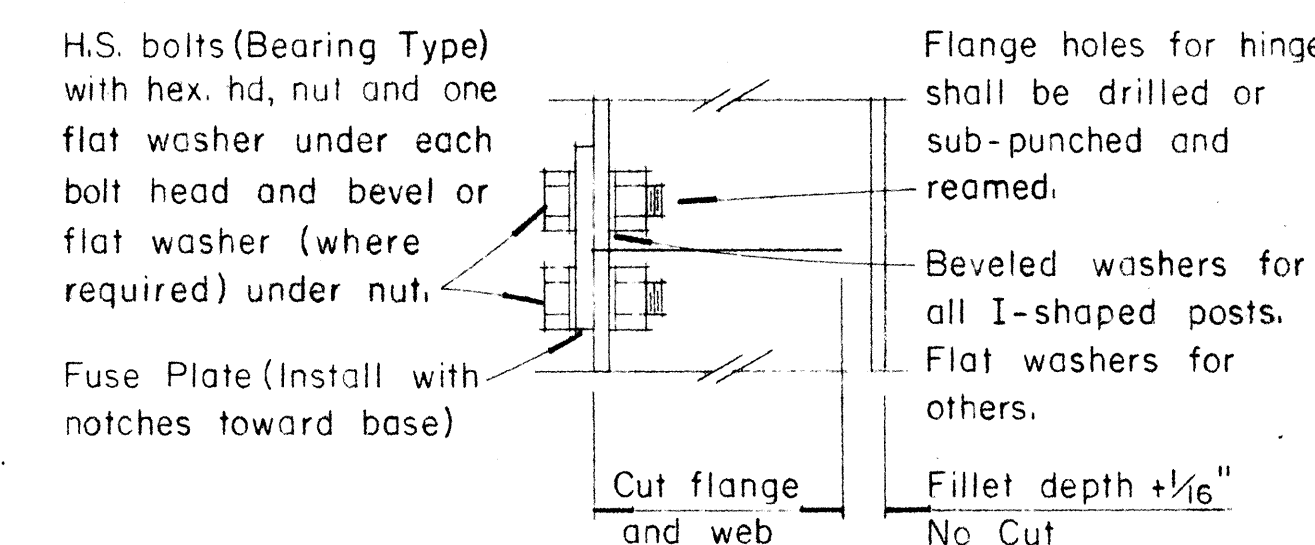
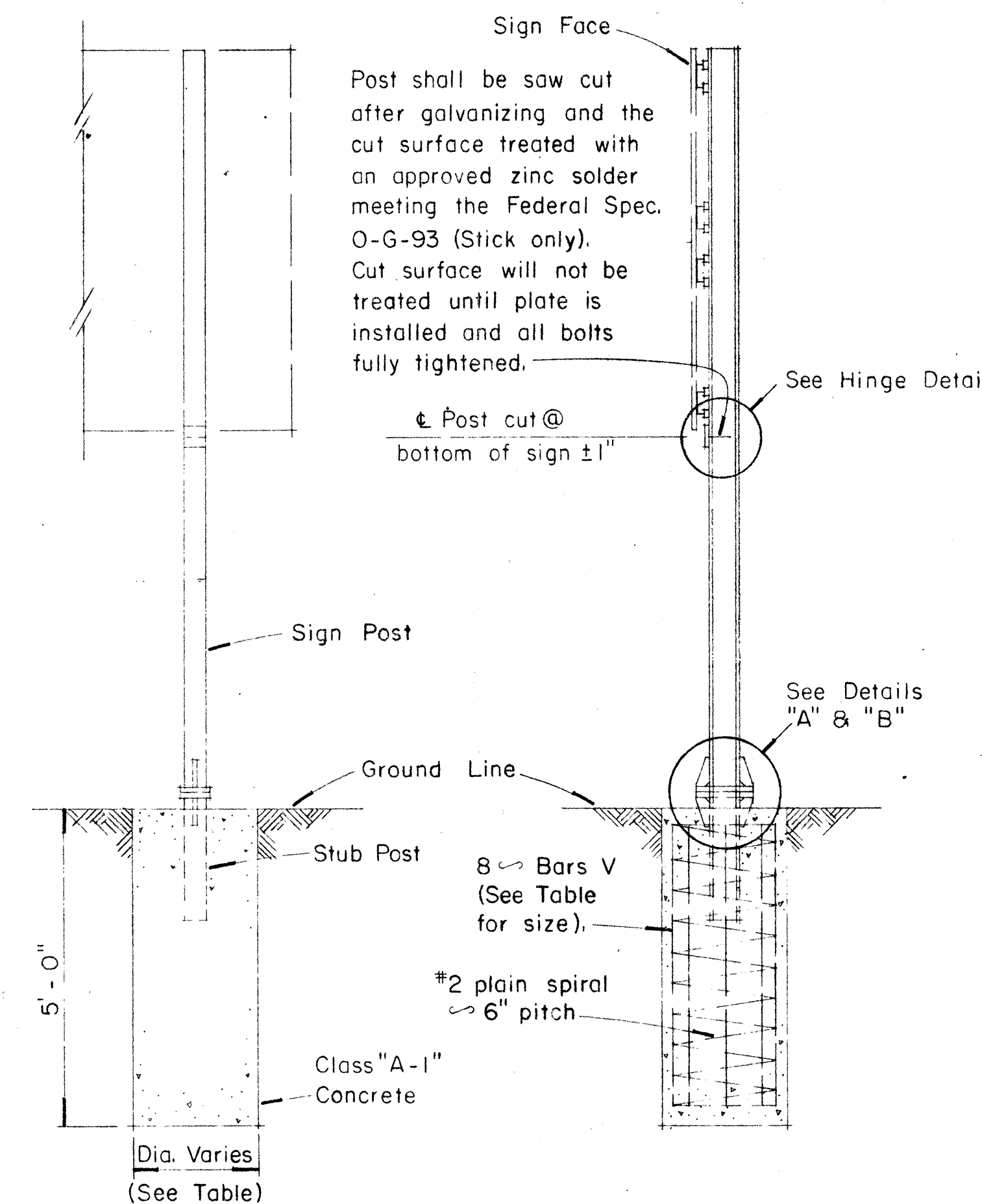


