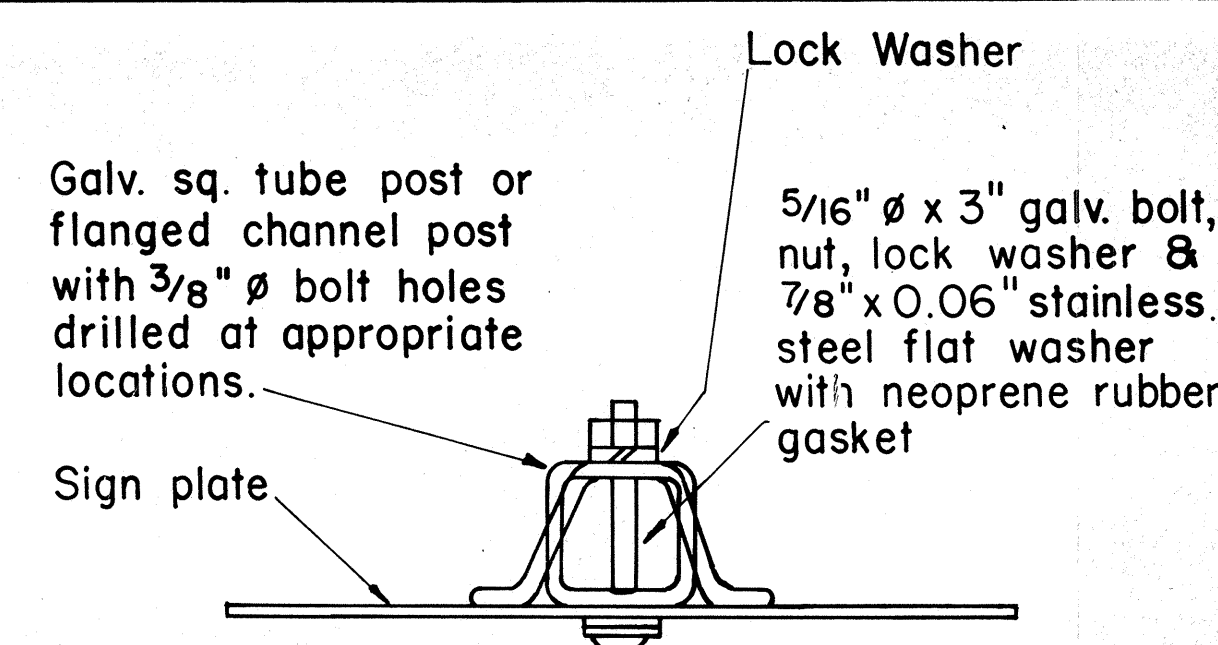


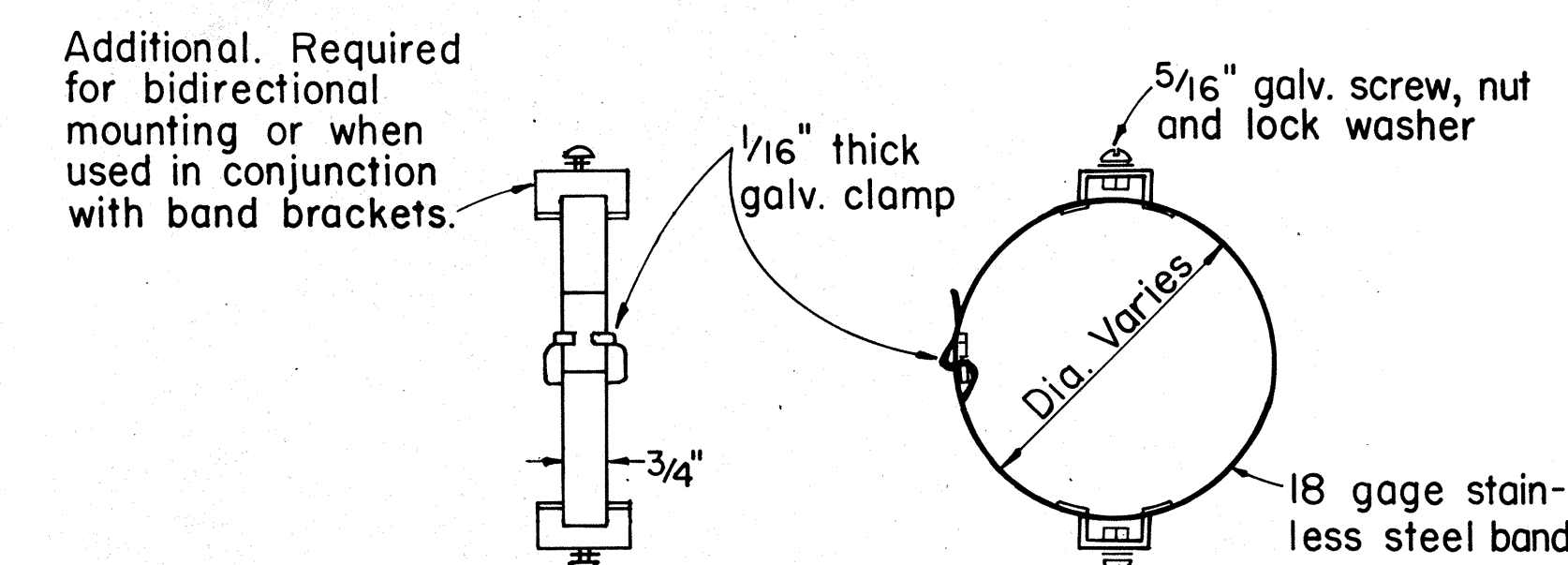
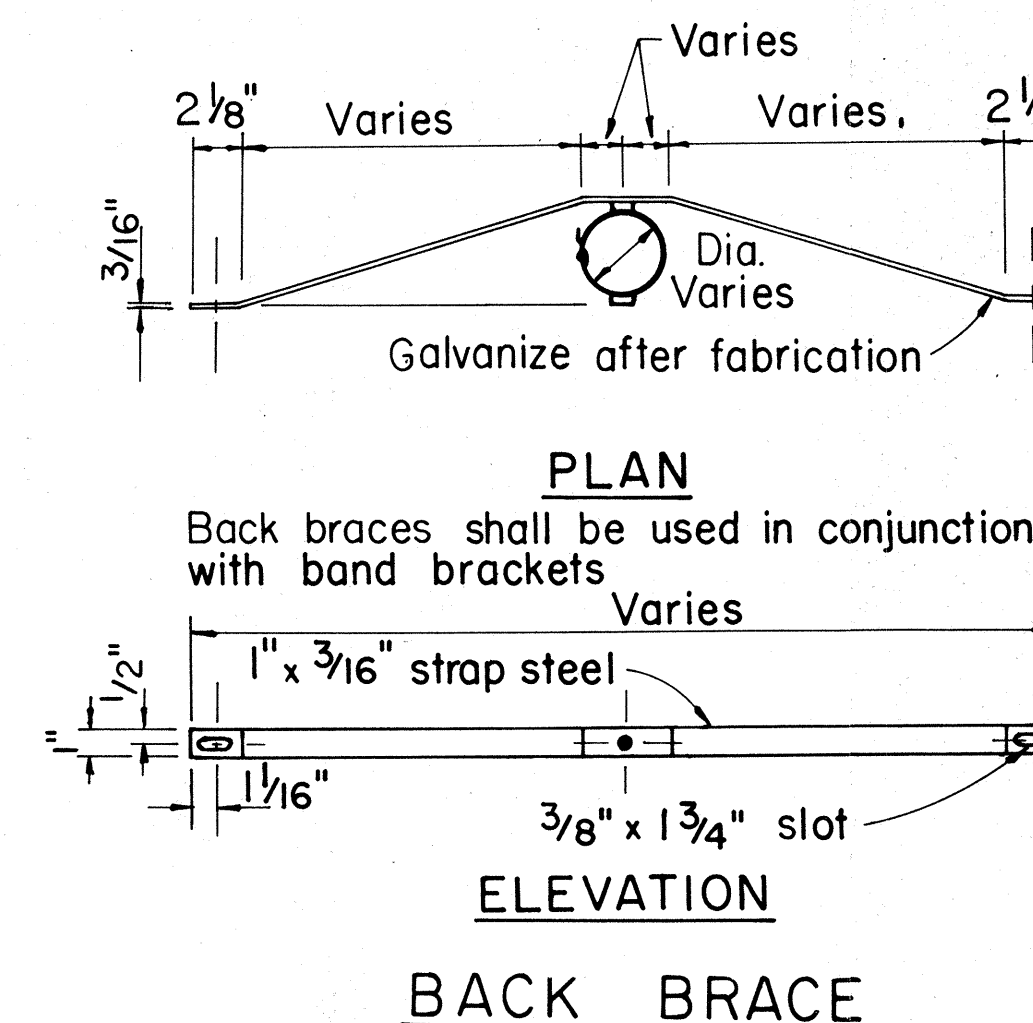
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-80M	1986	27	40

GENERAL NOTES

- Signs shall be placed in conformance with positions shown and described in the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1978, Part II, Section 2A-21, as amended, and as supplemented herein.
- Sign 48" and wider or larger than 10 sq. ft. in area shall be mounted on two or more sign posts except as noted below.
- Signs 48" and wider or larger than 10 sq. ft. in area may be mounted on objects other than sign posts (i.e. on highway lighting poles) as follows:
 - Signs 48" and wider but less than 10 sq. ft. in area shall be mounted with a minimum of two sets of band bracket and back braces.
 - Signs larger than 10 sq. ft. and less than 28 sq. ft. in area shall be mounted with a minimum of two sets of band brackets and back braces.
 - Signs larger than 28 sq. ft. in area shall be mounted with a minimum of three sets of band bracket and back braces.
- All parking restriction signs with arrows shall be mounted 45° to the line of traffic flow.
- Sign posts shall extend 3 1/2" above each sign, where required, for attachment of City and County street name signs.
- (R) or (L) indicates right or left and shown on the plans.
- See plans for special details of signs along bikeways.
- The minimum lateral distances shown are guidelines and shall be exceeded whenever possible. The Contractor shall place signs at the maximum practical lateral distance from the edge of the traveled way up to 30 feet and shall utilize protected locations whenever possible. Final locations of all signs shall be approved by the Engineer.
- Signs in medians shall be placed at midpoint of median up to a maximum distance of 30 feet from the edge of traveled way. When appropriate, signs for opposing directions shall be placed back to back.
- Anchor bases shall be installed for all signpost installations, unless otherwise shown or directed. See sheets DT 100A and DT 100B.



GALVANIZED SQUARE TUBE OR FLANGED CHANNEL POST



LEFT SIDE VIEW BAND BRACKET

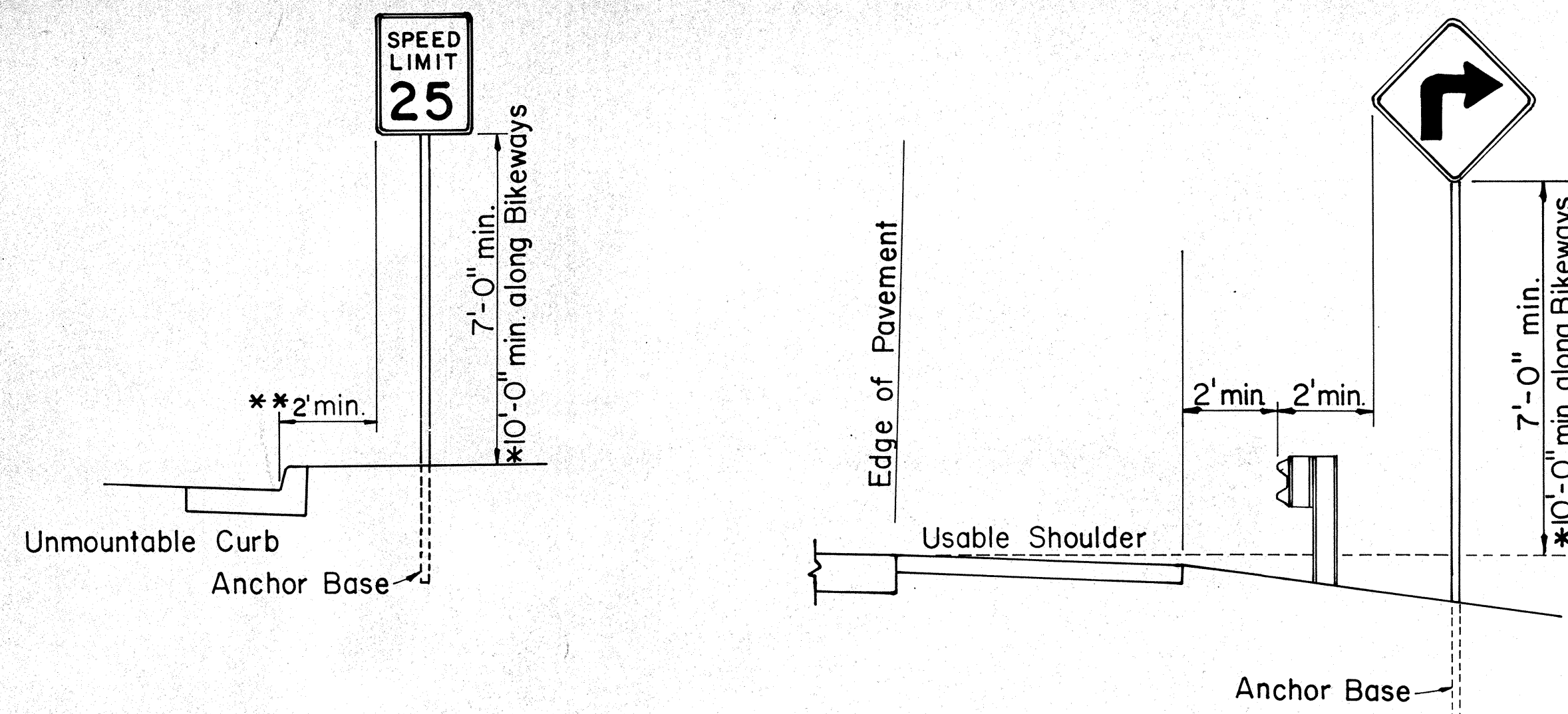
APPROVAL RECOMMENDED:
Eiichi Tanaka
 TRAFFIC ENGINEER
 DATE: 10/14/83

APPROVED:
S. Fujiyama
 ASSISTANT CHIEF, ENGINEERING
 DATE: 10-18-83

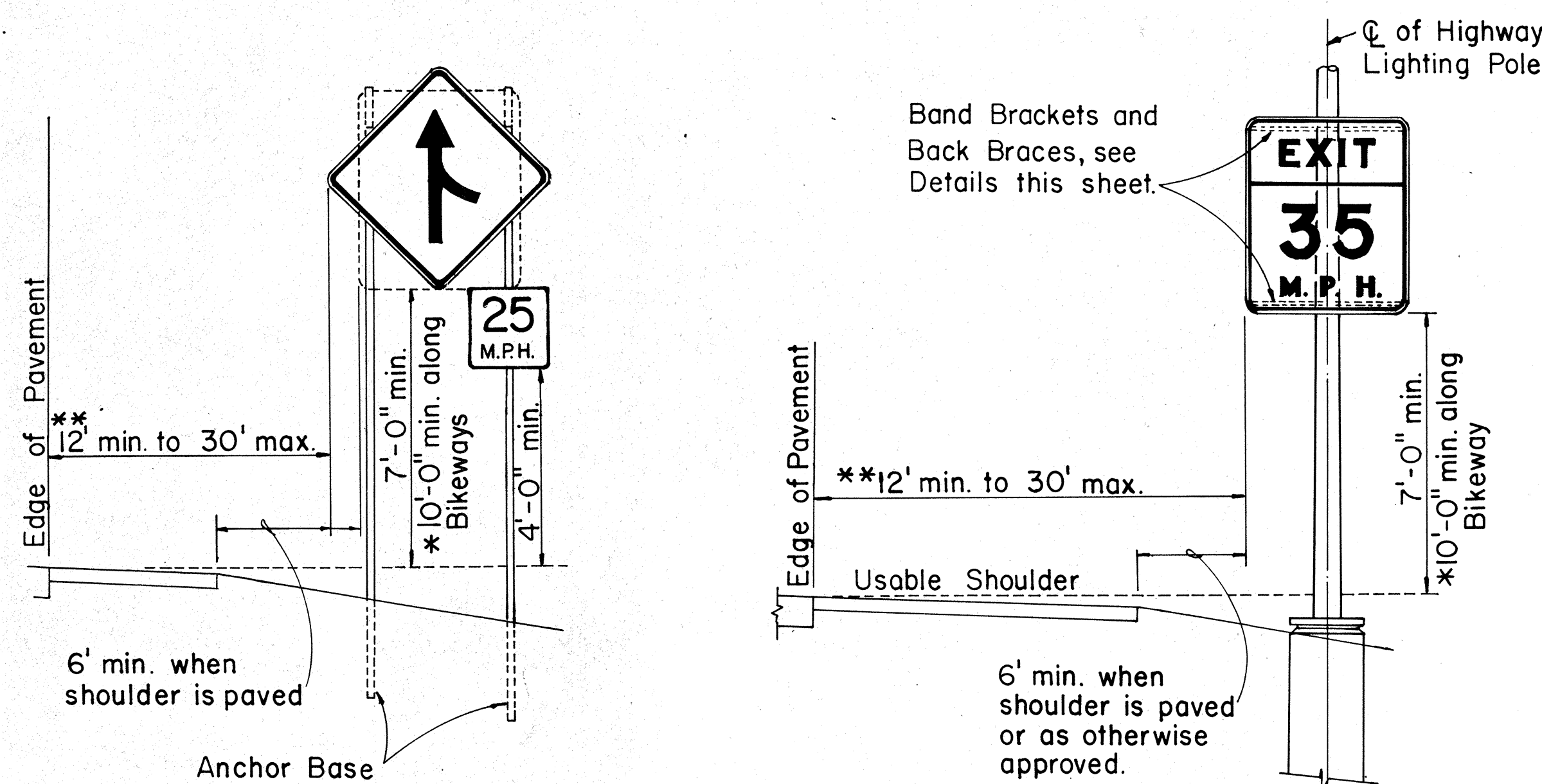
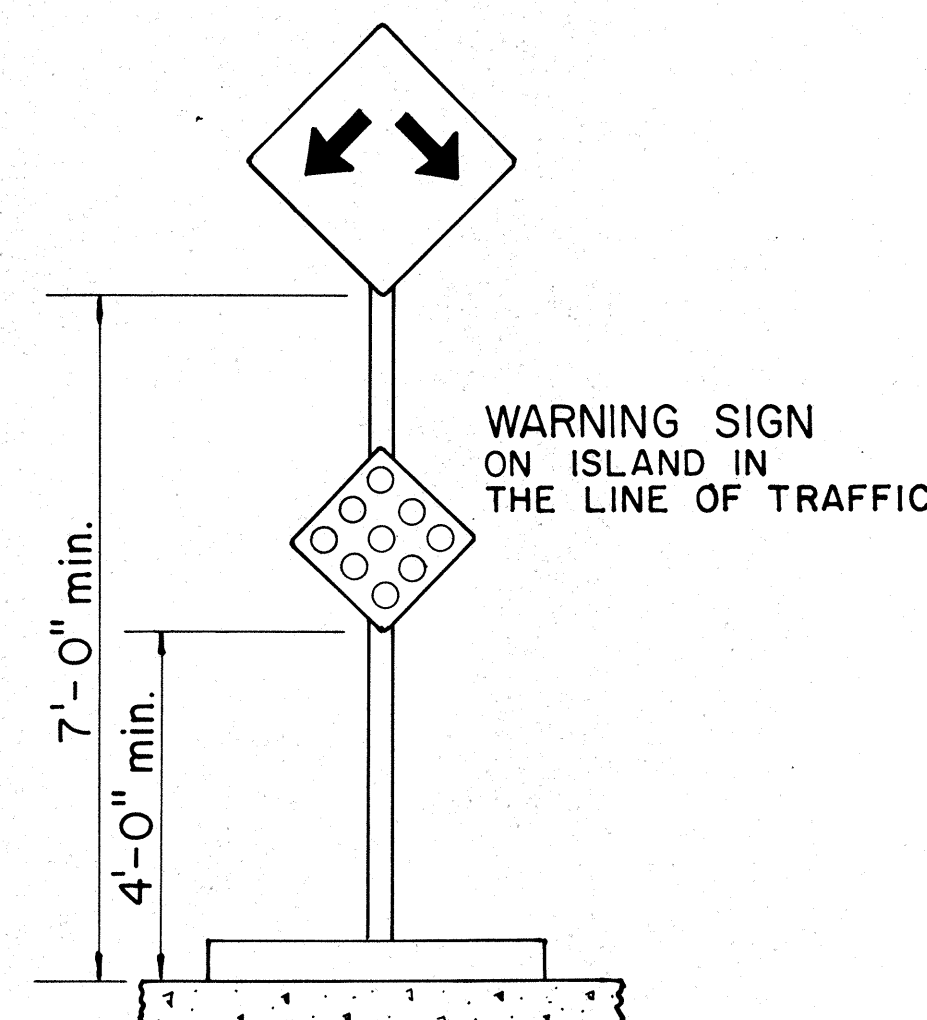
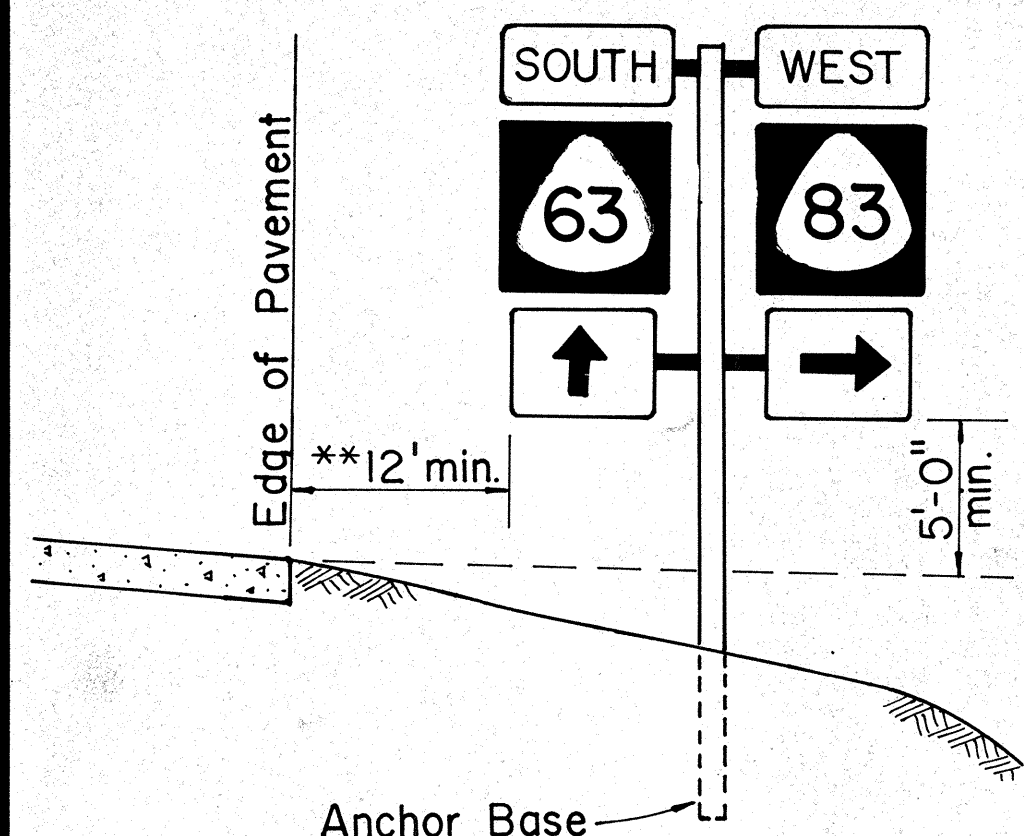
TYPICAL MOUNTING DETAILS

NO.	REVISION	APPROVED BY	DATE
1	Supercedes Sht. DT 100 approved 11/15/77	<i>[Signature]</i>	10-18-83

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS
Not to Scale: Oct. 1983
SHEET NO. OF SHEETS DT 100



ROADSIDE ASSEMBLY RURAL DISTRICT



HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	28	40

A or A ₁	C	C ₁
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 4.

