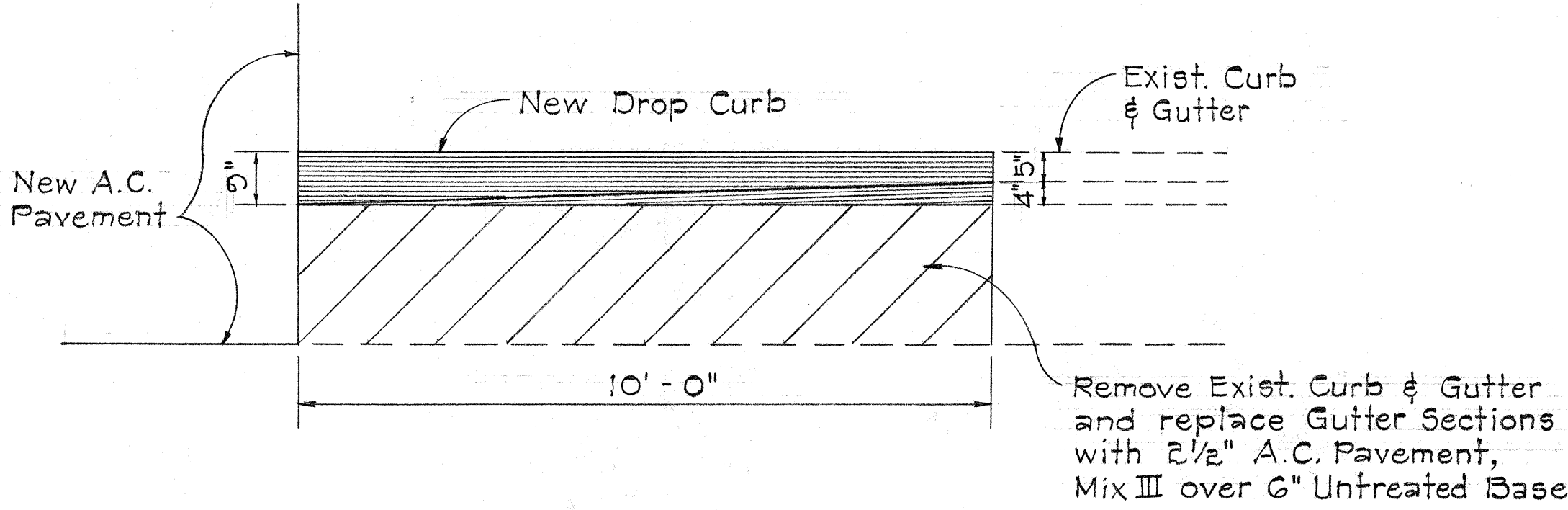
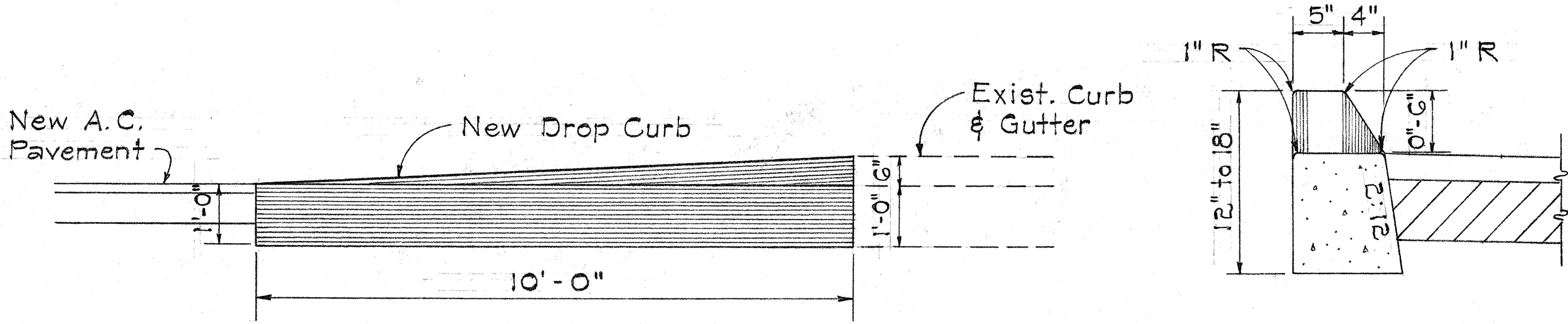


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(53):23	1969	14	39



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



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

DETAIL
Scale: 1" = 1'-0"

CAST-IN-PLACE CONCRETE DROP CURB

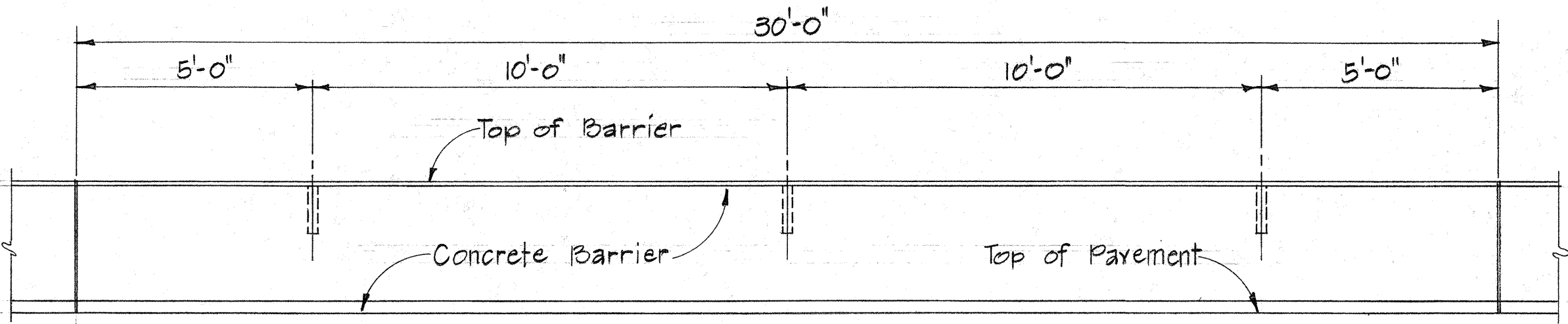
SUMMARY OF ESTIMATED QUANTITIES FOR CONCRETE BARRIER (Lin. Ft.)										
Station	Type A	Type B	Type C	Type D	Transitions	Punahou Separation	McCully Separation	Pedestrian Overcrossing	University Ave Separation	Kalo Lane Separation
234+93 to 245+00		320		270	390					
245+00 to 257+00				737	360	80				
257+00 to 269+00		130	210	409	420		8			
269+00 to 280+85		160		683	320					
280+85 to 13+00	220			638	350			G		
13+00 to 25+00				713	320				120	44
Total	220	610	210	3,450	2,160	80	8	G	120	44

NOTE: (GENERAL NOTES CONTINUED FROM SHEET NO. 10)

7. The exterior surface and vertical alignment of the concrete median barrier shall be constructed to give a uniform and presentable appearance. Variation of more than 1/4 inch in 20 feet maximum and 1/2 inch in 40 feet or more will be considered objectionable. The Engineer shall determine the acceptability of the work.

Finish shall be Class 1, conforming to the requirements of Subarticle 46.3 Construction Methods (O) Surface Finishes (2) Class 1 Surface Finish.

During the course of the work, samples may be tested and measurements made to establish whether or not the specified values or dimensions are being met. If the specified values or dimensions are not being met, the Engineer will determine the degree of the non-conformance, the effect on the serviceability of the project, whether the work will be accepted and remain in place and, if so, the amount to be paid for such work, or whether the work shall be removed and replaced or otherwise corrected at the Contractor's expense.



ELEVATION
HOLE SPACING DETAIL FOR
30' LENGTH CONCRETE BARRIER
Scale: 3/8" = 1'-0"

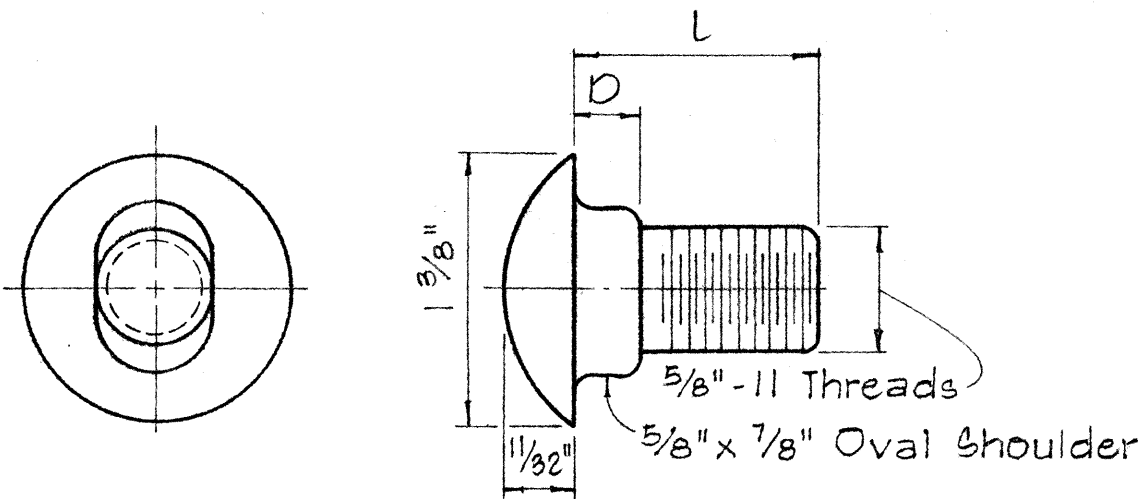
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISCELLANEOUS DETAILS &
CONCRETE BARRIER SUMMARY
INTERSTATE ROUTE H-1
MEDIAN IMPROVEMENTS
F.A.I. Proj. No. I-HI-1(53):23
Scale: As Shown Date: November 1968
SHEET No. 1 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1(53)-23	1968	15	30

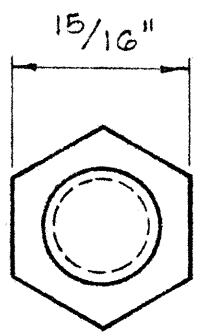
Revised: Dec. 11, 1968

BOLT DIMENSIONS		
TYPE A BOLT		
	D	L
Splice Bolt	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Double Wood Blocks	3/32"	24"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	18"
Rail Bolt for Metal Block	3/32"	2"

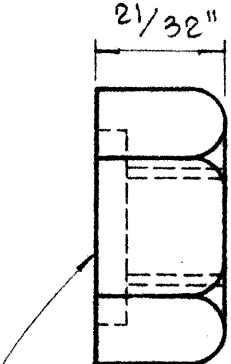
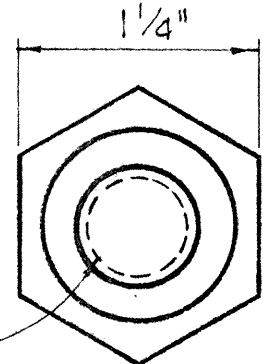
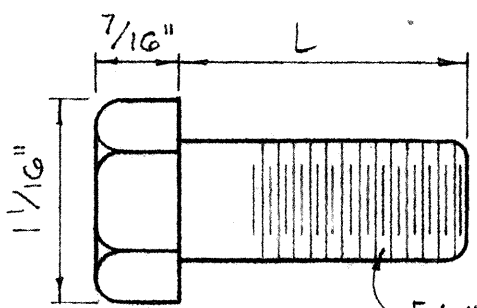
BOLT DIMENSIONS		
TYPE B BOLT		
		L
Post Bolt for Conc. Post w/ Metal Blocks		2 1/2"
Post Bolt for Metal Post w/ Metal Block		1 3/4"



TYPE A BOLT



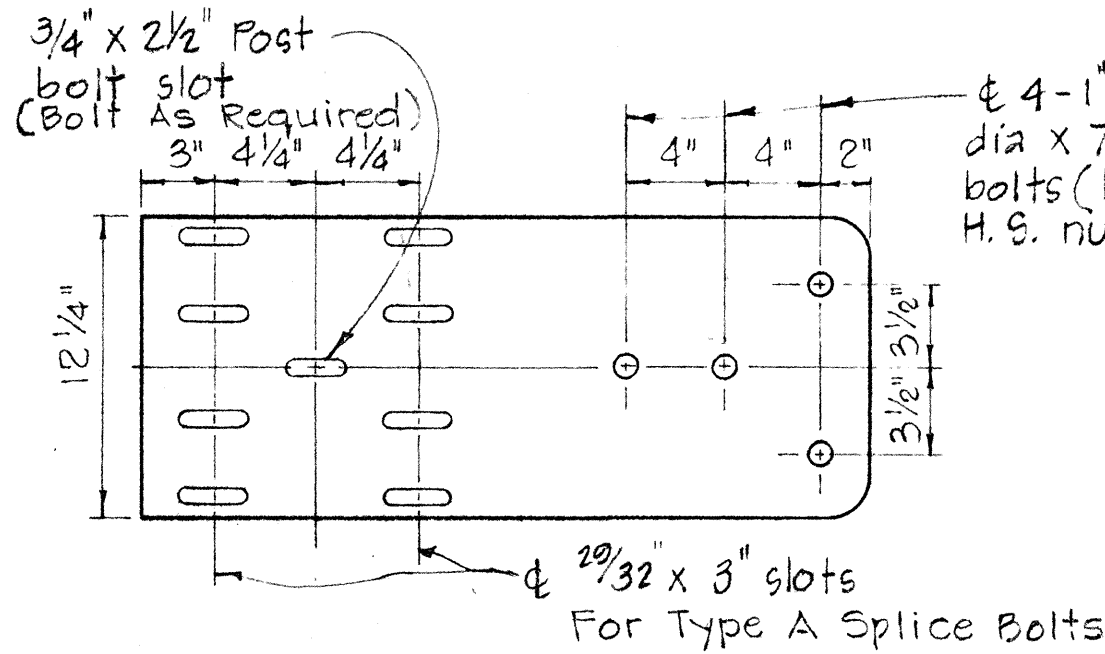
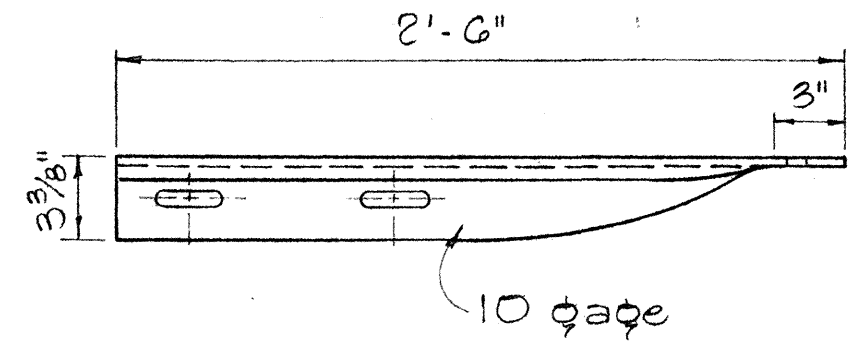
TYPE B BOLT



5/32" Deep x 15/16" Dia. C' Bore for Type A Bolt only. Plain nut for Type B Bolt.

