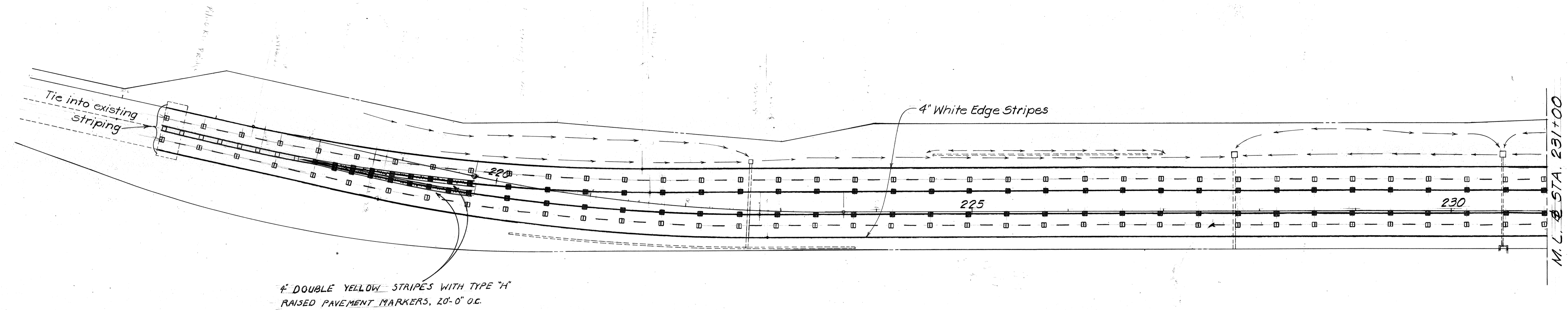
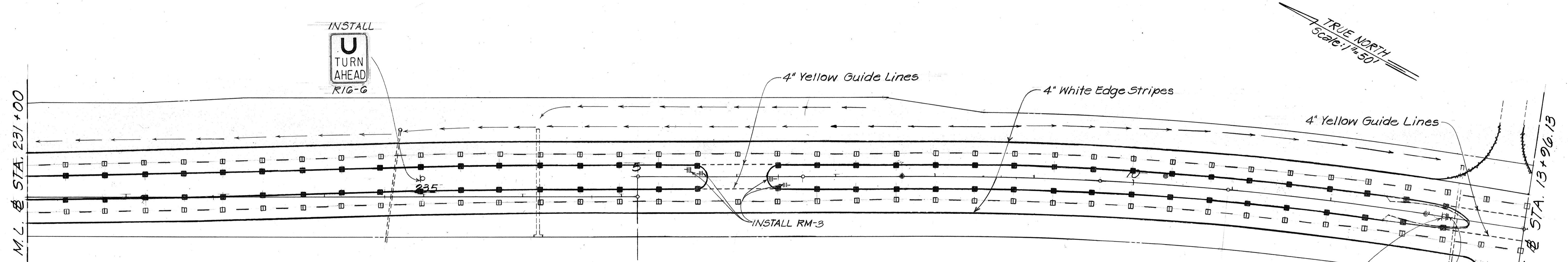


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	31	51

TRUE NORTH
Scale: 1"=50'



4" DOUBLE YELLOW STRIPES WITH TYPE "H" RAISED PAVEMENT MARKERS, 20'-0" O.C.



TRUE NORTH
Scale: 1"=50'

- LEGEND**
- 4 EACH TYPE "A" RAISED PAVEMENT MARKERS
 - TYPE "C" RAISED PAVEMENT MARKERS
 - 8" WHITE STRIPE WITH TYPE "C" RAISED PAVEMENT MARKERS, 20'-0" O.C.
 - 4" DOUBLE YELLOW STRIPES WITH TYPE "D" RAISED PAVEMENT MARKERS, 20'-0" O.C.
 - 4" YELLOW STRIPE WITH TYPE "H" RAISED PAVEMENT MARKERS, 20'-0" O.C.
 - CROSSWALK (TAPE) & STOP LINE (ALL STOP LINES SHALL BE 10'-0" FROM CROSSWALKS UNLESS OTHERWISE NOTED).
 - PAVEMENT ARROW (TAPE)

GENERAL NOTES

1. LOCATIONS OF ALL NEW PAVEMENT MARKINGS SHALL BE STAKED OUT BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION.
2. EXISTING PAVEMENT MARKINGS NOT INCORPORATED IN THE FINAL TRAFFIC PATTERN SHALL BE REMOVED AS DIRECTED BY THE ENGINEER. COSTS SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS.
3. RAISED PAVEMENT MARKERS SHALL NOT BE PLACED WITHIN CROSSWALKS.
4. THE FINAL LOCATIONS OF ALL SIGNS SHALL BE APPROVED BY THE ENGINEER.
5. EXISTING SIGNS NOT SHOWN ON THESE PLANS SHALL REMAIN AS POSTED UNLESS OTHERWISE DIRECTED BY THE ENGINEER.



INSTALL RM-3 DELETED

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

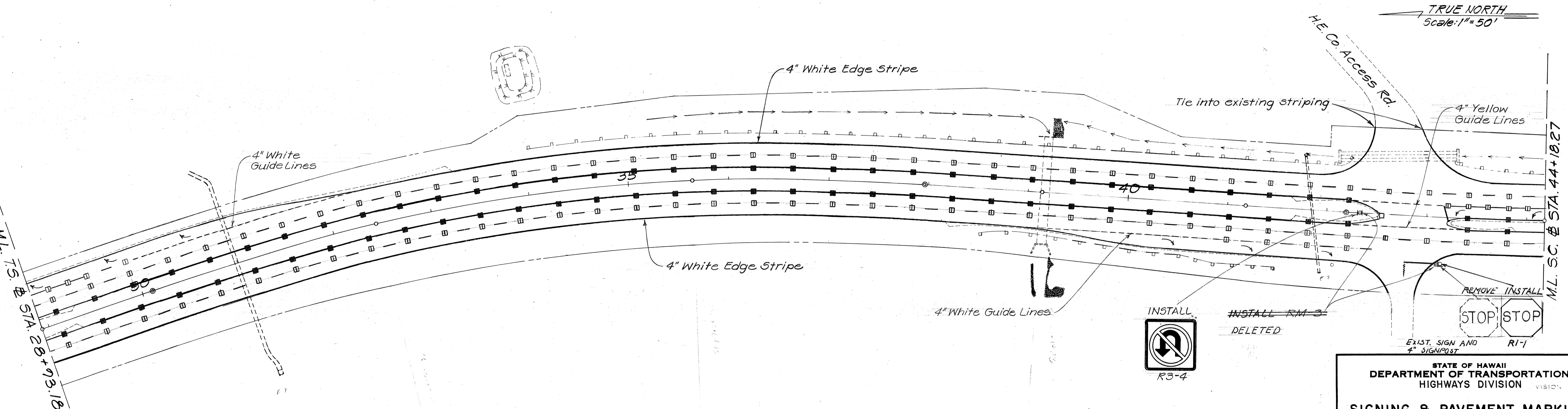
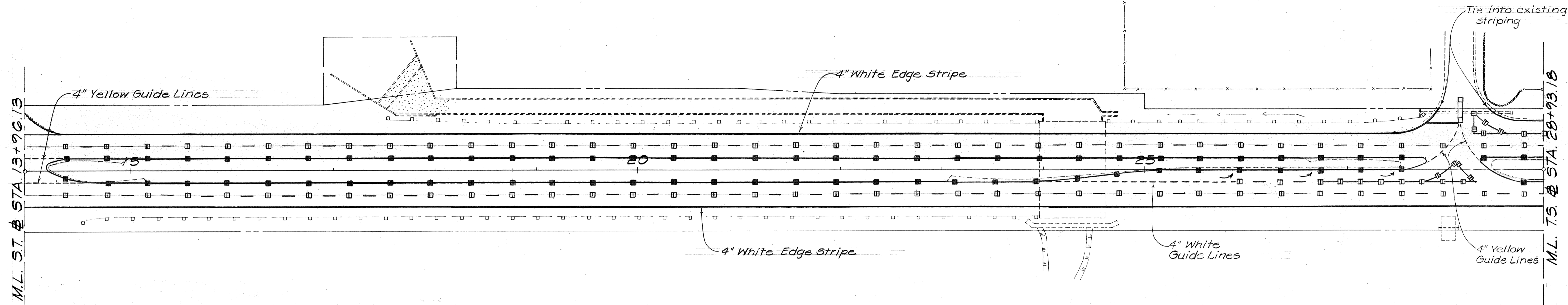
FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALALAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1"=50' March 1983

SHEET No. 1 OF 21 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	32	51

TRUE NORTH
Scale: 1" = 50'



TRUE NORTH
Scale: 1" = 50'

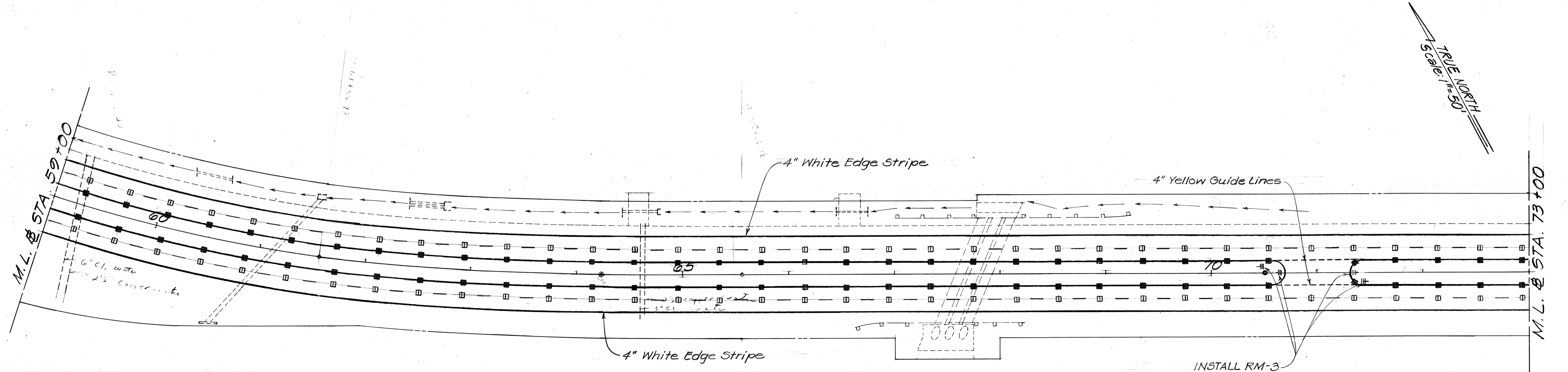
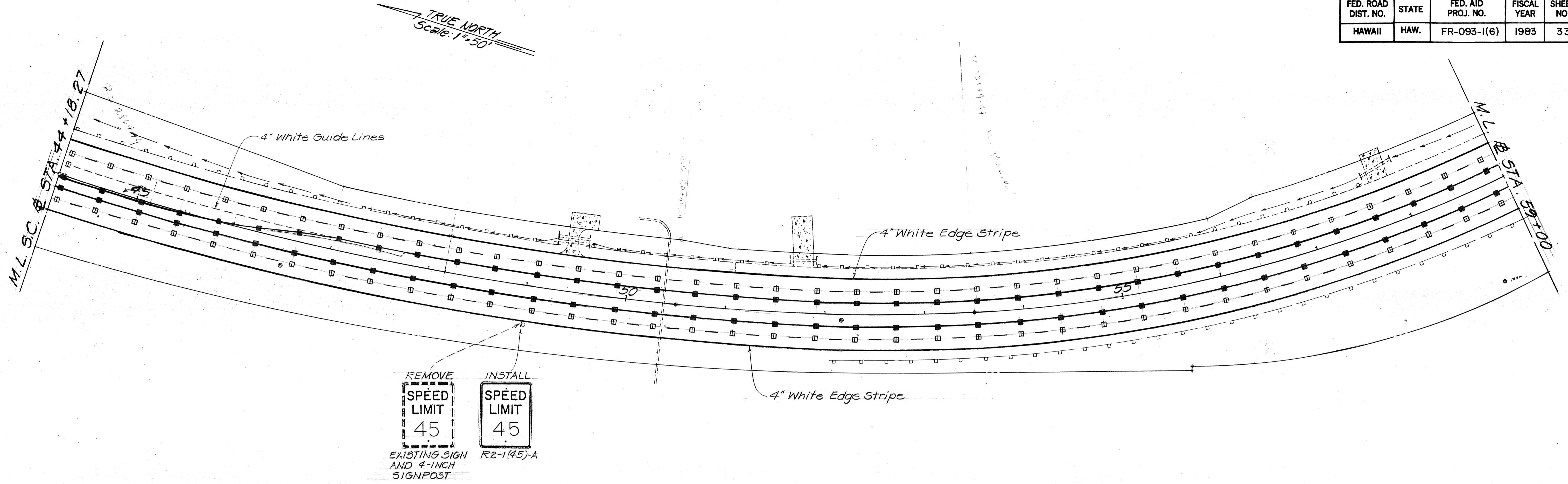
DATE	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALALAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET NO. 2 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	33	51



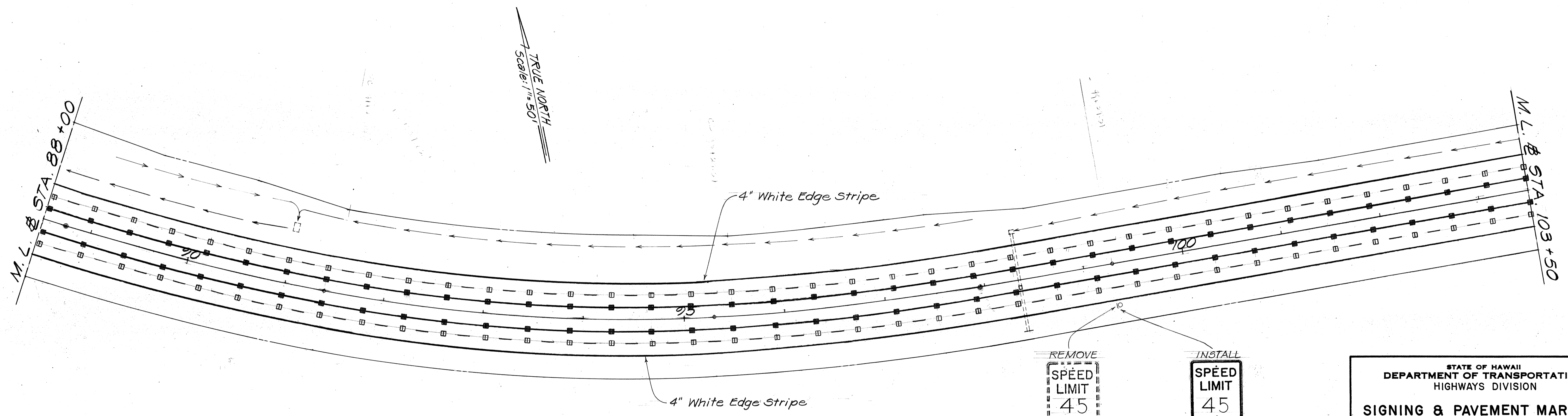
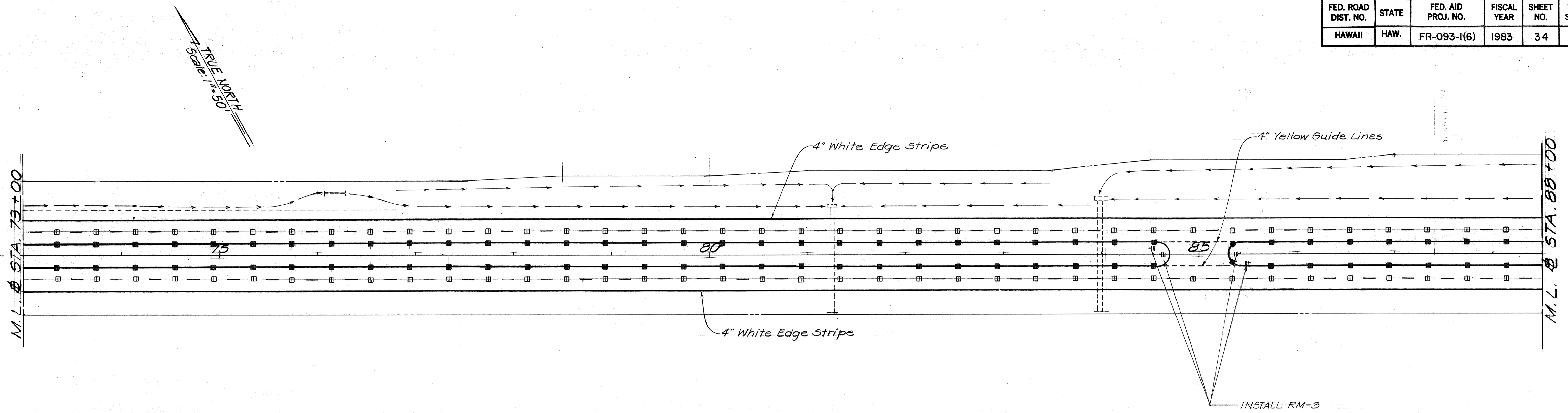
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
CHECKED BY	_____
NOTE BOOK	_____
No.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALAILAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET No. 3 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	34	51



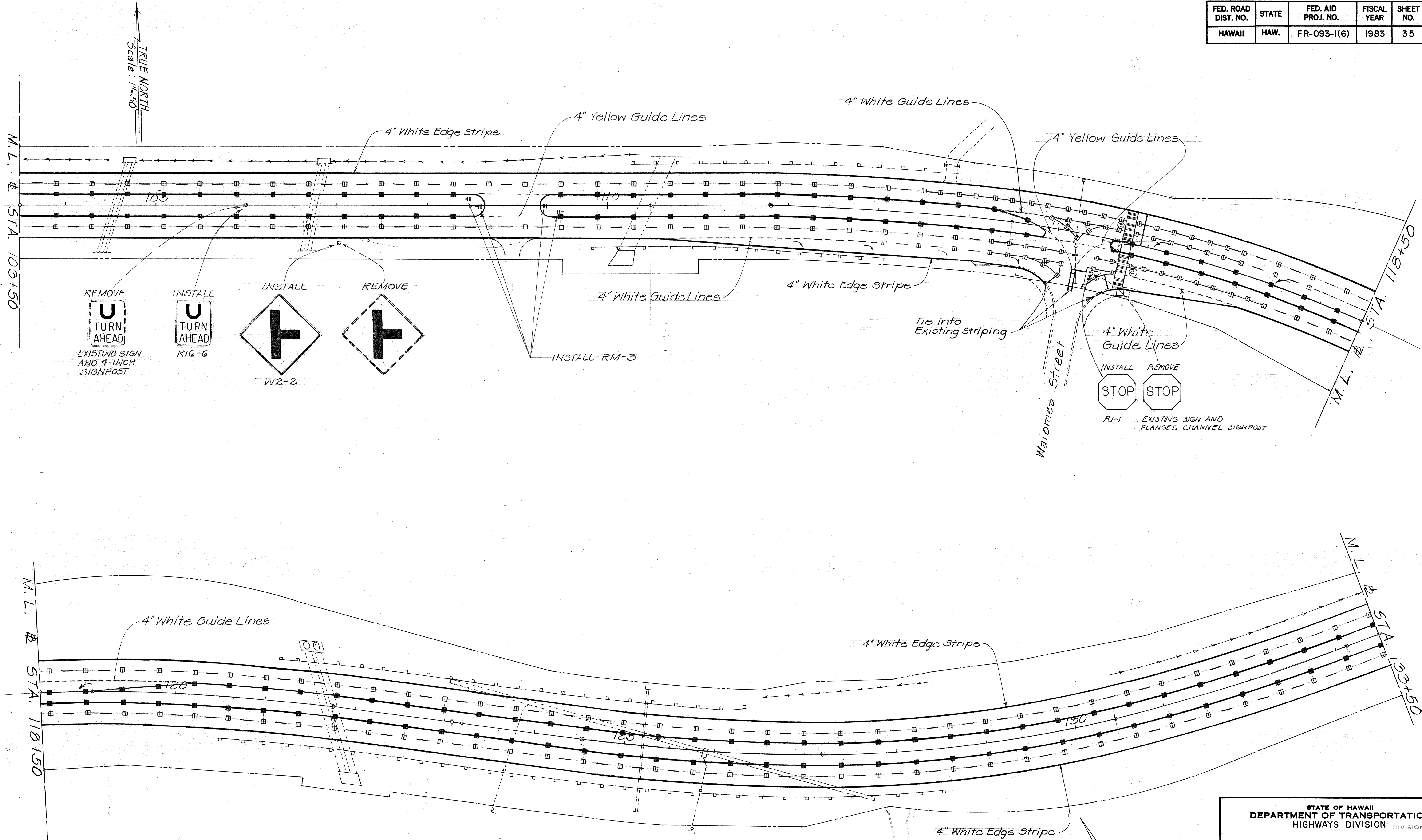
SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALAILAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET NO. 4 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	35	51



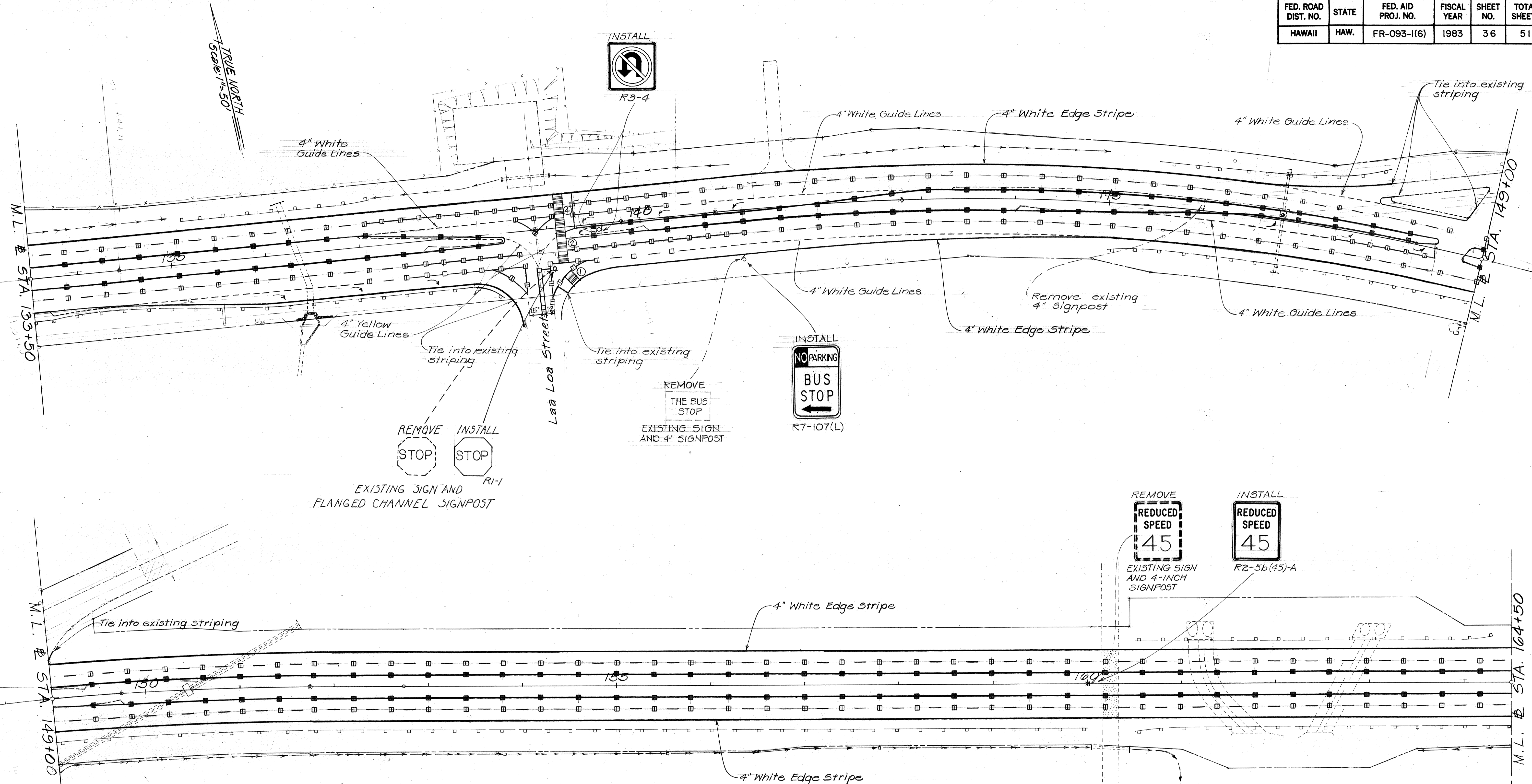
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION DIVISION

SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALAILAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET No. 5 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	36	51



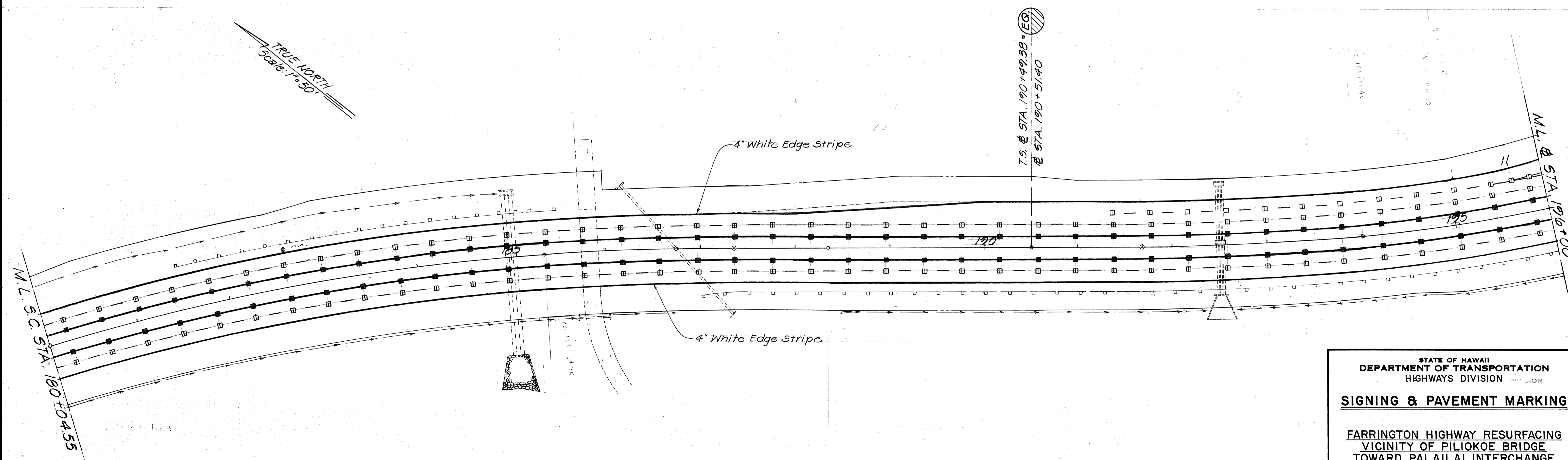
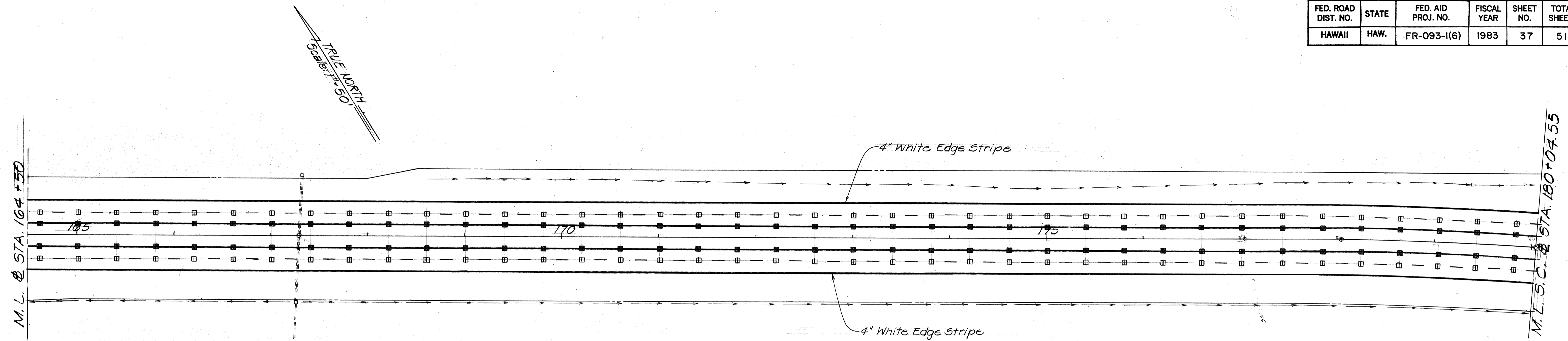
DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
TRACED BY	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____
No.	_____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALALAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET NO. 6 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	37	51



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

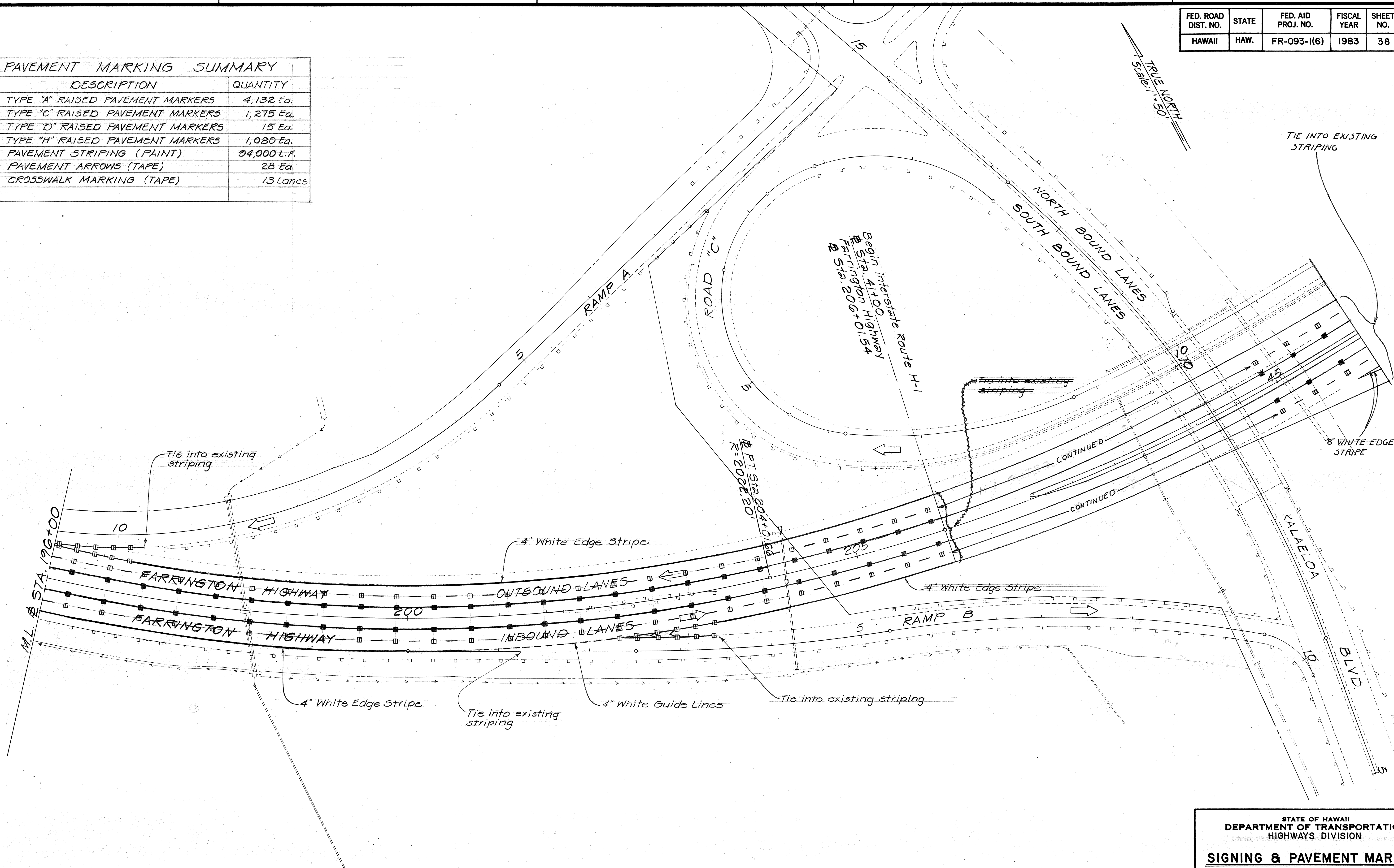
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALAILAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET NO. 7 OF 21 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	38	51

PAVEMENT MARKING SUMMARY	
DESCRIPTION	QUANTITY
TYPE "A" RAISED PAVEMENT MARKERS	4,132 Ea.
TYPE "C" RAISED PAVEMENT MARKERS	1,275 Ea.
TYPE "D" RAISED PAVEMENT MARKERS	15 Ea.
TYPE "H" RAISED PAVEMENT MARKERS	1,080 Ea.
PAVEMENT STRIPING (PAINT)	94,000 L.F.
PAVEMENT ARROWS (TAPE)	28 Ea.
CROSSWALK MARKING (TAPE)	13 Lanes



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

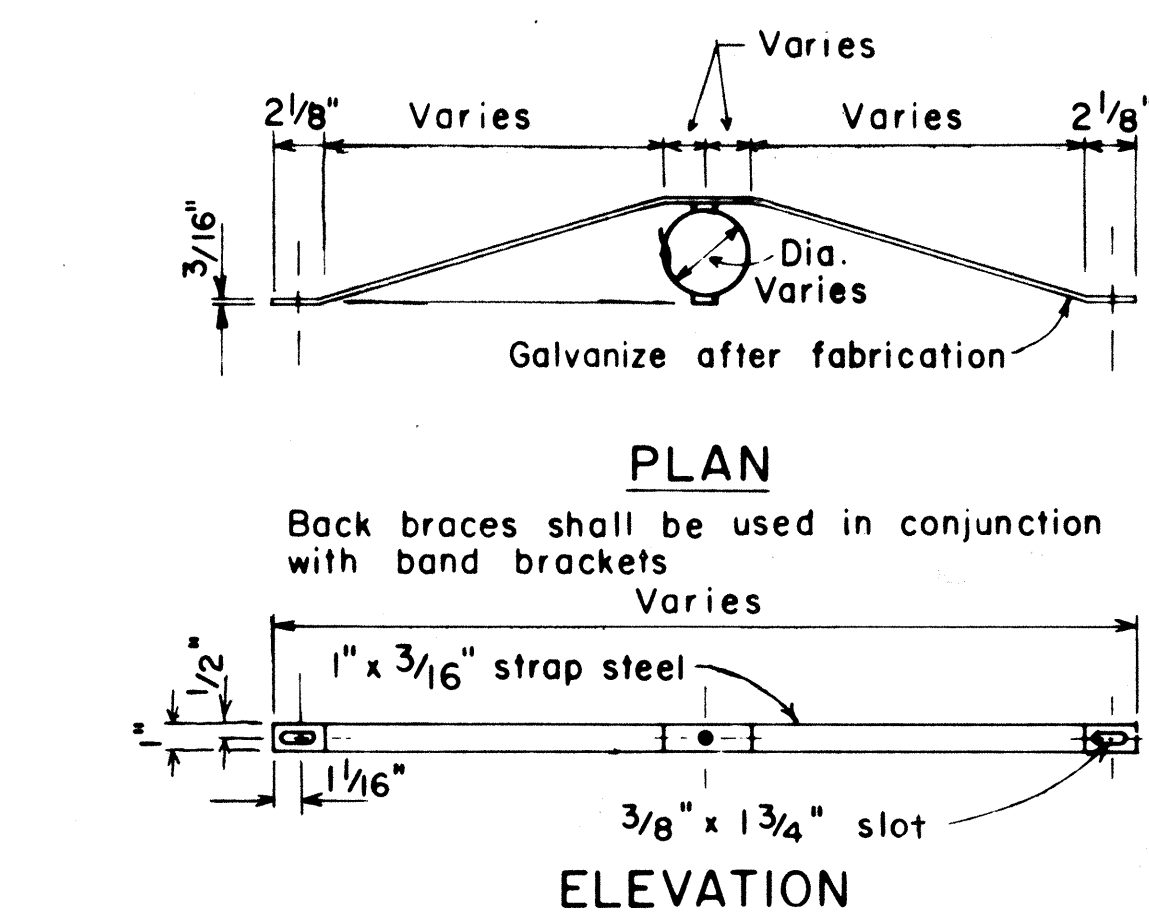
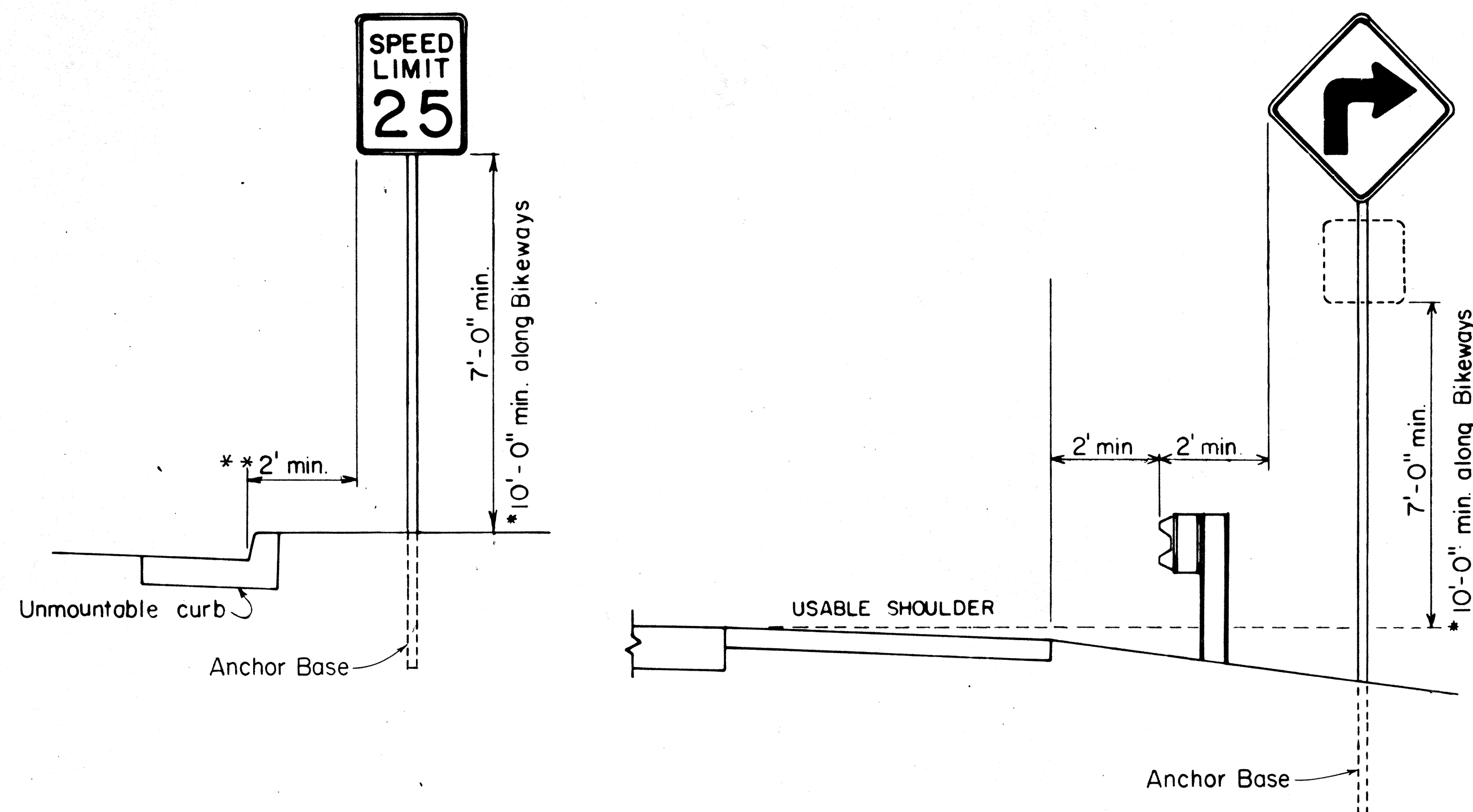
SIGNING & PAVEMENT MARKING

FARRINGTON HIGHWAY RESURFACING
VICINITY OF PILIOKOE BRIDGE
TOWARD PALALAI INTERCHANGE
F.A. PROJ. NO. FR-093-1(6)
Scale: 1" = 50' March 1983
SHEET NO. 8 OF 21 SHEETS

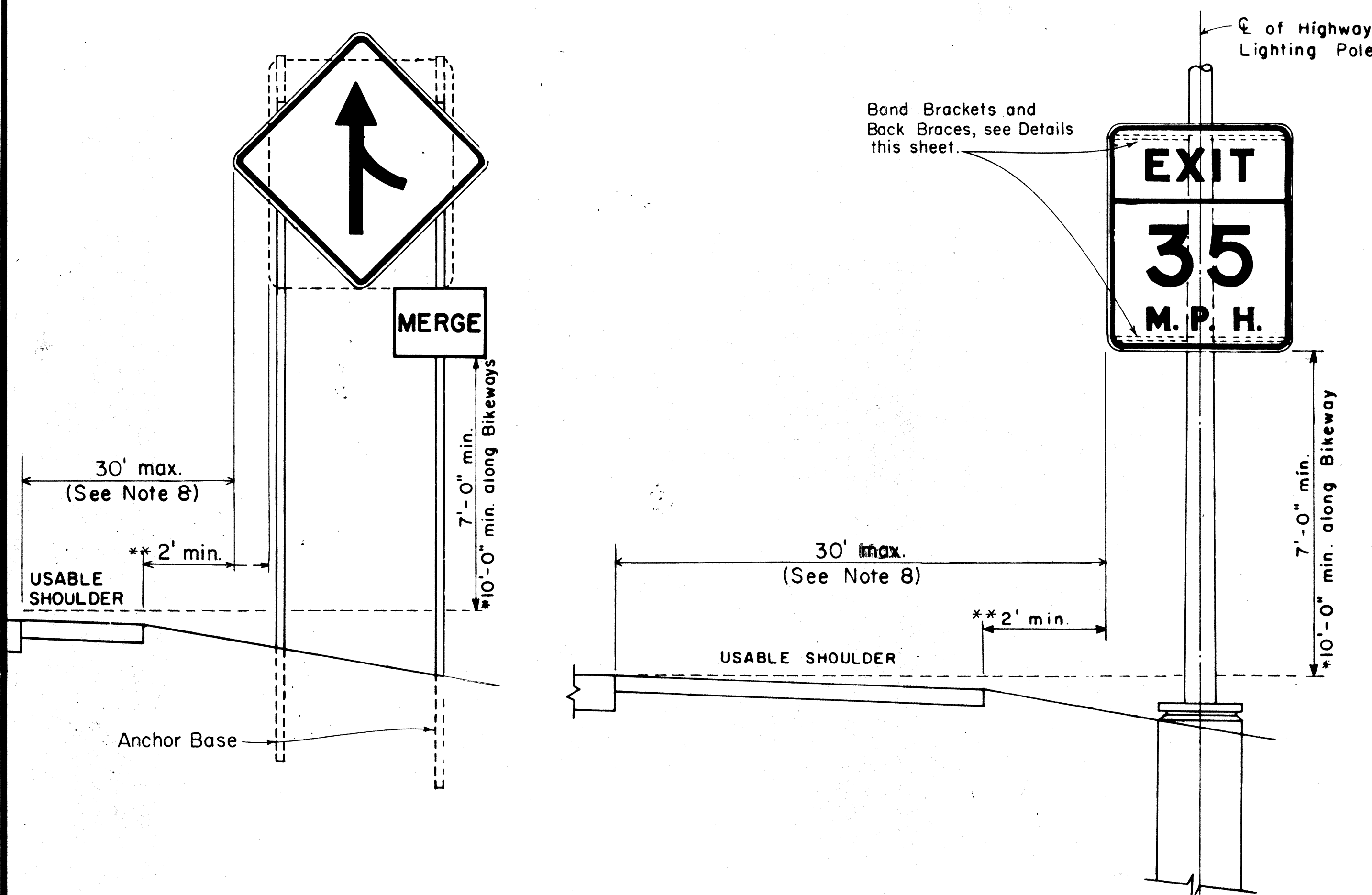
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	32	51

GENERAL NOTES

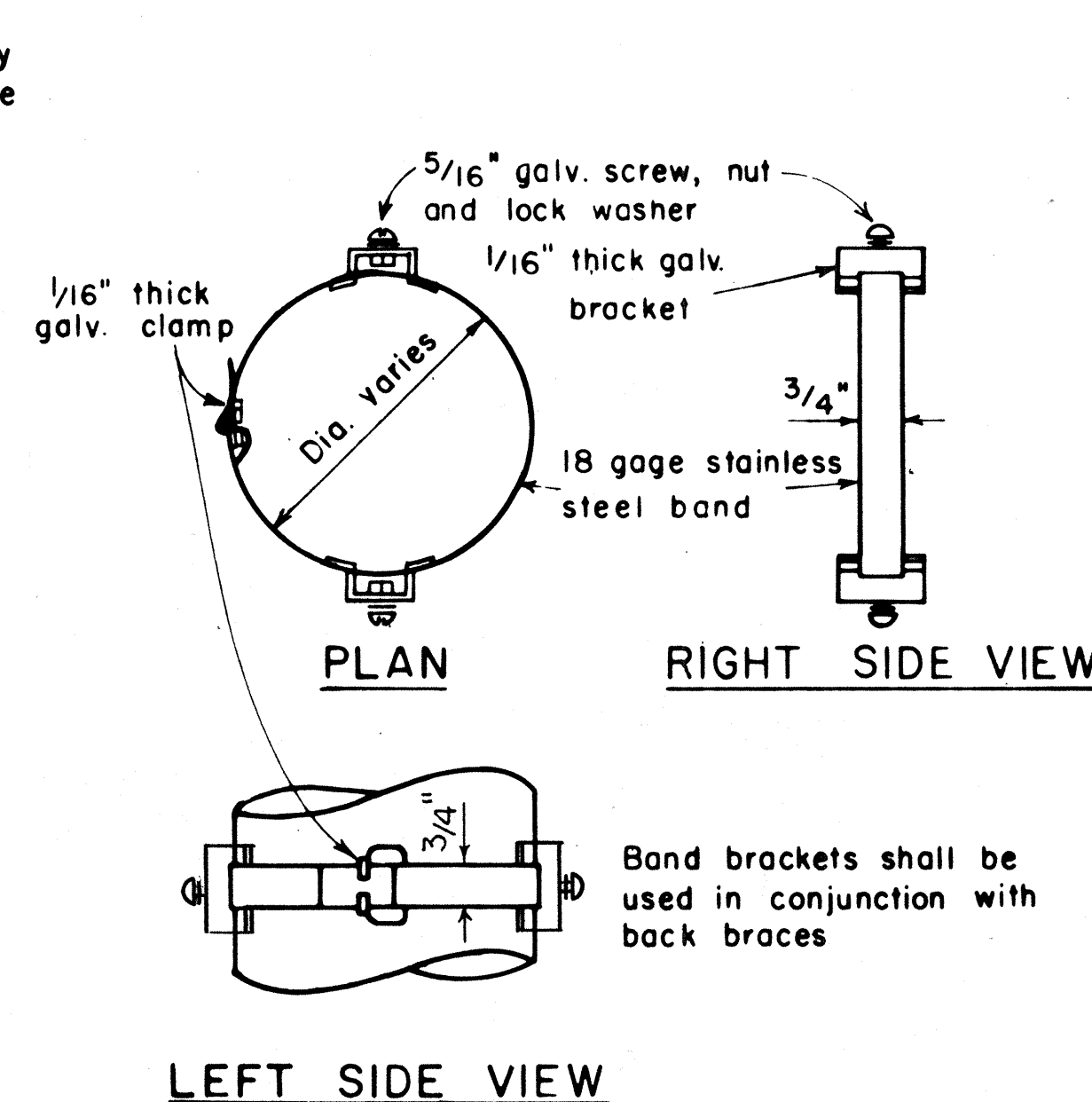
- Signs shall be placed in conformance with positions shown and described in the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1978, Part II, Section 2A-21, as amended, and as supplemented herein.
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts except as noted below.
- Signs 48" and wider or larger than 10 sq. ft. in area may be mounted on other than two sign posts (i.e. on highway lighting poles) as follows:
 - 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 brackets and back braces.
- All parking restriction signs with arrows shall be mounted 45° to the line of traffic flow.
- Sign posts shall extend 3/2" above each sign, where required, for attachment of City and County street name signs.
- (R) or (L) indicates right or left and shall be shown on the plans.
- * 7. See plans for special details of signs along bikeways.
- * 8. 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.