GENERAL NOTES

- Sign posts and base posts shall be flanged channel type structural steel conforming to ASTM A 499 and galvanized in accordance with ASTM A 123.
NOMINAL DIMENSIONS:
2.50 lbs./ft. - 3.125" x 1.562"
4.00 lbs./ft. - 3.500" x 1.750"
- Retainer - Spacer Strap shall be AISI 1020 steel and galvanized in accordance with ASTM A 123.
- Retainer and Connector Bolts shall be 5/16 - 18 UNC x 1.75" long hex. head, integral flange conforming to ASTM A 354 Grade BC. Nuts shall be 5/16 - 18 UNC hex. head, integral flange conforming to ASTM A 563 Grade D. All bolts and nuts shall be cadmium plated per Federal spec. QQP 416 B, Class 2, Type 2.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:
Factor = $A \times B \times H$
Therefore, if sign area (A x B) is known,
Maximum H = $\frac{\text{Factor}}{\text{sign area (A x B)}}$
and if H is known,
Maximum sign area (A x B) = $\frac{\text{Factor}}{H}$

APPROVAL RECOMMENDED:

Eishi Tanaka 9/21/82
TRAFFIC ENGINEER DATE

APPROVED:

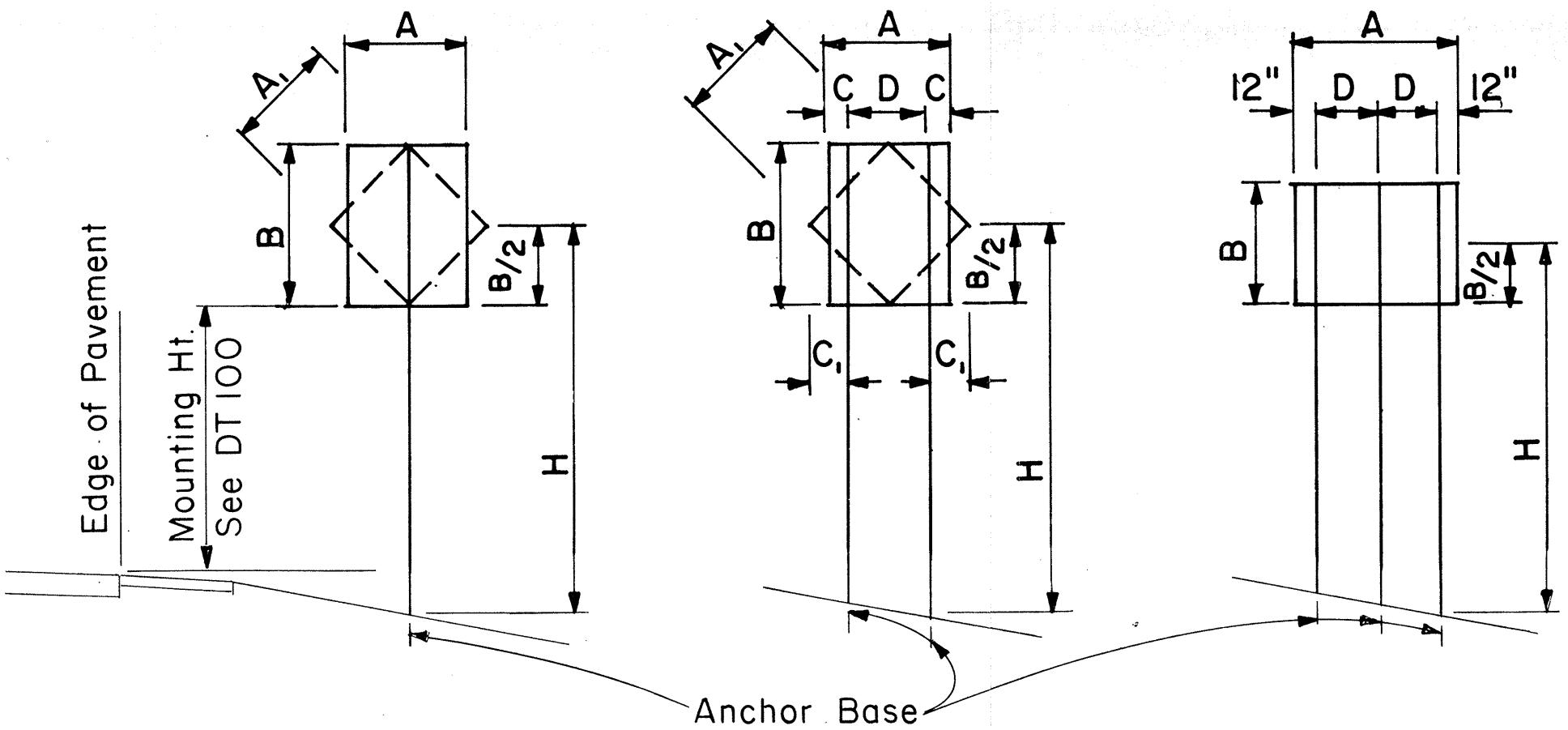
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
GALVANIZED FLANGED CHANNEL
SIGN POST MOUNTING

Scale: As Shown
Date: Sept. 1982

SHEET NO. OF SHEETS DT 100A



- 1 - POST**
Sign area 10 sq.ft. and less
- 2 - POST**
Sign area greater than 10 sq.ft. or A=48"-60"
- 3 - POST**
A = greater than 60"

TYPICAL INSTALLATION

Not to Scale

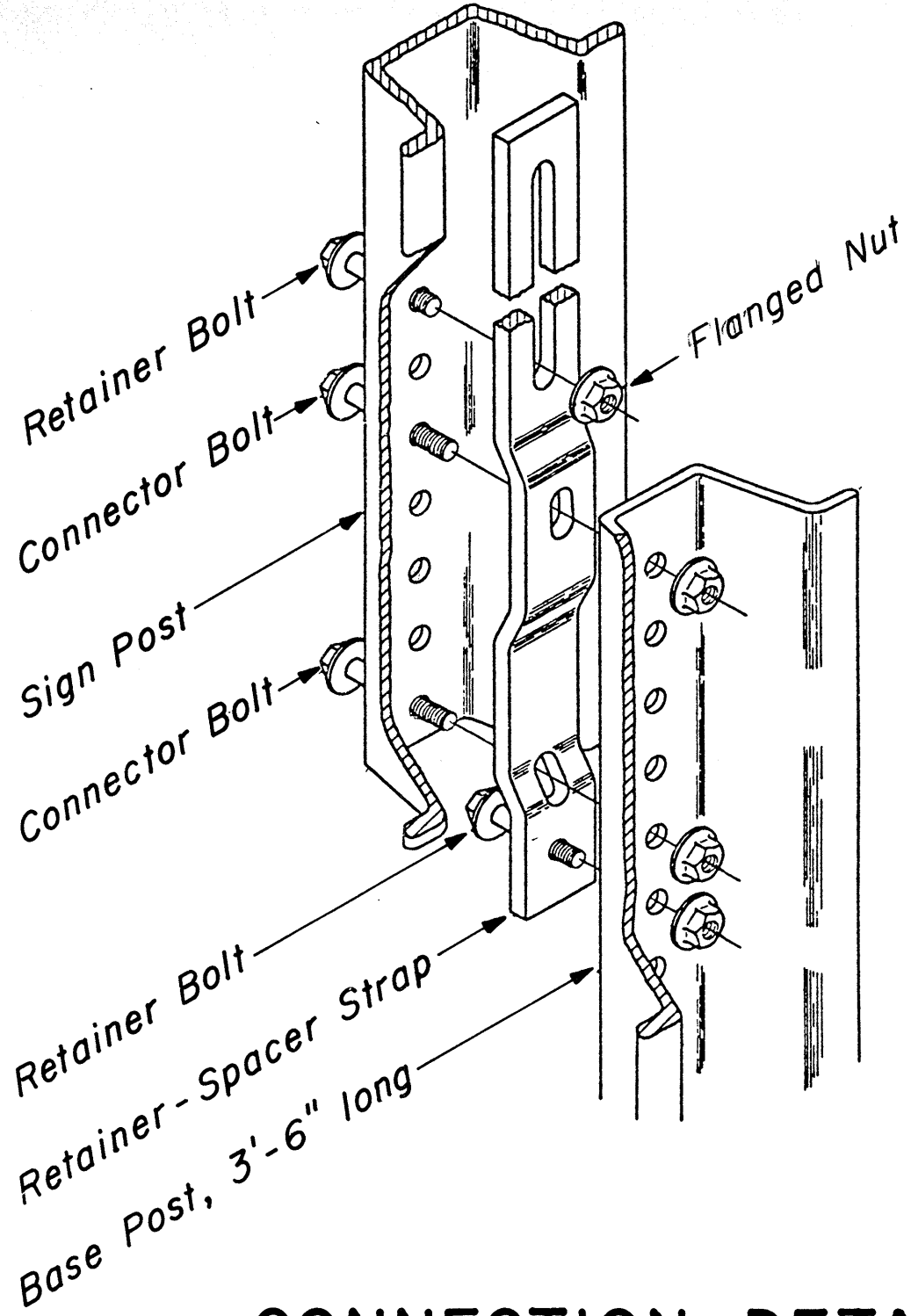
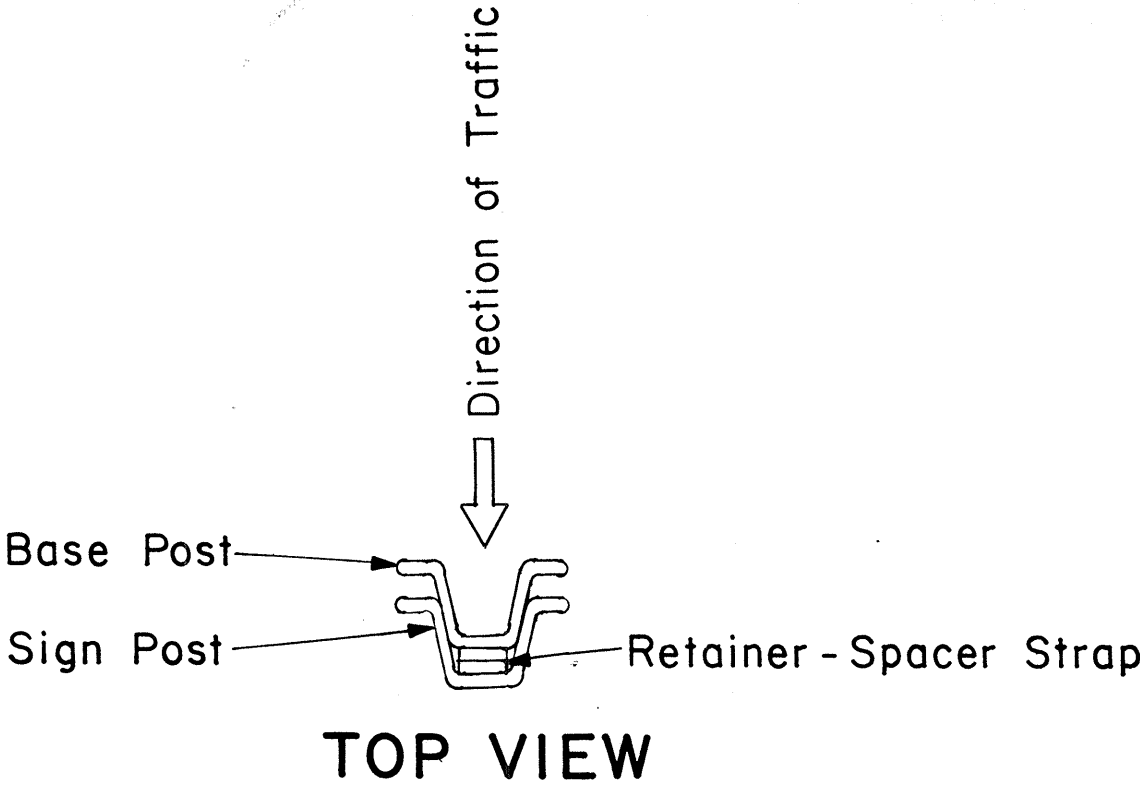
FLANGED CHANNEL: 1-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2.50 lbs./ft.	57	8.14	7.13	6.33	5.70	5.18	4.75
4.00 lbs./ft.	112	-	-	-	-	-	9.33
		A x B (Area, sq.ft.)					

FLANGED CHANNEL: 2-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2.50 lbs./ft.	124	17.71	15.50	13.77	12.40	11.27	10.33
4.00 lbs./ft.	241	34.43	30.13	26.78	24.10	21.91	20.08
		A x B (Area, sq.ft.)					

FLANGED CHANNEL: 3-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2.50 lbs./ft.	187	26.71	23.38	20.78	18.70	17.00	15.58
4.00 lbs./ft.	362	51.71	45.25	40.22	36.20	32.91	30.17
		A x B (Area, sq.ft.)					

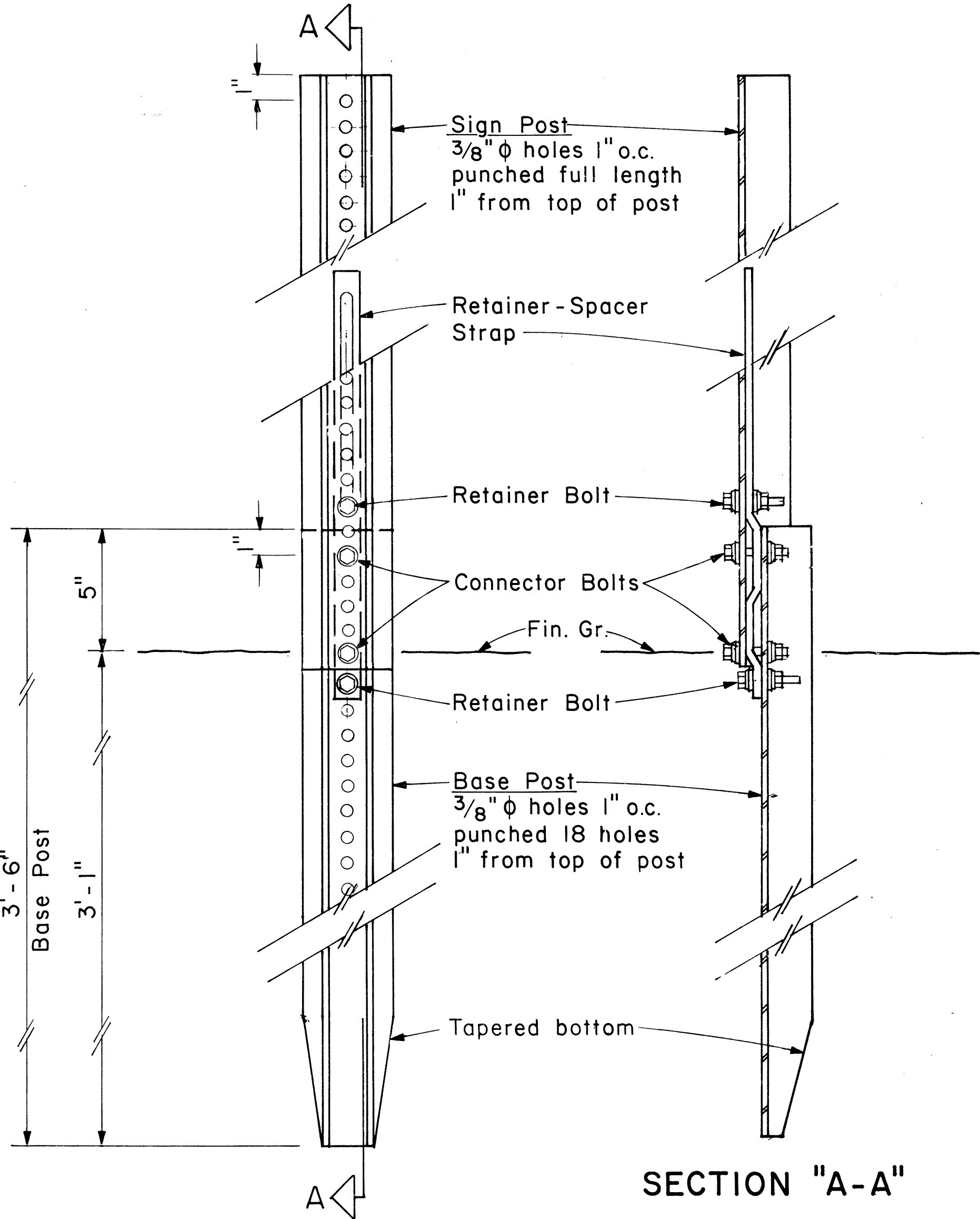
WINDLOAD CHARTS

NO.	REVISION	APPROVED BY	DATE



CONNECTION DETAIL

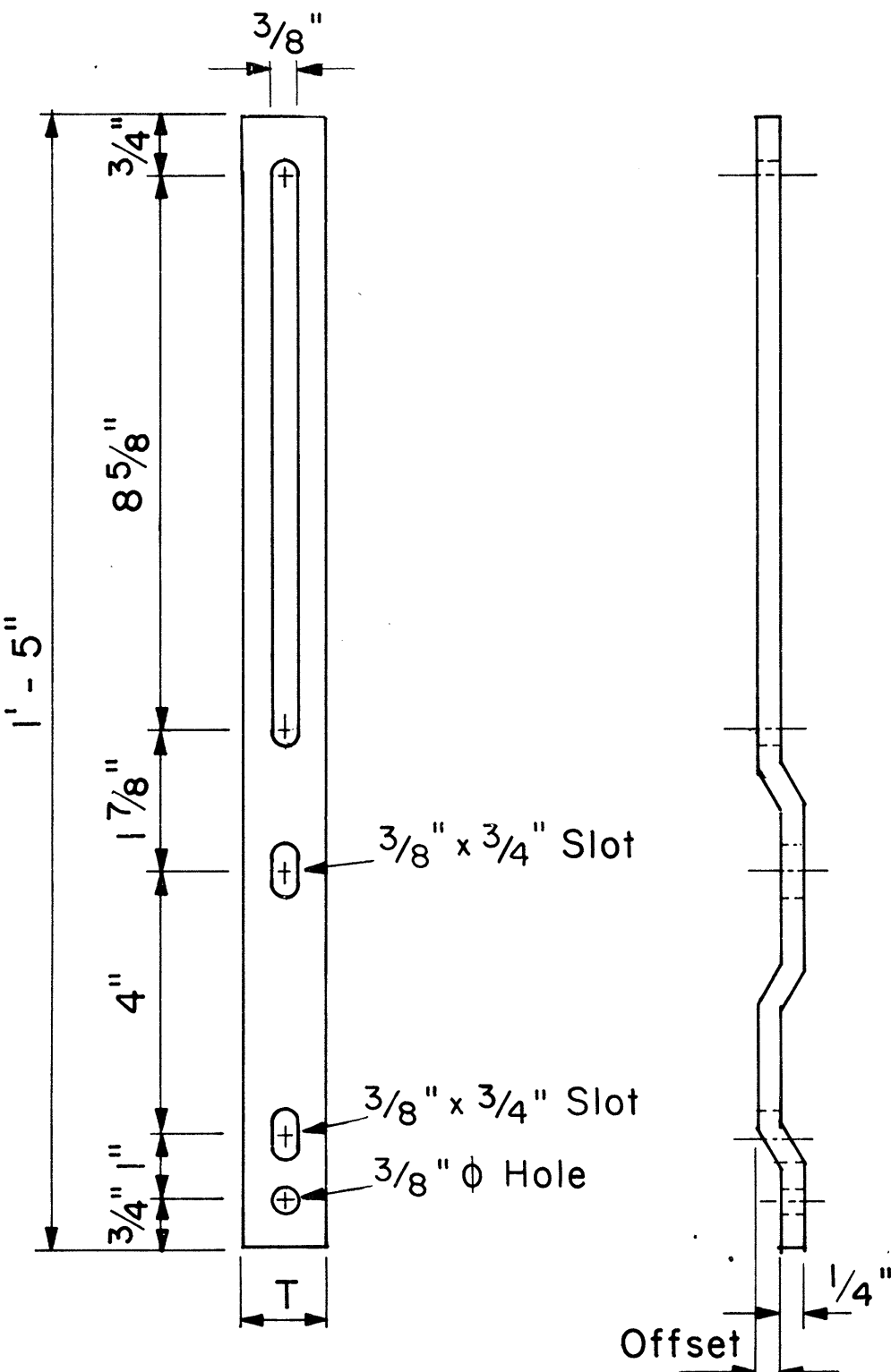
Not to Scale



BACK VIEW

ANCHOR BASE DETAIL

Scale: 3" = 1'-0"



