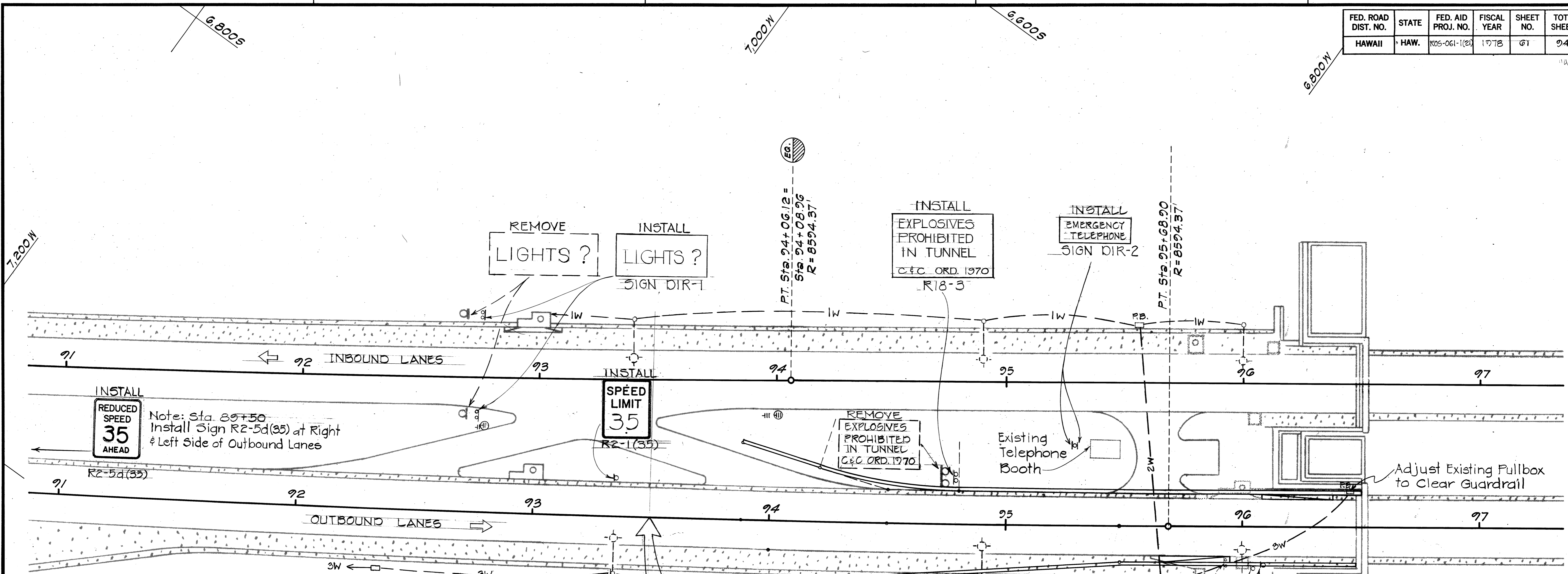
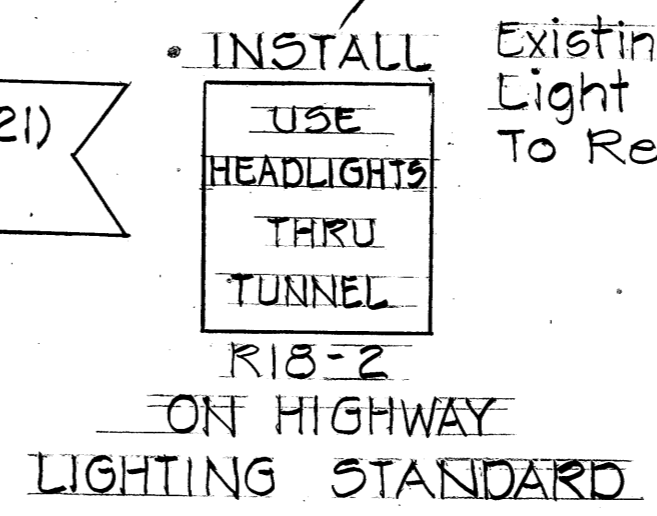
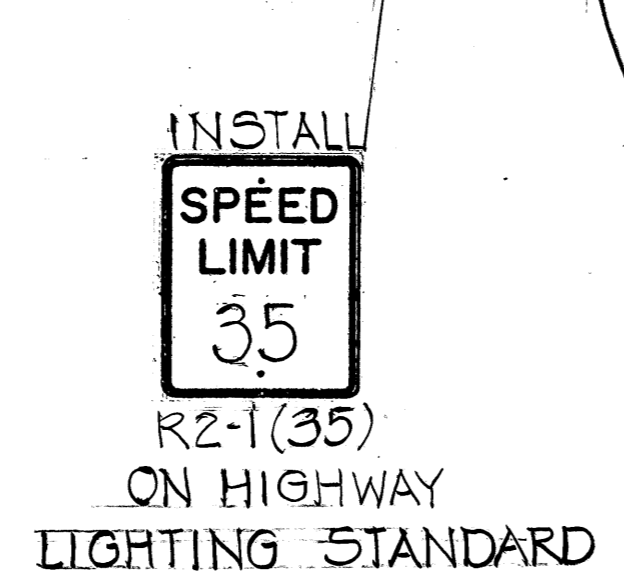


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	01	04



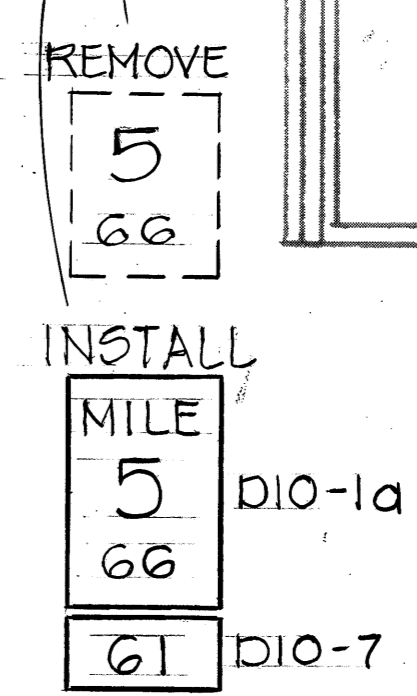
**GENERAL NOTES FOR SIGNING & LIGHTING PLAN**

1. The Contractor shall verify the locations and dimensions of the existing equipment and facilities.
2. Unless noted otherwise, see Detail Plan of Roadway for all roadway improvements and dimensions.
3. All existing signs shown or not shown on the plans are to be removed unless otherwise noted.
4. Refer to respective Standard Details sheet for all data pertaining to Standard Regulatory and Warning signs.
5. Exact locations of traffic signs shall be approved by the Engineer.
6. All new and relocated signs and markers installed on pipe posts, light standards are to be mounted with band brackets or with band bracket and steel braces.
7. Conduits shall be galvanized steel or PVC Plastic Conduits except risers into bases and exposed conduits shall be galvanized steel.
8. Highway Lighting Systems parts; Hardware and Components Damaged shall be replaced with New and Considered Incidental to the Contract.
9. All abandoned Highway Lighting Concrete Foundations and existing sign footings shall be removed unless otherwise directed by Engineer. Payment for this work will be considered to be incidental to Item 022.1710 and Item 021.3000 respectively.
10. No existing signs shall be moved until new signs are installed or approved by Engineer.



**LEGENDS**

- ⊙ Existing Highway Lighting Std. w/Luminaire, Mast Arm, & Transformer Base (Series Circuit).
- ⊙ Relocated Highway Lighting Std. w/Luminaire, Mast Arm & Transformer Base (Series Circuit).
- 2W--- Existing Direct Buried Cables.
- Abd---2W---Abd Existing Direct Buried Cables to be abandoned.
- 2C--- New 2" PVC Conduit w/2-1c #6 8KV Shielded Copper Cable and Solid #8 Bare Copper Ground Wire.
- P.B Existing Pullbox
- New Type "B" Pullbox
- + || || Existing RM-1, RM-2 & RM-3 to be removed.
- ⊙ Existing RM-2 Bothways
- ⊙ ⊙ ⊙ New RM-1, RM-2 & RM-3
- ⊙ ⊙ New RM-2 Bothways



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

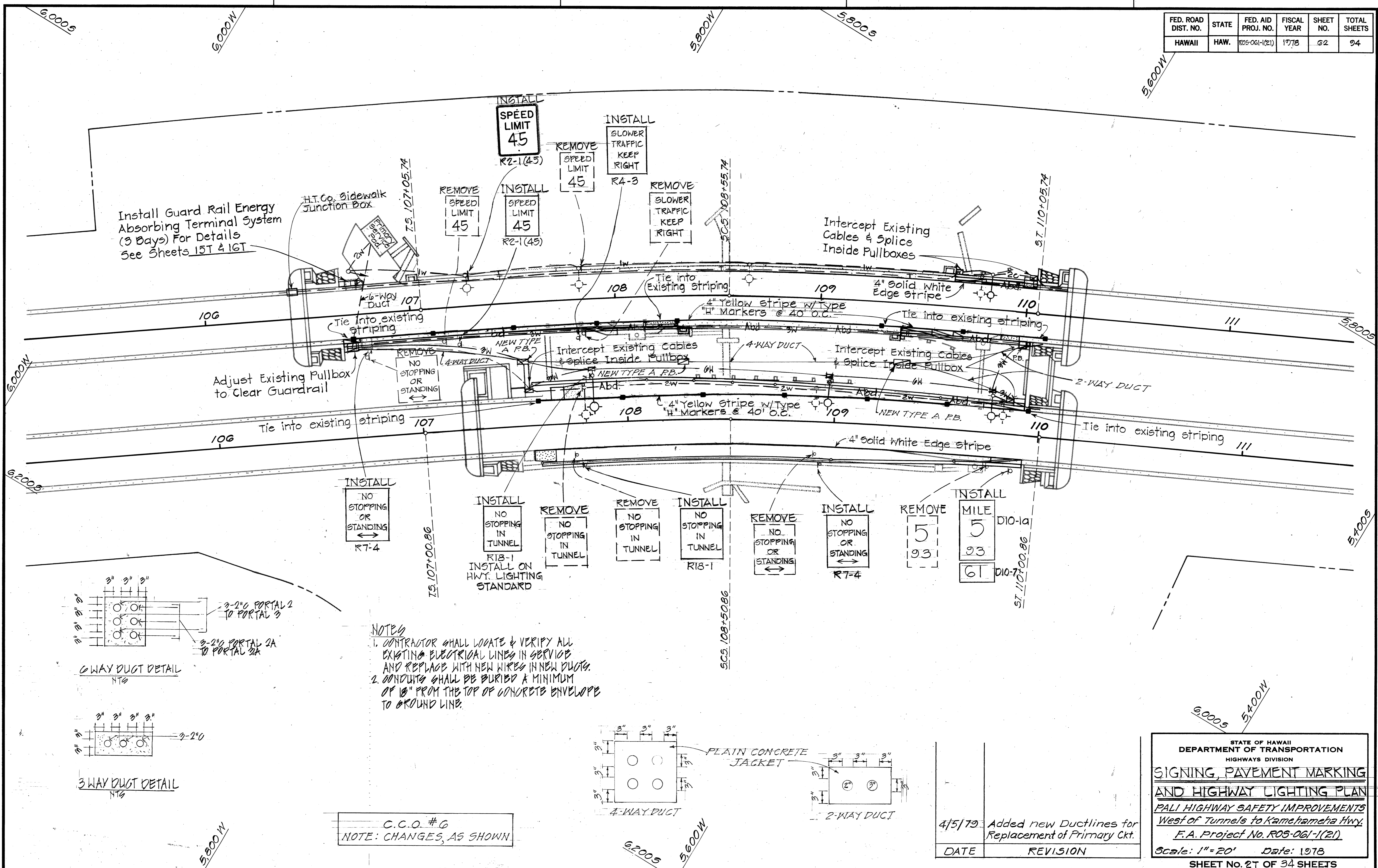
**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**

*PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnel to Kamehameha Hwy.  
F.A. Project No. ROS-061-1(21)*

Scale: 1" = 20'      Date: 1978  
SHEET NO. 17 OF 34 SHEETS

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	62	94



Install Guard Rail Energy Absorbing Terminal System (3 Bays) For Details See Sheets 15T & 16T

H.T.Co. Sidewalk Junction Box

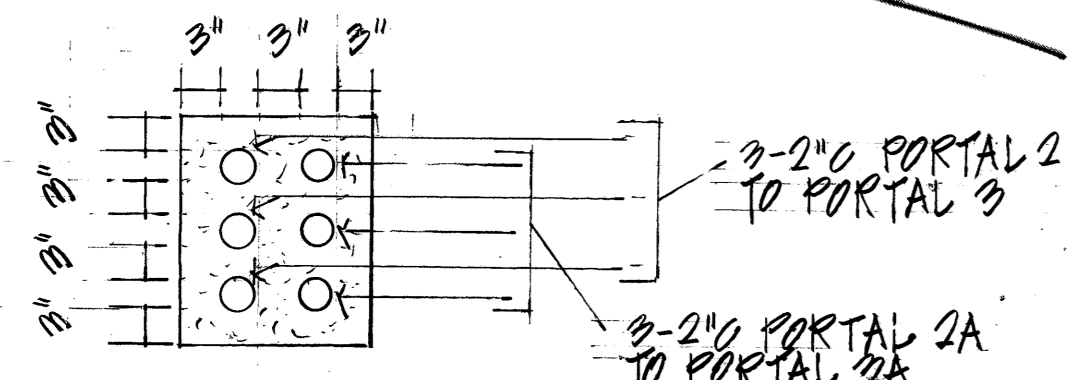
Adjust Existing Pullbox to Clear Guardrail

Intercept Existing Cables & Splice Inside Pullboxes

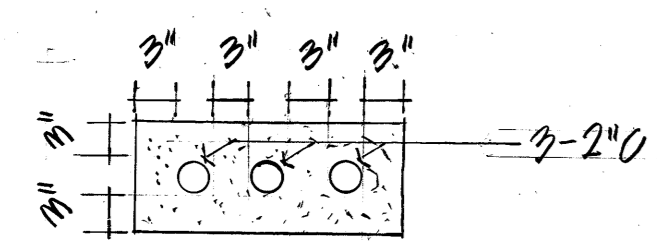
Intercept Existing Cables & Splice Inside Pullbox

Intercept Existing Cables & Splice Inside Pullbox

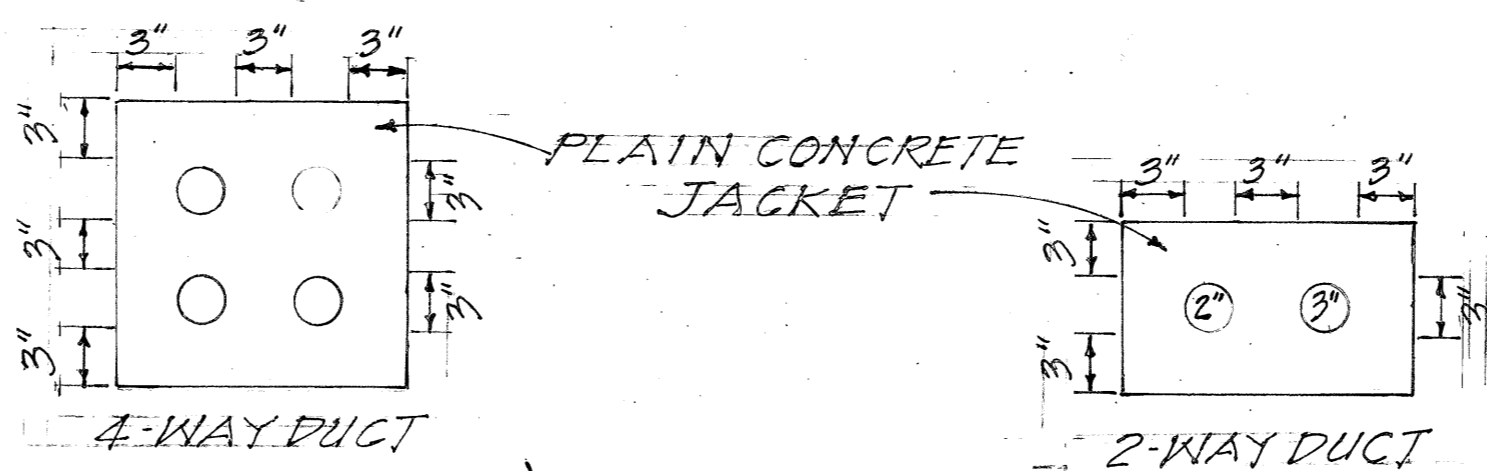
- NOTES**
- CONTRACTOR SHALL LOCATE & VERIFY ALL EXISTING ELECTRICAL LINES IN SERVICE AND REPLACE WITH NEW WIRES IN NEW DUCTS.
  - CONDUITS SHALL BE BURIED A MINIMUM OF 18" FROM THE TOP OF CONCRETE ENVELOPE TO GROUND LINE.



4-WAY DUCT DETAIL NTS



3-WAY DUCT DETAIL NTS



C.C.O. #6  
NOTE: CHANGES, AS SHOWN.

DATE	REVISION
4/5/79	Added new Ductlines for Replacement of Primary Ckt.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**

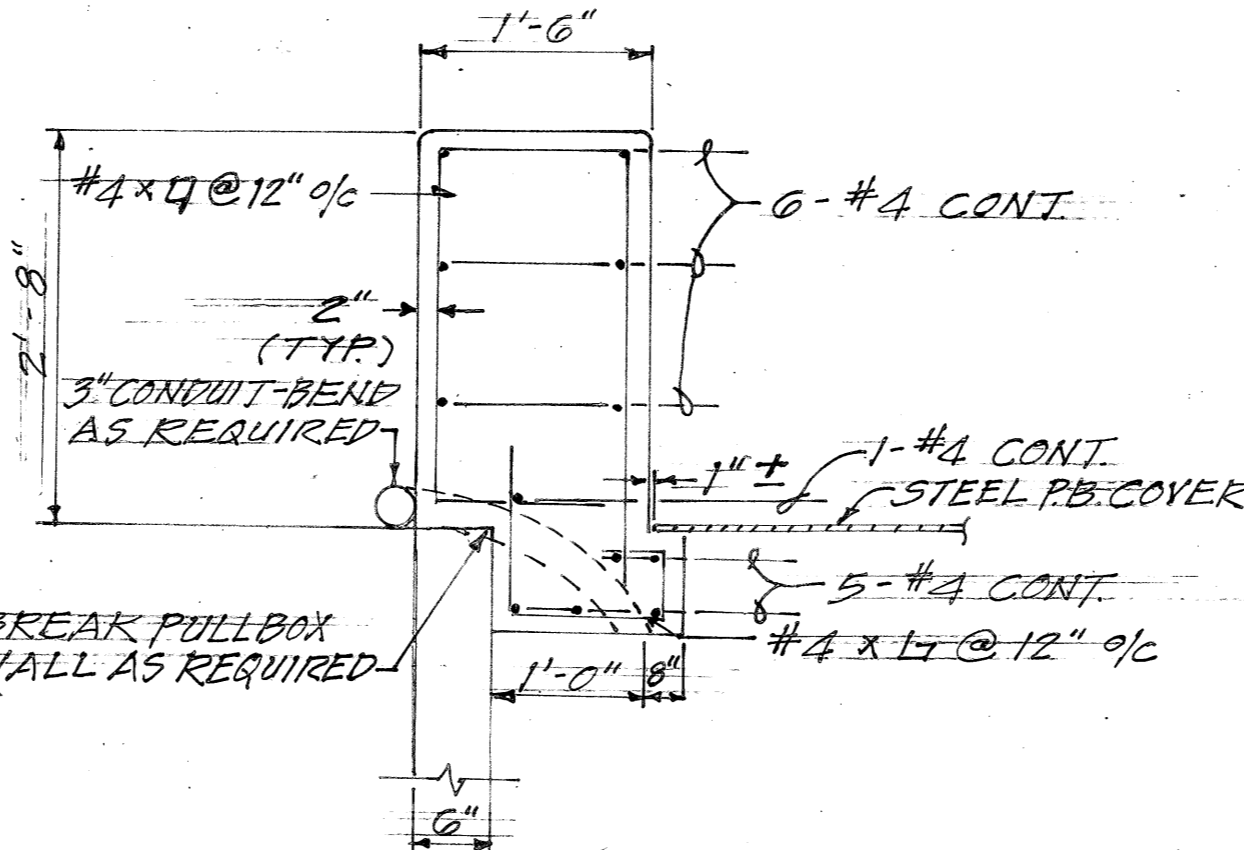
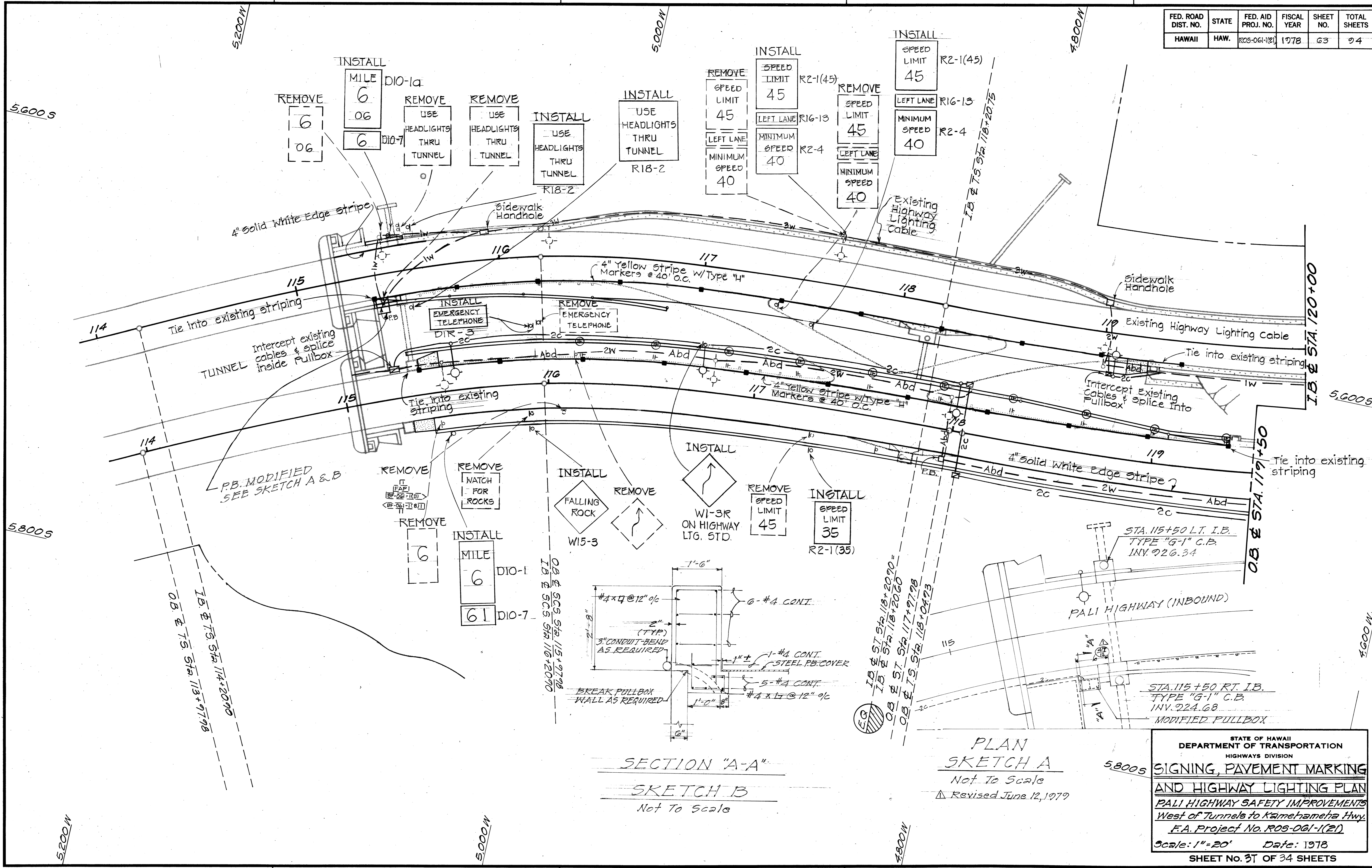
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy.  
F.A. Project No. ROS-061-1(21)

Scale: 1"=20' Date: 1978  
SHEET No. 27 OF 34 SHEETS

C.O. 62

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(2)	1978	63	94



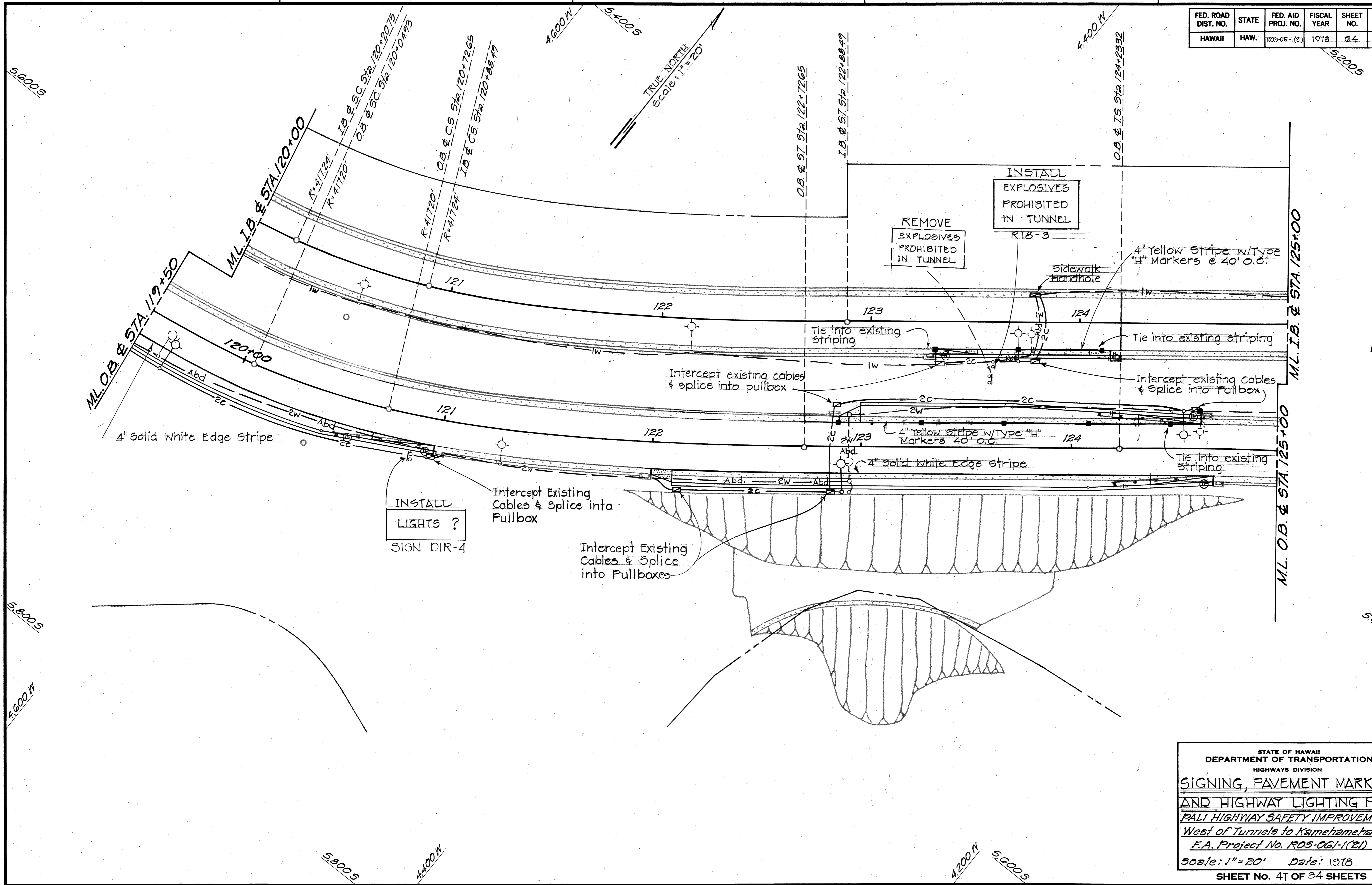
PLAN SKETCH A  
Not To Scale  
Revised June 12, 1979

SECTION "A-A"  
SKETCH B  
Not To Scale

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**  
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kaimohameha Hwy.  
F.A. Project No. ROS-061-1(21)  
Scale: 1"=20' Date: 1978  
SHEET NO. 37 OF 34 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	64	94



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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

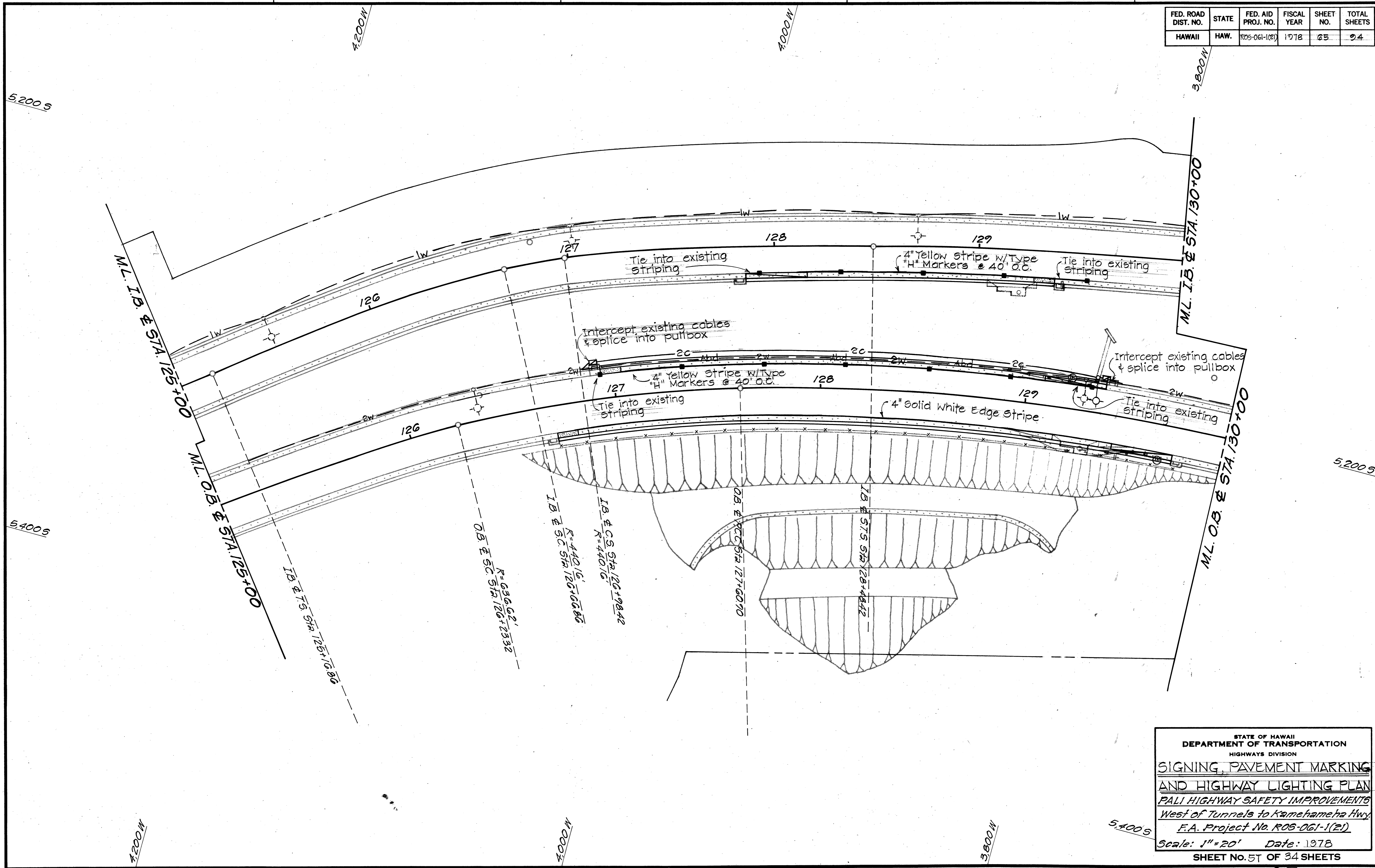
**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**

*PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy  
F.A. Project No. ROS-061-1(21)*

Scale: 1" = 20' Date: 1978

SHEET No. 47 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(2)	1978	65	94



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

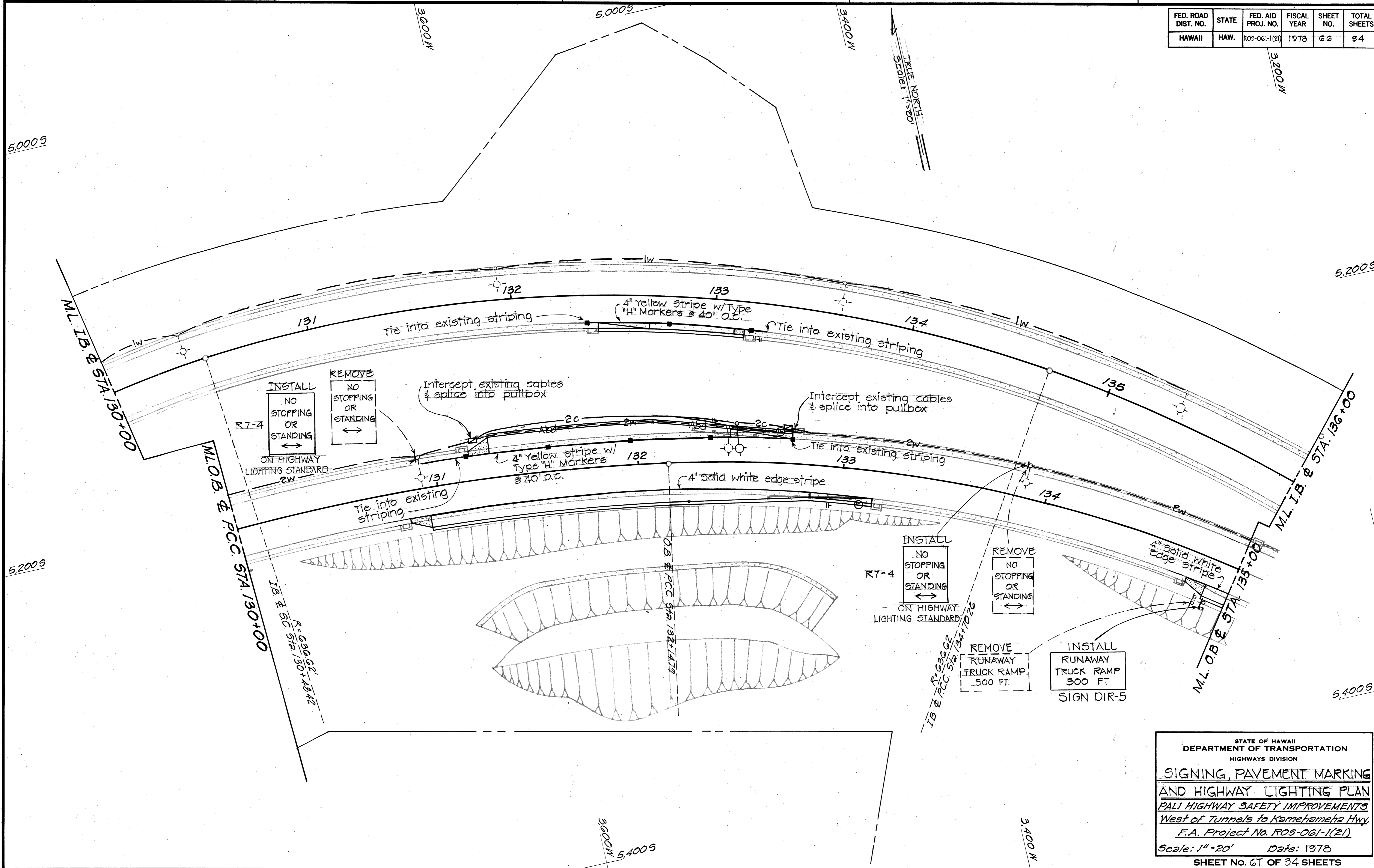
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**

PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy  
F.A. Project No. ROS-061-1(2)

Scale: 1"=20' Date: 1978  
SHEET NO. 57 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	66	94



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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

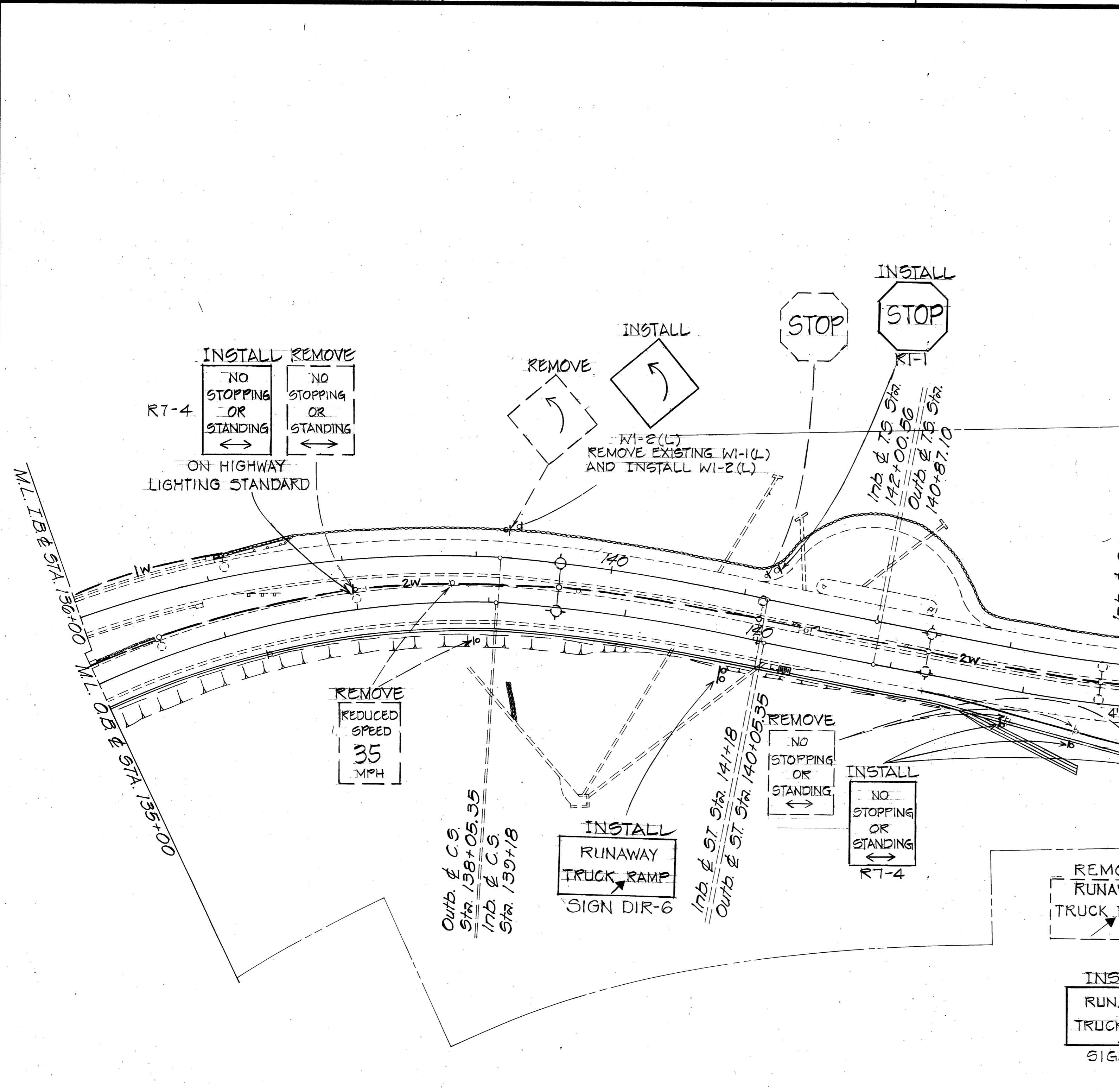
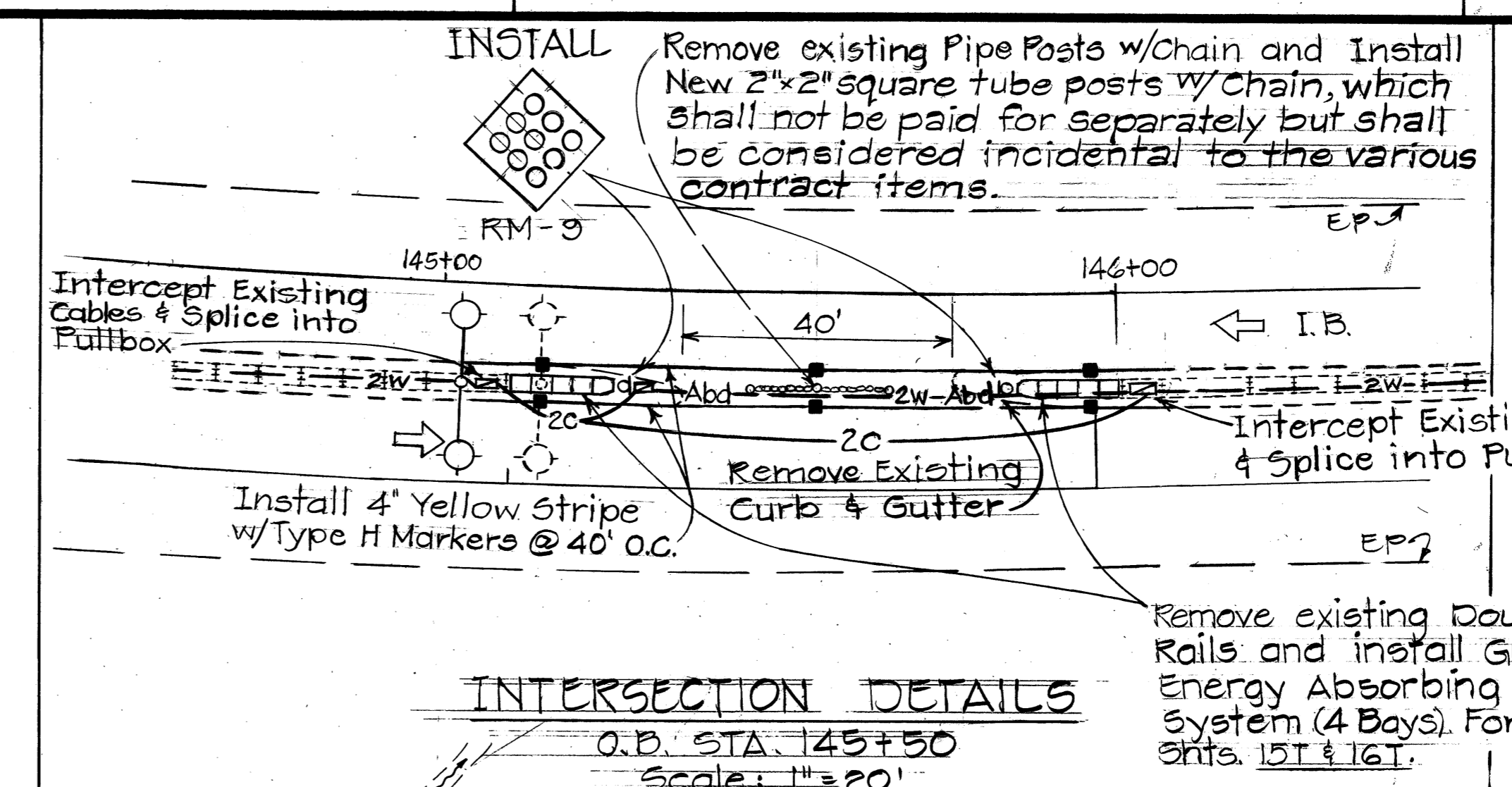
**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**

*PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy.  
F.A. Project No. ROS-061-1(21)*

Scale: 1" = 20'      Date: 1978  
SHEET NO. 66 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	67	94

True North  
Scale: 1" = 50'



**HEADLIGHT GLARE SCREEN**

OB @ STA. 135+50 TO OB @ STA. 138+50  
INSTALL 300 L.F. HEADLIGHT GLARE SCREEN ON EXISTING GUARD RAIL, TYPE 3 SINGLE.  
OB @ STA. 138+50 TO @ STA. 143+70 AND @ STA. 146+40 TO 151+00.  
INSTALL 1,080 L.F. HEADLIGHT GLARE SCREEN ON EXISTING GUARD RAIL TYPE 3, DOUBLE.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING AND HIGHWAY LIGHTING PLAN**