BACK BRACE DETAILS FOR BALANCED SIGN INSTALLATION



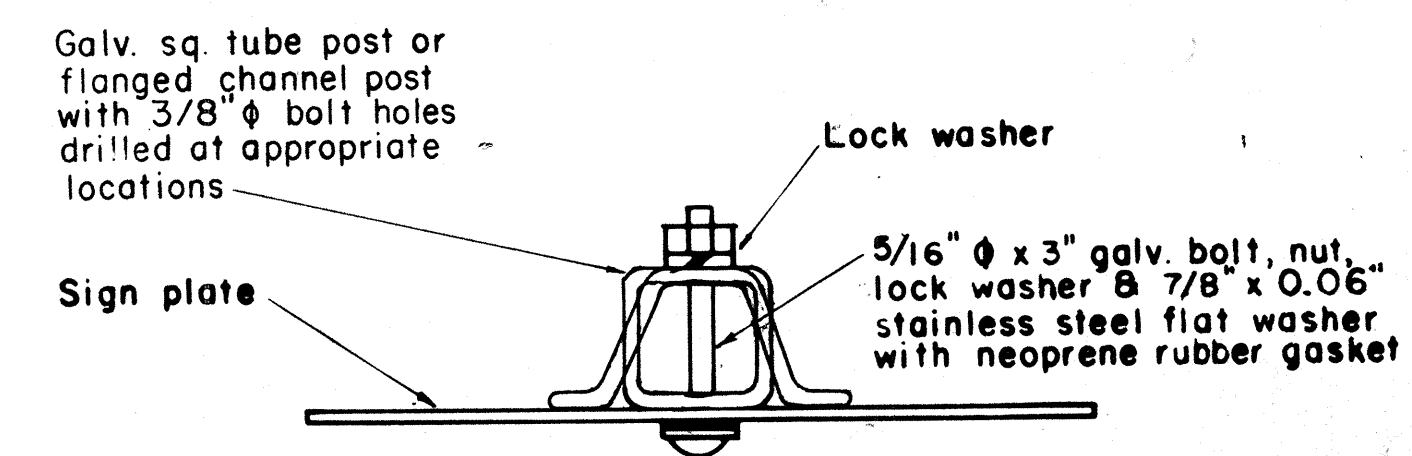
HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION



BAND BRACKET

TYPICAL MOUNTING DETAILS

NOT TO SCALE



GALVANIZED SQUARE TUBE OR FLANGED CHANNEL POST

APPROVAL RECOMMENDED:
Etsuko Tanaka 11/10/77
TRAFFIC ENGINEER DATE

APPROVED:
Harbert S. Gabeiraku 11/15/77
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT-100 approved 12/30/69	H.T.	11/15/77
2	Revised depth of signpost	H.T.	5/8/79
3	Added Notes No. 8 & No. 9	H.T.	5/10/79
4	Revised Gen. Note #4 & Mounting Details	H.T.	4/23/80
5	Revised General Notes, Lateral Sign Locations and Mounting Details	H.T.	5/15/81
6	Added Note 10. Minor revisions to notes and details.	H.T.	7/22/82

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS MISCELLANEOUS SIGN DETAILS

Not to scale June, 1977

SHEET NO. 2 OF 21 SHEETS DT 100

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(16)	1983	40	51

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 x B x 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) = $\frac{\text{Factor}}{H}$

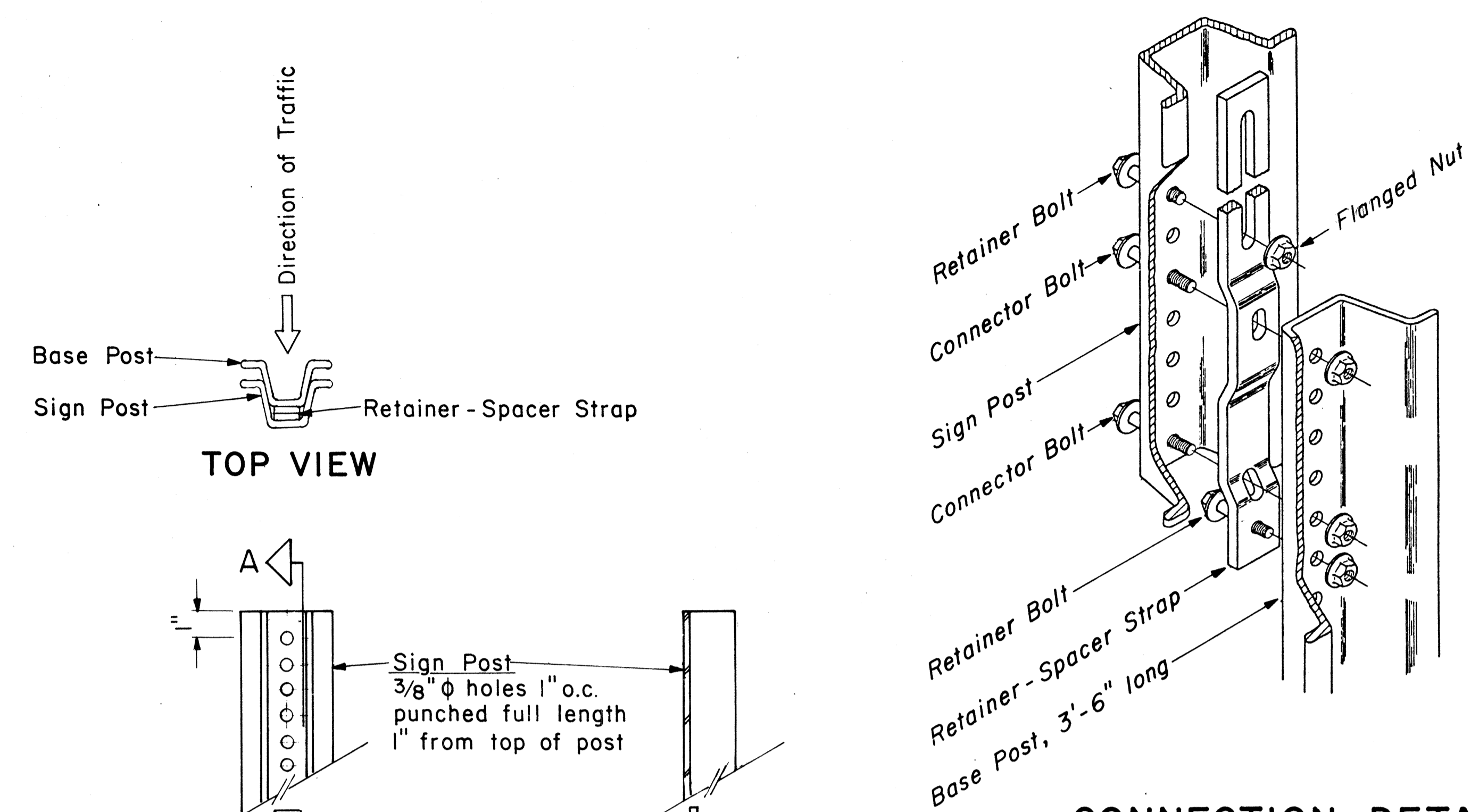
APPROVAL RECOMMENDED:
Eishi Tanaka 9/21/82
 TRAFFIC ENGINEER DATE

APPROVED:
Richard S. Sisk 9/22/82
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

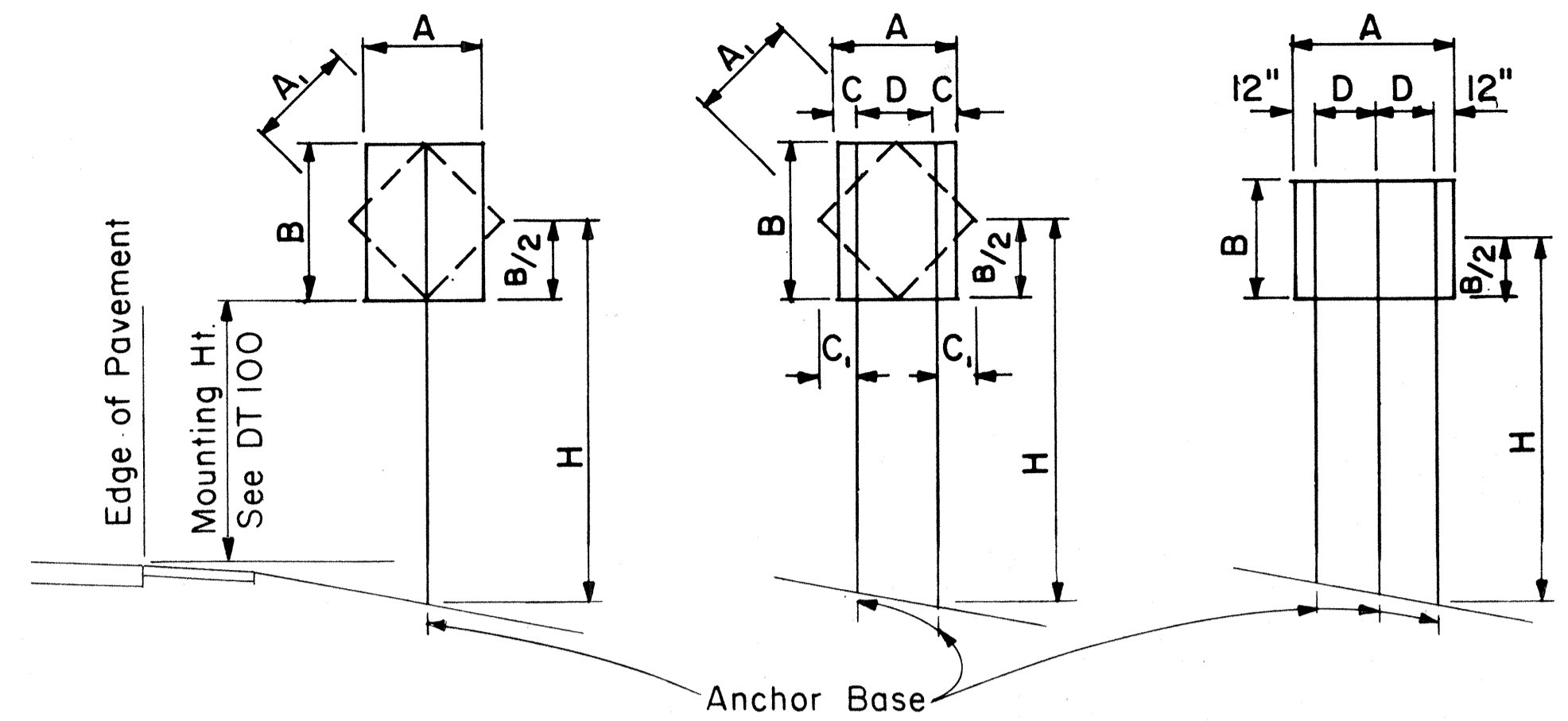
STANDARD DETAILS
GALVANIZED FLANGED CHANNEL
SIGN POST MOUNTING

Scale: As Shown Date: Sept. 1982
 SHEET No. 10 OF 21 SHEETS DT 100A



CONNECTION DETAIL

Not to Scale



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

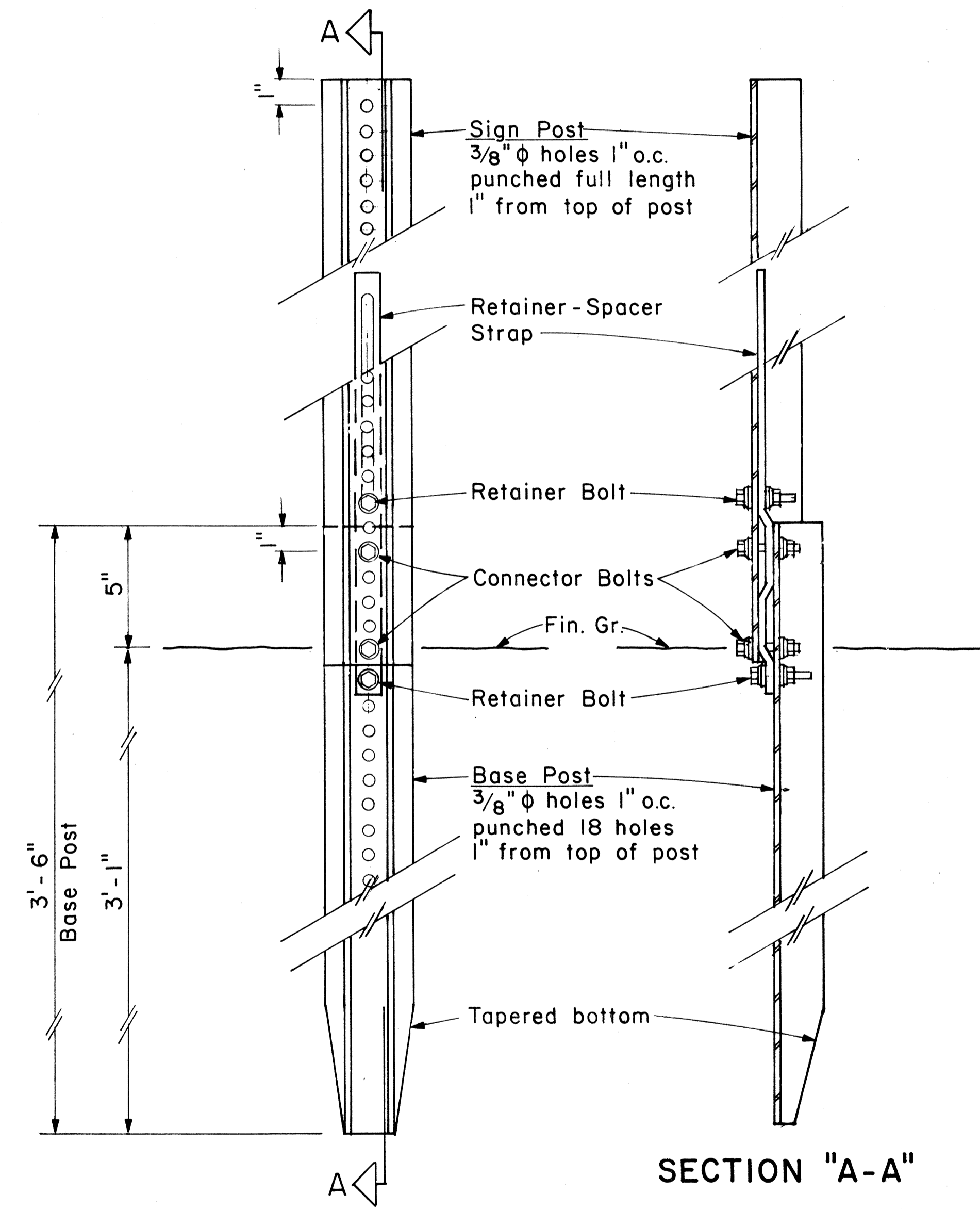
FLANGED CHANNEL: 1-POST INSTALLATION								
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	57	8.14	7.13	6.33	5.70	5.18	4.75	-
4.00 lbs./ft.	112	-	-	-	-	-	9.33	

FLANGED CHANNEL: 2-POST INSTALLATION								
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. 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	

FLANGED CHANNEL: 3-POST INSTALLATION								
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. 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	

WINDLOAD CHARTS

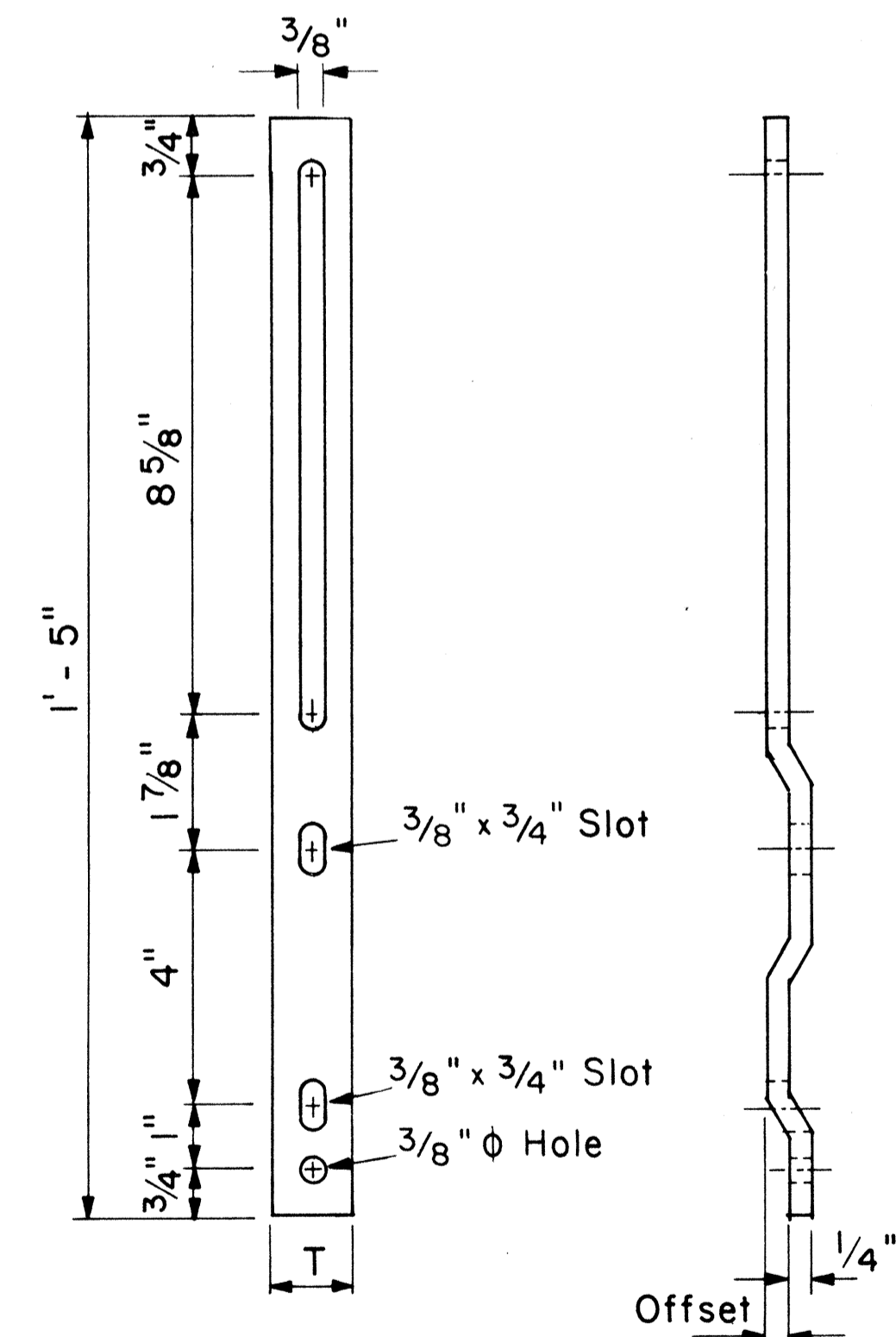
NO.	REVISION	APPROVED BY	DATE



BACK VIEW

ANCHOR BASE DETAIL

Scale: 3" = 1'-0"



RETAINER-SPACER STRAP

Not to Scale

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
 DRAWN BY
 TRACED BY
 NOTE BOOK
 QUANTITIES BY
 CHECKED BY
 No.