RETAINER-SPACER STRAP

Not to Scale

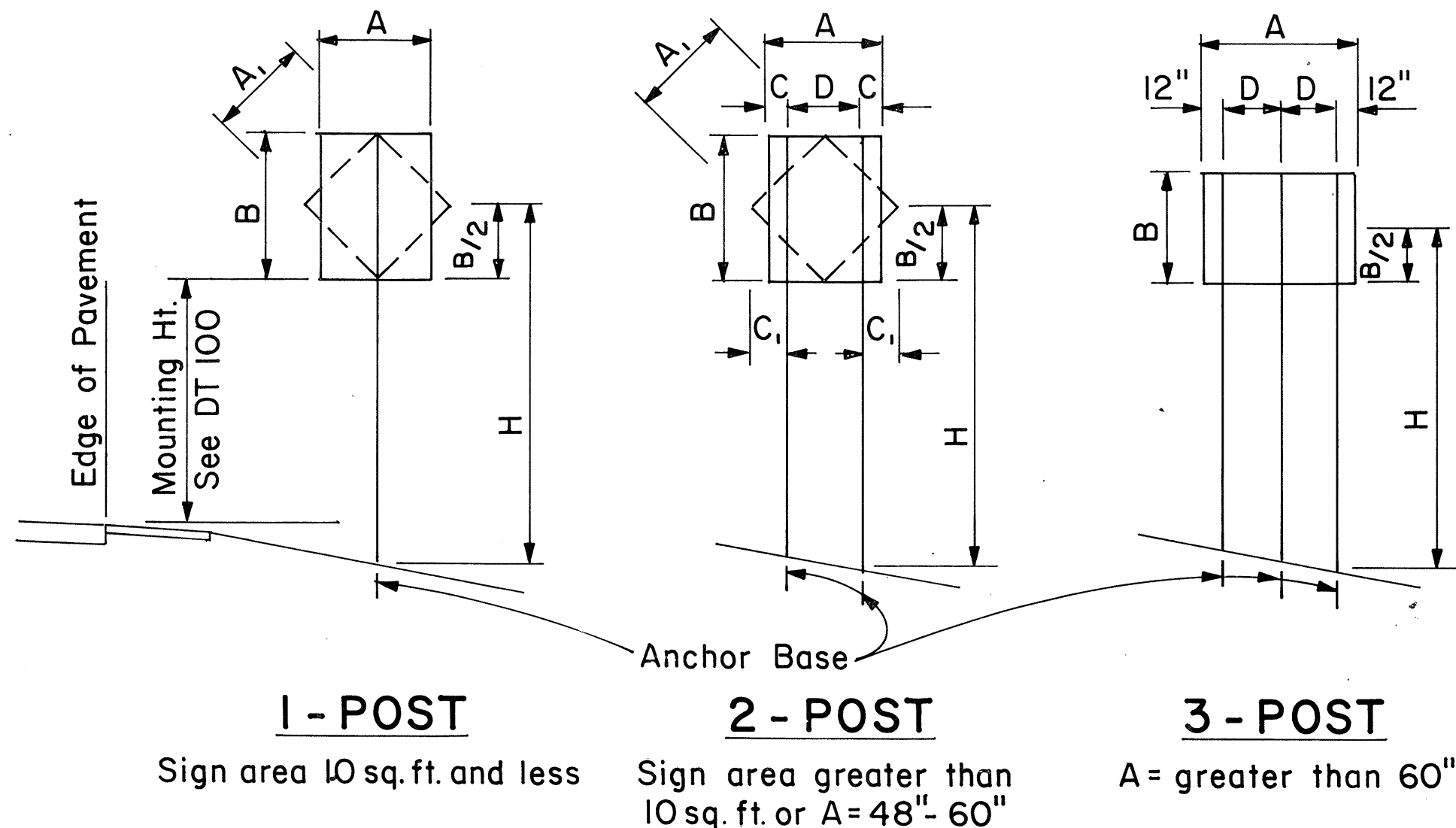
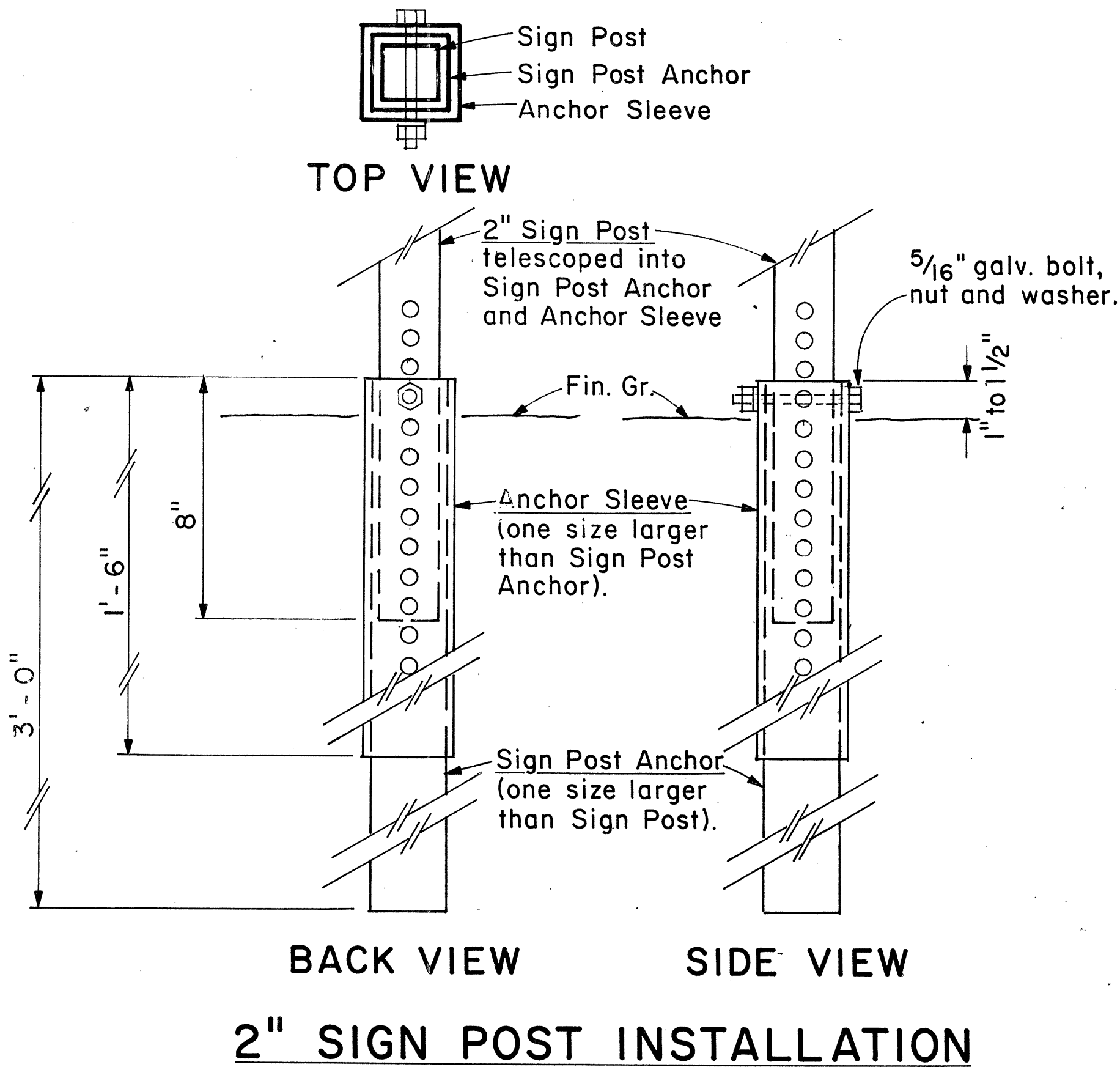
RETAINER-SPACER STRAP		
Post Size	T	Offset
2.50 lbs./ft.	1.00"	0.145"
4.00 lbs./ft.	1.12"	0.280"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY	DESIGNED BY	
NOTE BOOK	QUANTITIES BY	
CREATED BY		

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	29	40

GENERAL NOTES

- Square tube sign posts shall conform to Subsection 713.11(C) Square Tube Posts of the Specifications.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- Square tube posts shall be perforated with $\frac{7}{16}$ " ϕ holes, 1" o.c., 4 sides, along entire length of post.
- All posts shall be 12 gage unless otherwise specified or shown on the plans.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:
Factor = $A \times B \times H$
Therefore, if sign area ($A \times B$) is known,
Maximum $H = \frac{\text{Factor}}{\text{sign area (A x B)}}$
and if H is known,
Maximum sign area ($A \times B$) = $\frac{\text{Factor}}{H}$



A or A ₁	C	C ₁
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 2.

TYPICAL INSTALLATION

Not to Scale

SQUARE TUBE: 1- POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	62	8.8	7.7	6.8	6.1	5.6	4.8
2 1/2"	107	-	-	-	-	9.6	8.8

A x B
(Area, sq. ft.)

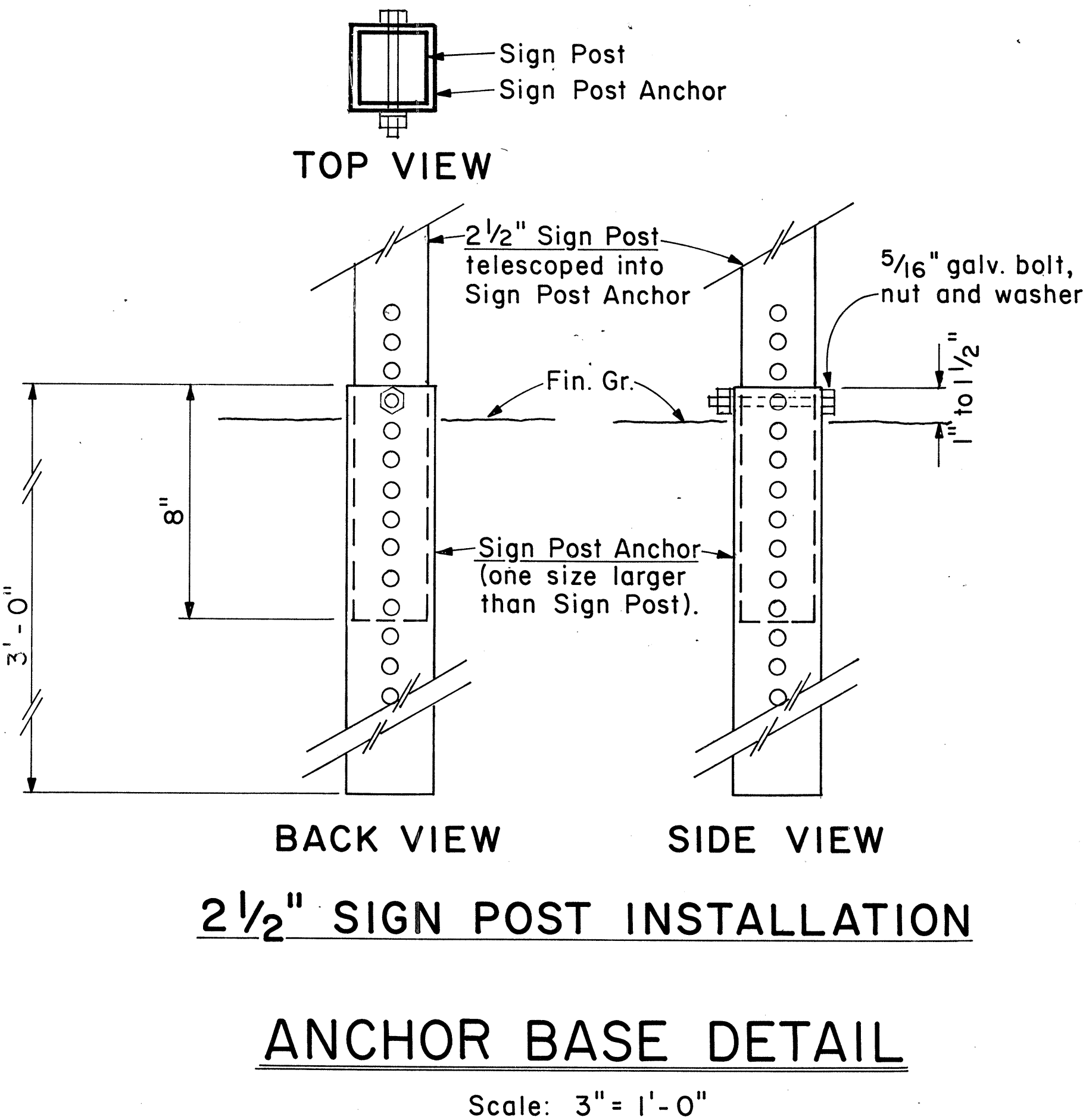
SQUARE TUBE: 2- POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	122	17.4	15.2	13.5	12.2	11.0	10.1
2 1/2"	212	30.2	26.5	23.5	21.1	19.2	17.6
2 1/2", 10 ga.	260	37.0	32.0	28.6	26.0	23.5	21.5

A x B
(Area, sq. ft.)

SQUARE TUBE: 3- POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	183	26.0	22.8	20.3	18.2	16.6	15.2
2 1/2"	318	45.4	39.5	35.2	31.5	28.8	26.5
2 1/2", 10 ga.	388	55.0	48.5	43.0	38.5	35.0	32.0

A x B
(Area, sq. ft.)

WINDLOAD CHARTS



APPROVAL RECOMMENDED:

Erich Tanaka 9/21/82
TRAFFIC ENGINEER DATE

APPROVED:

Robert Zalschi 9/22/82
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

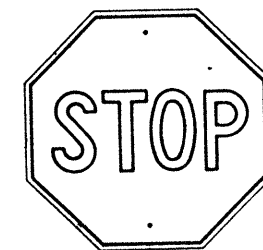
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
GALVANIZED SQUARE TUBE
SIGN POST MOUNTING

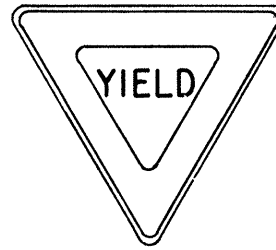
Scale: As Shown
Date: Sept 1982

SHEET NO. OF SHEETS DT 100B

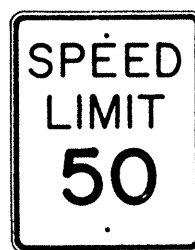
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	30	40



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



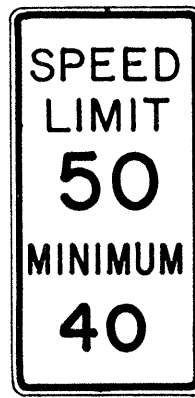
R1-2 36"x 36"x 36"
R1-2-A 48"x 48"x 48"



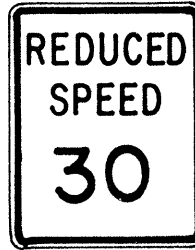
R2-1(50) 24"x 30"
R2-1(50)-A 48"x 60"



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



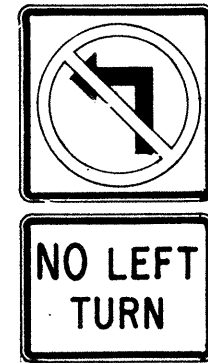
R2-4a(50/40) 24"x 48"
R2-4a(50/40)-A 48"x 96"



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



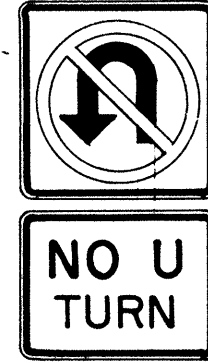
R3-1 24"x 24"
24"x 18"
R3-1-A 48"x 48"
48"x 36"



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



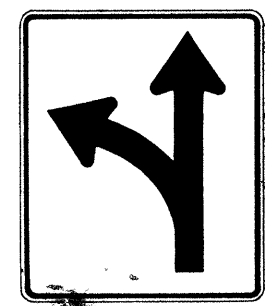
R3-3 24"x 24"
R3-3-A 48"x 48"



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



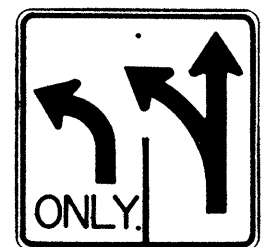
R3-5(L) 30"x 36"
R3-5(L)-A 48"x 60"



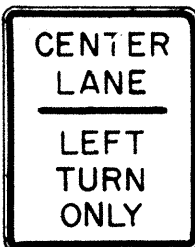
R3-6(L) 30"x 36"
R3-6(L)-A 48"x 60"



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"



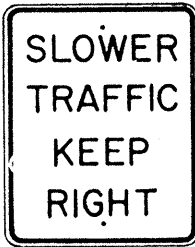
R3-9 24"x 30"



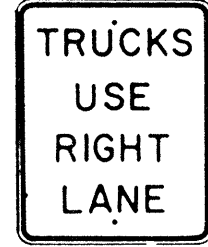
R4-1 24"x 30"
R4-1-A 48"x 60"



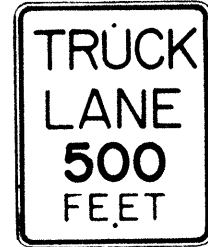
R4-2 24"x 30"
R4-2-A 48"x 60"



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



R4-5 24"x 30"
R4-5-A 48"x 60"



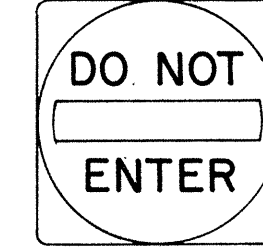
R4-6(500) 24"x 30"
R4-6(500)-A 48"x 60"



R4-7 24"x 30"
24"x 18"
R4-7-A 48"x 60"



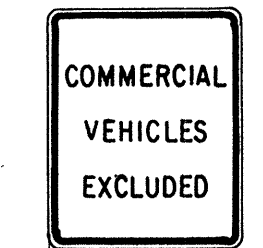
R4-8 24"x 30"
24"x 18"
R4-8-A 48"x 60"



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



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



R5-4 24"x 30"
R5-4-A 48"x 60"



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



R5-9 36"x 24"



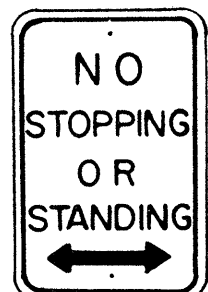
R6-1(R) 36"x 12"



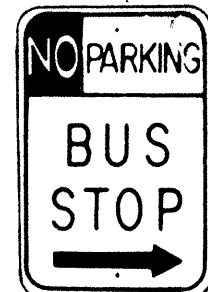
R6-2(R) 18"x 24"



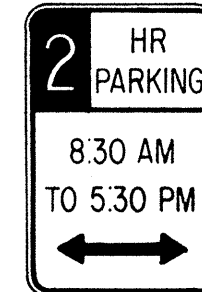
R7-1 12"x 18"
R7-1-A 24"x 30"



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"
R8-1-A 48"x 60"



R8-2 24"x 30"
R8-2-A 48"x 60"



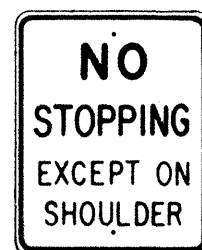
R8-3 24"x 30"
R8-3-A 48"x 48"



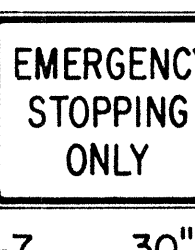
R8-4 30"x 24"
R8-4-A 48"x 36"



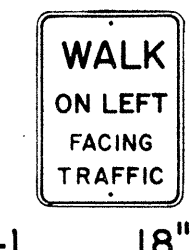
R8-5 24"x 30"
R8-5-A 48"x 60"



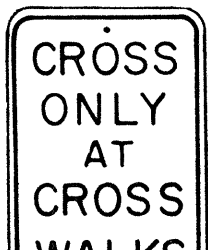
R8-6 24"x 30"
R8-6-A 48"x 60"



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



R9-1 18"x 24"



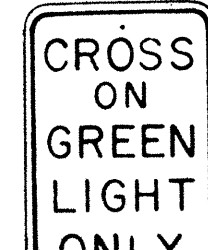
R9-2 12"x 18"



R9-3 12"x 18"



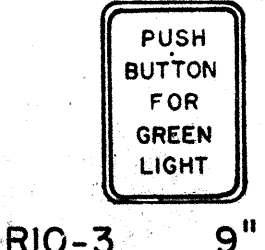
R9-4 18"x 24"



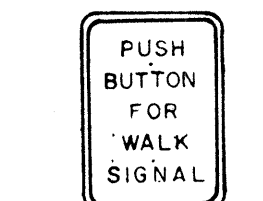
R10-1 12"x 18"



R10-2 12"x 18"



R10-3 9"x 12"



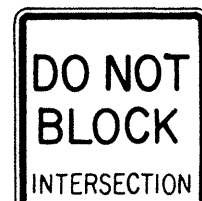
R10-4 9"x 12"



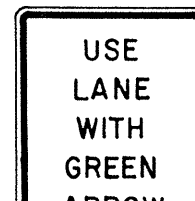
R10-5 24"x 30"



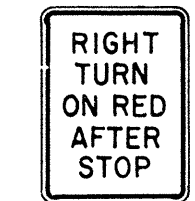
R10-6 24"x 36"



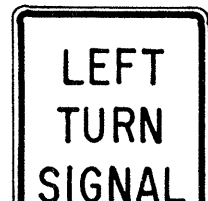
R10-7 24"x 30"



R10-8 24"x 30"



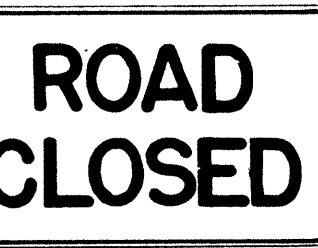
R10-9 24"x 30"



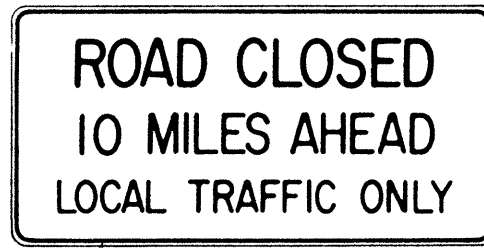
R10-10 24"x 30"



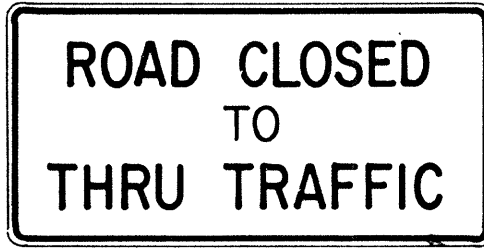
R11-1 24"x 30"



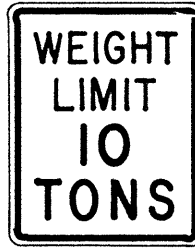
R11-2 48"x 30"



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 latest editions of FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," "Standard Alphabets for Highway Signs," and "Standard Highway Signs," and as amended.
- 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.
- All signs shall be erected without educational plaques unless called for in the plans.

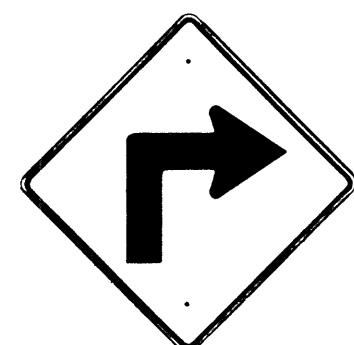
APPROVAL RECOMMENDED:
Enishi Tanaka 3/17/82
TRAFFIC ENGINEER DATE

APPROVED:
Robert J. Johnson 3-20-82
ASSISTANT CHIEF, ENGINEERING DATE

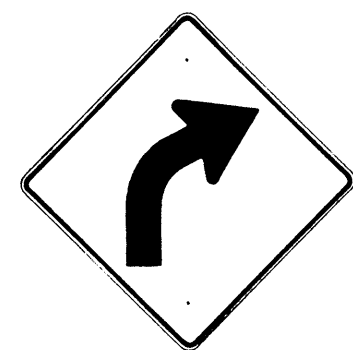
NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.I.	3/20/82
2	Revised General Note 1.	H.I.	10/14/84
3	Added General Note 5	H.I.	11/2/85
4	Revised Signs and General Note 1	E.T.	3/18/85

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS REGULATORY SIGNS
NOT TO SCALE
SHEET No. OF SHEETS DT 101

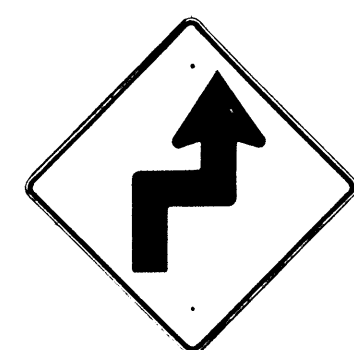
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII *	HAW.	89C-01-86M	1986	31	40



W1-1(R) 30"x 30"
W1-1(R)-A 48"x 48"



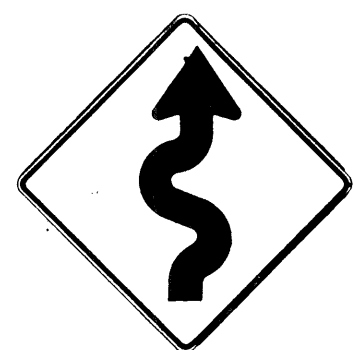
W1-2(R) 30"x 30"
W1-2(R)-A 48"x 48"



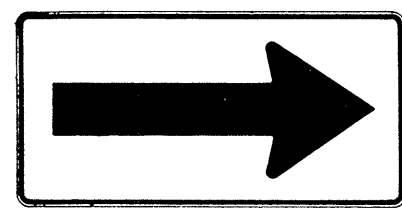
W1-3(R) 30"x 30"
W1-3(R)-A 48"x 48"



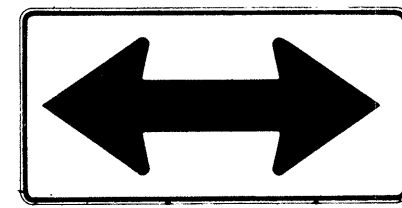
W1-4(R) 30"x 30"
W1-4(R)-A 48"x 48"



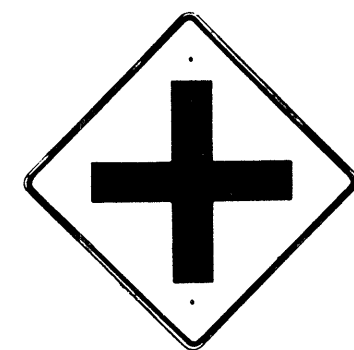
W1-5(R) 30"x 30"
W1-5(R)-A 48"x 48"