SECTION "A-A"
Scale: 1/2" = 1'

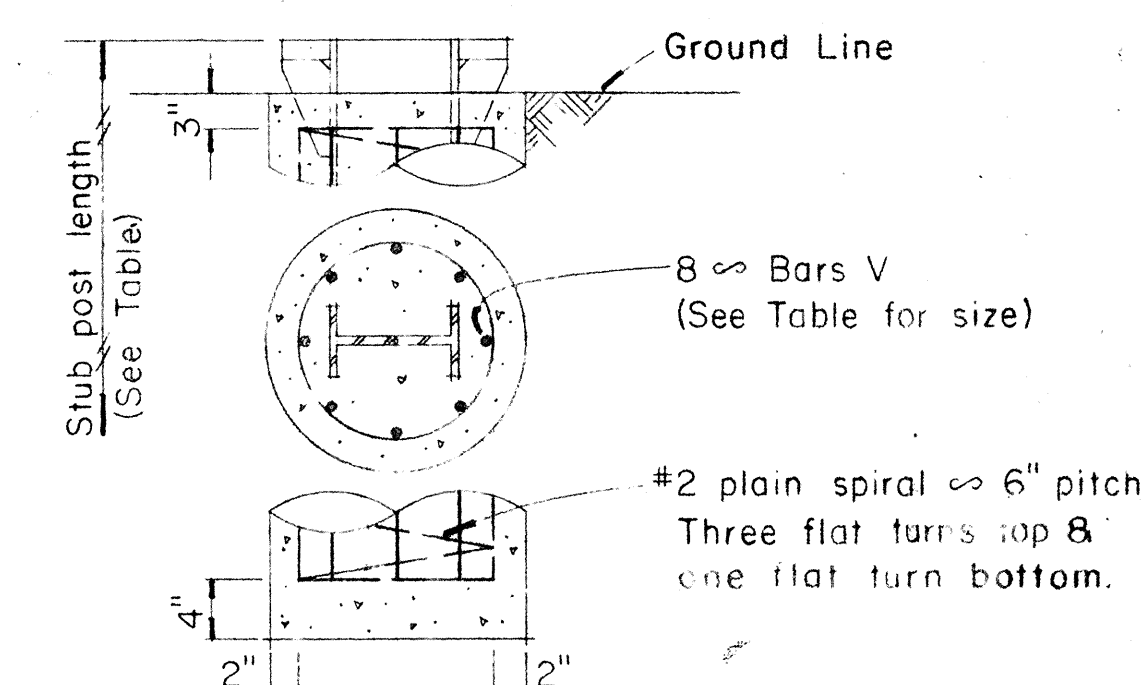
SURVEY PLOTTED BY
DATE
DESIGNED BY
CHECKED BY
NOTE BOOK
QUANTITIES BY
DESIGNED BY
CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HA-1(66):10 HA-1(67):10	1970	37	97