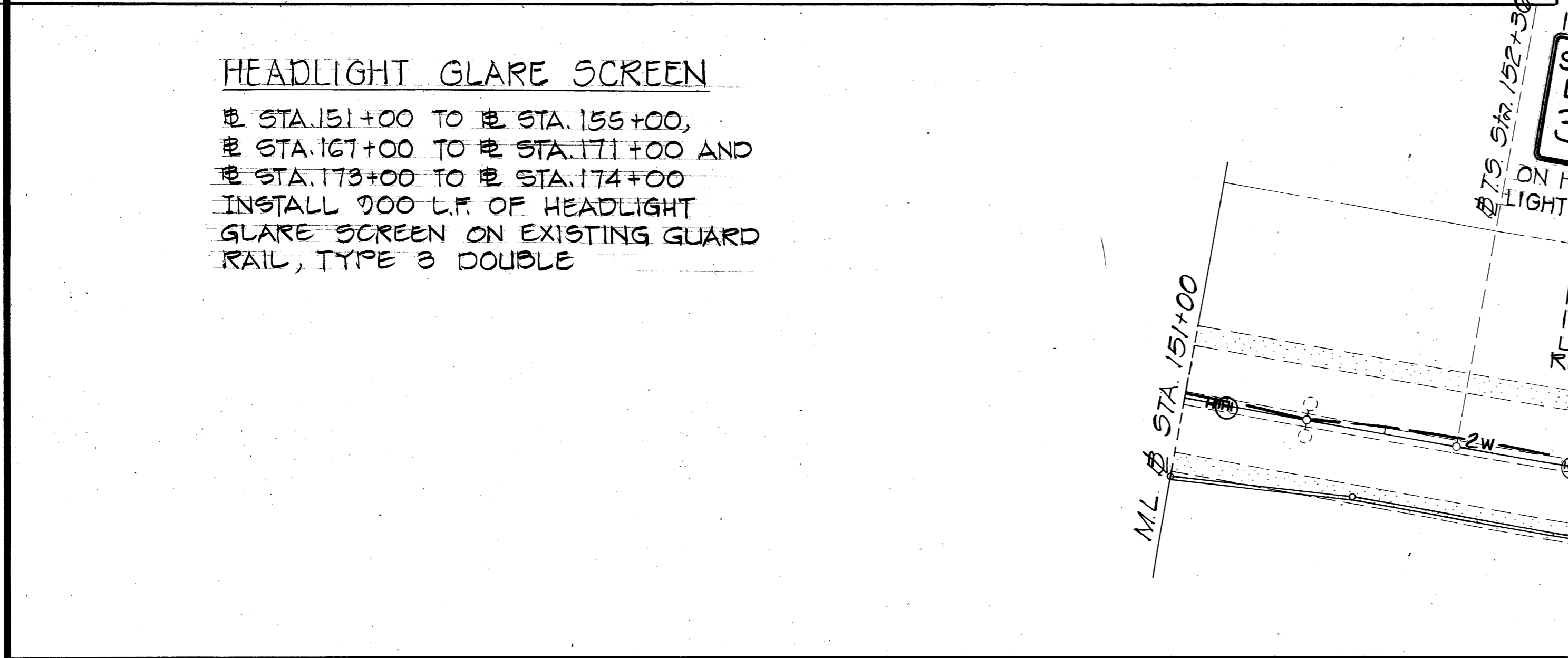
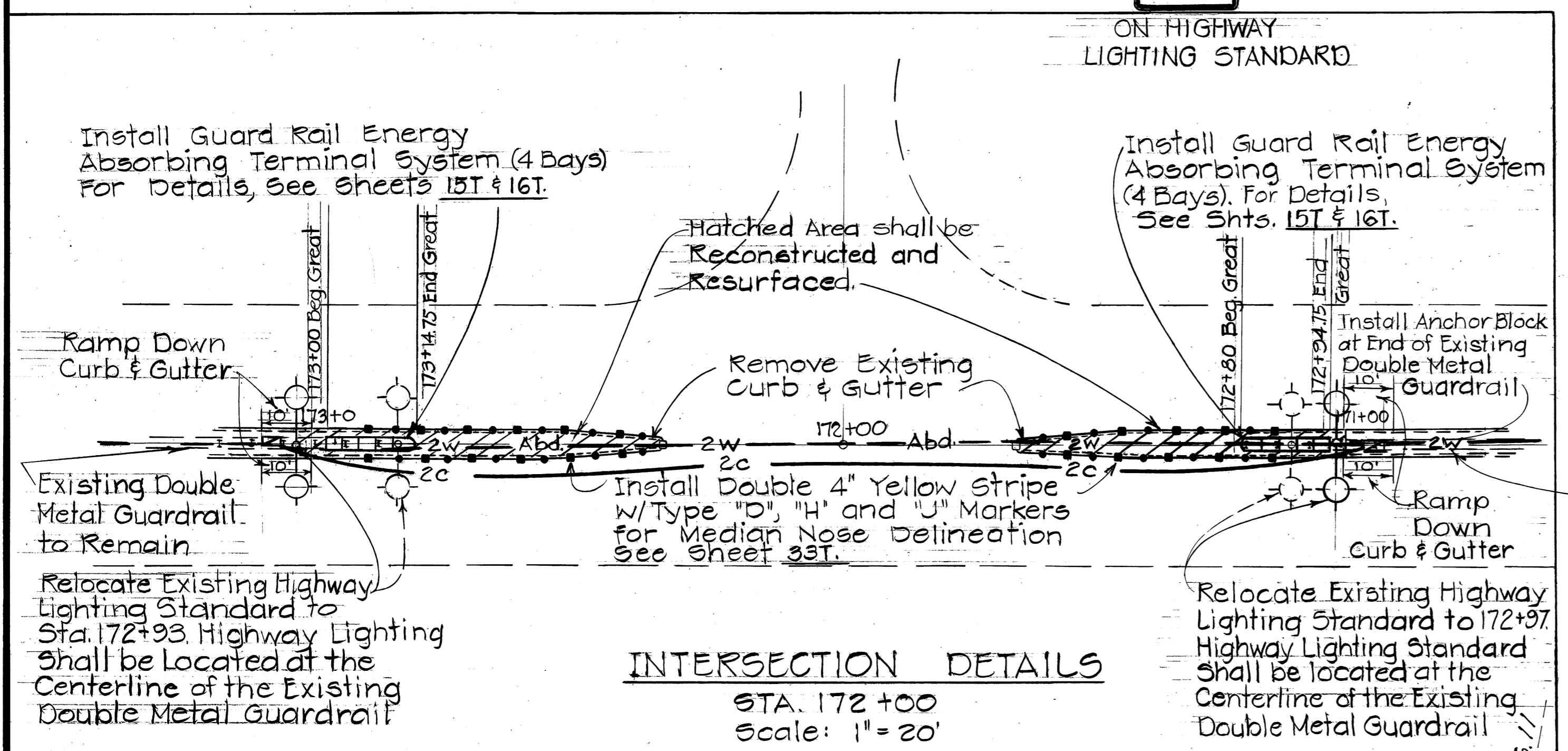
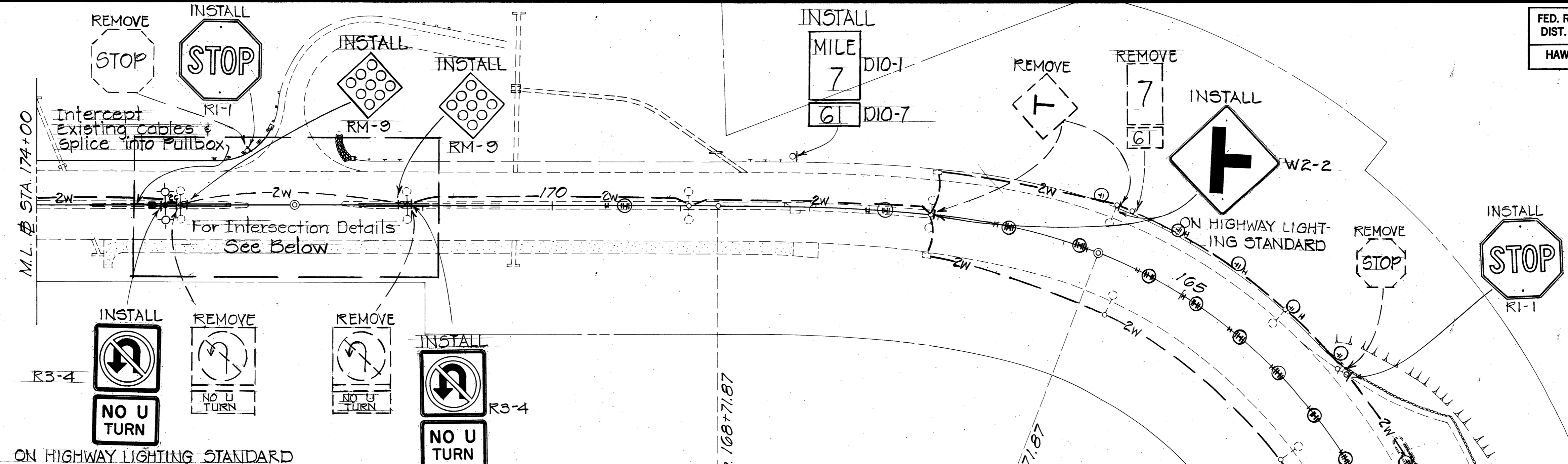
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Highway  
F.A. Project No. ROS-061-1(21)

Scale: 1" = 50' Date: 1978

9/21/79	Installed SIGN DIR-17
Date	Revision

ORIGINAL PLAN  
DATE  
DRAWN BY  
DESIGNED BY  
NOTE BOOK  
CHECKED BY  
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R05-061-1(21)	1978	68	94



C.C.O. # 8  
 REFER TO C.O. 68 S-1 FOR  
 CHANGES ON THIS SHEET

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING  
 AND HIGHWAY LIGHTING PLAN**

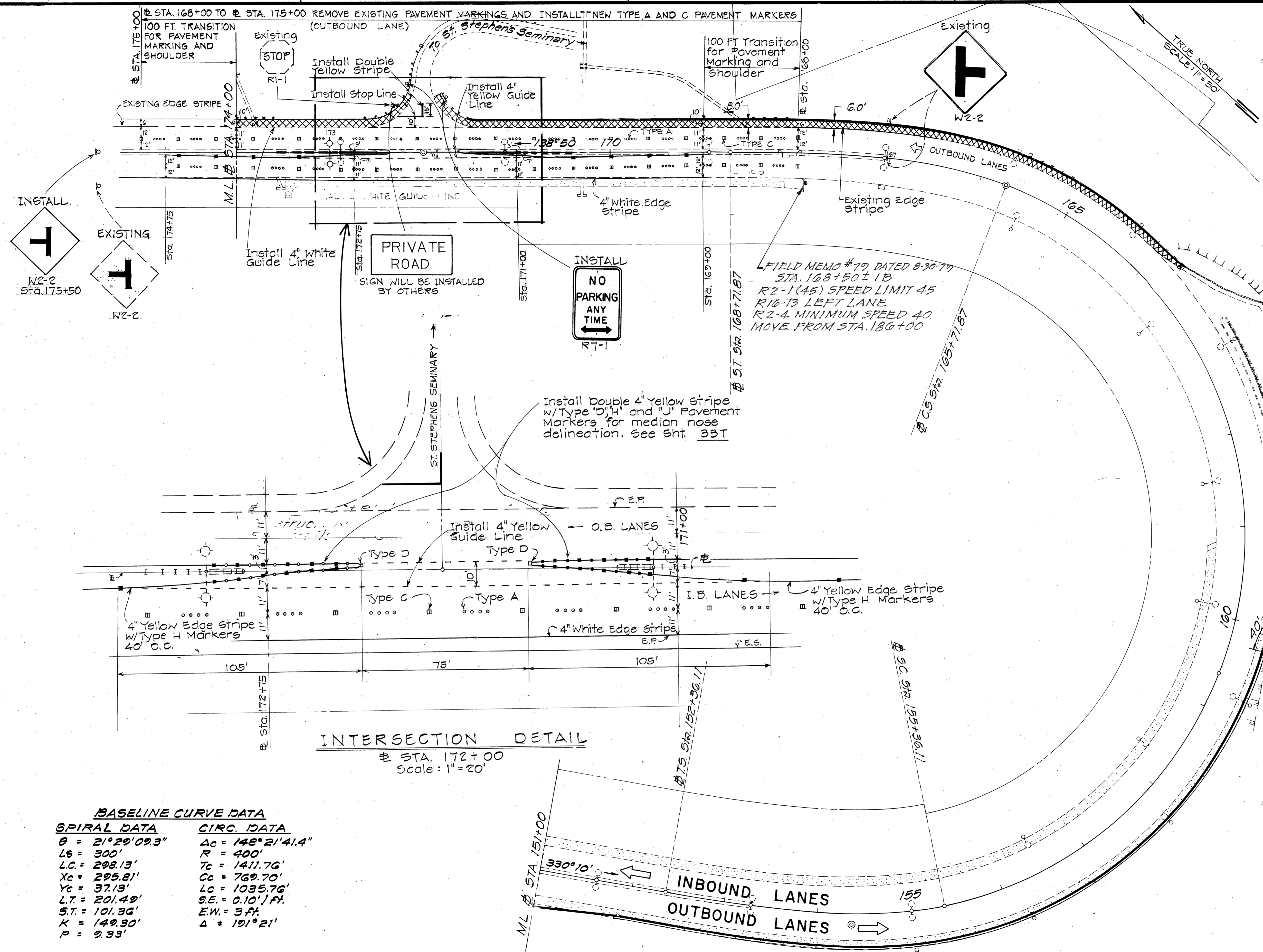
PALI HIGHWAY SAFETY IMPROVEMENTS  
 West of Tunnels to Kamehameha Highway  
 F.A. Project No. R05-061-1(21)

Scale: 1"=50' Date: 1978  
 SHEET No. 68 OF 34 SHEETS

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	2050611(21)	1979	CO.6851	24

**NOTE**  
 THE REMOVAL OF EXISTING PAVEMENT MARKERS WILL NOT BE MEASURED FOR PAYMENT AND SHALL NOT BE CONSIDERED INCIDENTAL TO PAVEMENT MARKERS, STRIPING AND MARKINGS.  
 FIELD MEMO #107 DATED 3-16-81  
 NOTE DELETED



**INTERSECTION DETAIL**  
 STA. 172+00  
 Scale: 1" = 20'

**BASELINE CURVE DATA**

SPIRAL DATA		CIRC. DATA	
$\theta = 21^{\circ}29'09.3''$	$L_s = 300'$	$\Delta c = 148^{\circ}21'41.4''$	$R = 400'$
$L_c = 298.13'$	$X_c = 295.81'$	$T_c = 1411.76'$	$C_c = 769.70'$
$Y_c = 37.13'$	$L.T. = 201.49'$	$L_c = 1035.76'$	$S.E. = 0.10' / ft.$
$S.T. = 101.36'$	$K = 149.30'$	$E.W. = 3 ft.$	$\Delta = 191^{\circ}21'$
$P = 9.33'$			

Supplementary Plan added to revise signing and pavement marking plan due to 9/14/79 revisions to Plan Sheet CO.12.

DATE	REVISION

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**SIGNING AND PAVEMENT MARKING PLAN**

PALI HIGHWAY SAFETY IMPROVEMENTS  
 West of Tunnels to Kamehameha Highway  
 F.A. Project No. 205-061-1(21)

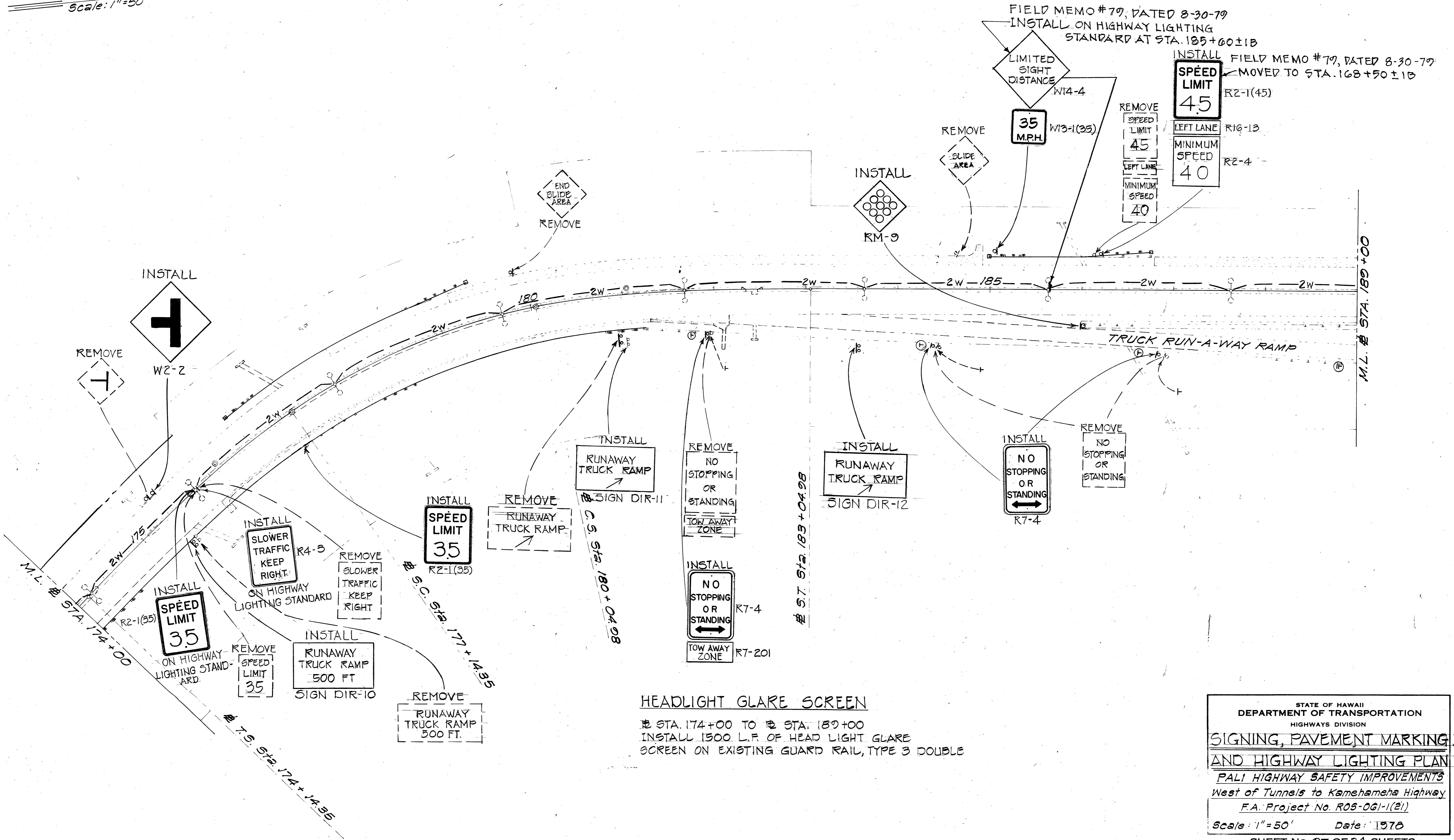
Scale: 1" = 50'      Date: September, 1979

SHEET NO. 81-A OF 34 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(2)	1978	69	94

True North  
Scale: 1"=50'



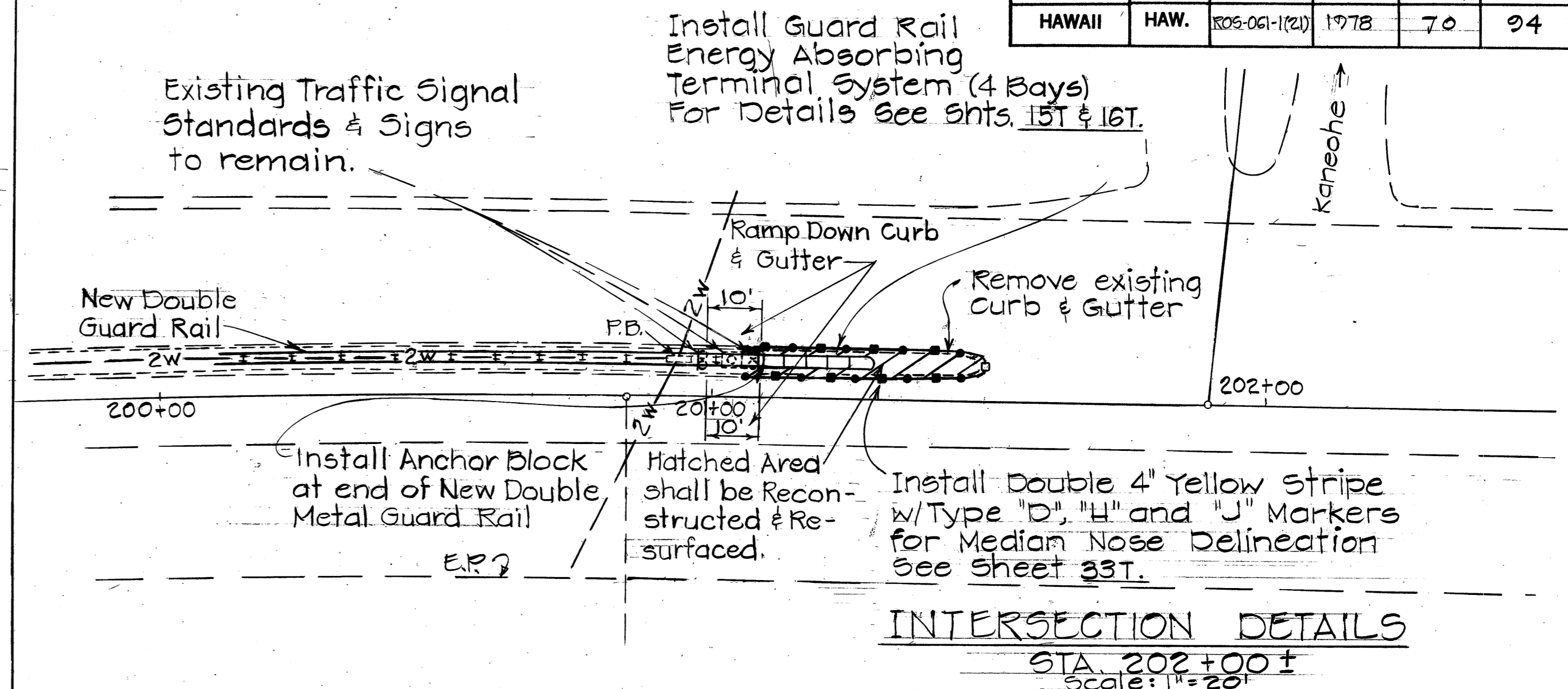
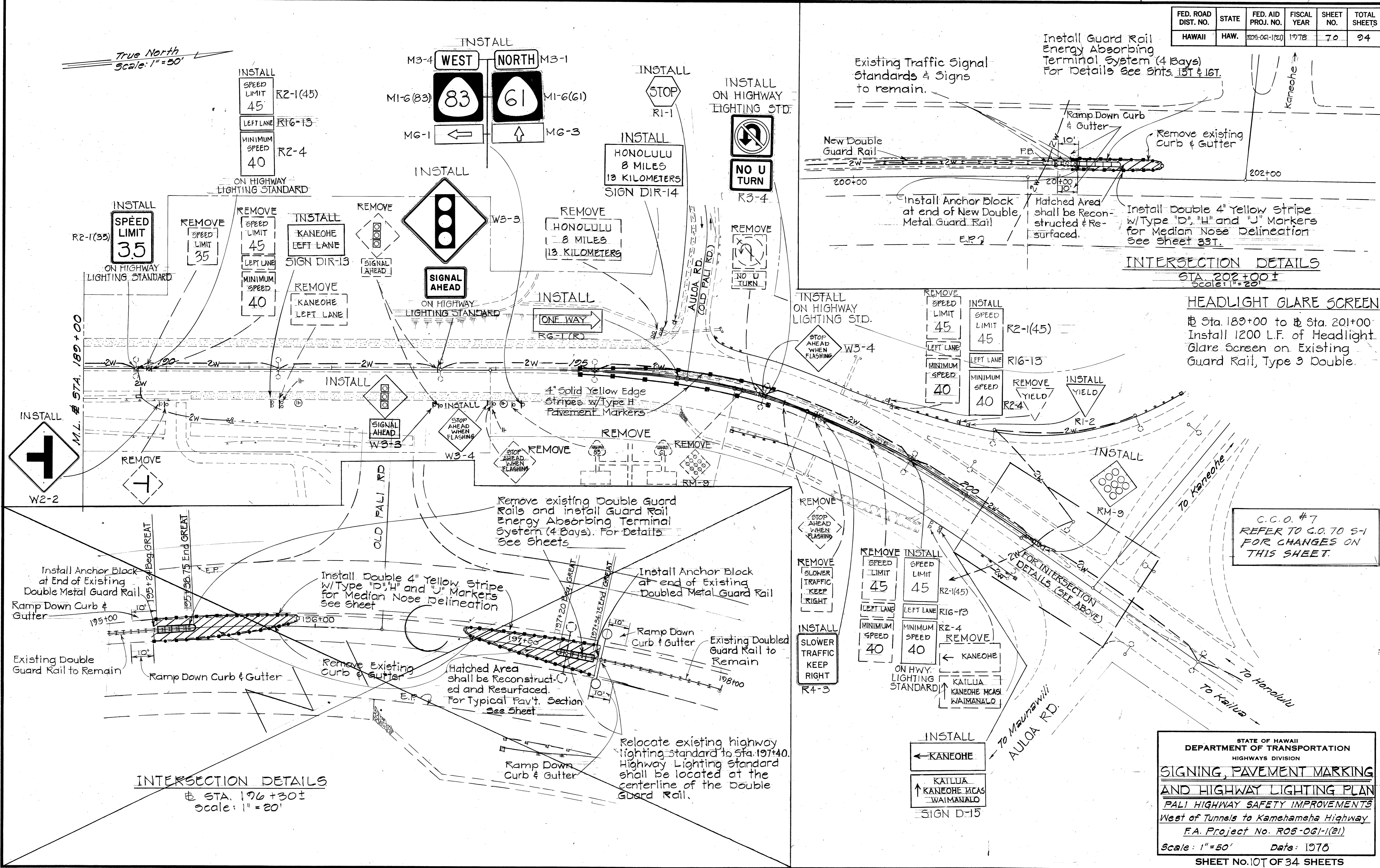
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

**HEADLIGHT GLARE SCREEN**  
 STA. 174+00 TO STA. 189+00  
 INSTALL 1500 L.F. OF HEAD LIGHT GLARE SCREEN ON EXISTING GUARD RAIL, TYPE 3 DOUBLE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**SIGNING, PAVEMENT MARKING**  
**AND HIGHWAY LIGHTING PLAN**  
 PALI HIGHWAY SAFETY IMPROVEMENTS  
 West of Tunnels to Kamehameha Highway  
 F.A. Project No. ROS-061-1(2)  
 Scale: 1"=50' Date: 1978  
 SHEET No. 97 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	70	94

True North  
Scale: 1" = 50'



HEADLIGHT GLARE SCREEN  
Sta. 189+00 to Sta. 201+00  
Install 1200 L.F. of Headlight Glare Screen on Existing Guard Rail, Type 3 Double.

C.C.O. #7  
REFER TO G.O. TO 5-1 FOR CHANGES ON THIS SHEET.

INTERSECTION DETAILS  
Sta. 196+30±  
Scale: 1" = 20'

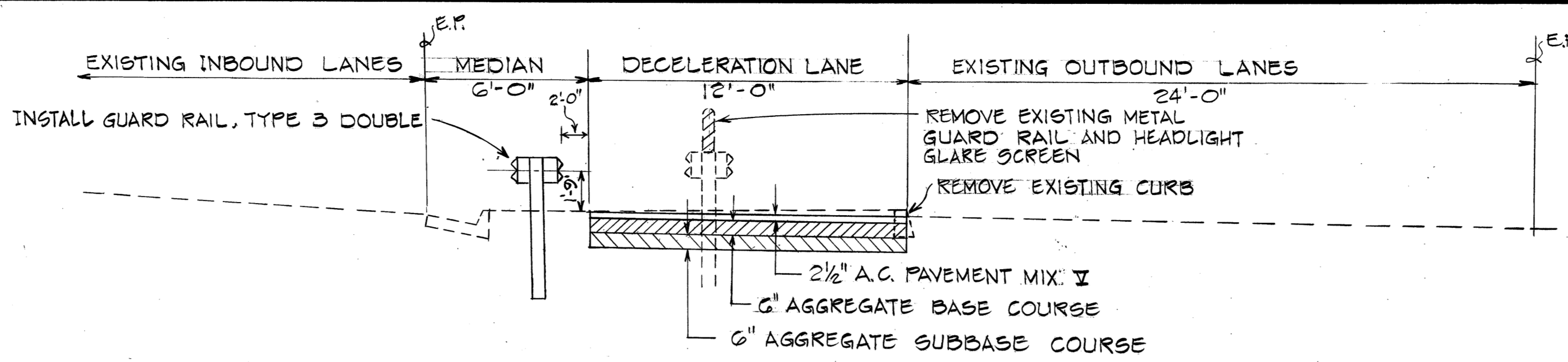
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**SIGNING, PAVEMENT MARKING  
AND HIGHWAY LIGHTING PLAN**  
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Highway  
F.A. Project No. ROS-061-1(21)  
Scale: 1" = 50' Date: 1978  
SHEET No. 107 OF 34 SHEETS

DATE	.....
SURVEY PLOTTED BY	.....
DRAWN BY	.....
TRACED 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.	ROS-061-1(21)	1979	C.O. 70 S-1	

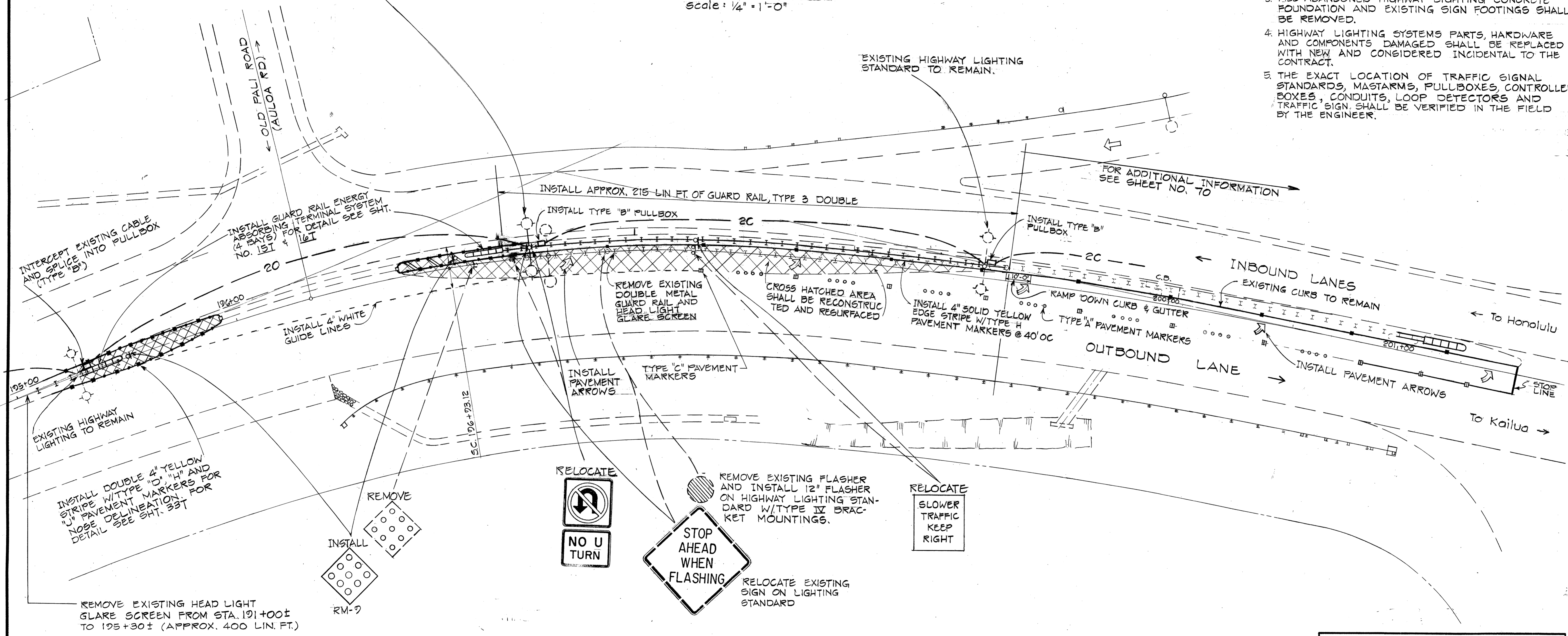
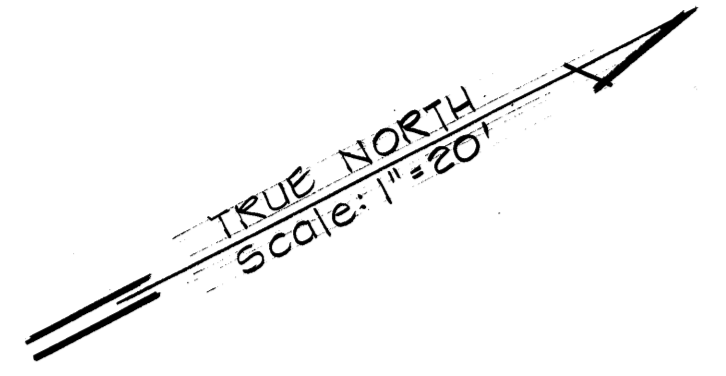
**GENERAL NOTES**

1. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DIMENSIONS OF THE EXISTING EQUIPMENT AND FACILITIES.
2. LOCATION OF EXISTING UNDERGROUND STRUCTURES SUCH AS CULVERTS, PIPELINES, CONDUITS, CABLES, ETC. AS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. OTHER EXISTING UTILITIES MAY NOT BE SHOWN. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATION OF SAME.
3. ALL ABANDONED HIGHWAY LIGHTING CONCRETE FOUNDATION AND EXISTING SIGN FOOTINGS SHALL BE REMOVED.
4. HIGHWAY LIGHTING SYSTEMS PARTS, HARDWARE AND COMPONENTS DAMAGED SHALL BE REPLACED WITH NEW AND CONSIDERED INCIDENTAL TO THE CONTRACT.
5. THE EXACT LOCATION OF TRAFFIC SIGNAL STANDARDS, MASTARMS, PULLBOXES, CONTROLLER BOXES, CONDUITS, LOOP DETECTORS AND TRAFFIC SIGN, SHALL BE VERIFIED IN THE FIELD BY THE ENGINEER.

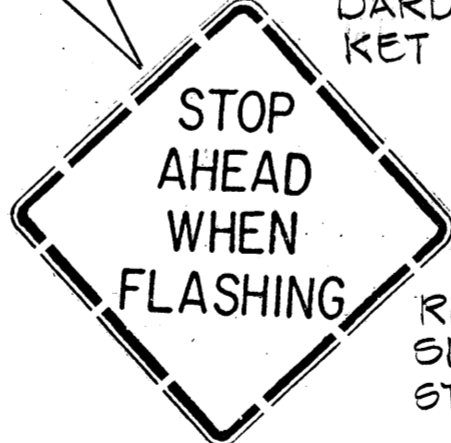


**TYPICAL SECTION**  
 ± STA. 195+30 ± TO ± STA. 199+20 ±  
 scale: 1/4" = 1'-0"

RELOCATE EXISTING HIGHWAY LIGHTING STANDARD. HIGHWAY LIGHTING STANDARD SHALL BE LOCATED AT THE CENTERLINE OF THE NEW GUARD RAIL, TYPE 3 DOUBLE.



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



AT STA. 194+00 (RIGHT) REMOVE EXISTING FLASHER AND INSTALL NEW 12" FLASHER ON EXISTING STANDARD.

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

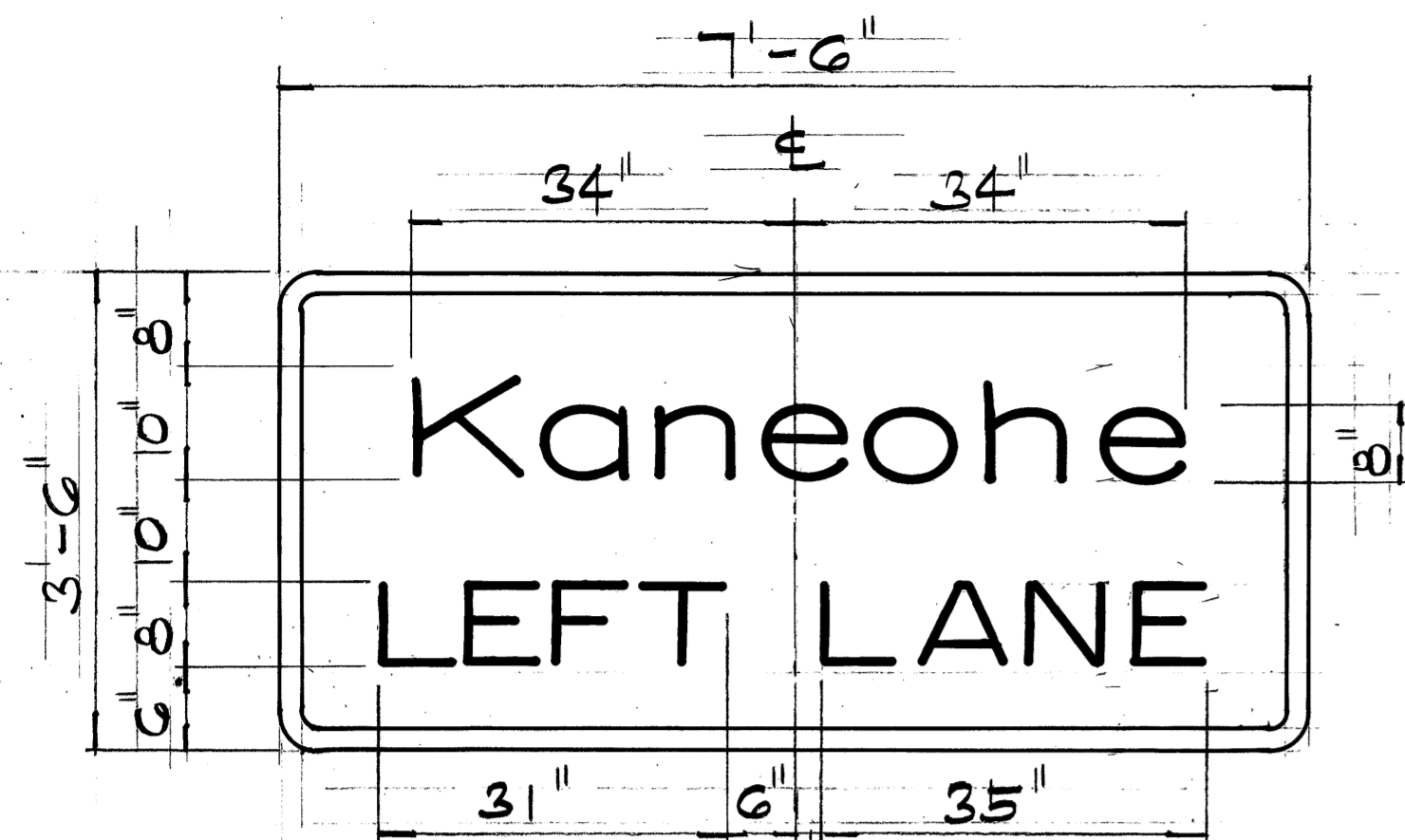
**REVISION AND IMPROVEMENT OF OLD PALI ROAD (AULOLOA ROAD) INTERSECTION**

PALI HIGHWAY SAFETY IMPROVEMENTS  
 WEST OF TUNNEL TO KAMEHAMEHA HWY.  
 F.A. PROJECT NO. ROS-061-1 (21)

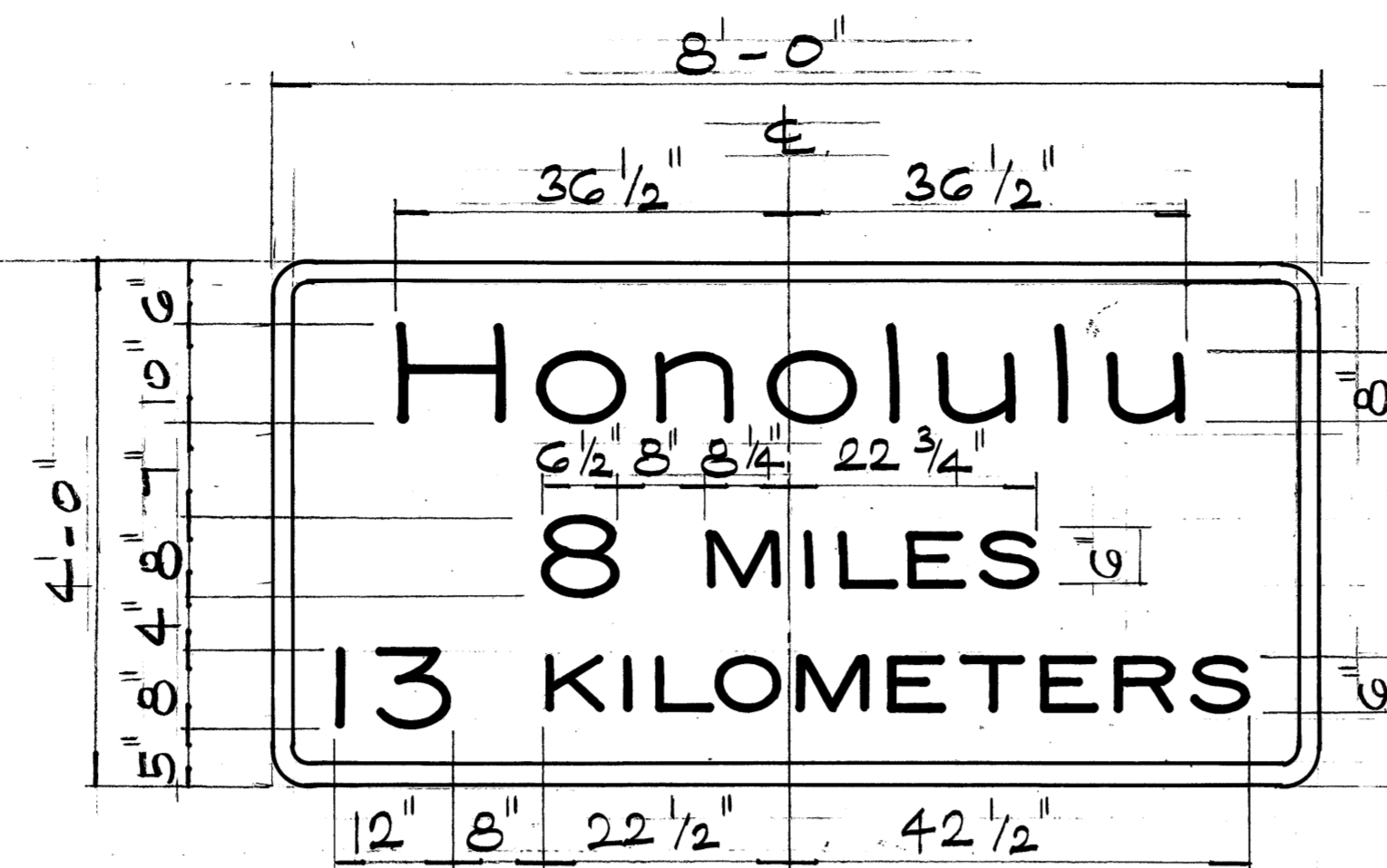
SCALE: 1" = 20'      DATE: SEPT. 1979

SHEET No. 1 OF 1 SHEETS

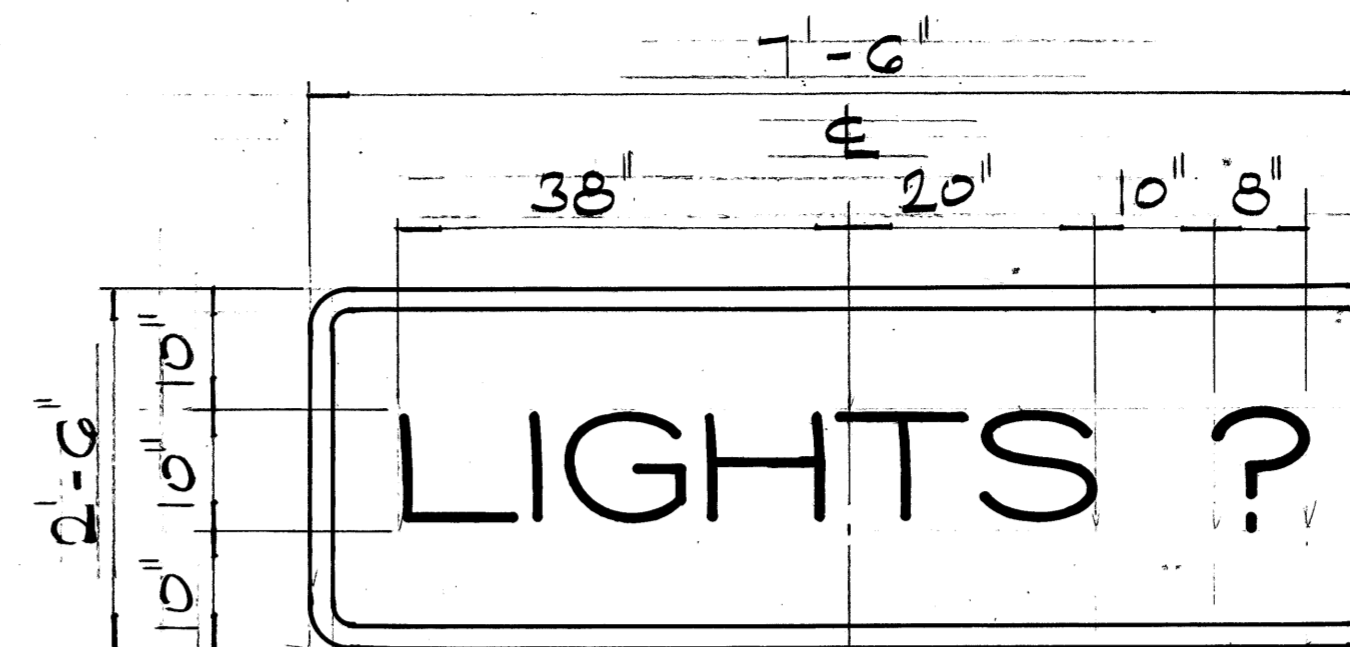
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	71	94



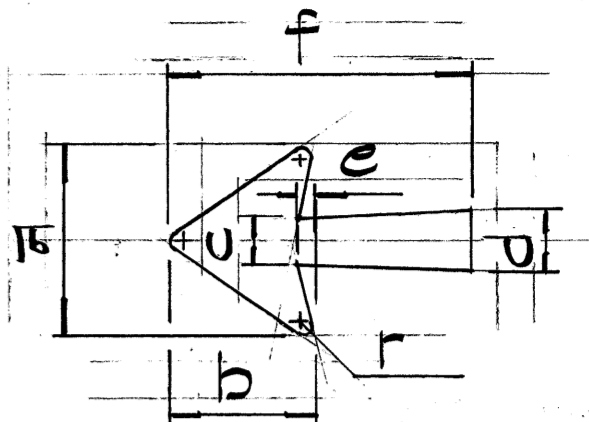
SIGN DIR-13  
WHITE LEGEND & BORDER  
ON GREEN BACKGROUND  
(2 POSTS)



SIGN DIR-14  
WHITE LEGEND & BORDER  
ON GREEN BACKGROUND  
(3 POSTS)

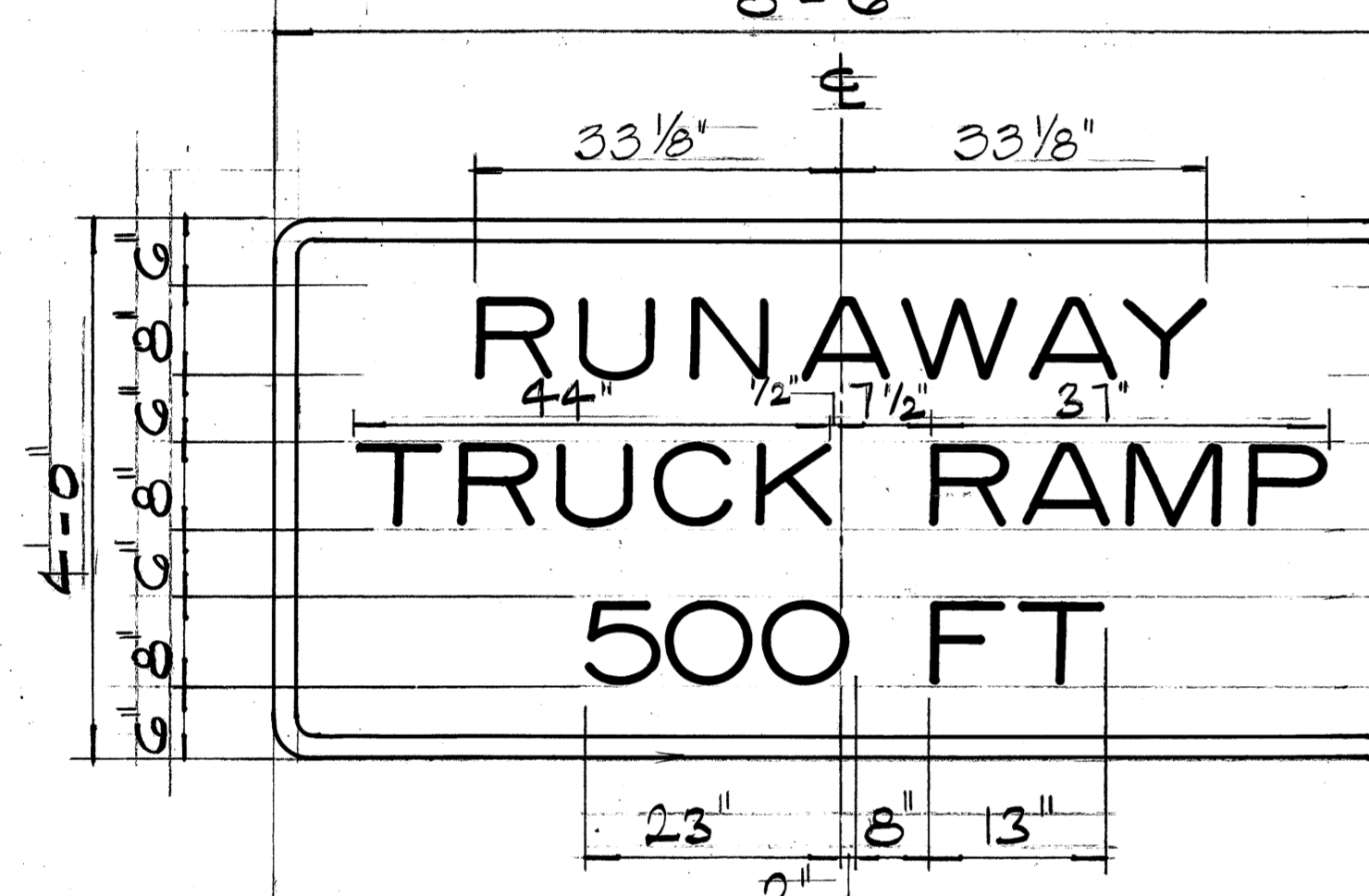


SIGN DIR-1, DIR-4  
BLACK LEGEND & BORDER  
ON WHITE BACKGROUND  
(2 POSTS)