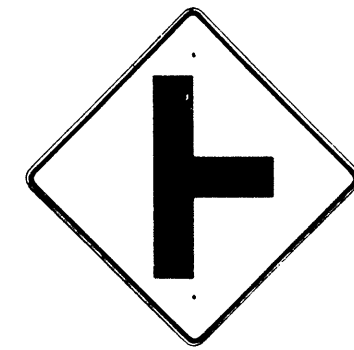
W1-6 48"x 24"



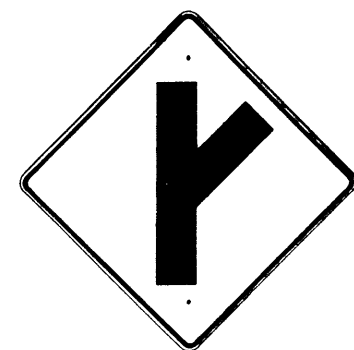
W1-7 48"x 24"



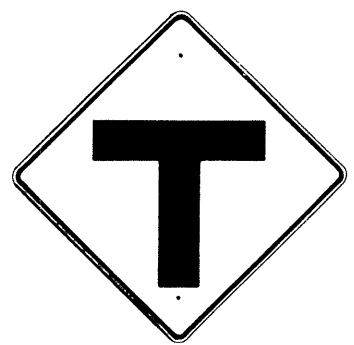
W2-1 30"x 30"
W2-1-A 48"x 48"



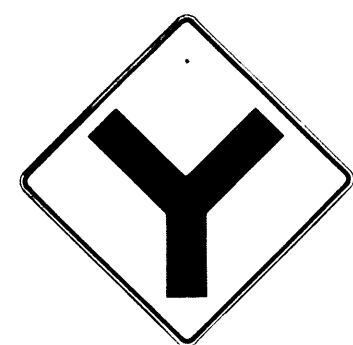
W2-2 30"x 30"
W2-2-A 48"x 48"



W2-3(R) 30"x 30"
W2-3(R)-A 48"x 48"



W2-4 30"x 30"
W2-4-A 48"x 48"



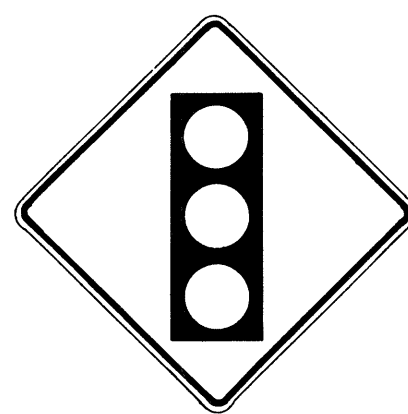
W2-5 30"x 30"
W2-5-A 48"x 48"



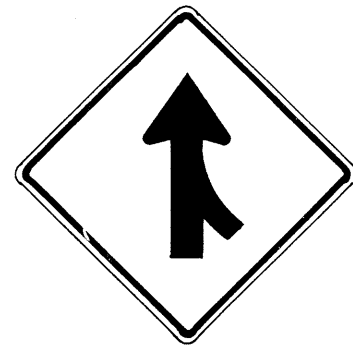
W3-1 30"x 30"
W3-1-A 36"x 36"



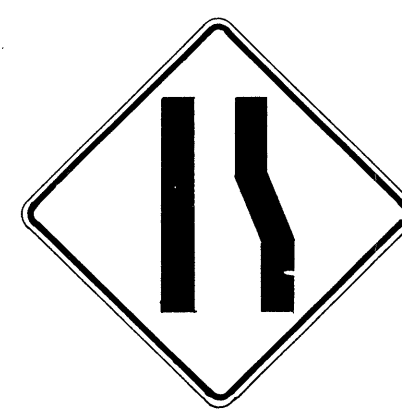
W3-2 30"x 30"
W3-2-A 36"x 36"



SIGNAL
AHEAD
W3-3 36"x 36"
24"x 18"



MERGE
W4-1(R) 30"x 30"
24"x 18"
W4-1(R)-A 48"x 48"
24"x 18"



W4-2(R) 36"x 36"
W4-2(R)-A 48"x 48"



W5-1 36"x 36"
W5-1-A 48"x 48"



W5-2 30"x 30"
W5-2-A 36"x 36"



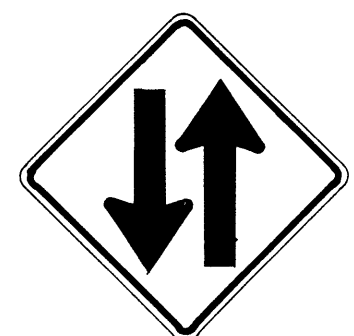
W5-3 36"x 36"
W5-3-A 48"x 48"



DIVIDED
HIGHWAY
W6-1 36"x 36"
24"x 18"
W6-1-A 48"x 48"
24"x 18"



DIVIDED
HIGHWAY
ENDS
W6-2 36"x 36"
24"x 18"
W6-2-A 48"x 48"
24"x 18"



TWO WAY
TRAFFIC
W6-3 30"x 30"
24"x 18"
W6-3-A 36"x 36"
24"x 18"
W6-3-B 48"x 48"
24"x 18"



HILL
W7-1 30"x 30"
24"x 18"
W7-1-A 48"x 48"
24"x 18"



USE LOW
GEAR
W7-2 24"x 18"



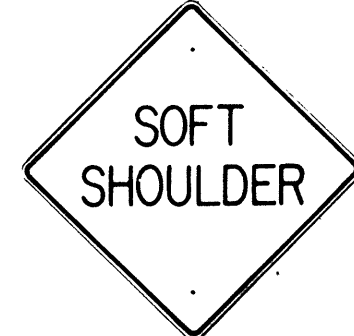
BUMP
W8-1 30"x 30"
W8-1-A 36"x 36"
W8-1-B 48"x 48"



DIP
W8-2 30"x 30"
W8-2-A 36"x 36"
W8-2-B 48"x 48"



PAVEMENT
ENDS
W8-3 30"x 30"
W8-3-A 36"x 36"



SOFT
SHOULDER
W8-4 30"x 30"
W8-4-A 36"x 36"



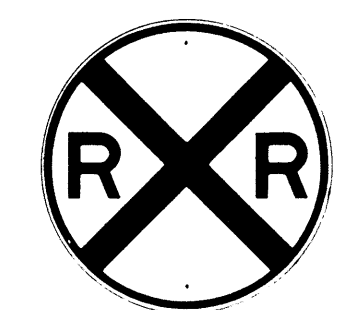
SLIPPERY
WHEN WET
W8-5 30"x 30"
24"x 18"
W8-5-A 36"x 36"
24"x 18"



RIGHT
LANE
ENDS
W9-1(R) 30"x 30"
W9-1(R)-A 36"x 36"
W9-1(R)-B 48"x 48"



LANE ENDS
MERGE
LEFT
W9-2(L) 36"x 36"
W9-2(L)-A 48"x 48"



W10-1 36" Diameter



BIKE
XING
W11-1 30"x 30"
24"x 18"
W11-1-A 36"x 36"
24"x 18"
W11-1-B 48"x 48"



PED
XING
W11A-2 30"x 30"
24"x 18"
W11A-2-A 36"x 36"
24"x 18"
W11A-2-B 48"x 48"
24"x 18"



CATTLE
XING
W11-4 30"x 30"
24"x 18"
W11-4-A 36"x 36"
24"x 18"
W11-4-B 48"x 48"



FARM
MACHINERY
W11-5 30"x 30"
24"x 18"
W11-5-A 36"x 36"
24"x 18"
W11-5-B 48"x 48"



DEAD
END
W14-1 30"x 30"
W14-1-A 36"x 36"



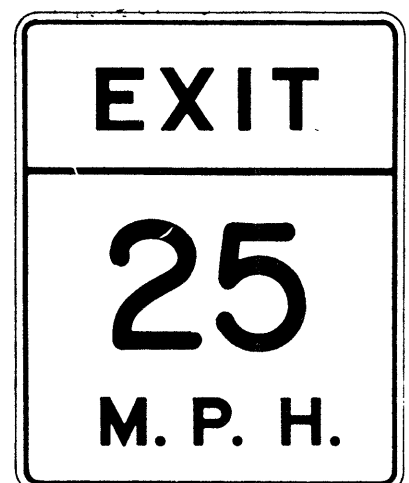
NO
PASSING
ZONE
W14-3 36"x 48"x 48"
W14-3-A 48"x 64"x 64"



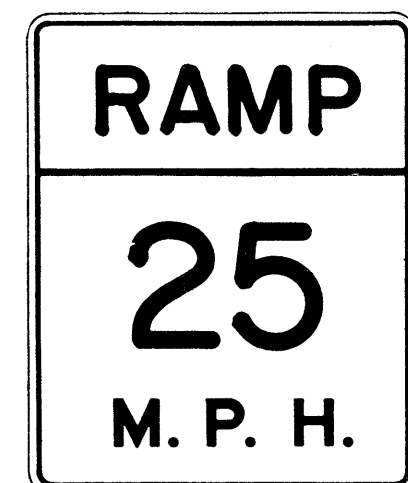
LOW
CLEARANCE
W12-2(12'-6") 36"x 36"
24"x 18"
W12-2(12'-6") 48"x 48"



25
M.P.H.
W13-1(25) 18"x 18"
W13-1(25)-A 24"x 24"



W13-2(25) 48"x 60"



W13-3(25) 48"x 60"

GENERAL NOTES

- Sign details shall conform to the latest editions of FHWA publications, "Manual on Uniform Traffic Control Devices for Streets and Highways", "Standard Alphabet for Highway Signs", and "Standard Highway Signs", and as amended.
- All warning signs shall be reflectorized unless otherwise specified.
- All warning 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.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

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

APPROVED:
Walter Dalsin 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/72
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 5	MA	9-16-75
4	Revised General Note 5	H.T.	9-14-76
5	Added Note 1	H.T.	11-7-79
6	Revised Signs & General Note 1	E.T.	9/13/85

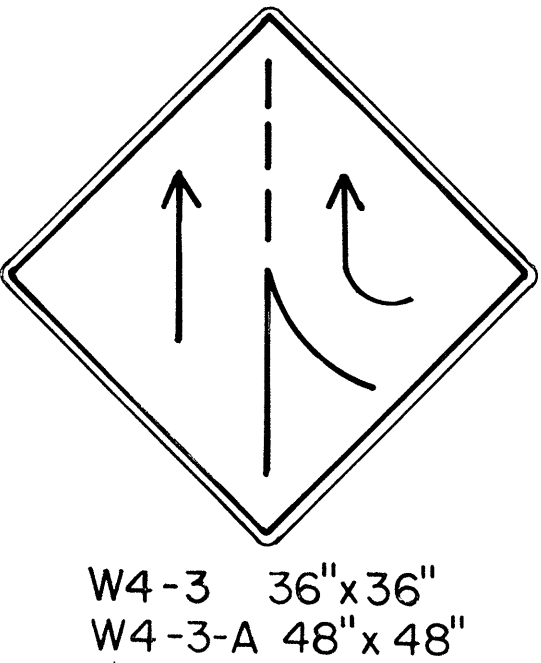
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS	
WARNING SIGNS	
NOT TO SCALE	

SHEET No. OF SHEETS DT 102

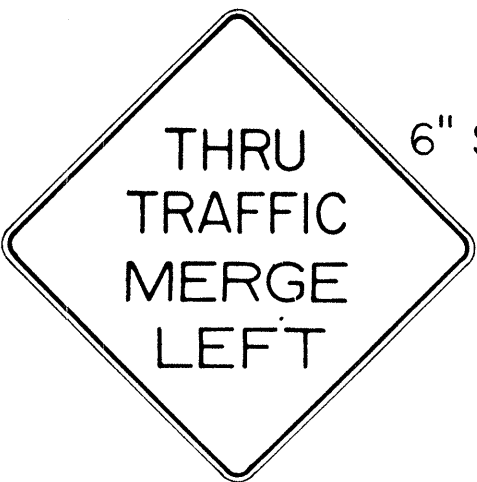
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	32	40

General Notes

1. Sign details shall conform to the latest editions of the following FHWA publications:
- a. "Standard Alphabets for Highway Signs," and as amended.
 - b. "Standard Highway Signs," and as amended.
 - c. "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
2. All signs shall be reflectorized with reflective sheeting, unless otherwise specified.
3. All signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicate 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, and shall be reflectorized with reflective sheeting.
6. All signs shall be erected without educational plaques unless called for in the plans.



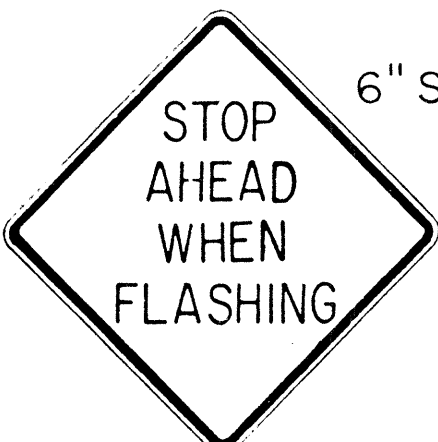
W4-3 36"x36"
W4-3-A 48"x48"



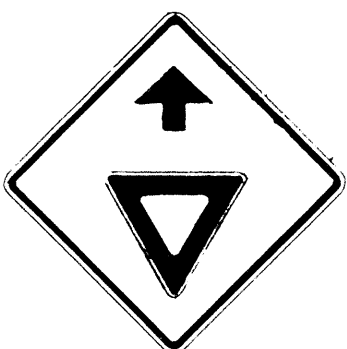
W9-3(L) 48"x48"



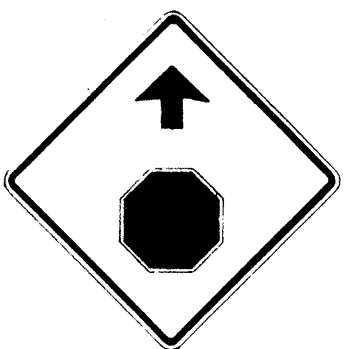
W8-6 30"x30"
W8-6-A 36"x36"
W8-6-B 48"x48"



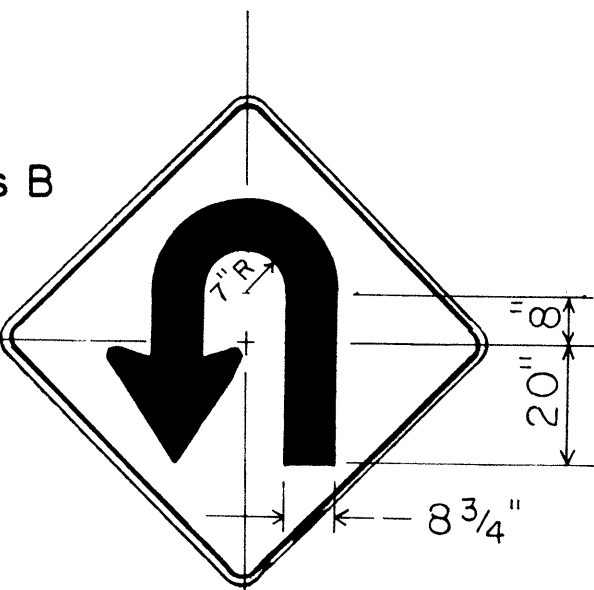
W3-4 48"x48"



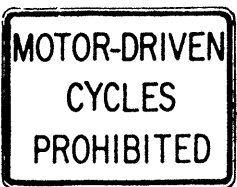
W3-2a 36"x36"
24"x18"
W3-2a-A 48"x48"
24"x18"



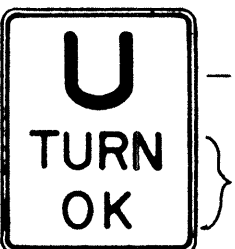
W3-1a 36"x36"
24"x18"
W3-1a-A 48"x48"
24"x18"



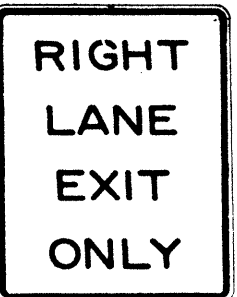
W17-1(L) 60"x60"



R5-8 30"x24"



R16-7 24"x30"



W18-1 48"x60"



CW16-1(1/2) 60"x60"



W15-2 24"x24"



W15-1 24"x24"



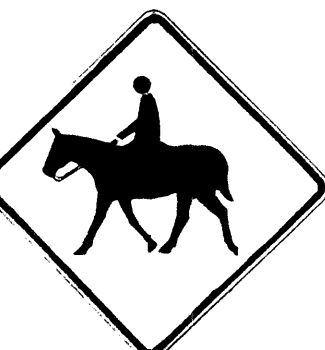
W14-4 36"x36"
W14-4-A 48"x48"



W11-9 36"x36"
W11-9-A 48"x48"



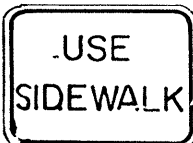
W11-8 36"x36"
24"x18"
W11-8-A 48"x48"
24"x18"



W11-7 36"x36"
24"x18"
W11-7-A 48"x48"
24"x18"



CW23-4 48"x48"



R18-1 24"x18"



S4-3 24"x8"



S4-4 24"x10"



S4-1 24"x10"



S4-2 24"x10"



S3-1 30"x30"
S3-1-A 36"x36"



S2-1 36"x36"
S2-1-A 48"x48"



SI-1 36"x36"
SI-1-A 48"x48"



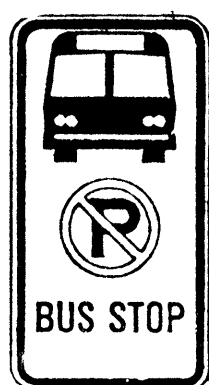
R9-3a 18"x18"
18"x12"
R9-3a-A 24"x24"
24"x18"



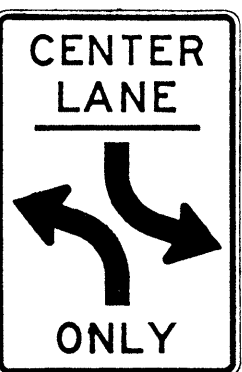
R8-3a 24"x24"
24"x18"
R8-3a-A 48"x48"



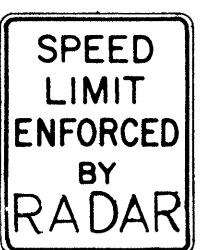
R7-8 12"x18"
R7-8-A 24"x30"



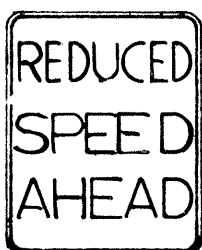
R7-107 12"x24"



R3-9b 24"x36"



R2-10 24"x30"



R2-5a 24"x30"
R2-5a-A 48"x60"



R1-4 18"x6"

APPROVAL RECOMMENDED:
Eushi Tanaka 5/2/78
TRAFFIC ENGINEER DATE

APPROVED:
Robert Z. Zakeish 5/3/78
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT103 approved 3/20/72	H.T.	5/3/78
2	Added General Note 6	H.T.	11/9/78
3	Revised Signs and added Sign W4-3	E.T.	9/18/80

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS	
MISCELLANEOUS SIGNS	
NOT TO SCALE	DATE: MAY, 1978
SHEET NO. OF	SHEETS DT 103

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	33	40



CW20-1a 48" x 48"



CW20-2d 48" x 48"



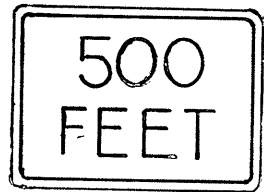
CW20-3b 48" x 48"



CW20-4d 48" x 48"



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



CW20-7c 36" x 36"
24" x 18"
CW20-7c-A 48" x 48"
24" x 18"



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"



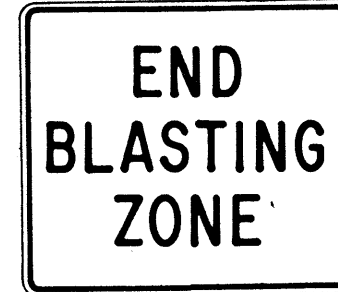
CW21-6 30" x 30"



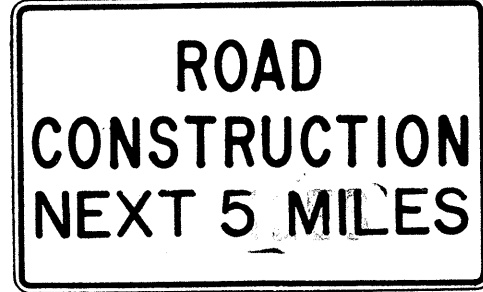
CW22-1b 48" x 48"



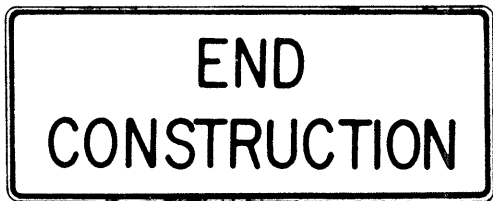
CW22-2 42" x 36"



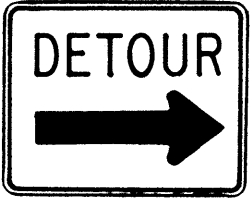
CW22-3 42" x 36"



CG20-1(5) 60" x 36"



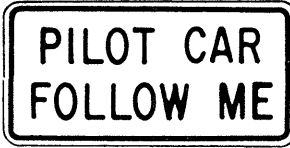
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



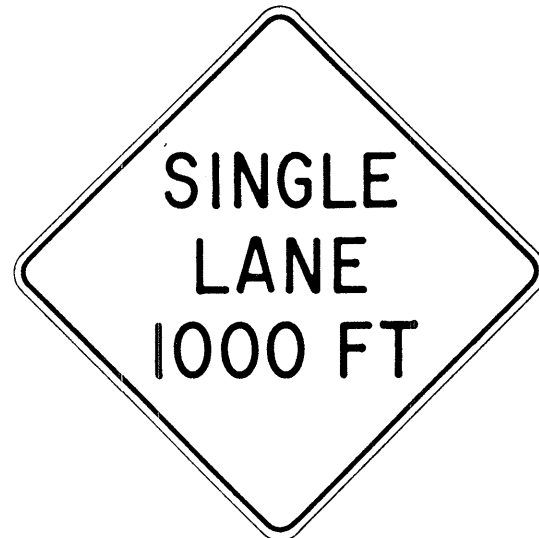
CM4-10(R) 48" x 18"



CG20-4 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 latest editions of FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," "Standard Alphabets for Highway Signs," and "Standard Highway Signs," and as amended.
- All construction signs shall be reflectorized.
- 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:
Erich Tanaka
TRAFFIC ENGINEER

3/21/72
DATE

APPROVED:
Hubert R. Sisk
ASSISTANT CHIEF, ENGINEERING

3/23/72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	3/25/72
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 2	H.T.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76
5	Revised General Note 1 and sign CW20-7c	E.T.	9/18/85