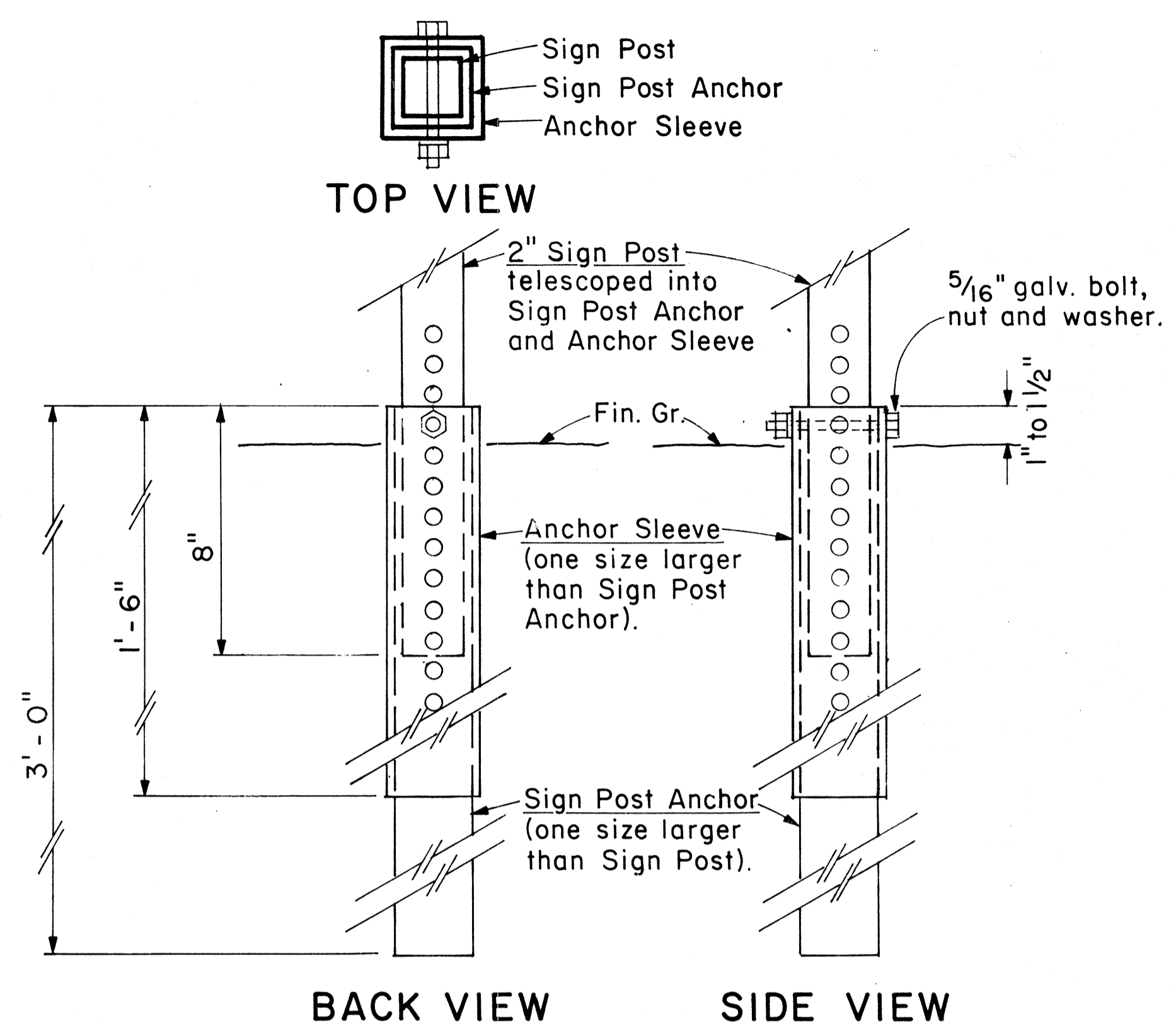
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	41	51

GENERAL NOTES

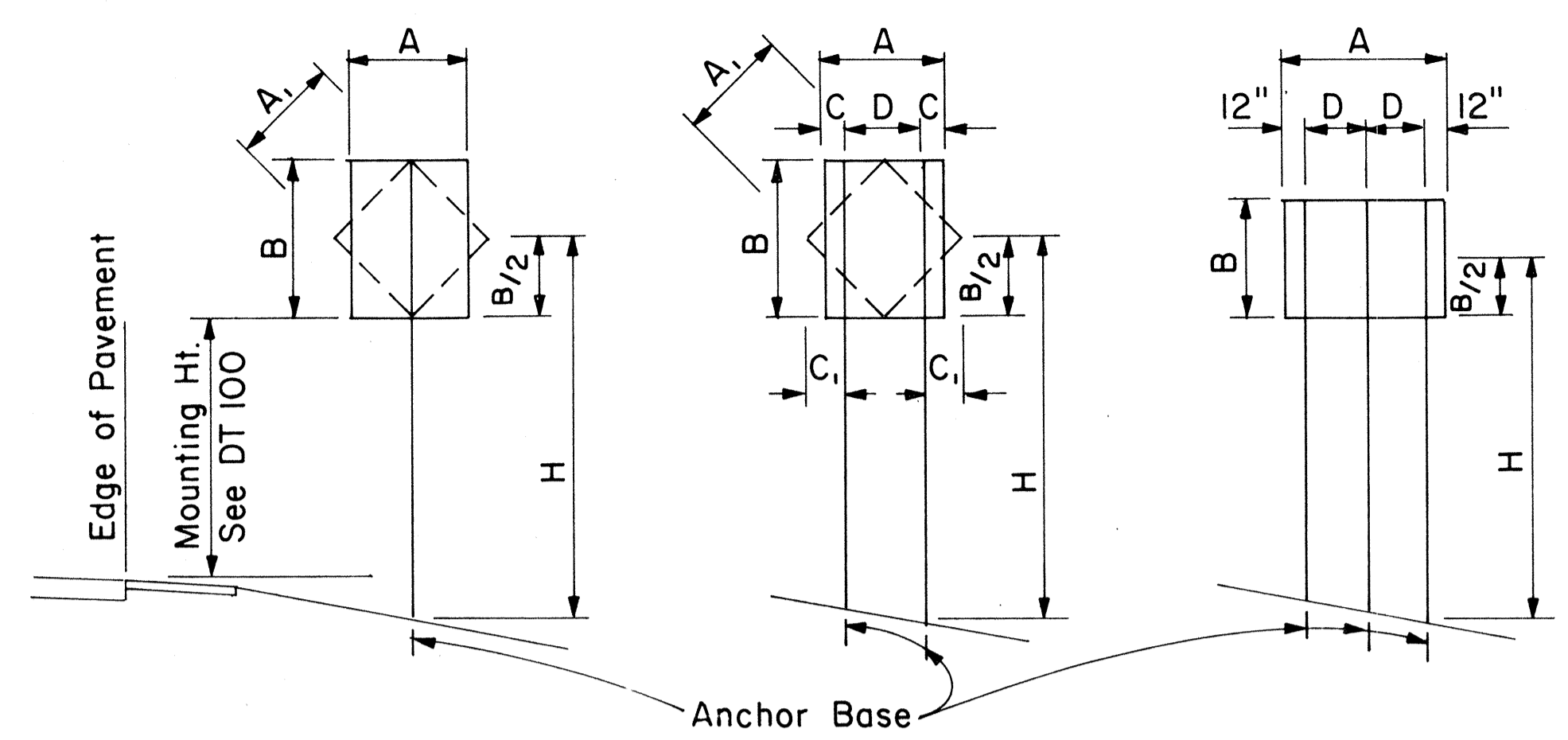
- Square tube sign posts shall conform to Subsection 713.11(C) Square Tube Posts of the Specifications.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- Square tube posts shall be perforated with $\frac{7}{16}$ " 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 $H = \frac{\text{Factor}}{\text{sign area}(A \times B)}$
 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.



2" SIGN POST INSTALLATION



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

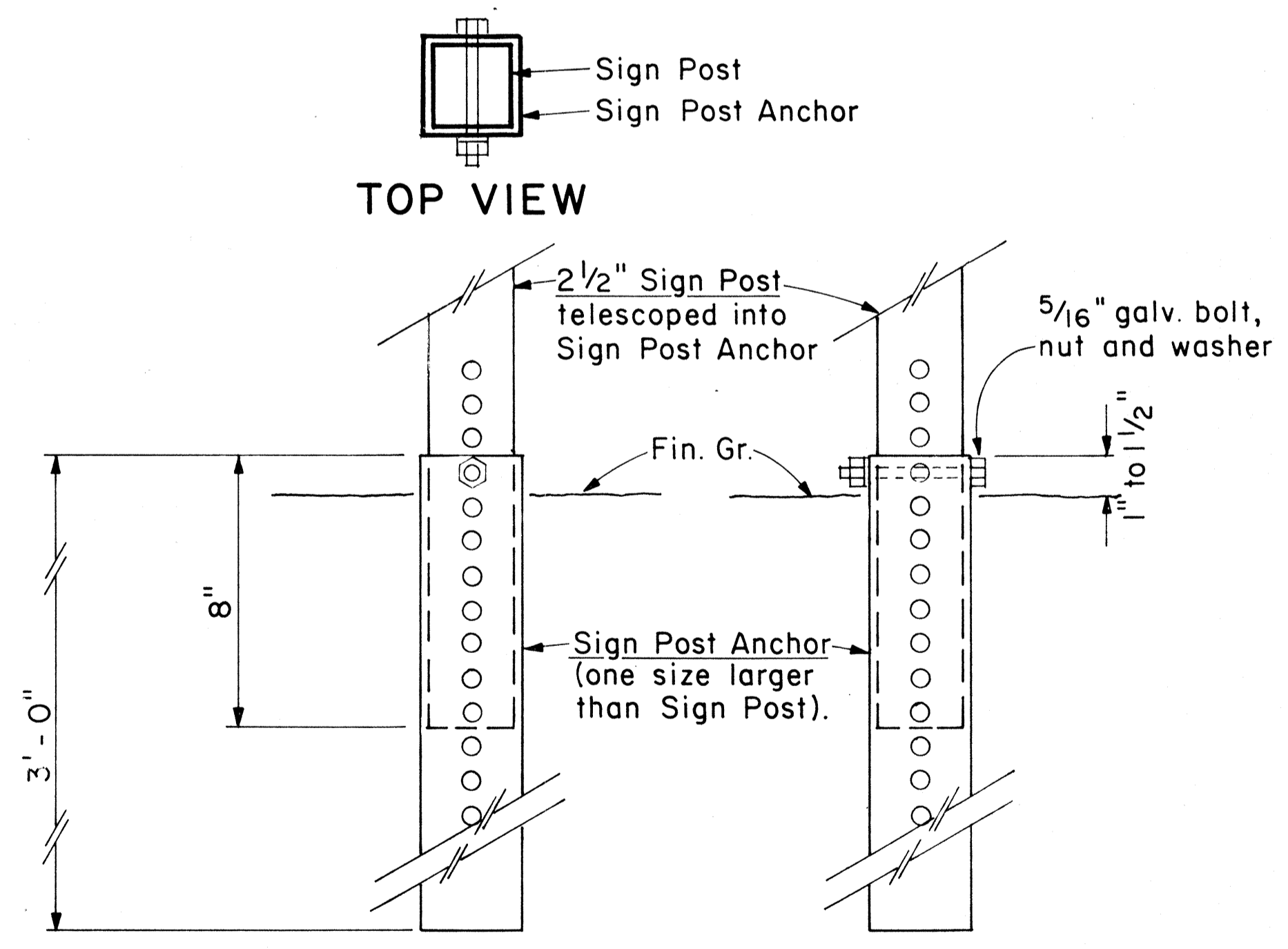
Not to Scale

SQUARE TUBE: 1- POST INSTALLATION		H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
Post Size	A x B x H (Factor)	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	

SQUARE TUBE: 2- POST INSTALLATION		H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
Post Size	A x B x H (Factor)	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	

SQUARE TUBE: 3- POST INSTALLATION		H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
Post Size	A x B x H (Factor)	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	

WINDLOAD CHARTS



2 1/2" SIGN POST INSTALLATION

ANCHOR BASE DETAIL

Scale: 3" = 1'-0"

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

APPROVAL RECOMMENDED:
Eishi Tanaka 9/21/82
 TRAFFIC ENGINEER DATE

APPROVED:
Robert Salsichi 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. 11 OF 21 SHEETS DT100B

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-063-(6)	1983	42	51

GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
2. All regulatory signs shall be reflectorized unless otherwise specified.
3. All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
5. All signs shall be erected without educational plaques unless called for in the plans.

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

APPROVED:
Julius J. Robinson 3-20-82
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.I.	2/20/72
2	Revised General Note 1.	H.I.	10/10/74
3	Added General Note 5	H.I.	8/2/77

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

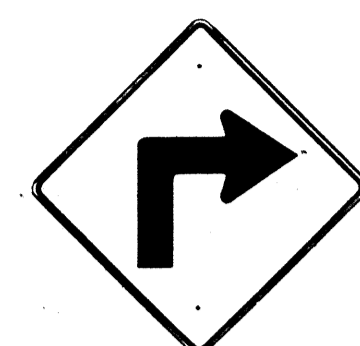
STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE

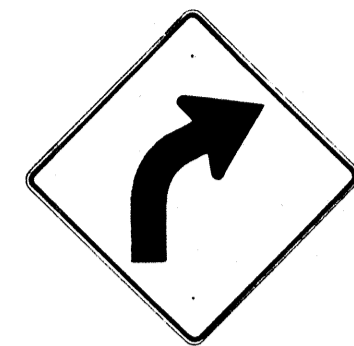
SHEET No. 12 OF 21 SHEETS DT 101

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

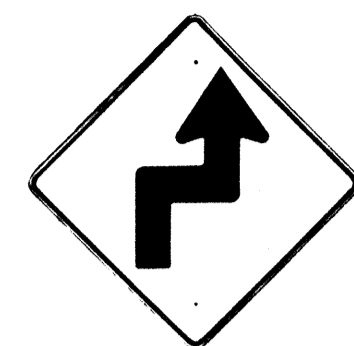
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	43	51



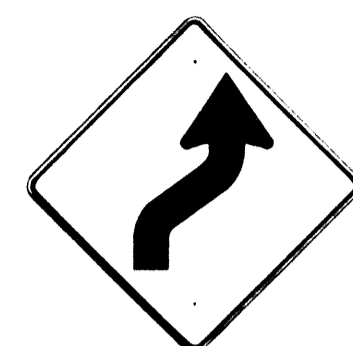
W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



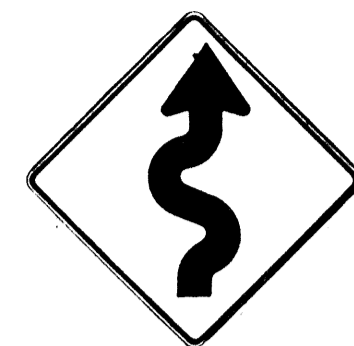
W1-2(R) 30"x30"
W1-2(R)-A 48"x48"



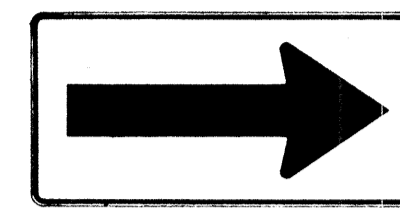
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



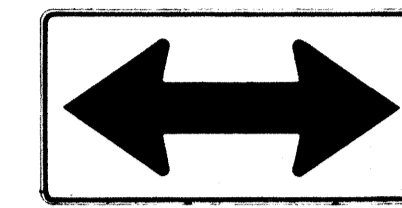
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



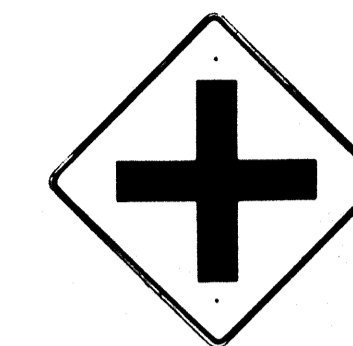
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



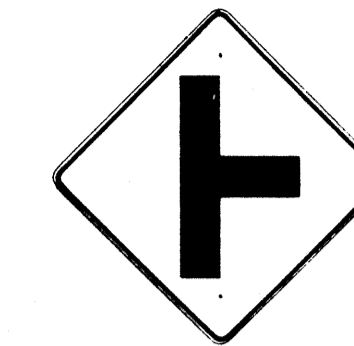
W1-6 48"x24"



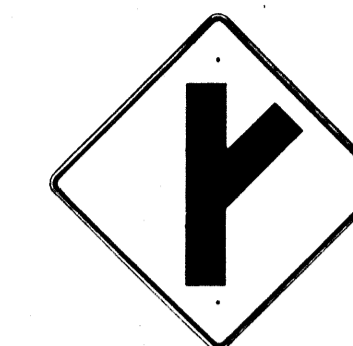
W1-7 48"x24"



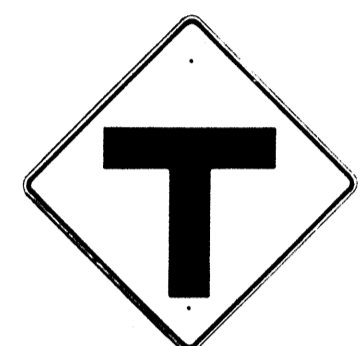
W2-1 30"x30"
W2-1-A 48"x48"



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



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



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



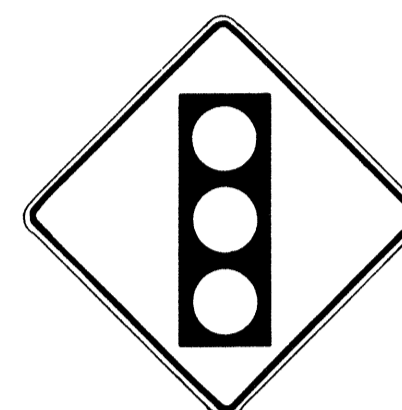
W2-5 30"x30"
W2-5-A 48"x48"



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

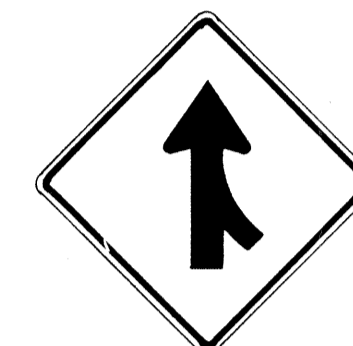


W3-2 30"x30"
W3-2-A 36"x36"



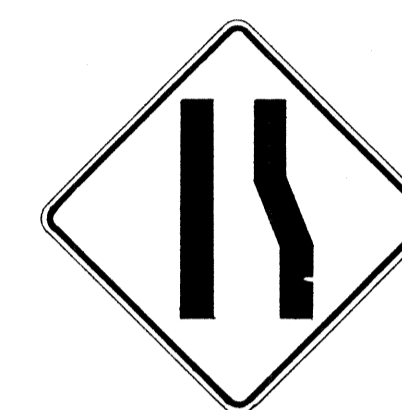
SIGNAL AHEAD

W3-3 36"x36"
24"x18"



MERGE

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



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



W5-1 36"x36"



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

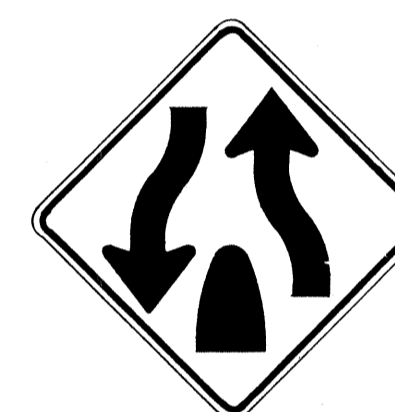


W5-3 36"x36"



DIVIDED HIGHWAY

W6-1 36"x36"
24"x18"



DIVIDED HIGHWAY ENDS

W6-2 36"x36"
24"x18"



TWO WAY TRAFFIC

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



HILL

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



W7-2 24"x18"



BUMP

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



DIP

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



PAVEMENT ENDS

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



SOFT SHOULDER

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



SLIPPERY WHEN WET

W8-5 30"x30"
24"x18"
W8-5-A 36"x36"
24"x18"



RIGHT LANE ENDS

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



LANE ENDS MERGE LEFT

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



W10-1 36" Diameter



BIKE XING

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



PED XING

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



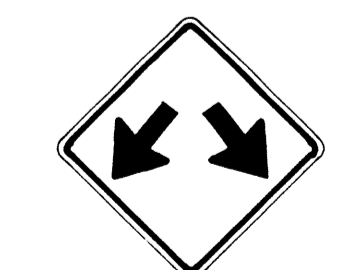
CATTLE XING

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



FARM MACHINERY

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

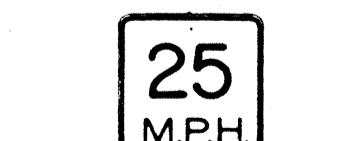


W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"

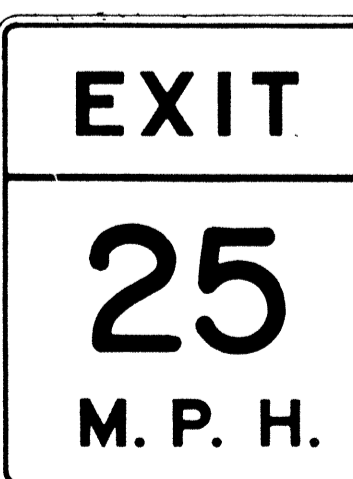


LOW CLEARANCE

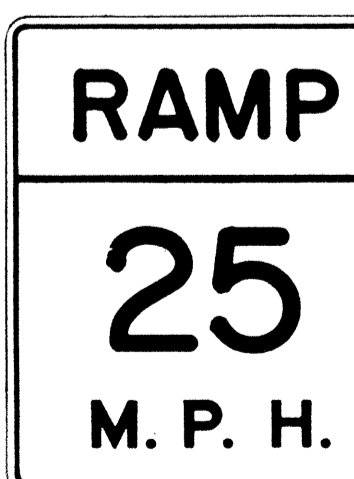
W12-2 (12'-6") 36"x36"
24"x18"



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



W13-2(25) 48"x60"



W13-3(25) 48"x60"



DEAD END

W14-1 30"x30"



NO PASSING ZONE

W14-3 36"x48"x48"

NOTE

1. All signs shall be erected without educational plaques unless called for in the plans.

GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
5. Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

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

APPROVED:
Shelton Delsino 3-20-82
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.C.	3/20/72
2	Revised General Note 1	H.C.	10/16/74
3	Revised General Note 5	M.H.	9-16-75
4	Revised General Note 5	H.C.	9-14-76
5	Added Note 1	H.C.	11-7-77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

SHEET No. 13 OF 21 SHEETS DT 102

ORIGINAL PLAN	DATE
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(16)	1983	44	51

General Notes

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

ALL WAY
R1-4 18"x 6"

REDUCED SPEED
35
AHEAD
R2-5d(35) 24"x 30"
R2-5d(35)-A 48"x 60"

SPEED LIMIT ENFORCED BY VASCAR
4" Series D
4" Series C
3" Series D
5" Series C
R2-10 24"x 30"

CENTER LANE ONLY
R3-9b 24"x 36"

BUS STOP
R7-107(R) 12"x 24"

RESERVED PARKING
R7-8 12"x 18"
R7-8-A 24"x 30"

NO PARKING ANY TIME
4" Series C
1 1/2"
R8-3a 24"x 24"
24"x 18"
R8-3a-A 48"x 48"

NO PEDESTRIANS
R9-3a 18"x 18"
18"x 12"
R9-3a-A 24"x 24"
24"x 18"

USE CROSSWALK
R9-3b(R) 18"x 12"

USE CROSSWALK
R9-3b(L) 18"x 12"

NO TURN ON RED
R10-11a 24"x 30"

TURN RIGHT ANY TIME WITH CAUTION
4" Series C
R16-1 24"x 30"

NO LEFT TURN ON RED
4" Series D -
3" Series D -
2" Series D -
3" Series D -
R16-3 18"x 24"

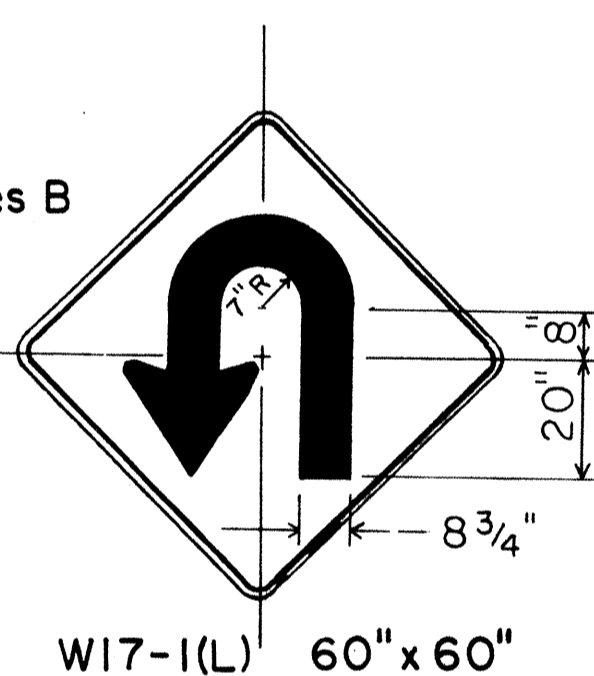
NO RIGHT TURN ON RED
R16-4 18"x 24"

UNLICENSED VEHICLES BICYCLES, CYCLES UNDER 5 H.P., PEDESTRIANS KEEP OUT FREEWAY
3" Series C
4" Series E
R16-5 36"x 42"

U TURN AHEAD
8" Series F
5" Series D
R16-6 24"x 30"

U TURN OK
8" Series F
5" Series D
R16-7 24"x 30"

MOTOR-DRIVEN CYCLES PROHIBITED
4" Series B
R5-8 30"x 24"



STOP AHEAD
W3-1a 36"x 36"
24"x 18"
W3-1a-A 48"x 48"
24"x 18"

YIELD AHEAD
W3-2a 36"x 36"
24"x 18"
W3-2a-A 48"x 48"
24"x 18"

STOP AHEAD WHEN FLASHING
6" Series C
W3-4 48"x 48"

TRUCK CROSSING
W8-6 30"x 30"
W8-6-A 36"x 36"

THRU TRAFFIC MERGE LEFT
6" Series E
W9-3(L) 48"x 48"

EQUESTRIAN XING
W11-7 36"x 36"
24"x 18"
W11-7-A 48"x 48"
24"x 18"

FIRE STATION
W11-8 36"x 36"
24"x 18"
W11-8-A 48"x 48"
24"x 18"

W11-9 36"x 36"
W11-9-A 48"x 48"

LIMITED SIGHT DISTANCE
W14-4 36"x 36"
W14-4-A 48"x 48"

DELAYED GREEN
4" Series C
W15-1 24"x 24"

ADVANCE GREEN
W15-2 24"x 24"

END FREEWAY 1/2 MI
8" Series E
CW16-1(1/2) 60"x 60"

RIGHT LANE EXIT ONLY
8" Series E
W18-1 48"x 60"

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

APPROVED:
Robert 2. Takeishi 5/3/78
ASSISTANT CHIEF, ENGINEERING DATE

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

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 approved 3/20/72	H.T.	5/3/78
2	Added General Note 6	H.T.	11/9/78

SCHOOL BUS STOP AHEAD
S1-1 36"x 36"

S2-1 36"x 36"

S3-1 30"x 30"