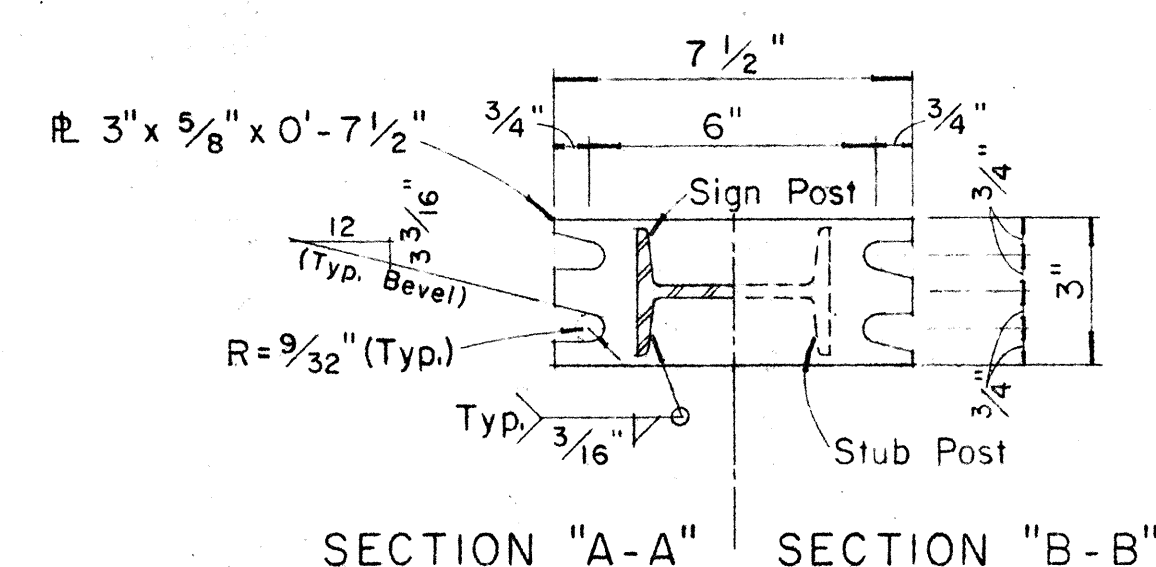
BASE CONNECTION DATA TABLE											FUSE PLATE DATA TABLE											FOUNDATION DATA			
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size
6 B 8.5											3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2"	1.09#	2'-0"	3"	2'-0"	#5
6 B 12	5/8" ϕ x 2 3/4"	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 1/16"	3/8"	5/8"	1.60#	2'-0"	3"	2'-0"	#5
6 B 15.5	Torque = 450" #										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 W 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 W 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 W 21	3/4" ϕ x 3 1/2"	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 W 25	Torque = 750" #										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 W 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"	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	Torque = 200" #										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