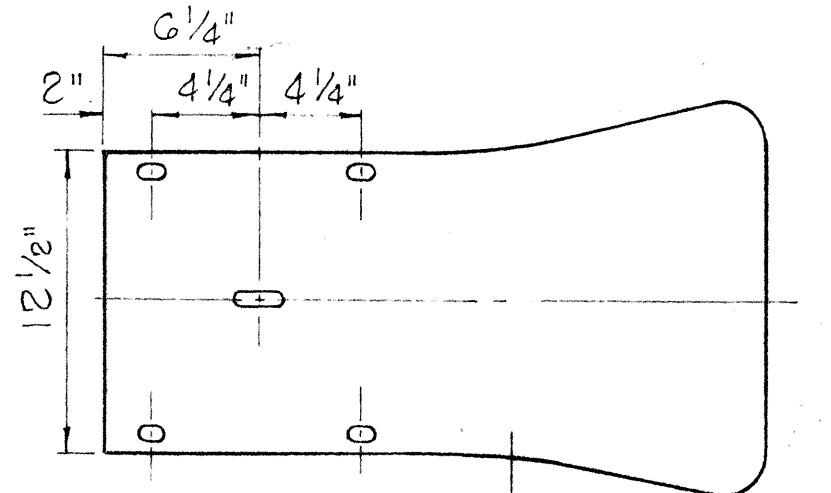
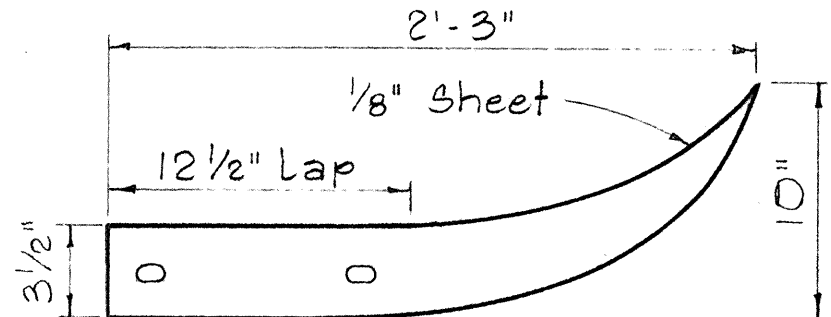
HEXAGON NUT

Scale: Full Size



SPECIAL END SHOE

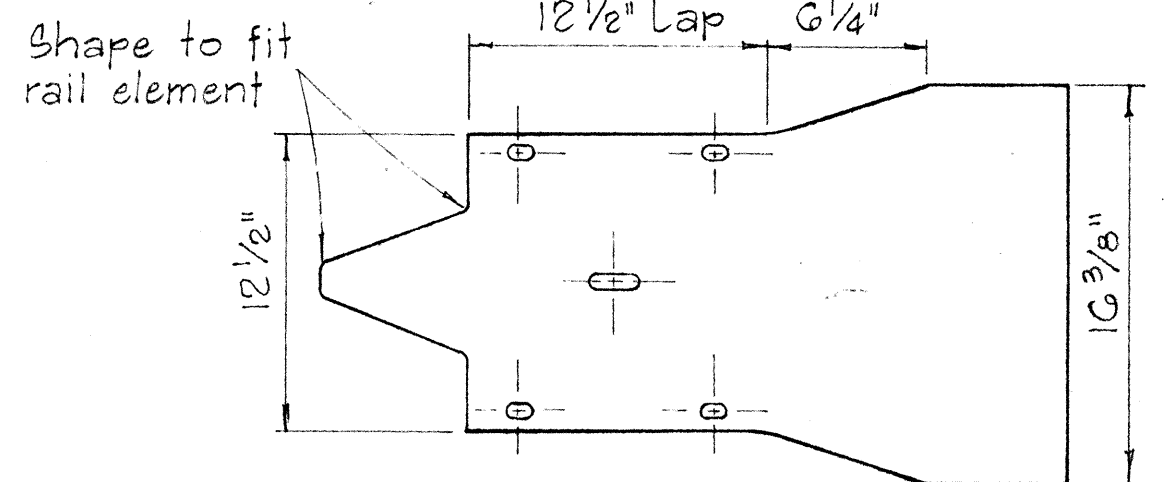
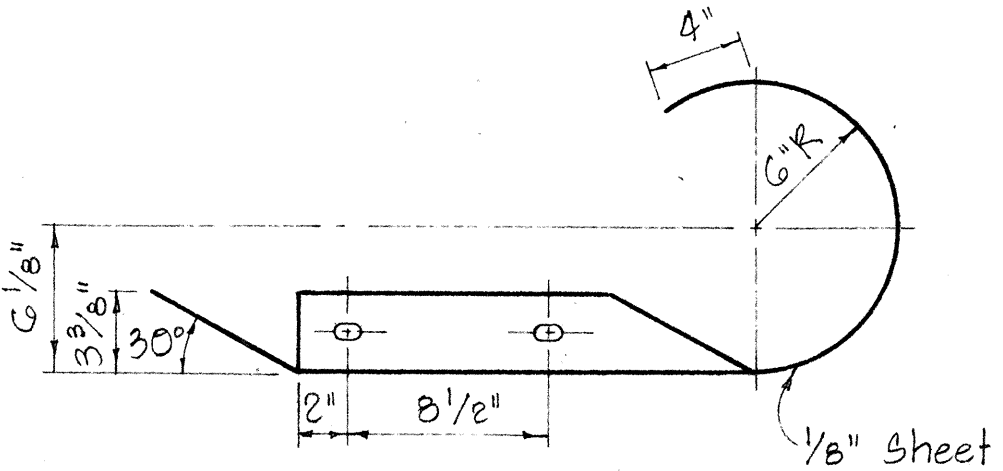
Scale: 1 1/2" = 1'-0"



Same as rail element section

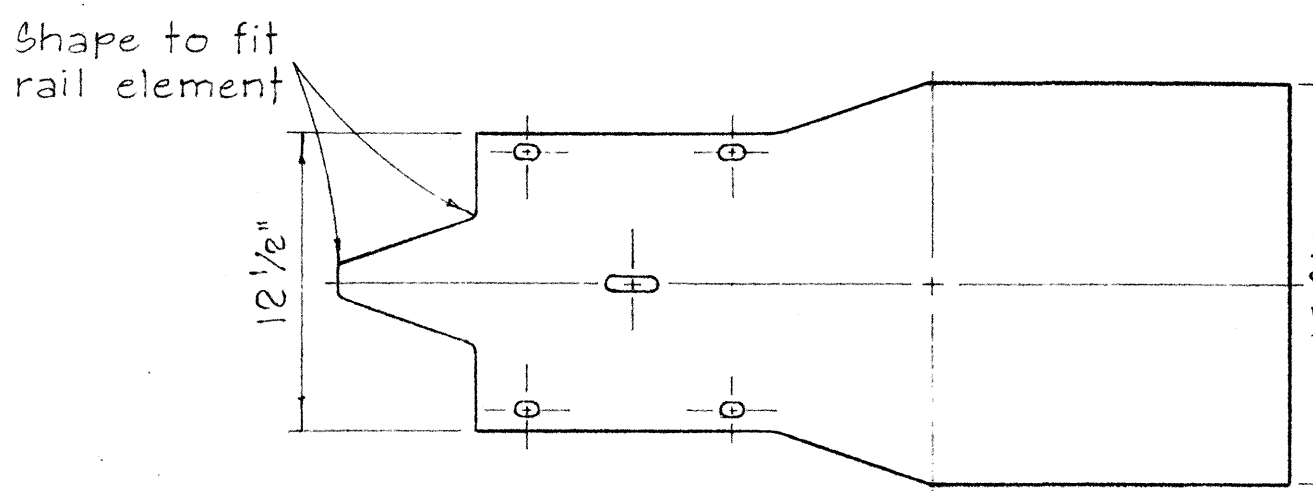
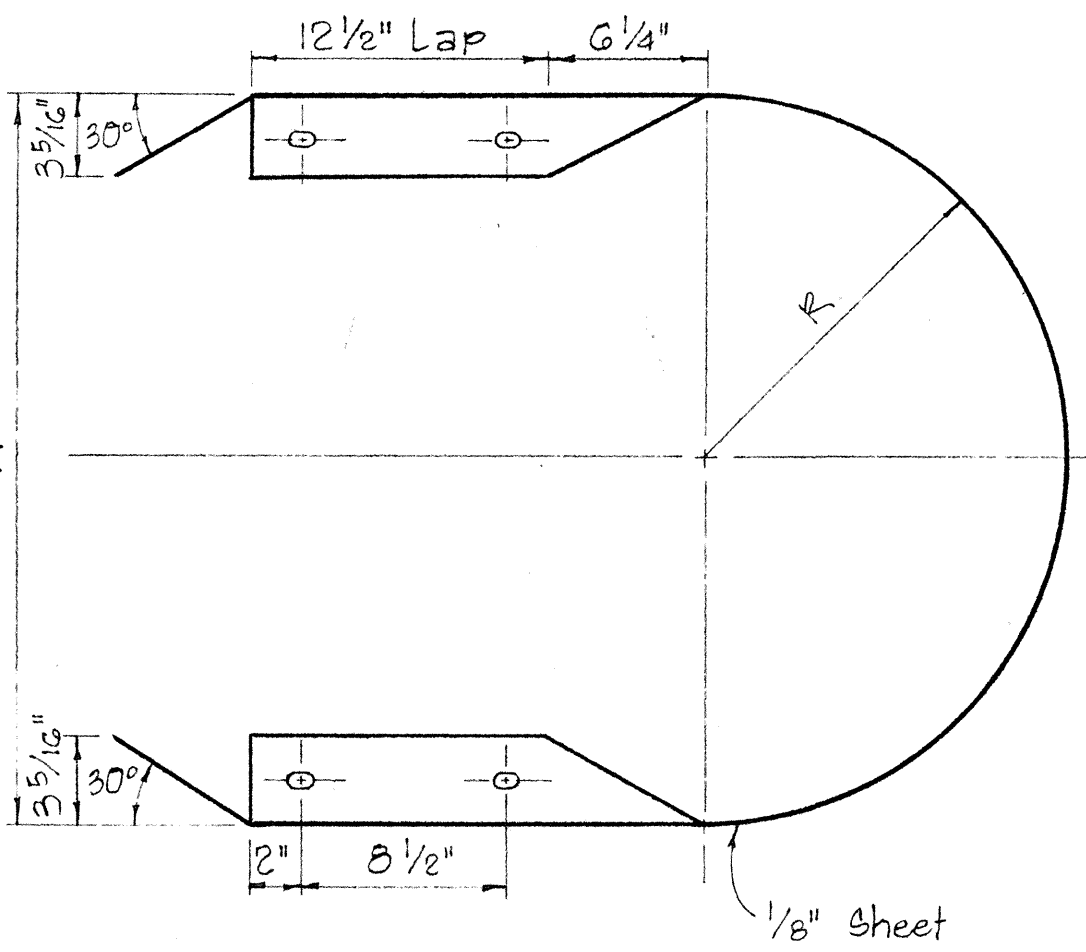
FLARED END

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



CURVED END

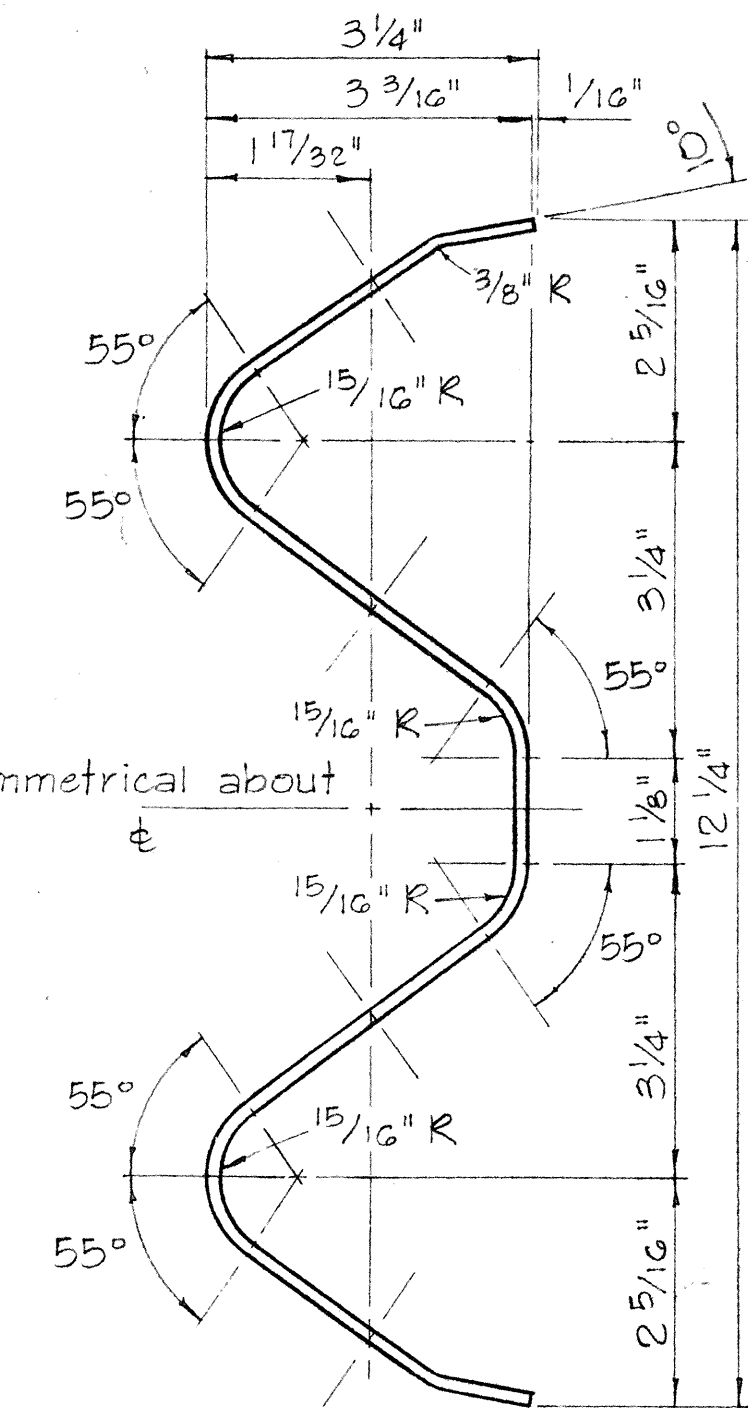
Scale: 1 1/2" = 1'-0"