8:00 AM TO 3:30 PM
S4-1 24"x 10"

WHEN CHILDREN ARE PRESENT
S4-2 24"x 10"

SCHOOL
S4-3 24"x 8"

WHEN FLASHING
S4-4 24"x 10"

SIDEWALK CLOSED
7" Series D
CW23-4 48"x 48"

USE SIDEWALK
4" Series C
R18-1 24"x 18"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS SIGNS

NOT TO SCALE DATE: MAY, 1978
SHEET No. 14 OF 21 SHEETS. DT 103

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(16)	1983	45	51



CW20-1a 48"x48"



CW20-2d 48"x48"



CW20-3b 48"x48"



CW20-4d 48"x48"



CW20-5d(L) 48"x48"



CW20-7c 48"x48"



CW21-1 30"x30"



CW21-2 30"x30"



CW21-3 36"x36"



CW21-4 36"x36"



CW21-5 30"x30"



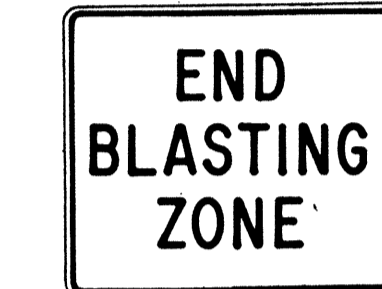
CW21-6 30"x30"



CW22-1b 48"x48"



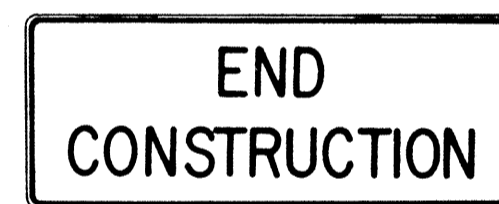
CW22-2 42"x36"



CW22-3 42"x36"



CG20-1(5) 60"x36"



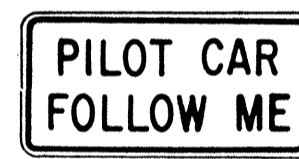
CG20-2 60"x24"



CM4-9(R) 30"x24"



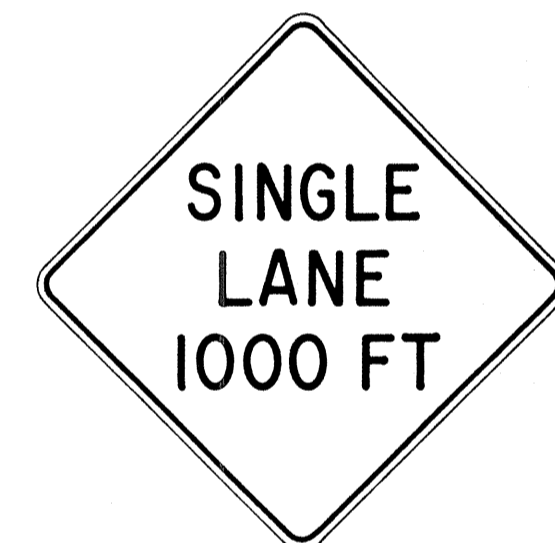
CM4-10(R) 48"x18"



CG20-4 36"x18"



CW23-1 36"x36"



CW23-2b 48"x48"



CW23-3(R) 48"x48"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, 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:
Eishi Tanaka 3/21/72
TRAFFIC ENGINEER DATE

APPROVED:
Shigeru Sakai 3/23/72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	HT.	3/23/72
2	Revised General Note 1	HT.	10/10/74
3	Revised General Note 2	HT.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	HT.	9-14-76

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

NOT TO SCALE

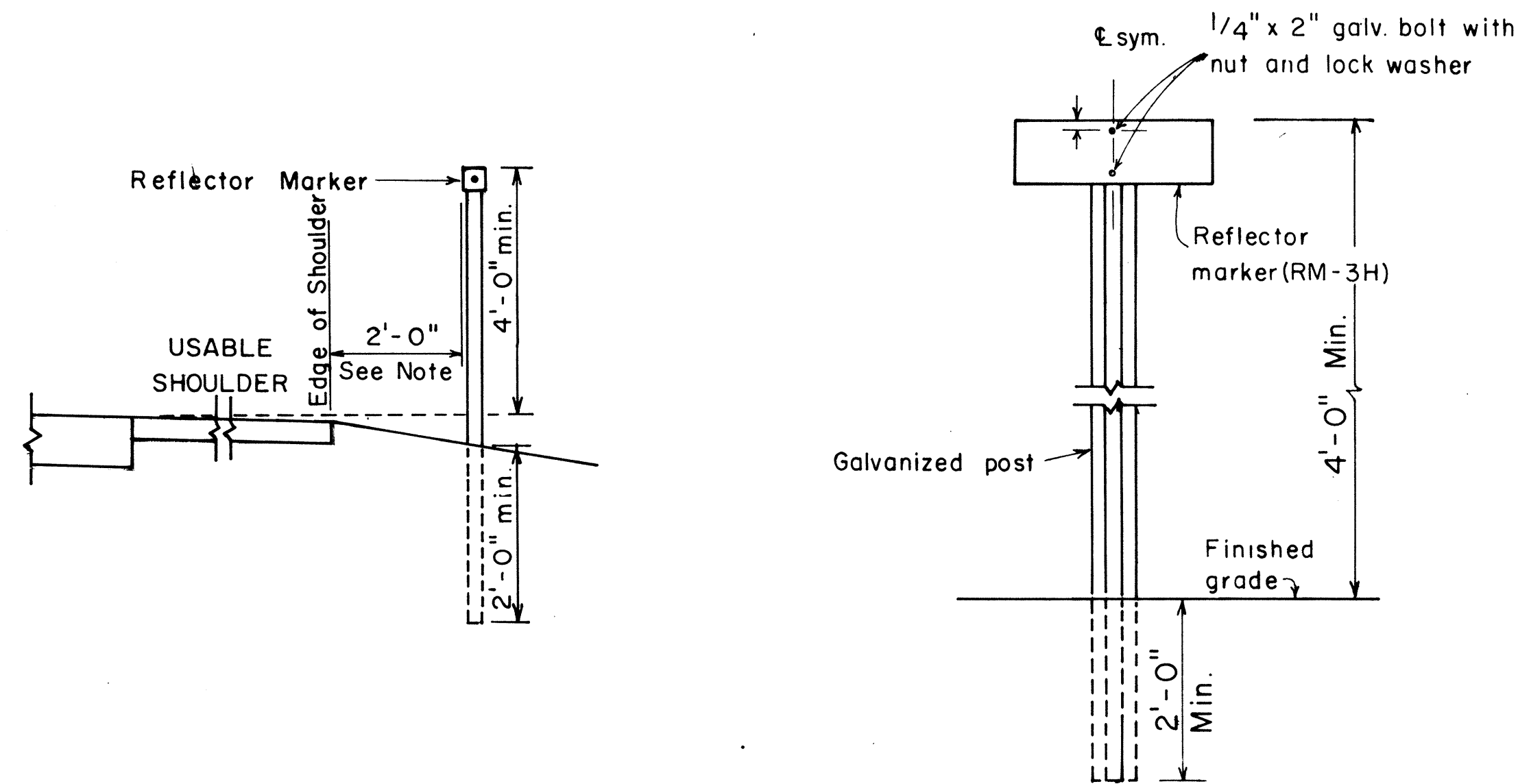
SHEET No. 15 OF 21 SHEETS DT 104

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
CHECKED BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
NO.	_____

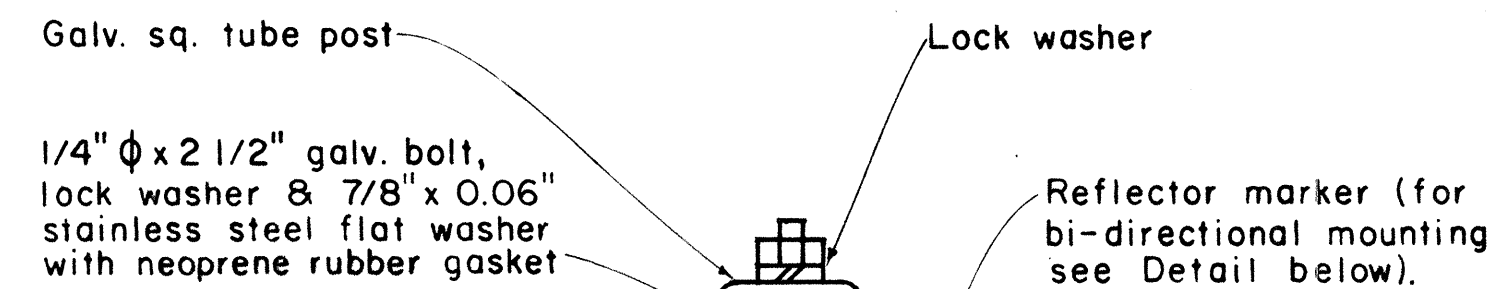
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(16)	1983	46	51

GENERAL NOTES:

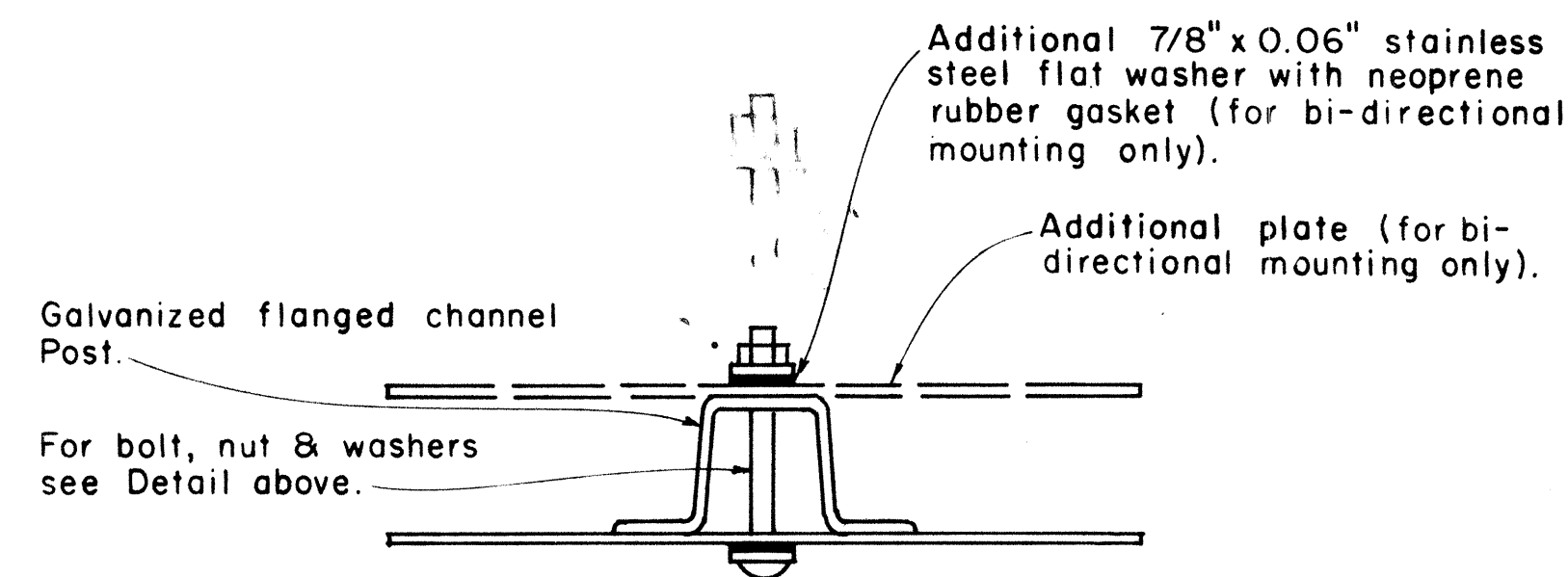
1. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
2. (R) or (L) indicates right or left and shall be as shown on the plans.
3. Reflector markers RM-1 and RM-2 shall be:
 - a) Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
 - b) White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
4. For reflector marker RM-9, reflective sheeting material may be used as an alternate.
5. For RM-4, the stripes shall slope downward at an angle of 45° in the direction of traffic.



REFLECTOR MARKER MOUNTING DETAIL

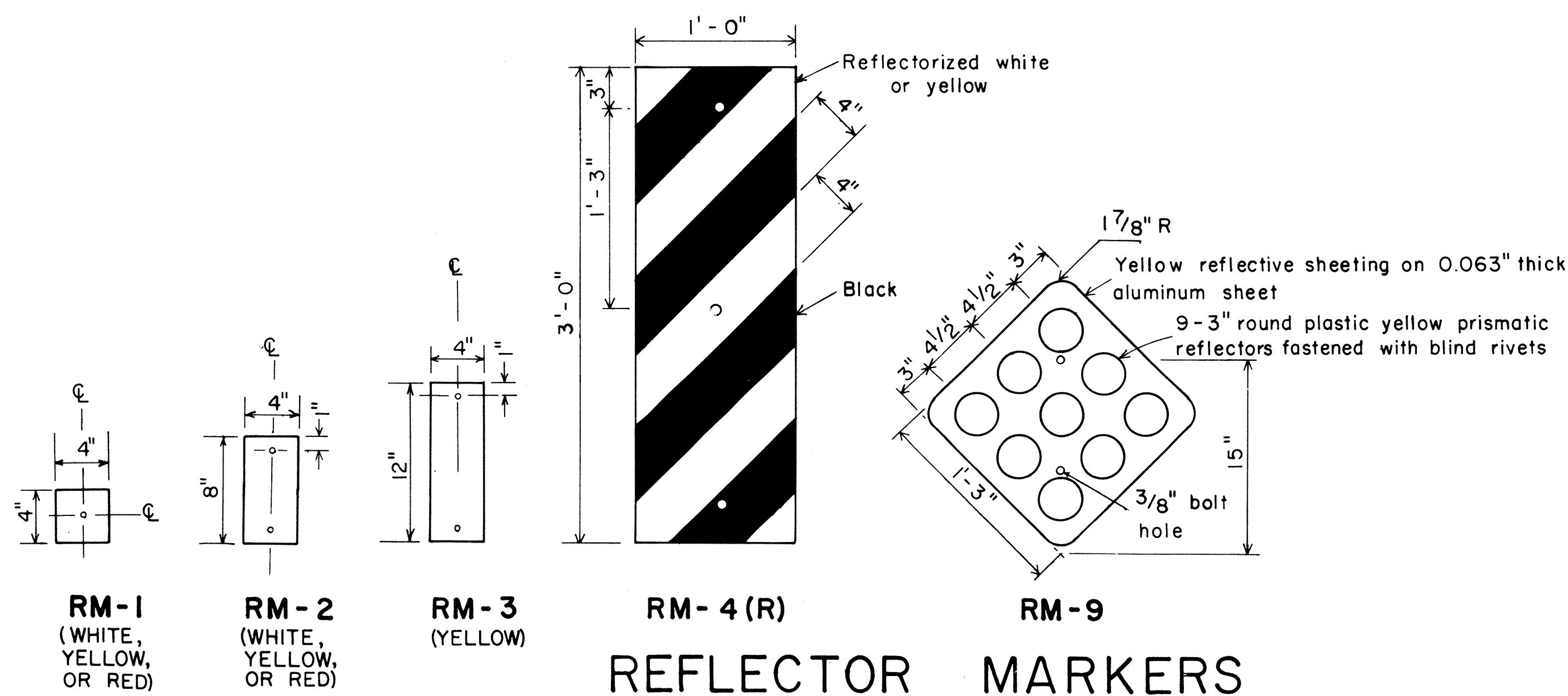


GALVANIZED SQUARE TUBE POST



GALVANIZED FLANGED CHANNEL POST

TYPICAL MOUNTING DETAILS



REFLECTOR MARKERS

APPROVAL RECOMMENDED:
Euchi Tanaka 11/1/77
 TRAFFIC ENGINEER DATE

APPROVED:
Herbert S. Sakai 11/15/77
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H-1	4/23/80

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

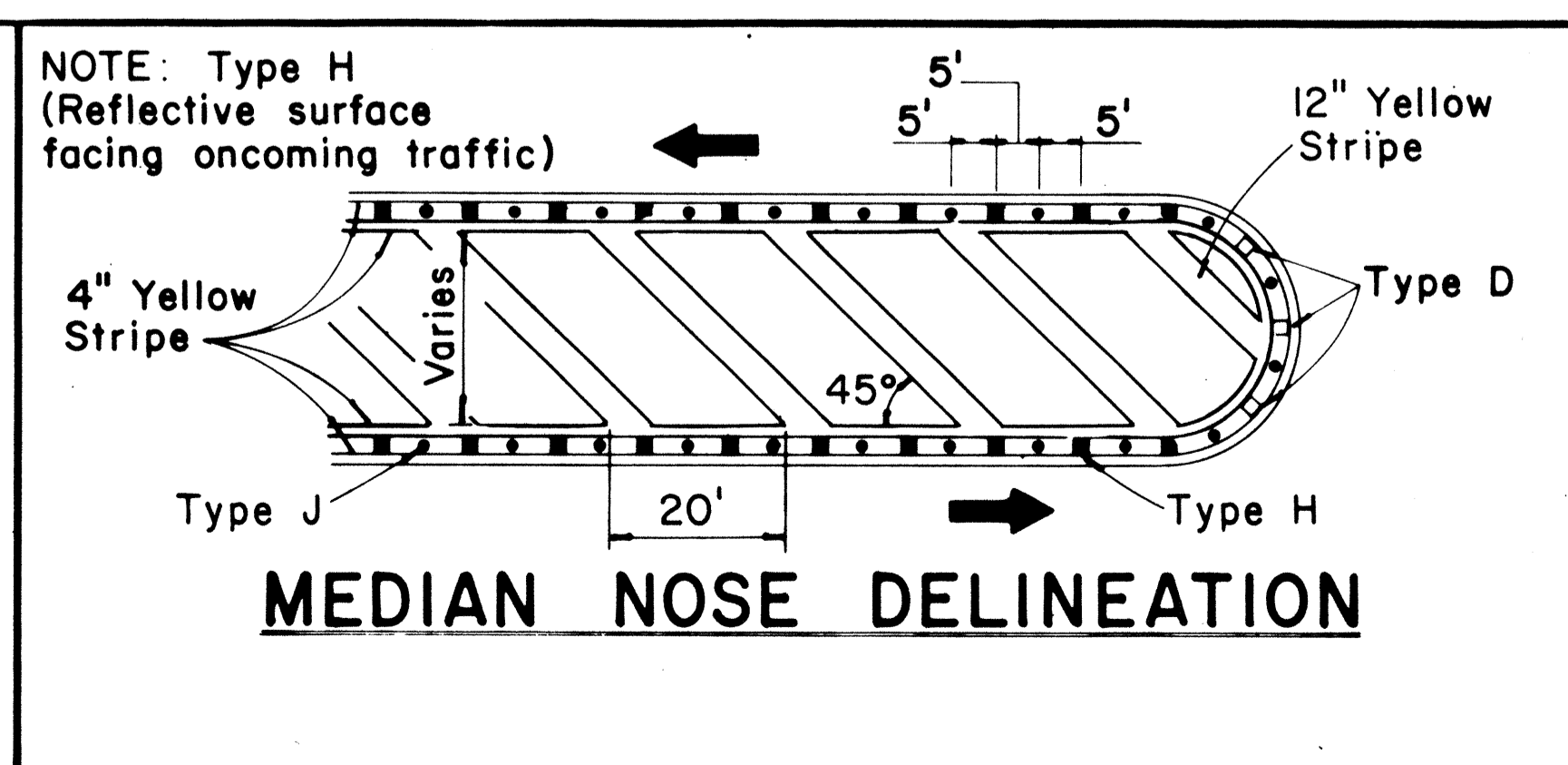
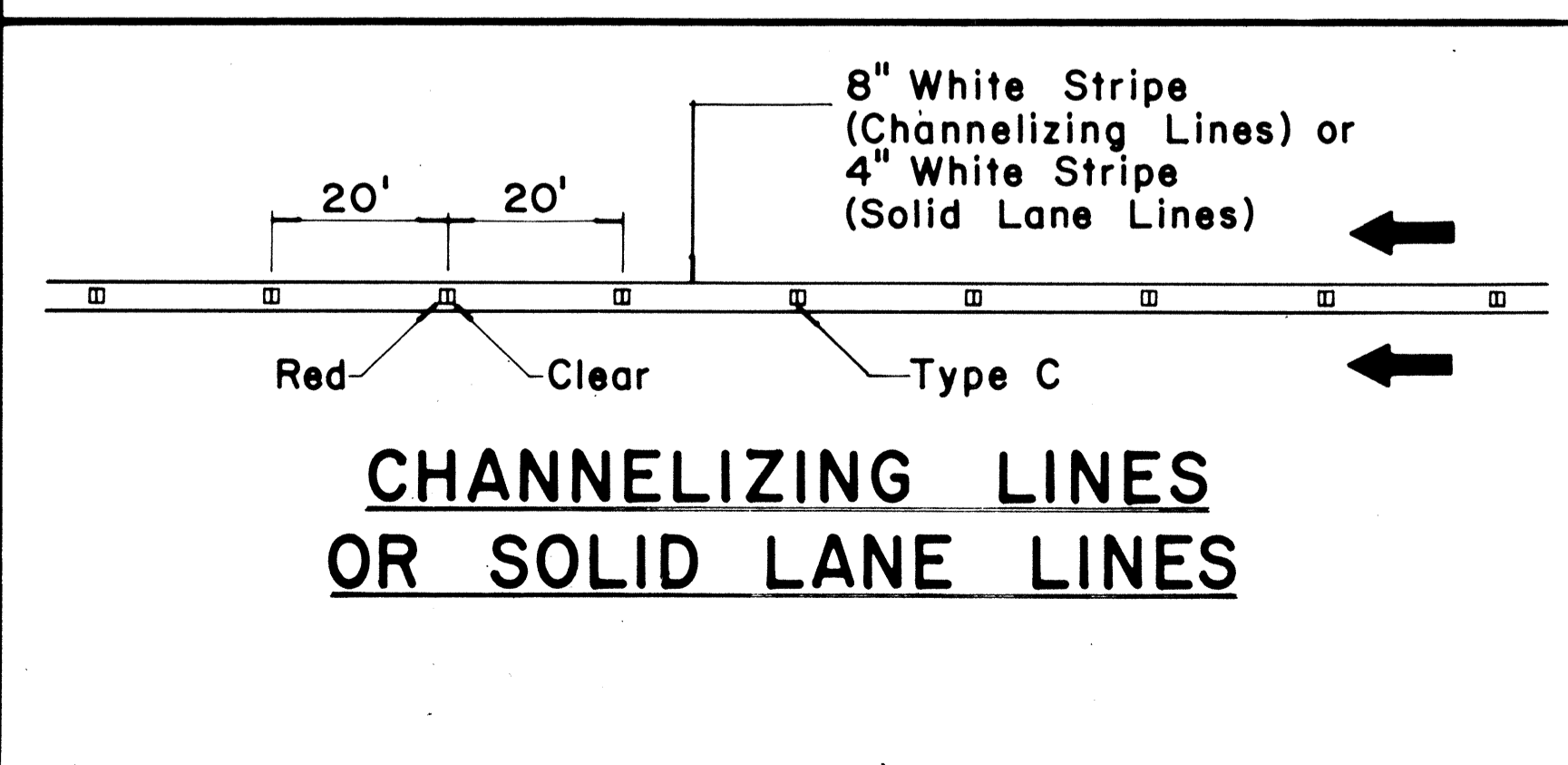
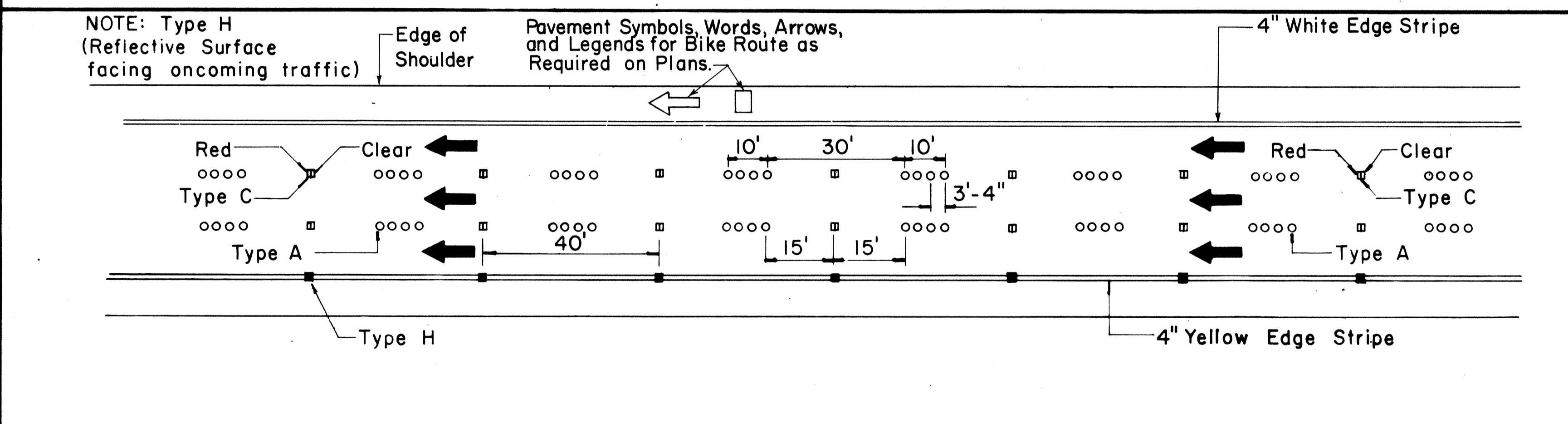
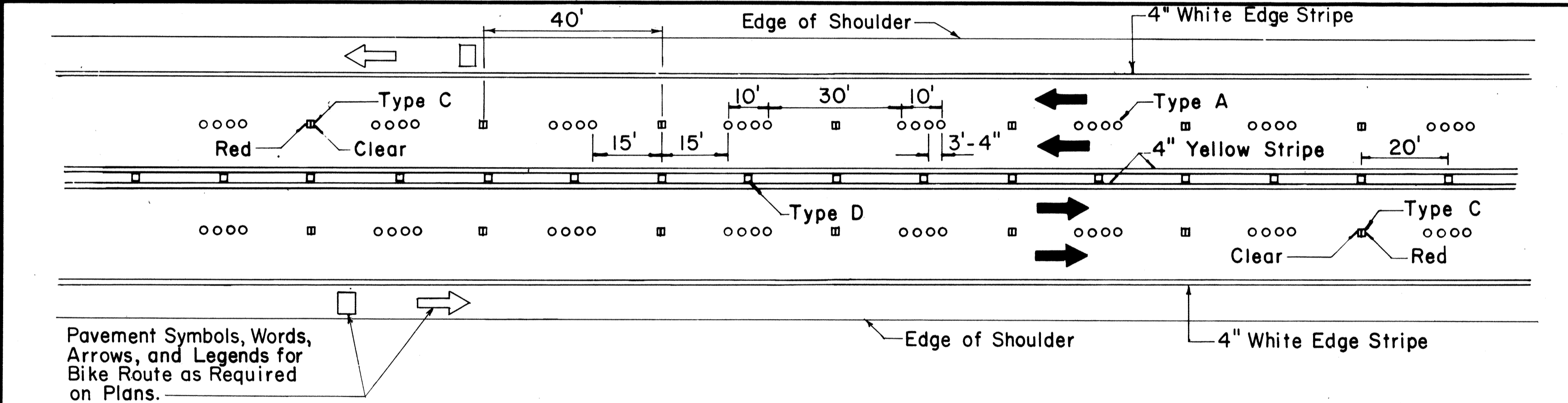
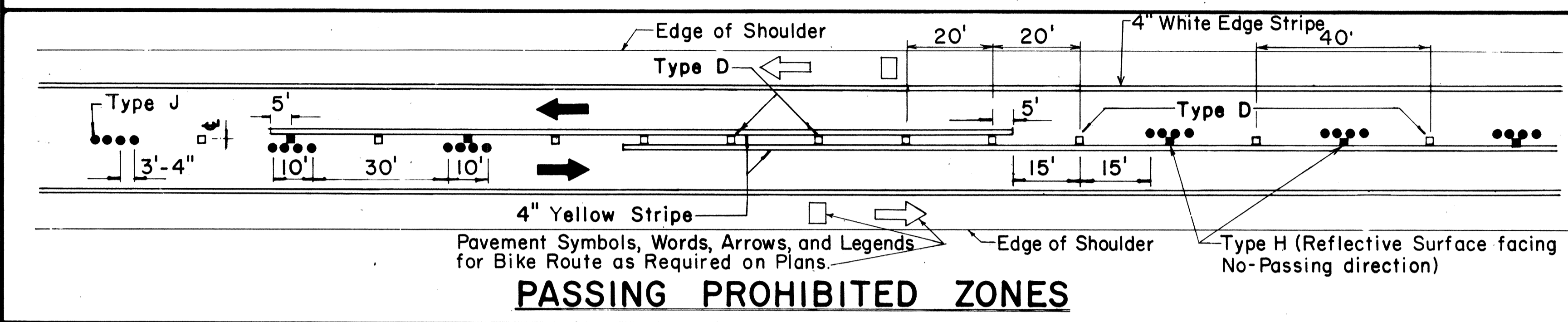
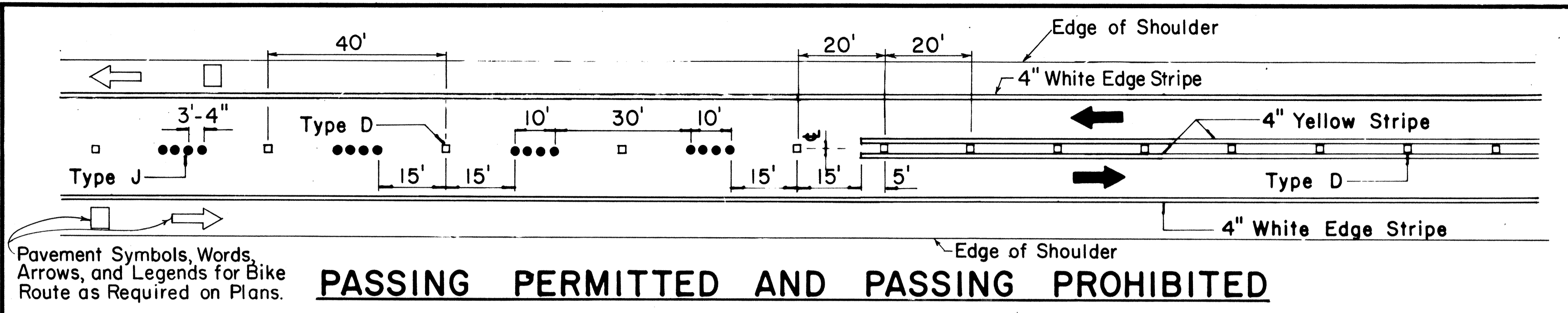
STANDARD DETAILS
 MISCELLANEOUS REFLECTOR MARKERS