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS CONSTRUCTION SIGNS

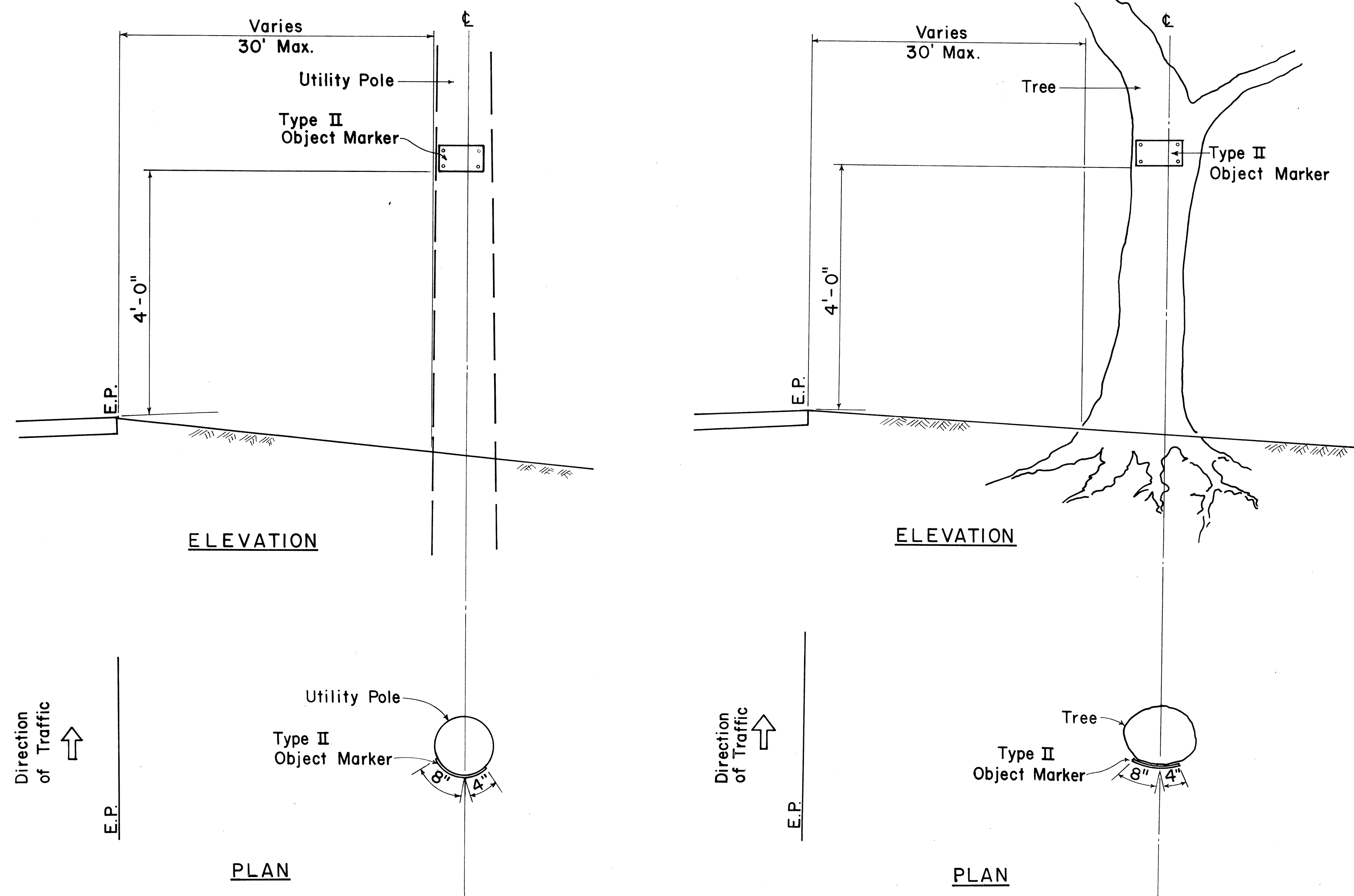
NOT TO SCALE

SHEET No. OF SHEETS DT 104

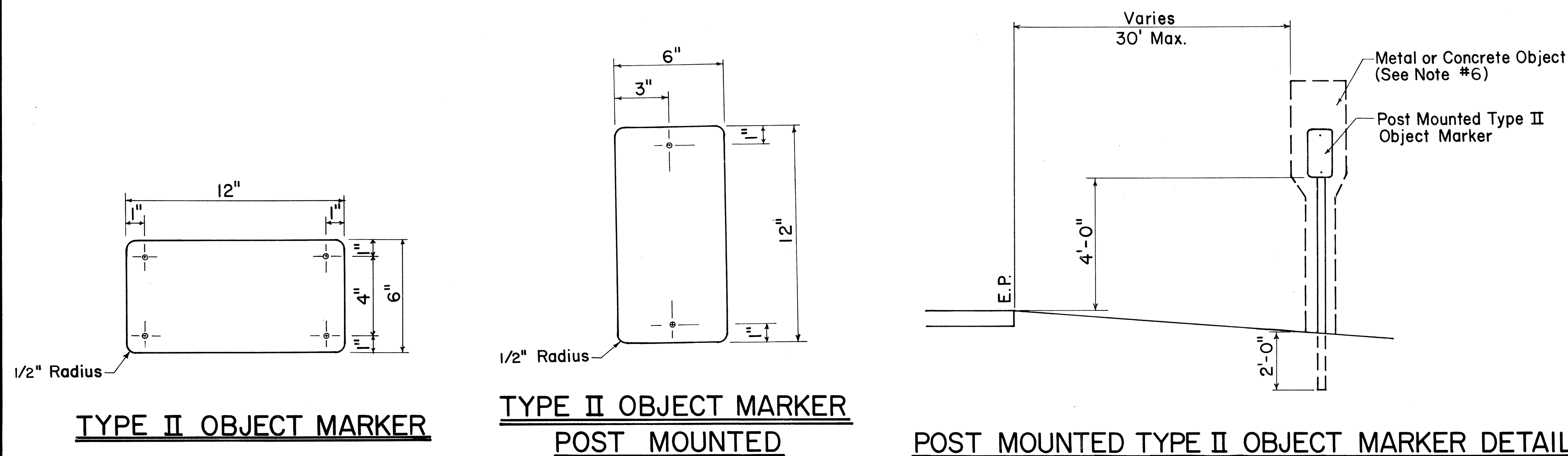
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	35	40

GENERAL NOTES

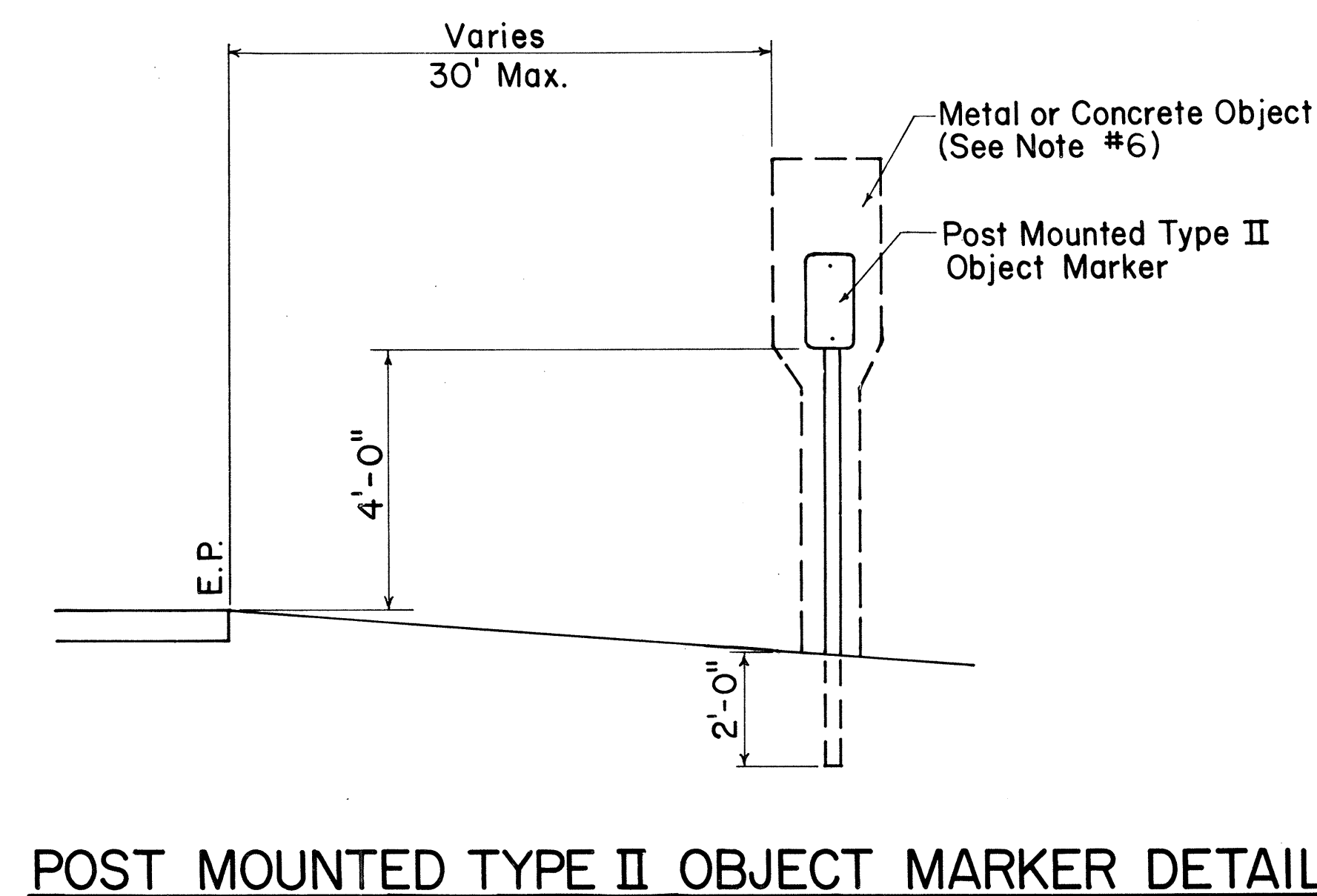
- All objects (utility poles or trees) that are within the State highway right of way and within 30 feet of the roadway edge of pavement shall be marked as directed by the Engineer.
- The Contractor shall prepare the mounting surface of each object as directed by the Engineer and place the Type II Object Marker as shown on this plan.
- Type II Object Markers shall be mounted on utility poles and trees with 1 3/4" galv. roofing nails (4 ea.).
- Branches of trees which obscure the object markers shall be trimmed. (Payment shall be incidental to Type II Object Markers as shown in the proposal).
- Type II Object Markers for utility poles and trees, etc., shall be made of amber reflective sheeting material overlayed on 0.020" aluminum sheeting.
- Objects such as concrete posts, concrete or rock walls and boxes, metal posts (greater than 2" in diameter), or metal boxes shall be marked with post mounted object markers. Post mounted Type II Object Markers shall conform to the following requirements:
 - It shall consist of amber reflective sheeting material overlayed on 0.063" thick sheet aluminum backing of the dimensions shown on the plans.
 - It shall be mounted on either metal posts or flexible delineator posts with 1/4"x2" galv. bolts, nuts and washers. Metal posts shall be galvanized and shall be either 1 1/2"x1 1/2", 12 gage square tube posts or 1.12 lbs. per ft. flanged channel posts.



TYPICAL TYPE II OBJECT MARKER MOUNTING DETAIL



TYPE II OBJECT MARKER
POST MOUNTED



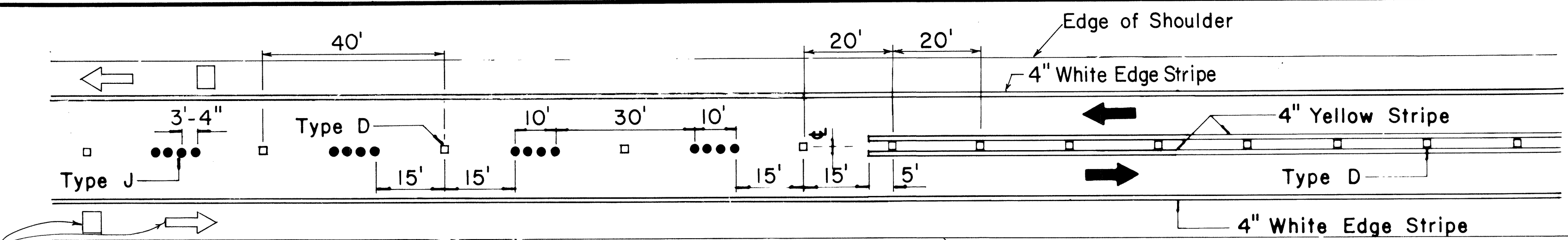
POST MOUNTED TYPE II OBJECT MARKER DETAIL

APPROVAL RECOMMENDED:
Eishi Tanaka 3/30/83
 TRAFFIC ENGINEER DATE
 APPROVED:
S. J. Jiyama 3-31-83
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

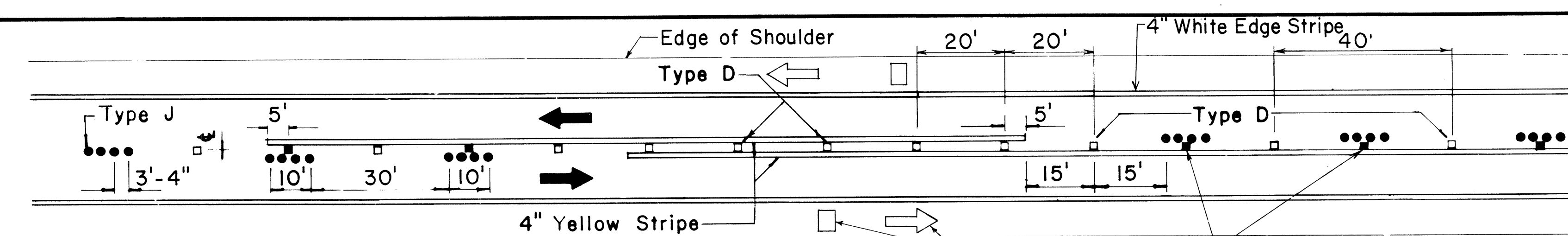
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STANDARD DETAILS TYPE II OBJECT MARKERS	
Scale: Not to scale	Date: March 1983
SHEET NO. 35	OF SHEETS DT III

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	36	40



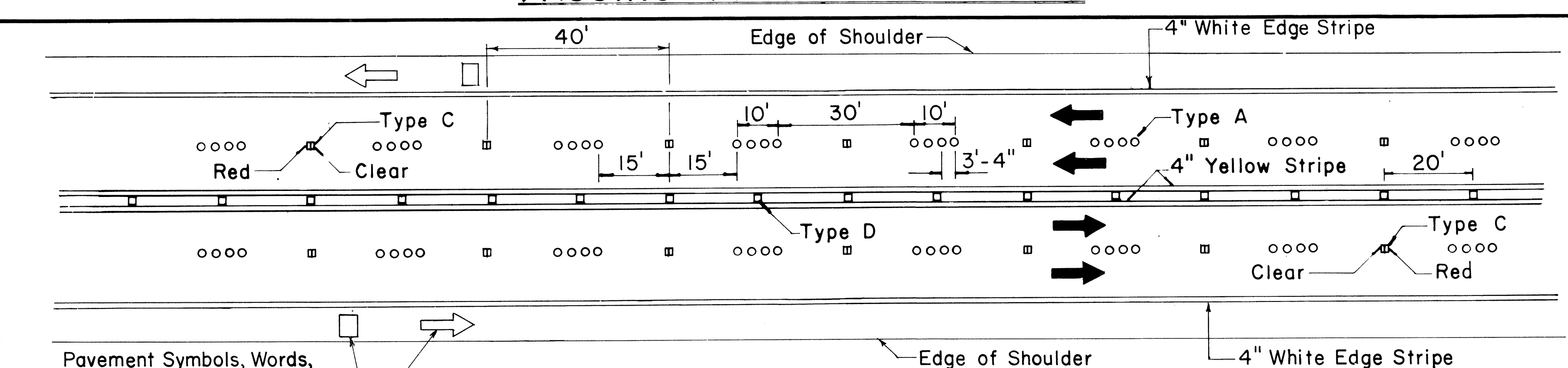
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

PASSING PERMITTED AND PASSING PROHIBITED

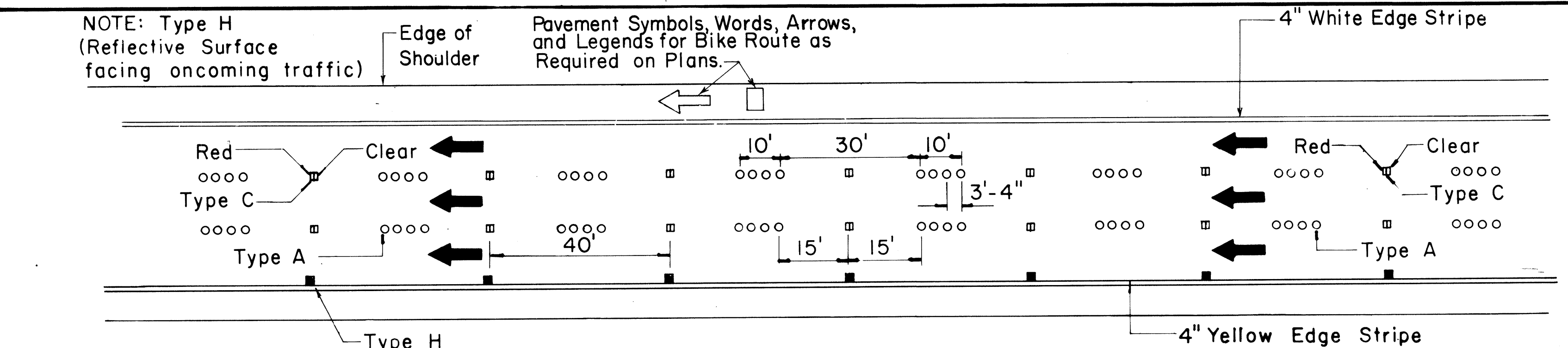


Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

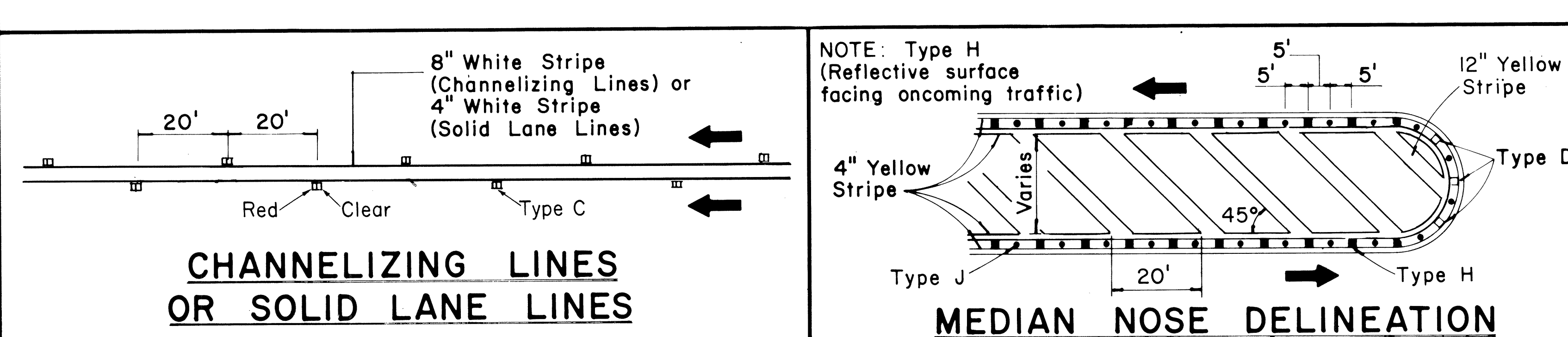
PASSING PROHIBITED ZONES



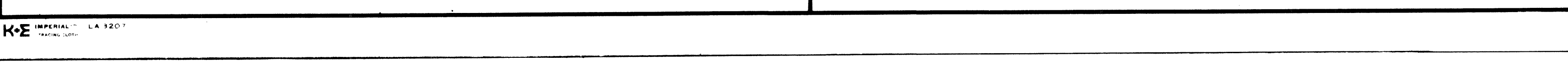
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.



NOTE: Type H (Reflective Surface facing oncoming traffic)



NOTE: Type H (Reflective Surface facing oncoming traffic)



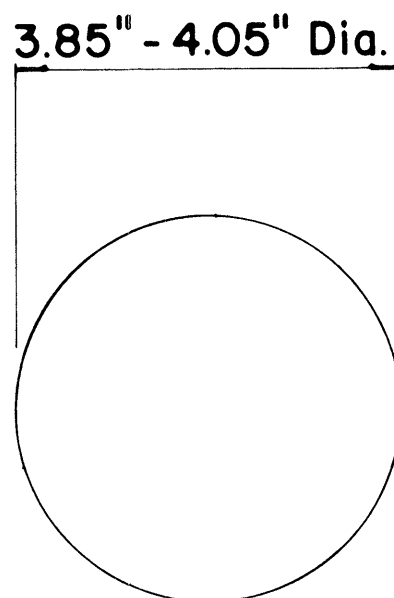
NOTE: Type H (Reflective Surface facing oncoming traffic)

TWO - LANE

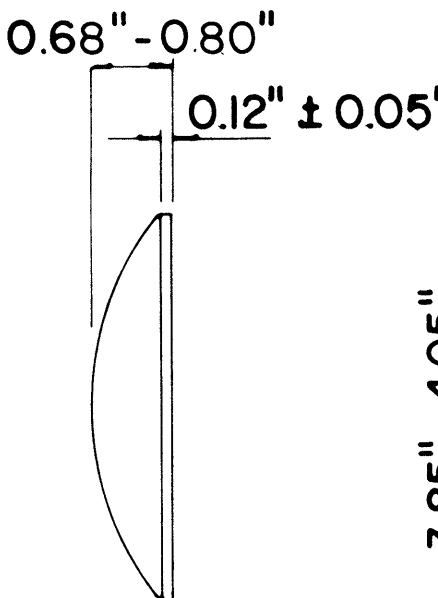
MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

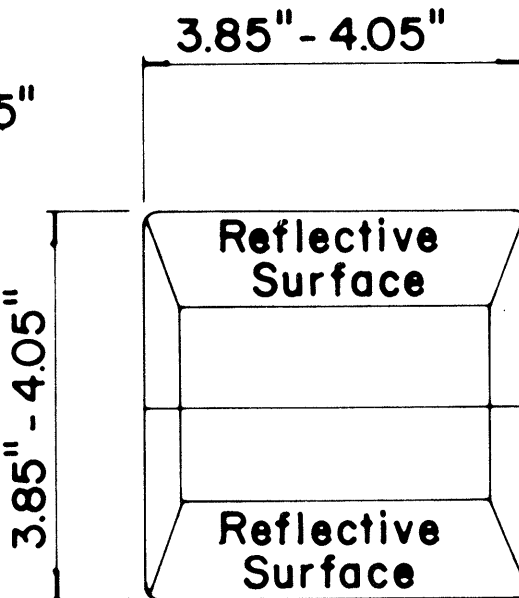
MISCELLANEOUS



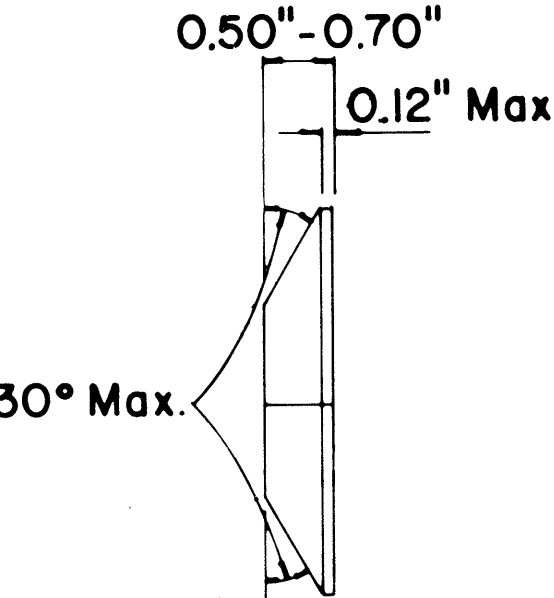
TYPE A
NON - REFLECTIVE WHITE MARKER



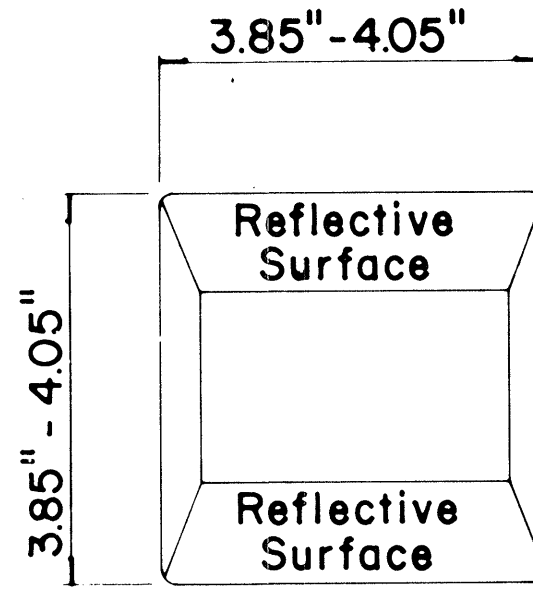
TYPE J
NON - REFLECTIVE YELLOW MARKER



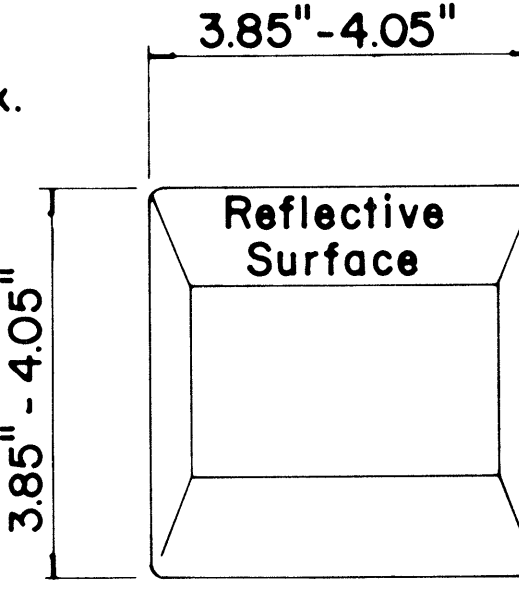
TYPE C
RED - CLEAR REFLECTIVE MARKER



TYPE H
ONE - WAY YELLOW REFLECTIVE MARKER



TYPE D
TWO - WAY YELLOW REFLECTIVE MARKER



GENERAL NOTES

- Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.
- Edge lines shall not be continued through intersections and shall not be broken for driveways unless otherwise shown or directed.