MEDIAN END

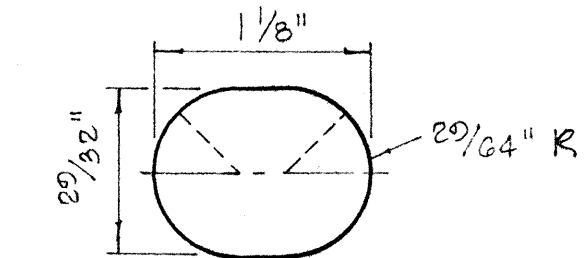
Scale: 1 1/2" = 1'-0"

MEDIAN END DIMENSIONS		
TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	20 3/4"	14 7/8"
Double Metal Guard Rail on Concrete Post with Metal Blocks (BJG)	26 1/8"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJG)	24 3/8"	12 3/16"



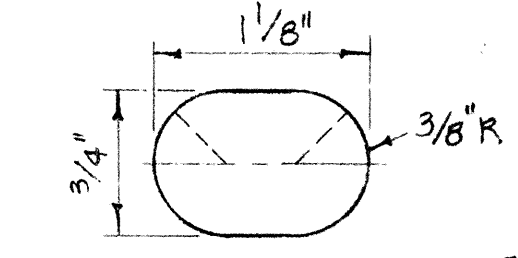
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

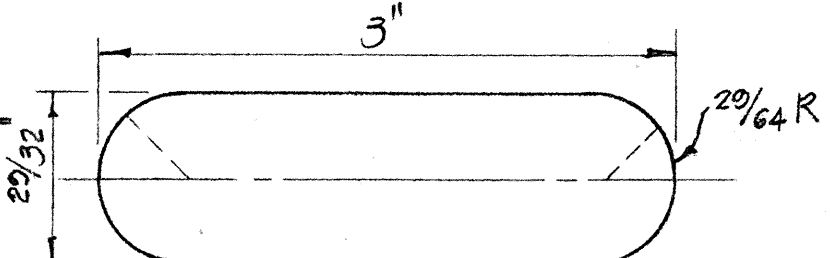


SPLICE BOLT SLOT

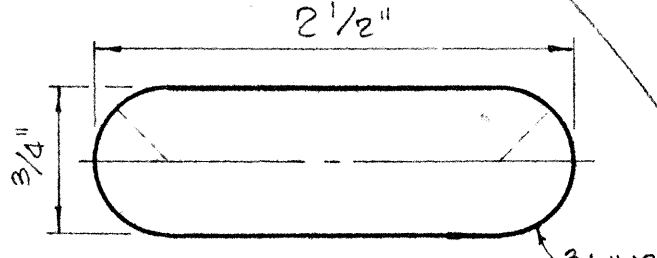
Scale: Full Size



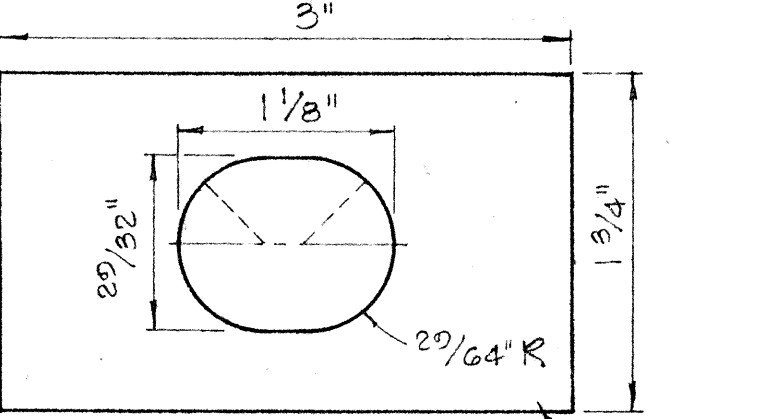
SPLICE BOLT SLOT FOR ALL ENDS



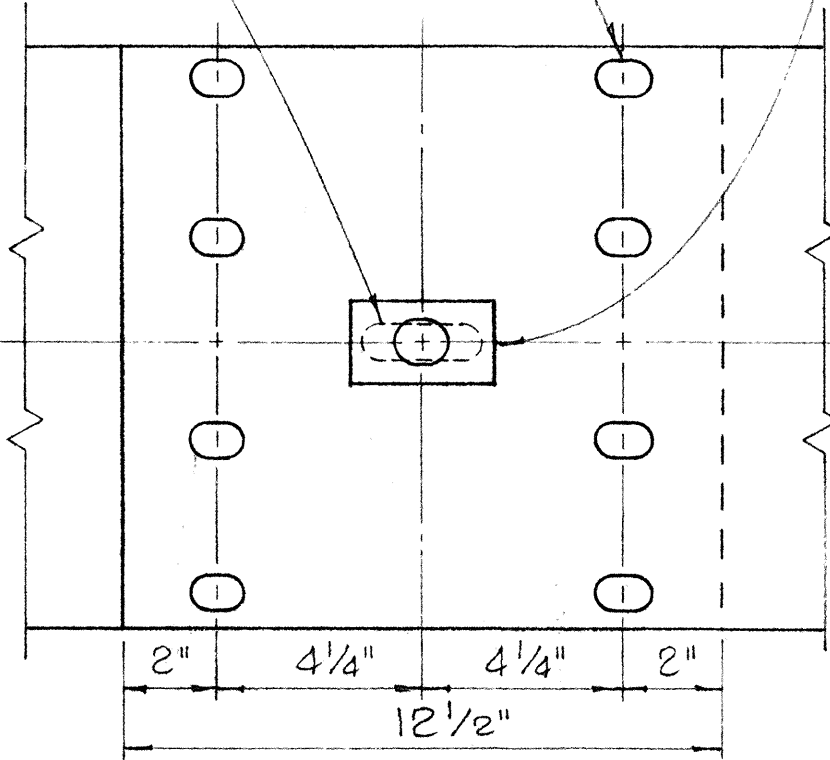
SPLICE BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT



RAIL WASHER



RAIL SPLICE

Scale: 3" = 1'-0"

NOTES:

1. H.S. Bolts shall conform to the requirements of ASTM A-325.
2. Special End Shoe shall be fabricated from 10 Gage steel conforming to the requirements of AASHTO 180.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

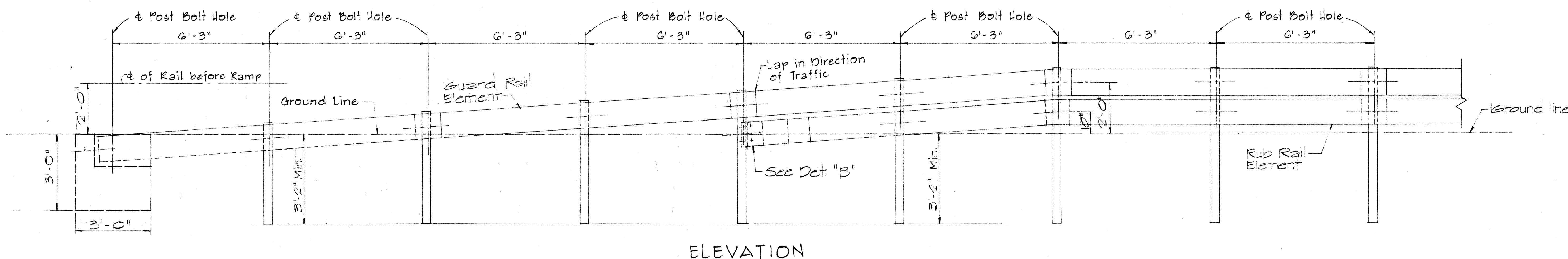
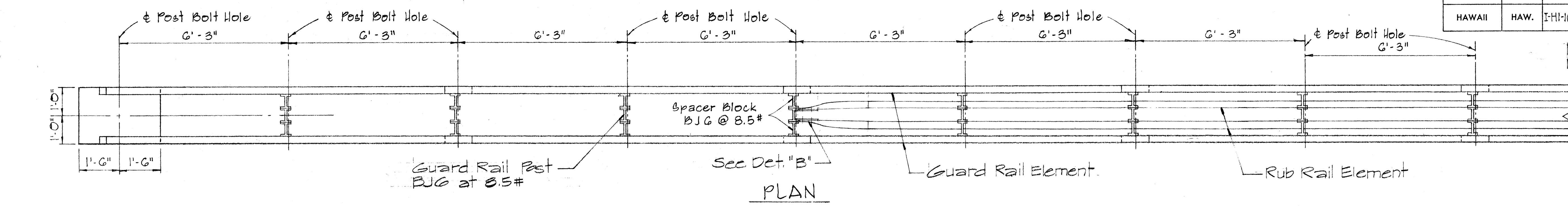
STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted August, 1968

SHEET No. 2 OF 6 SHEETS DT 501

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(53)25	1969	16	39

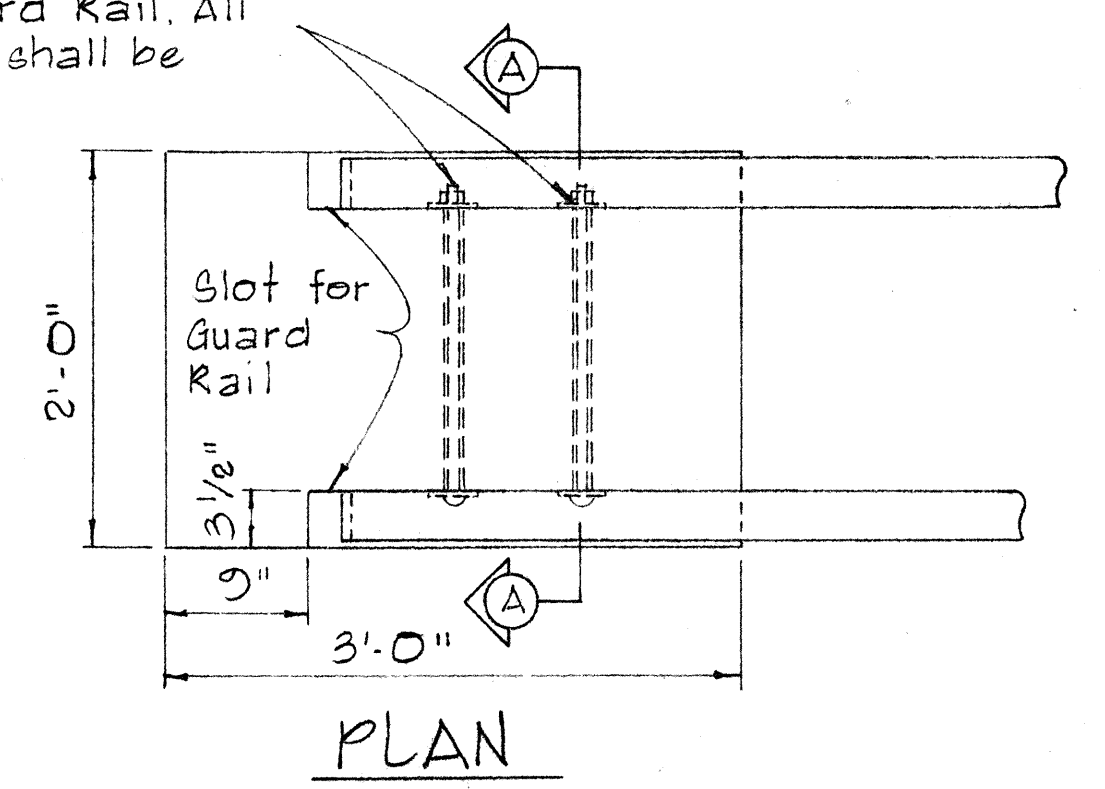
REVISED: 12-11-68
REVISED: 2-29-69



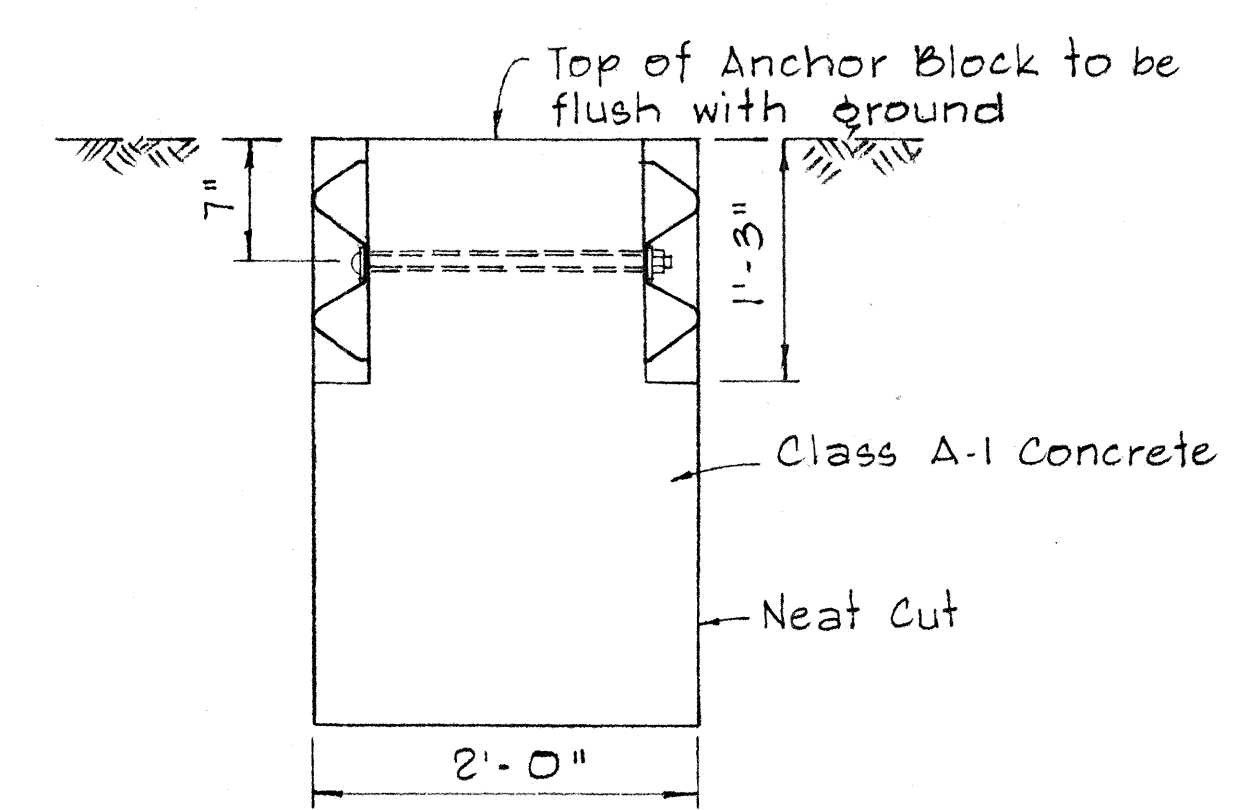
STRAIGHT APPROACH - RAMP END ANCHORAGE (MEDIAN)

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

5/8" Bolts with 3/4" G.I. Pipe Sleeve in each hole. Incidental to Metal Guard Rail. All Metal Pieces shall be Galvanized.