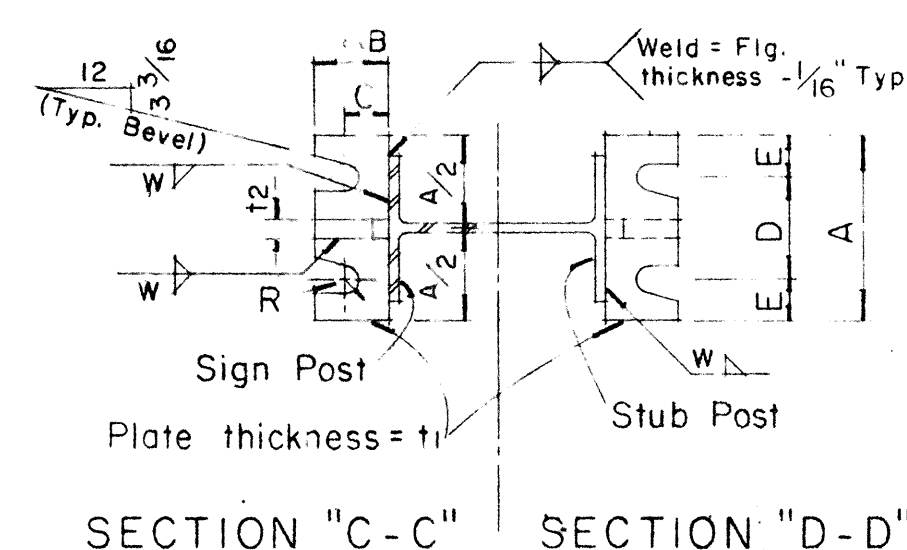
HINGE DETAIL



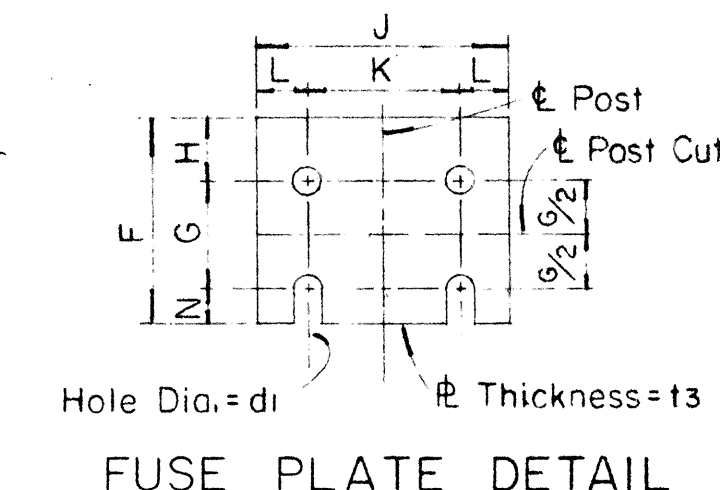
FOUNDATION DETAIL



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



STIFFENER PLATE DETAIL



SHIM DETAIL

Furnish 2 x .012" thick and 2 x .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 AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however, flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM-A307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with the requirements of ASTM Specification A441.
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

BREAK-AWAY SIGN SUPPORTS

FOR

GROUND MOUNTED GUIDE SIGNS

Not to Scale

SHEET No. 13 OF 19 SHEETS

1/2" ϕ x 2 1/2" H.S. bolt with hex. hd., nut & 3 washers with each bolt. Torque = 200" #. See bolting procedure.

Remove all galvanizing runs or beads in washer area.

Stub Projection (See Table)

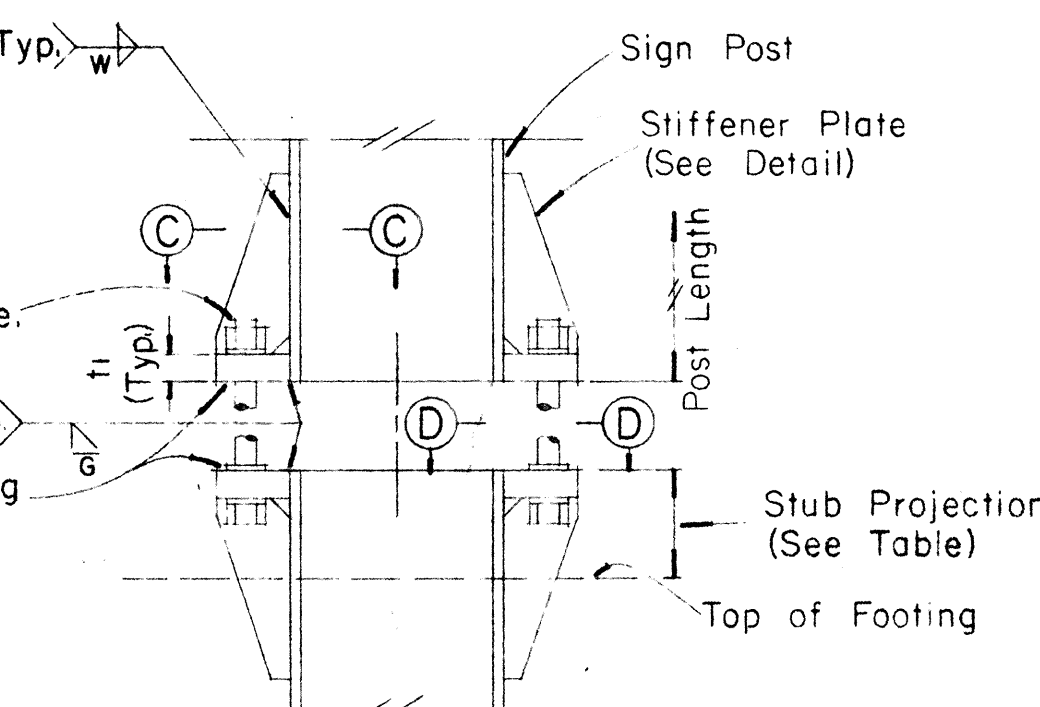
DETAIL "A"
SIGN POST & STUB POST
(For 4I7.7 and 3I5.7 Shapes)

5/8" ϕ x 2 3/4" H.S. bolt with hex. hd., nut & 3 washers with each bolt. Torque = 450" #. See bolting procedure.

Remove all galvanizing runs or beads in washer area.

PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

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

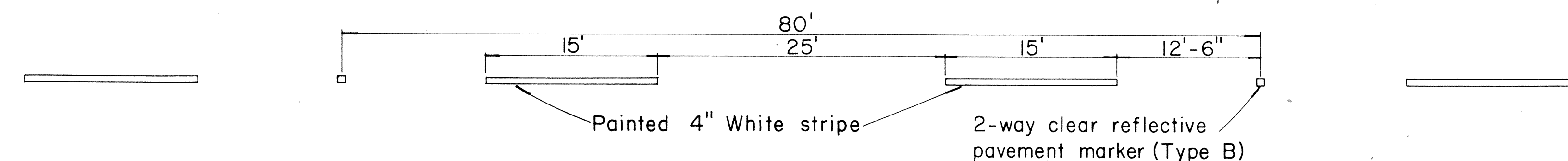


DETAIL "B"
SIGN POST & STUB POST
(For W and B Shapes)

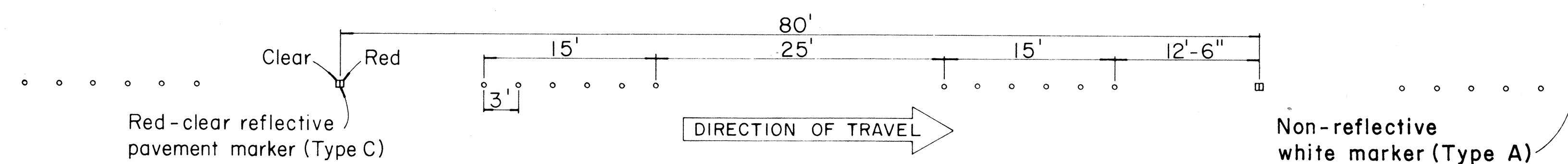
DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TH-1166-10 TH-1167-10	1970	38	97