LEGEND

- Type A
- Type C
- Type D
- Type H
- Type J

APPROVAL RECOMMENDED:

Erick Tanaka 7/21/78
TRAFFIC ENGINEER DATE

APPROVED:

Herbert J. DeKish 7/24/78
ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Supersedes DT 300 approved 11/18/71.	H.T.	7/24/78
2	Delete Type A Markers from Bike Route Delineation.	H.T.	10/15/79
3	Added General Note 3. Revised left edge stripe.	H.T.	9-28-83
4	Revised Channelizing Lines or Solid Lane Lines.	H.T.	9/18/85

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS RAISED PAVEMENT MARKERS AND STRIPING

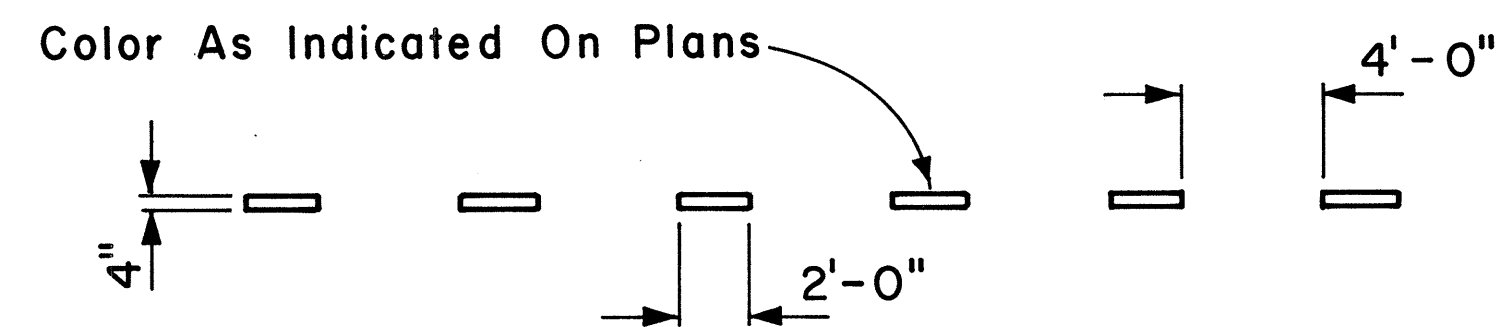
Not to Scale July 1978

SHEET No. OF SHEETS DT 300

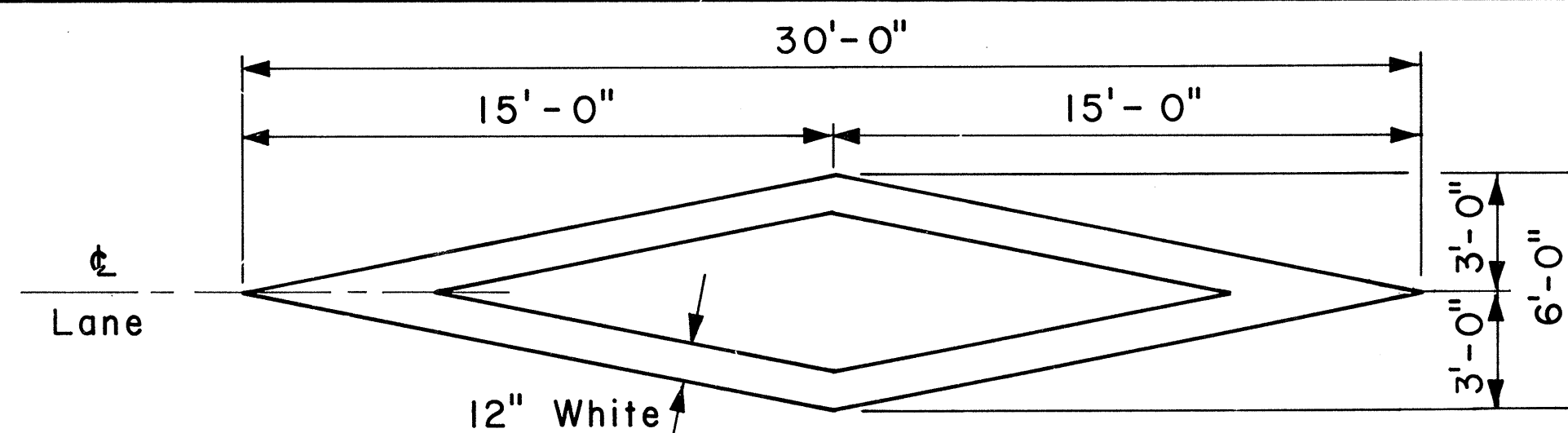
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	37	40

GENERAL NOTES:

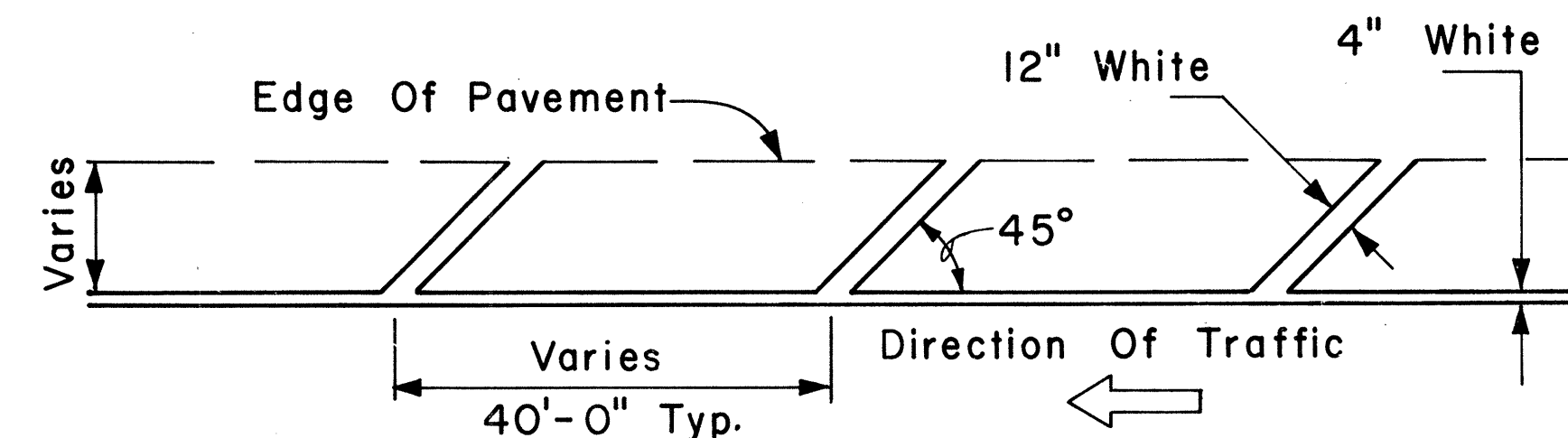
1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.



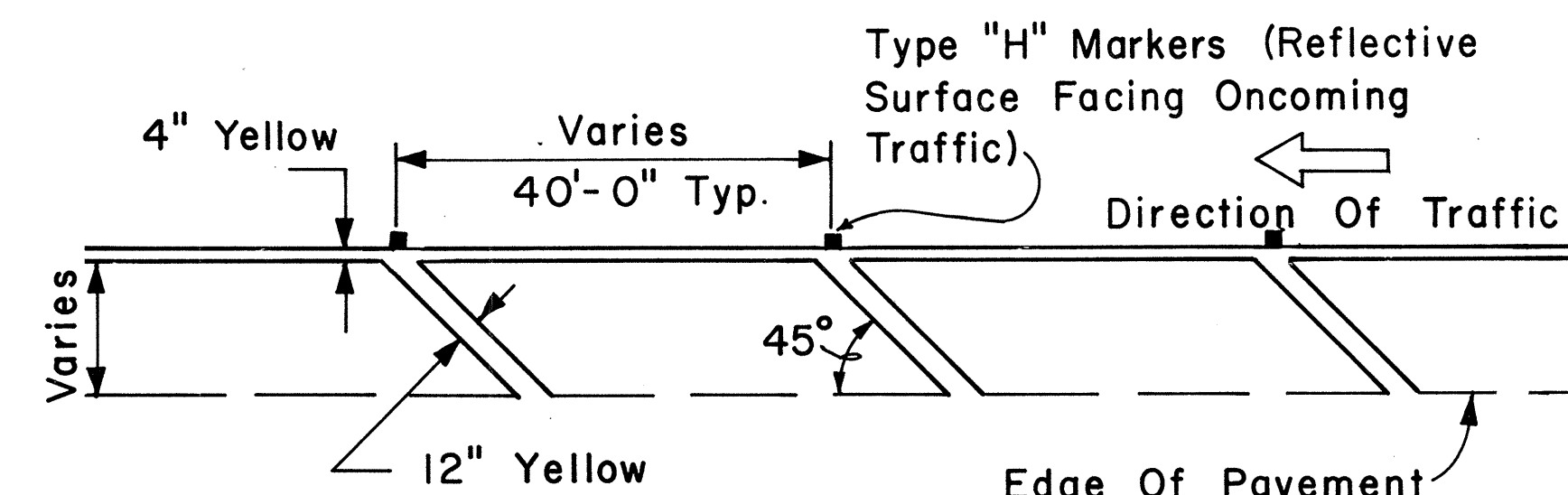
4" GUIDE LINE



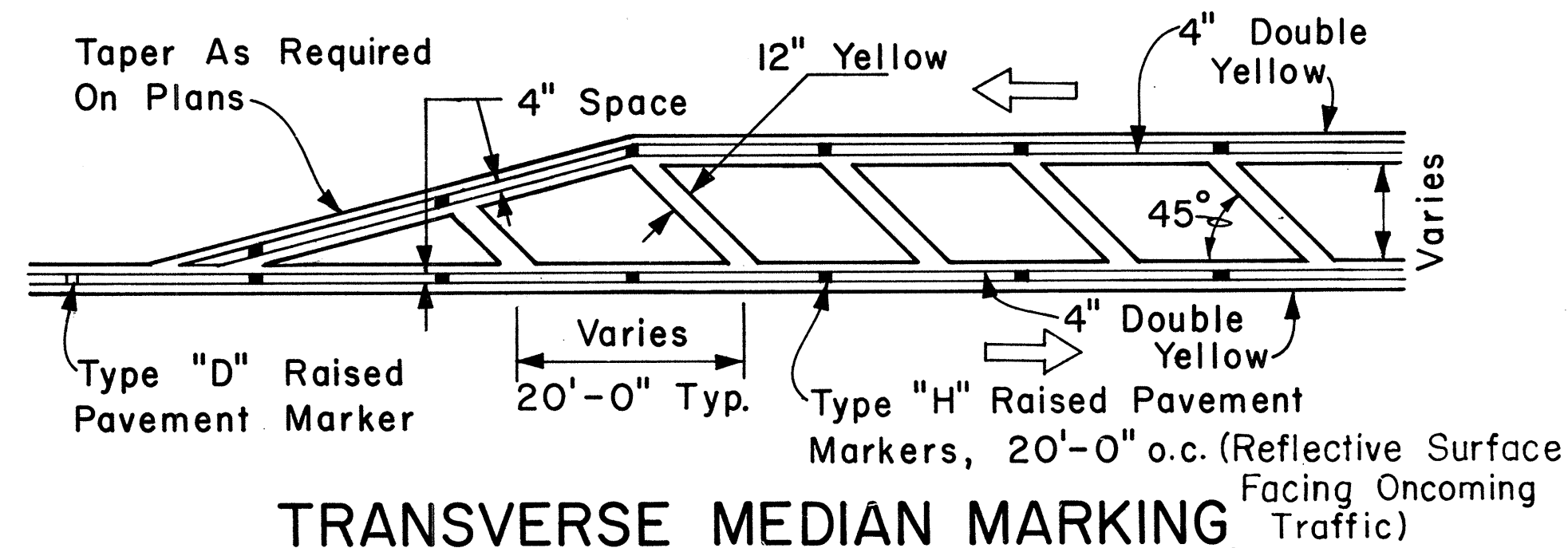
PAVEMENT DIAMOND



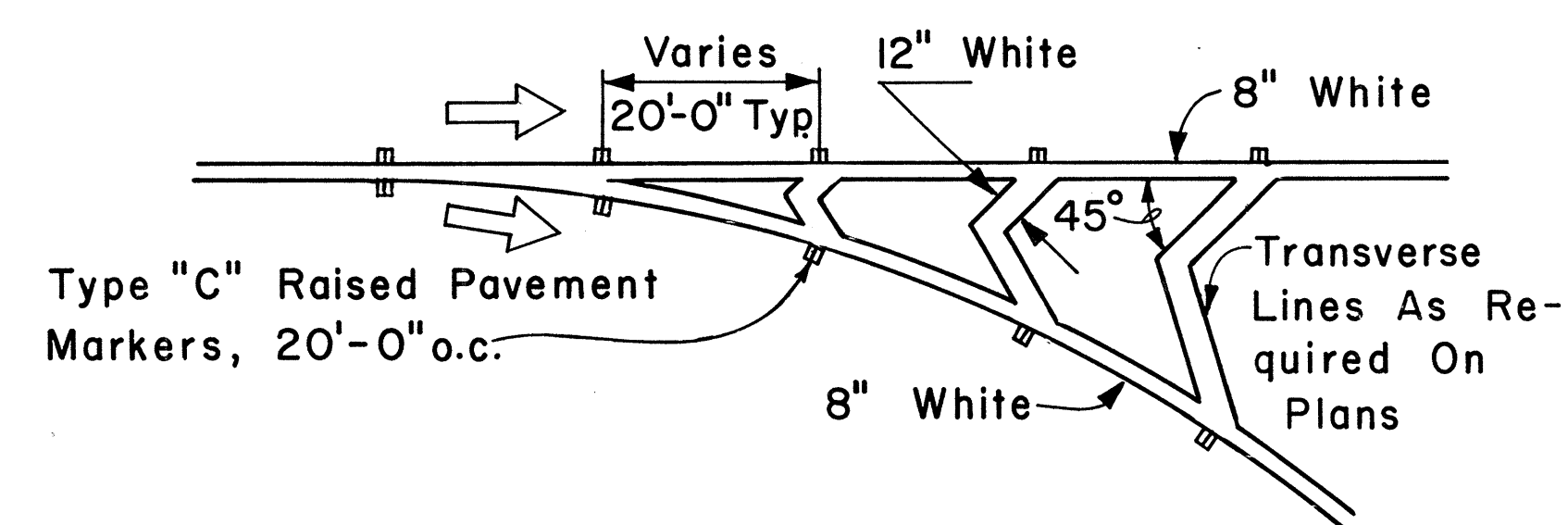
TRANSVERSE RIGHT SHOULDER MARKING



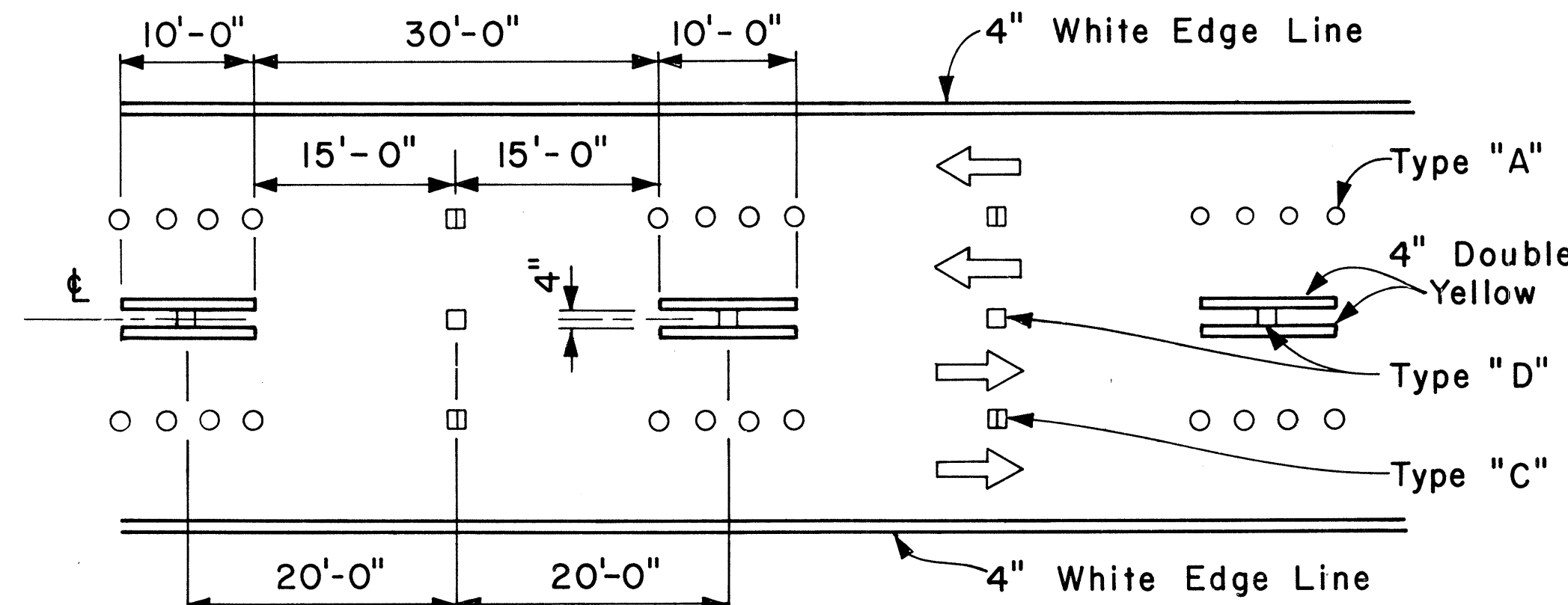
TRANSVERSE LEFT SHOULDER MARKING



TRANSVERSE MEDIAN MARKING

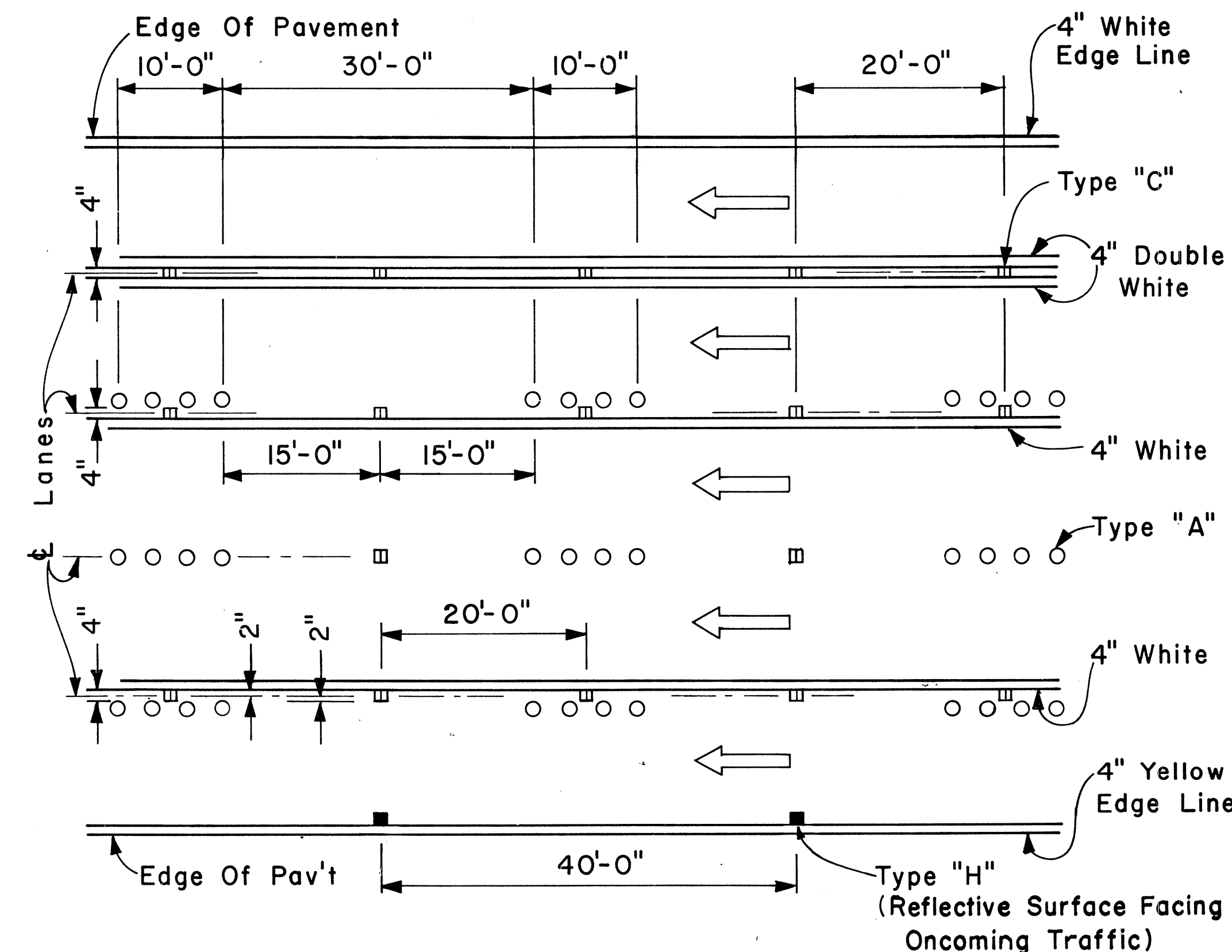


CHANNELIZING ISLAND



NOTE: Traffic Cone Usage Required.