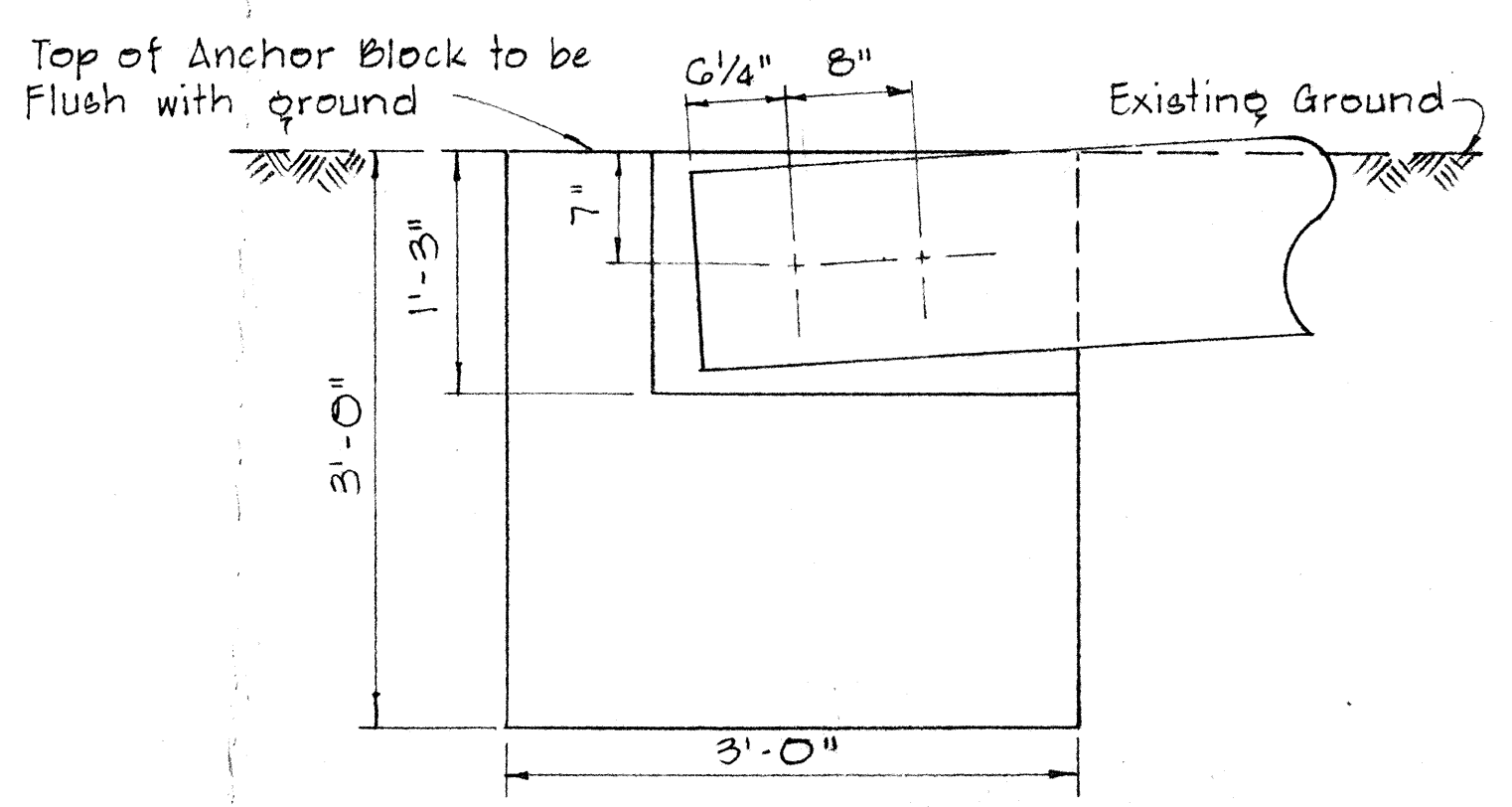


PLAN



SECTION A-A

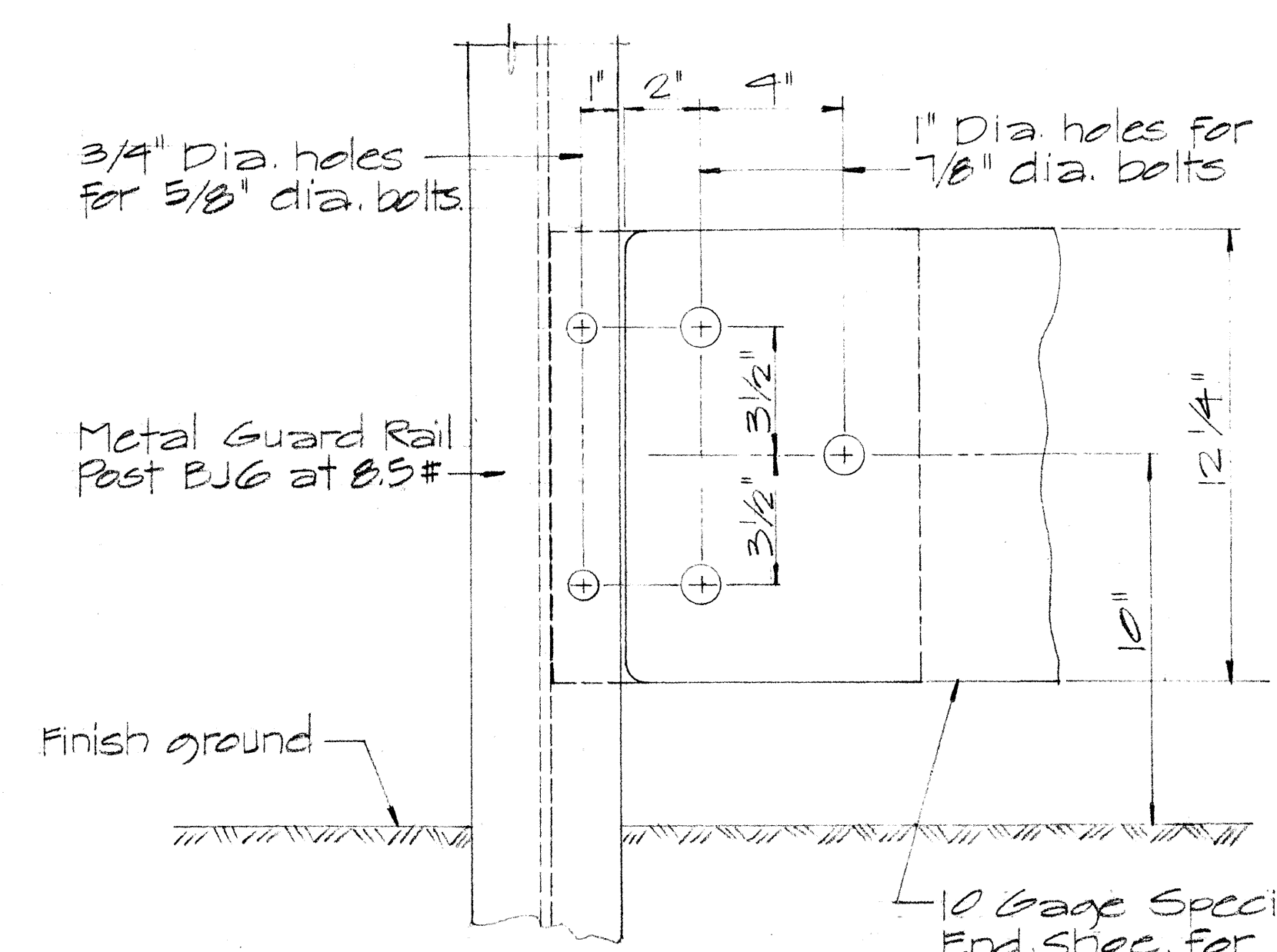
NOTE: Concrete, Excavation, and Miscellaneous Appurtenances necessary to anchor the Guard Rail Ends, shall be incidental to the Metal Guard Rail.



ELEVATION

CONCRETE ANCHOR BLOCK FOR RAMP END

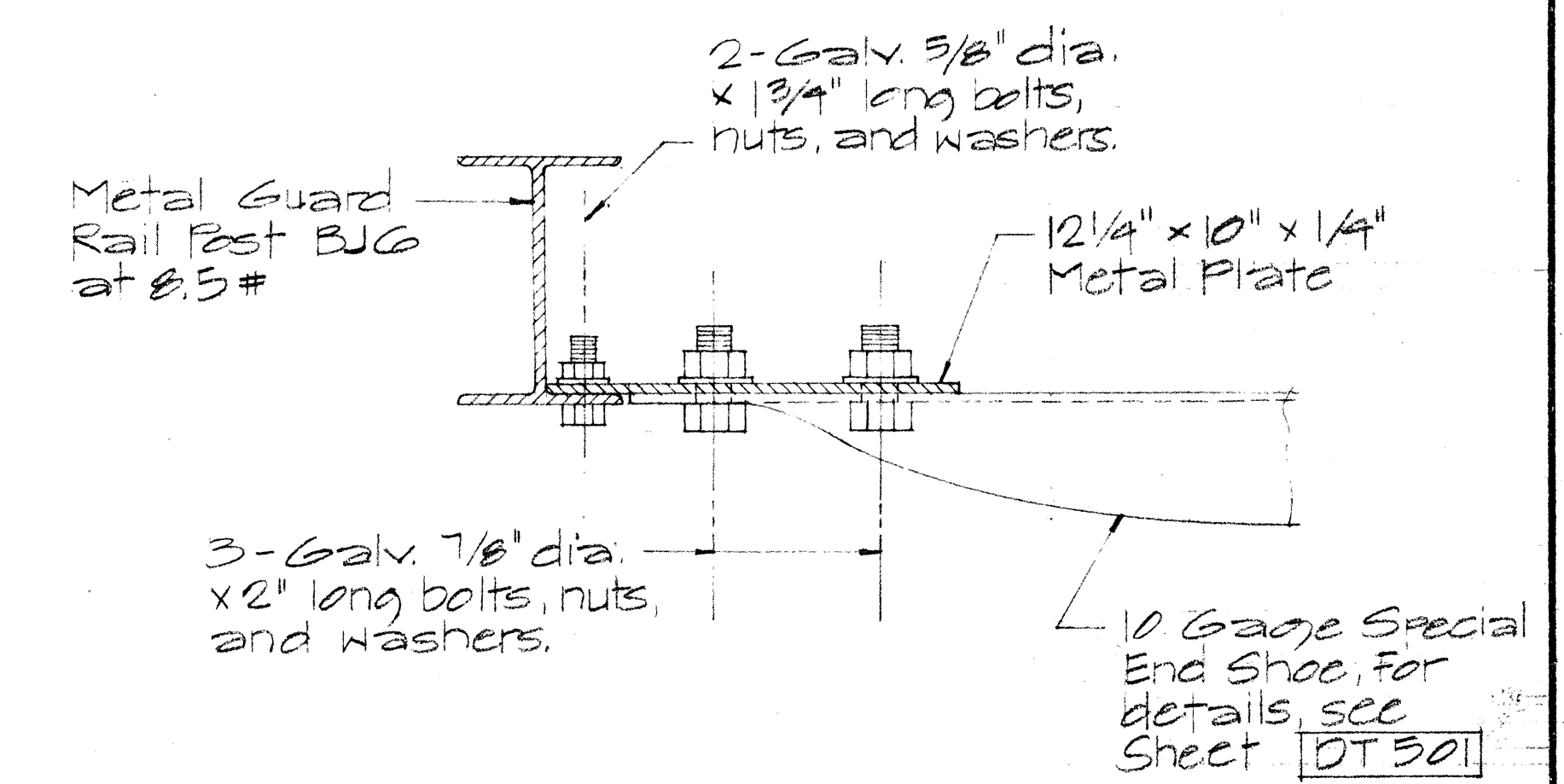
Scale: 1" = 1'-0"



ELEVATION

DETAIL "B"

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



PLAN

NOTE: All Shoe Assembly, including anchor bolts, nuts, and washers, shall be galvanized.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