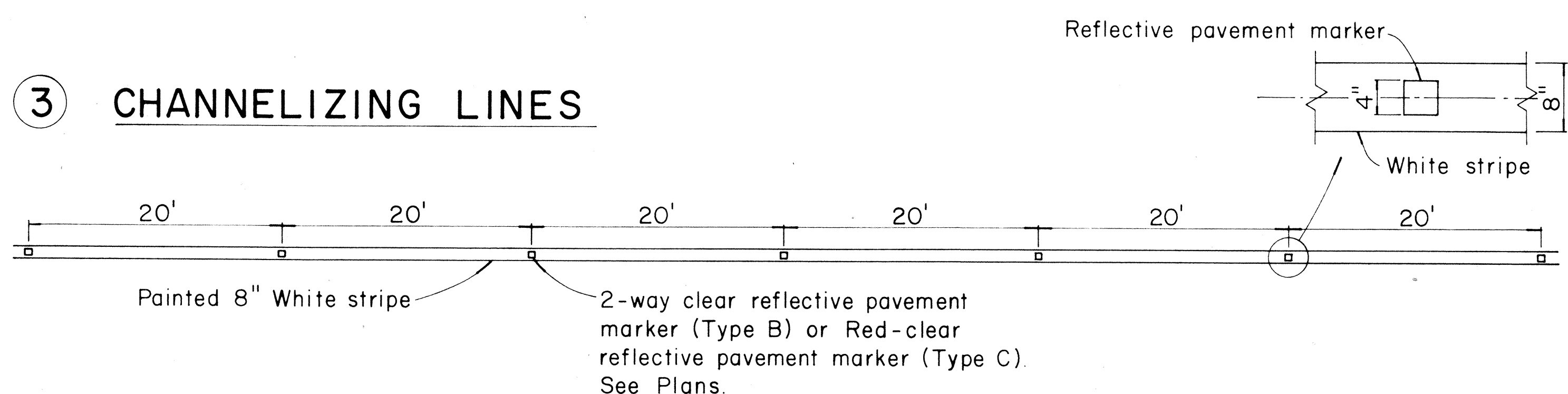
1 CENTER LINES ON TWO - LANE RURAL ROADS AND CITY STREETS



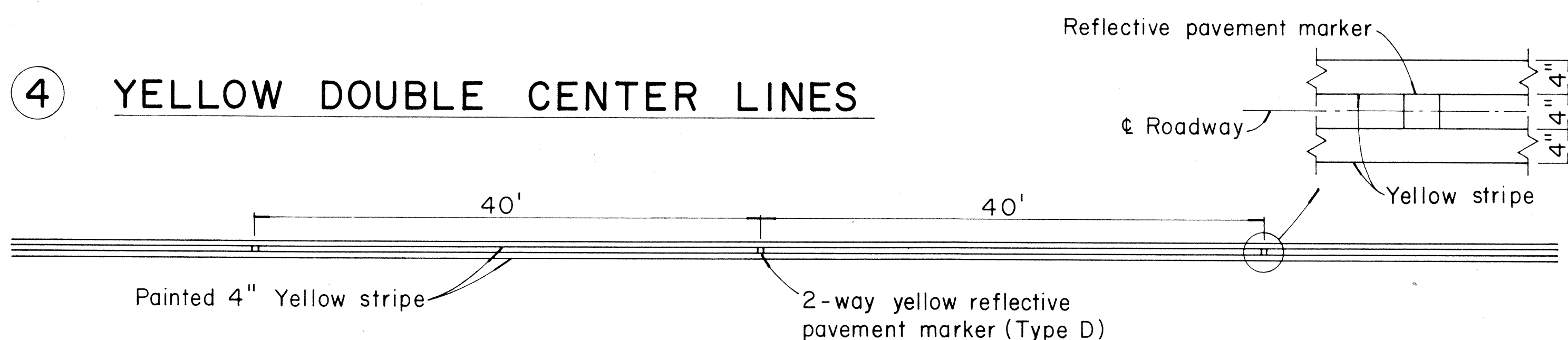
2 LANE LINES



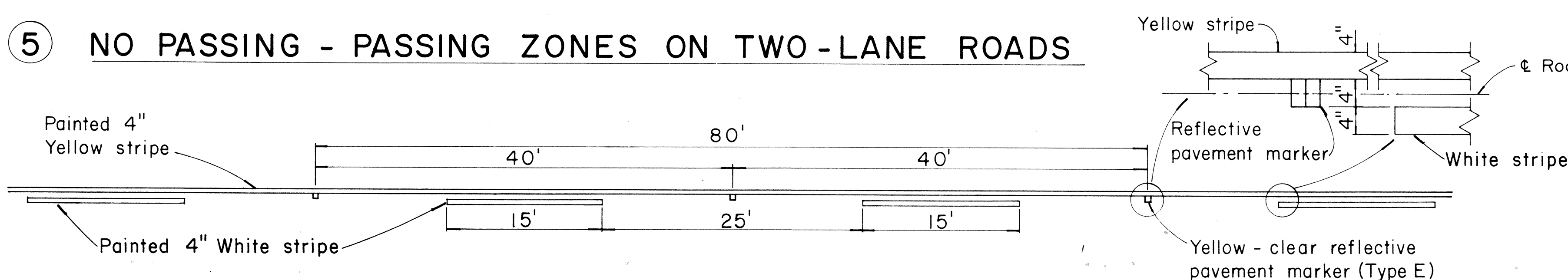
3 CHANNELIZING LINES



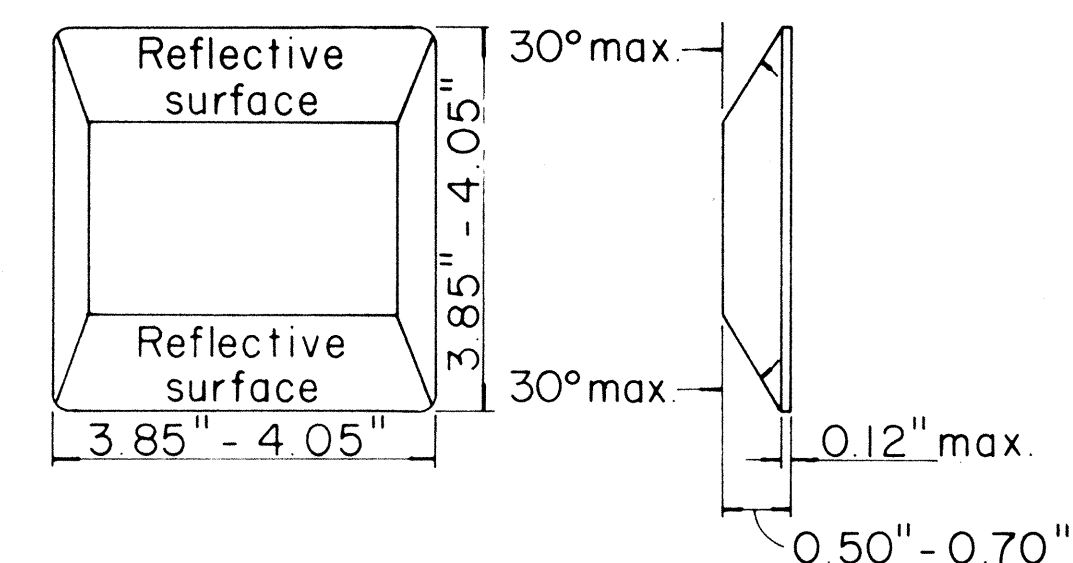
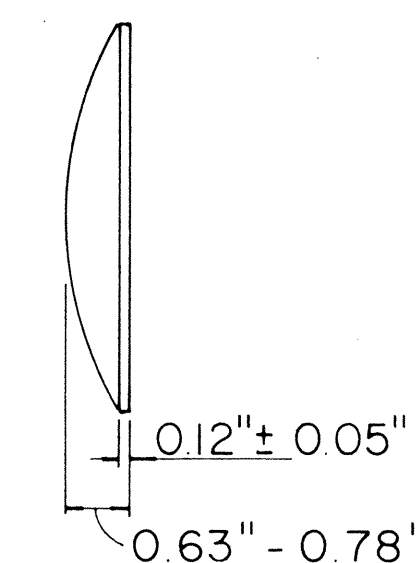
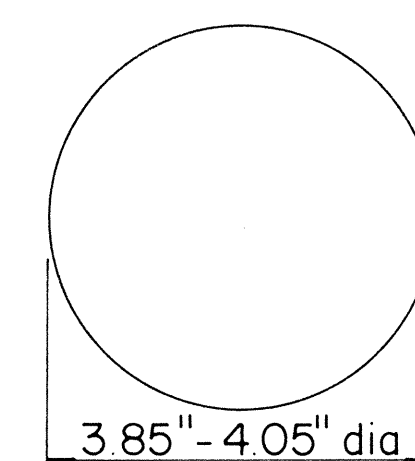
4 YELLOW DOUBLE CENTER LINES