Not to scale June, 1977

SHEET NO. 16 OF 21 SHEETS DT 110

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(6)	1983	47	51

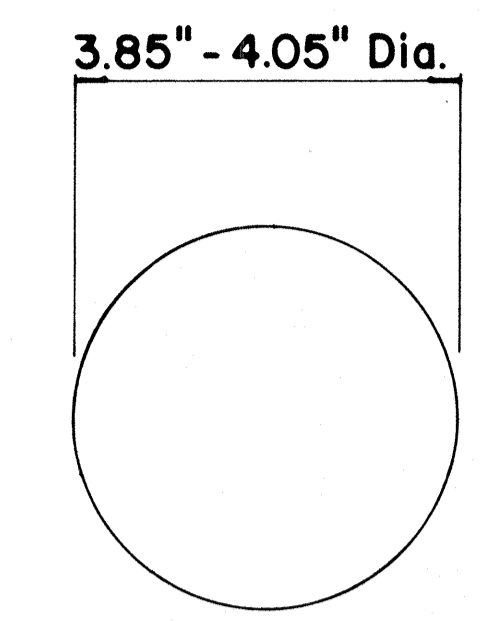


TWO - LANE

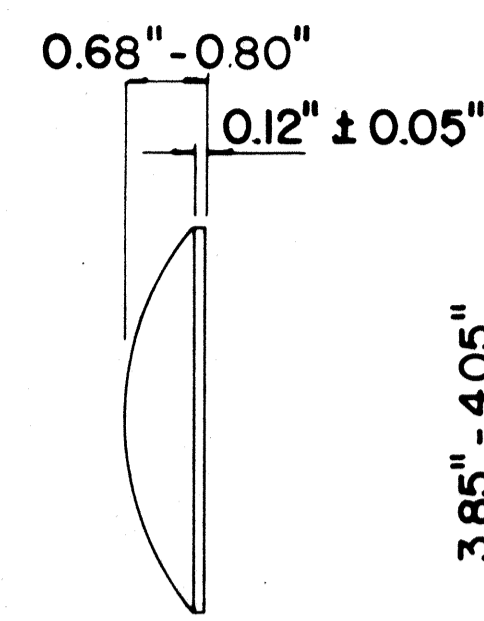
MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

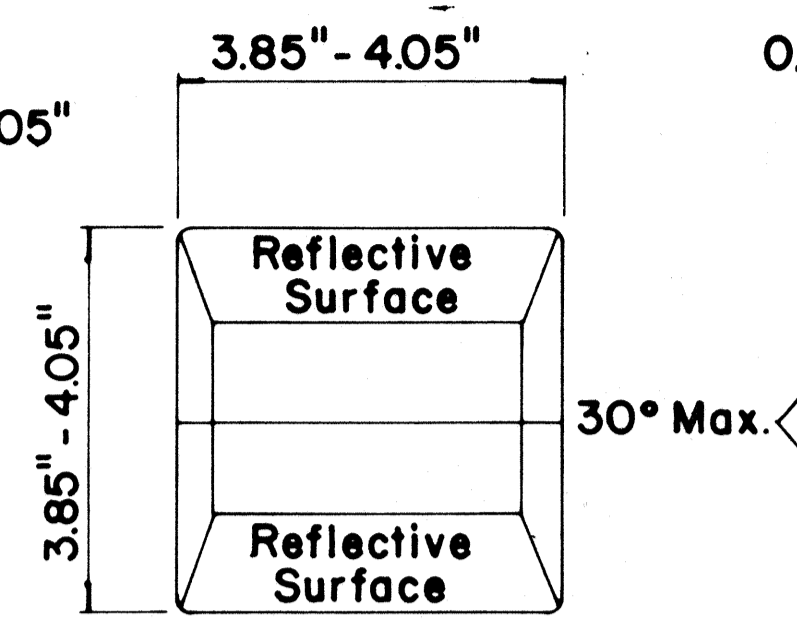
MISCELLANEOUS



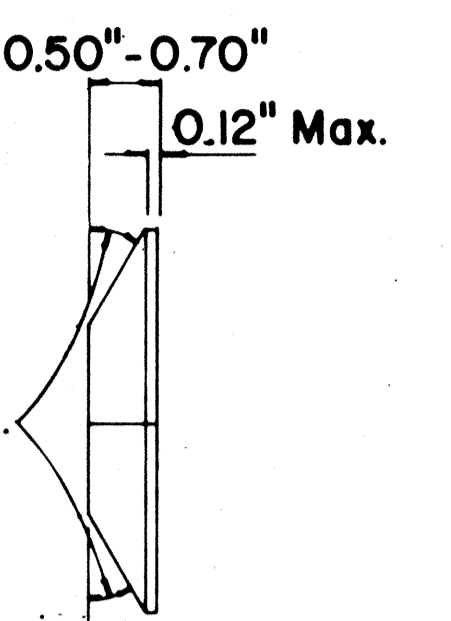
TYPE A
NON-REFLECTIVE WHITE MARKER



TYPE J
NON-REFLECTIVE YELLOW MARKER



TYPE C
RED-CLEAR REFLECTIVE MARKER



TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER

TYPE H
ONE-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.

LEGEND

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

APPROVAL RECOMMENDED:
Eiichi Tanaka 7/21/78
TRAFFIC ENGINEER DATE

APPROVED:
Harbert J. Zaleski 1/24/78
ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Supersedes DT 300 approved 11/18/71.	H.T.	1/24/78
2	Delete Type A Markers from Bike Route Delineation.	H.T.	10/15/79

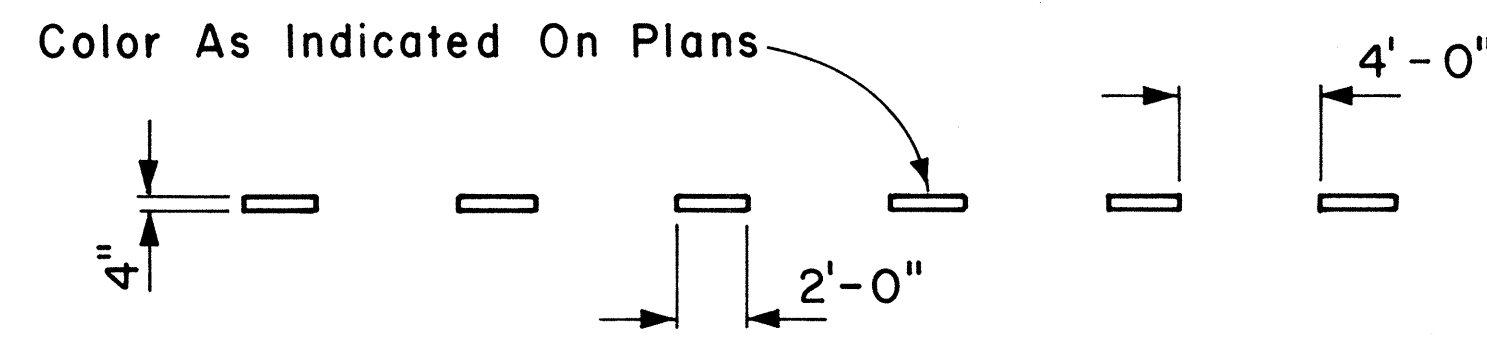
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING

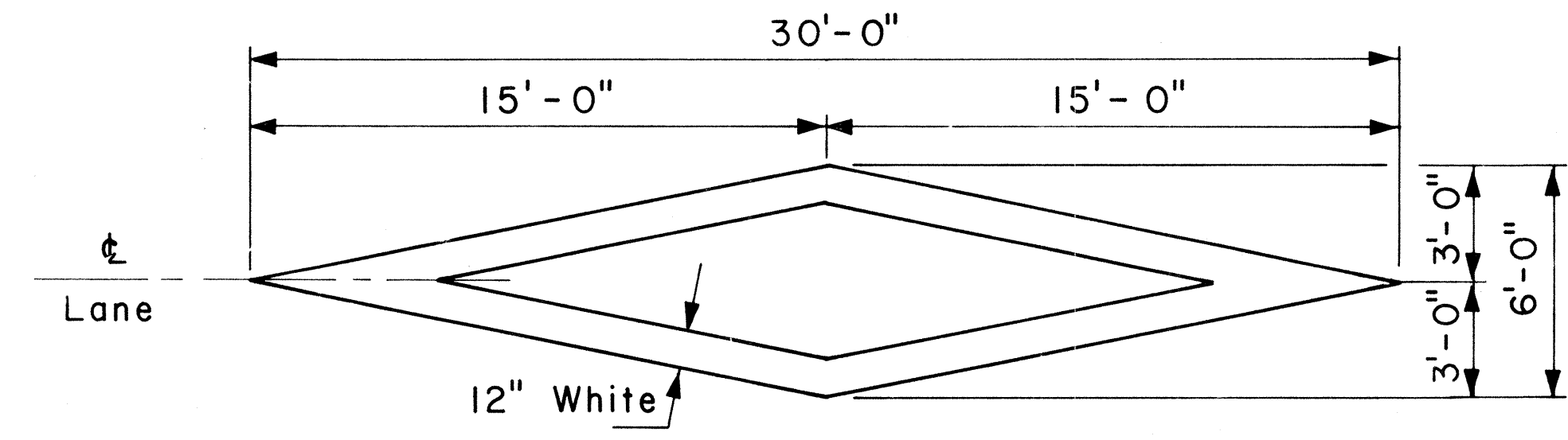
Not to Scale July 1978
SHEET No. 17 OF 21 SHEETS DT 300

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(6)	1983	48	51



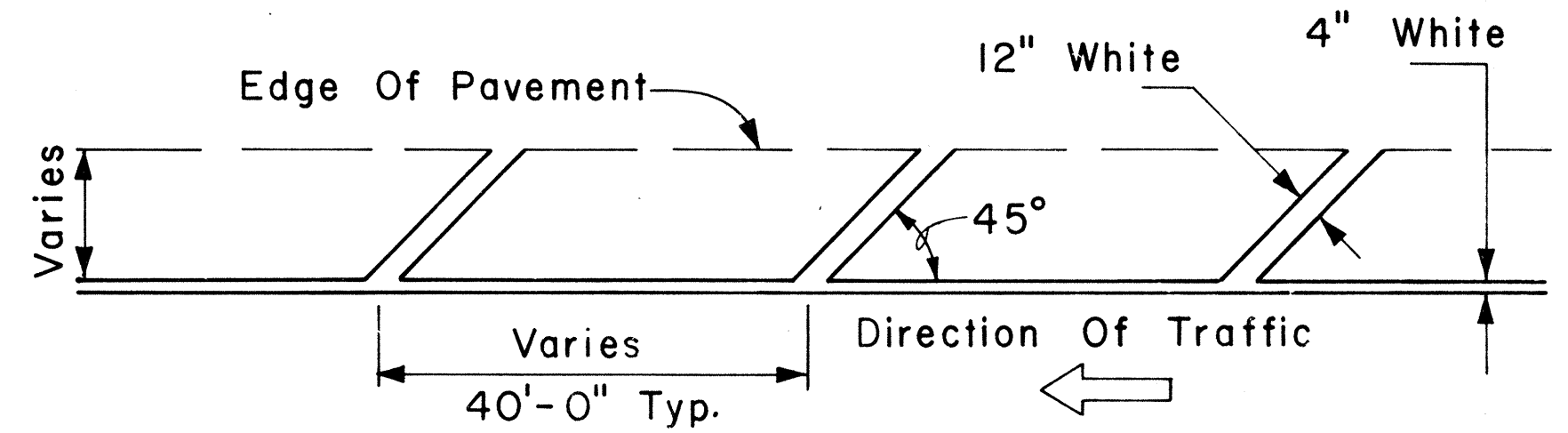
4" GUIDE LINE



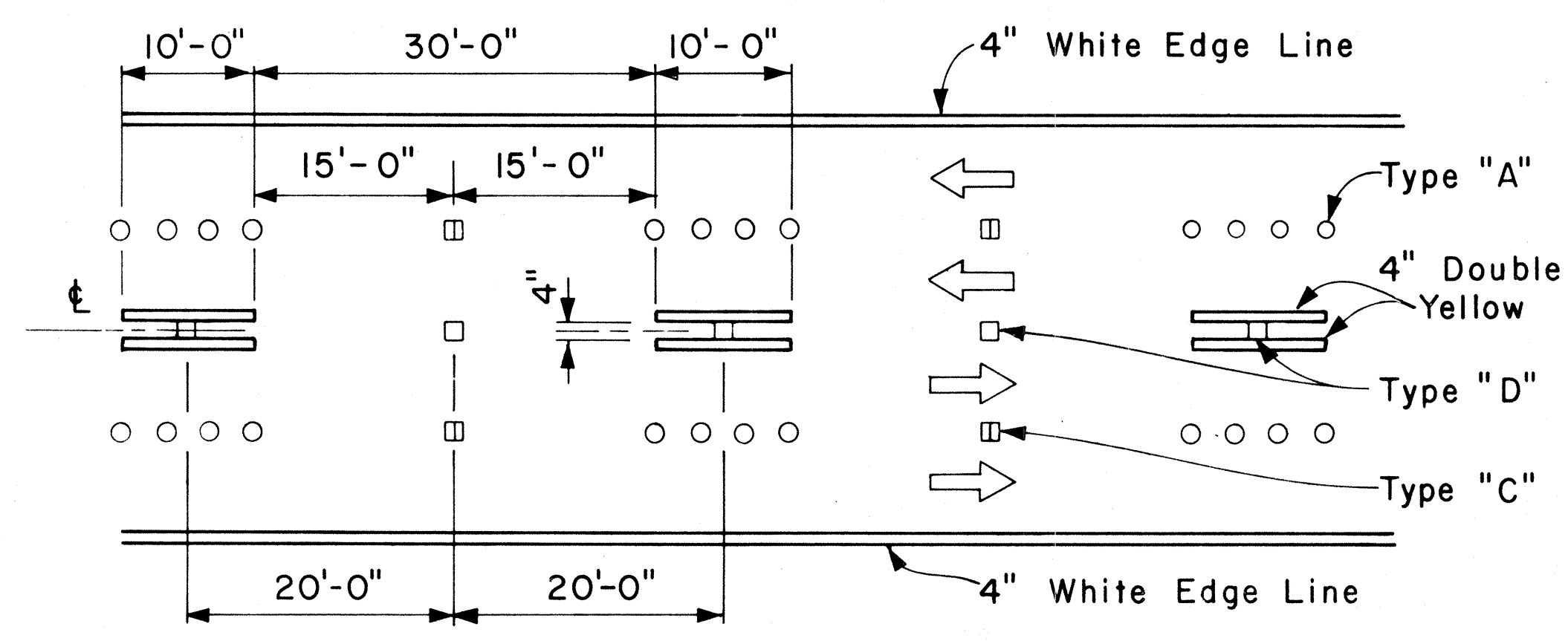
PAVEMENT DIAMOND

GENERAL NOTES:

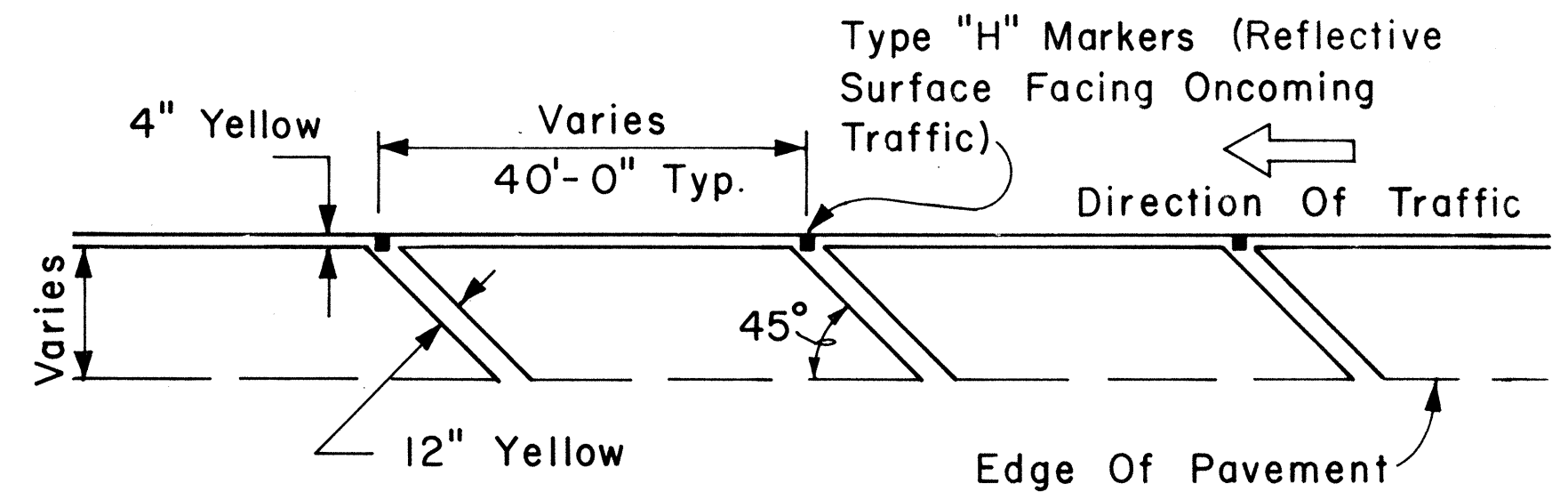
1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and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