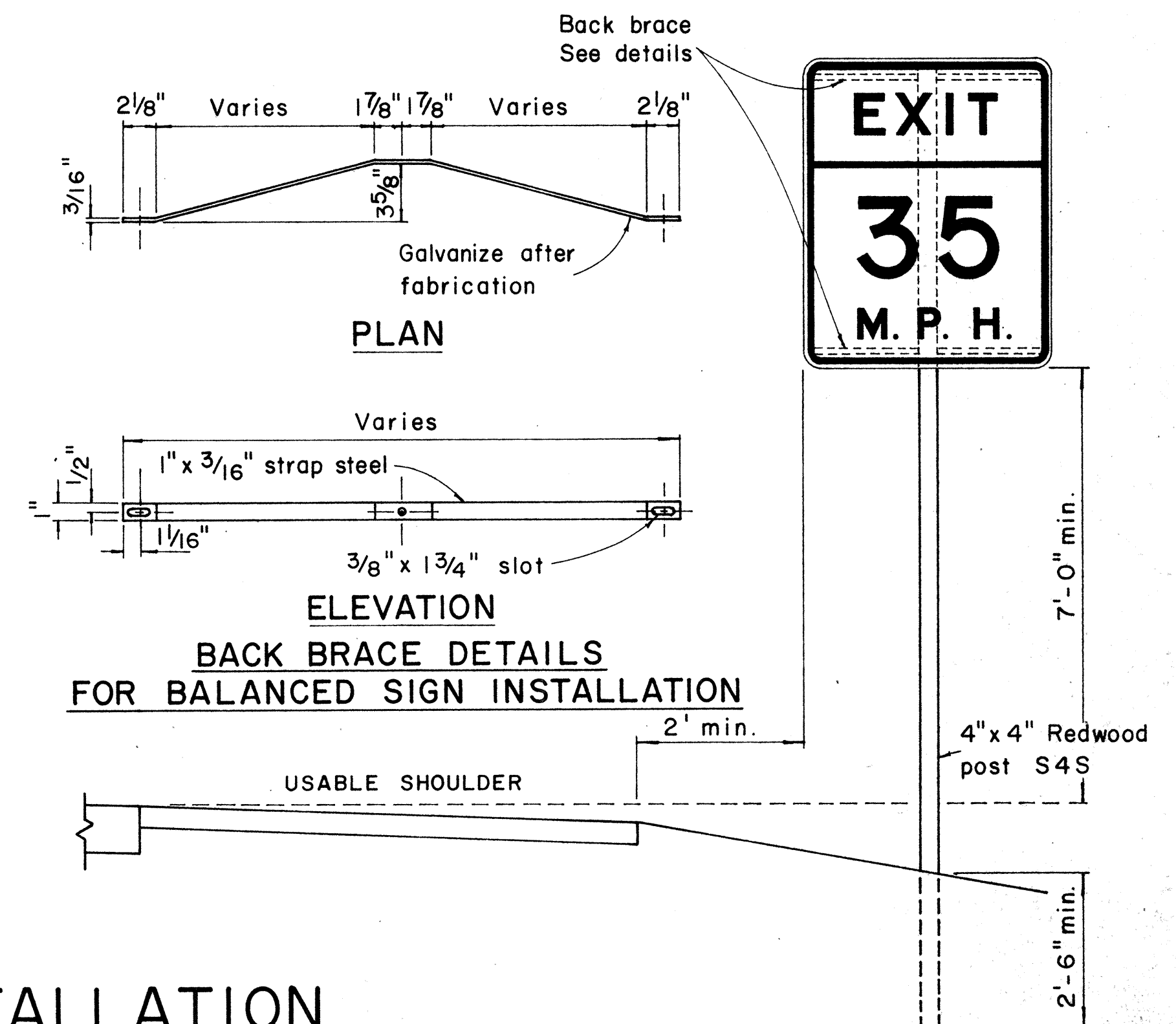
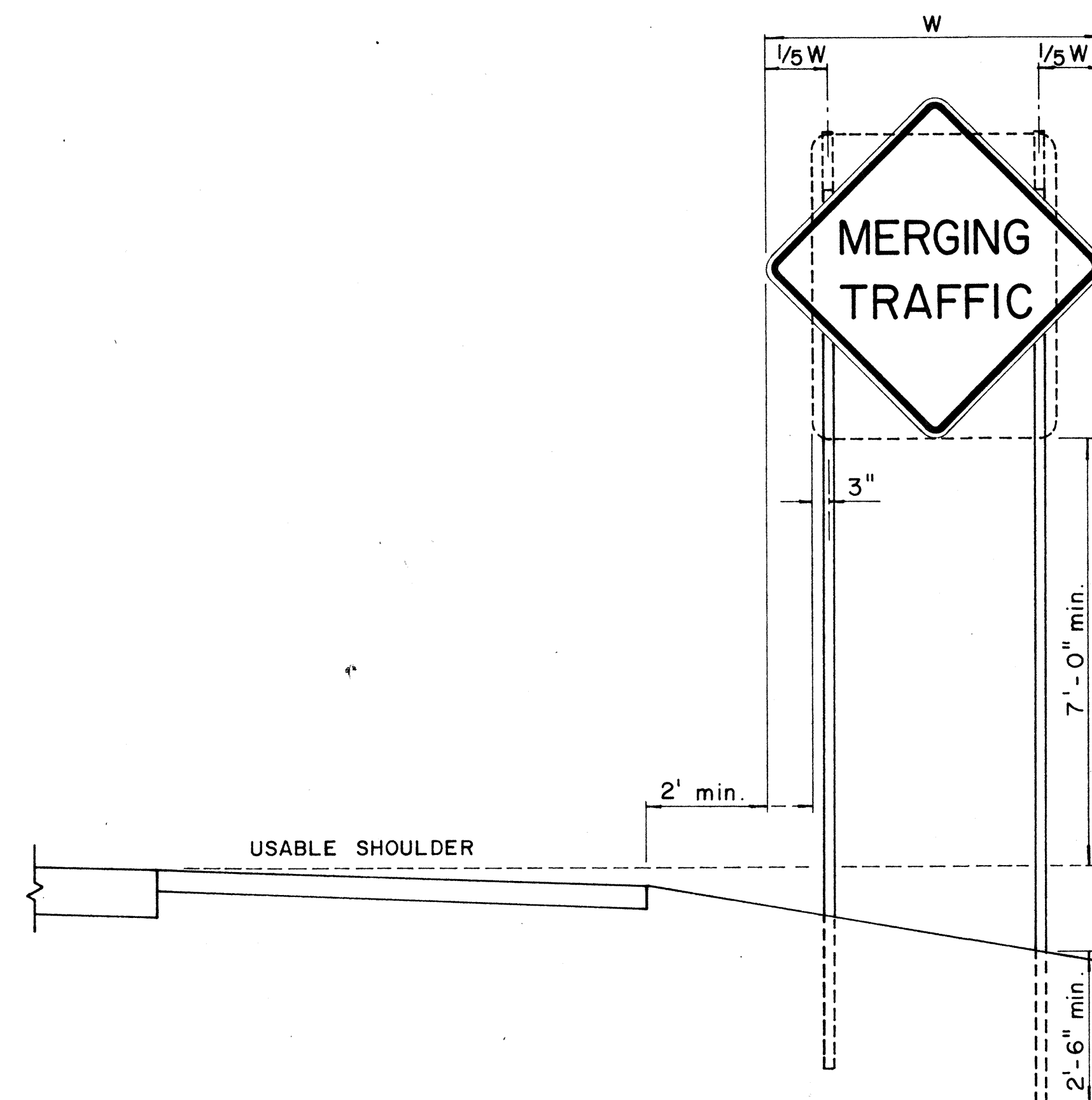
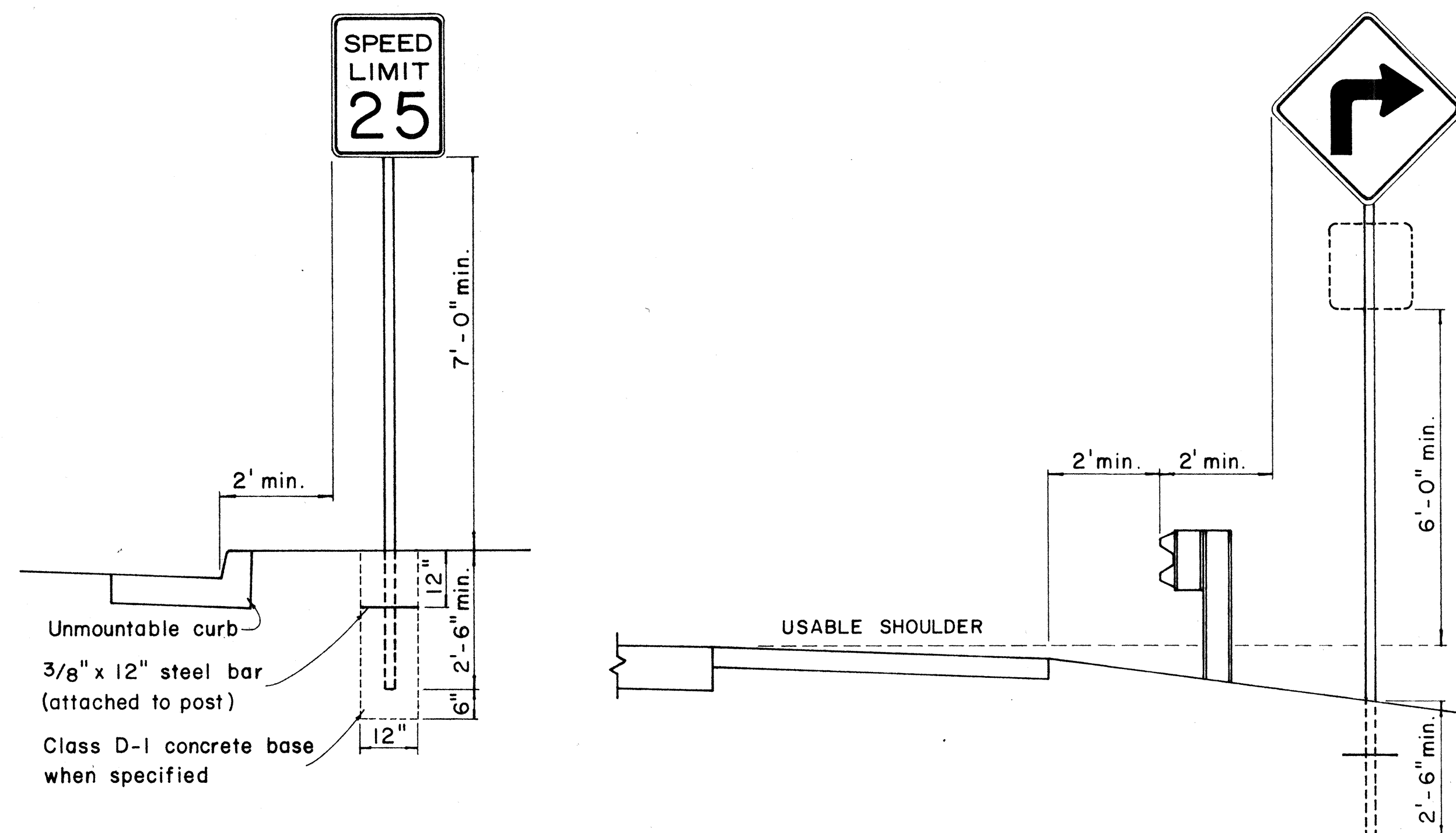
STANDARD DETAIL GUARD RAIL RAMP END ANCHORAGE

Scale: as Noted

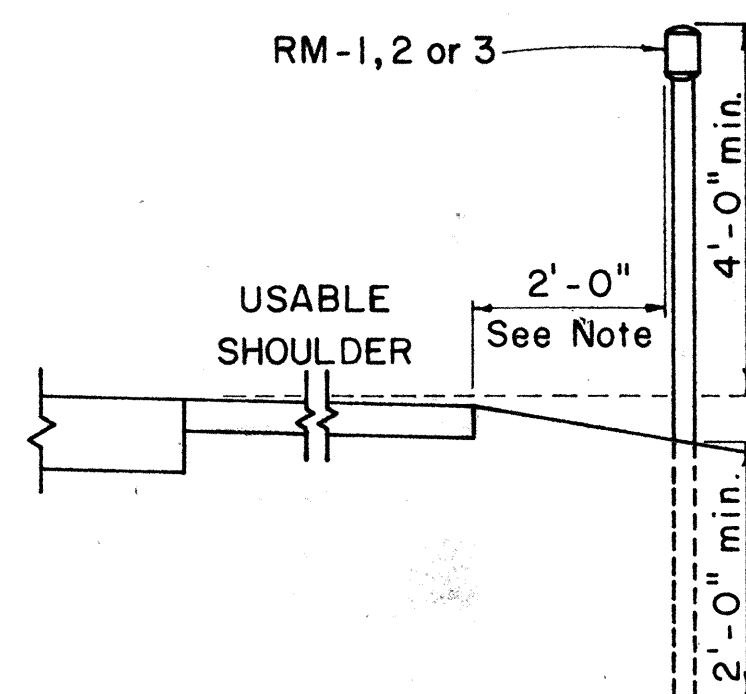
August, 1968

SHEET No. 3 OF 6 SHEETS DT 502

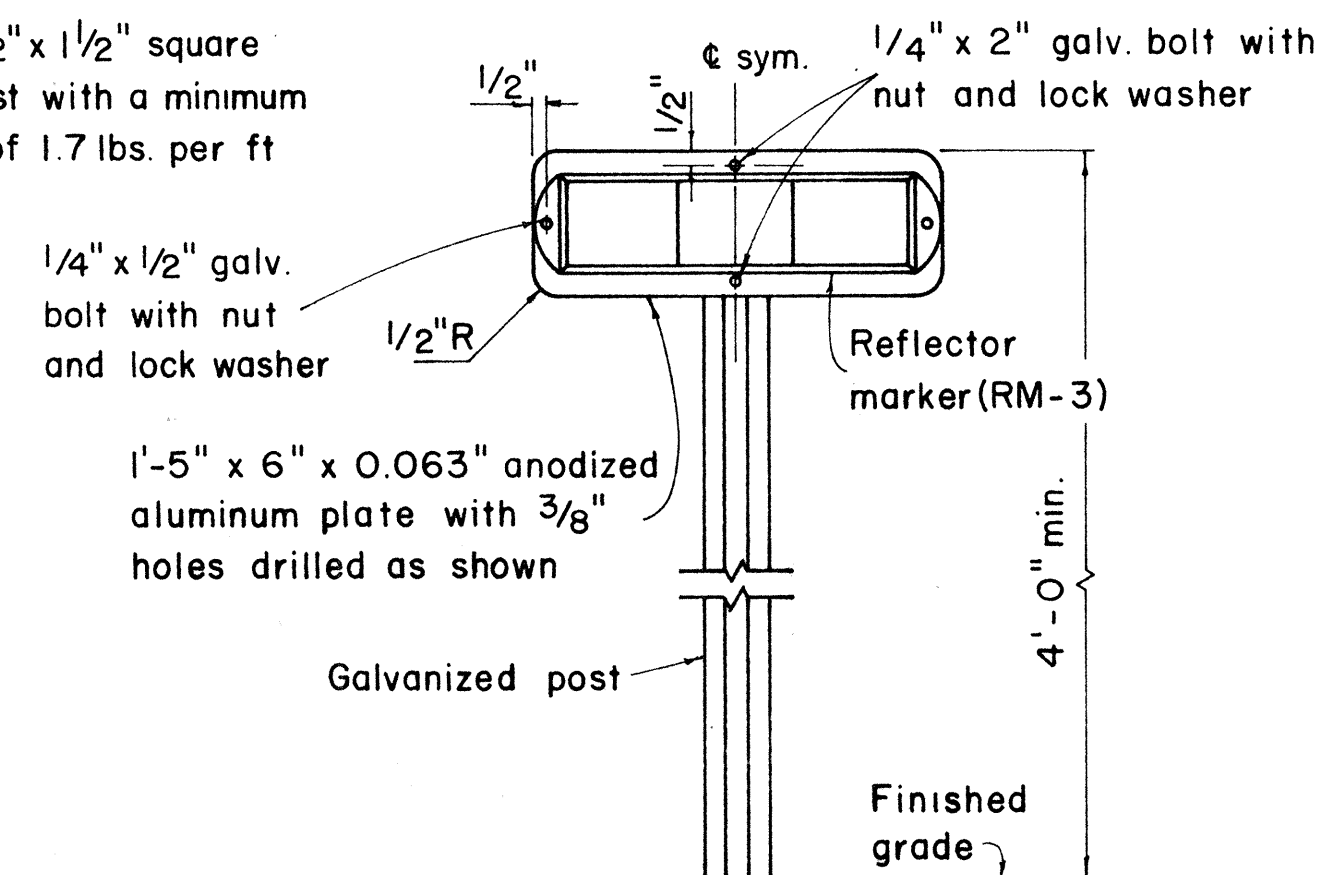
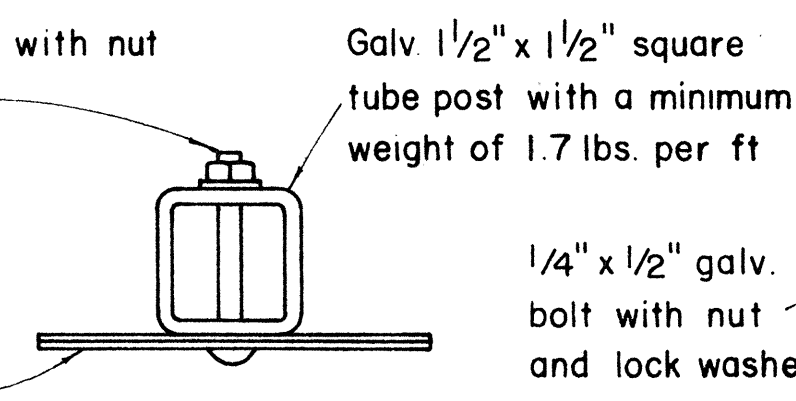
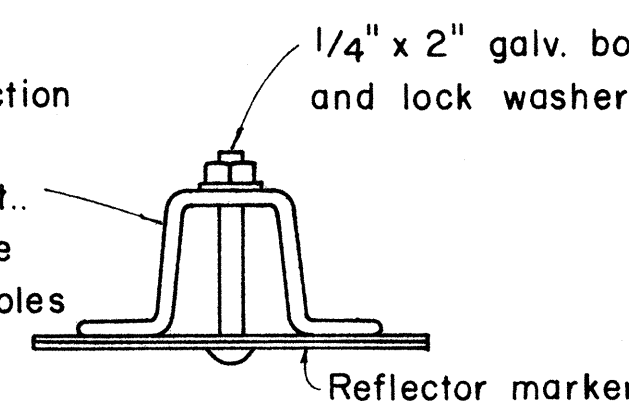
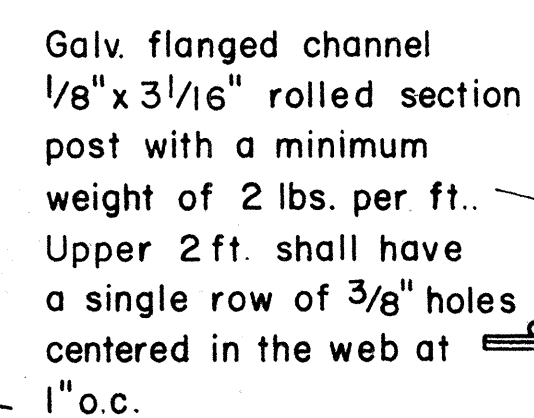
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(53):23	1969	17	30