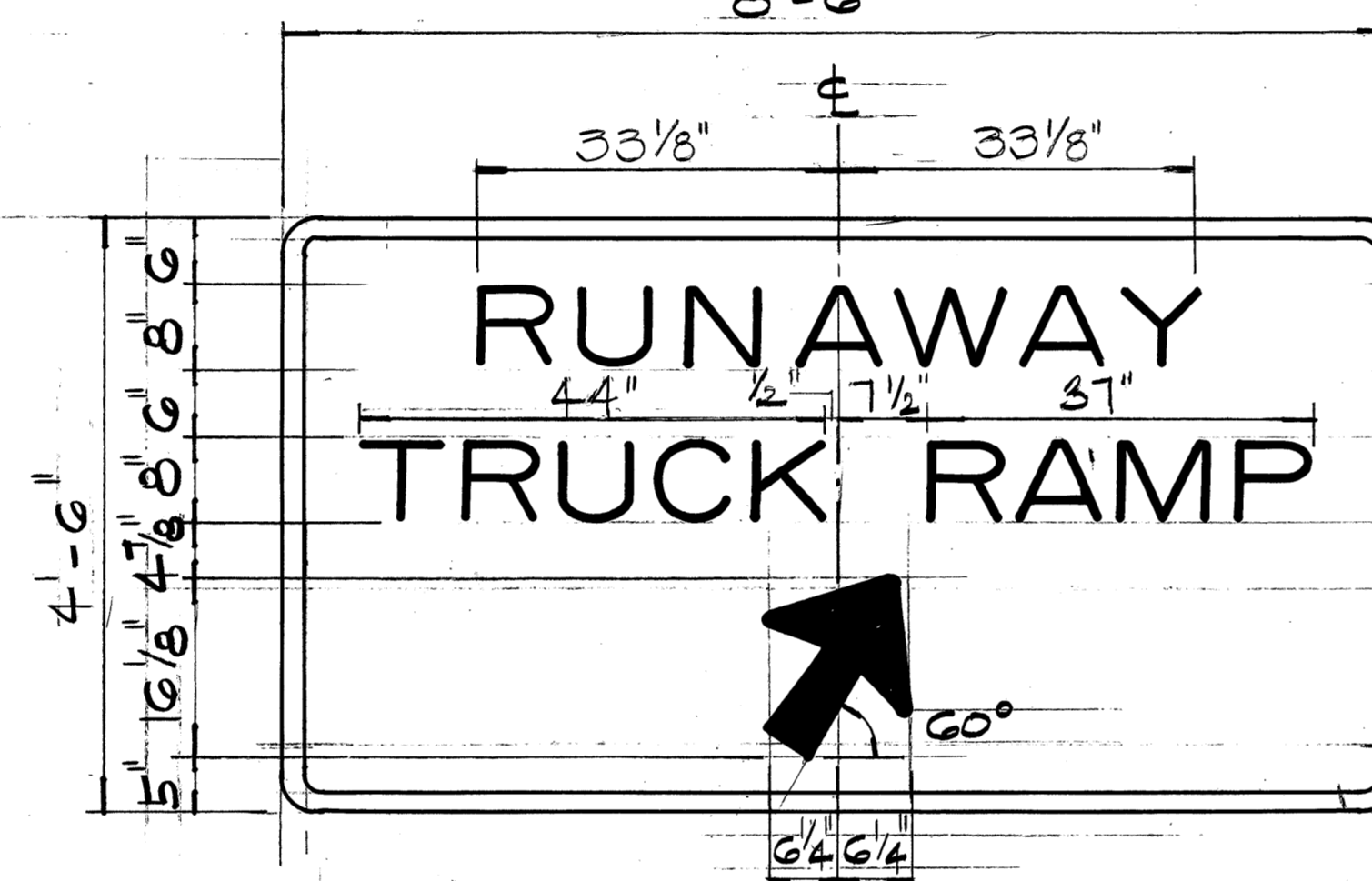


OVERALL SIZE	a	b	c	d	e	f	r
1 1/4 x 17 1/4	1 1/4	9 13/16	3 3/8	4 1/2	5 1/16	17 1/4	3/4
1 1/2 x 24 1/4	1 1/2	11 9/16	3 3/4	5	5 1/16	24 1/4	13/16

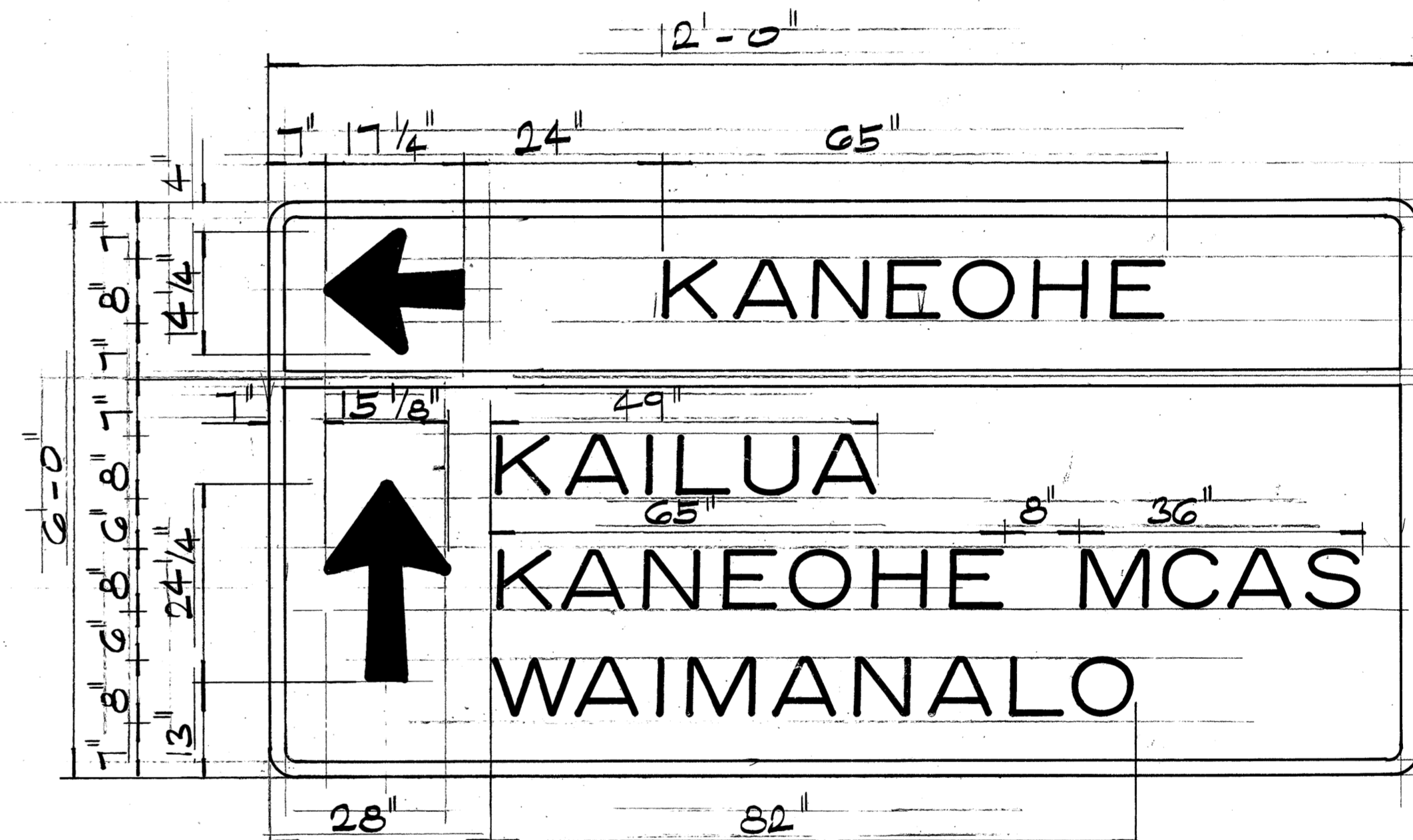
ARROW DETAIL  
NOT TO SCALE



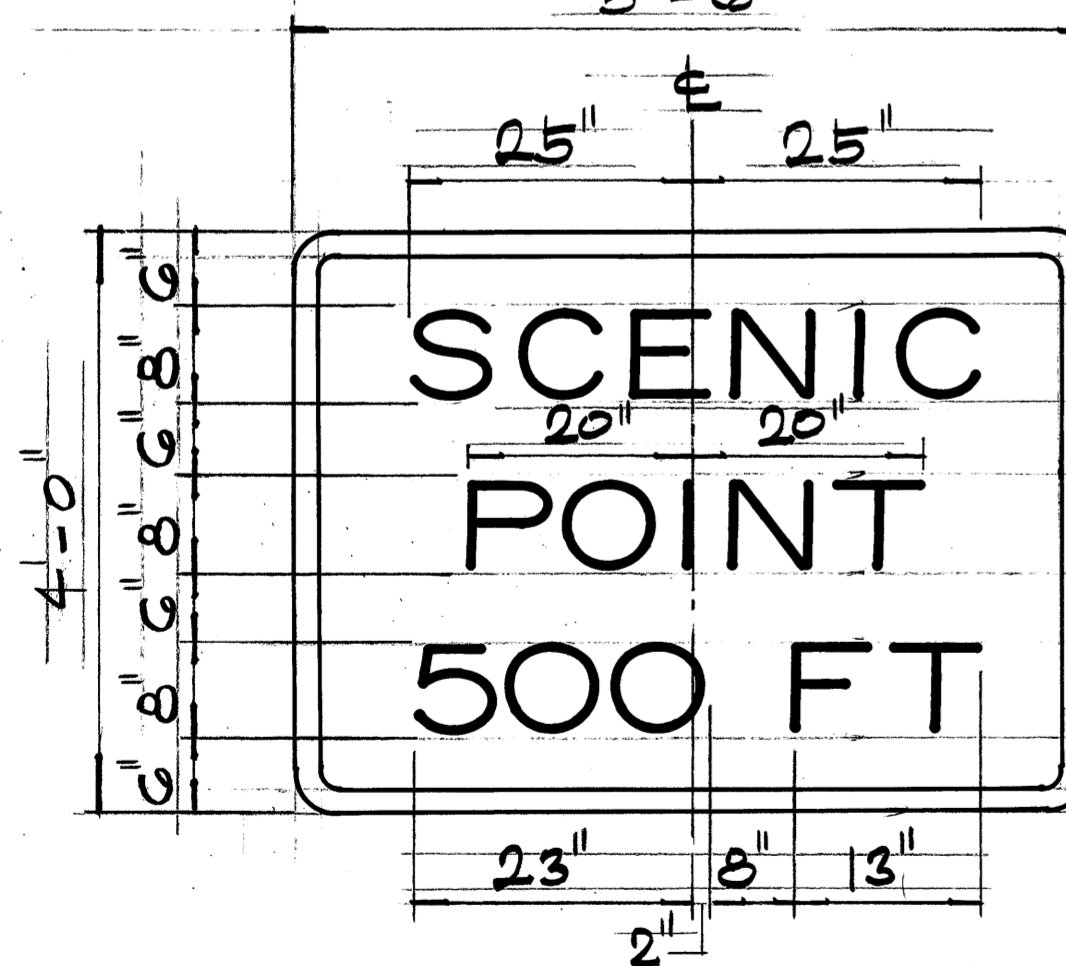
SIGN DIR-5, DIR-10  
BLACK LEGEND & BORDER  
ON YELLOW BACKGROUND  
(3 POSTS)



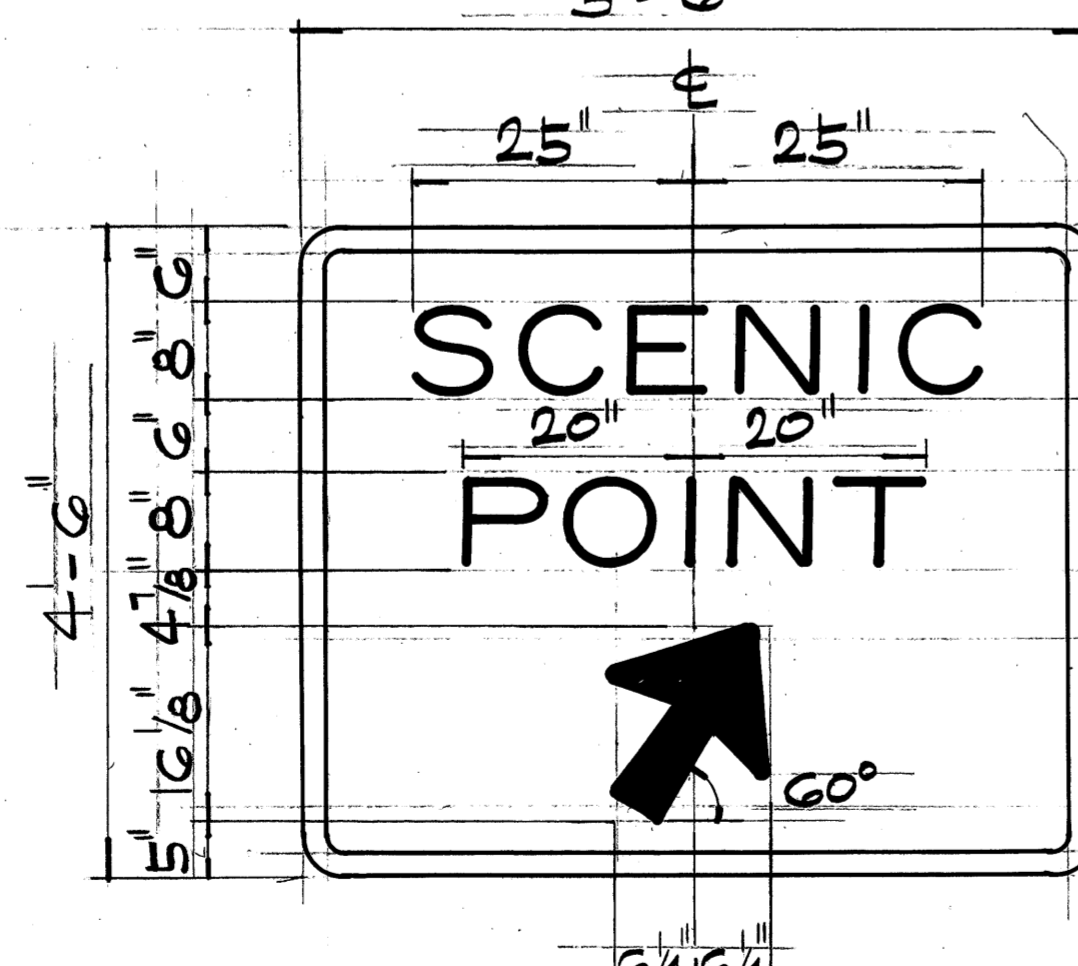
SIGN DIR-6, DIR-7, DIR-11, DIR-12  
BLACK LEGEND, BORDER & ARROW  
ON YELLOW BACKGROUND  
(3 POSTS)



SIGN D-15  
WHITE LEGEND, BORDER & ARROWS  
ON GREEN BACKGROUND



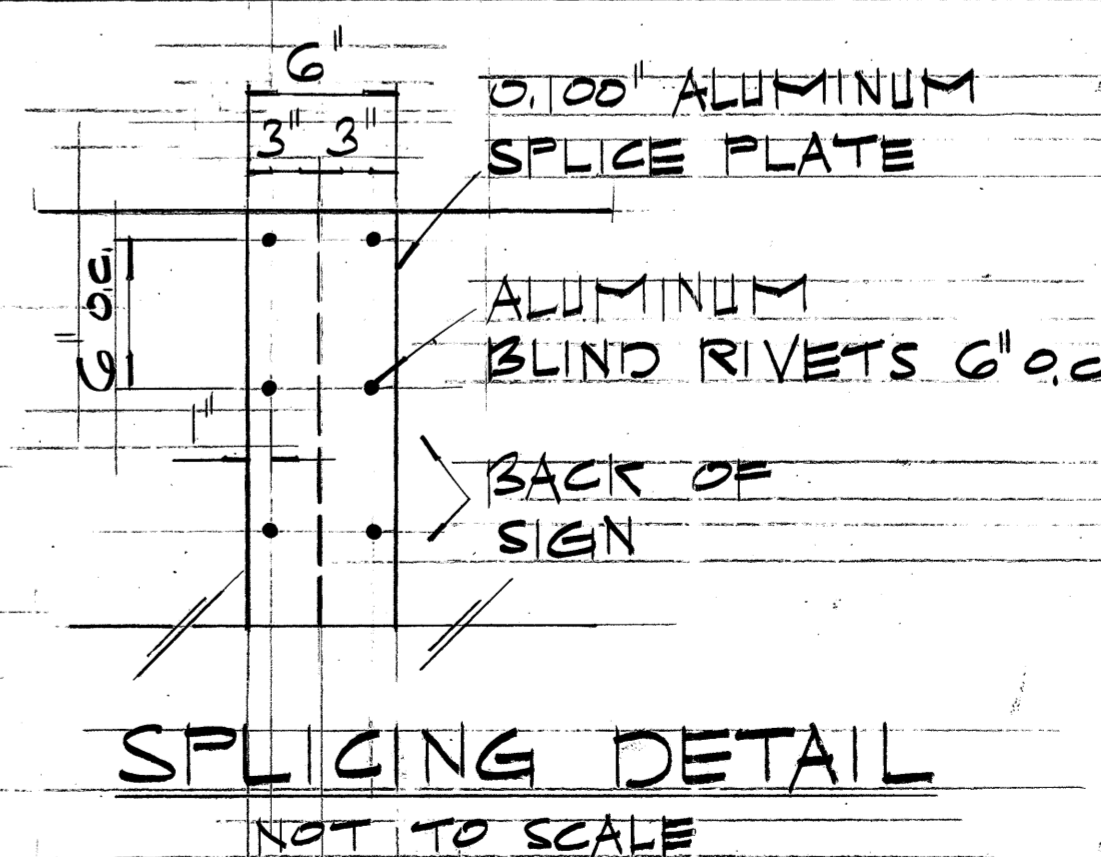
SIGN DIR-8  
WHITE LEGEND & BORDER  
ON GREEN BACKGROUND  
(2 POSTS)



SIGN DIR-9  
WHITE LEGEND, BORDER & ARROW  
ON GREEN BACKGROUND  
(2 POSTS)

GENERAL NOTES

- SEE SHEET #101 FOR ADDITIONAL "DIR" SIGNS (DIR-2 & 3)
- SEE SHEET #121 FOR ADDITIONAL DETAILS & NOTES.



SPlicing DETAIL  
NOT TO SCALE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

SIGN PANEL LAYOUT

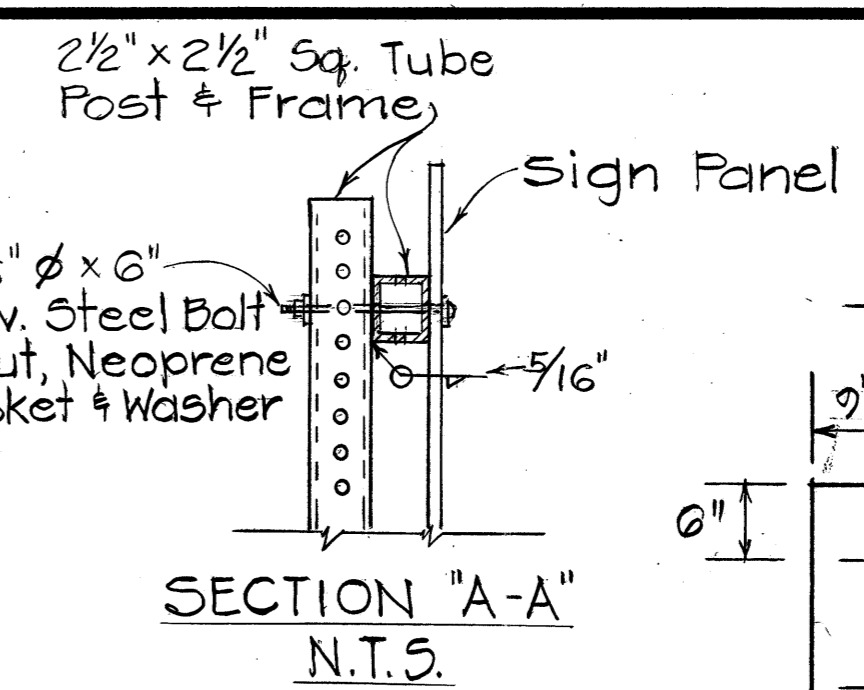
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy.  
FA Proj. No. ROS-061-1(21)  
NOT TO SCALE DATE: 1978  
SHEET NO. 111 OF 34 SHEETS

ORIGINAL PLAN  
DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
NOTE BOOK NO. \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_

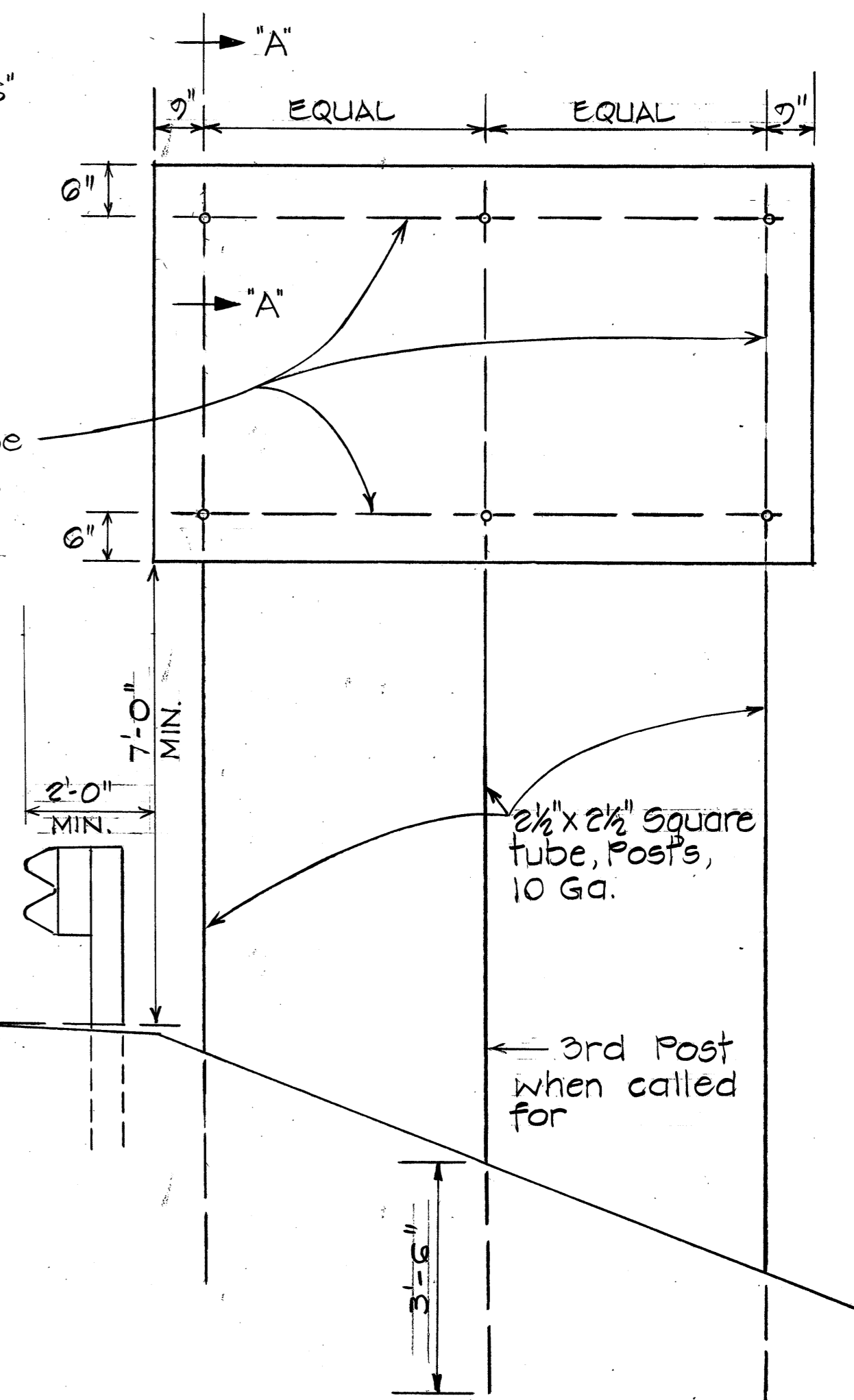
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1 (21)	1978	72	24

**NOTES FOR DESTINATION SIGN D-15 & DIRECTIONAL SIGNS (DIR)**

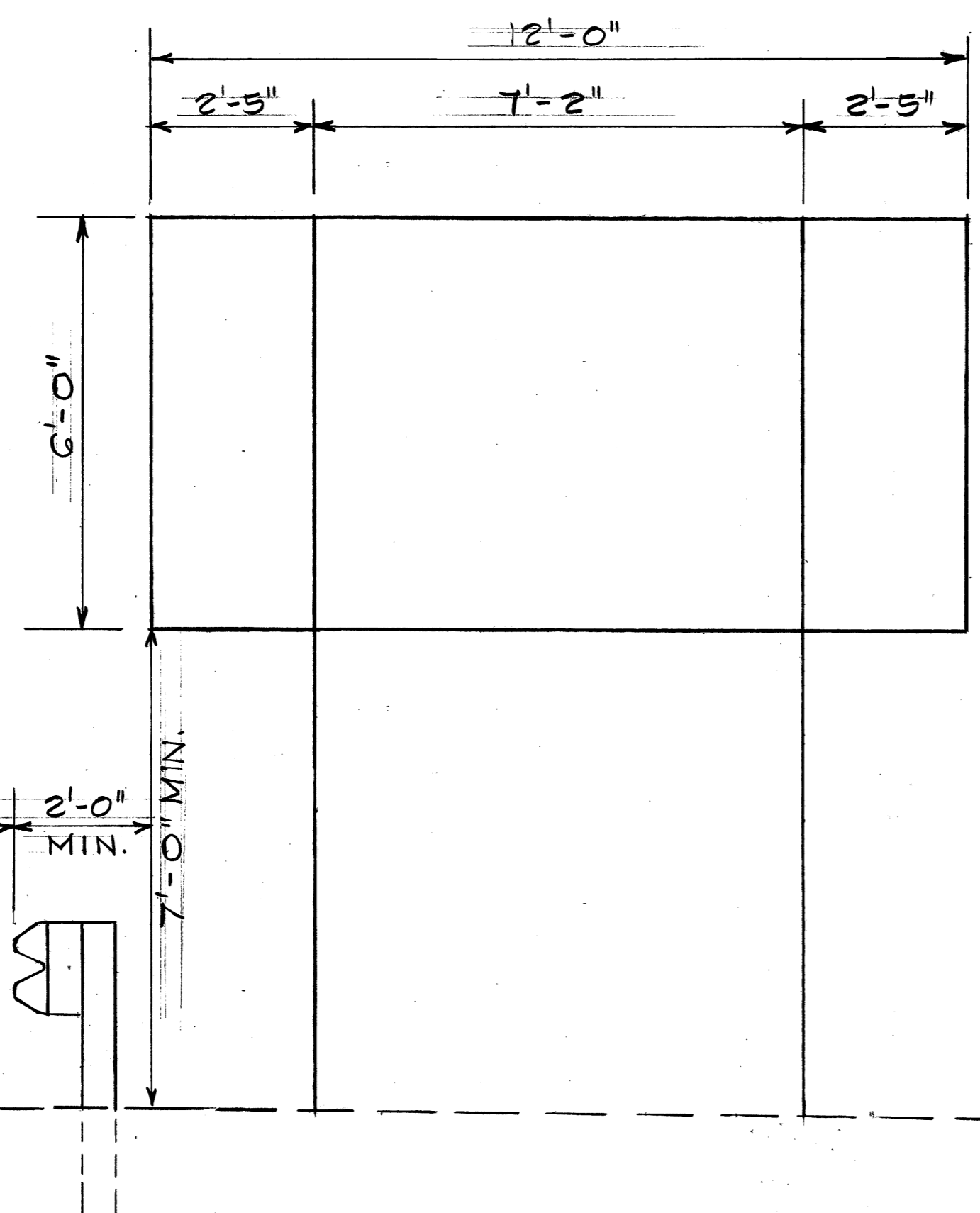
- EXCEPT AS NOTED, SIGNS SHALL CONFORM TO PLANS & SPECIFICATIONS FOR REGULATORY & WARNING SIGNS.
- MOUNTING DETAILS SHALL CONFORM TO DETAILS THIS SHEET.
- USE SERIES "E" LETTERS & NUMERALS AS SHOWN IN THE LATEST FHWA PUBLICATION "STANDARD ALPHABETS FOR HIGHWAY SIGNS".
- FOR "DIR" SIGNS ONLY SIGN PANELS SHALL BE 0.100" THICK SHEET ALUMINUM.
- FOR SIGN D-15, SIGN PANEL SHALL CONFORM TO SHT. 30T OR SHT. 31T
- NO SPLICING ON LEGENDS.
- FOR DESTINATION AND GROUND MOUNTED EXPRESSWAY SIGNS DETAILS SEE SHEET #29T



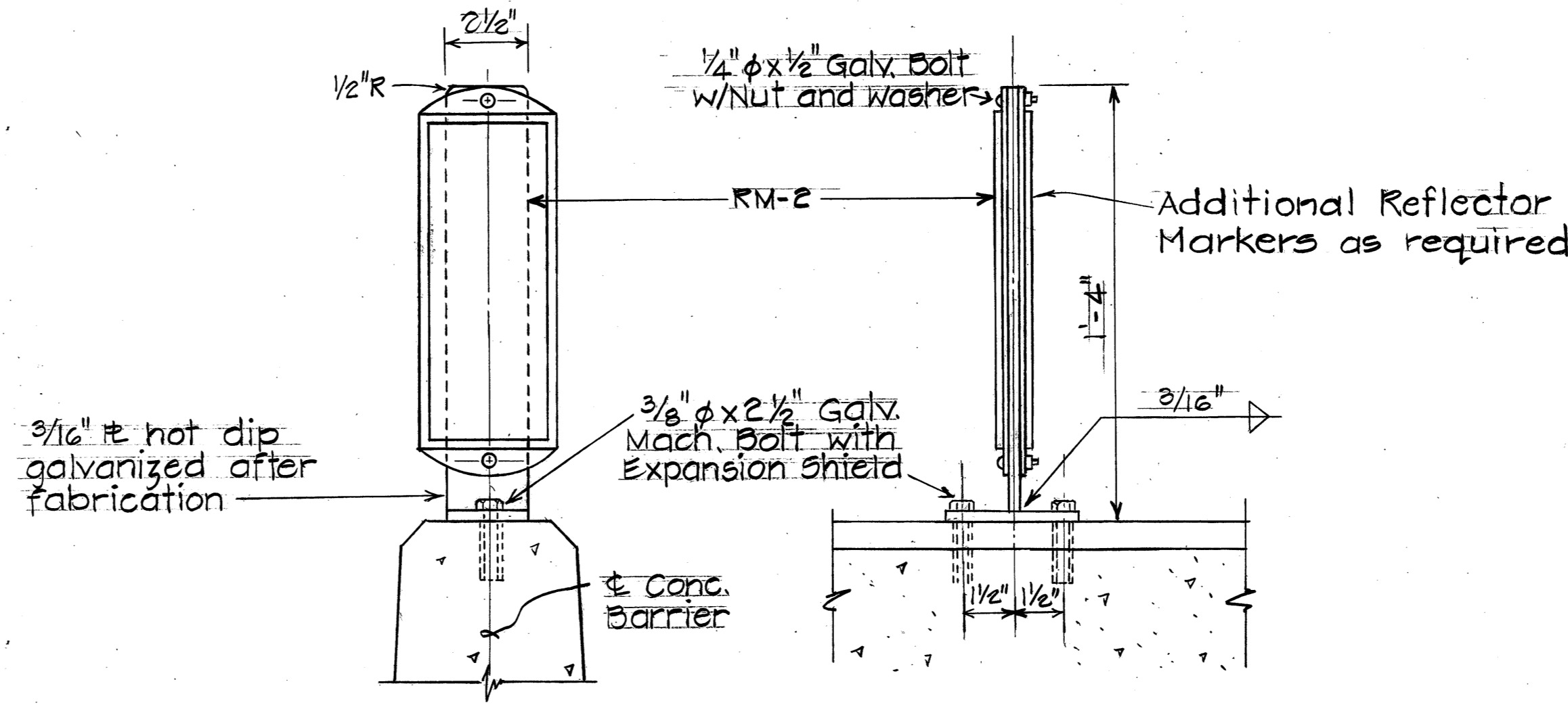
2 1/2" x 2 1/2" Sq. Tube Posts, 10 Ga. Galv. Steel Welded Together



**TYPICAL FRAMING LAYOUT FOR "DIR" SIGN SUPPORT**  
Not to Scale



**SIGN D-15**  
STA. 200+00 (RT.)  
1/2" = 1'-0"

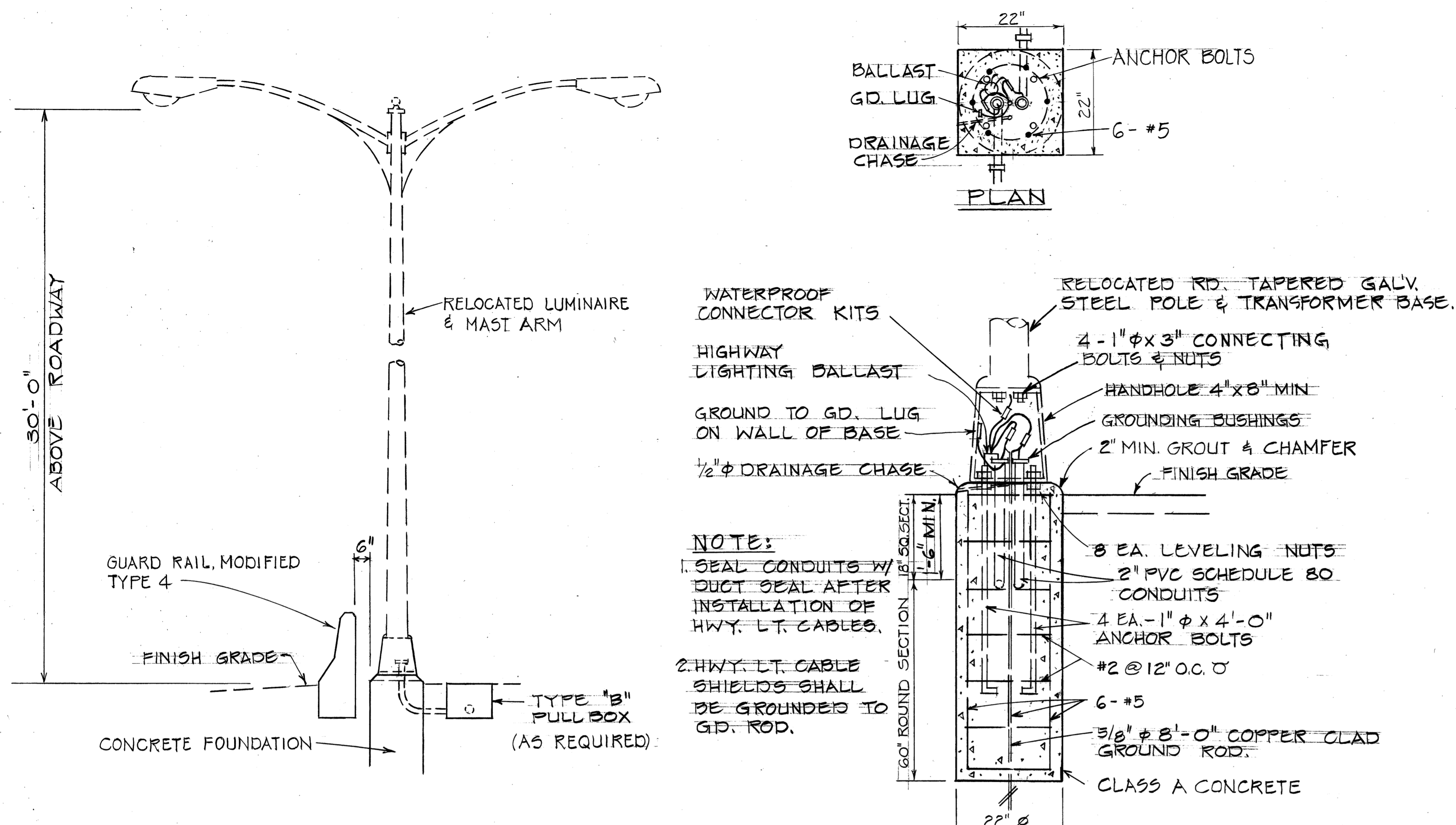


**DETAILS OF REFLECTOR MARKER MOUNTED ON CONCRETE BARRIER**  
Not to Scale

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION  
**FRAME LAYOUT & MISCELLANEOUS DETAILS**  
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy  
F.A. Proj. No. ROS-061-1 (21)  
Scale: As Shown Date: 1978  
SHEET No. 12 OF 34 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	73	94



**NOTE:**  
 1. SEAL CONDUITS W/ DUCT SEAL AFTER INSTALLATION OF HWY. LT. CABLES.  
 2. HWY. LT. CABLE SHIELDS SHALL BE GROUNDED TO G.D. ROD.

RELOCATED HIGHWAY LIGHTING STD. W/ LUMINAIRE MAST ARM & ANCHOR BASE

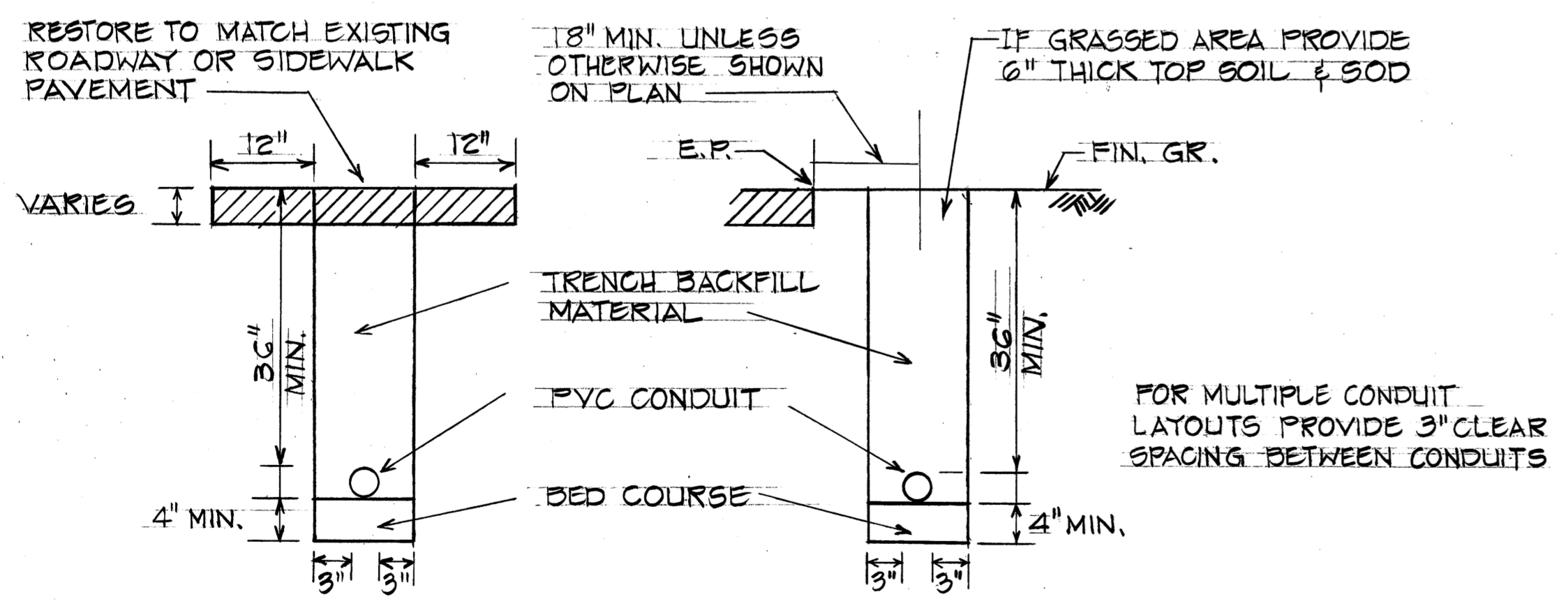
CONCRETE FOUNDATION DETAIL  
 Scale: 3/4" = 1'-0"

SUMMARY OF REGULATORY & WARNING SIGNS TO BE INSTALLED

TYPE	MESSAGE	QUANTITY	
		W/POST	W/O POST
R1-1	STOP	4	
R1-2	YIELD	1	
R2-1(35)	SPEED LIMIT 35	3	5
R2-1(45)	SPEED LIMIT 45	5	4
R2-3d(35)	REDUCED SPEED 35 AHEAD	2	
R2-4	MINIMUM SPEED 40	1	6
R3-4	NO U TURN		3
R4-3	SLOWER TRAFFIC KEEP RIGHT	2	1
R7-4	NO STOPPING OR STANDING ↔	10	3
R7-201	TOW AWAY ZONE		3
R16-13	LEFT LANE	1	6
R18-1	NO STOPPING IN TUNNEL	1	1
R18-2	USE HEADLIGHTS THRU TUNNEL	1	2
R18-3	EXPLOSIVES PROHIBITED IN TUNNEL	2	
R6-1(R)	ONE WAY	1	
W1-1(L)	↙		1
W1-3(R)	↘		1
W1-8(L)	↙	1	
W2-2	⊥	1	2
W3-3	⊕ SIGNAL AHEAD	1	1
W3-4	STOP AHEAD WHEN FLASHING	1	1
W13-1(35)	35 M.P.H.		1
W14-4	LIMITED SIGHT DISTANCE	1	1
W15-3	FALLING ROCK	1	

SUMMARY OF ROUTE MARKERS TO BE INSTALLED

TYPE	MESSAGE	QUANTITY
M3-4	WEST	1
M1-6(G1)	ⓐ	1
M3-1	NORTH	1
M1-6(B3)	ⓑ	1
M6-1	←	1
M6-3	↑	1



TYP. ROAD CROSSING  
 TYP. DUCT SECTION (BEYOND EDGE OF SHOULDER OR CURB)  
 TYPICAL DUCT SECTION  
 N.T.S.