MULTI-LANE REVERSIBLE LANES



MULTI-LANE LANE CHANGE RESTRICTION ZONES

APPROVAL RECOMMENDED:
Eishi Tanaka 5/2/78
TRAFFIC ENGINEER DATE

APPROVED:
Herbert Z. Zakeish 5/2/78
ASSISTANT CHIEF, ENGINEERING DATE

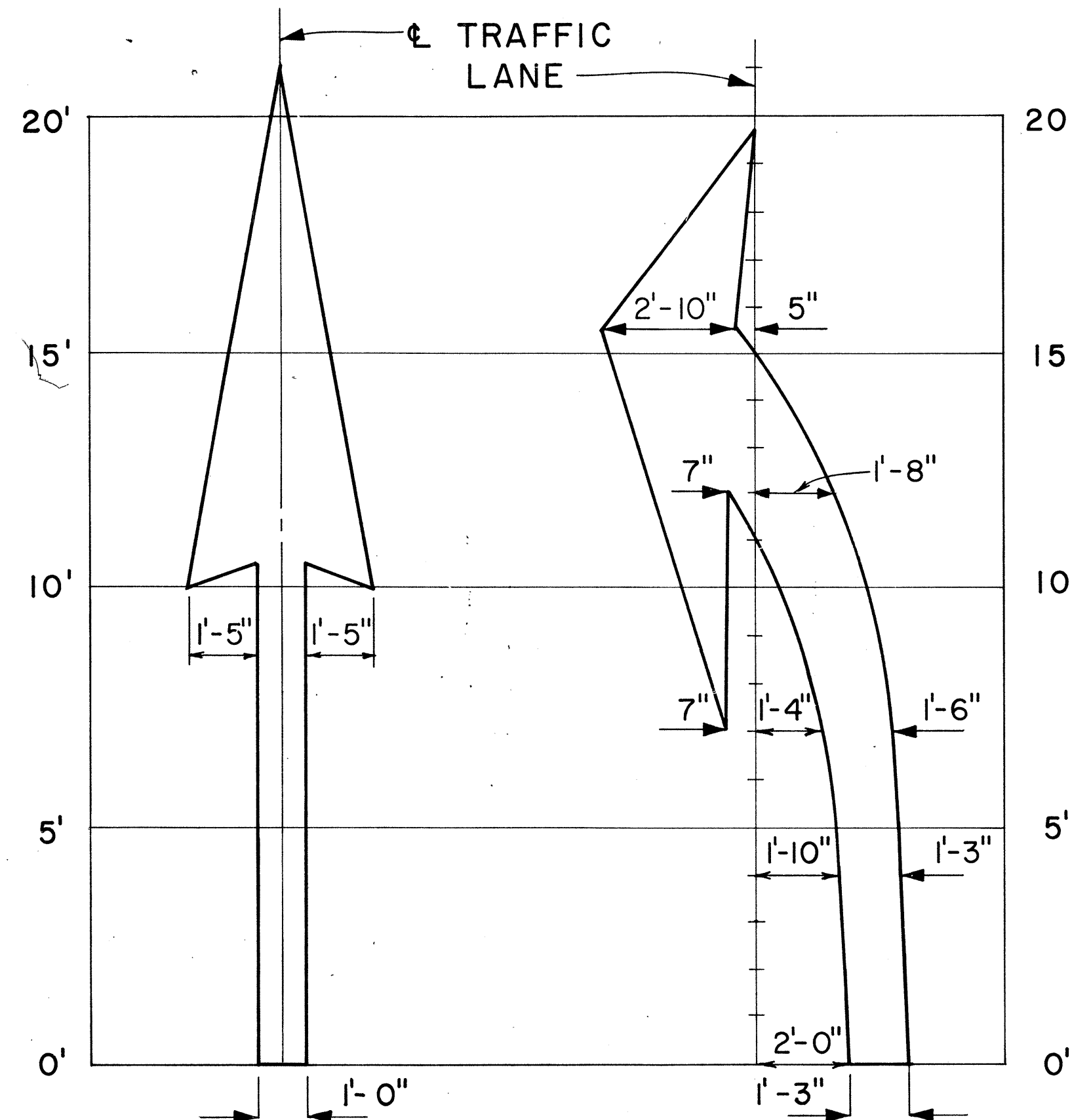
NO.	REVISION	APPROVED BY	DATE
1	Revised Transverse left Shoulder Marking, Channelizing Island & Lane Change Restriction Zones.	<i>E.T.</i>	7/8/78

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
MISCELLANEOUS PAVEMENT MARKINGS
Scale: Not to Scale Date: April, 1978
SHEET NO. OF SHEETS DT 302

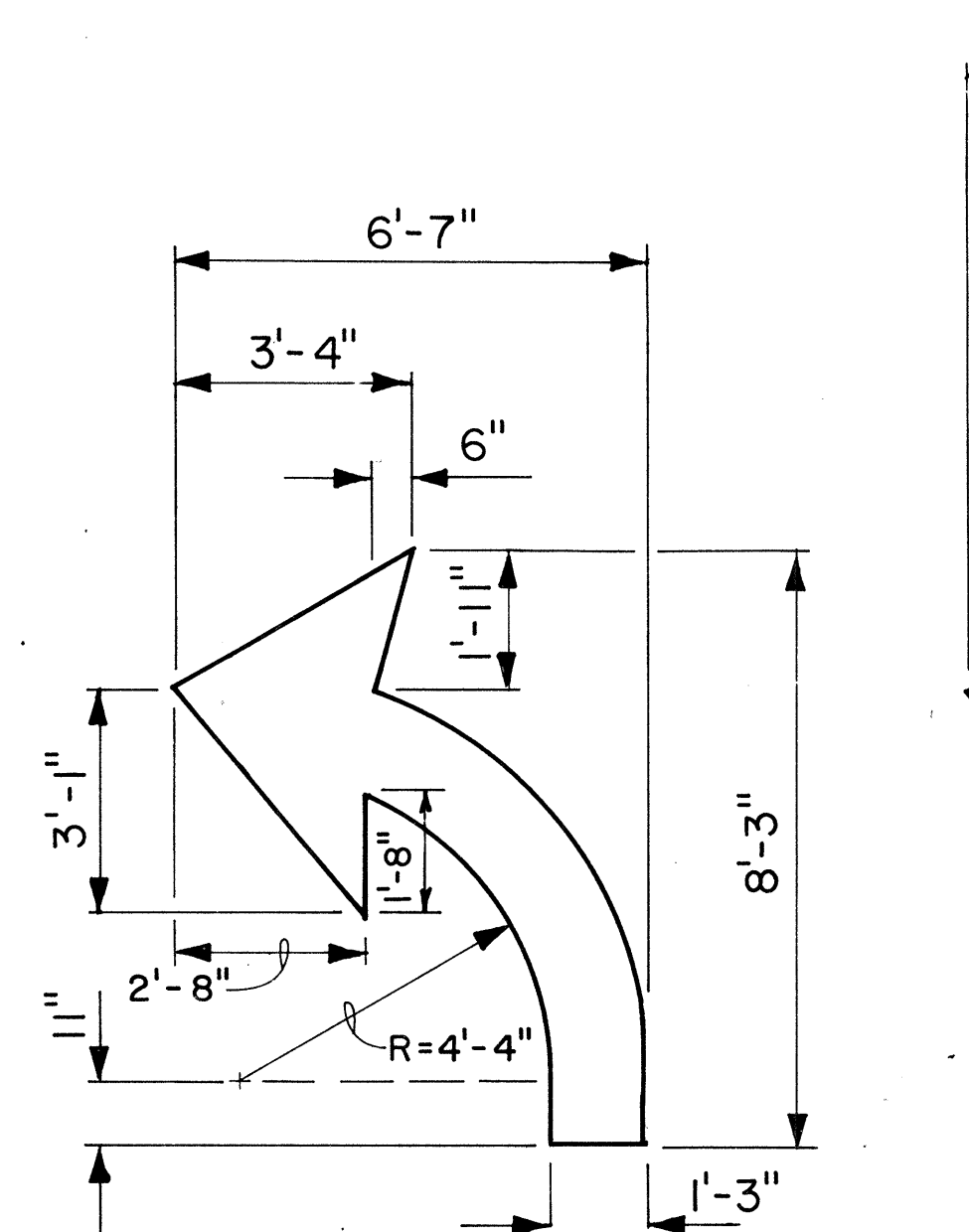
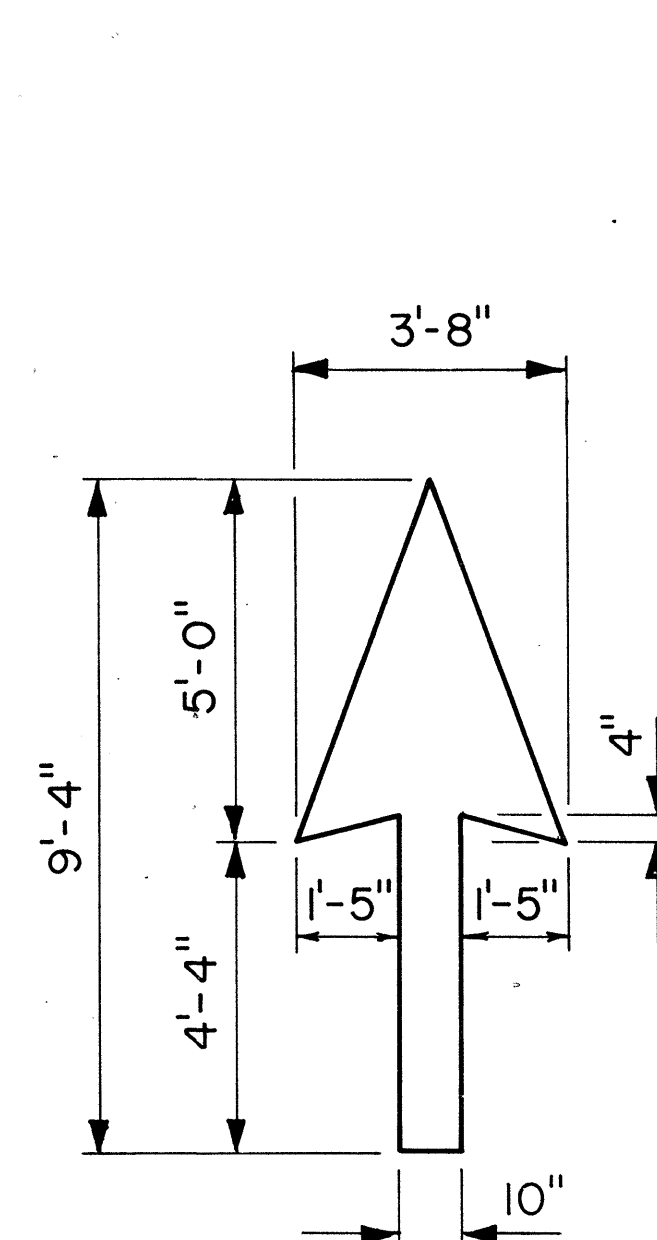
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	38	40

GENERAL NOTES:

1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.



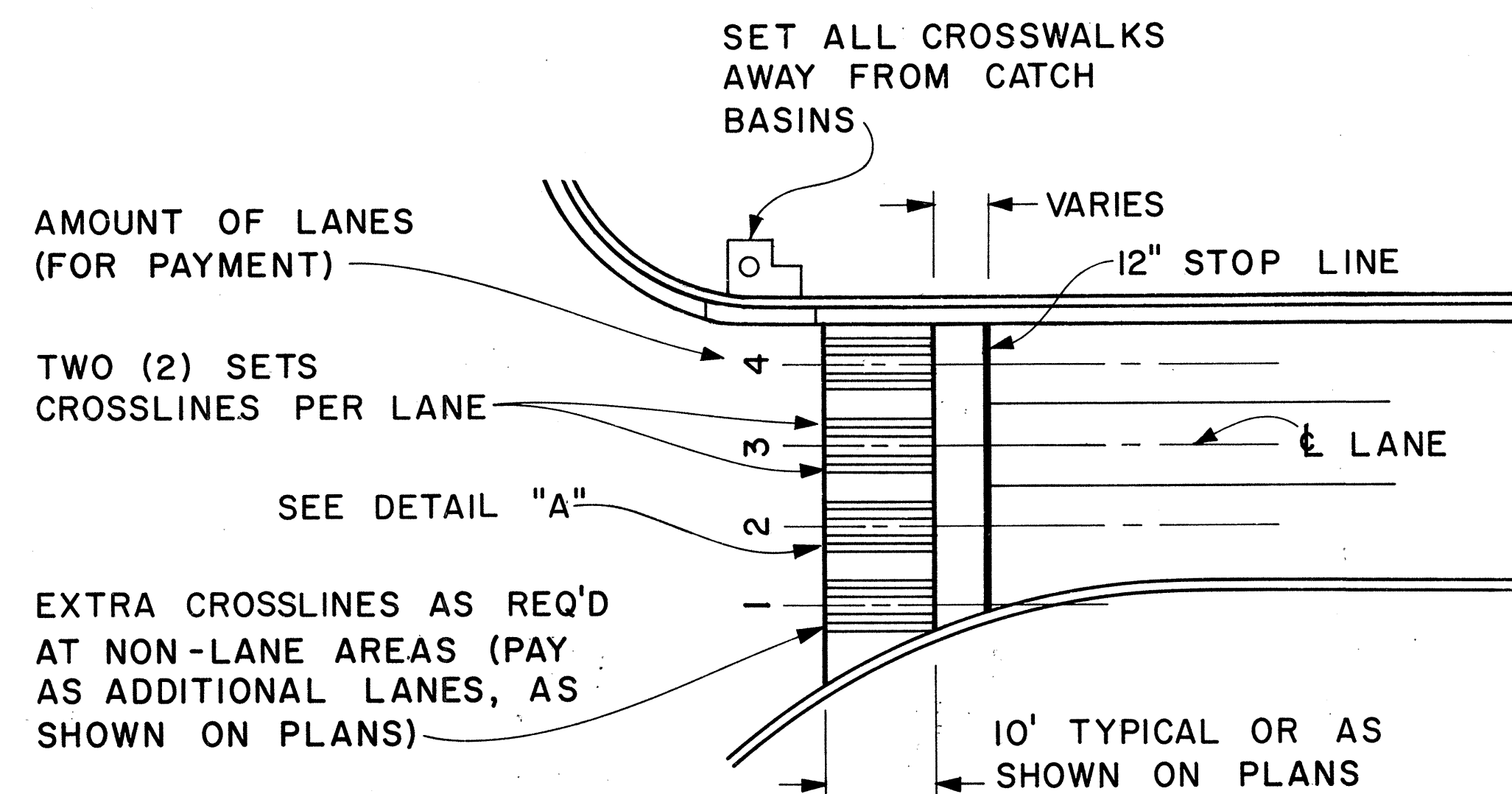
ELONGATED



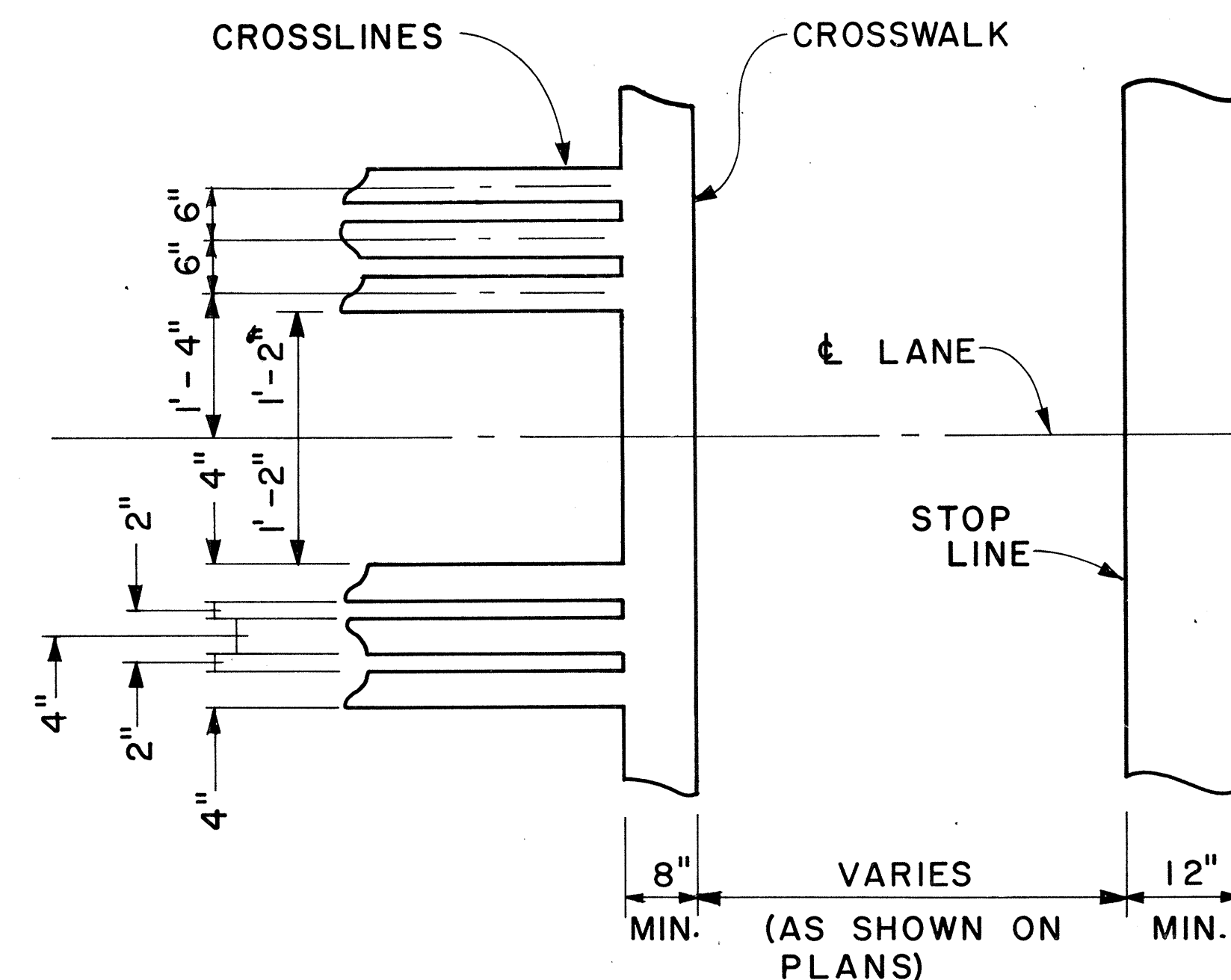
STANDARD

PAVEMENT ARROWS

Scale: 3/8" = 1'



PLAN



DETAIL "A"

CROSSWALK & STOP LINE

Scale: Not to Scale

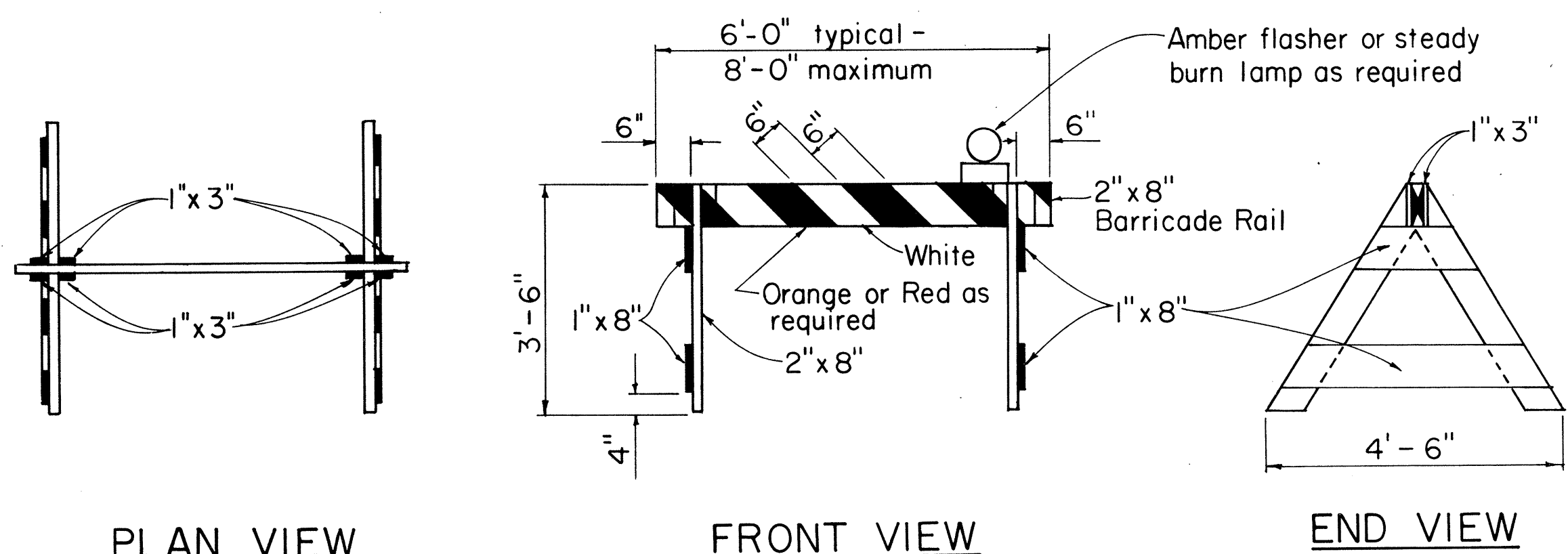
APPROVAL RECOMMENDED: *Erich Tanaka* 5/2/78
TRAFFIC ENGINEER DATE

APPROVED: *Harvey S. Delaune* 5/2/78
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
MISCELLANEOUS
PAVEMENT MARKINGS
Scale: As Shown Date: March, 1978
SHEET No. OF SHEETS DT 306