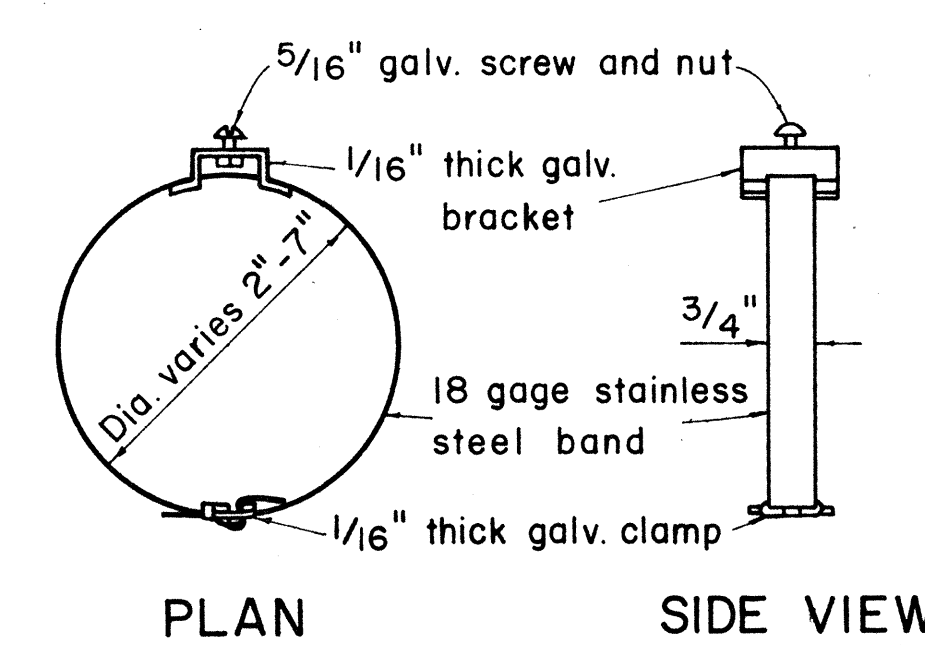
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



ROAD DELINEATOR

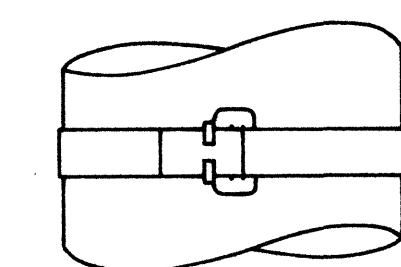


TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM - 3H



PLAN

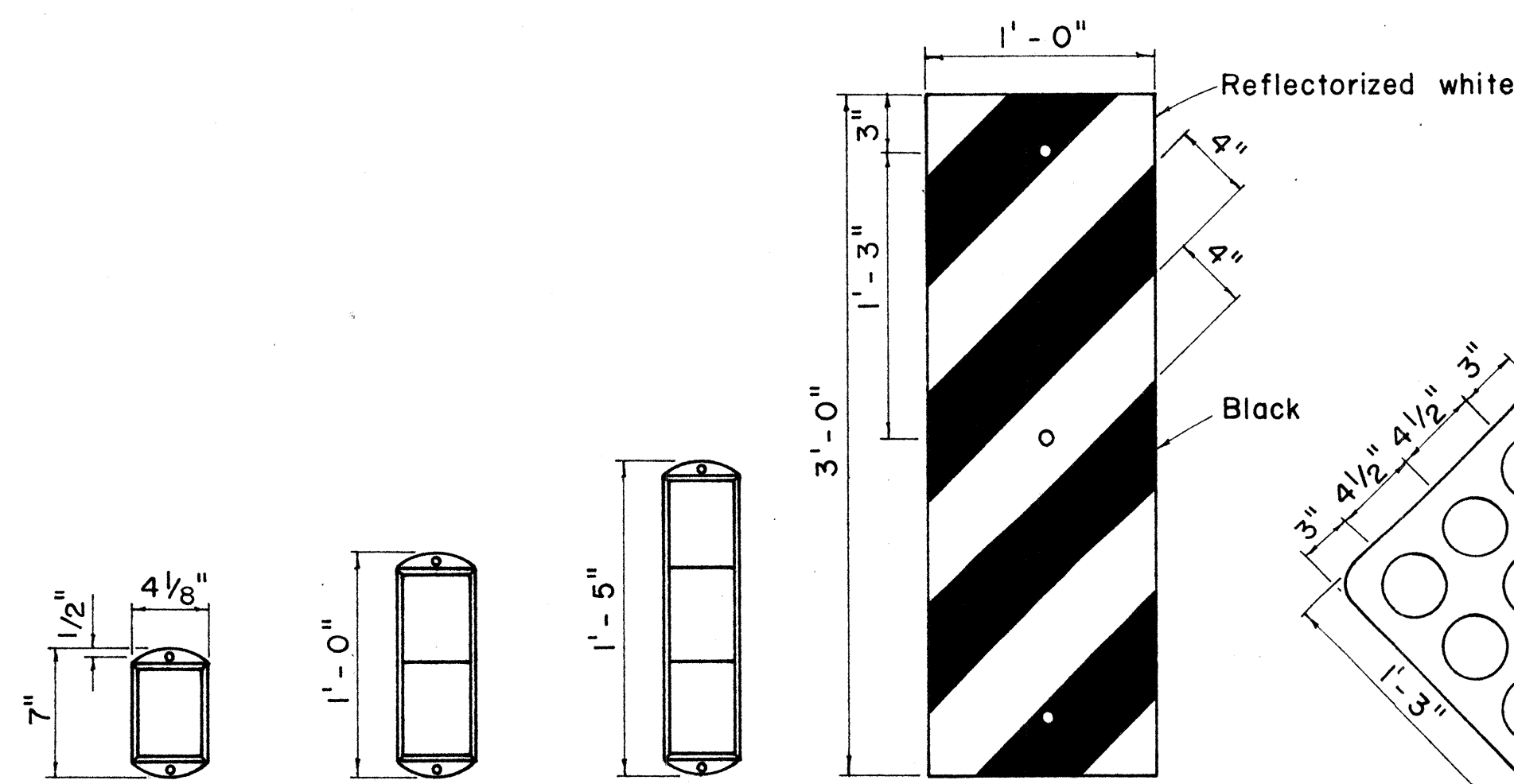
SIDE VIEW



FRONT VIEW

- 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.

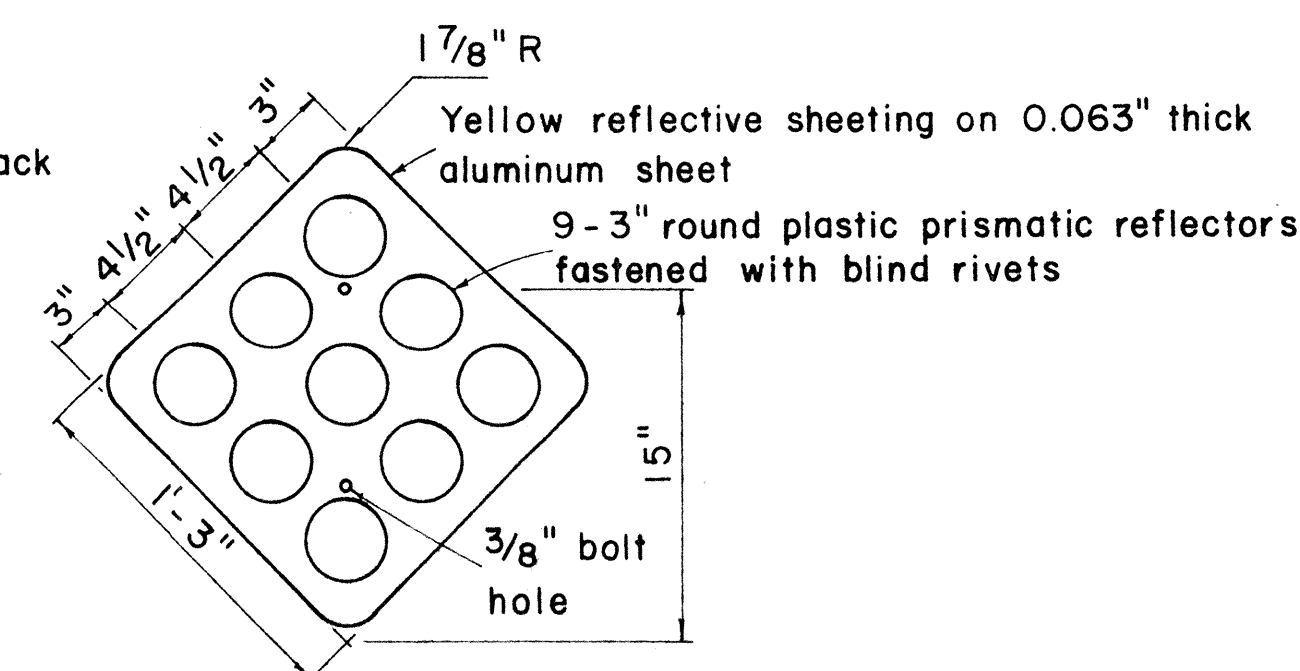


RM-1
(CLEAR)

RM - 2
(AMBER)

RM-3
(AMBER)

RM - 4 (R)



RM - 9

REFLECTOR MARKERS

TYPICAL BAND BRACKET* FOR
MOUNTING TRAFFIC SIGNS

*Furnishing and installing of the Band Bracket shall be incidental to Item No. 111.80 "Reset Regulatory And Warning Sign."