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

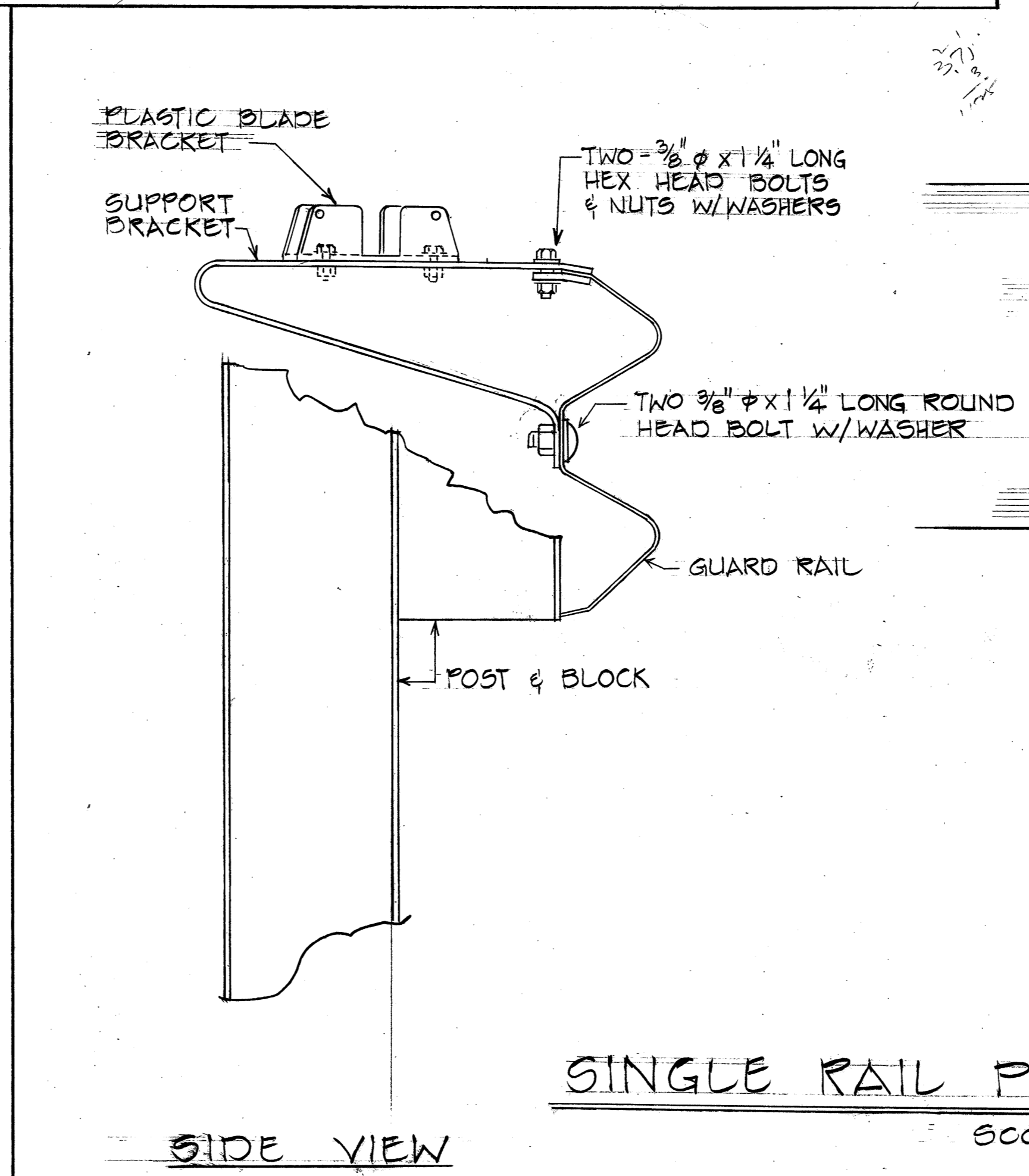
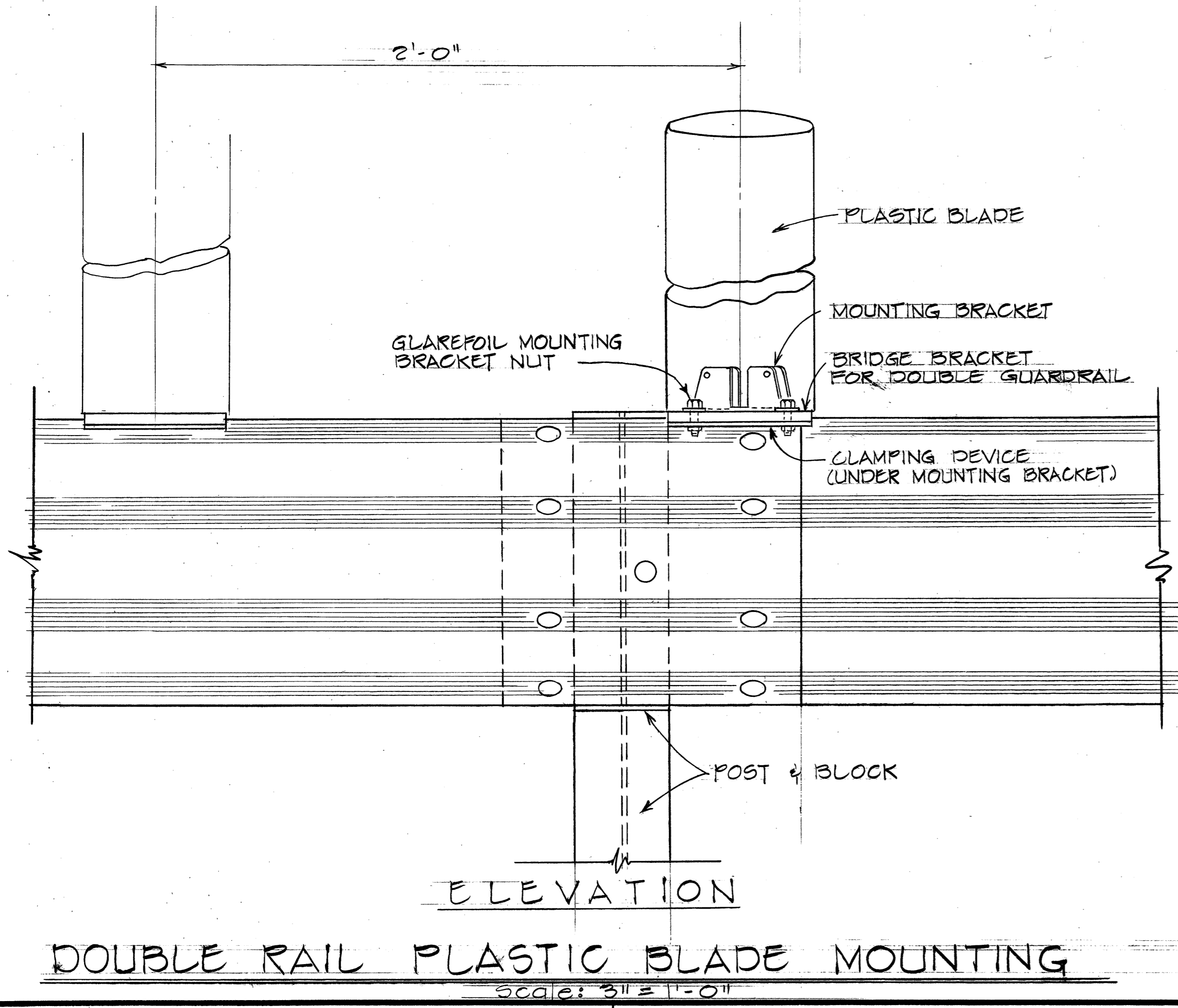
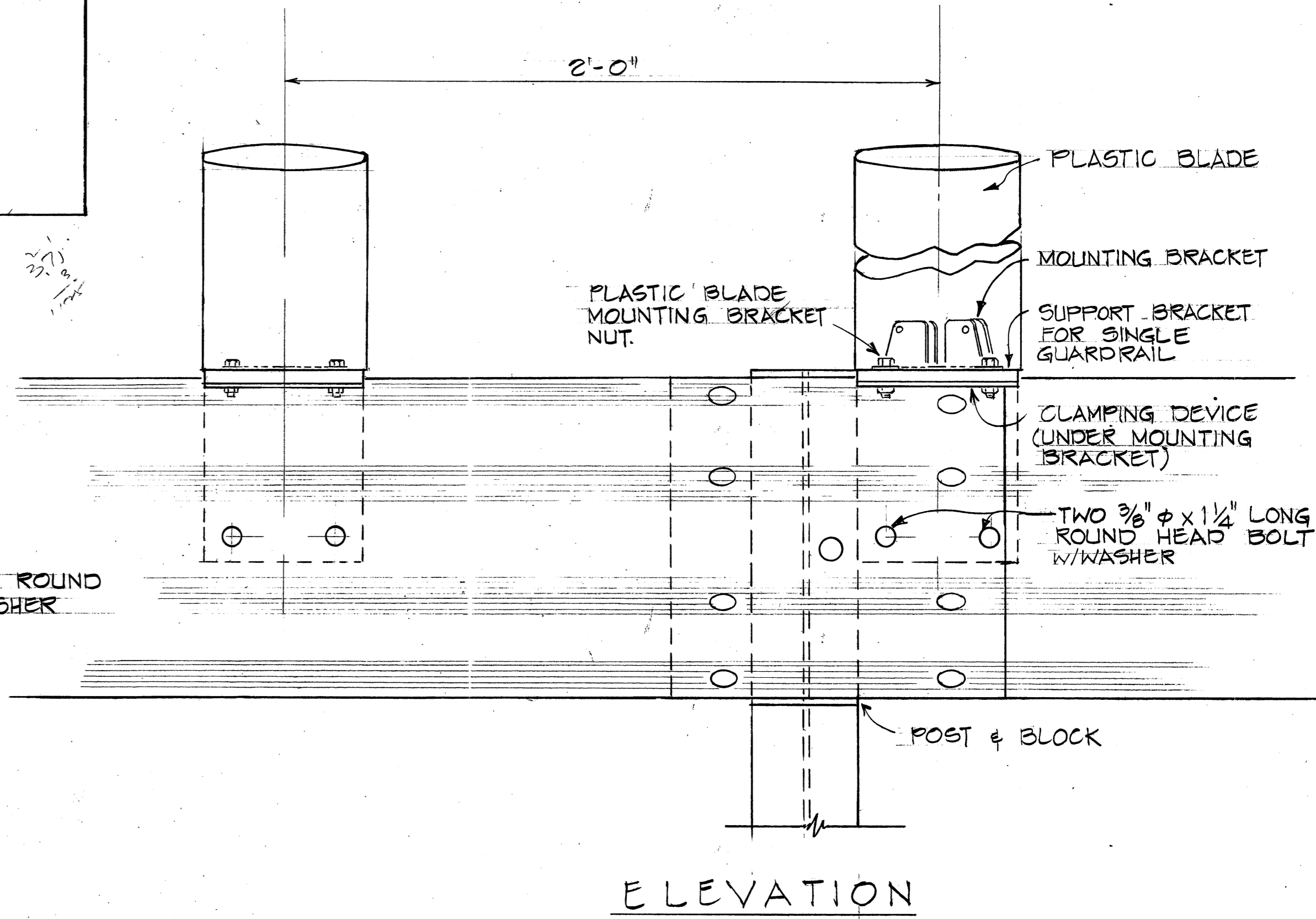
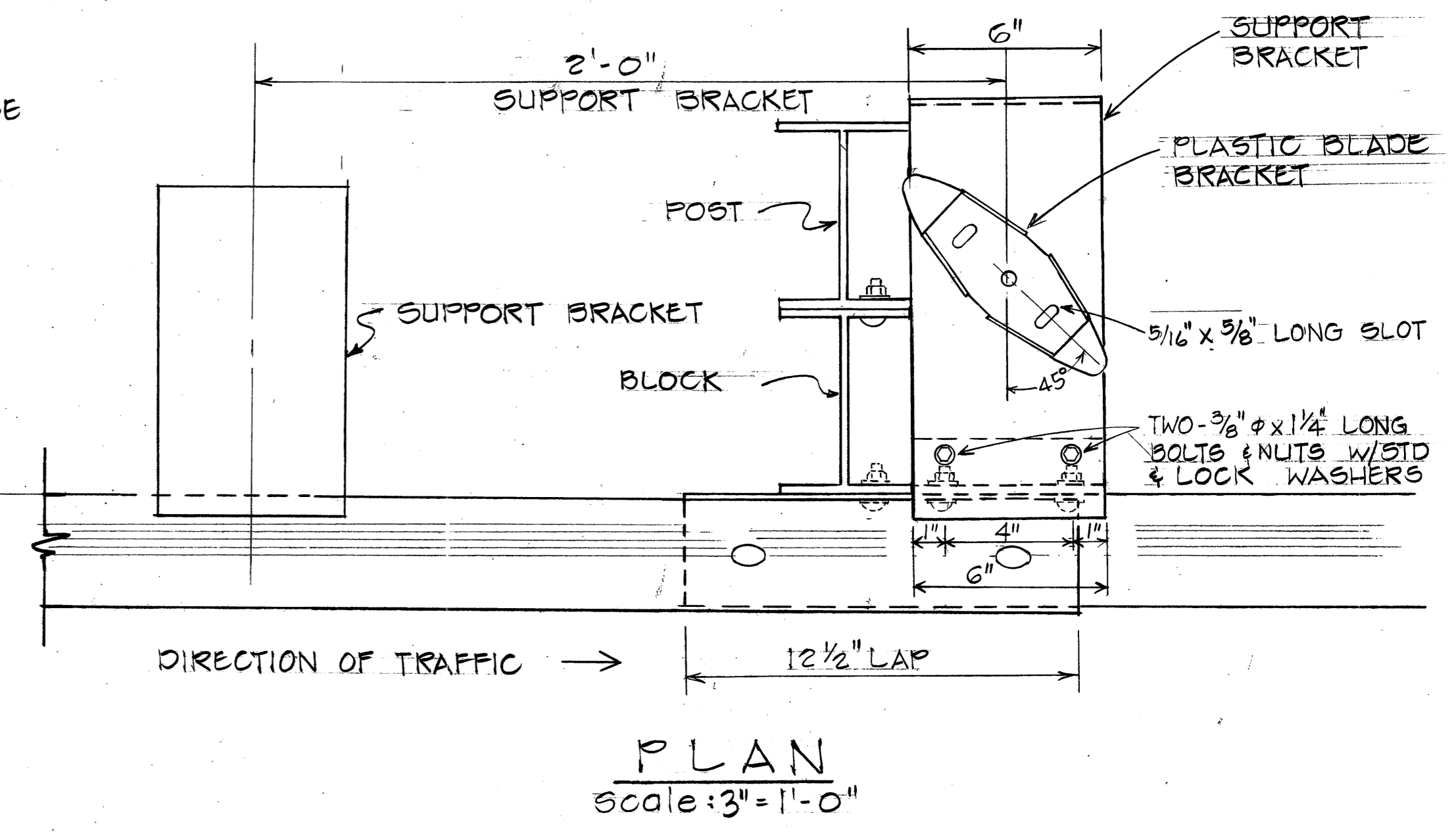
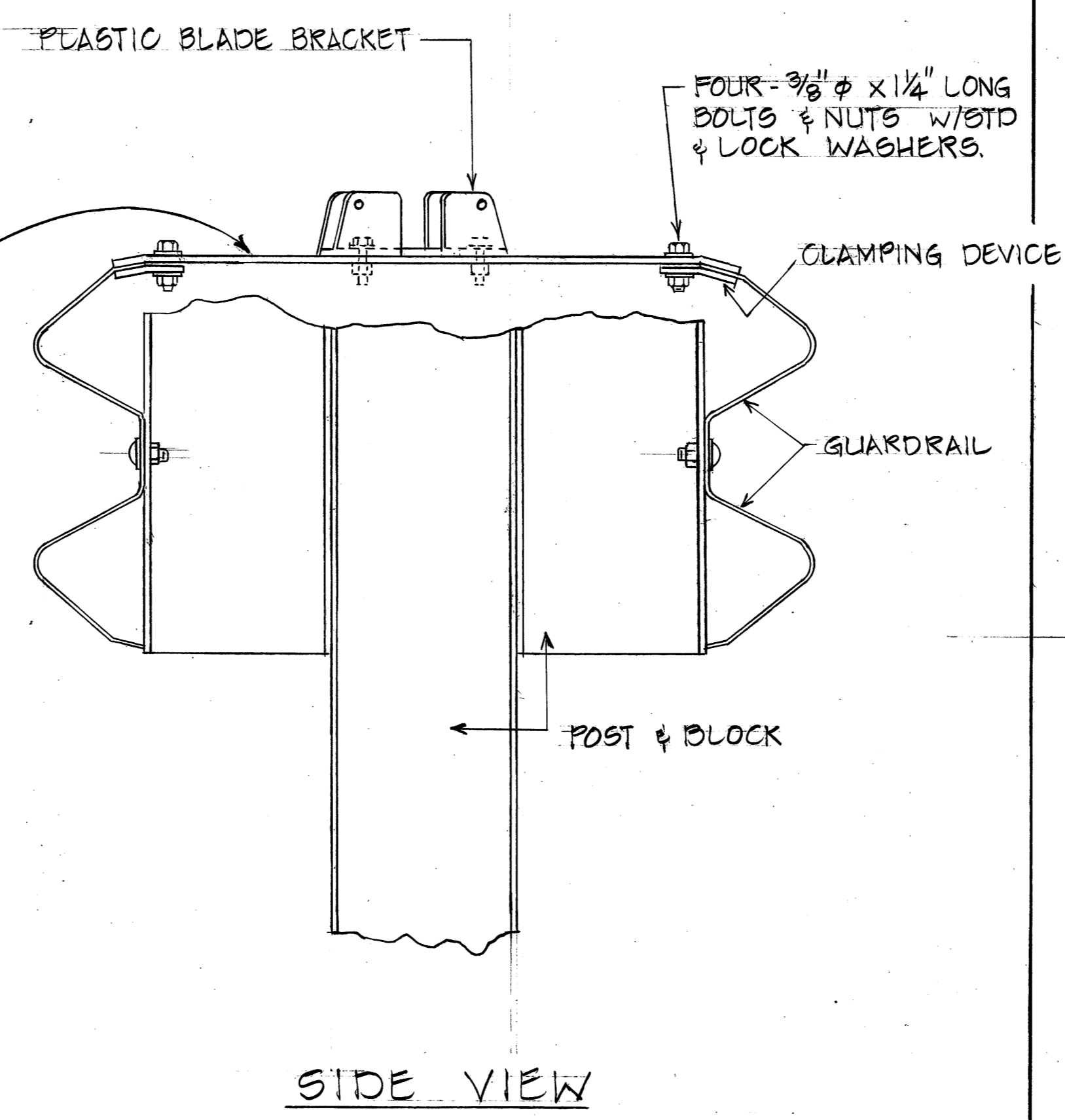
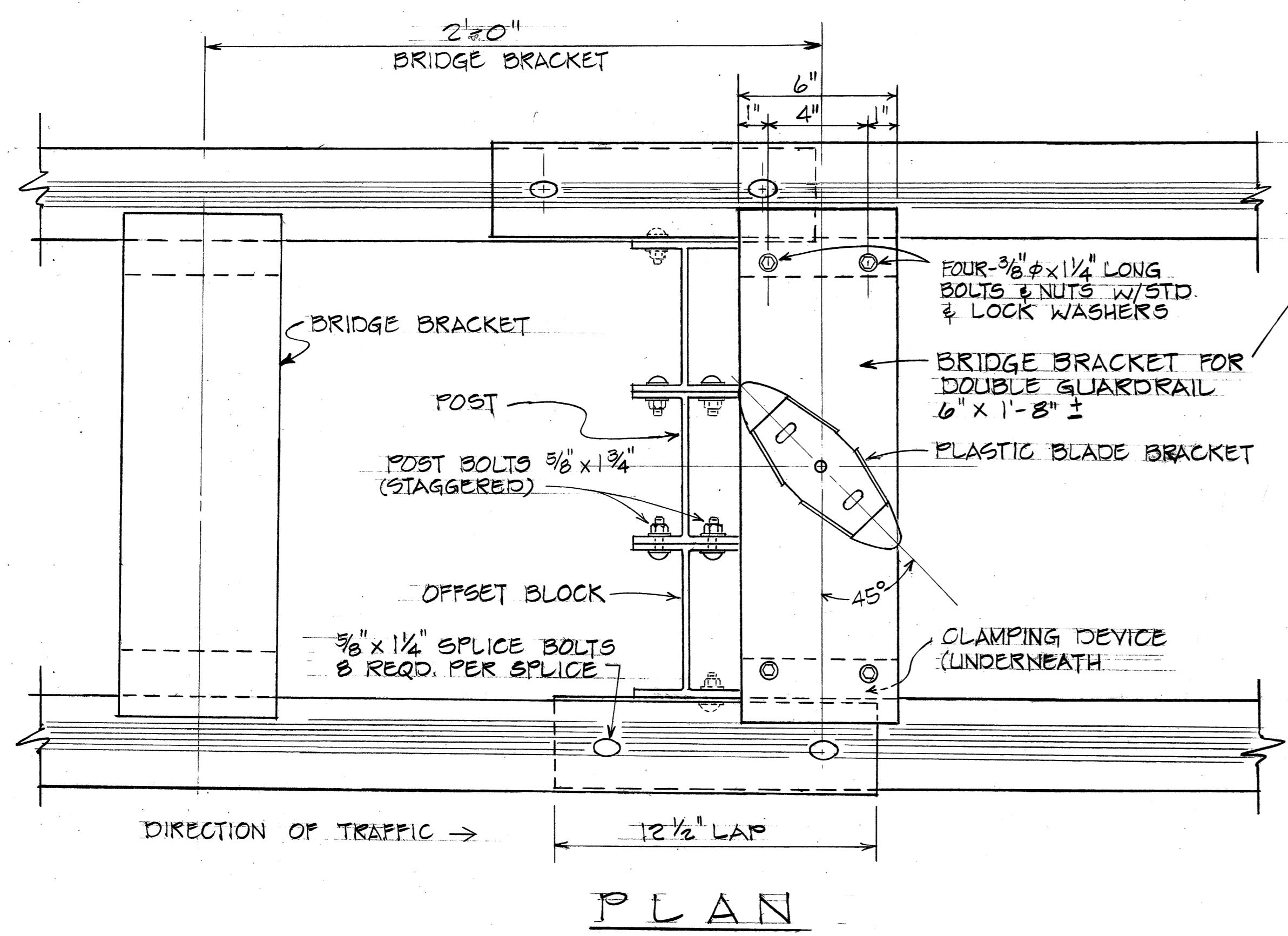
**HIGHWAY LIGHTING DETAILS**

PALI HIGHWAY SAFETY IMPROVEMENTS  
 West of Tunnels to Kamehameha Hwy  
 F.A. Project No. ROS-061-1(21)

Scale: Not to Scale Date: 1978  
 SHEET No. 137 OF 34 SHEETS

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.	ROS-061-1(2)	1978	74	74



SINGLE RAIL PLASTIC BLADE MOUNTING  
Scale: 3" = 1'-0"

DOUBLE RAIL PLASTIC BLADE MOUNTING  
Scale: 3" = 1'-0"

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

**DETAILS OF PLASTIC BLADE  
HEADLIGHT GLARE SCREEN**  
(FOR GUARDRAIL TYPE 3)

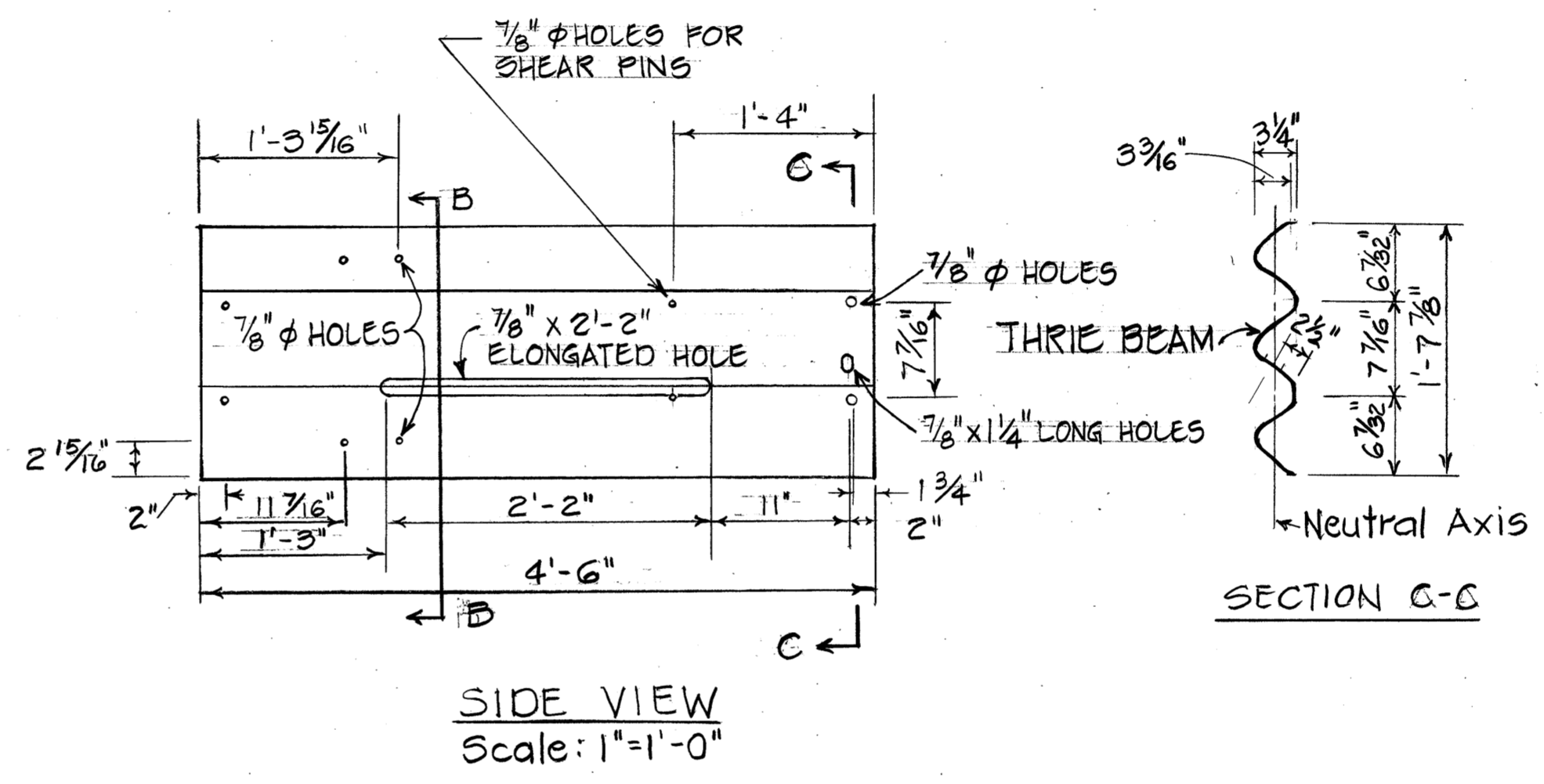
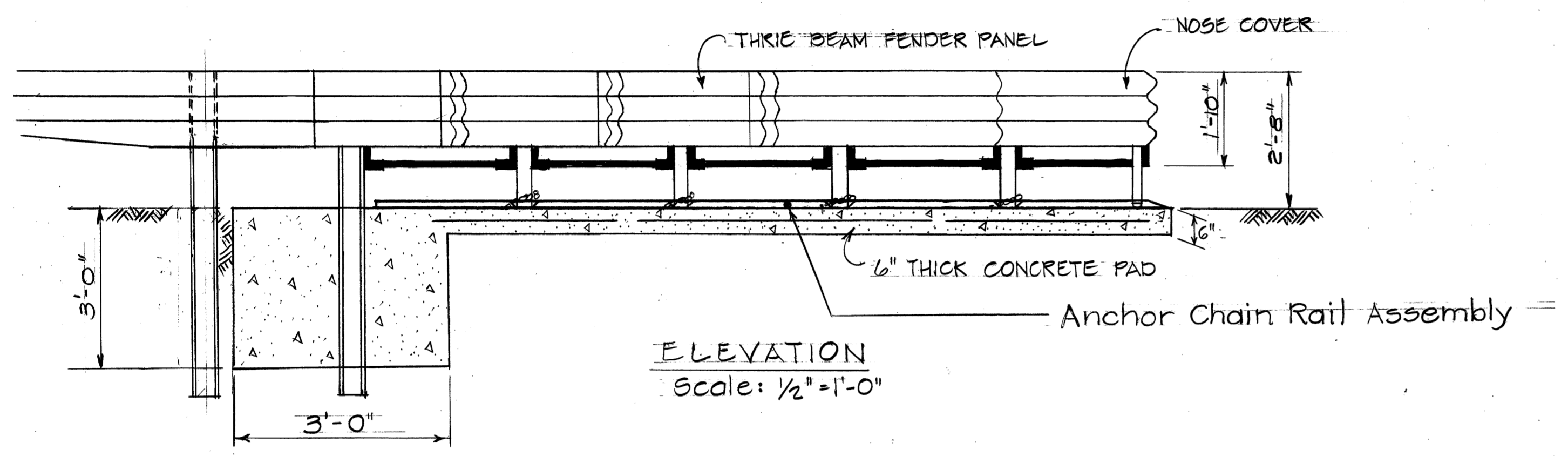
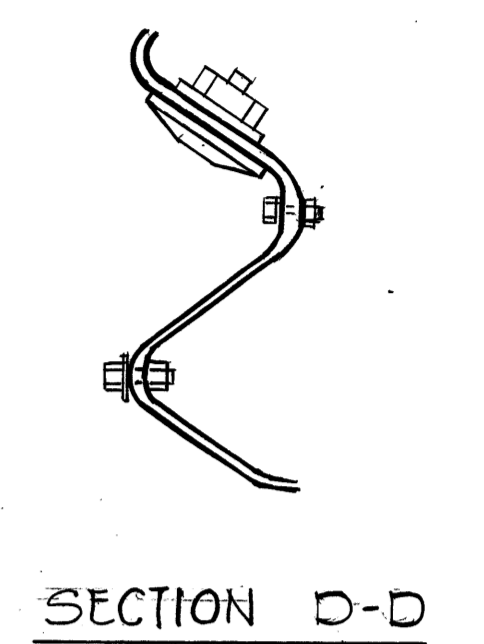
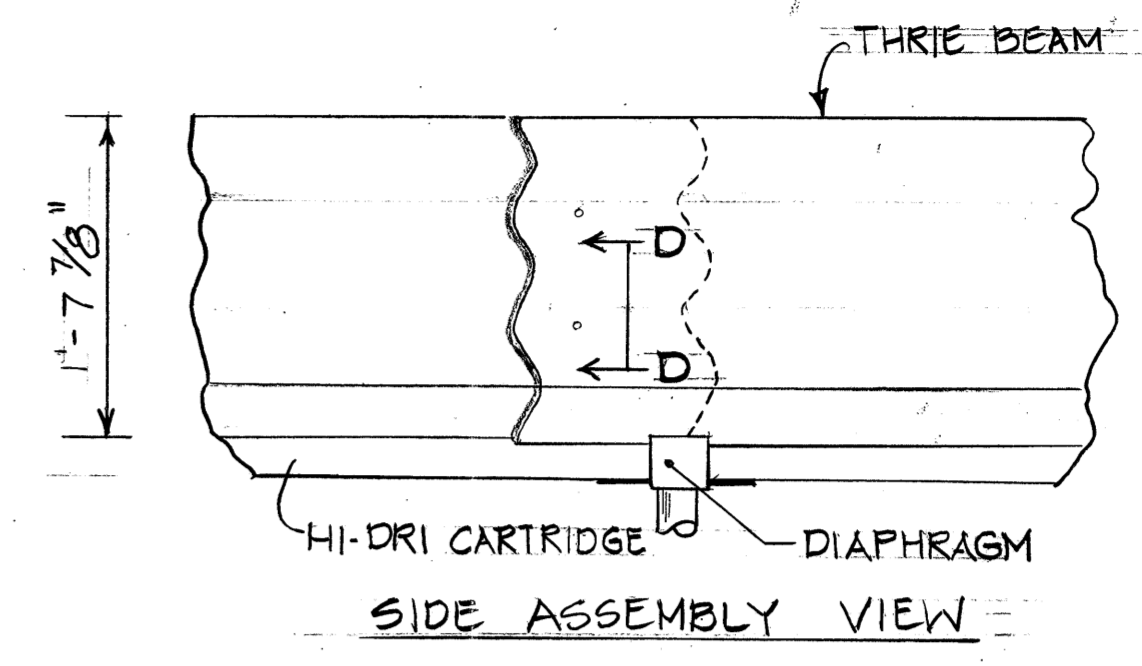
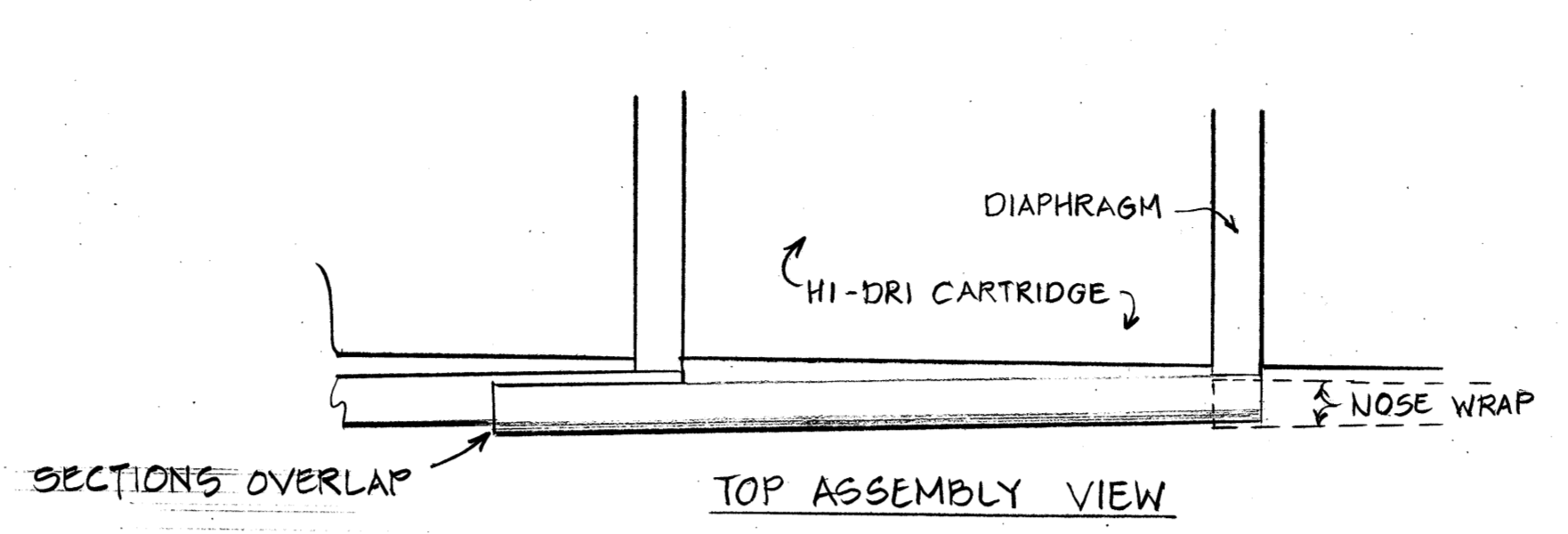
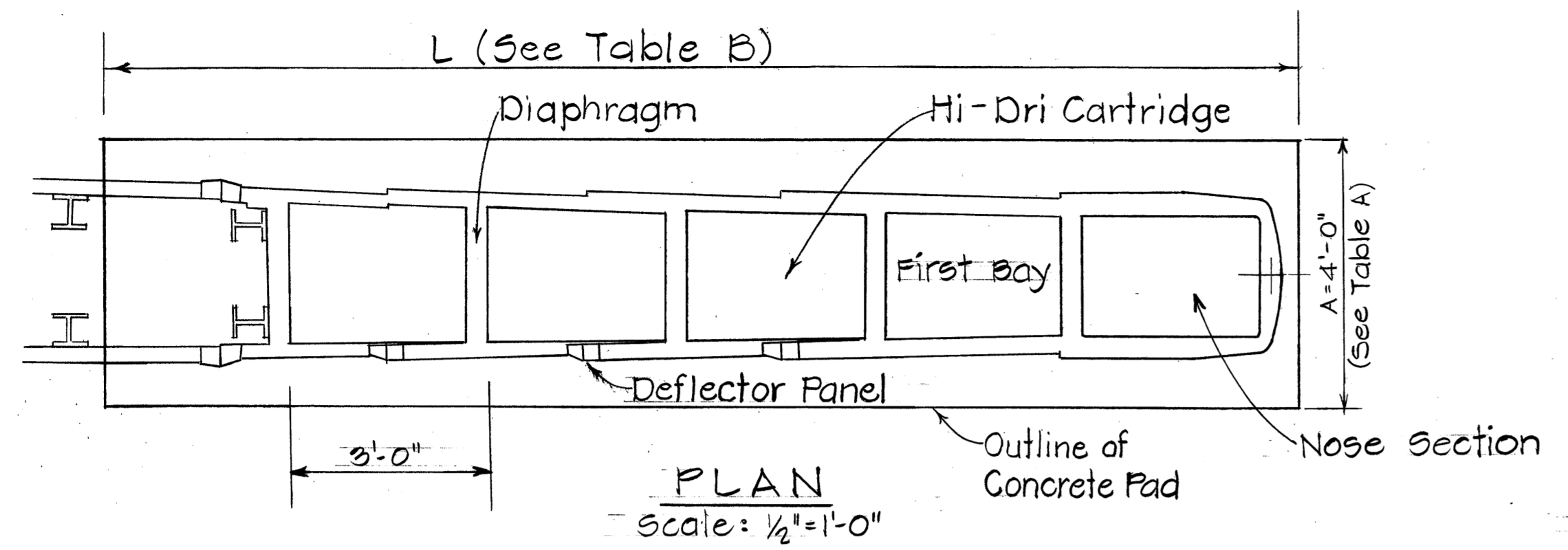
F.A. Proj. No. ROS-061-1(2)

Scale: As Shown Date: 1978

SHEET No. 14 OF 34 SHEETS

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN 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.	ROS-061-1(21)	1978	75	74



NOTE:  
The Contractor shall verify with the manufacturer, any amendments or revisions thereof as may be made from time to time, shall be used in this project.

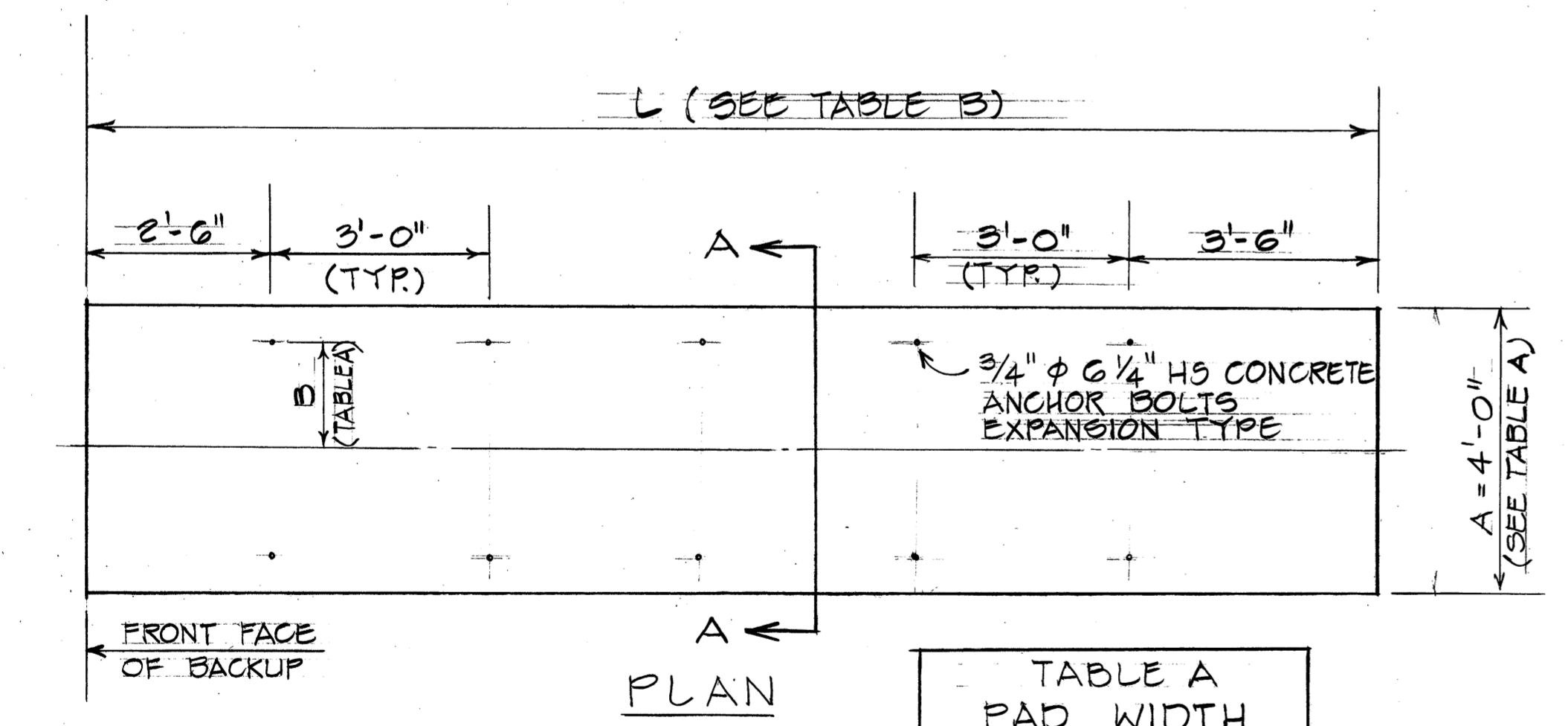
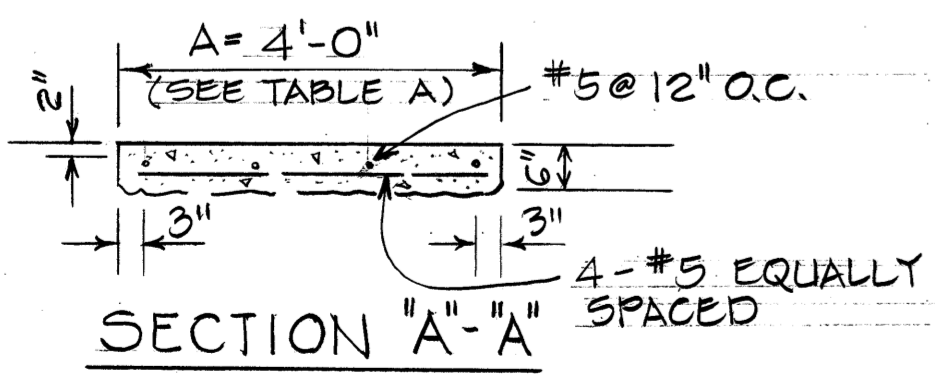


TABLE A  
PAD WIDTH

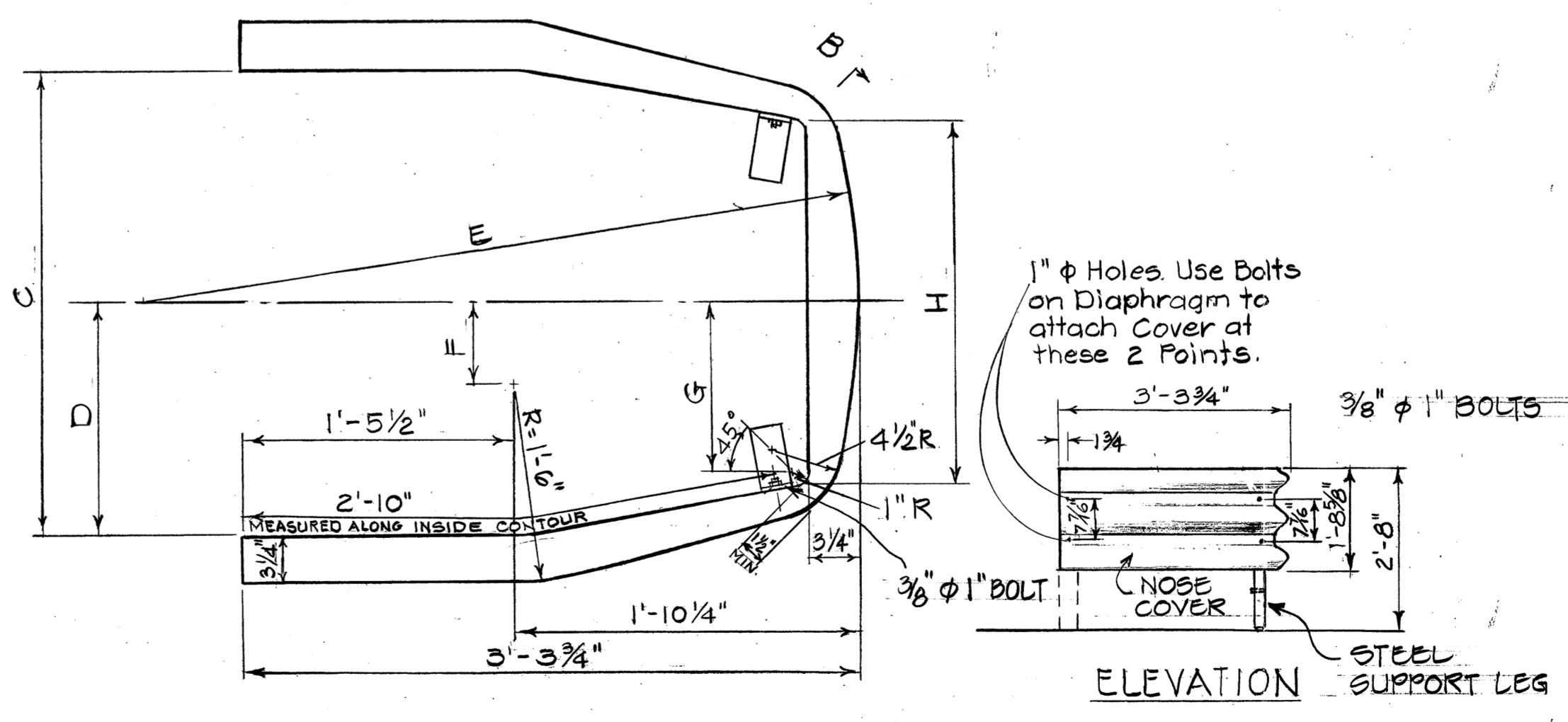
MODEL NO.	A	B
200200	4'-0"	1'-0"
206206	4'-0"	1'-3"
300300	4'-0"	1'-6"

TABLE B  
PAD LENGTH

NO. OF BAYS	L	ANCHOR BOLTS QUAN.
4	15'-6"	14
5	18'-6"	16
6	21'-6"	20
7	24'-6"	22
8	27'-6"	24
9	30'-6"	26
10	33'-6"	30



CONCRETE PAD DETAILS  
Scale: 1/2" = 1'-0"



PLAN  
N.T.S.

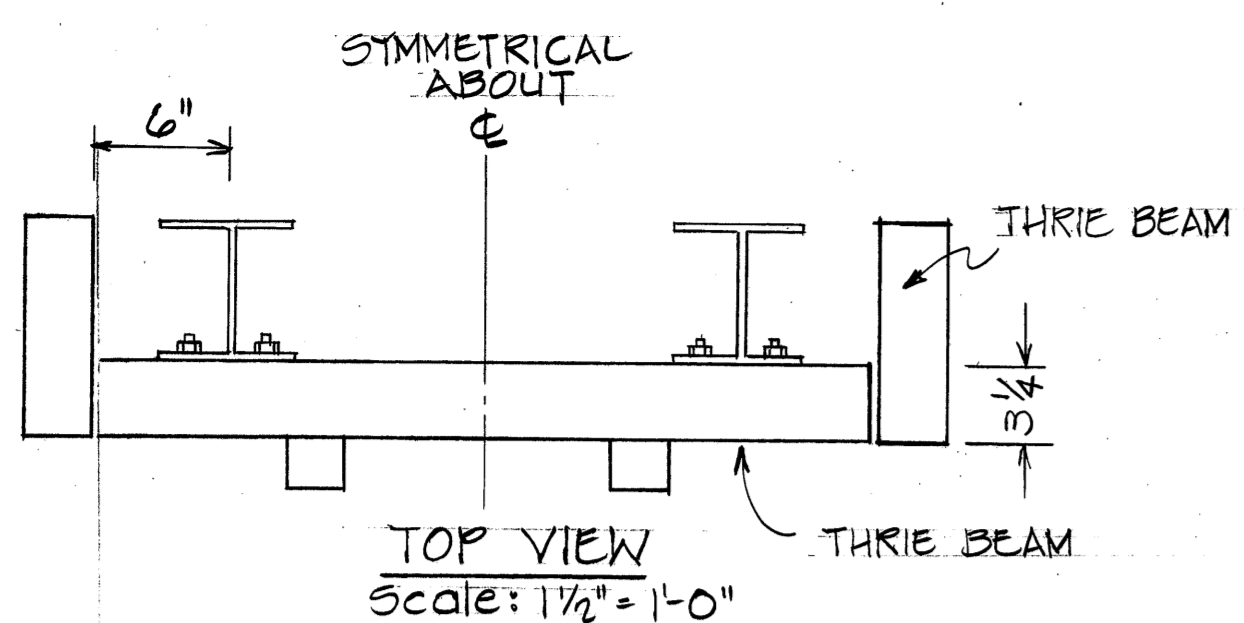
TABLE C

UNIT SIZE	ASST. NO.	C	D	E	F	G	H
2'-0"	35-02-031	2'-0"	1'-0"	2'-13/8"	3/4"	8"	1'-6"
2'-6"	35-02-032	2'-6"	1'-3"	3'-10"	6/4"	11"	2'-0"
3'-0"	35-02-032	2'-6"	1'-3"	3'-10"	6/4"	11"	2'-0"

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION  
**DETAILS OF GUARD RAIL  
ENERGY ABSORBING TERMINAL**  
F.A. Proj. No. ROS-061-1(21)  
Scale: As Shown Date: 1978  
SHEET No. 157 OF 34 SHEETS