5 NO PASSING - PASSING ZONES ON TWO-LANE ROADS



* For Curves Less Than 1000' Radius, use One - Half Spacing.

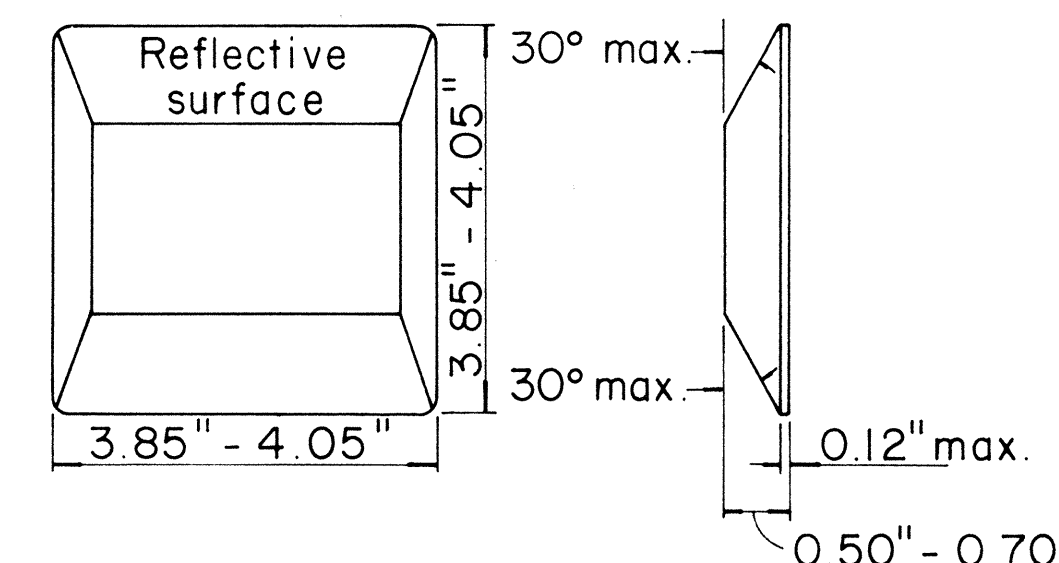
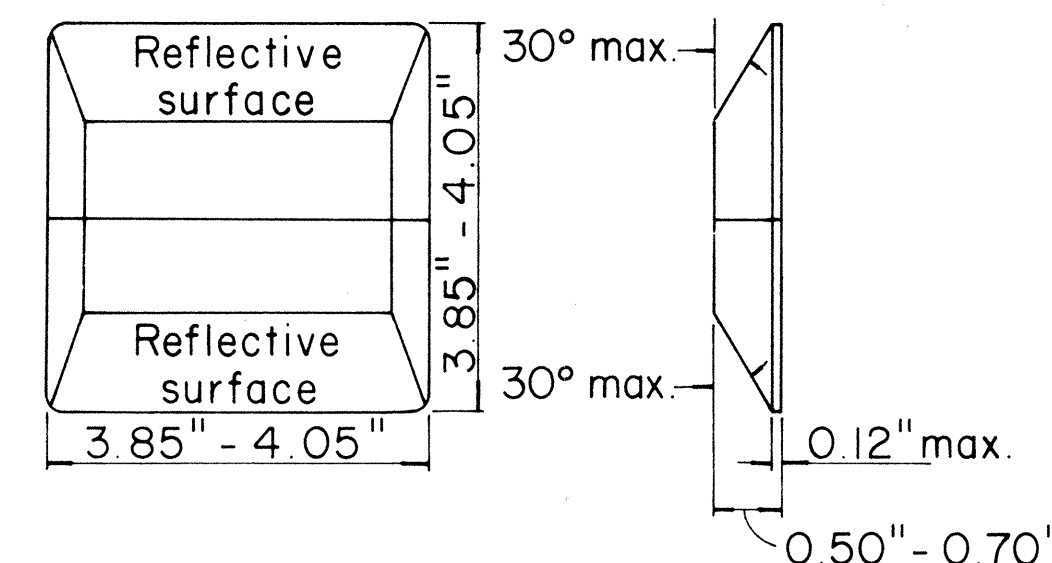