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

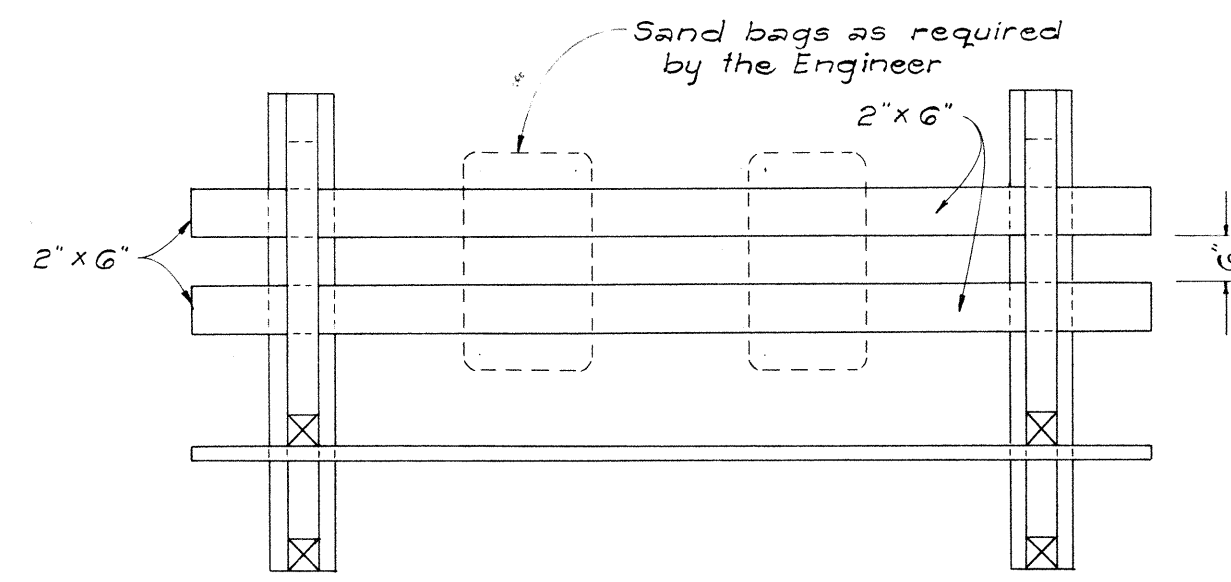
MISCELLANEOUS SIGN DETAILS

F.A.I. PROJ. NO. I-HI-1(53):23

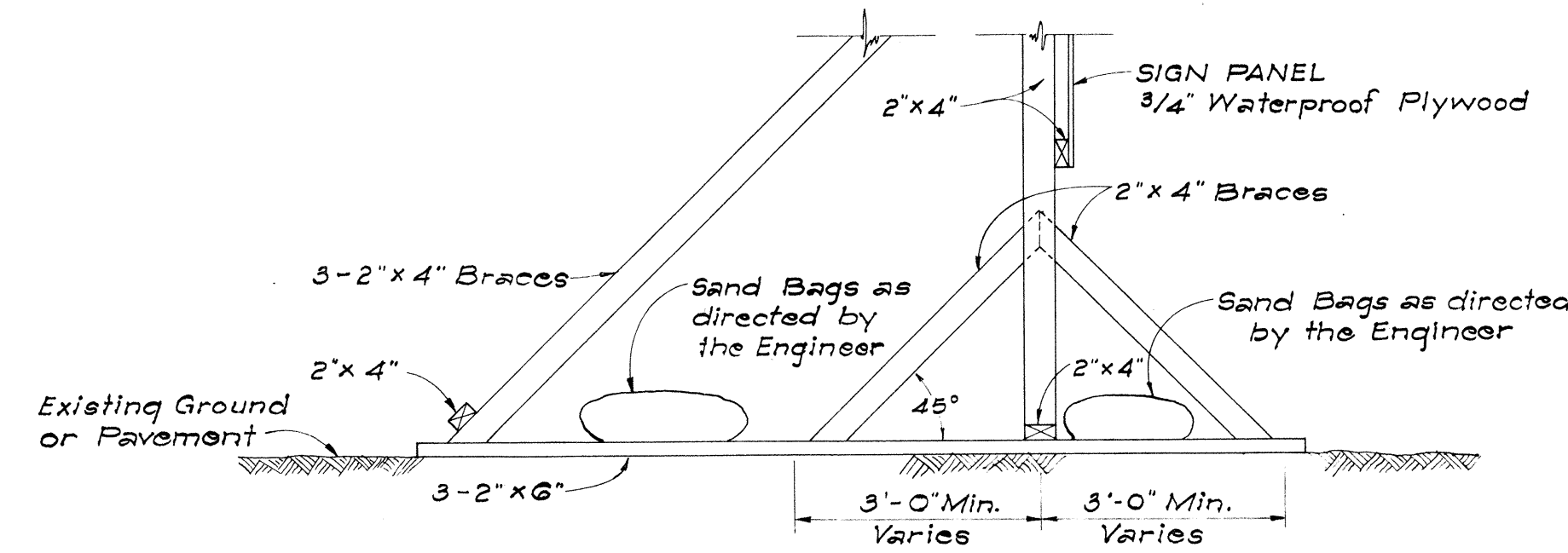
Not to scale

March, 1968

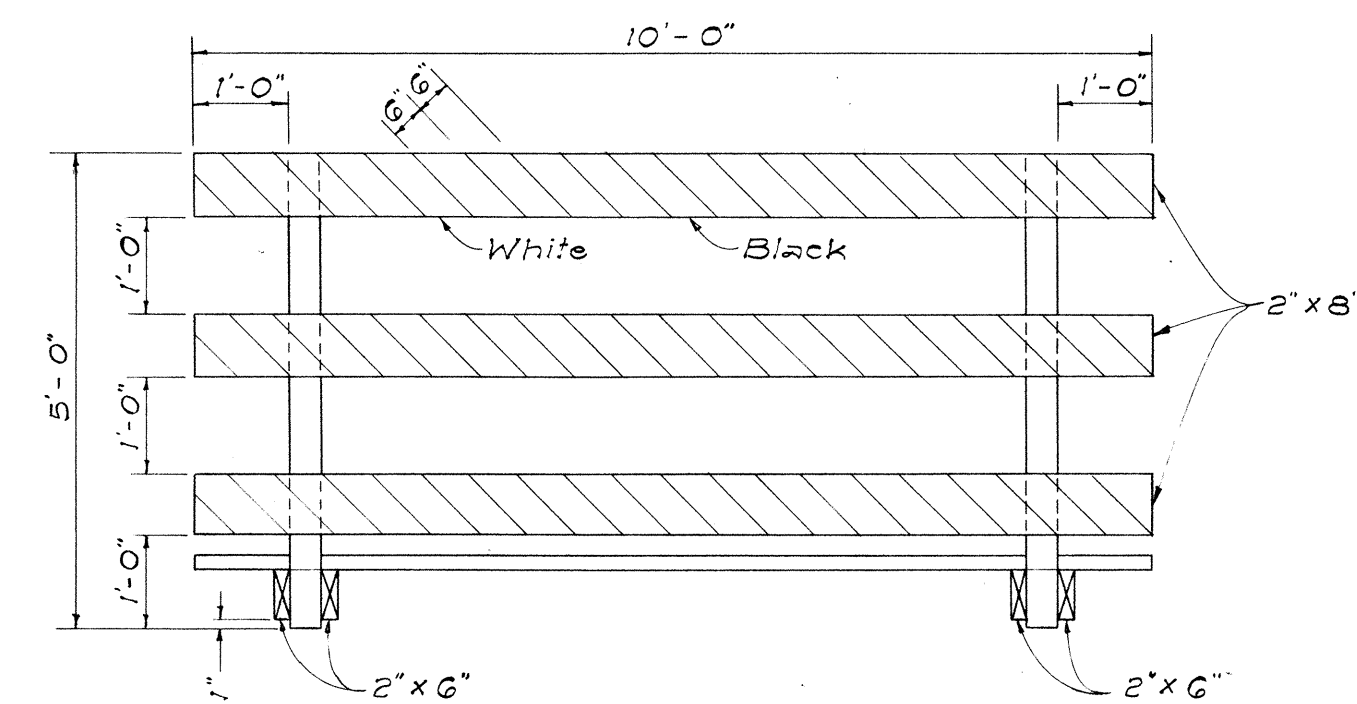
SHEET No. 4 OF 6 SHEETS



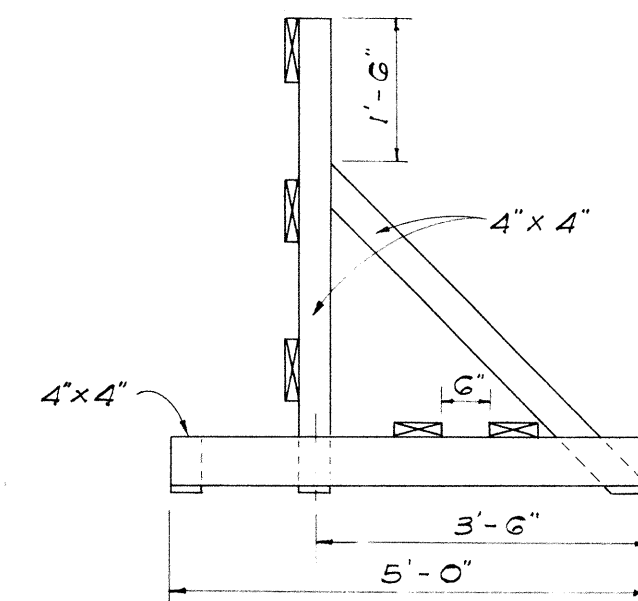
PLAN VIEW



SIDE VIEW
(SIGN FRAME WEIGHTED DOWN)