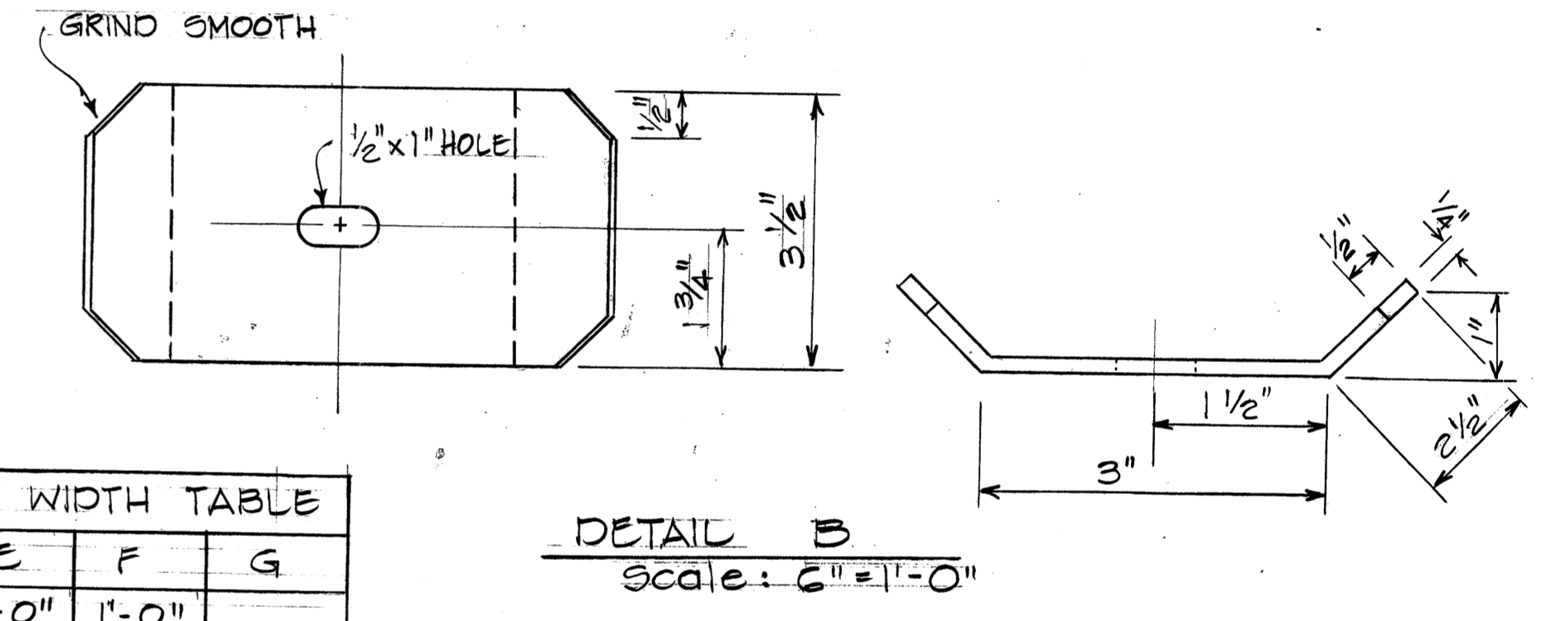
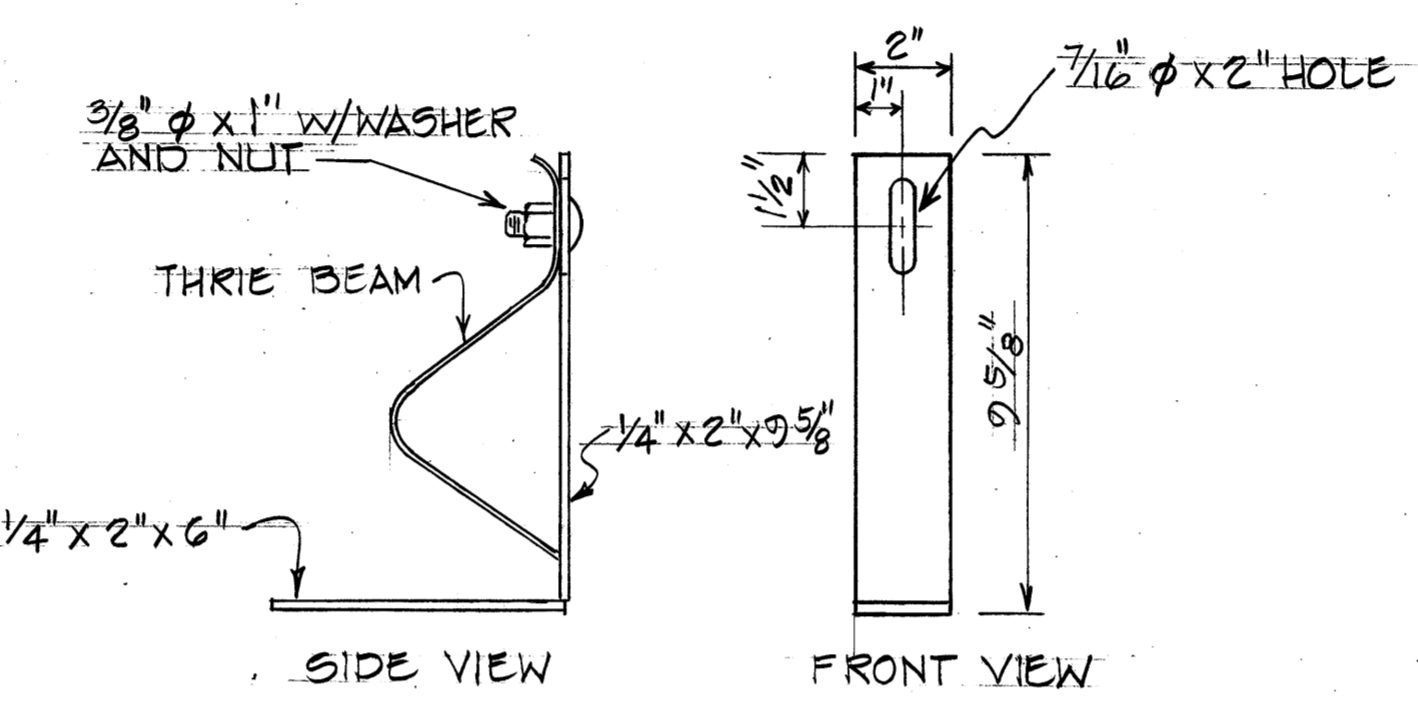
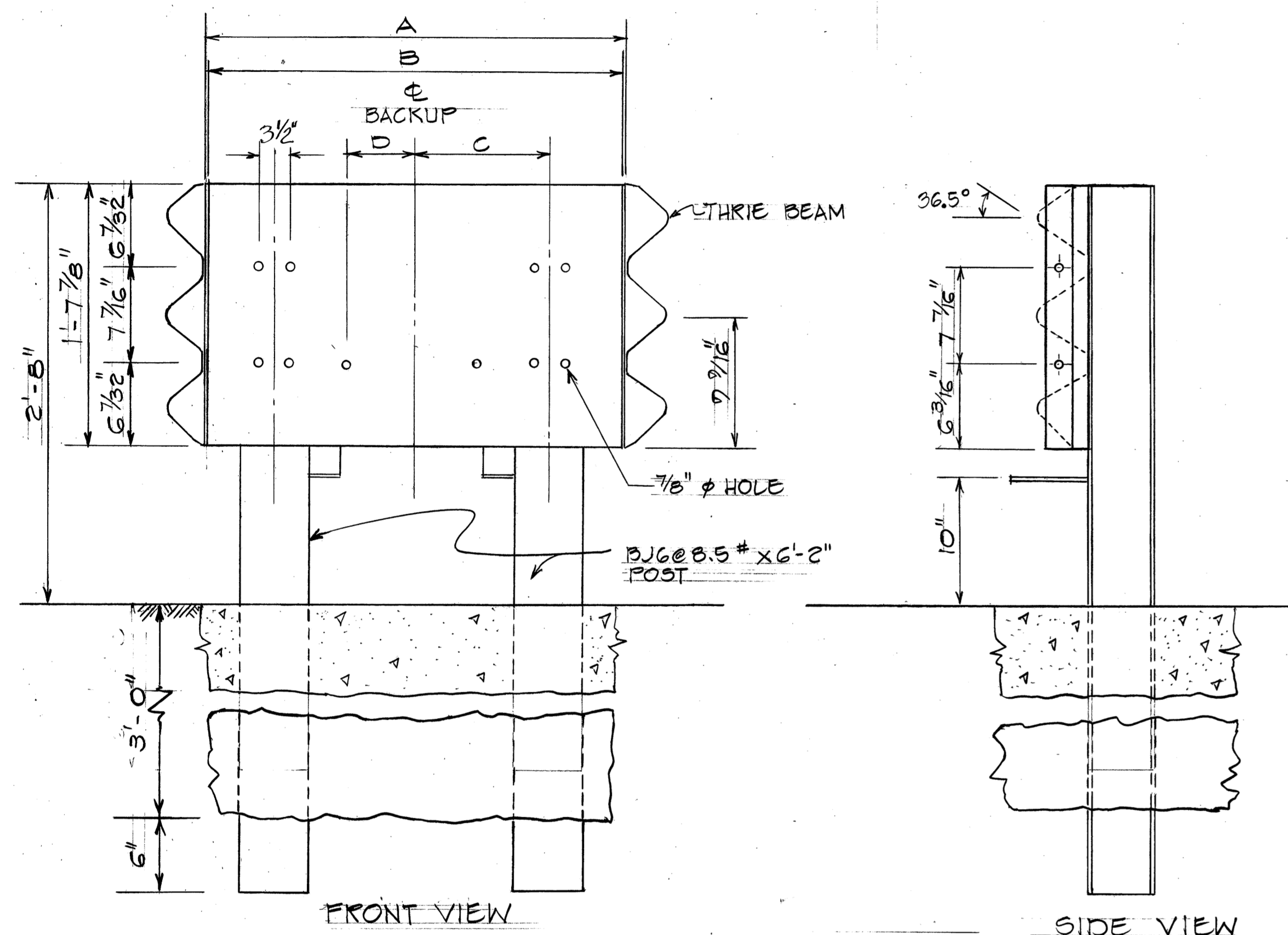
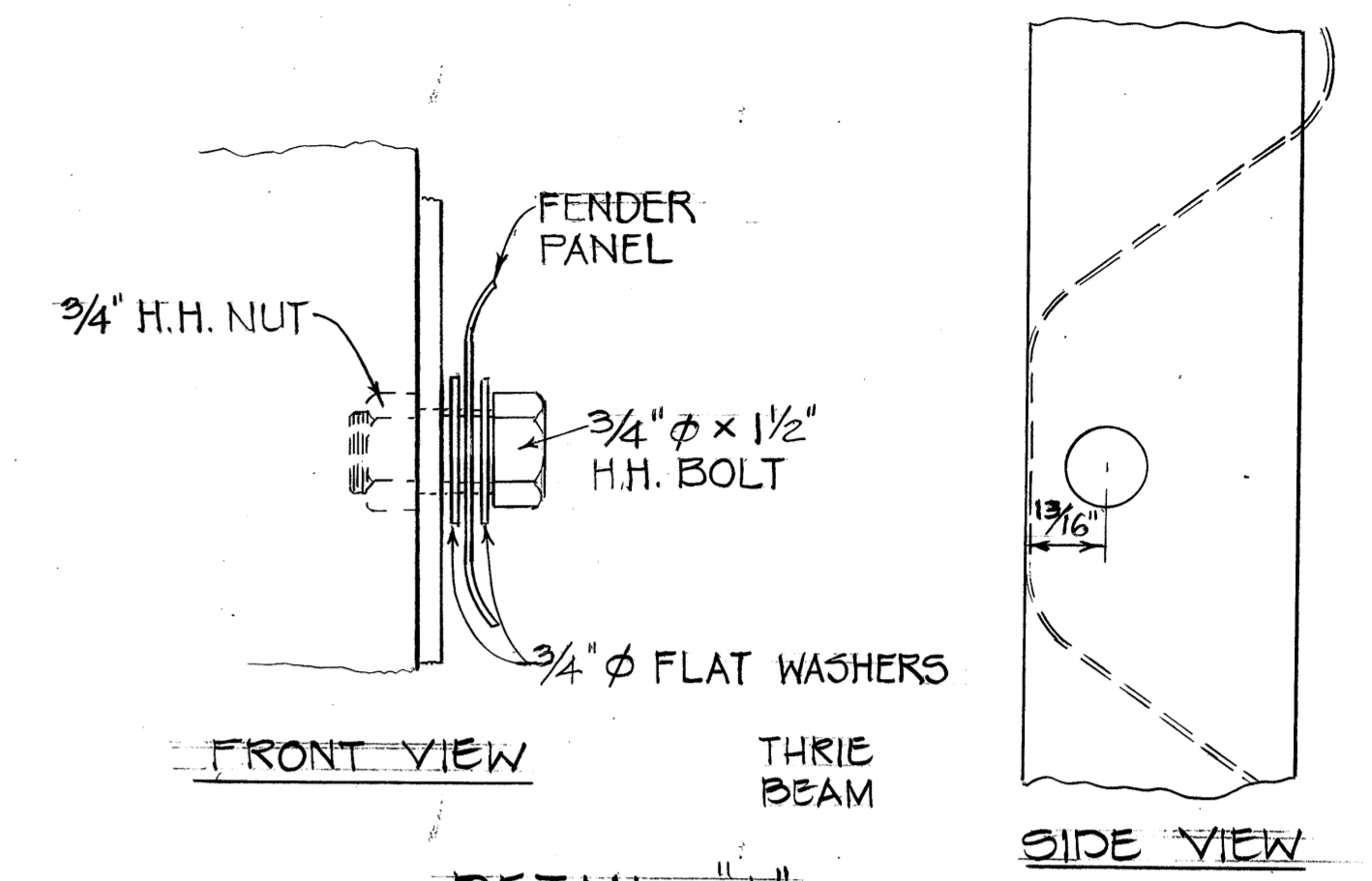
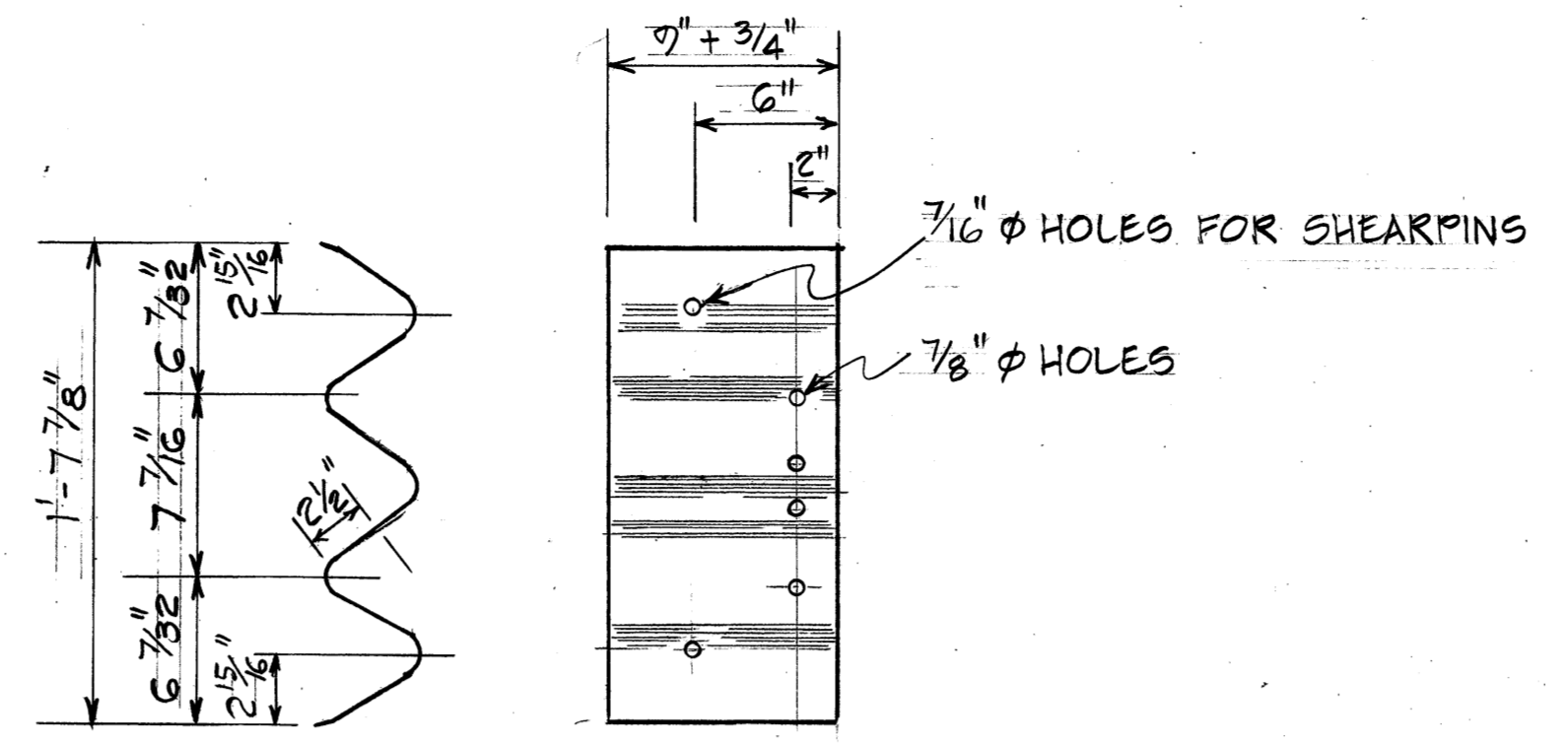
DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
TRACED BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
NOTE BOOK NO. \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CREATED BY: \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-(21)	1978	76	94



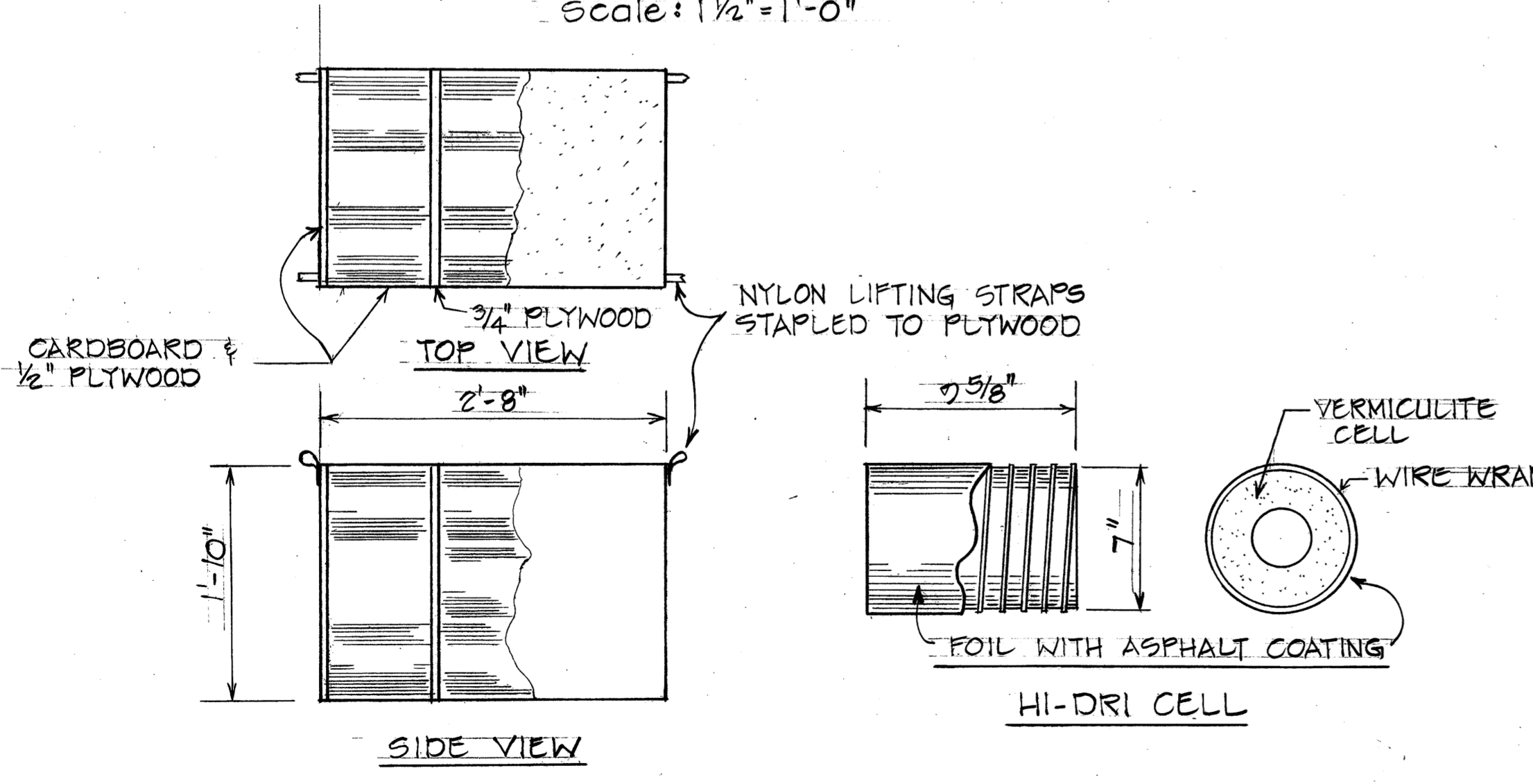
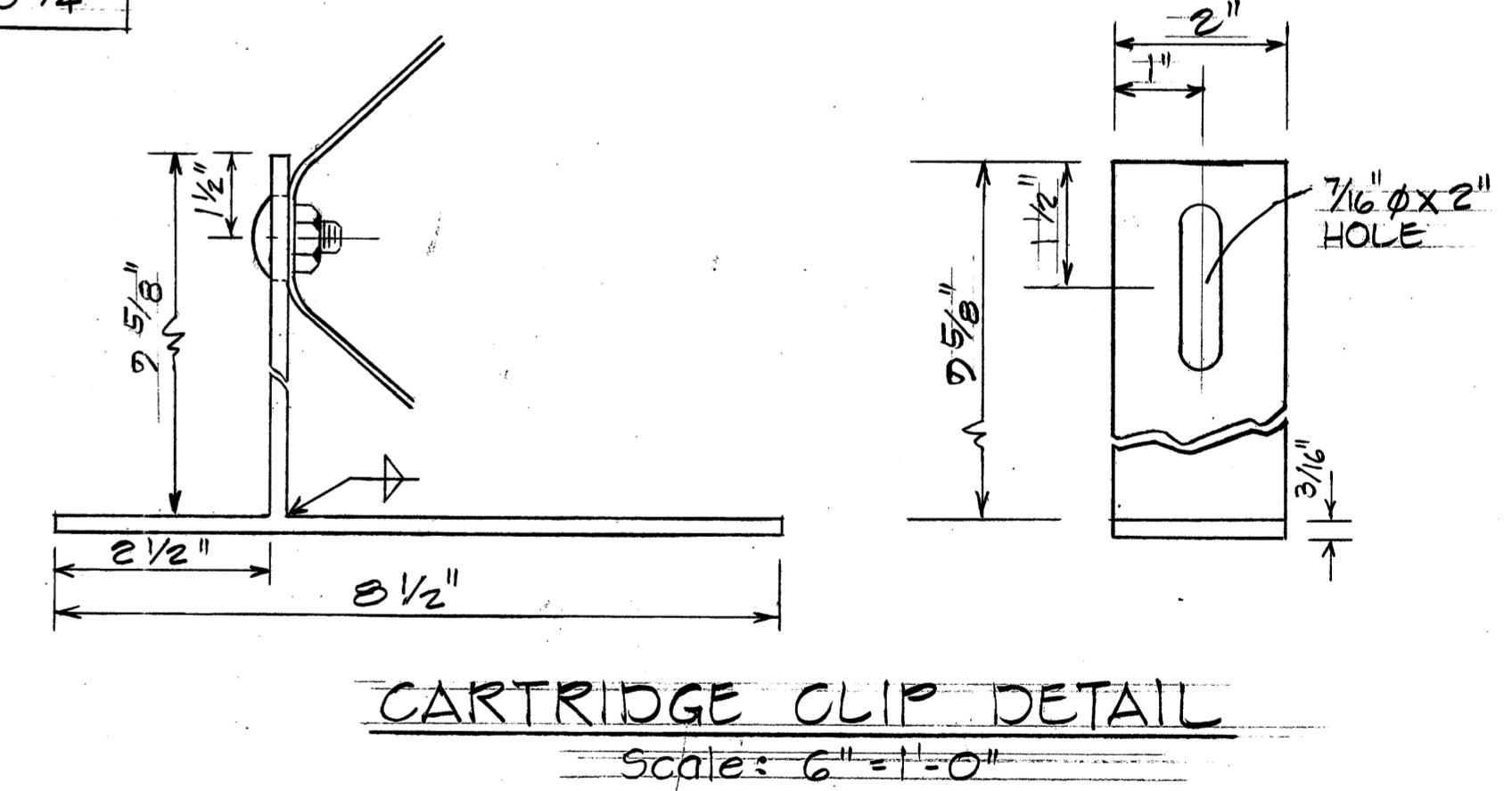
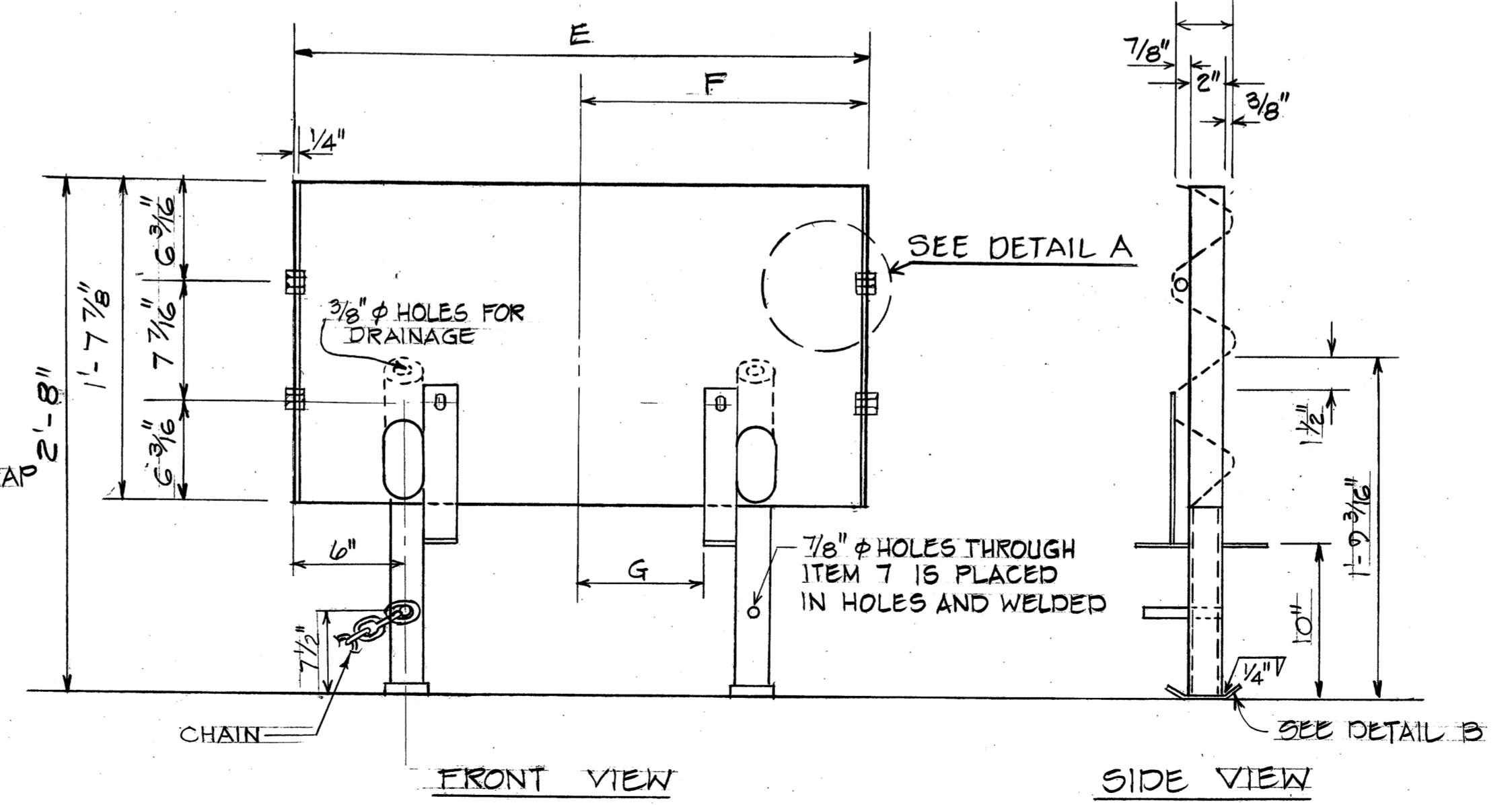
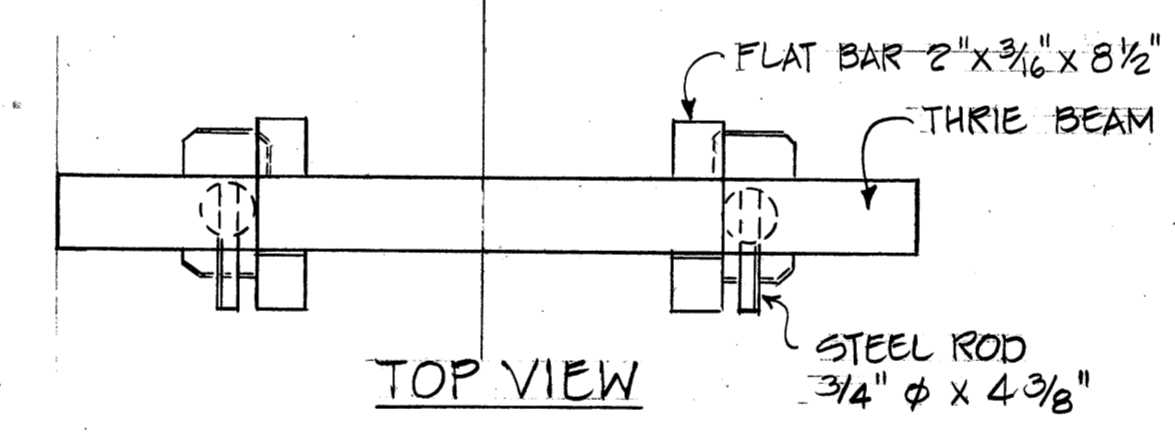
BACKUP WIDTH TABLE

UNIT WIDTH	A	B	C	D
2'-0"	2'-0"	1'-11 1/2"	0'-6"	2"
2'-6"	2'-6"	2'-5 1/2"	0'-9"	5"
3'-0"	3'-0"	2'-11 1/2"	1'-0"	8"



DIAPHRAM WIDTH TABLE

MODEL NO	E	F	G
2002005	2'-0"	1'-0"	
2062063	2'-6"	1'-3"	5 3/4"
3003005	3'-0"	1'-6"	8 3/4"



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

DETAILS OF GUARD RAIL  
ENERGY ABSORBING TERMINAL

F.A. Proj. No. ROS-061-(21)

Scale: As Shown Date: 1978

SHEET NO. 167 OF 34 SHEETS

DATE: \_\_\_\_\_

SURVEY PLOTTED BY: \_\_\_\_\_

ORIGINAL PLAN: \_\_\_\_\_

DRAWN BY: \_\_\_\_\_

TRACED BY: \_\_\_\_\_

NOTE BOOK DESIGNED BY: \_\_\_\_\_

QUANTITIES BY: \_\_\_\_\_

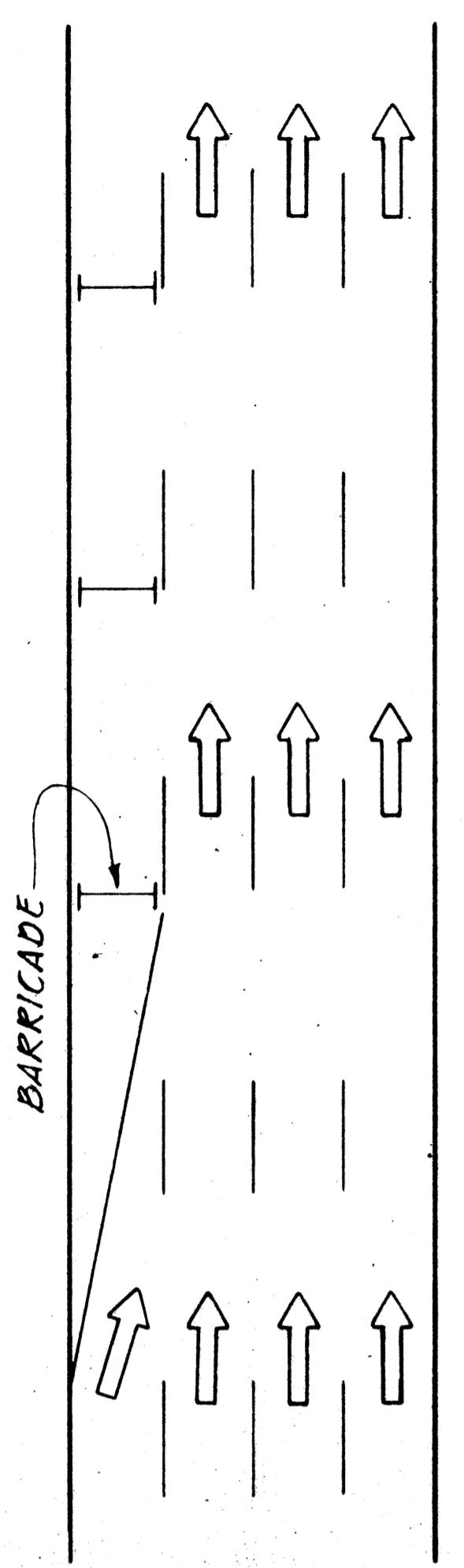
NO. CHECKED BY: \_\_\_\_\_



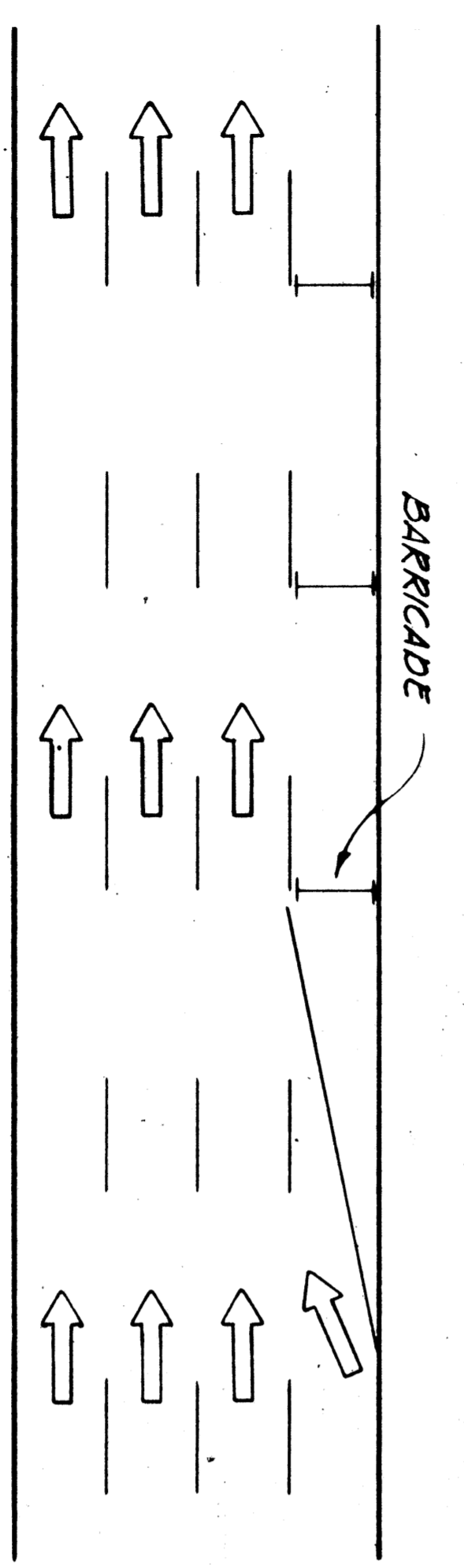
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS061(2)	1978	78	94

GENERAL NOTES

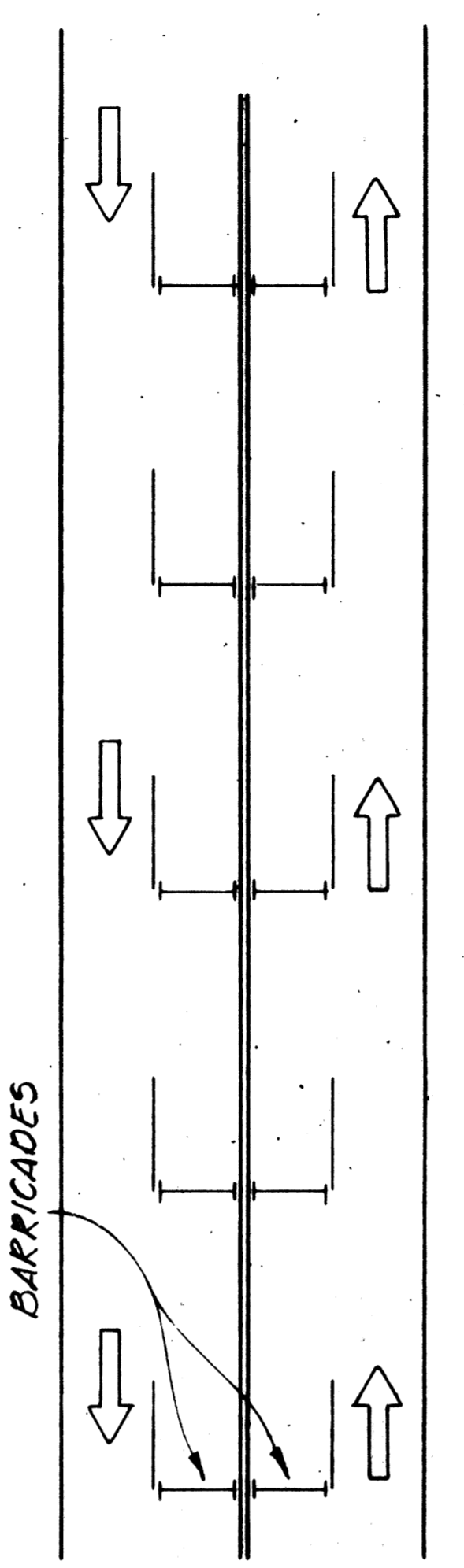
1. Barricade Type, Placement, and Arrangement shall be as shown on the Construction Plans.



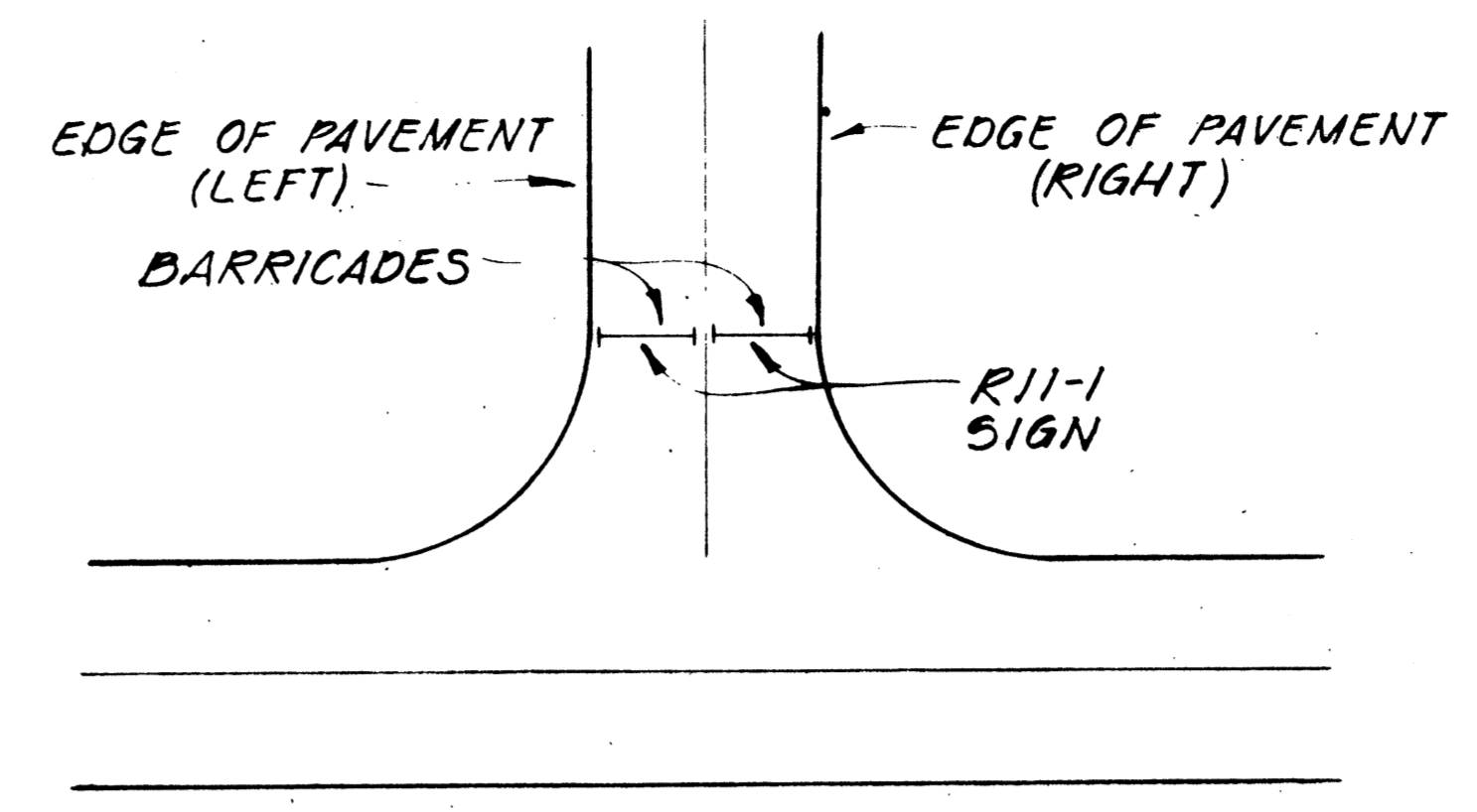
ROADWAY DELINEATION TO THE RIGHT  
NOT TO SCALE



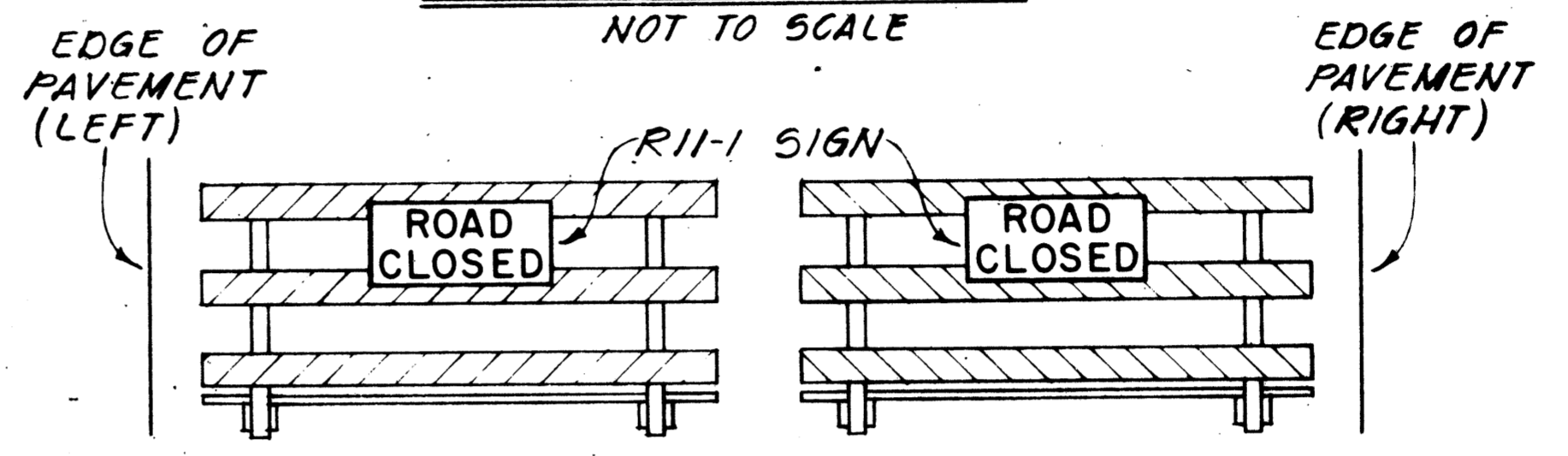
ROADWAY DELINEATION TO THE LEFT  
NOT TO SCALE



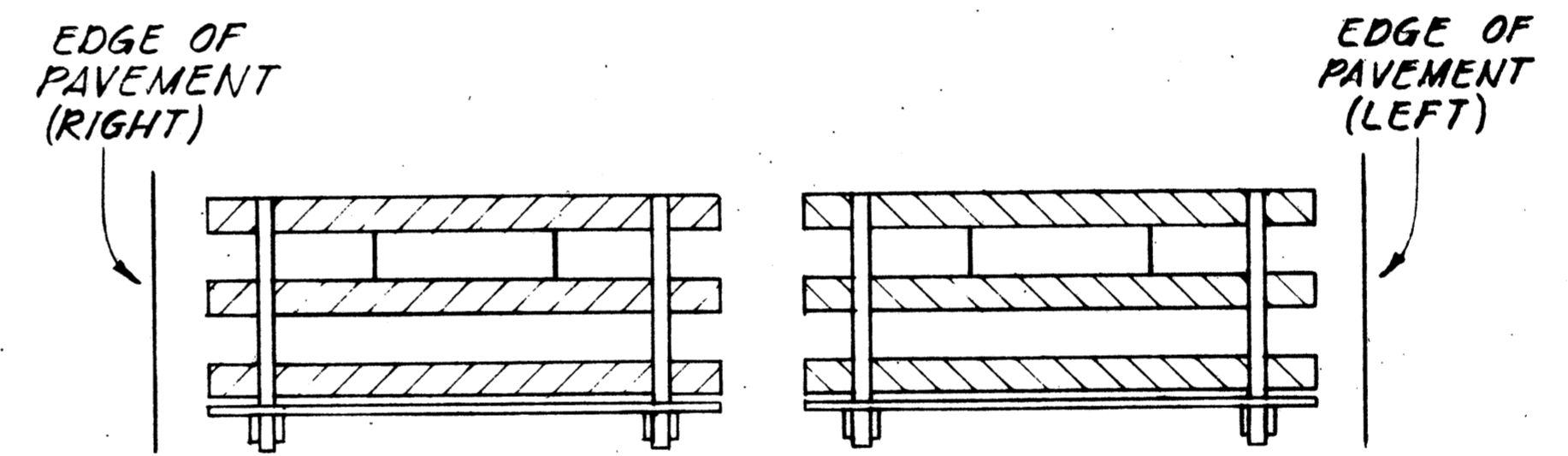
ROADWAY DELINEATION FOR 2-WAY TRAFFIC  
NOT TO SCALE



ROADWAY CLOSED  
NOT TO SCALE

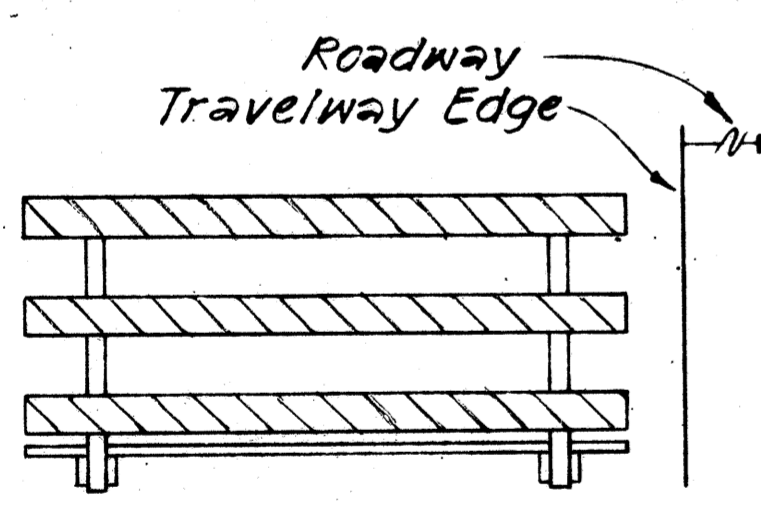


FRONT VIEW

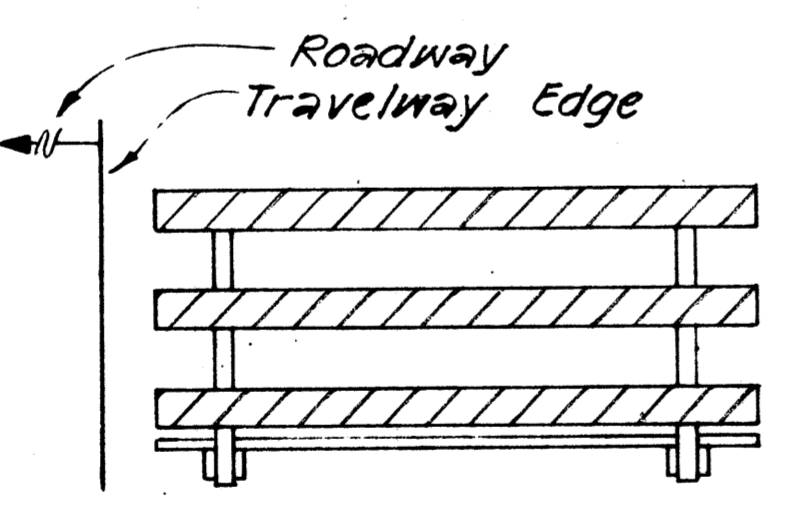


BACK VIEW

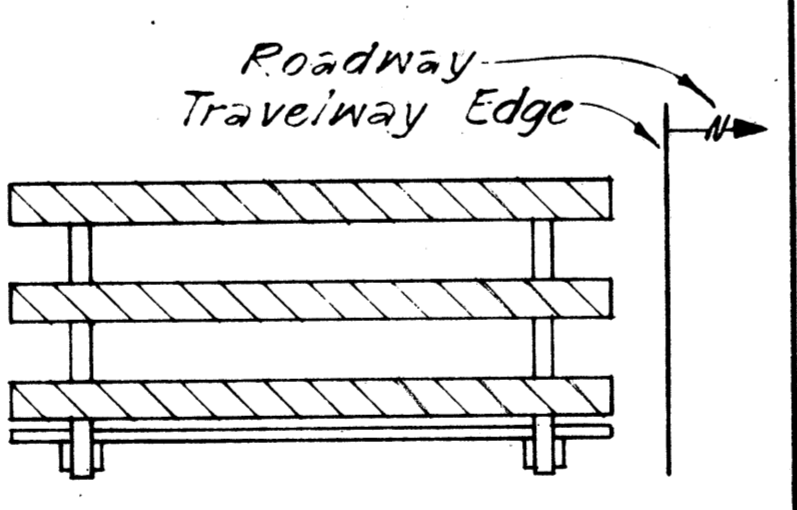
BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE



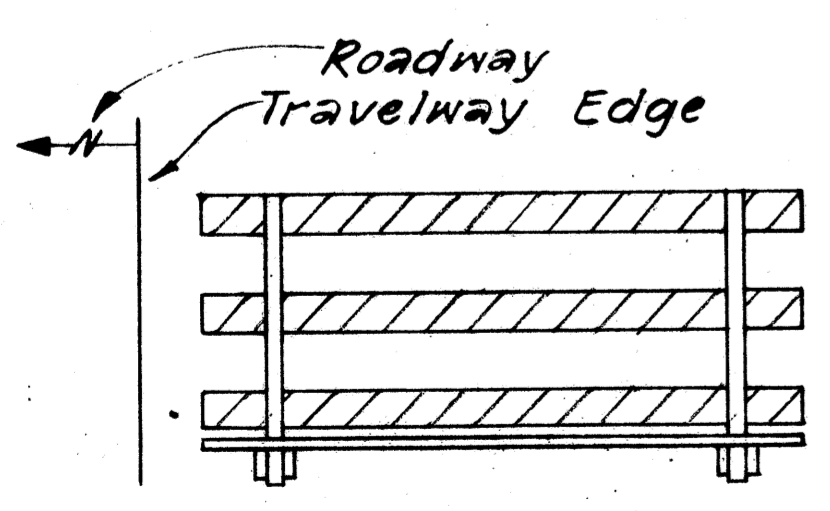
FRONT VIEW



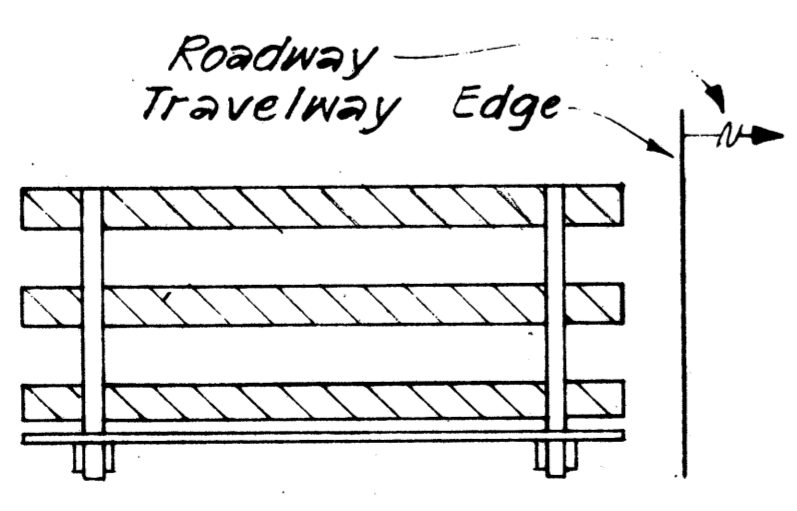
FRONT VIEW



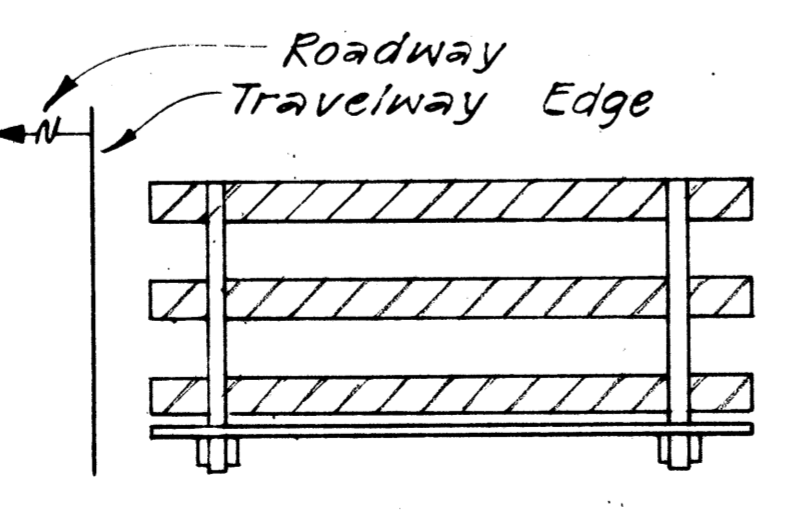
FRONT VIEW



BACK VIEW



BACK VIEW



BACK VIEW

BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE

BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE

BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE

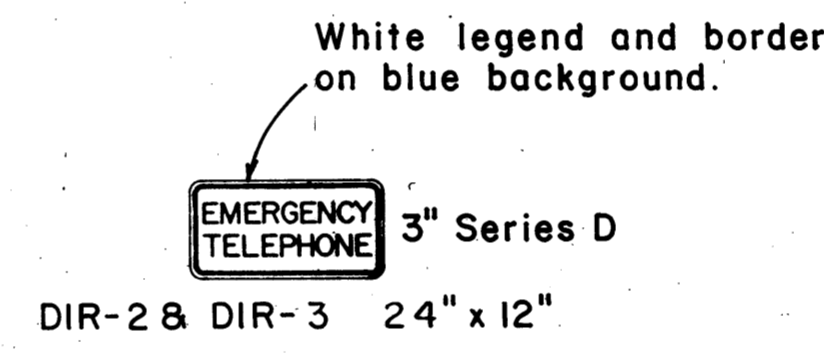
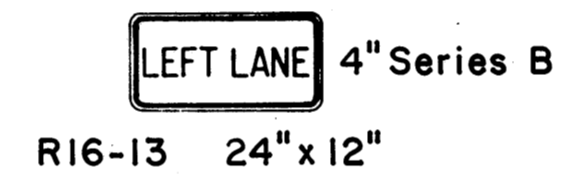
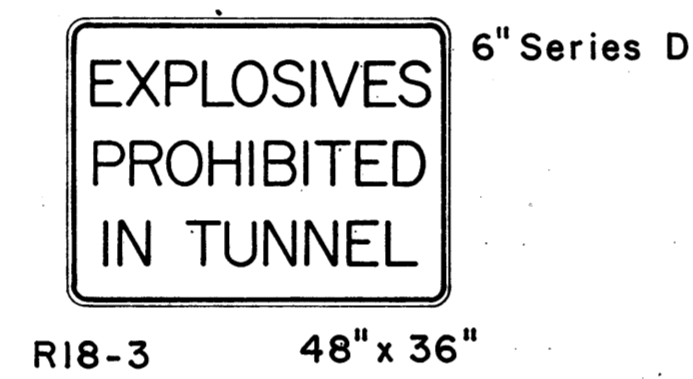
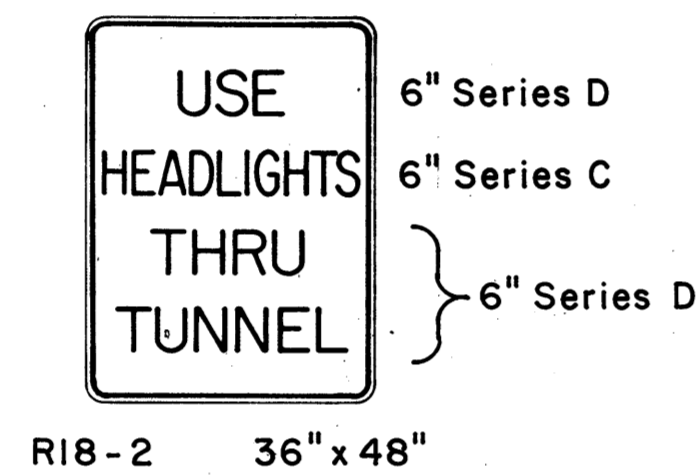
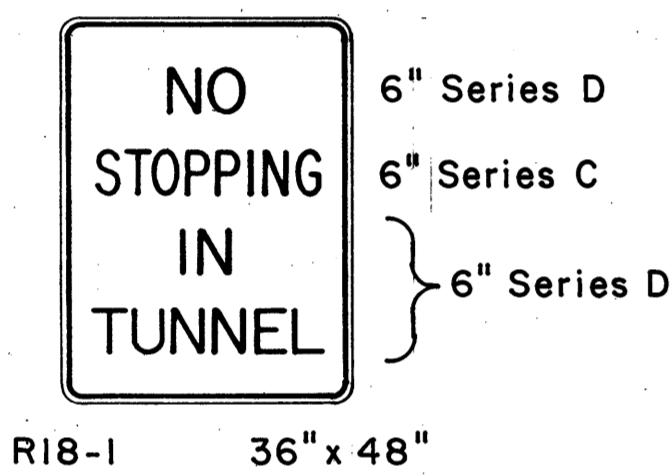
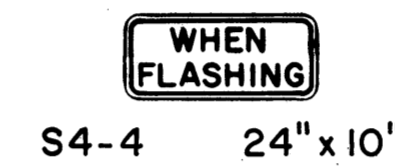
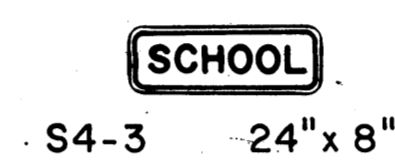
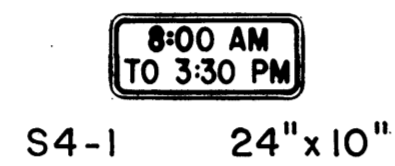
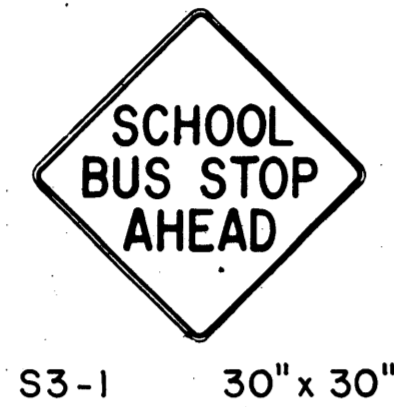
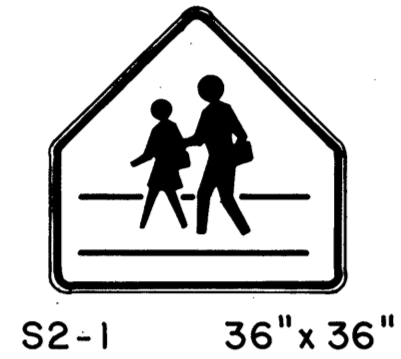
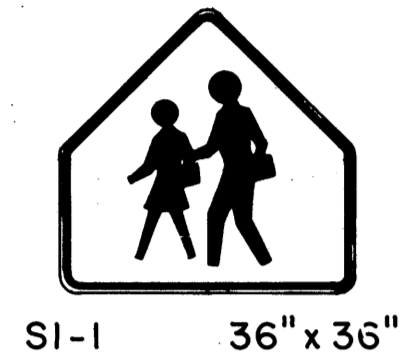
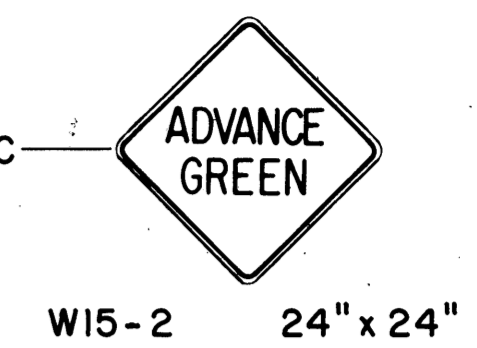
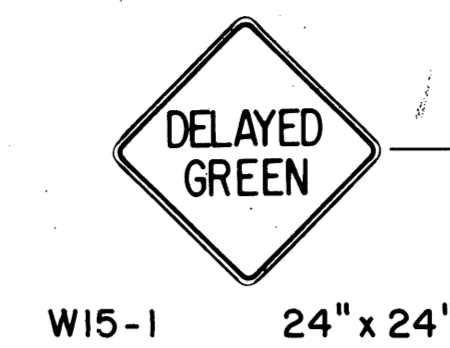
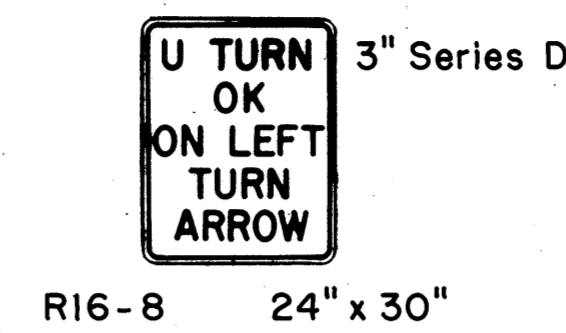
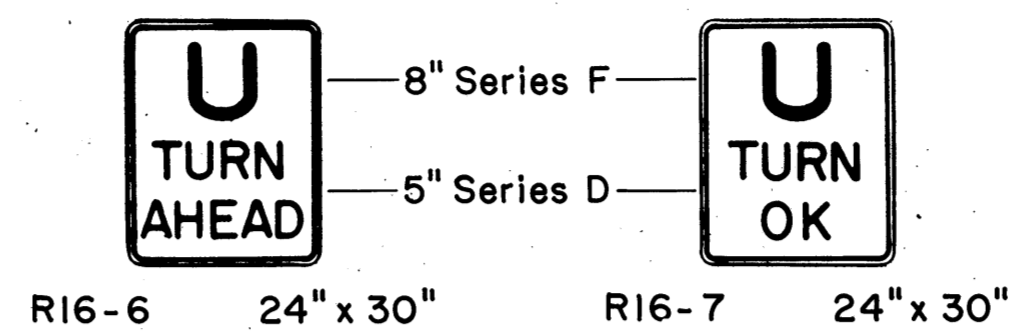
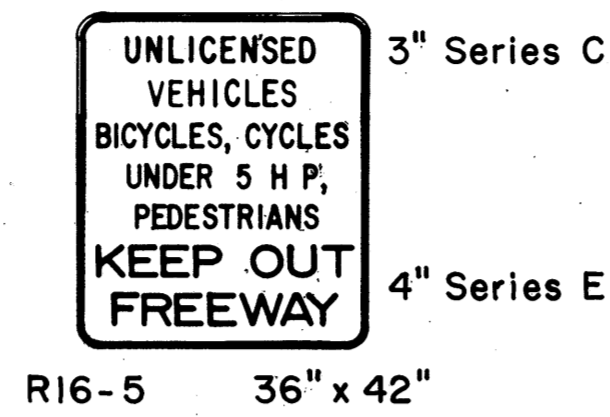
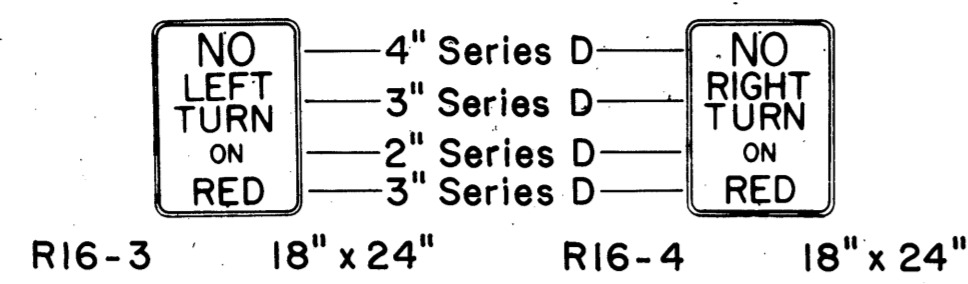
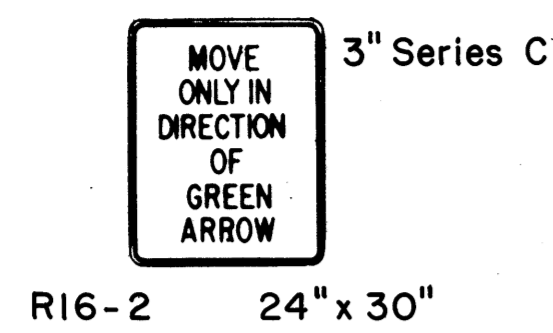
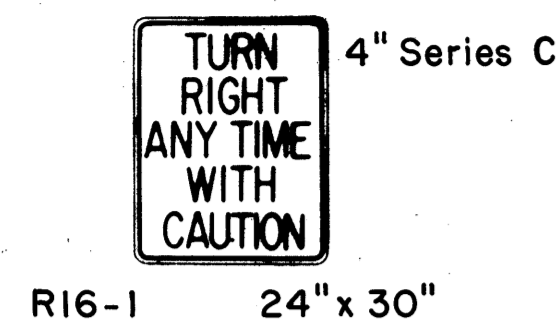
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TYPICAL DETAILS

BARRICADE STRIPING DETAILS

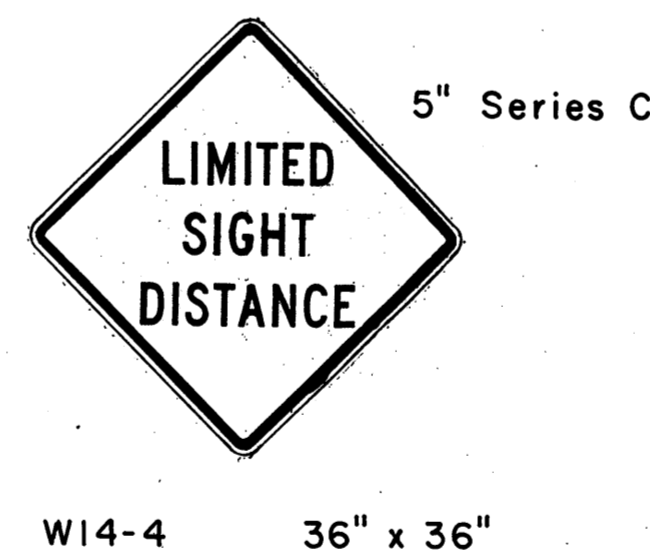
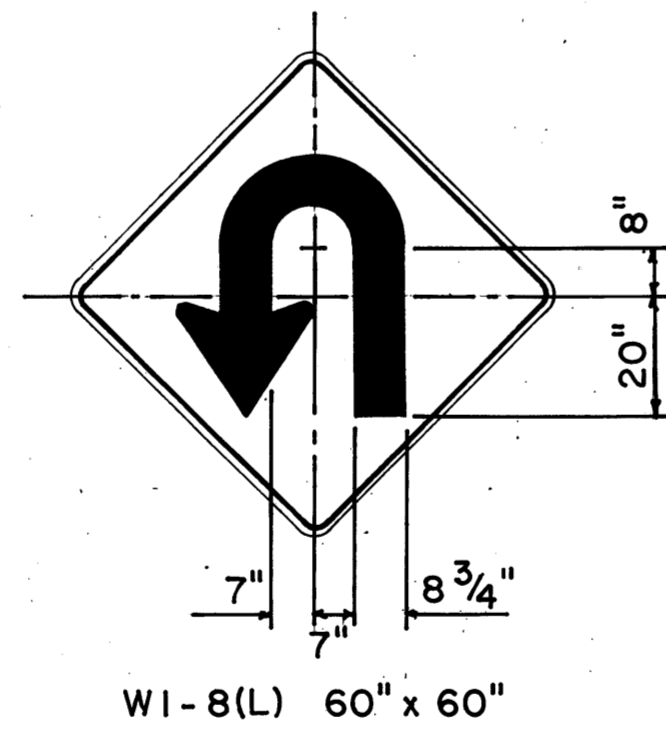
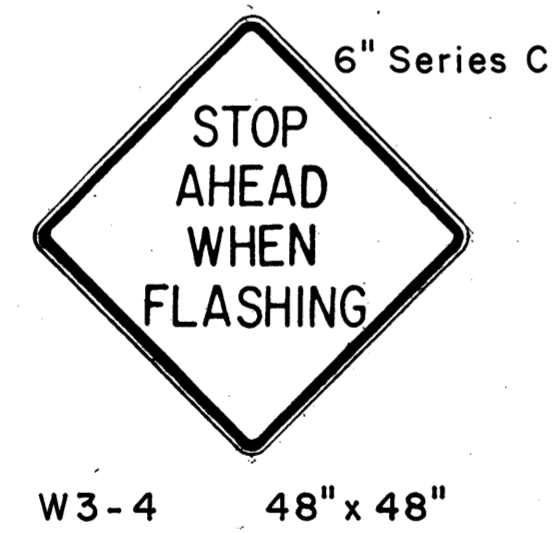
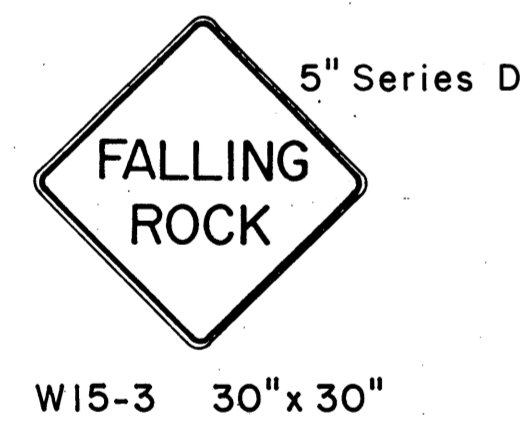
REVIEW PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN NO. \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	79	94



### GENERAL NOTES

1. Sign details shall conform to the latest editions of the following FHWA publications: "Manual on Uniform Traffic Control Devices for Streets and Highways," "Standard Highway Signs" and "Standard Alphabets for Highway Signs".
2. All signs shall be reflectorized unless otherwise specified and shall have 3/8" dia. bolt holes (for mounting) drilled at appropriate locations.
3. For mounting details see sht. 21T.

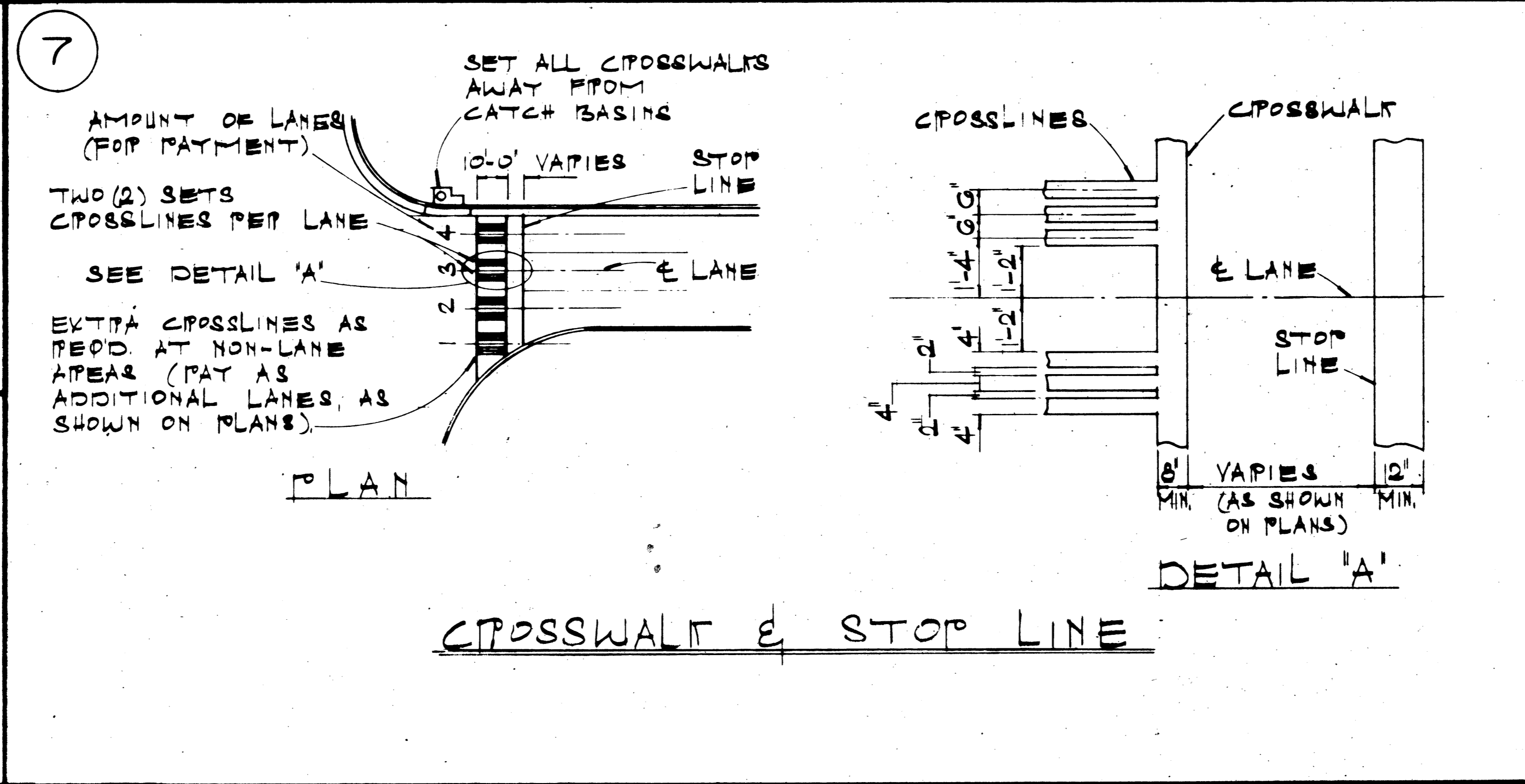
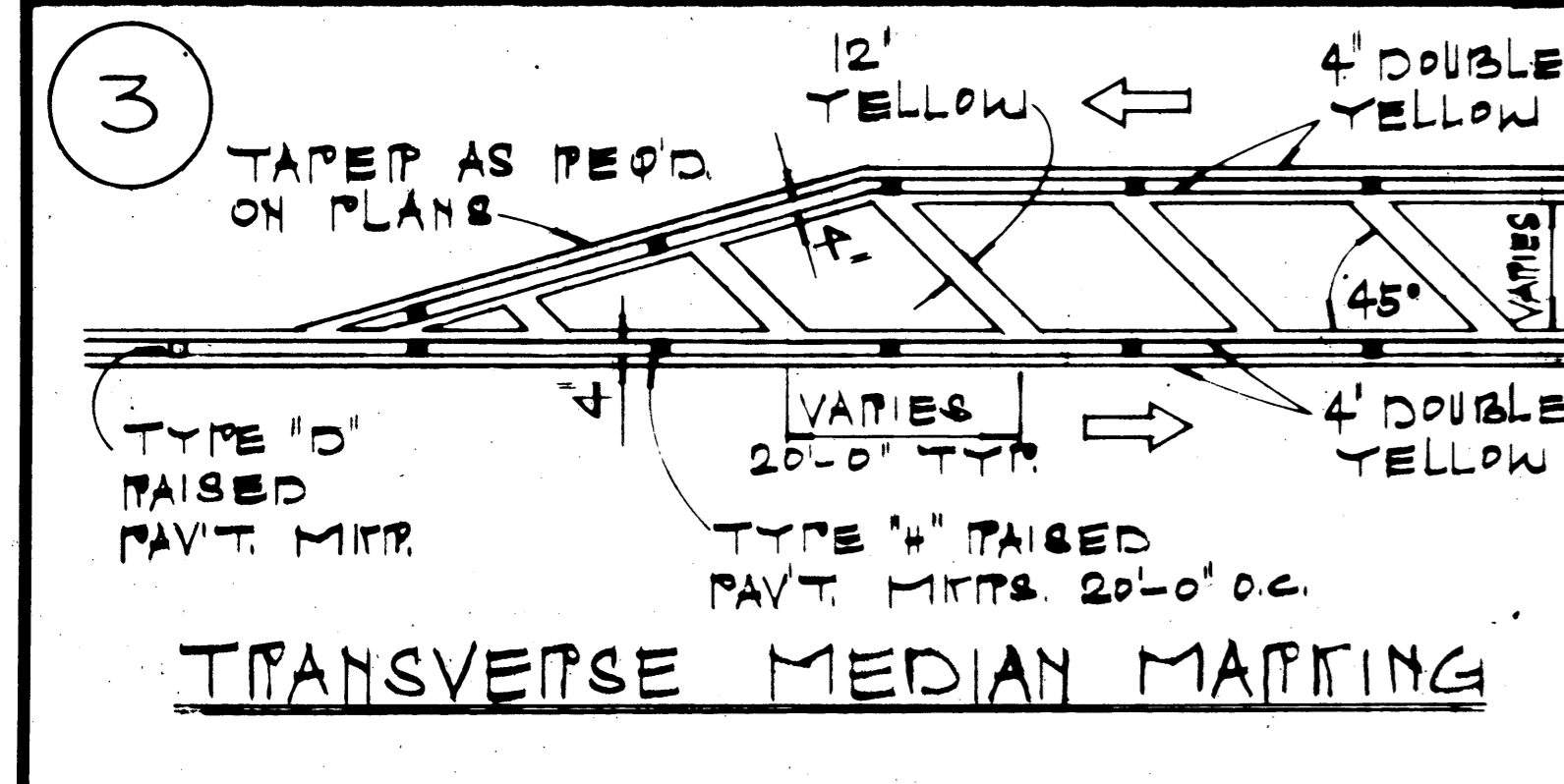
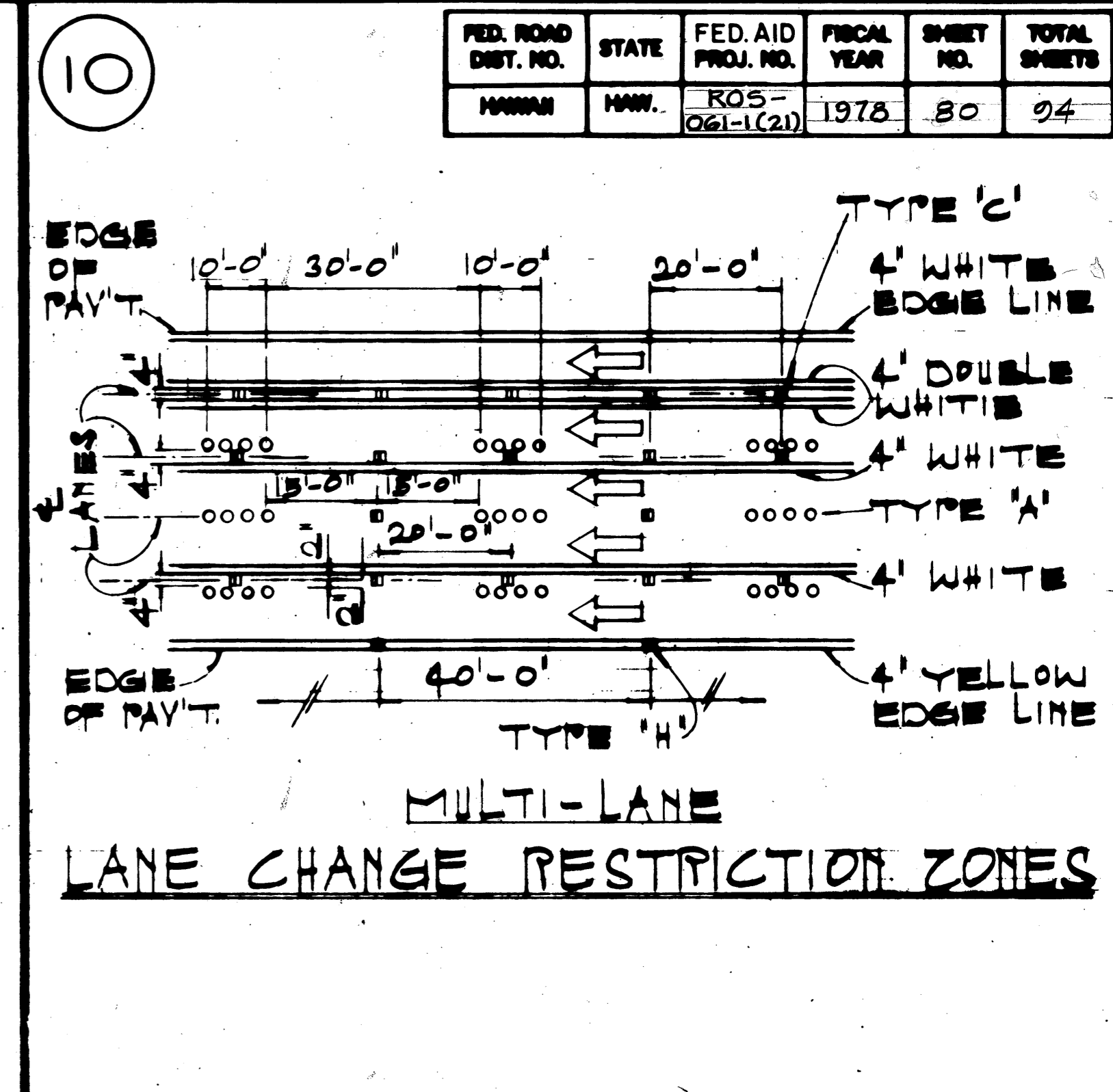
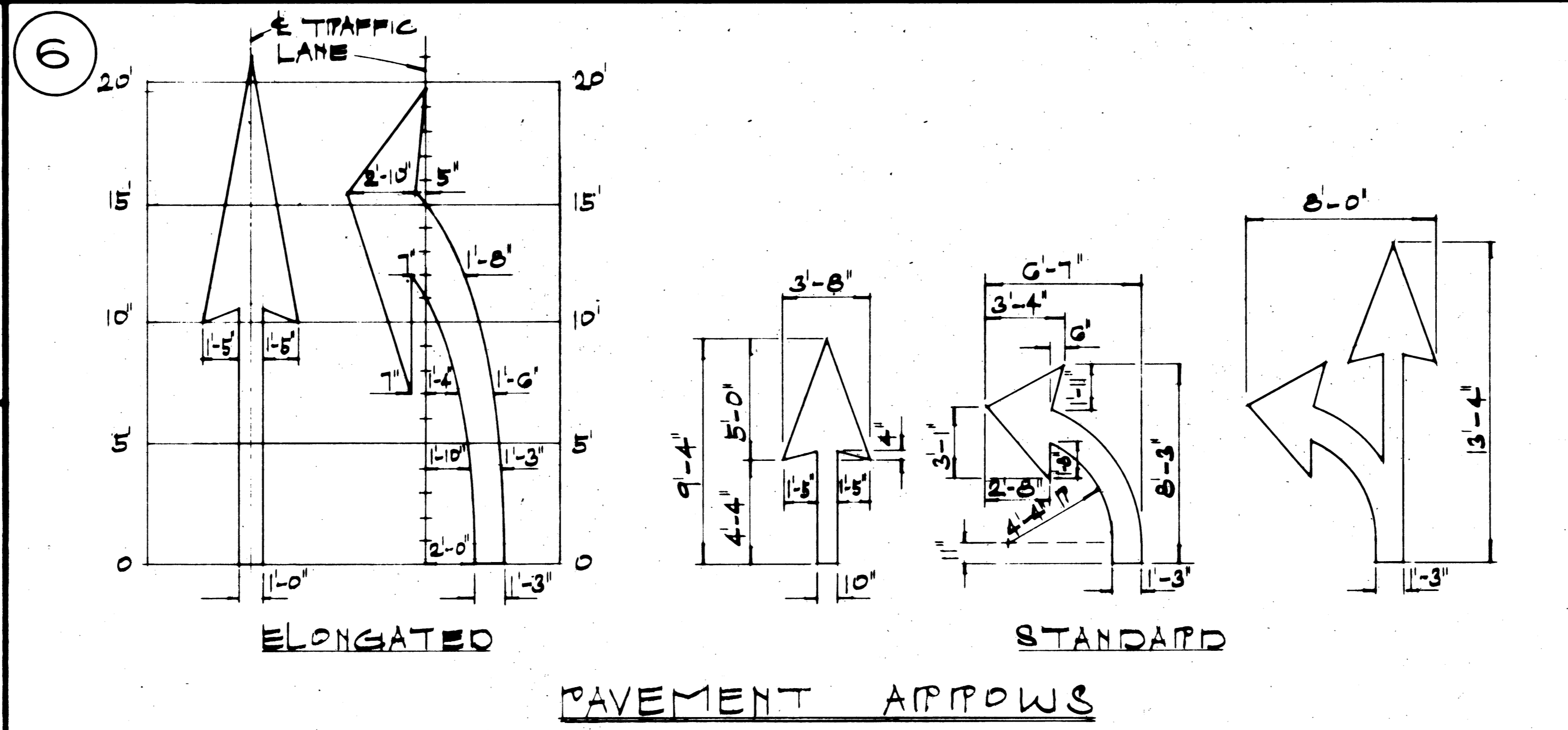
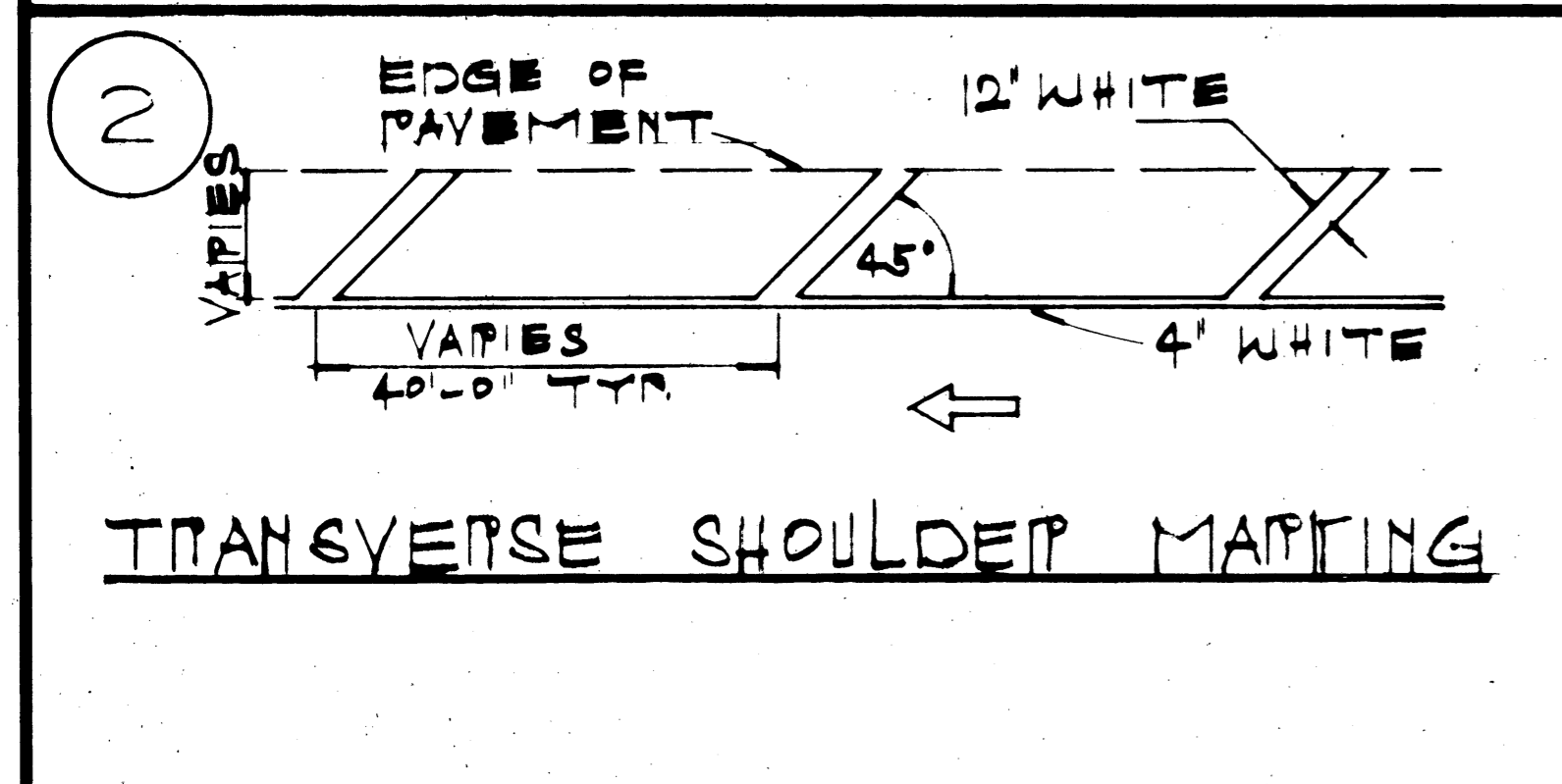
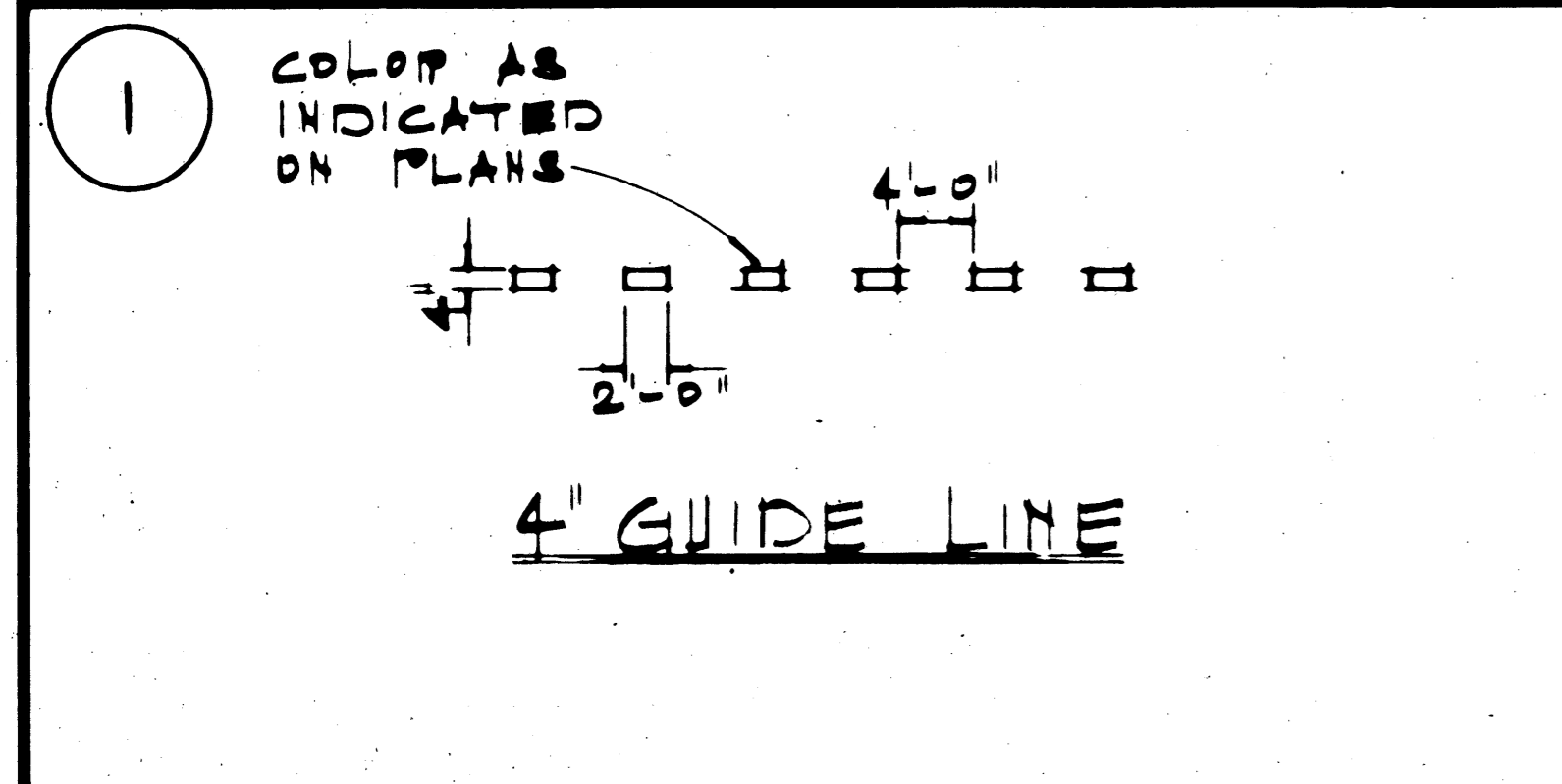


SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

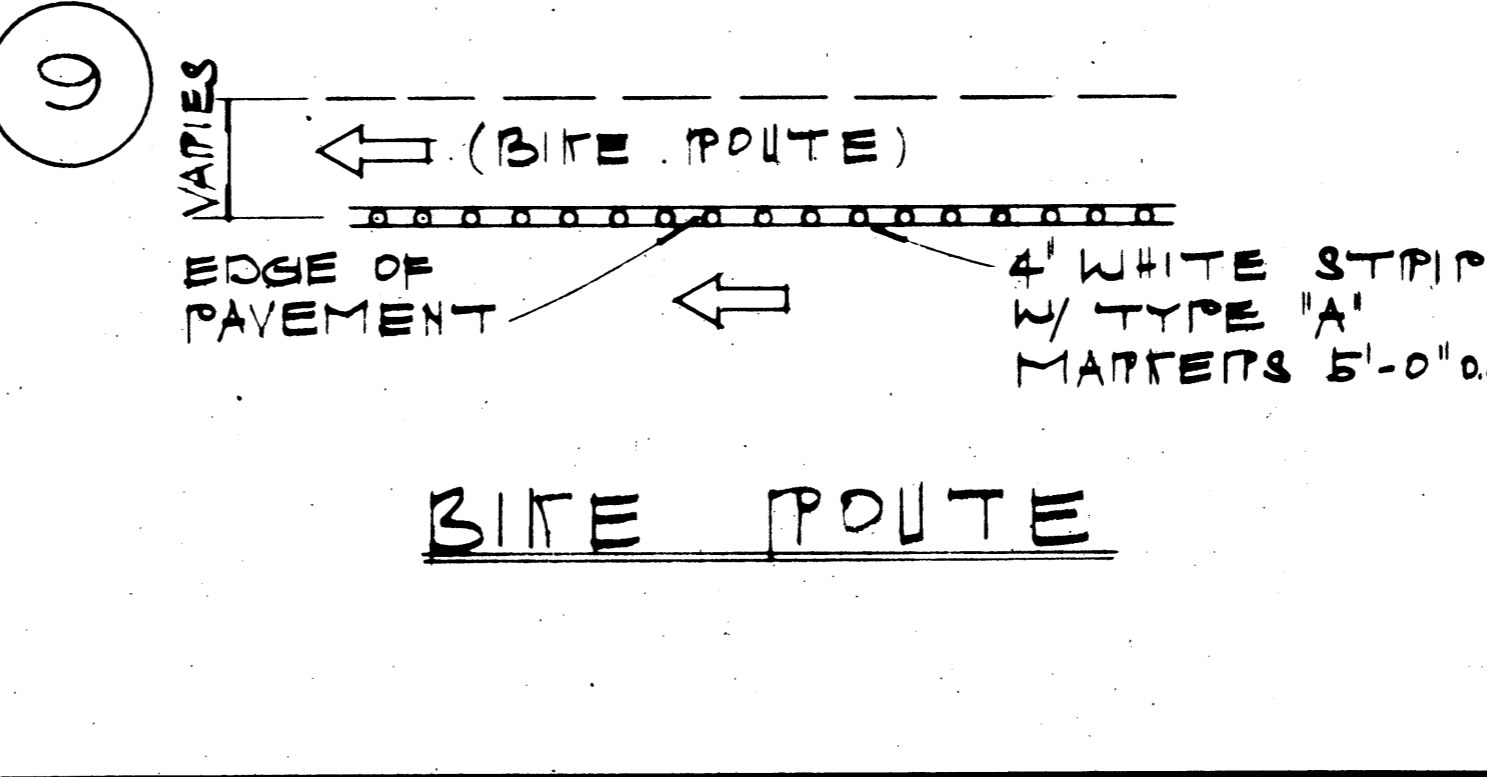
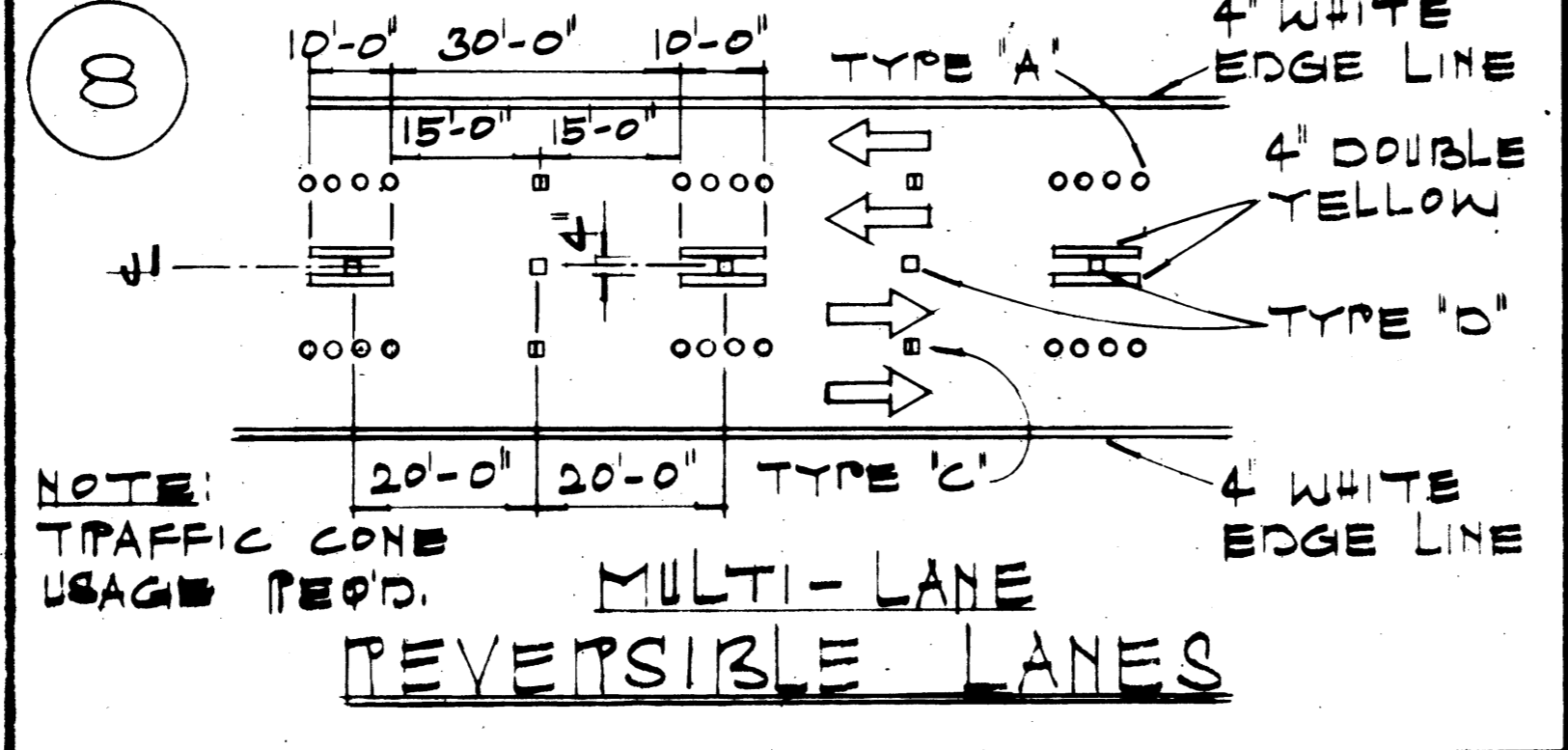
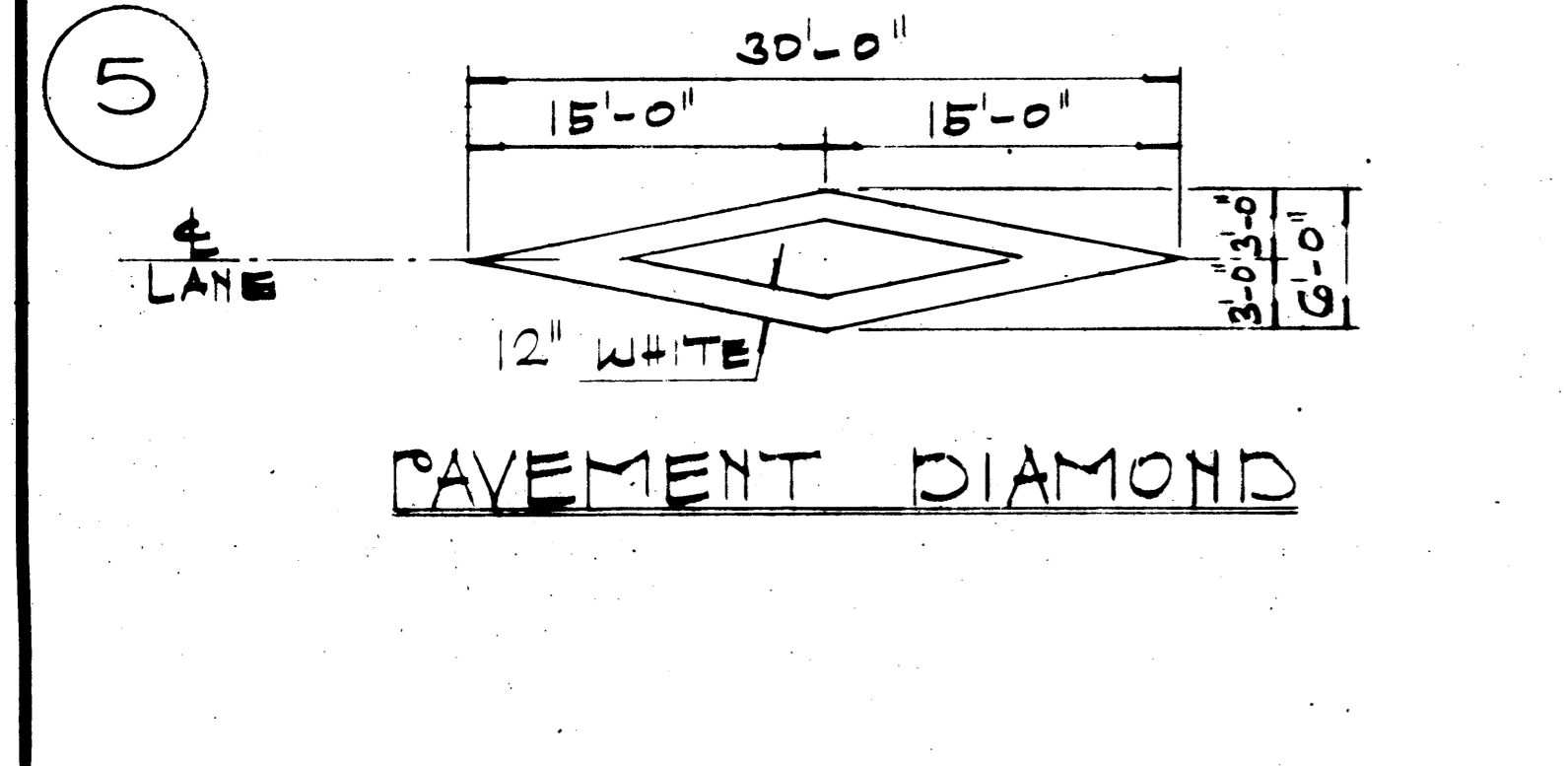
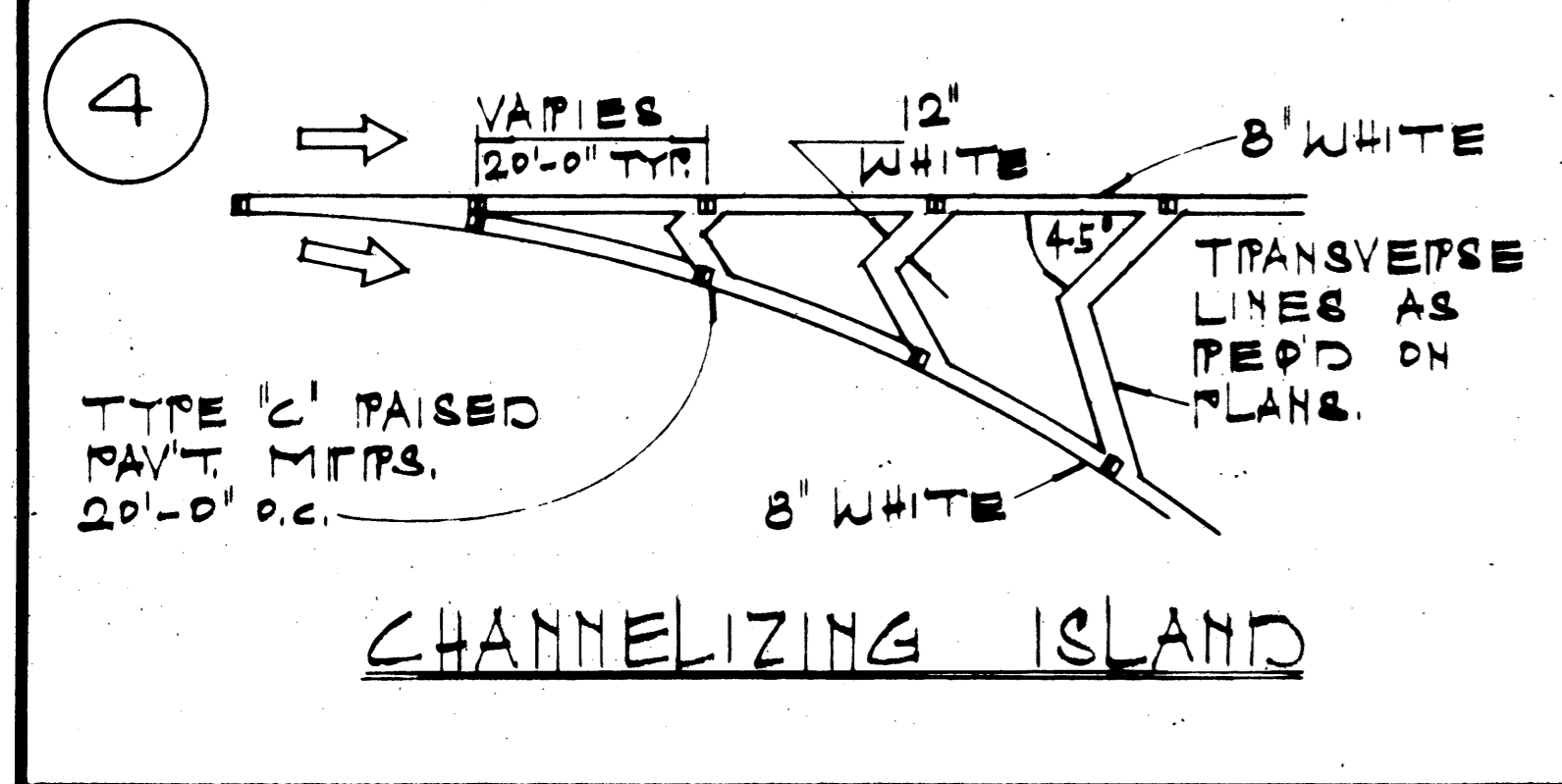
TYPICAL DETAILS  
**MISCELLANEOUS SIGNS**  
PALI HIGHWAY SAFETY IMPROVEMENTS  
West of Tunnels to Kamehameha Hwy.  
FA Proj. No. ROS-061-1(21)  
NOT TO SCALE  
SHEET No. 79 OF 94 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R05-061-1(2)	1978	80	94



**GENERAL NOTES:**

- PAVEMENT MARKINGS SHALL CONFORM TO THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS' 1971 (MUTCD), SUBSEQUENT REVISIONS TO THE MUTCD & AS SHOWN ON THE PLANS.
- LAYOUT OF PAVEMENT MARKINGS & STRIPING SHALL BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL CHECK LAYOUT OF MARKINGS & STRIPING WITH THE ENGINEER PRIOR TO PERFORMING WORK.
- FOR ADDITIONAL PAVEMENT MARKING DETAILS SEE SHT. 33T.