TYPE A
Non - reflective white marker

TYPE B
2-way clear reflective surface

TYPE J
Non - reflective yellow marker

TYPE D
2-way yellow reflective surface



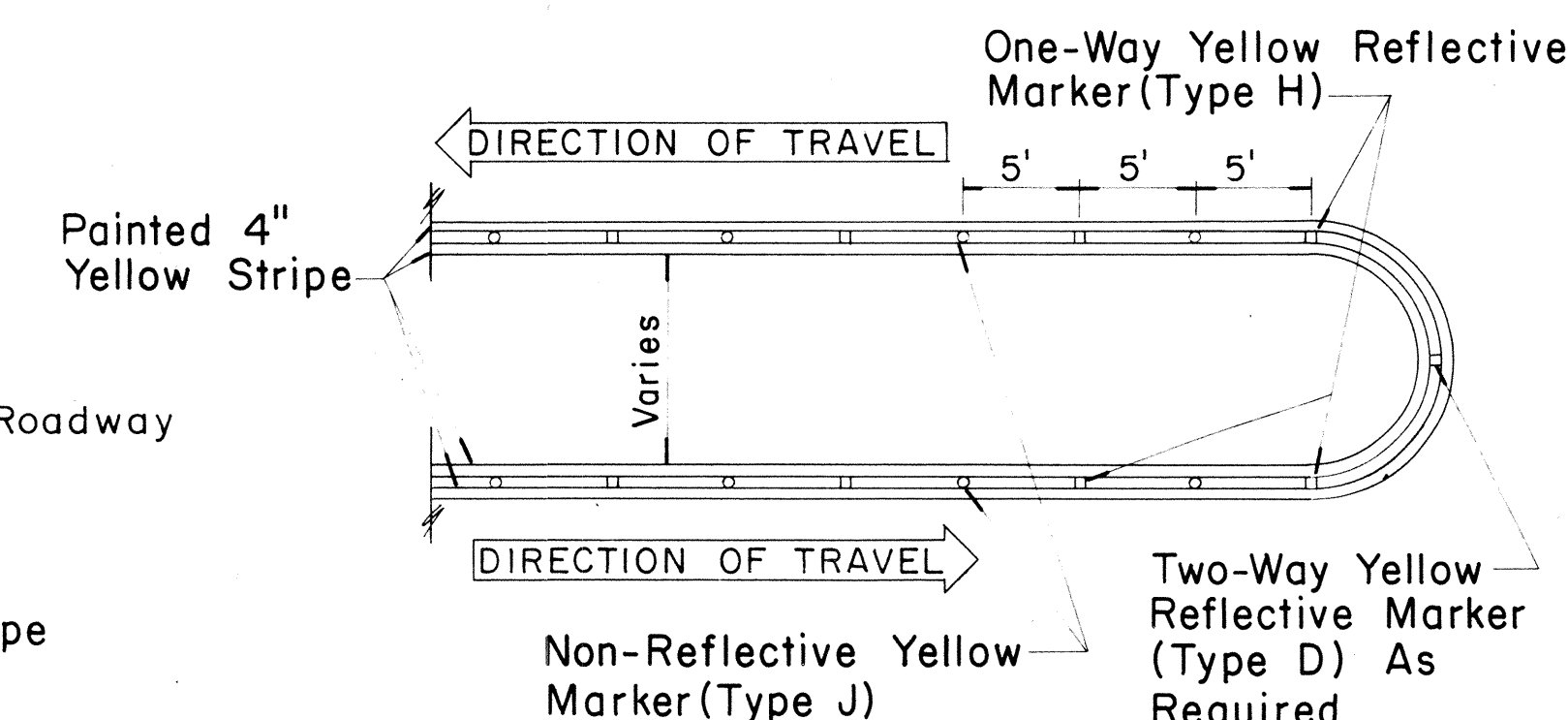
TYPE C
Red - clear reflective surface

TYPE H
One - way yellow reflective surface

TYPE E
Yellow - clear reflective surface

TYPE G
One - way clear reflective surface

6 MEDIAN NOSE DELINEATION



NOTE
Painted stripes to be done by State forces.

June 23, 1969
REVISED: Aug. 26, 1968

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
RAISED PAVEMENT MARKERS

Not to Scale Sept., 1967

SHEET No. 19 OF 19 SHEETS DT 300