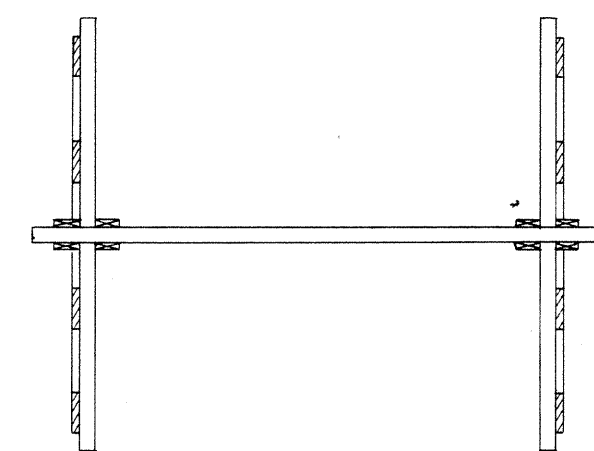


FRONT VIEW

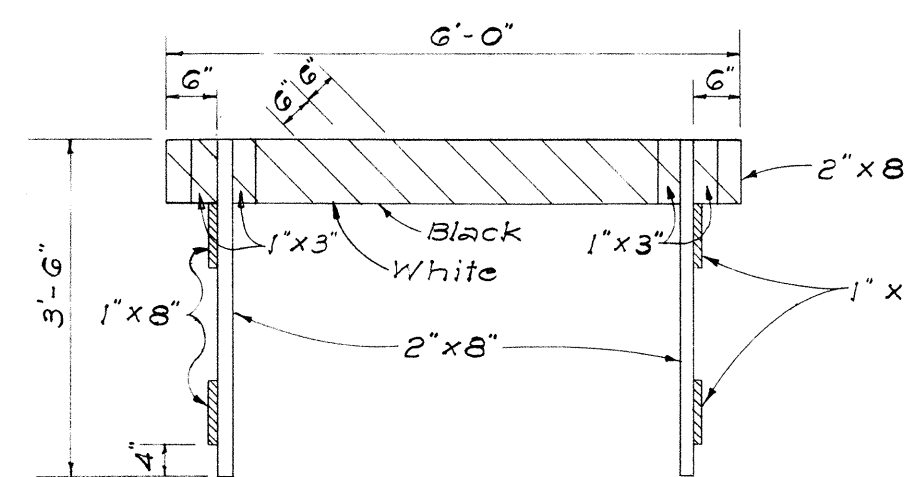


END VIEW

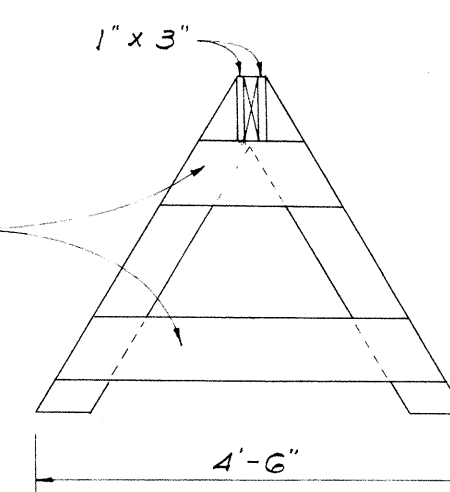
CLASS I BARRICADE



PLAN VIEW



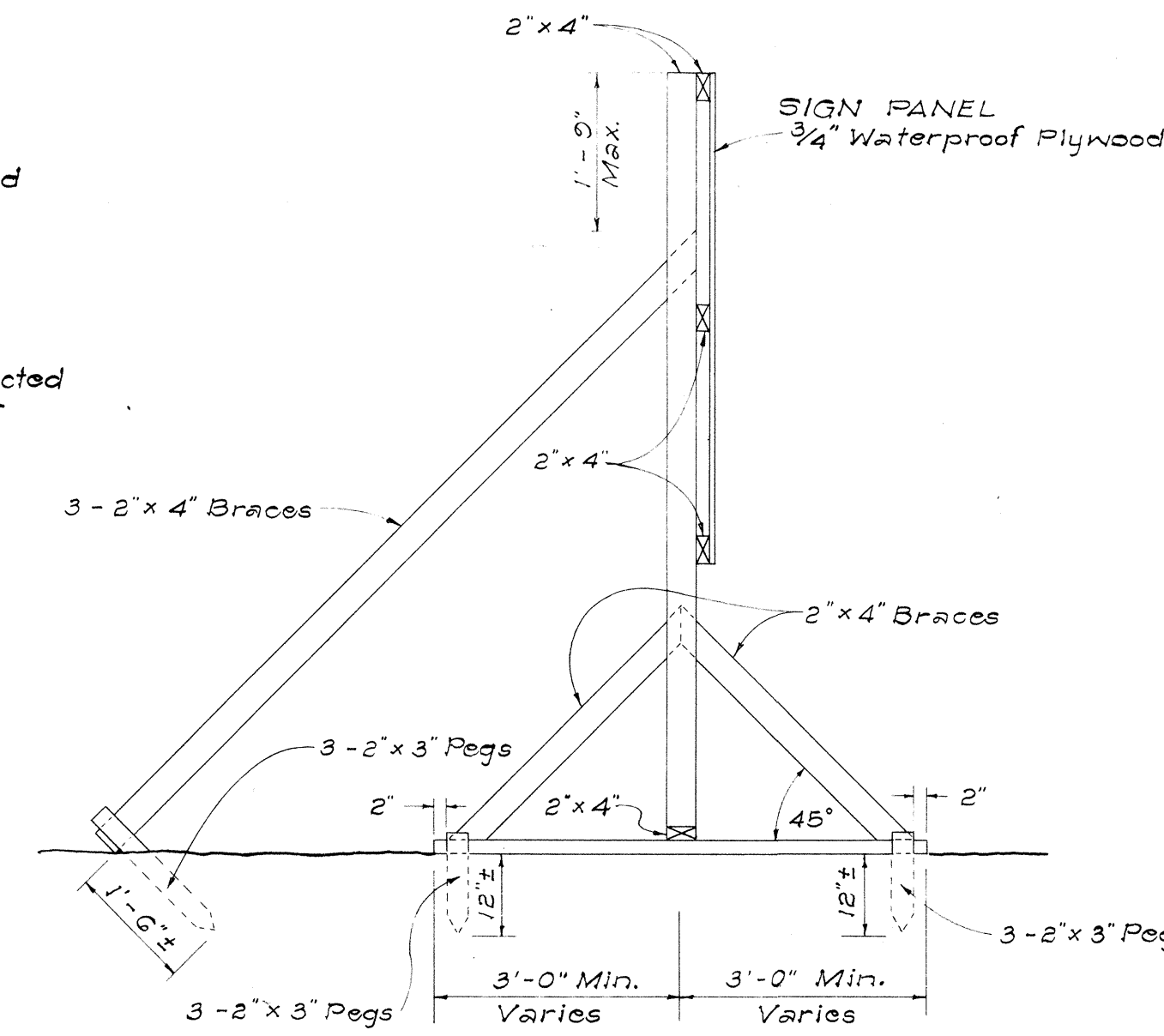
FRONT VIEW



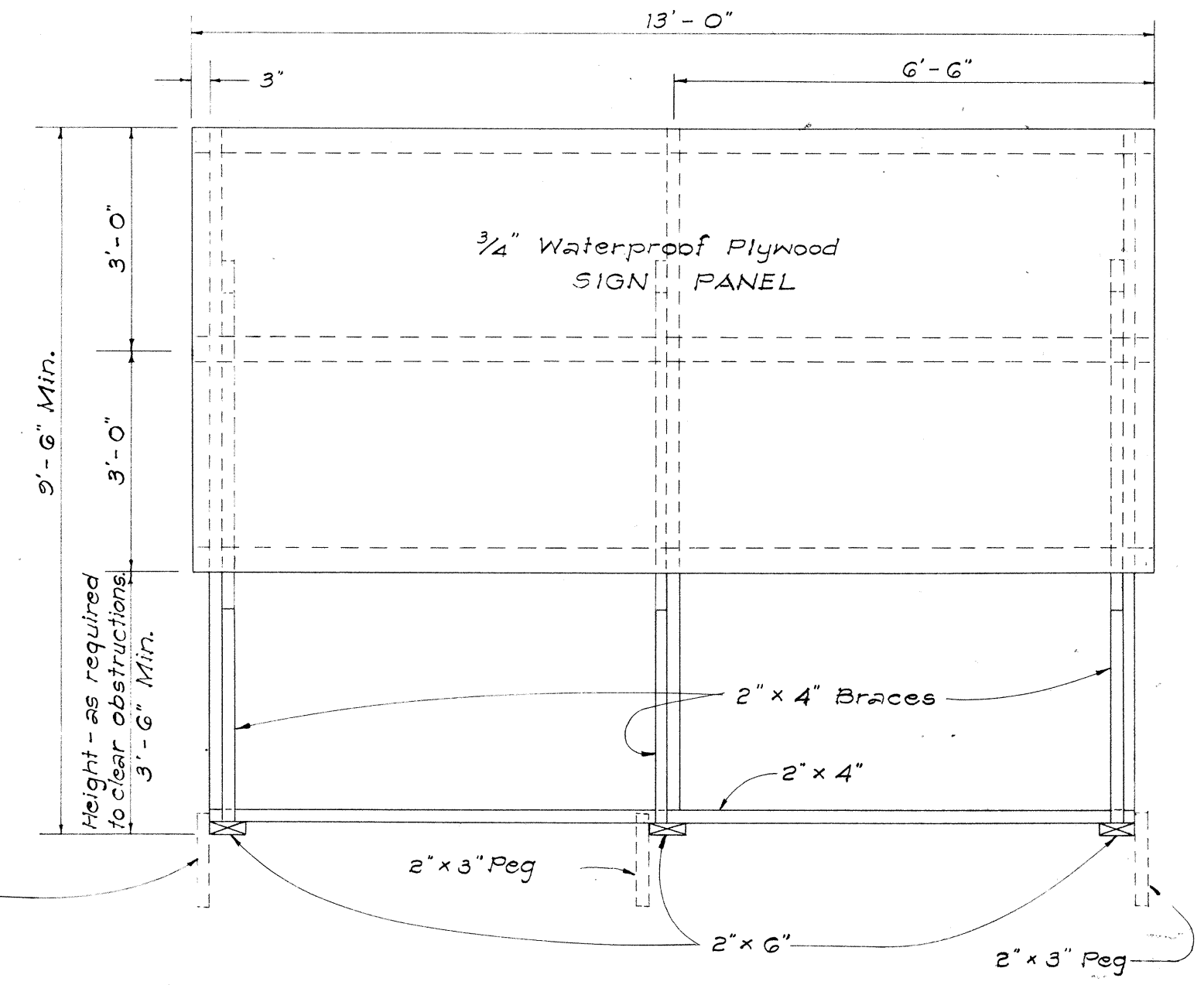
END VIEW

CLASS II BARRICADE

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



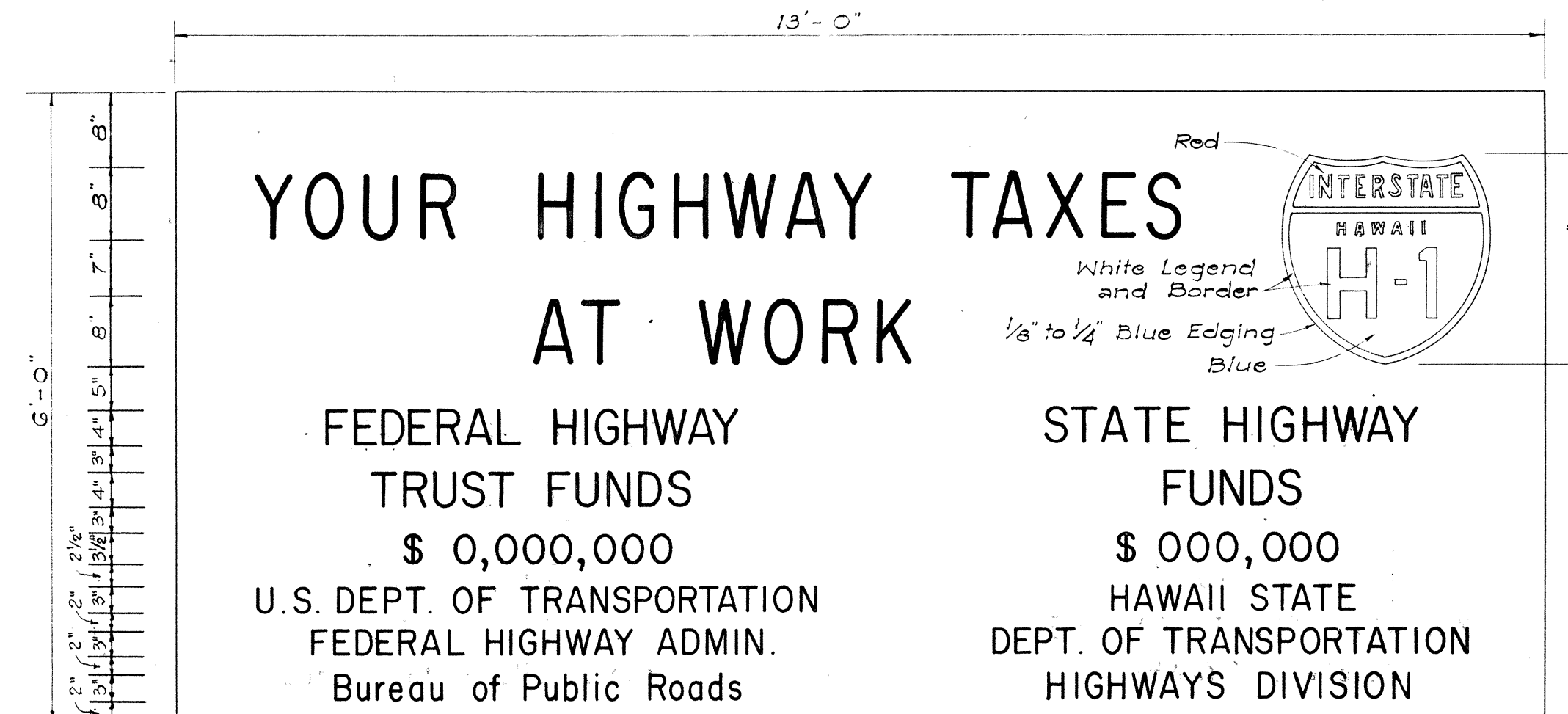
SIDE VIEW
(SIGN FRAME ANCHORED IN GROUND)



FRONT VIEW

ELEVATIONS

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



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

INTERSTATE SYSTEM CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown

NOTES:

- A. **CONSTRUCTION IDENTIFICATION SIGNS**
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.

- B. **WOOD BARRICADES**
1. The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans and as ordered by the Engineer.
 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.

REVISED: February 25, 1969
REVISED: October 2, 1967

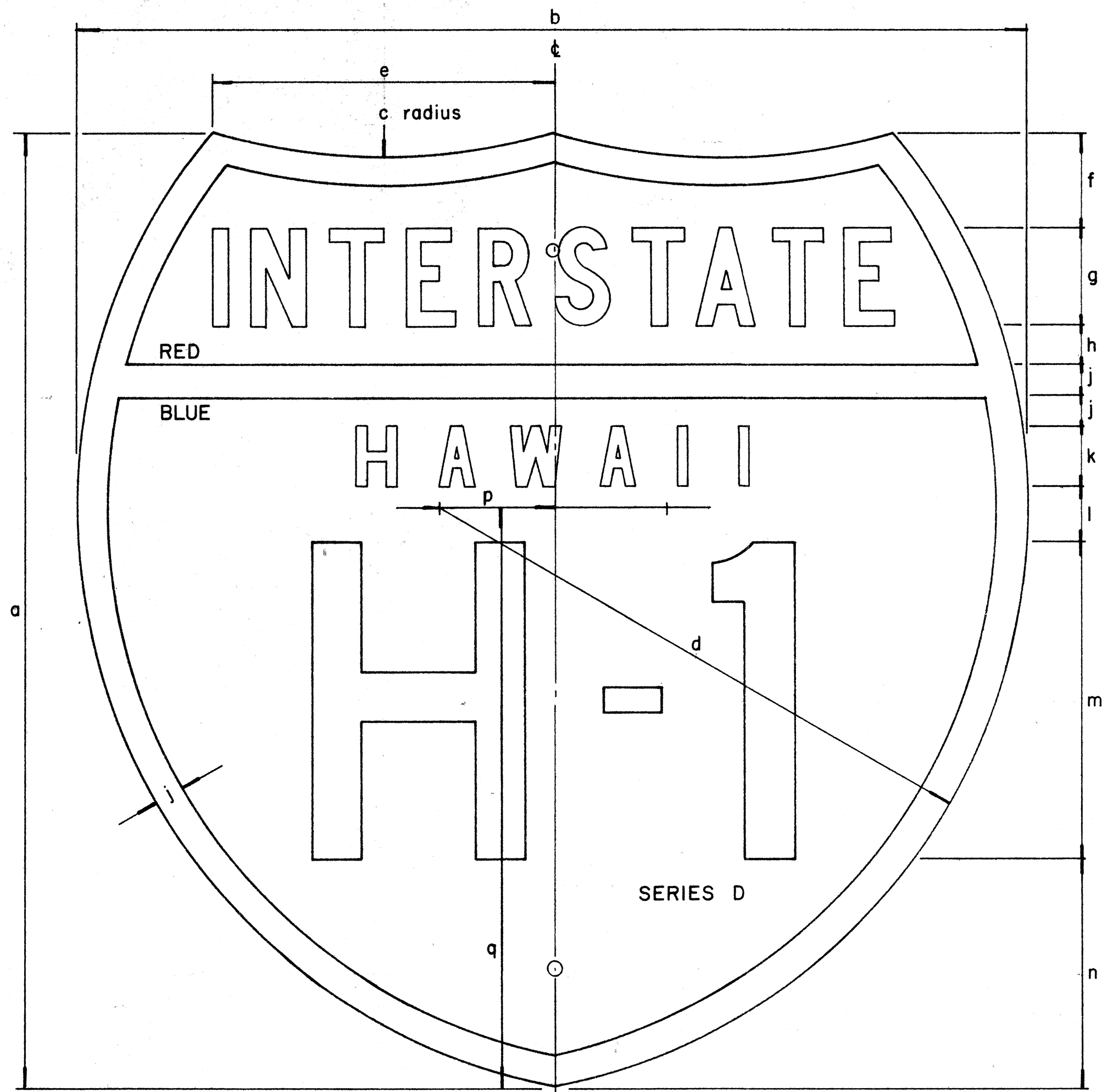
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
CONSTRUCTION IDENTIFICATION SIGN
AND
WOOD BARRICADES

SCALE: As Shown DATE:

SHEET No. 5 OF 6 SHEETS

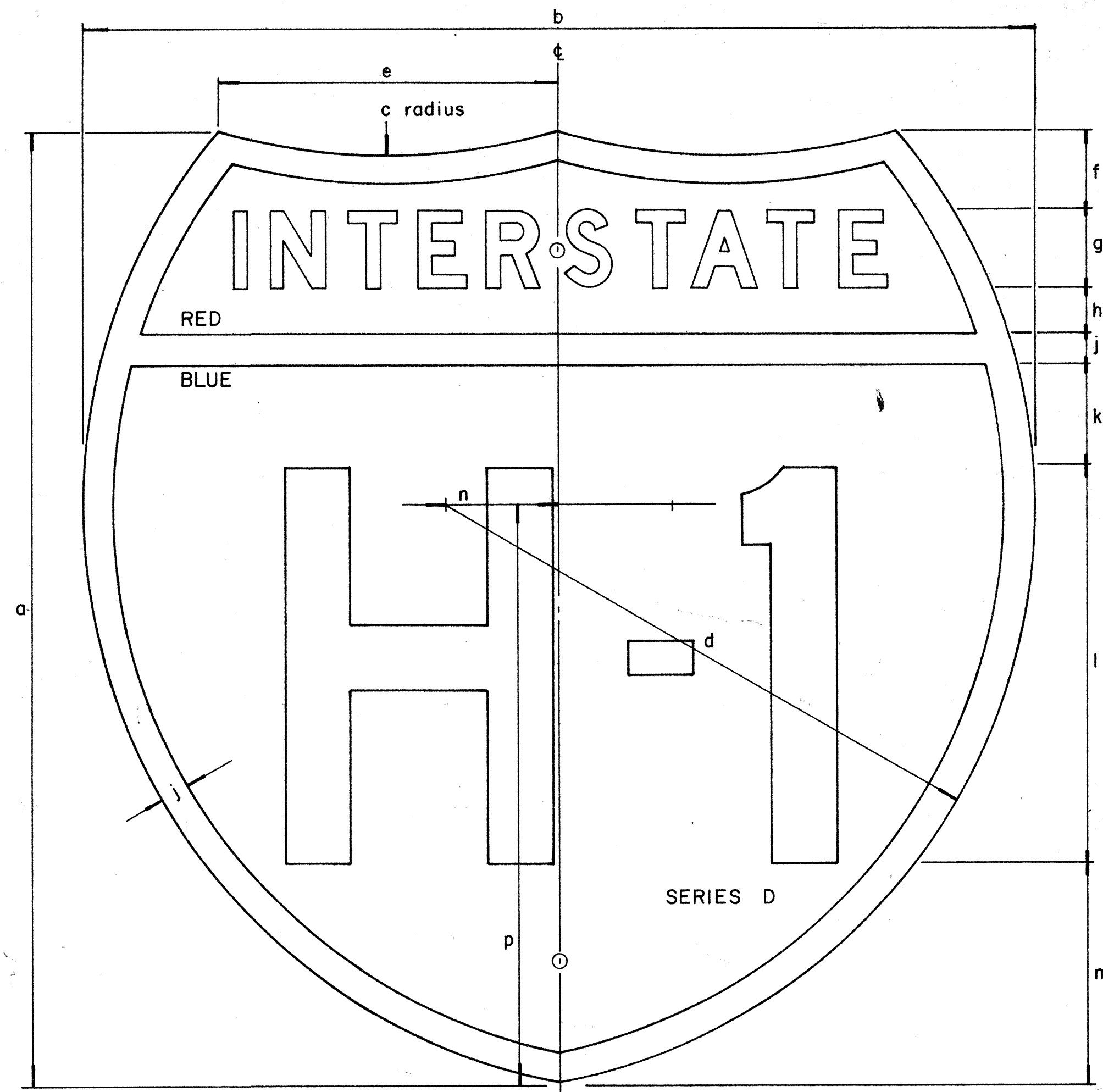
118



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	17 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

F.A.I. PROJ. NO. I-HI-1(53):23