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TYPICAL DETAILS  
MISCELLANEOUS  
PAVEMENT MARKINGS

NOT TO SCALE

SHEET No. 20 OF 34 SHEETS

DATE: \_\_\_\_\_

DESIGNED BY: \_\_\_\_\_

DRAWN BY: \_\_\_\_\_

CHECKED BY: \_\_\_\_\_

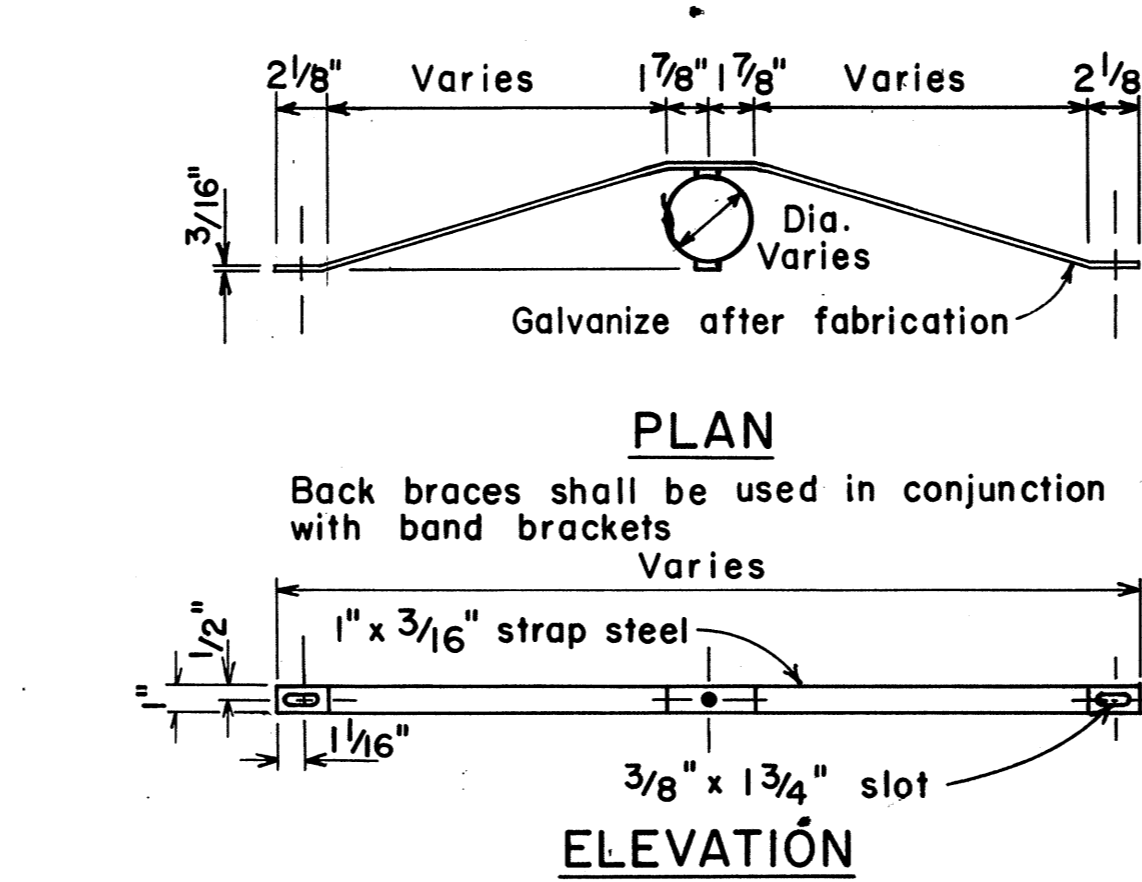
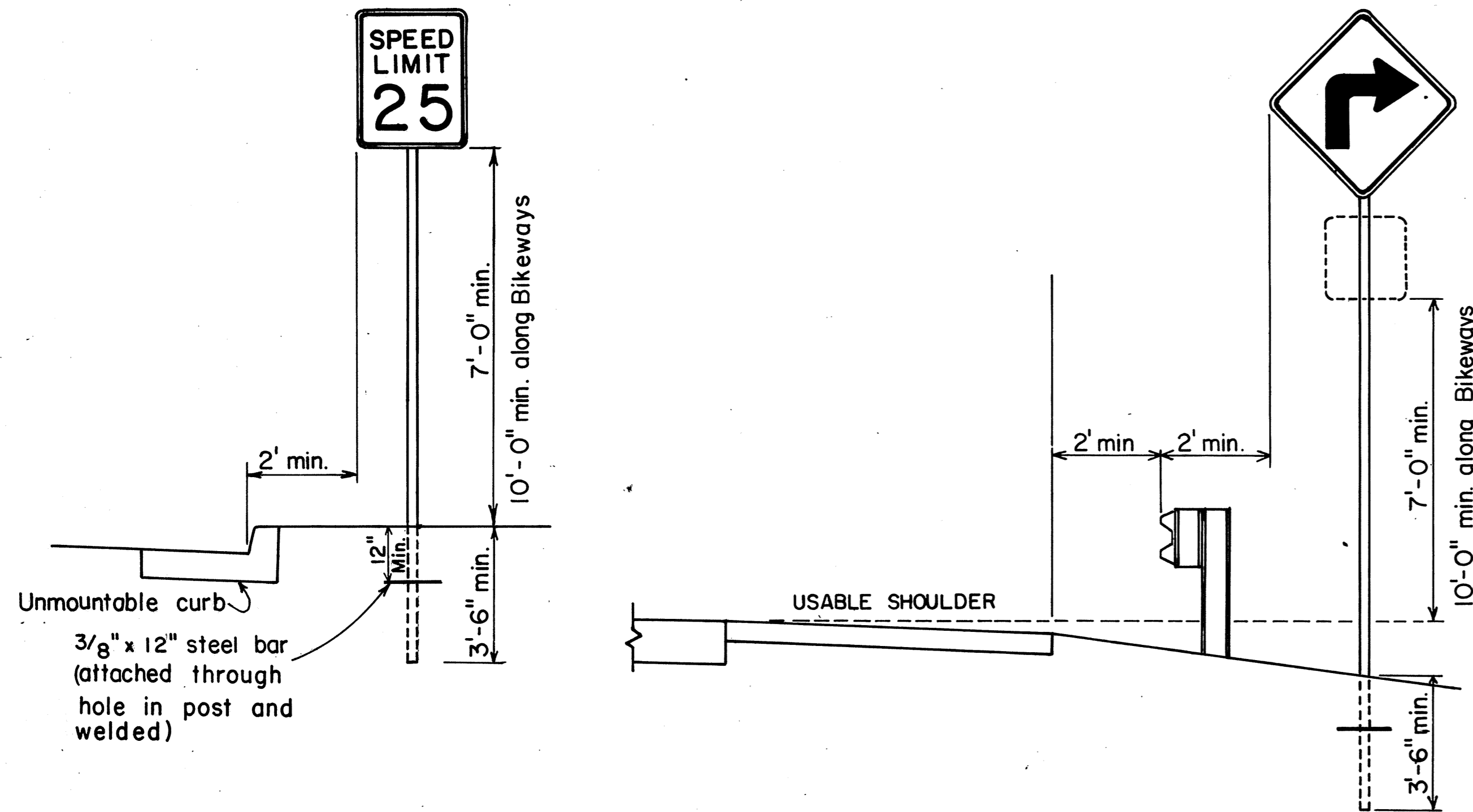
QUANTITY BY: \_\_\_\_\_

NO. \_\_\_\_\_

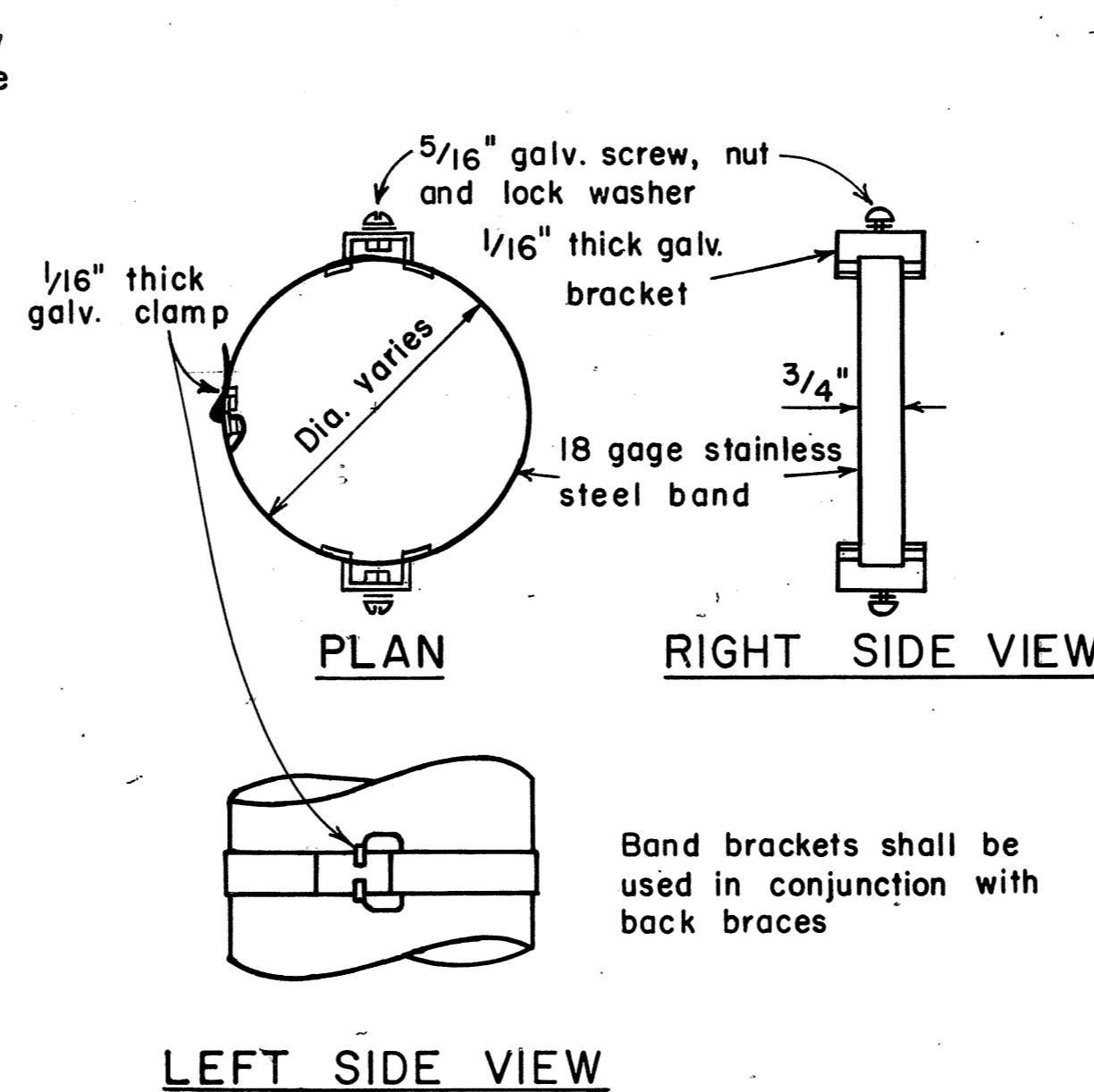
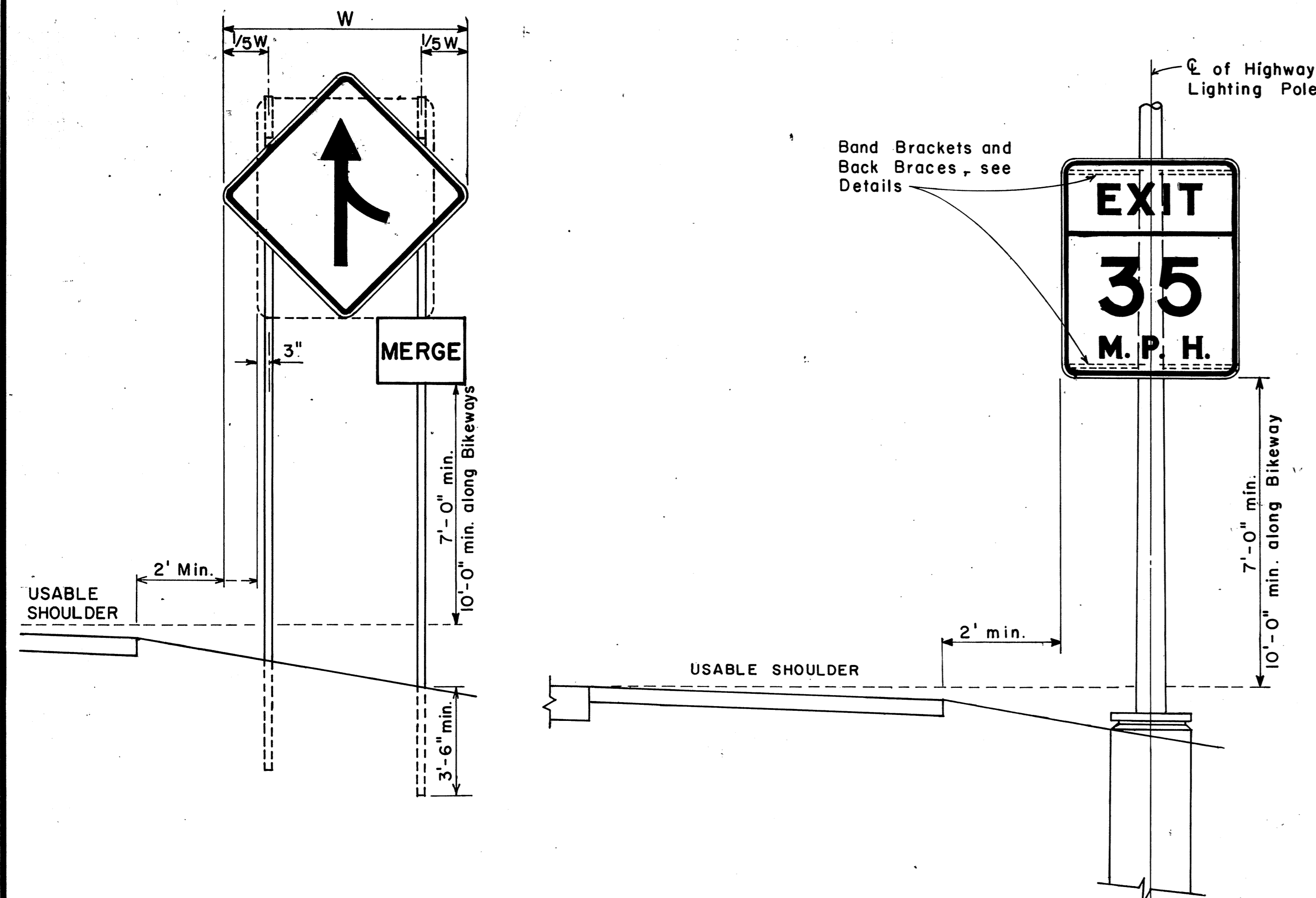
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	81	94

### GENERAL NOTES

1. Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts.
2. All signs larger than 10 sq. ft. in area or 48" inches and wider, and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least two sets of band brackets and back braces.
3. All signs 28 sq. ft. in area or larger and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least three sets of band brackets and back braces.
4. Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06" stainless steel washers with neoprene rubber gasket.
5. Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
6. (R) or (L) indicates right or left and shall be as shown on the plans.



### BACK BRACE DETAILS FOR BALANCED SIGN INSTALLATION



### TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 11/10/77  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Herbert S. Sakai* 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

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

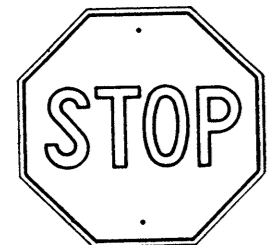
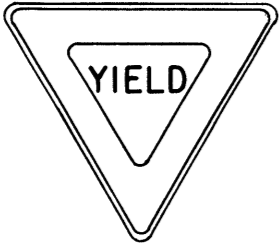

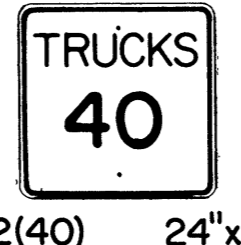
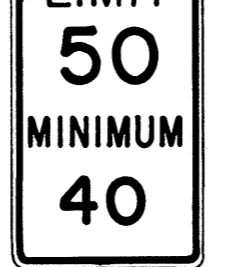

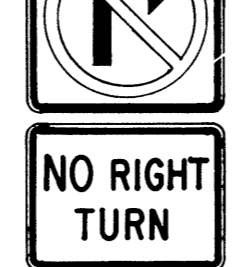
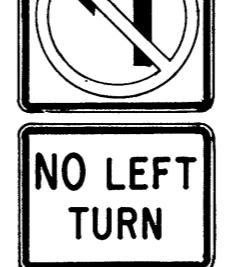
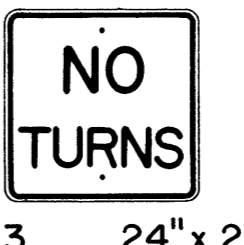


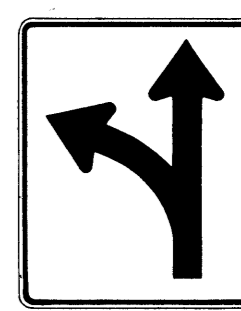
**STANDARD DETAILS**  
 MISCELLANEOUS SIGN DETAILS


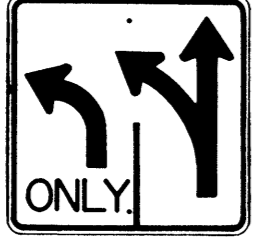
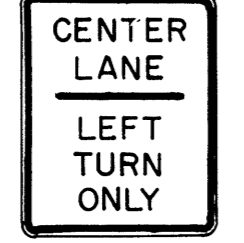


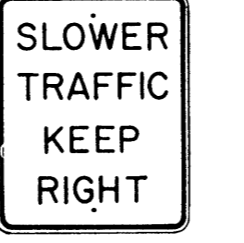
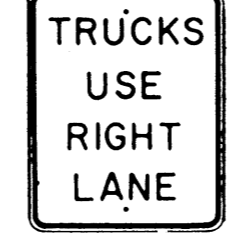


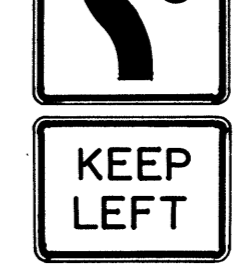
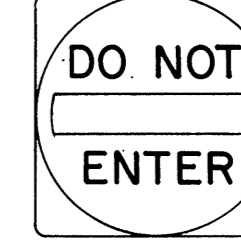

Not to scale June, 1977  
 SHEET No. 217 OF 34 SHEETS DT 100

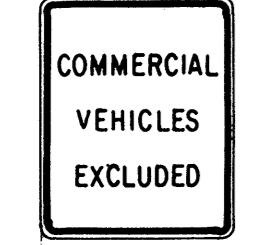





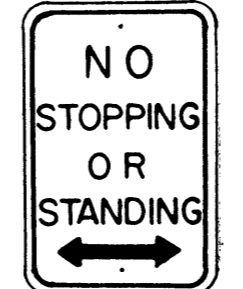

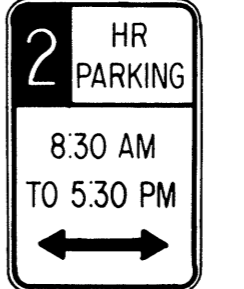



### HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION


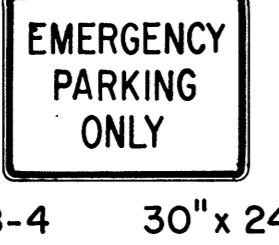

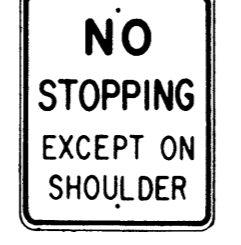
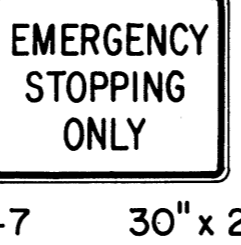
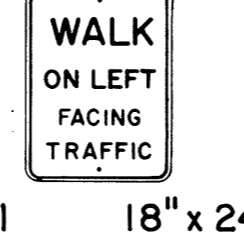
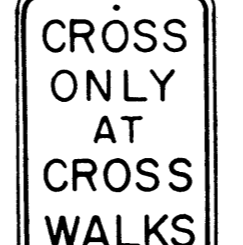


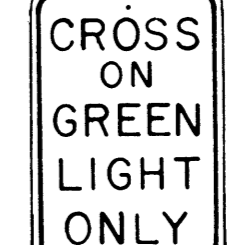
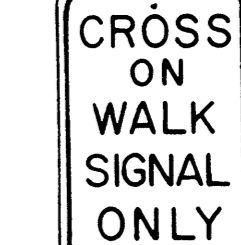
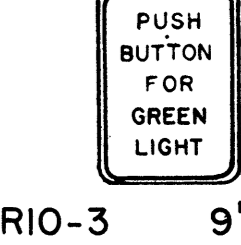
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____

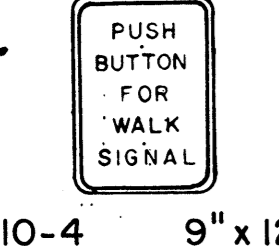
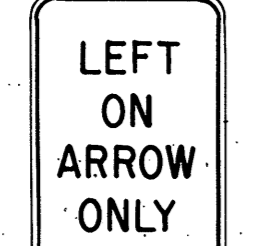

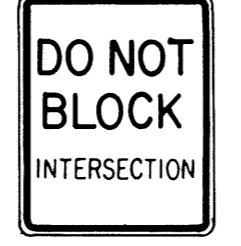

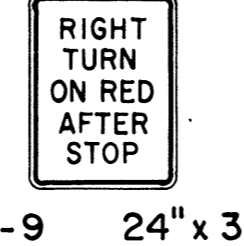
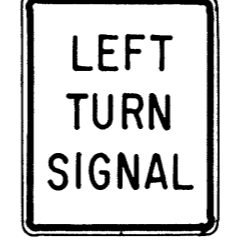
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RO5-061-1(21)	1978	82	94



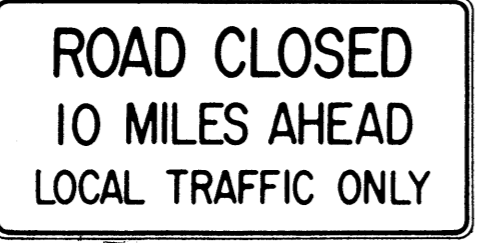
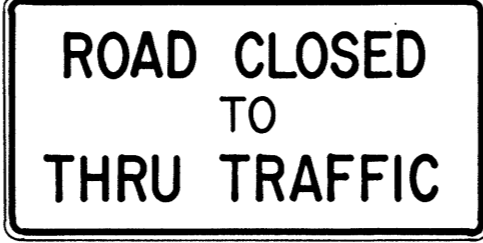

 R1-1 30" x 30" R1-1-A 36" x 36" 4-WAY R1-3 12" x 6" R1-3-A 18" x 9"	 R1-2 36" x 36" x 36" R1-2-A 48" x 48" x 48"	 R2-1(50) 24" x 30" R2-1(50)-A 48" x 60"	 R2-2(40) 24" x 24" R2-2(40)-A 48" x 48"	 R2-4a(50/40) 24" x 48" R2-4a(50/40)-A 48" x 96"	 R2-5b(30) 24" x 30" R2-5b(30)-A 48" x 60"	 R3-1 24" x 24" 24" x 18" R3-1-A 48" x 48" 48" x 36"	 R3-2 24" x 24" 24" x 18" R3-2-A 48" x 48" 48" x 36"	 R3-3 24" x 24" R3-3-A 48" x 48"	 R3-4 24" x 24" 24" x 18" R3-4-A 48" x 48" 48" x 36"	 R3-5(L) 30" x 36" R3-5(L)-A 48" x 60"	 R3-6(L) 30" x 36" R3-6(L)-A 48" x 60"
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 R3-7(R) 30" x 30" R3-7(R)-A 48" x 48"	 R3-8(L) 30" x 30" R3-8(L)-A 36" x 36" R3-8(L)-B 48" x 48"	 R3-9 24" x 30"	 R4-1 24" x 30"	 R4-2 24" x 30"	 R4-3 24" x 30" R4-3-A 48" x 60"	 R4-5 24" x 30"	 R4-6(500) 24" x 30"	 R4-7 24" x 30" 24" x 18"	 R4-8 24" x 30" 24" x 18"	 R5-1 30" x 30" R5-1-A 48" x 48"	 R5-2 24" x 24" 24" x 18"
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 R5-4 24" x 30"	 R5-6 24" x 24" 24" x 18"	 R5-9 36" x 24"	 R6-1(R) 36" x 12"	 R6-2(R) 18" x 24"	 R7-1 12" x 18" R7-1-A 24" x 30"	 R7-4 12" x 18" R7-4-A 24" x 30"	 R7-107(R) 12" x 18"	 R7-108 12" x 18"	 R7-201 12" x 6" R7-201-A 24" x 12"	 R8-1 24" x 30"	 R8-2 24" x 30"
---	--	---	---	--	---	---	--	---	--	---	---

 R8-3 24" x 30"	 R8-4 30" x 24" R8-4-A 48" x 36"	 R8-5 24" x 30"	 R8-6 24" x 30"	 R8-7 30" x 24" R8-7-A 48" x 36"	 R9-1 18" x 24"	 R9-2 12" x 18"	 R9-3 12" x 18"	 R9-4 18" x 24"	 R10-1 12" x 18"	 R10-2 12" x 18"	 R10-3 9" x 12"
---	---	---	--	---	---	---	---	---	--	--	---

 R10-4 9" x 12"	 R10-5 24" x 30"	 R10-6 24" x 36"	 R10-7 24" x 30"	 R10-8 24" x 30"	 R10-9 24" x 30"	 R10-10 24" x 30"
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 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"
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**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.

APPROVAL RECOMMENDED:  
*Etsuki Tanaka* 3/17/72  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Robert D. Saito* 3-20-72  
 ASSISTANT CHIEF, ENGINEERING DATE

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

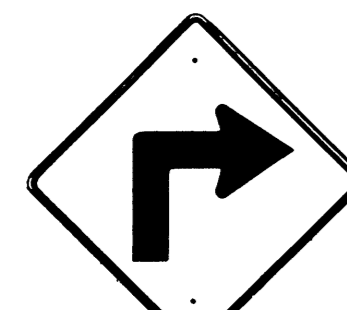

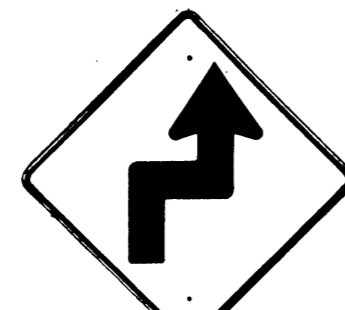


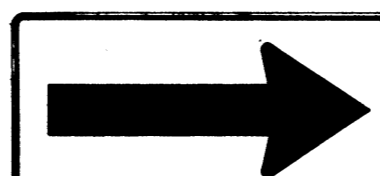
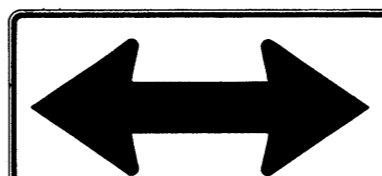
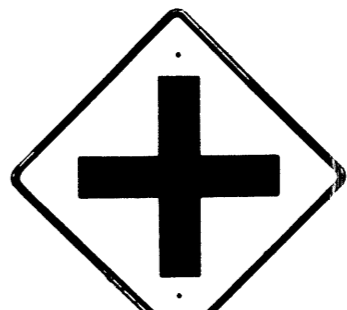
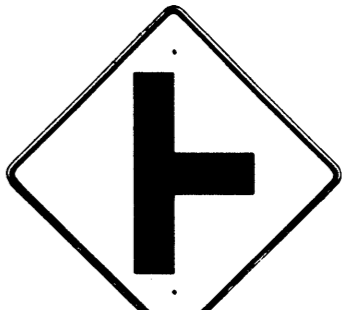
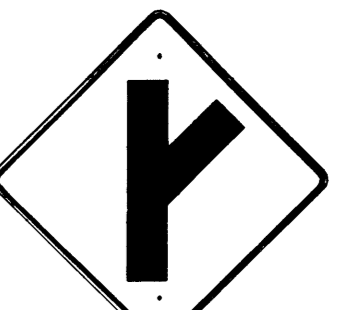
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

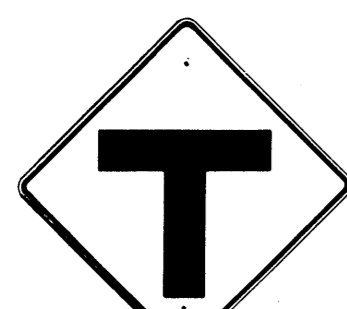
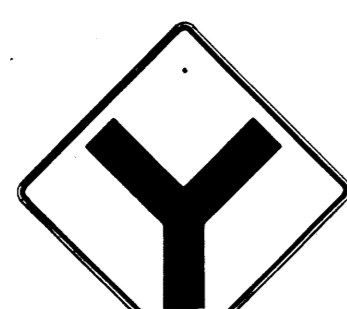


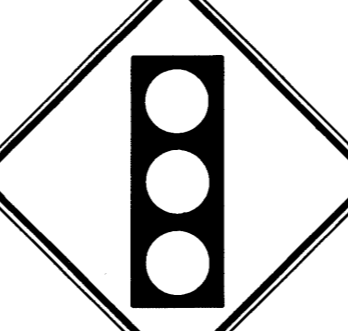

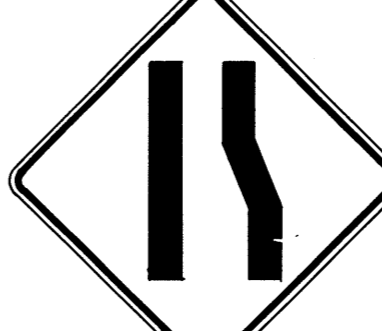



**STANDARD DETAILS**  
**REGULATORY SIGNS**











NOT TO SCALE  
 SHEET No. 22 OF 34 SHEETS DT 101








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

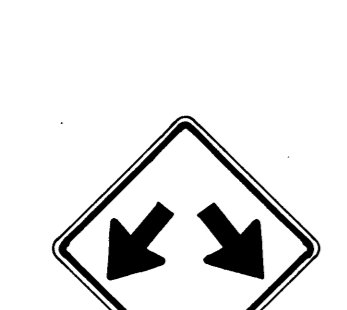



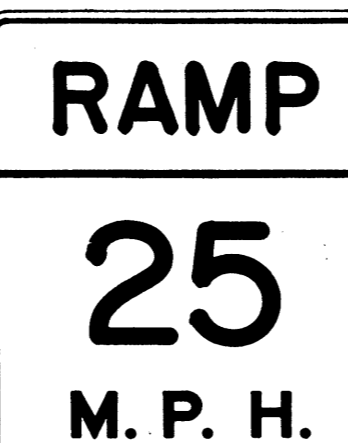

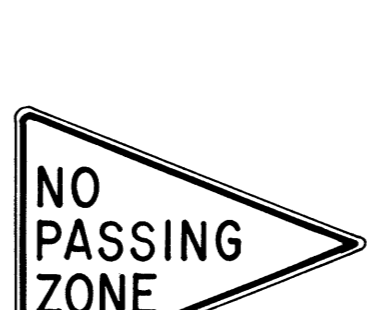
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII *	HAW.	R05-061-1(2)	1978	83	94

 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"
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 W2-4 30"x30" W2-4-A 48"x48"	 W2-5 30"x30" W2-5-A 48"x48"	 W3-1 30"x30" W3-1-A 36"x36"	 W3-2 30"x30" W3-2-A 36"x36"	 W3-3 36"x36" 24"x18"	 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"
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 W6-1 36"x36" 24"x18"	 W6-2 36"x36" 24"x18"	 W6-3 30"x30" 24"x18" W6-3-A 36"x36" 24"x18" W6-3-B 48"x48" 24"x18"	 W7-1 30"x30" 24"x18" W7-1-A 36"x36" 24"x18"	 W7-2 24"x18"	 W8-1 30"x30" W8-1-A 36"x36"	 W8-2 30"x30" W8-2-A 36"x36"	 W8-3 30"x30" W8-3-A 36"x36"	 W8-4 30"x30" W8-4-A 36"x36"	 W8-5 30"x30" 24"x18" W8-5-A 36"x36" 24"x18"
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 W9-1(R) 30"x30" W9-1(R)-A 36"x36" W9-1(R)-B 48"x48"	 W9-2(L) 36"x36" W9-2(L)-A 48"x48"	 W10-1 36" Diameter	 W11-1 30"x30" 24"x18" W11-1-A 36"x36" 24"x18"	 W11-2 30"x30" 24"x18" W11-2-A 36"x36" 24"x18"	 W11-4 30"x30" 24"x18" W11-4-A 36"x36" 24"x18"	 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"	 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"	 W14-1 30"x30"	 W14-3 36"x48"x48"
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**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 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:  
*Evelyn Tanaka* 3/17/72  
 TRAFFIC ENGINEER DATE

APPROVED:  
*John J. Salsino* 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	M.H.	9-16-75
4	Revised General Note 5	H.T.	9-14-76

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**  
**WARNING SIGNS**

NOT TO SCALE

DATE \_\_\_\_\_  
 SURVEY PLOTTED BY \_\_\_\_\_  
 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.	ROS-061-1(21)	1978	84	94



CW20-1a 48"x48"



CW20-2d 48"x48"



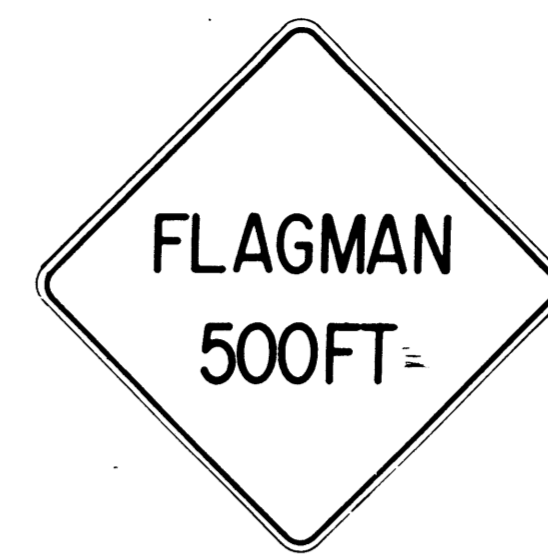
CW20-3b 48"x48"



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"



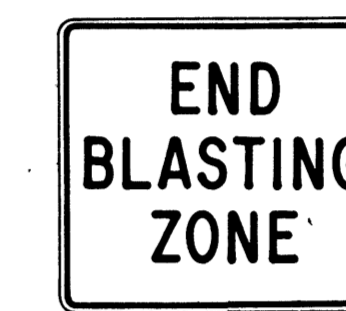
CW21-6 30"x30"



CW22-1b 48"x48"



CW22-2 42"x36"



CW22-3 42"x36"



CG20-1(5) 60"x36"



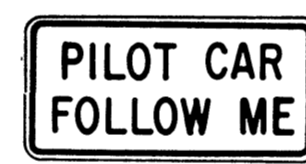
CG20-2 60"x24"



CM4-9(R) 30"x24"



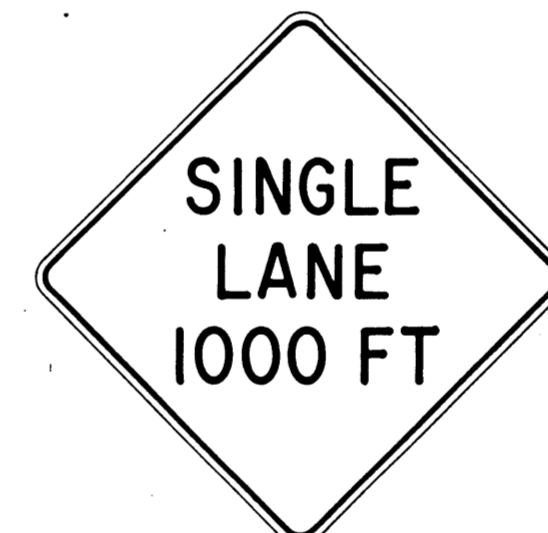
CM4-10(R) 48"x18"



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* 3/21/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Shigeru Sakai* 3/23/78  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	3/23/78
2	Revised General Note 1	H.T.	10/10/74
3	Revised General Note 2	M	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76

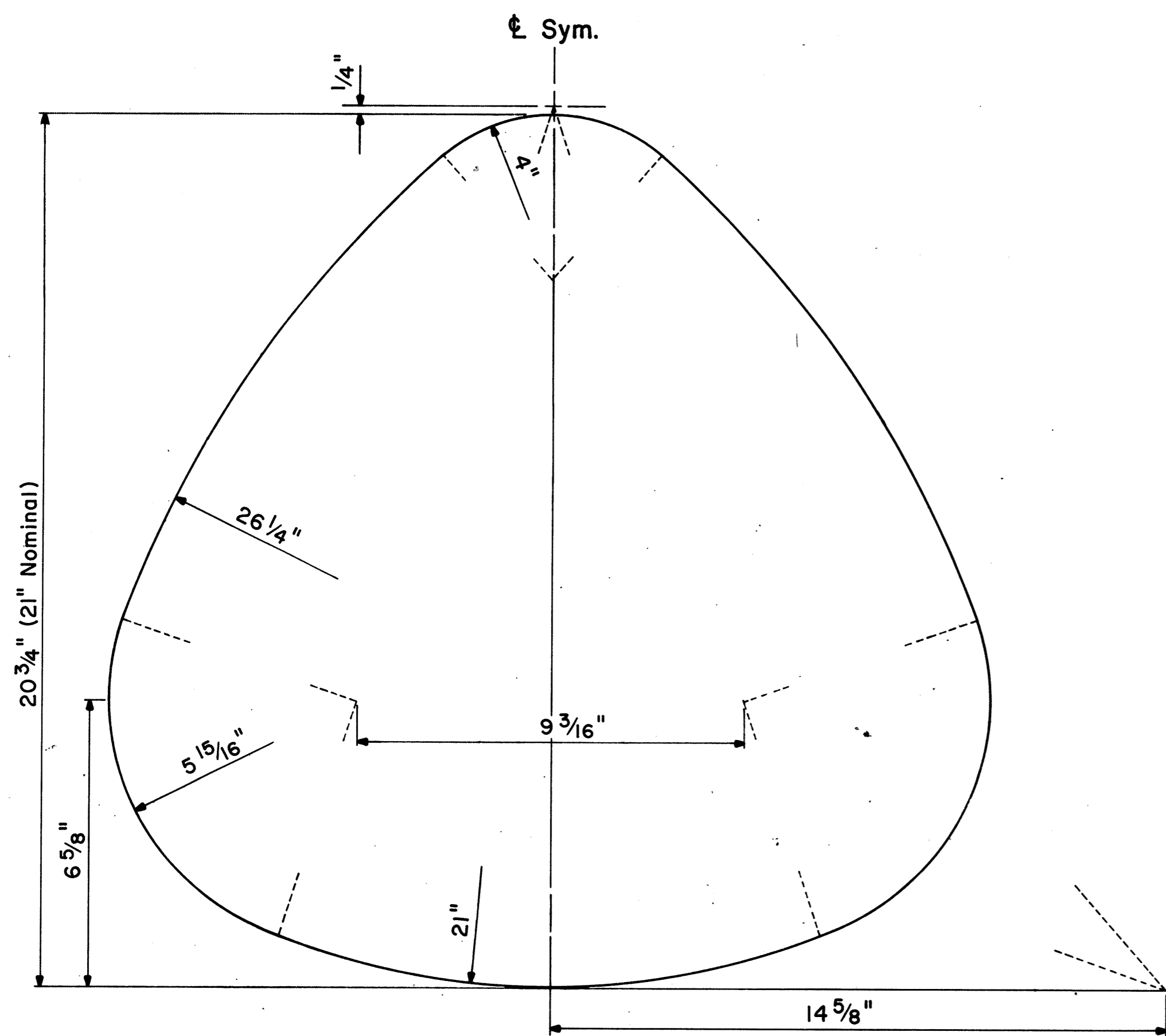
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**  
**CONSTRUCTION SIGNS**