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	39	40



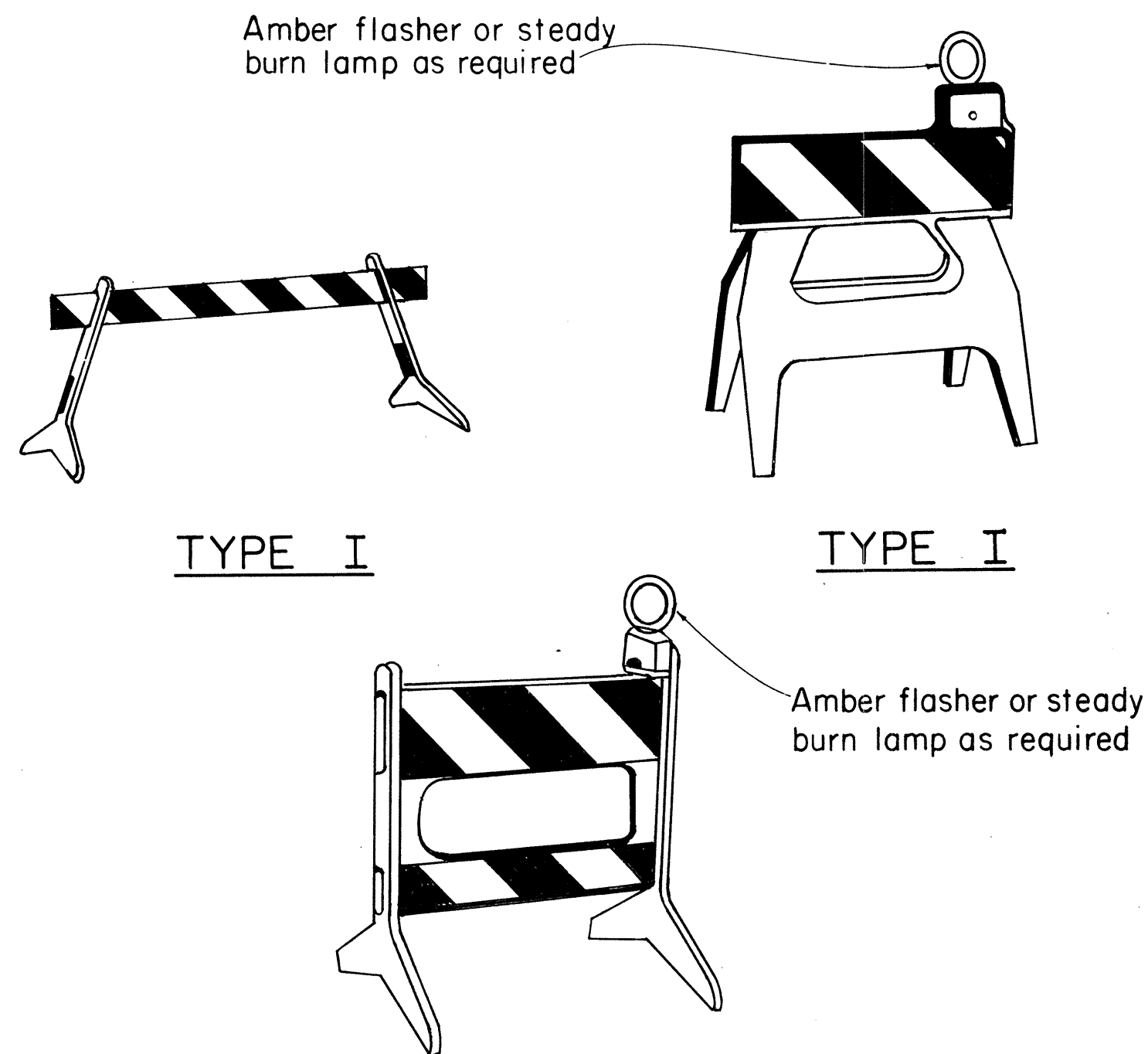
PLAN VIEW

FRONT VIEW

END VIEW

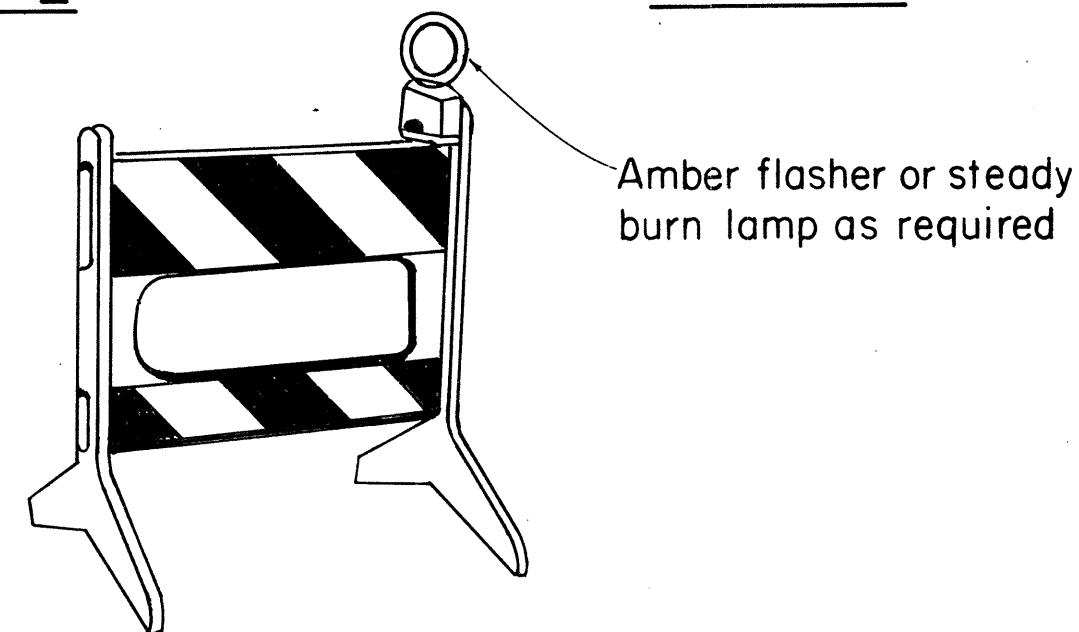
TYPE I BARRICADE

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



TYPE I

TYPE I

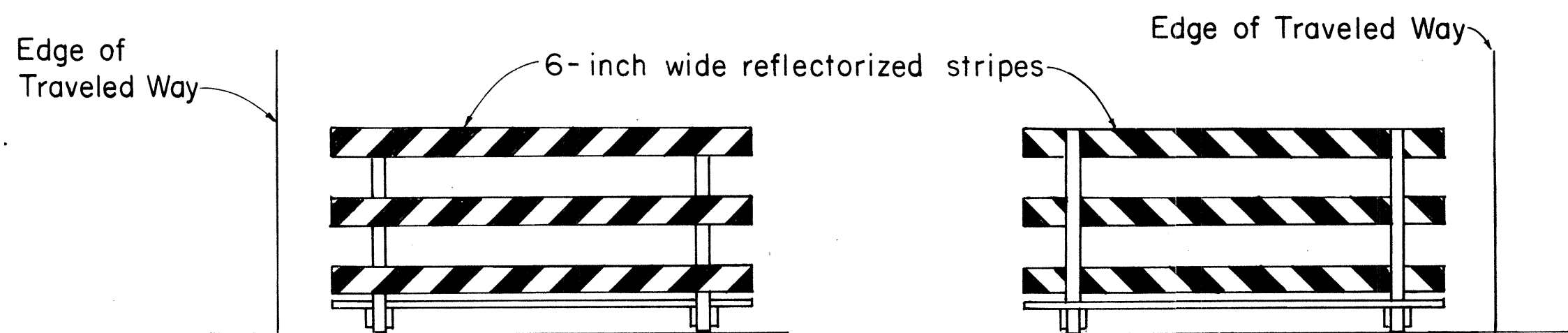


TYPE II

PLASTIC MOLDED BARRICADE OPTIONS*

Not to Scale

* Shop Drawings must be submitted for approval.



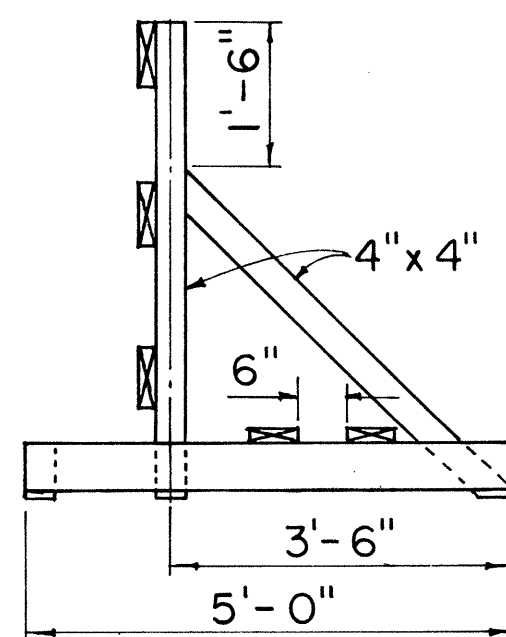
FRONT FACE

BACK FACE

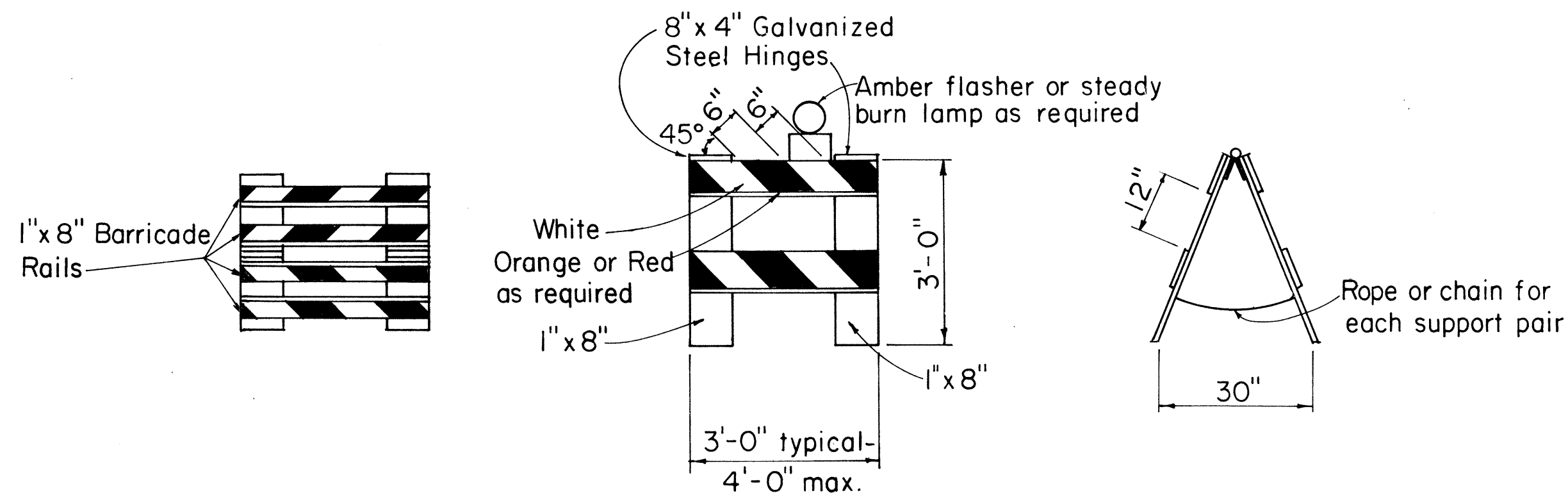
TYPICAL BARRICADE STRIPING DETAILS**

Not to Scale

** Similar for Types I & II



END VIEW



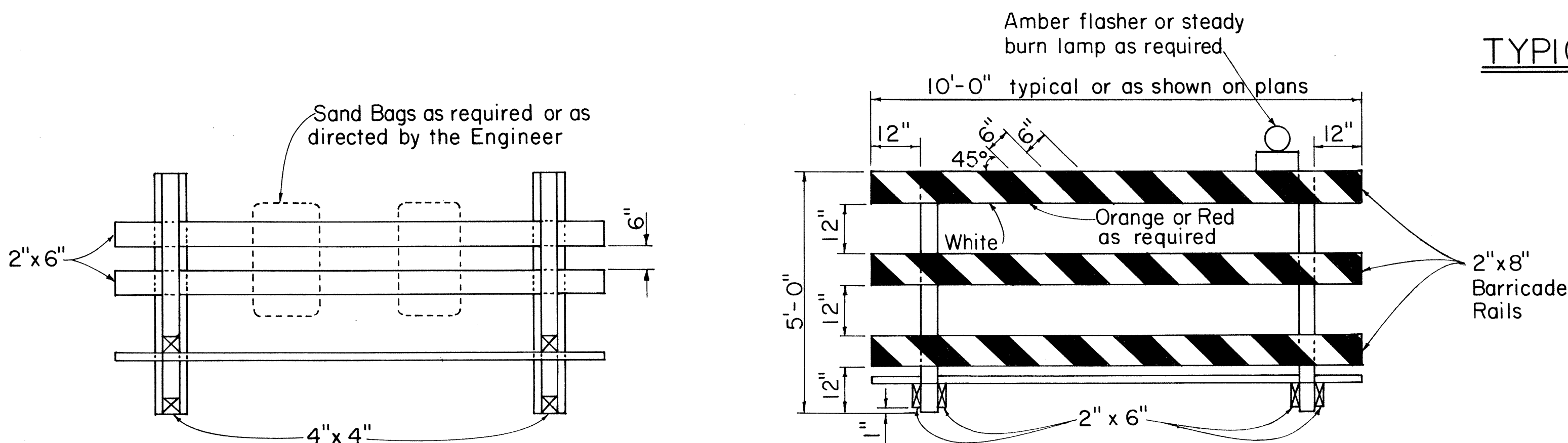
PLAN VIEW

FRONT VIEW

END VIEW

TYPE II BARRICADE

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



PLAN VIEW

FRONT VIEW

TYPE III BARRICADE

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

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER

10/21/81
DATE

APPROVED:

Harold S. S. S. S.
ASSISTANT CHIEF, ENGINEERING

10/23/81
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supercedes DT 800 Approved 12/30/69	H.T.	10/23/81

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

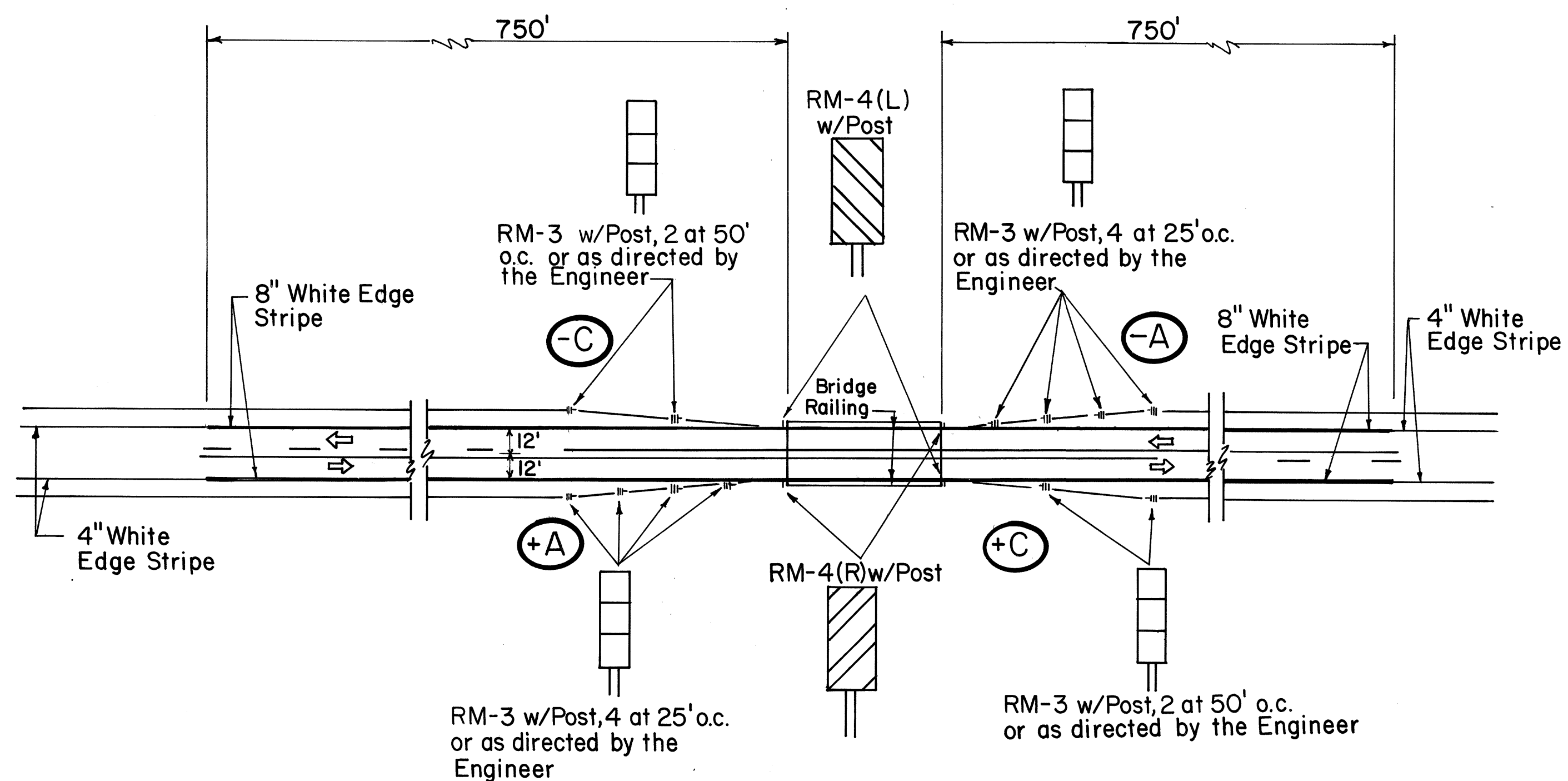
STANDARD DETAILS

BARRICADES

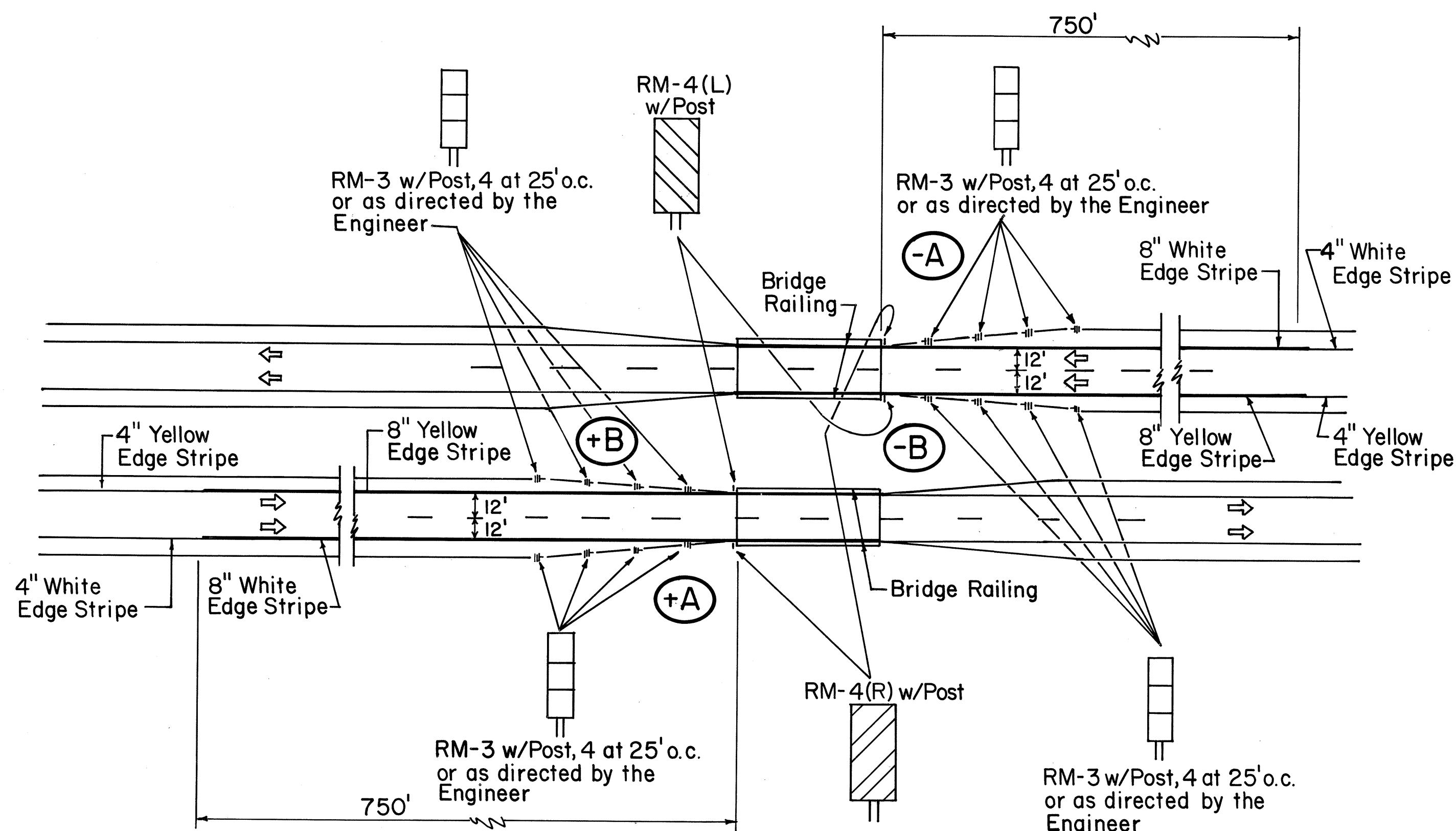
SCALE: As Shown

SHEET NO. OF SHEETS DT 800

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	83C-01-86M	1986	40	40

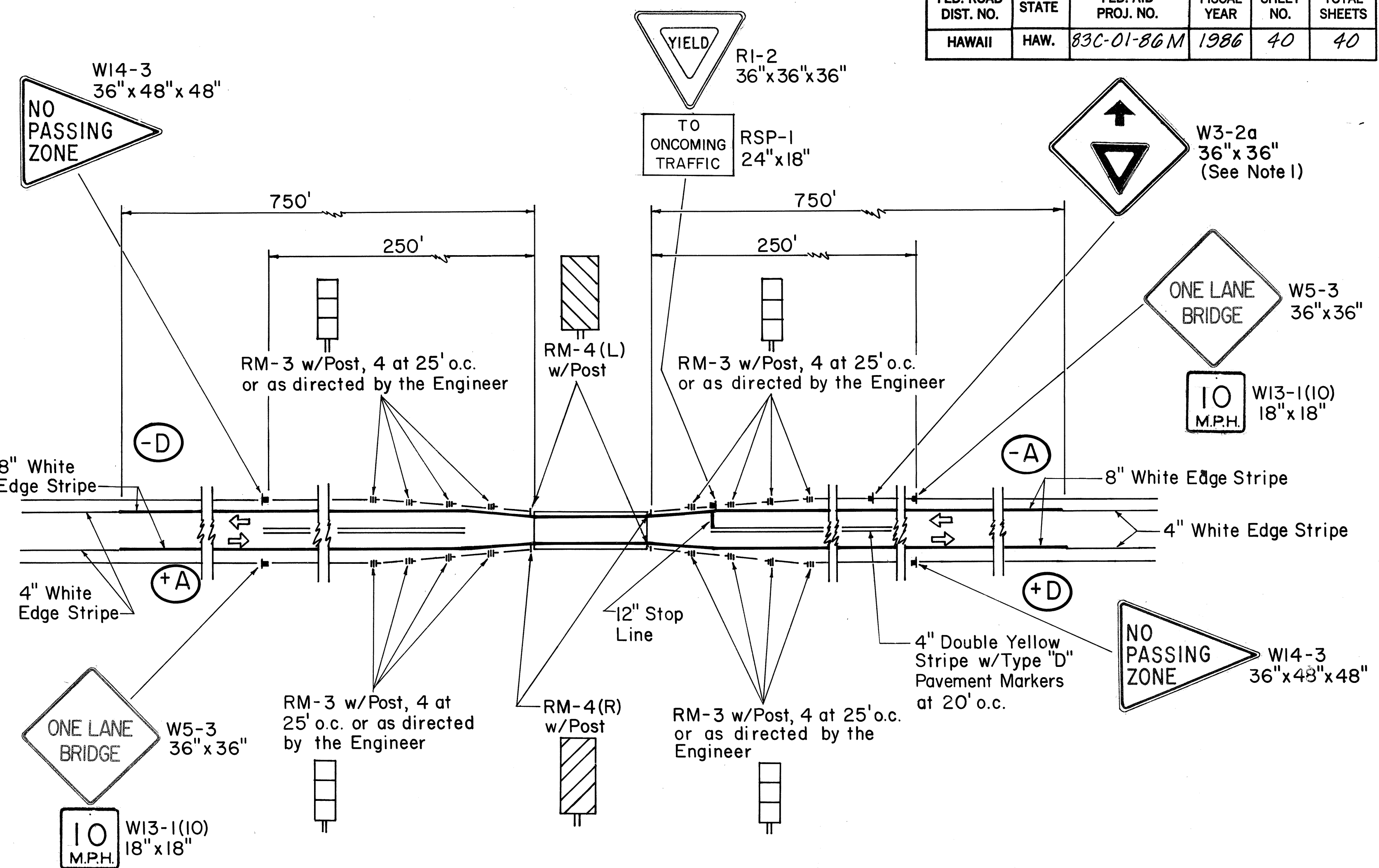


UNDIVIDED HIGHWAY



DIVIDED HIGHWAY

TYPICAL NARROW BRIDGE DELINEATION



TYPICAL ONE LANE BRIDGE DELINEATION

NOTES:

1. YIELD AHEAD sign (W3-2a) shall be installed only on approaches to a YIELD sign (R1-2) that is not visible for a sufficient distance to permit a driver to bring his vehicle to a stop at the YIELD sign. Final location will be determined in the field by the Engineer.
2. Stop line and YIELD signs shall be installed on the approach that has the longer or better sight distance. Final location will be determined in the field by the Engineer.
3. Signs shall be spaced a minimum of 125 feet apart in the same direction of traffic.

LEGEND

- ➡ Direction of traffic
- + Increasing Log Miles
- Decreasing Log Miles
- +A Type of reflector marker treatment

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TYPICAL DELINEATION AND
PAVEMENT MARKINGS AT BRIDGES

Scale: N.T.S.

SHEET No. OF SHEETS