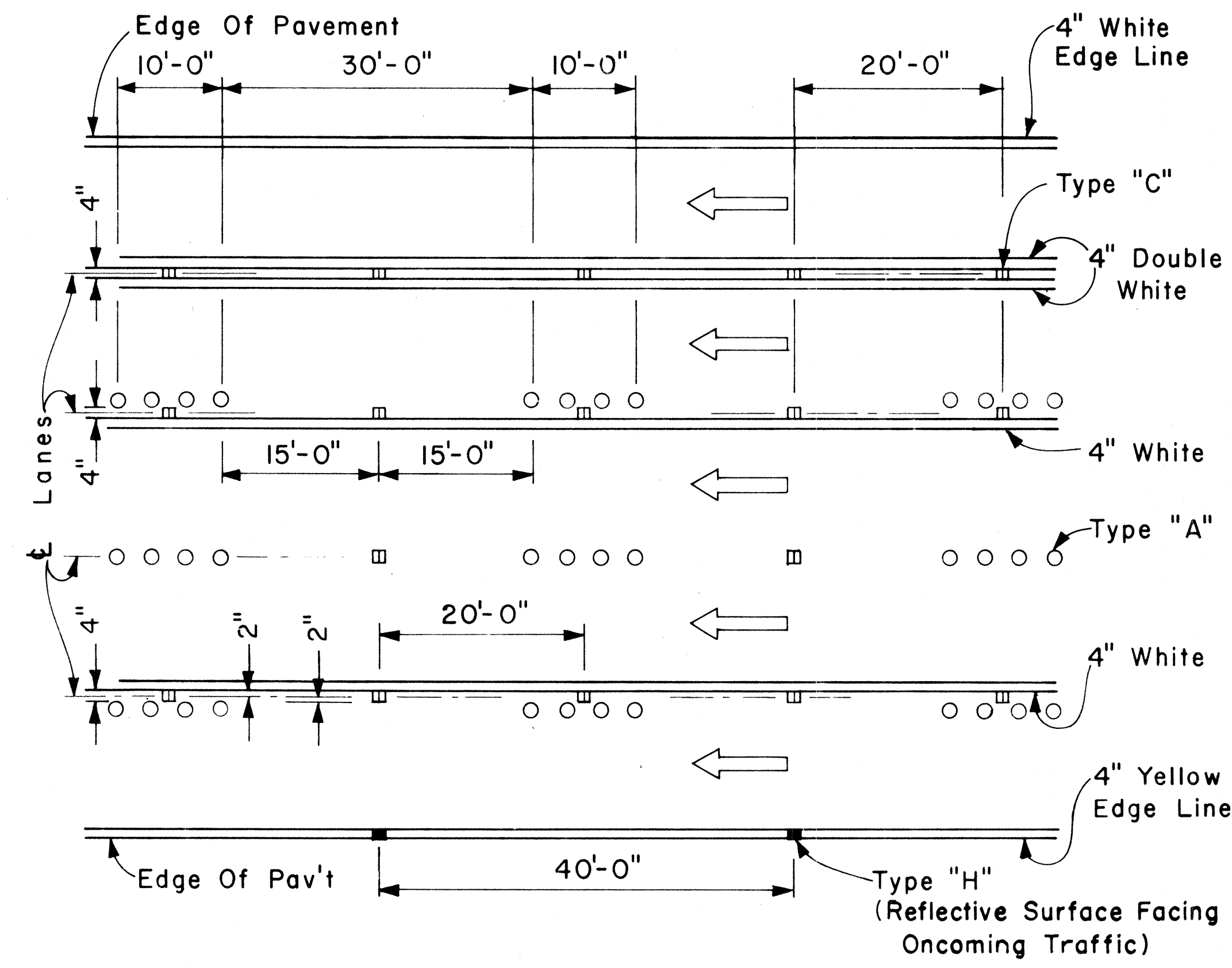
TRANSVERSE RIGHT SHOULDER MARKING



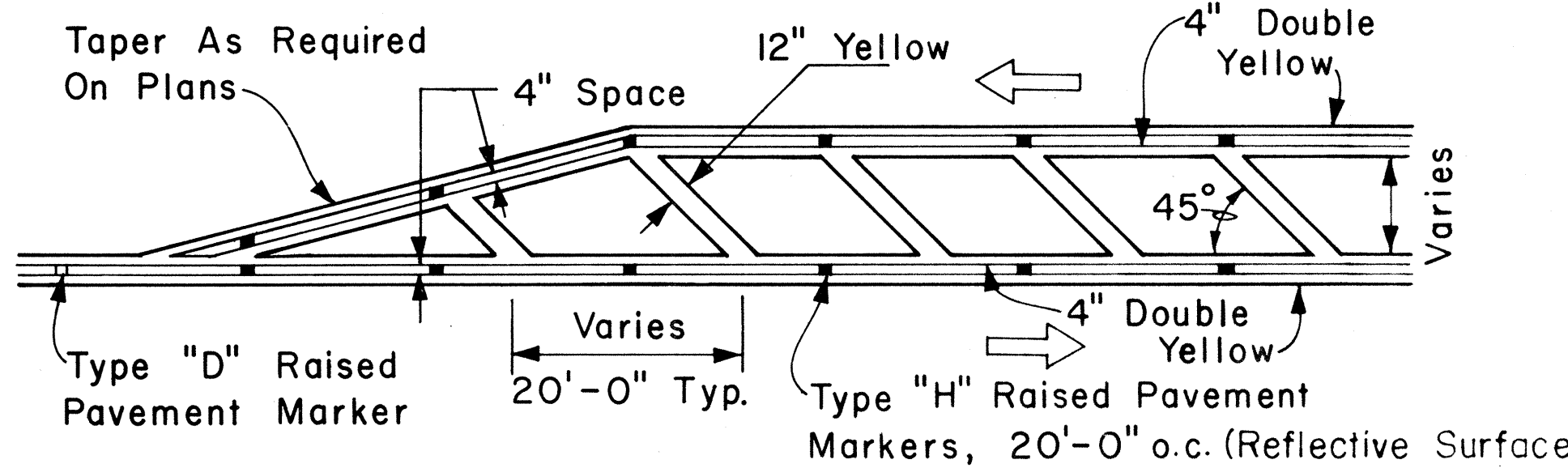
MULTI-LANE REVERSIBLE LANES



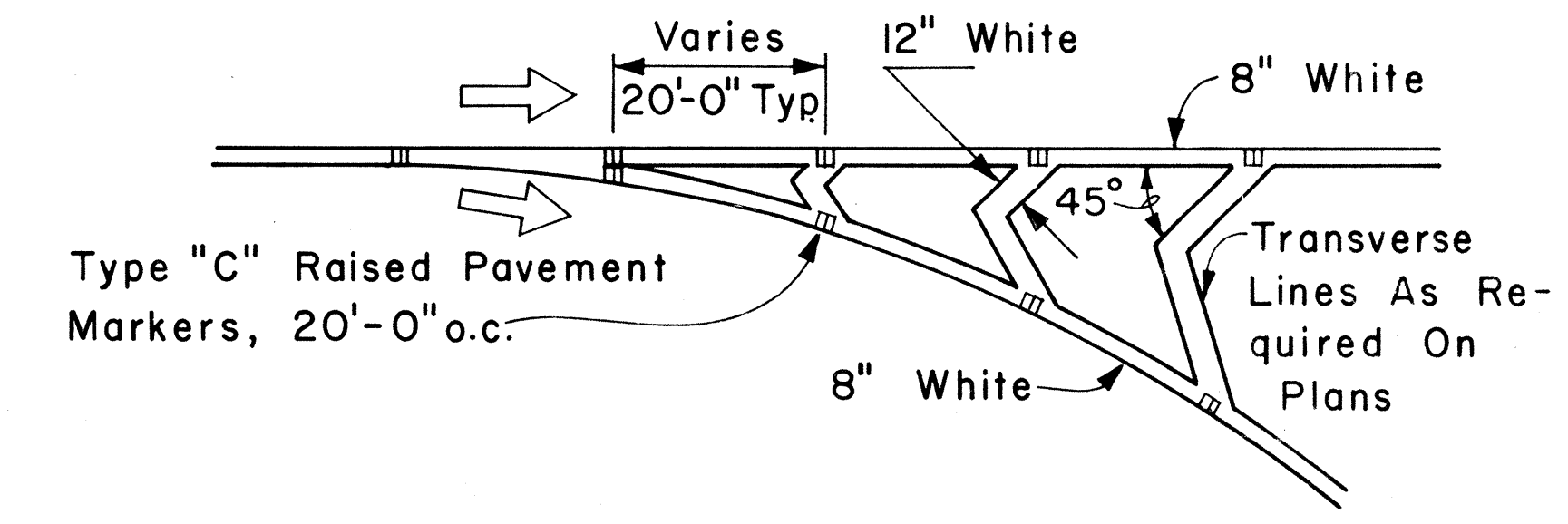
TRANSVERSE LEFT SHOULDER MARKING



MULTI-LANE LANE CHANGE RESTRICTION ZONES



TRANSVERSE MEDIAN MARKING



CHANNELIZING ISLAND

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

APPROVED:
Harbor 2. Zafrahu 5/3/78
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS
 PAVEMENT MARKINGS

Scale: Not to Scale Date: April, 1978
 SHEET No. 18 OF 21 SHEETS DT 302

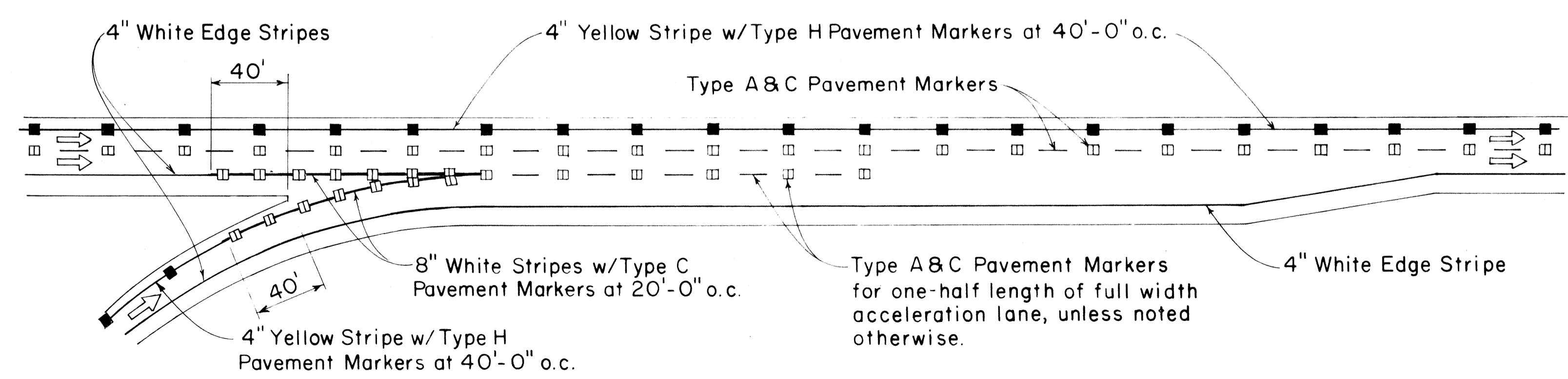
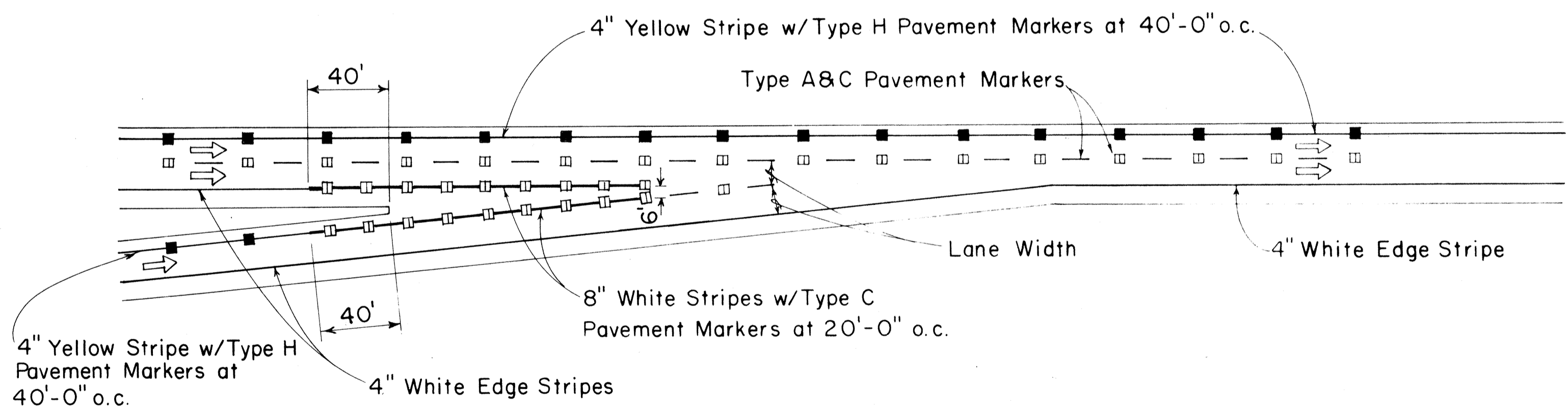
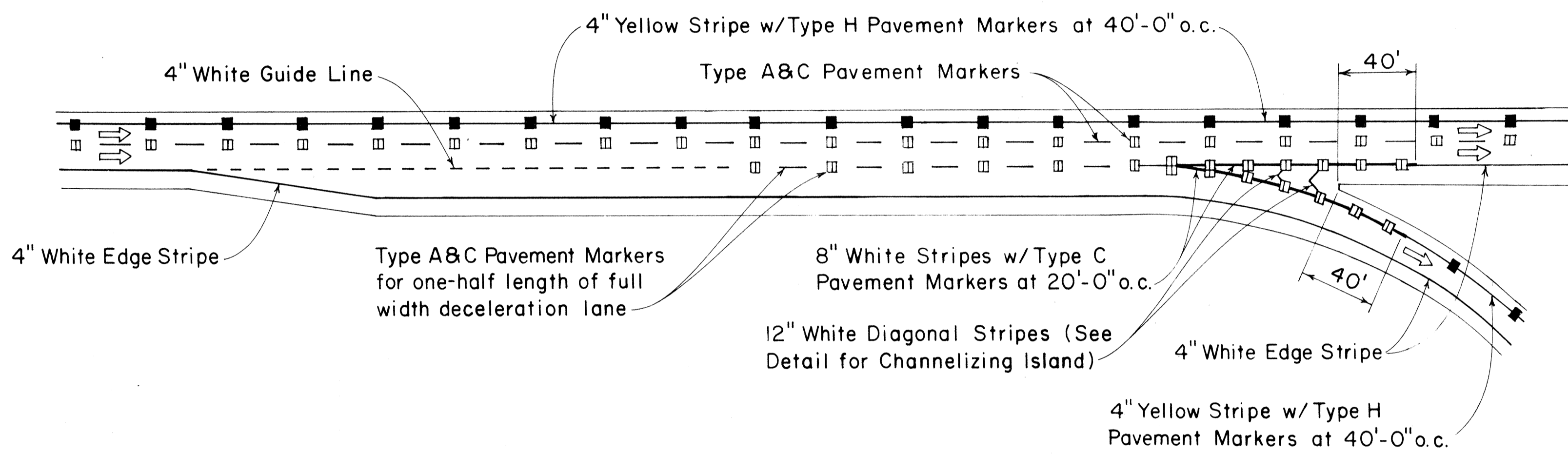
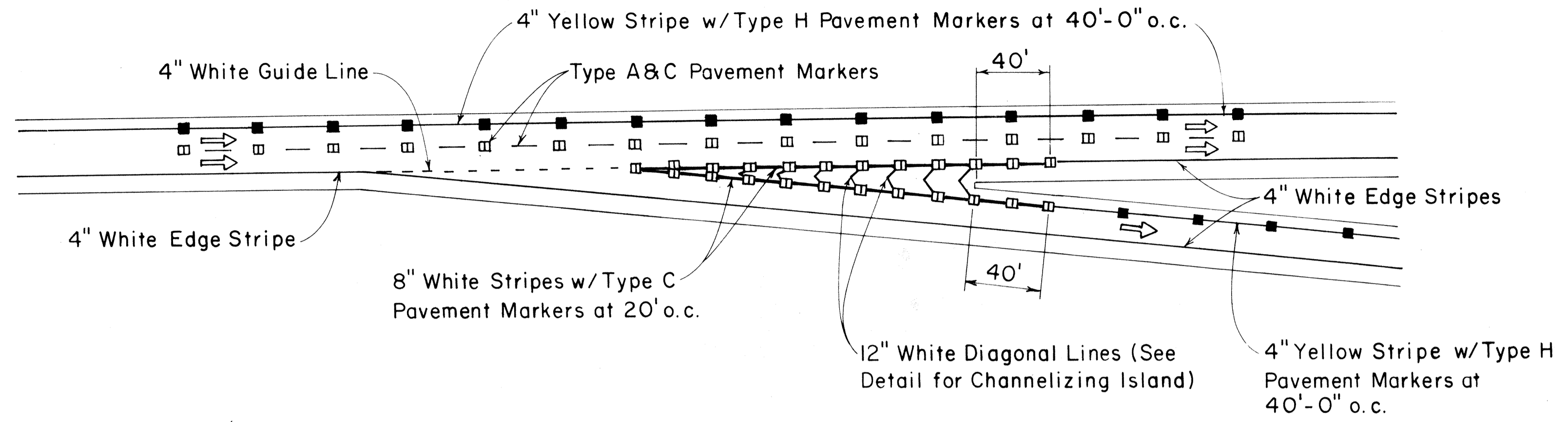
SURVEY PLOTTED BY: _____ DATE: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 QUANTITIES BY: _____
 CHECKED BY: _____
 ORIGINAL PLAN NO. _____
 NOTE BOOK NO. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(6)	1983	42	51

GENERAL NOTES:

1. Pavement Markings 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 details, see sheet DT 300.

TAPERED DECELERATION LANE
PARALLEL DECELERATION LANE
TAPERED ACCELERATION LANE
PARALLEL ACCELERATION LANE
TYPICAL ROADWAY EXIT MARKINGS
TYPICAL ROADWAY ENTRANCE MARKINGS



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

APPROVAL RECOMMENDED:
Eishi Tanaka 7/21/78
 TRAFFIC ENGINEER DATE

APPROVED:
Robert S. Rakeishi 7/24/78
 ASSISTANT CHIEF, ENGINEERING DATE

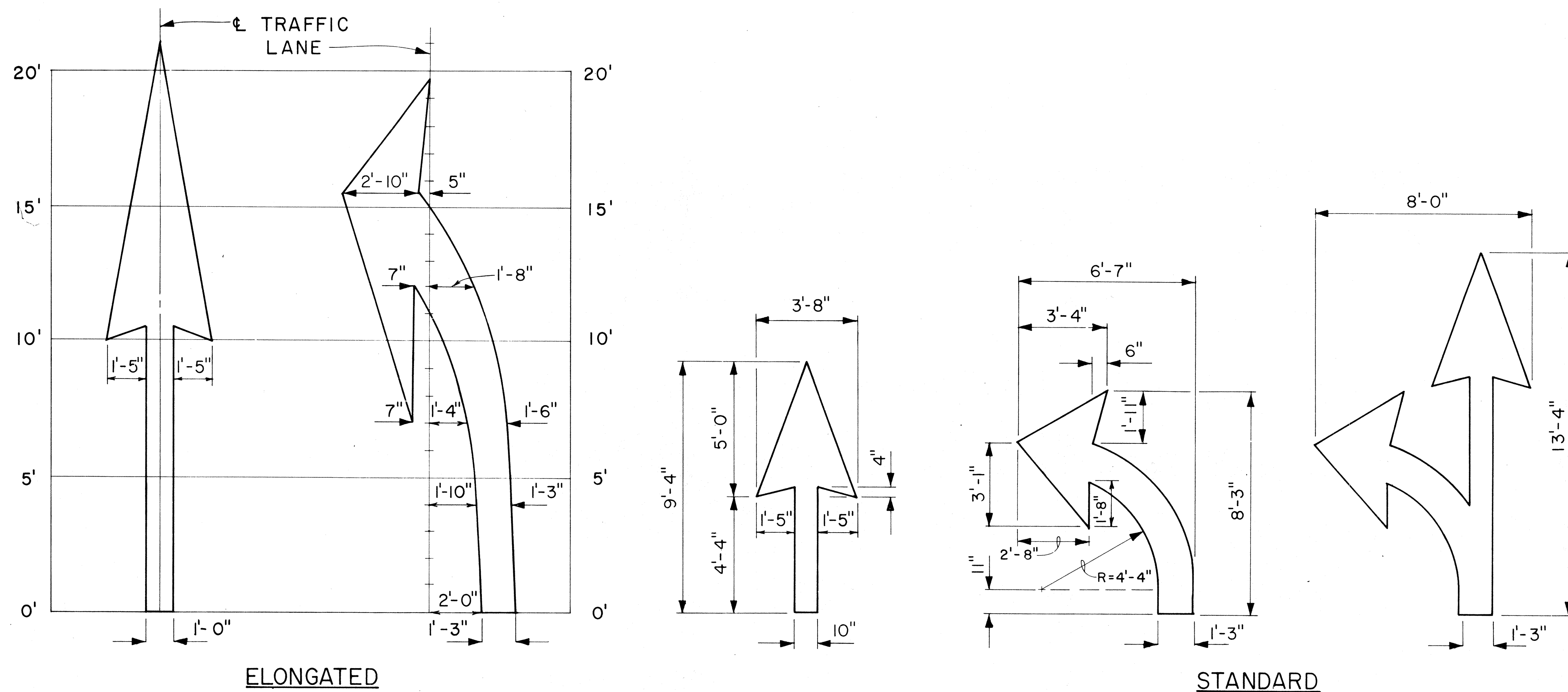
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
PAVEMENT MARKINGS

Not to Scale July 1978
 SHEET No. 12 OF 21 SHEETS DT 304

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-(6)	1983	50	51

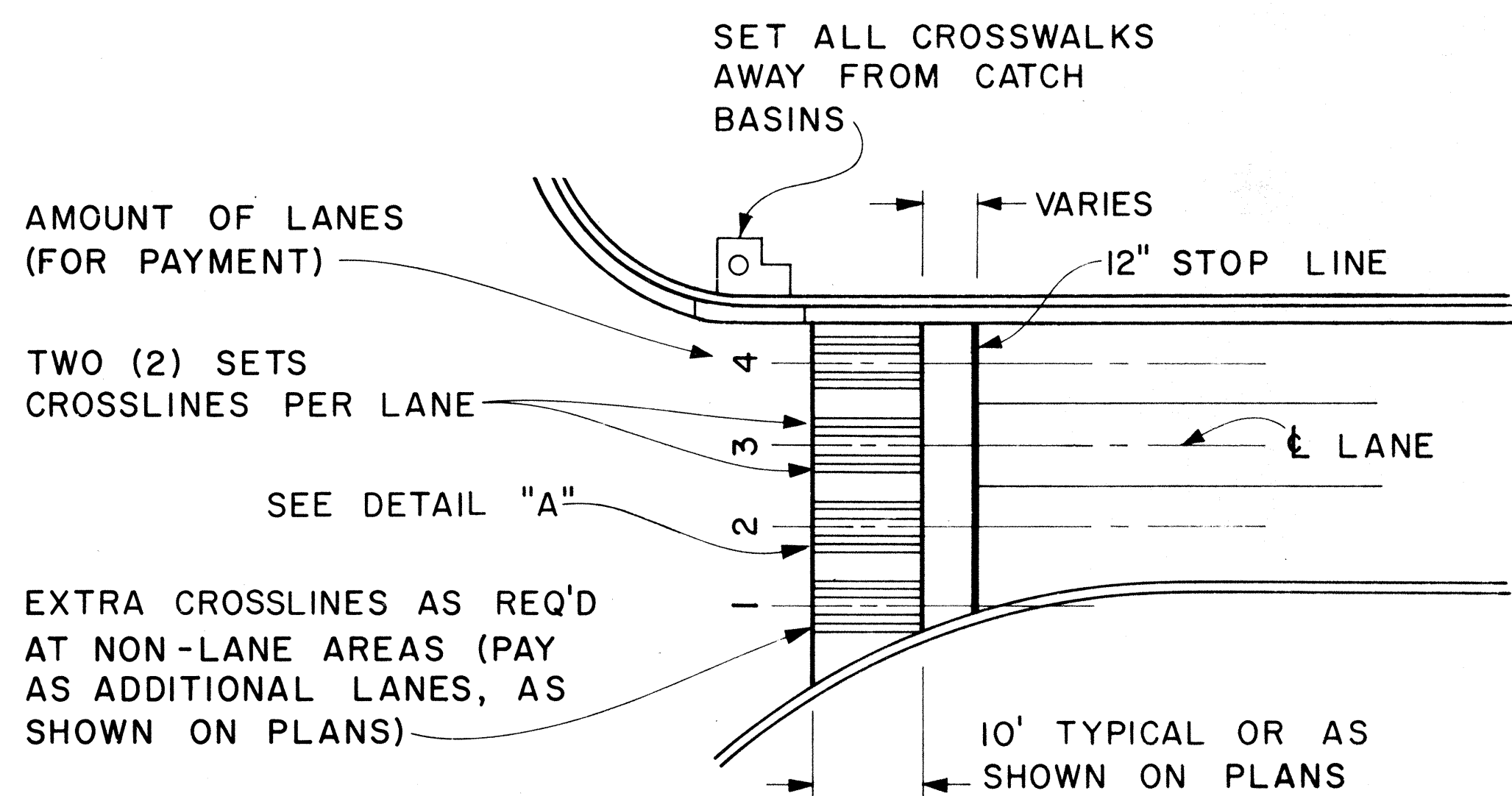


PAVEMENT ARROWS

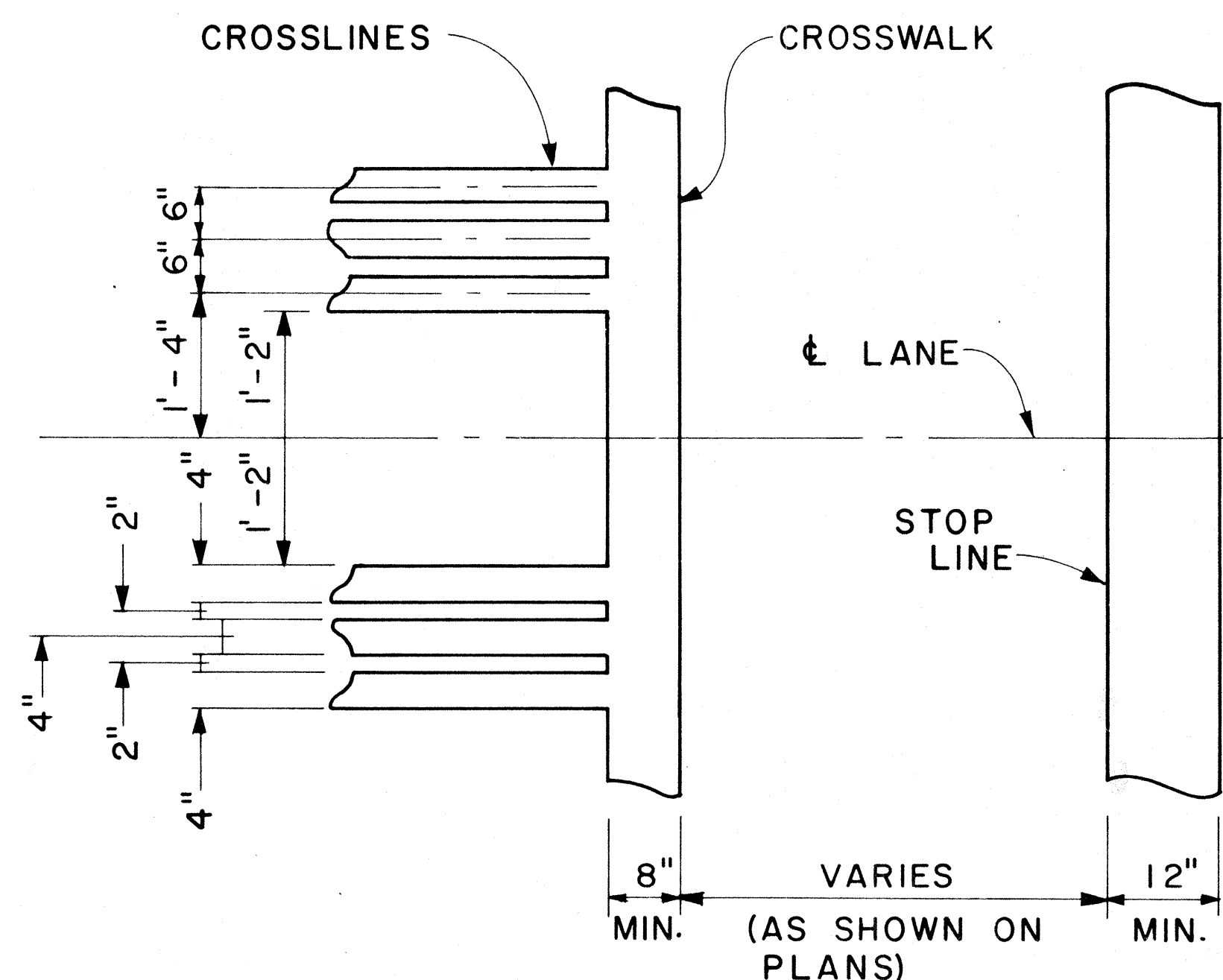
Scale: 3/8" = 1'

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.



PLAN



DETAIL "A"

CROSSWALK & STOP LINE

Scale: Not to Scale

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

APPROVED:
Harbert S. Sakai 5/2/78
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

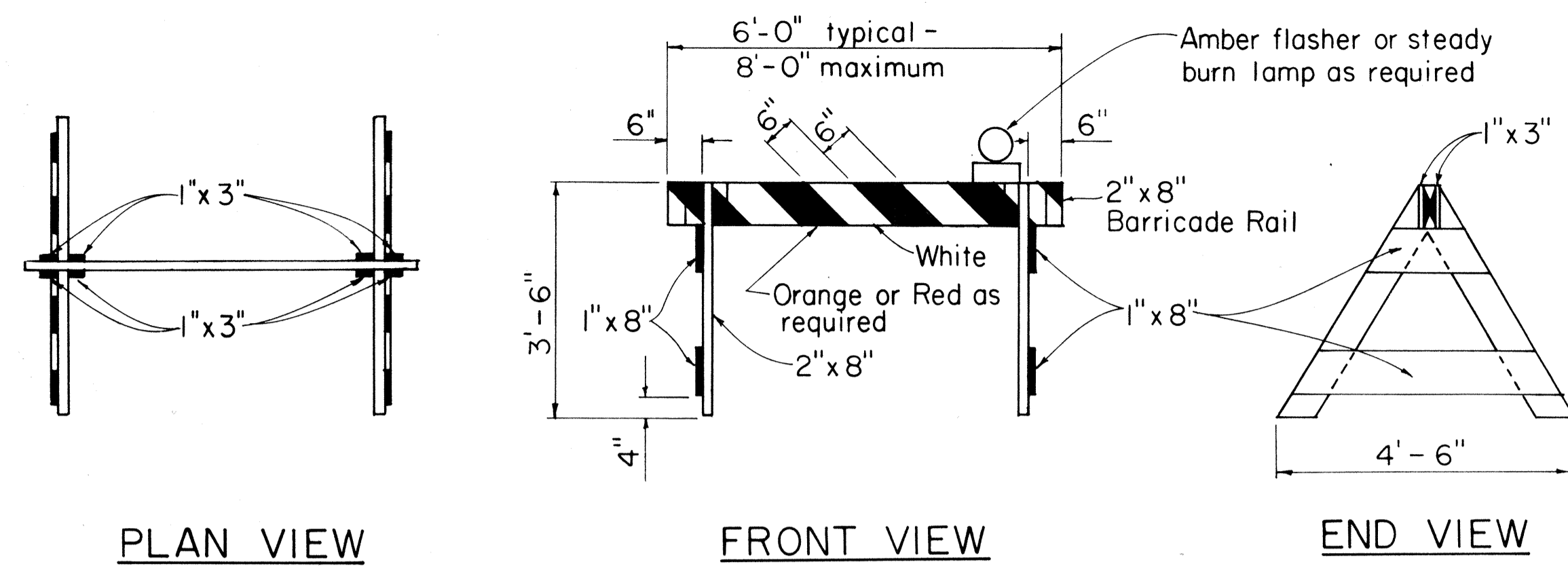
STANDARD DETAILS

MISCELLANEOUS
 PAVEMENT MARKINGS

Scale: As Shown Date: March, 1978
 SHEET NO. 20 OF 21 SHEETS DT 306

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FR-093-1(6)	1983	51	51

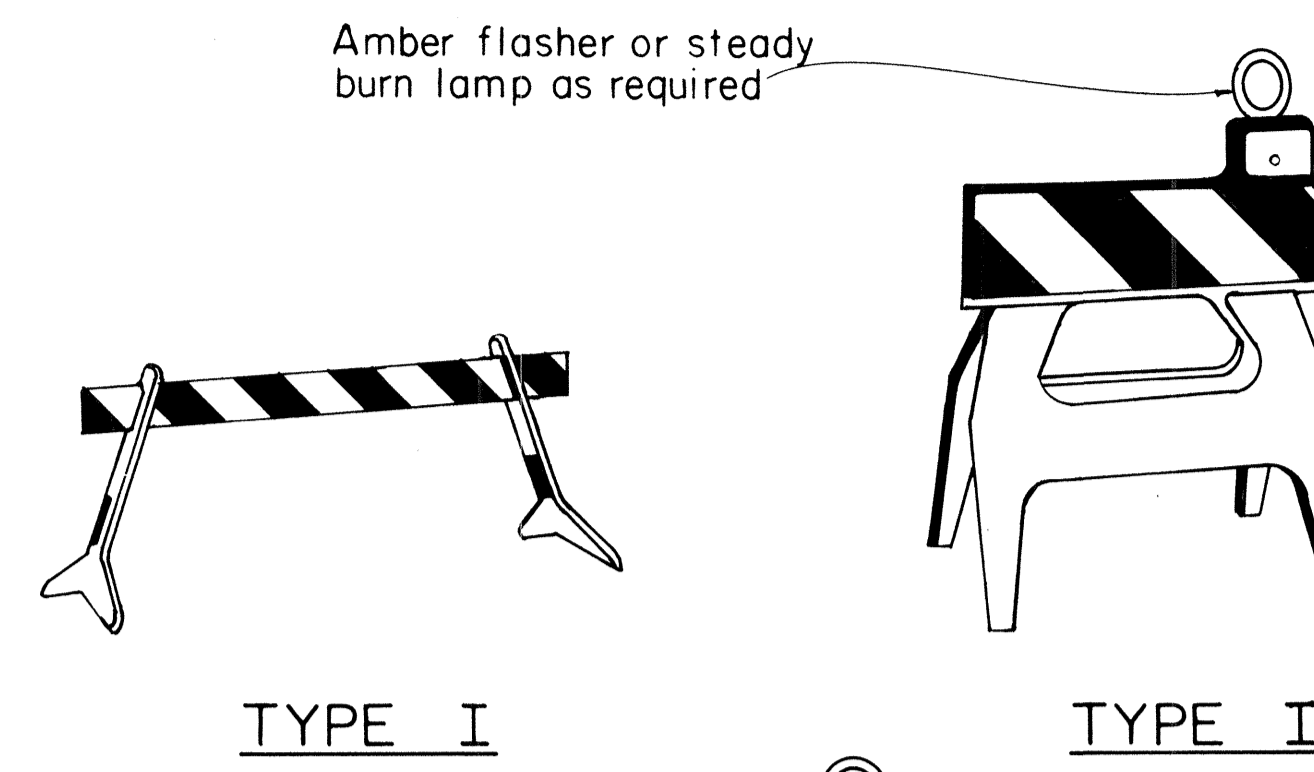


PLAN VIEW

FRONT VIEW

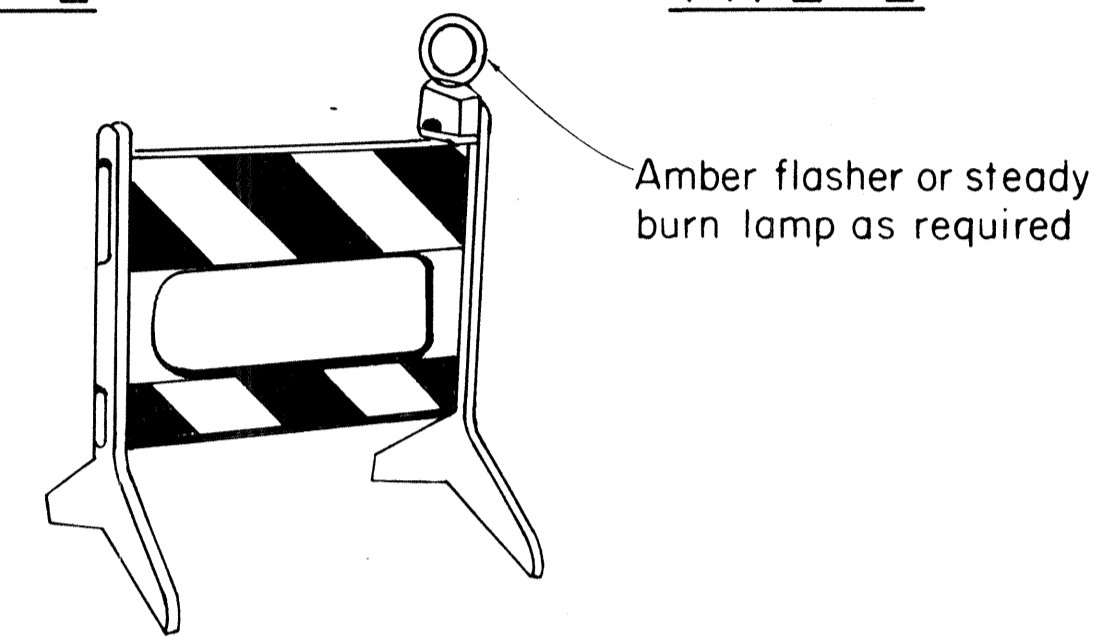
END VIEW

TYPE I BARRICADE
Scale: 1/2" = 1'-0"

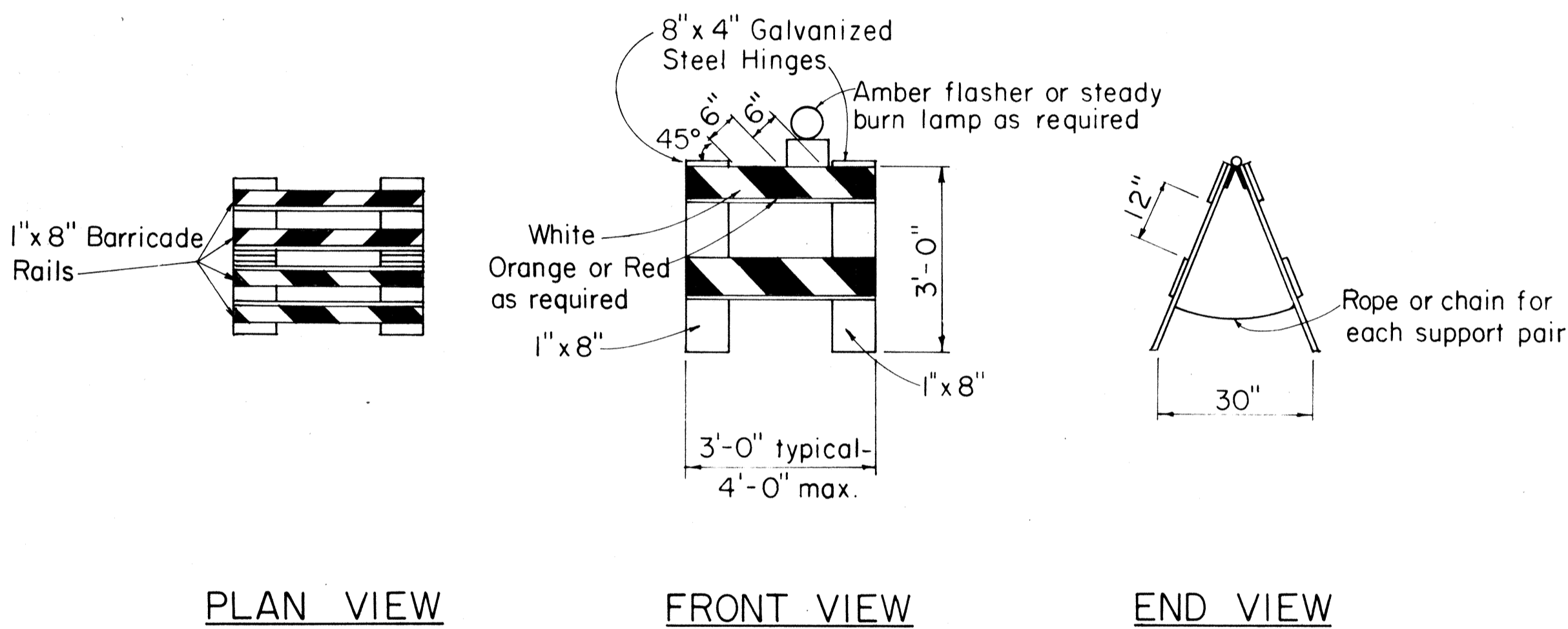


TYPE I

TYPE I



TYPE II



PLAN VIEW

FRONT VIEW

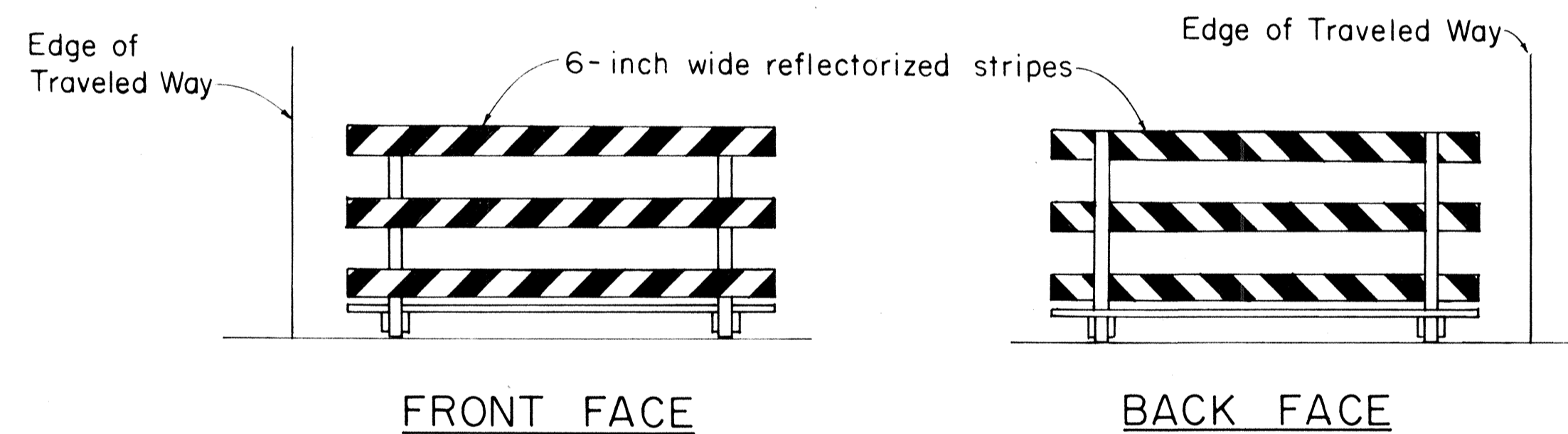
END VIEW

TYPE II BARRICADE
Scale: 1/2" = 1'-0"

PLASTIC MOLDED BARRICADE OPTIONS*

Not to Scale

* Shop Drawings must be submitted for approval.



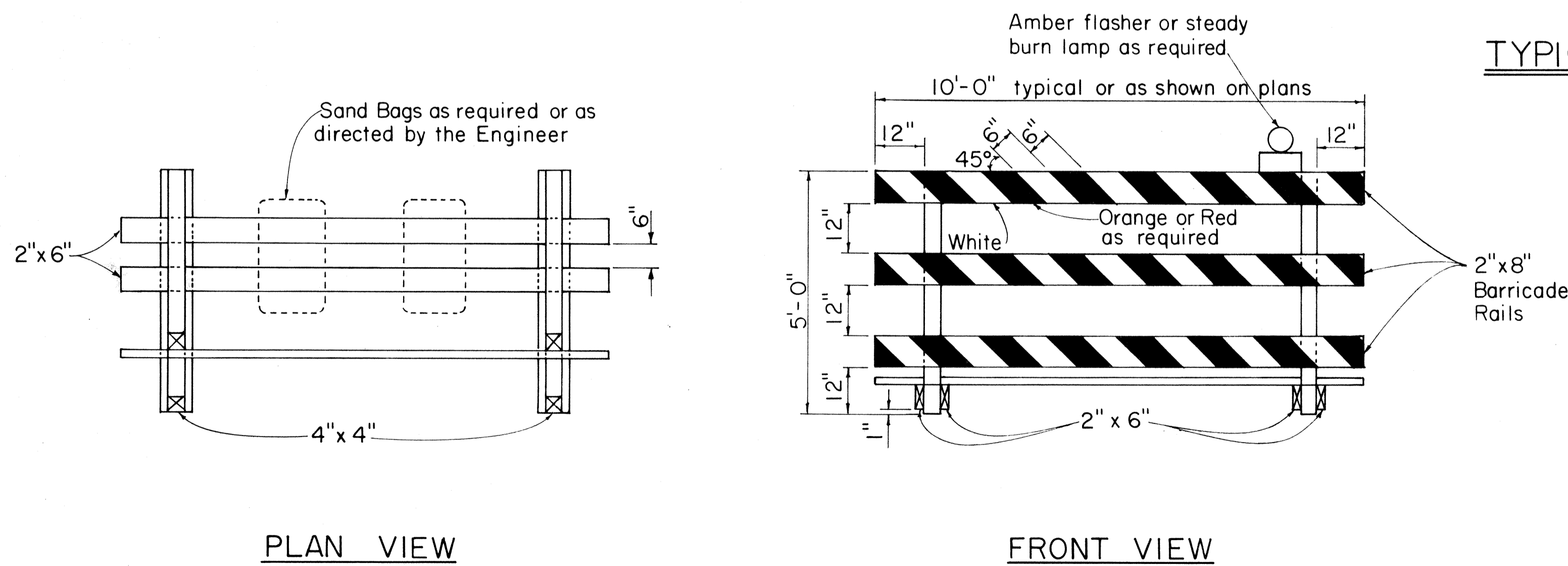
FRONT FACE

BACK FACE

TYPICAL BARRICADE STRIPING DETAILS**

Not to Scale

** Similar for Types I & II



PLAN VIEW

FRONT VIEW

END VIEW

TYPE III BARRICADE
Scale: 1/2" = 1'-0"

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

APPROVAL RECOMMENDED:
Eiichi Tanaka 10/21/81
TRAFFIC ENGINEER DATE

APPROVED:
Robert R. Reishis 10/23/81
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

BARRICADES

SCALE: As Shown

SHEET No. 21 OF 21 SHEETS DT 800

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