NOT TO SCALE

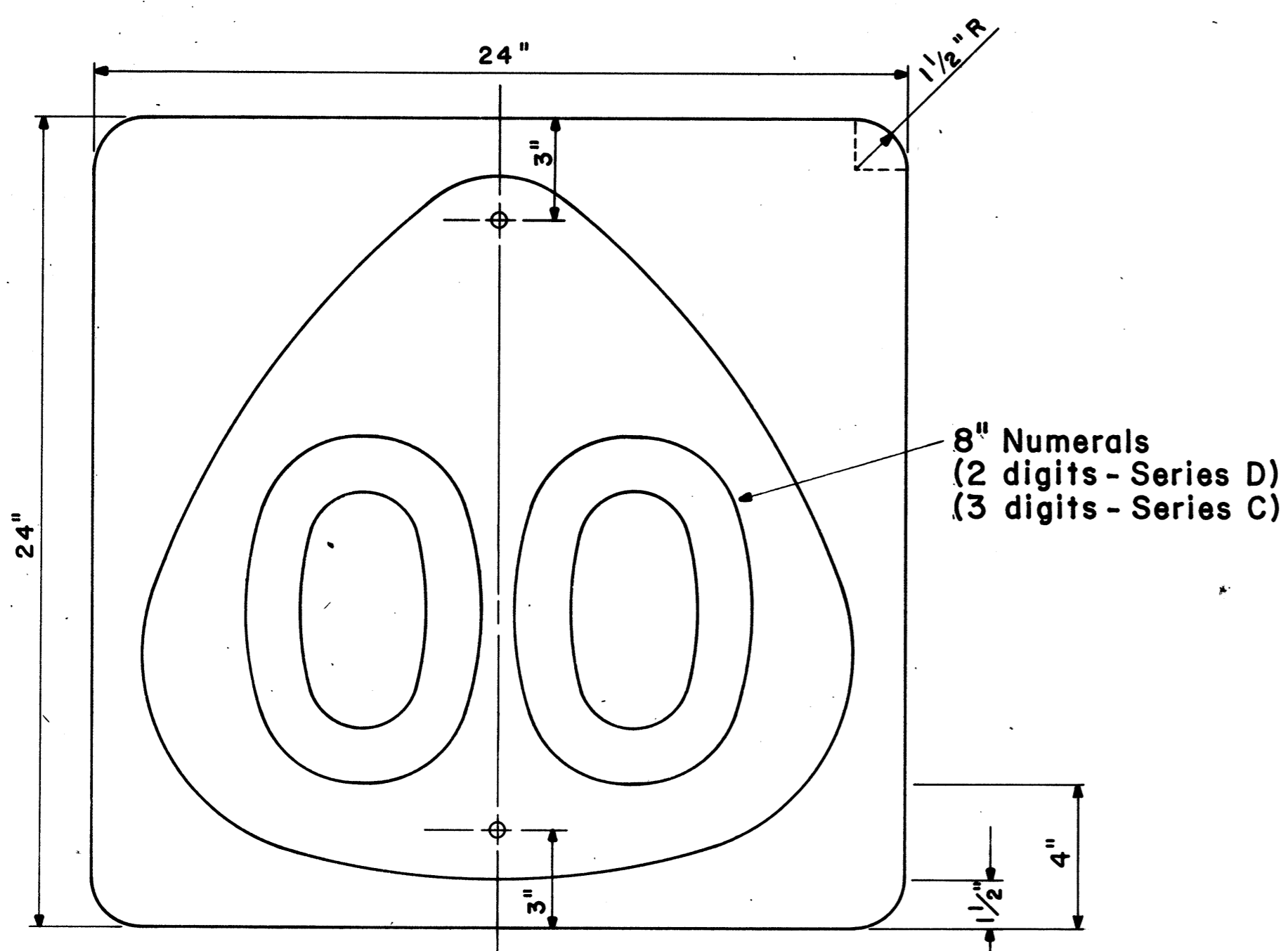
DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	85	94



**STATE ROUTE MARKER DETAIL**

Not to Scale



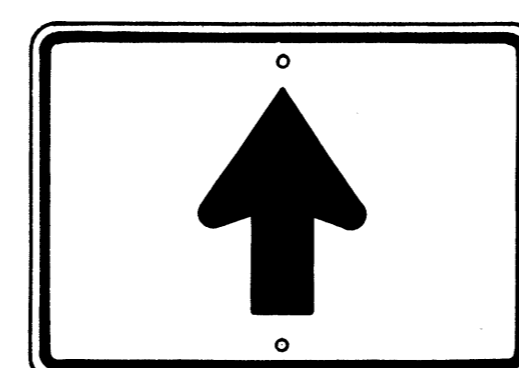
**STATE ROUTE MARKER**

MI-6(00) 24" x 24"

Scale: 1/4" = 1"



M2-1 21" x 15"



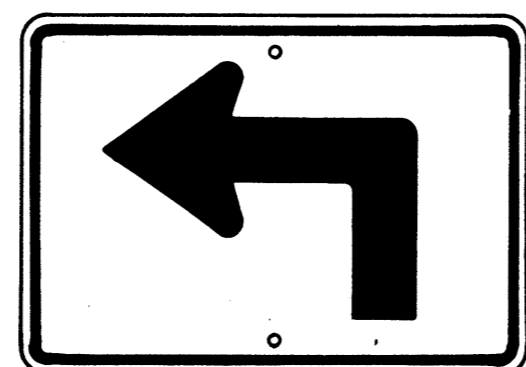
M6-3 21" x 15"



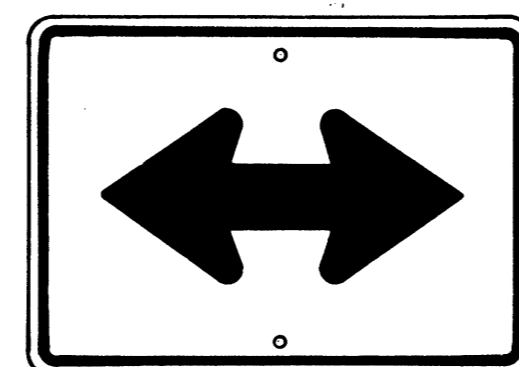
M3-1 24" x 12"  
M3-1-A 36" x 18"



M4-1 24" x 12"



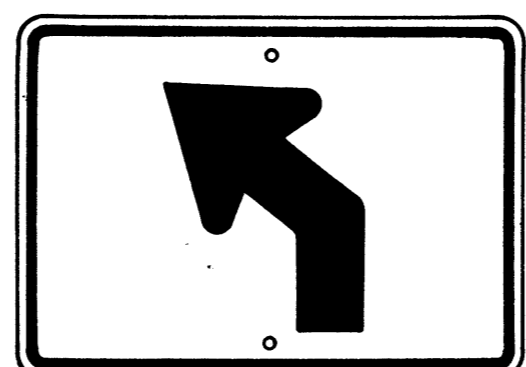
M5-1(L) 21" x 15"



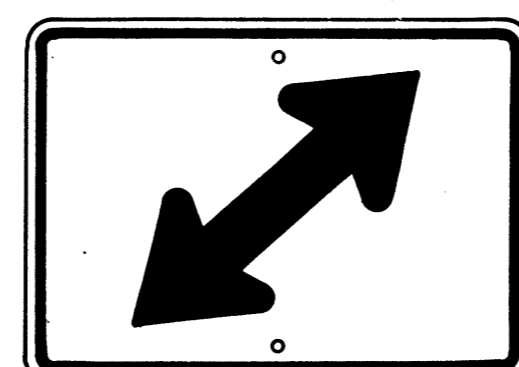
M6-4 21" x 15"



M4-2 24" x 12"



M5-2(L) 21" x 15"



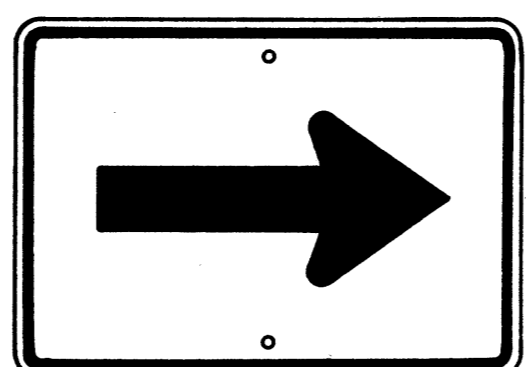
M6-5(R) 21" x 15"



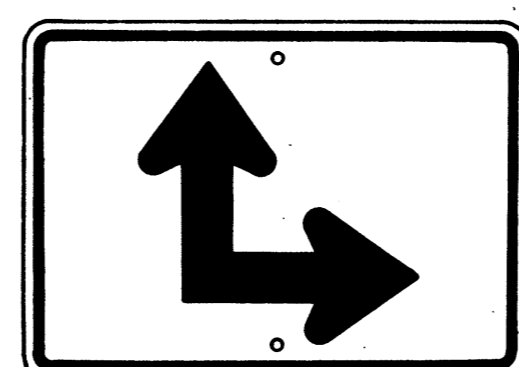
M4-3 24" x 12"



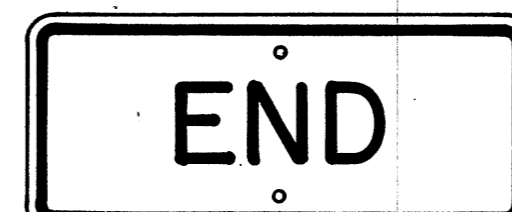
M4-5 24" x 12"



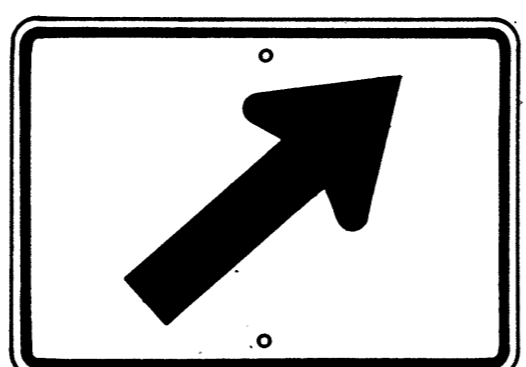
M6-1 21" x 15"



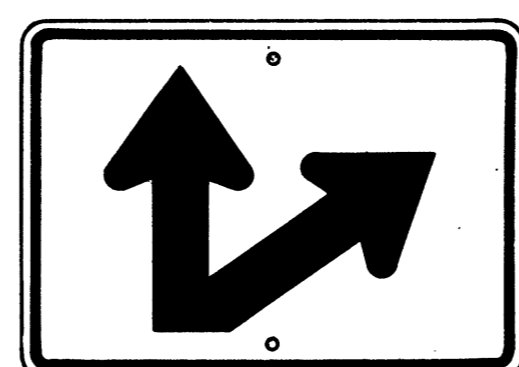
M6-6(R) 21" x 15"



M4-6 24" x 12"



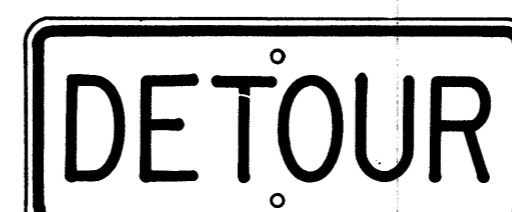
M6-2(R) 21" x 15"



M6-7(R) 21" x 15"



M4-7 24" x 12"



M4-8 24" x 12"

**GENERAL NOTES**

- Marker details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, "Standard Alphabets for Highway Signs," 1966, and "Standard Highway Signs," 1972, and as amended.
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in ( ) indicates numerals to be inserted for marker message. (R) or (L) indicates right or left.
- Sign message of Cardinal Direction Marker (M3 series) shall be denoted by the following:  
M3-1: NORTH  
M3-2: EAST  
M3-3: SOUTH  
M3-4: WEST
- Markers prefixed with "IM" on the plans shall have a white legend on a blue background.

APPROVAL RECOMMENDED:

*Eishi Tanaka*  
TRAFFIC ENGINEER 6/6/78  
DATE

APPROVED:

*Shelton S. Salsidi*  
ASSISTANT CHIEF, ENGINEERING 6-1-78  
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 105 Approved 12-30-69	H.T.	6/1/72
2	Revised General Note 1	H.T.	10/16/74

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION  
**STANDARD DETAILS**  
**STATE ROUTE MARKER**  
**AND AUXILIARY MARKERS**

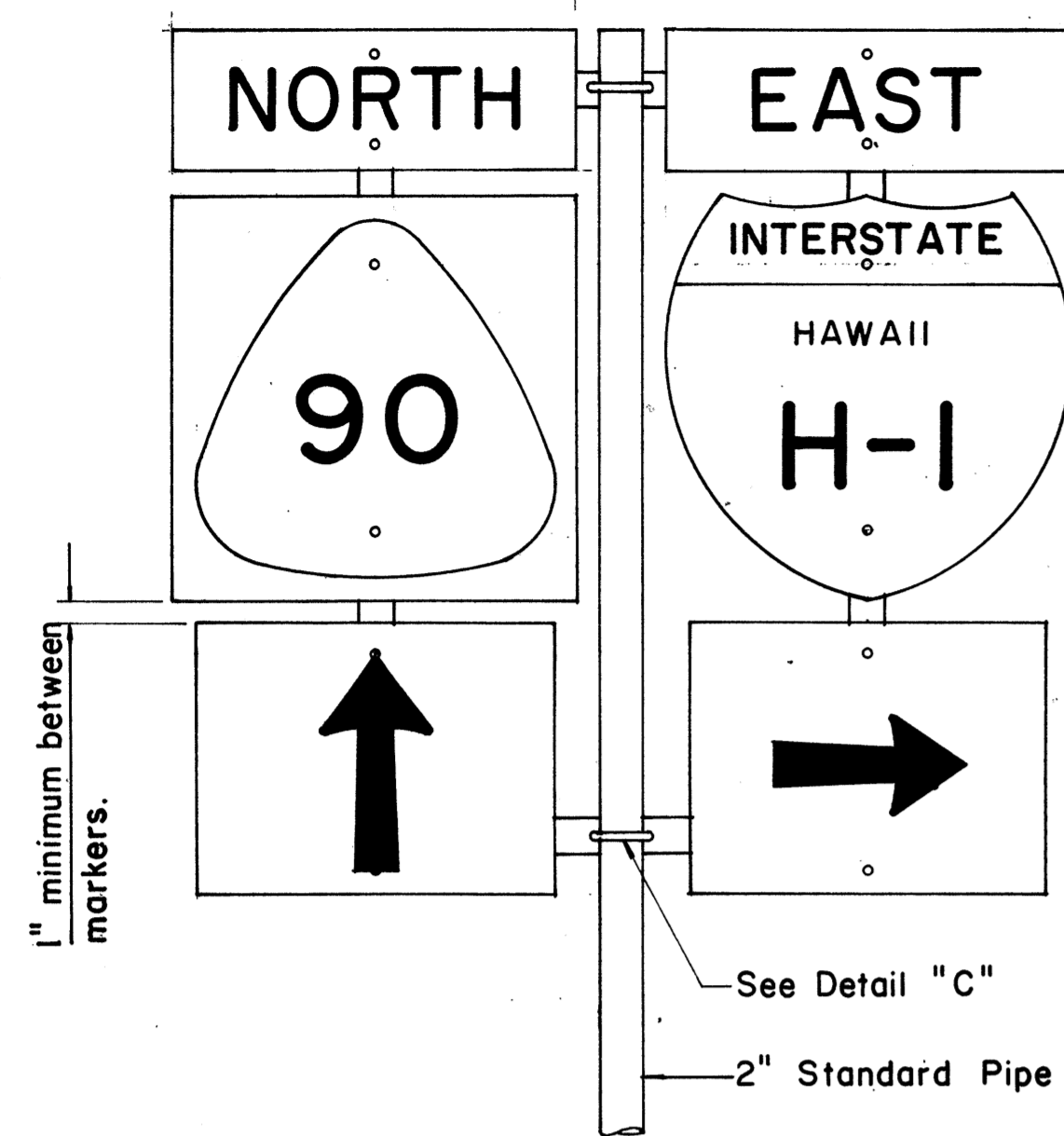
Scale: As Shown  
SHEET NO 25 OF 34 SHEETS DT 105

**AUXILIARY MARKERS**

Not to Scale

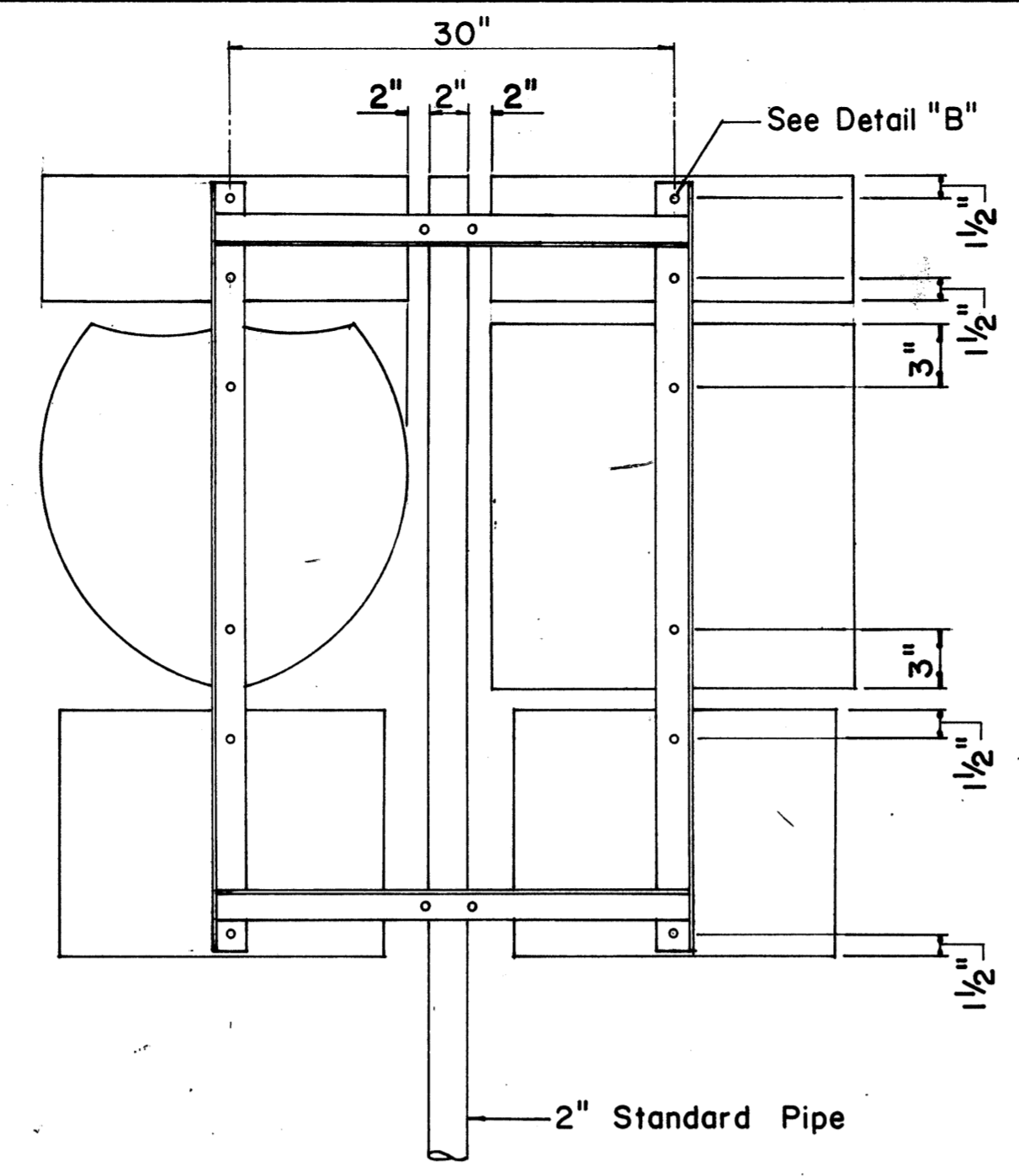
ORIGINAL PLAN  
DATE  
DRAWN BY  
TRACED BY  
CHECKED BY  
NOTE BOOK  
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(2)	1978	86	94



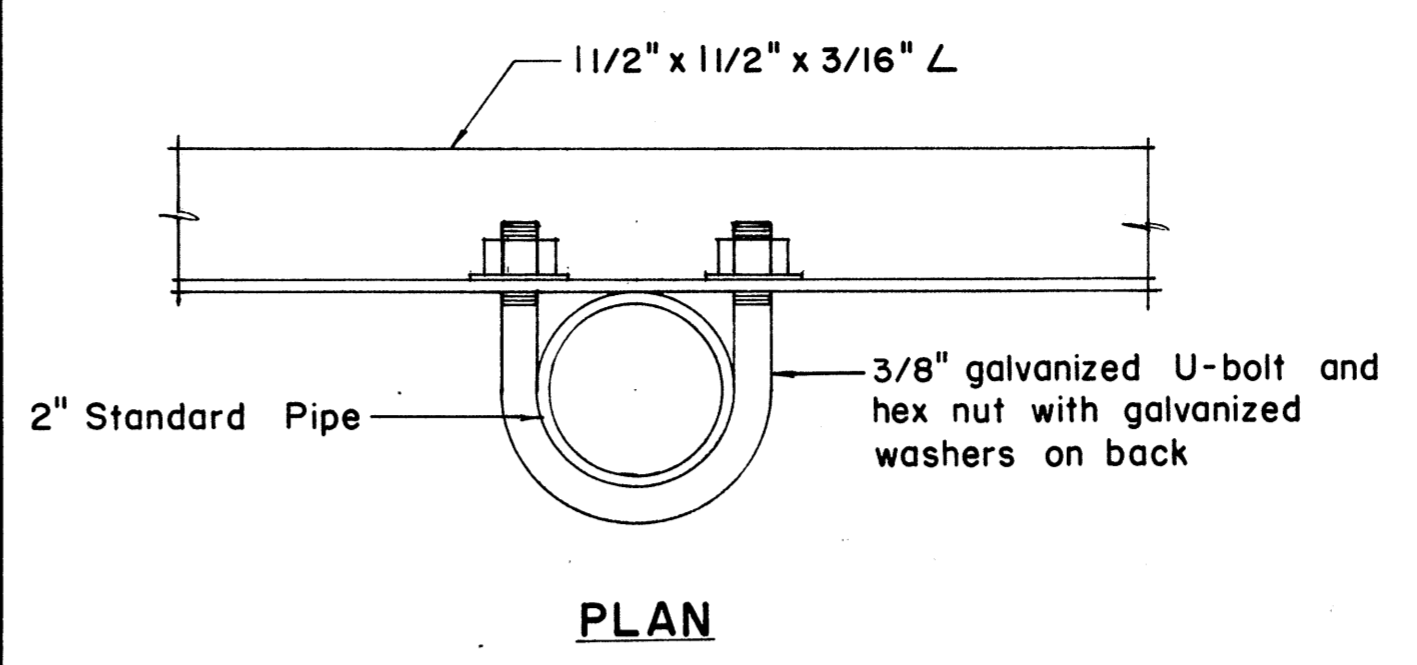
FRONT ELEVATION

TYPE "B" ASSEMBLY  
Not to Scale

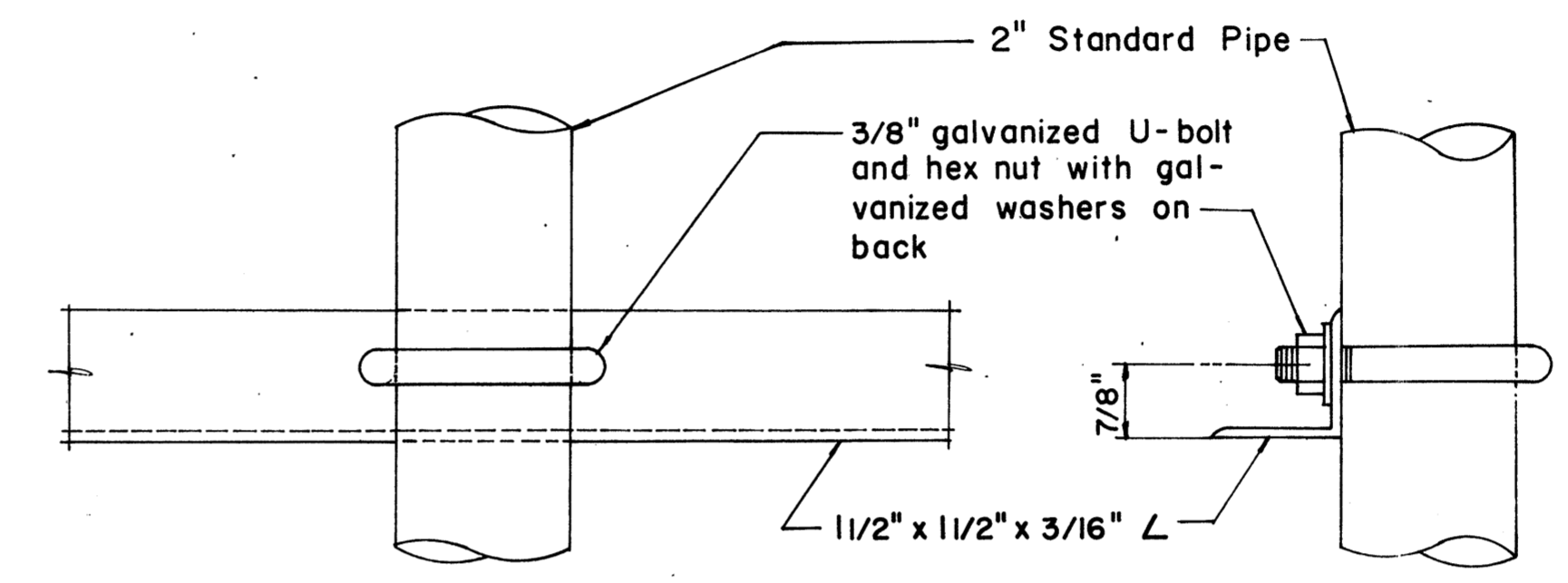


REAR ELEVATION

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



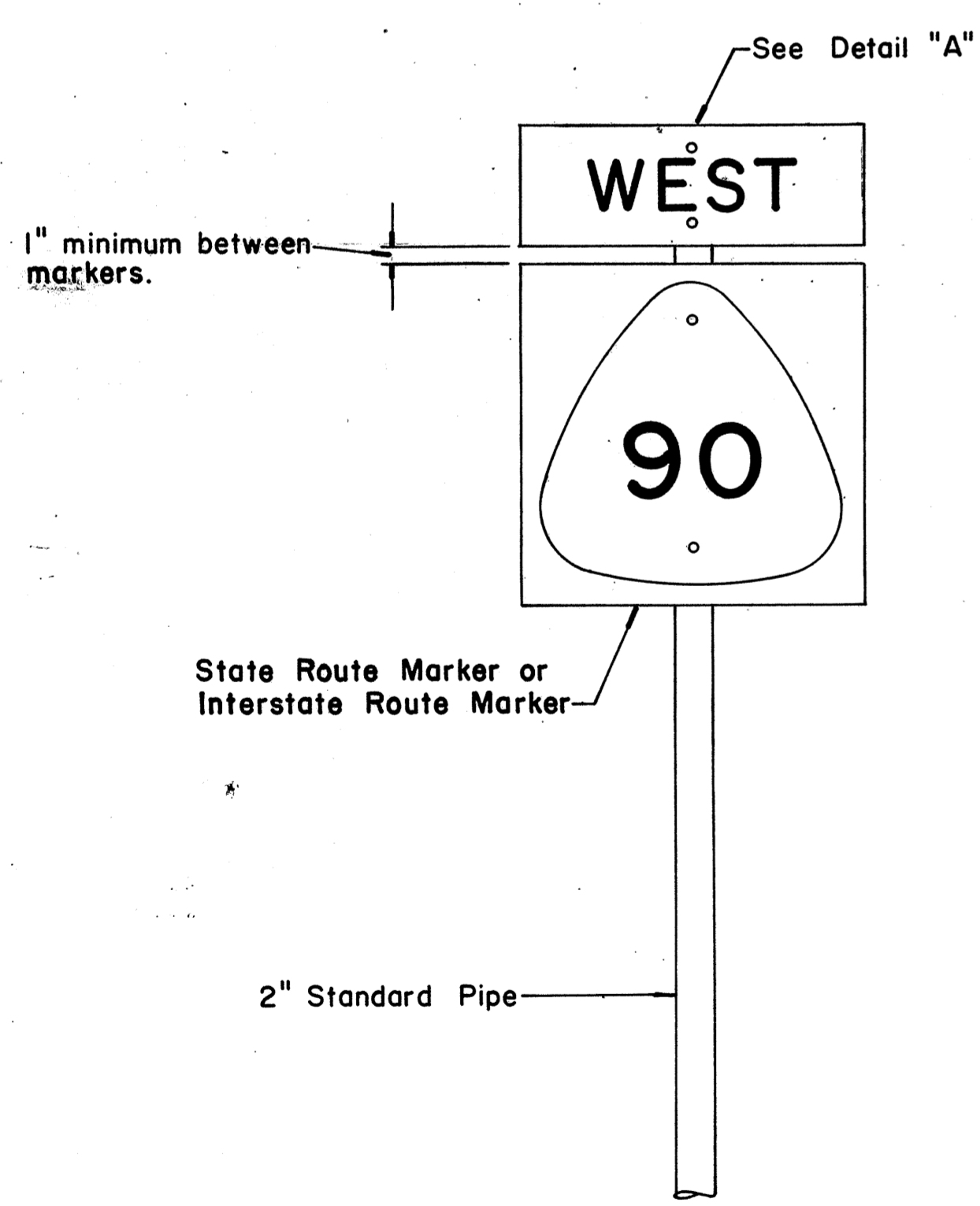
PLAN



FRONT ELEVATION

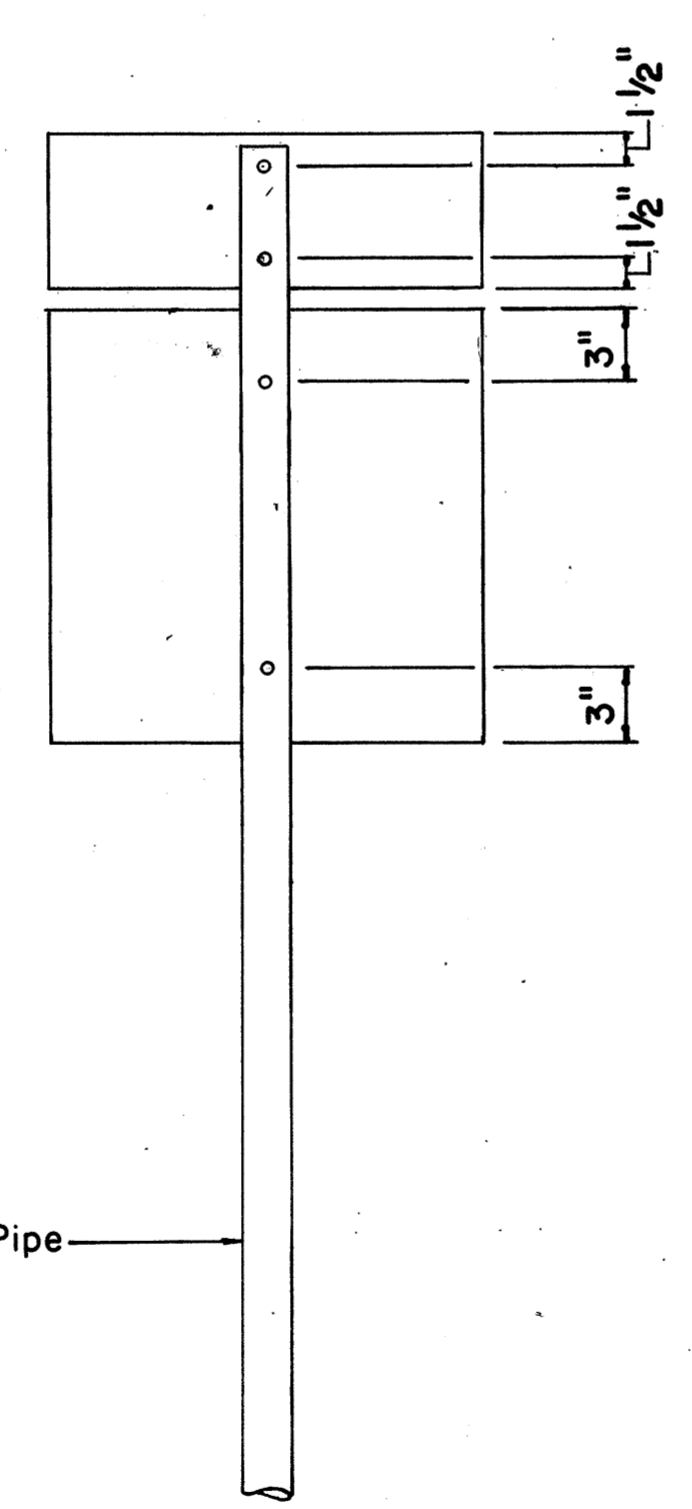
SIDE ELEVATION

DETAIL "C"



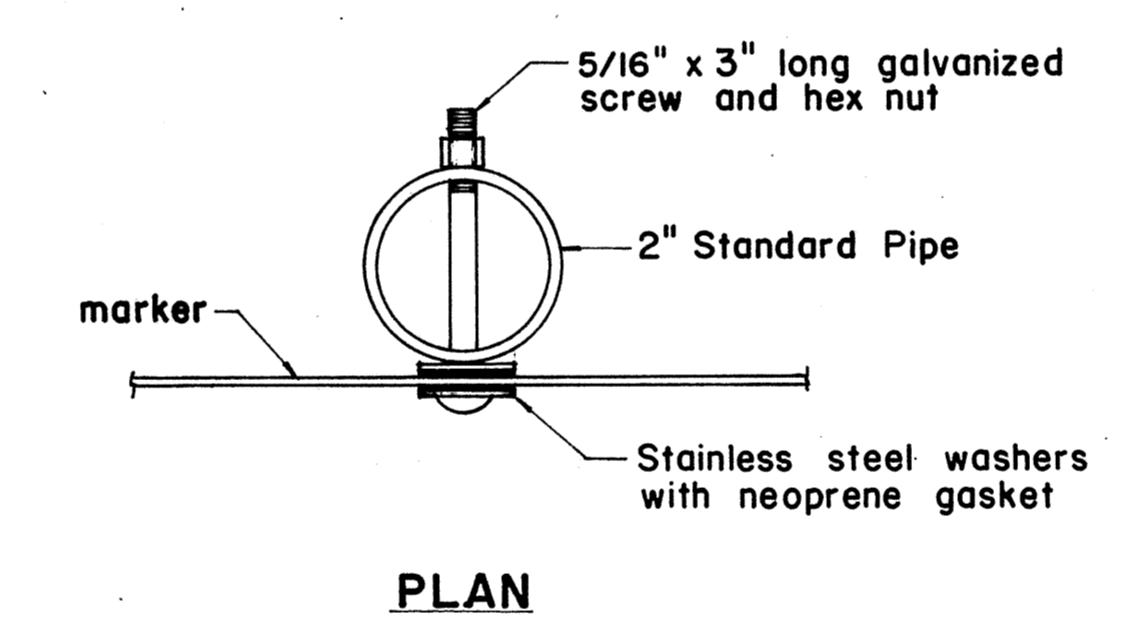
FRONT ELEVATION

TYPE "A" ASSEMBLY  
Not to Scale

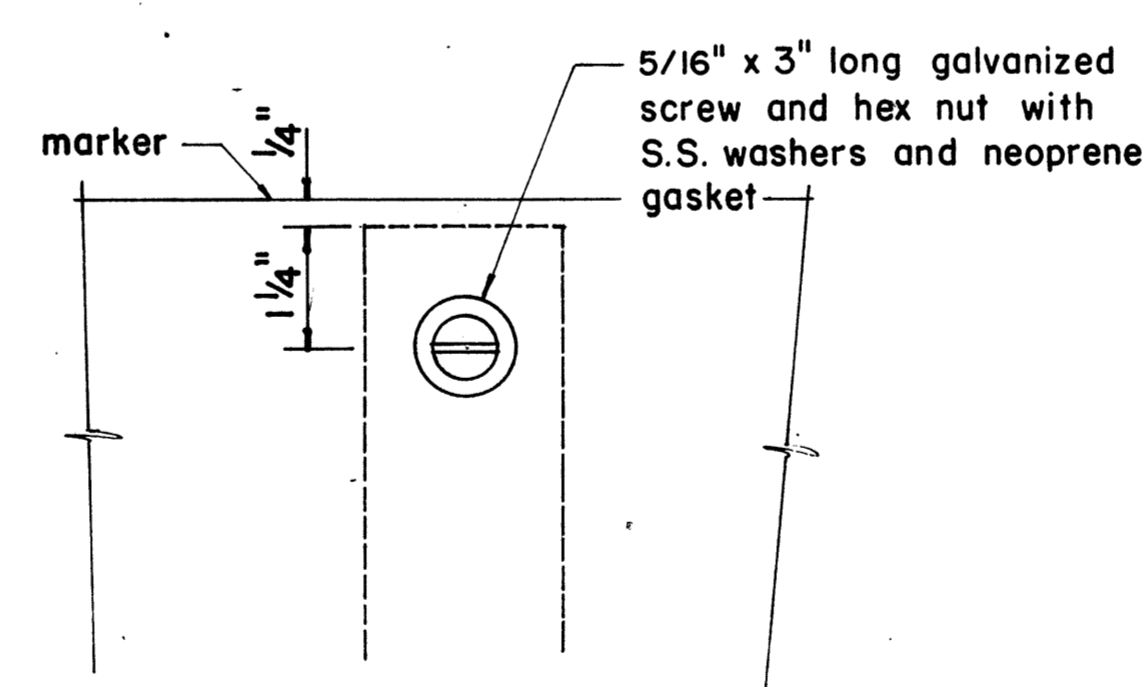


REAR ELEVATION

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

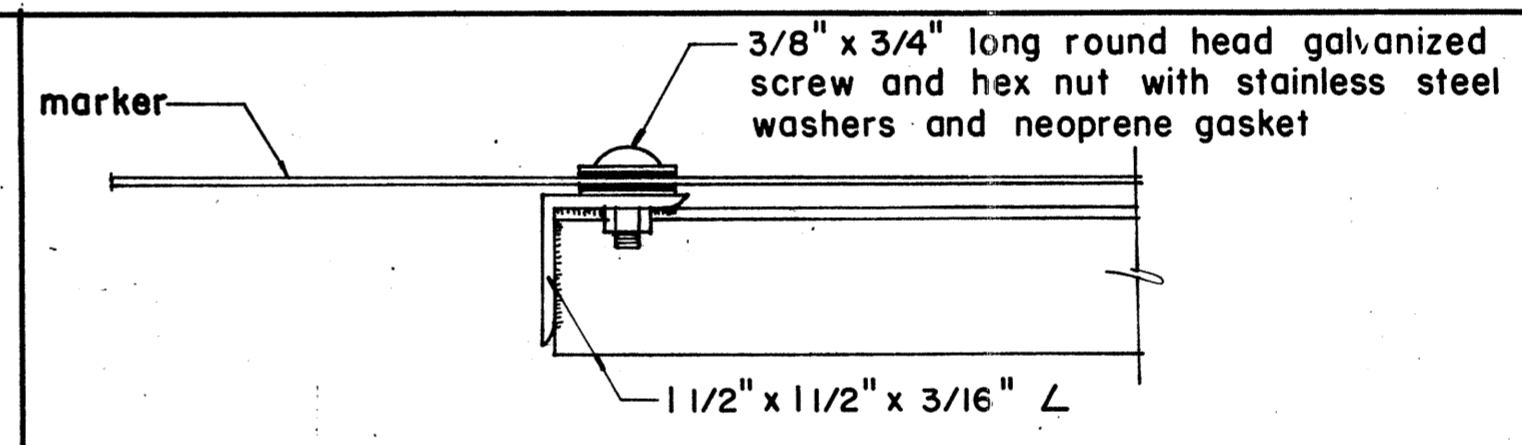


PLAN

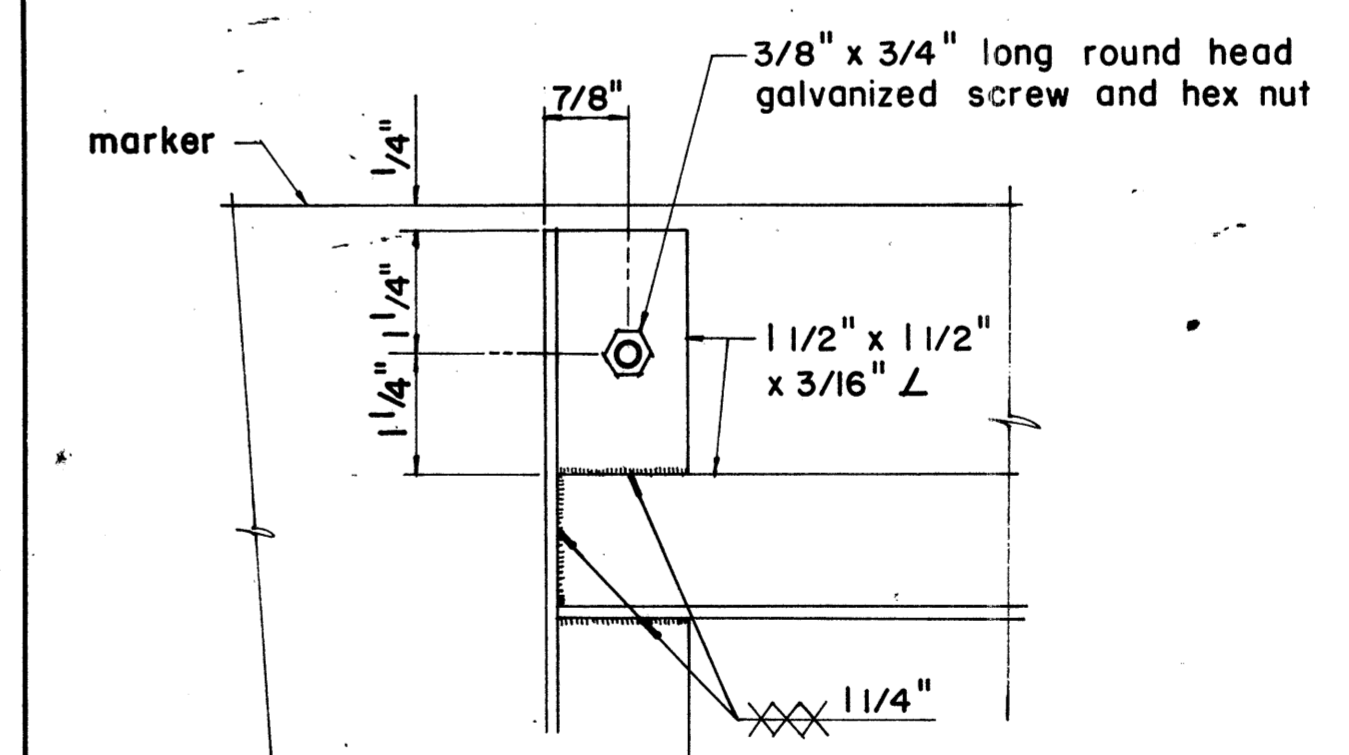


FRONT ELEVATION

DETAIL "A"

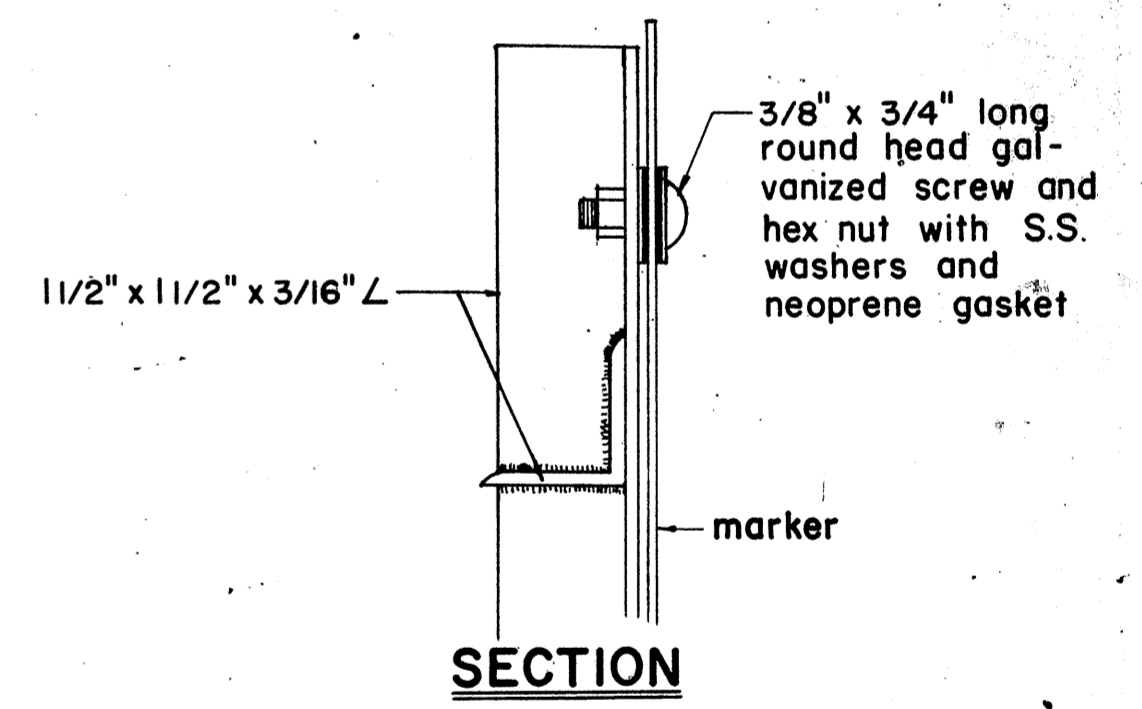


PLAN



ELEVATION

DETAIL "B"



SECTION

APPROVAL RECOMMENDED:  
*Etsuko Tanaka* 12/29/69  
TRAFFIC ENGINEER DATE

APPROVED:  
*Walter S. Sefert* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revisions to Route Marker Assemblies.	W.S.	6/1/72

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

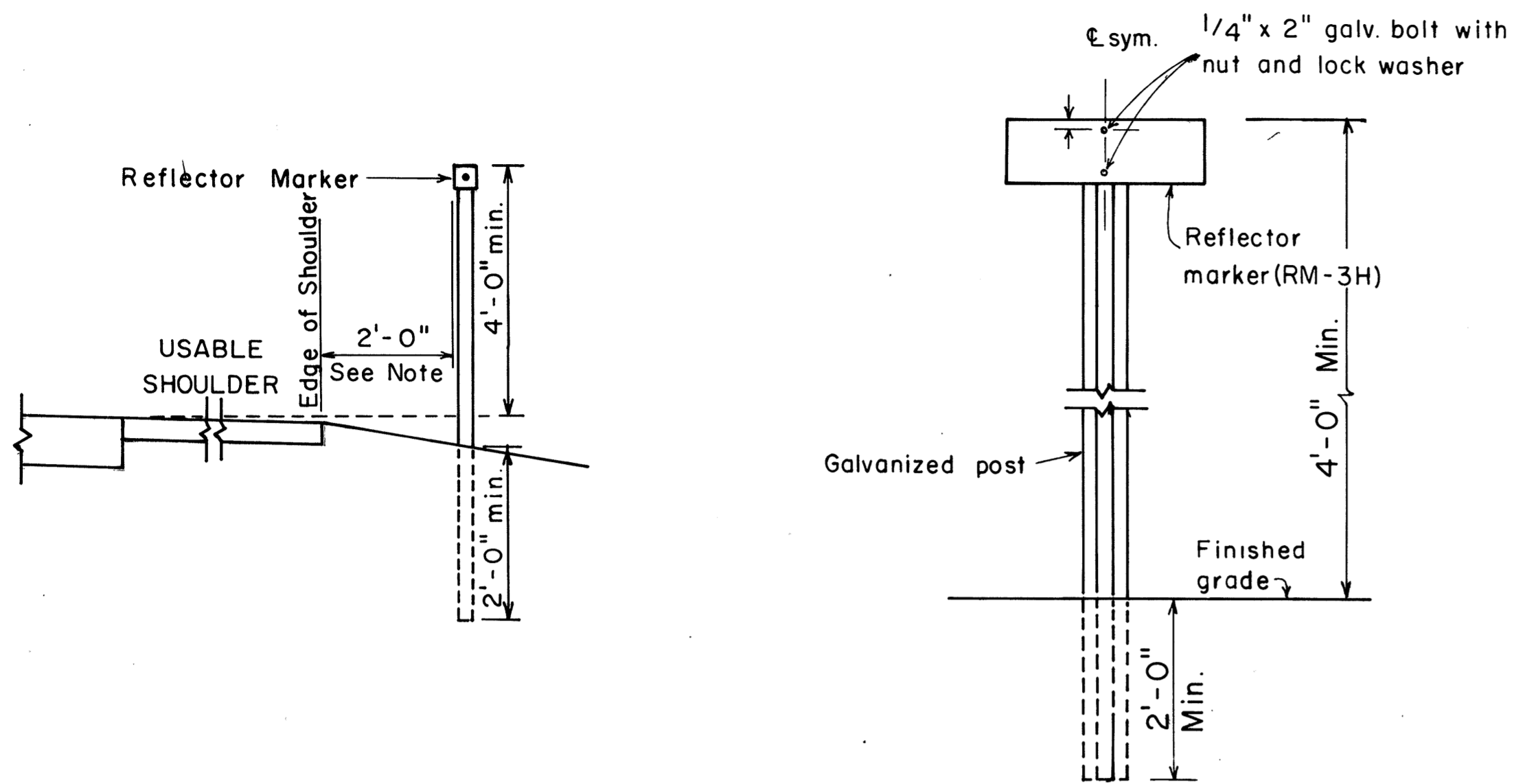
STANDARD DETAILS  
ROUTE MARKER ASSEMBLIES

Scale: As Shown

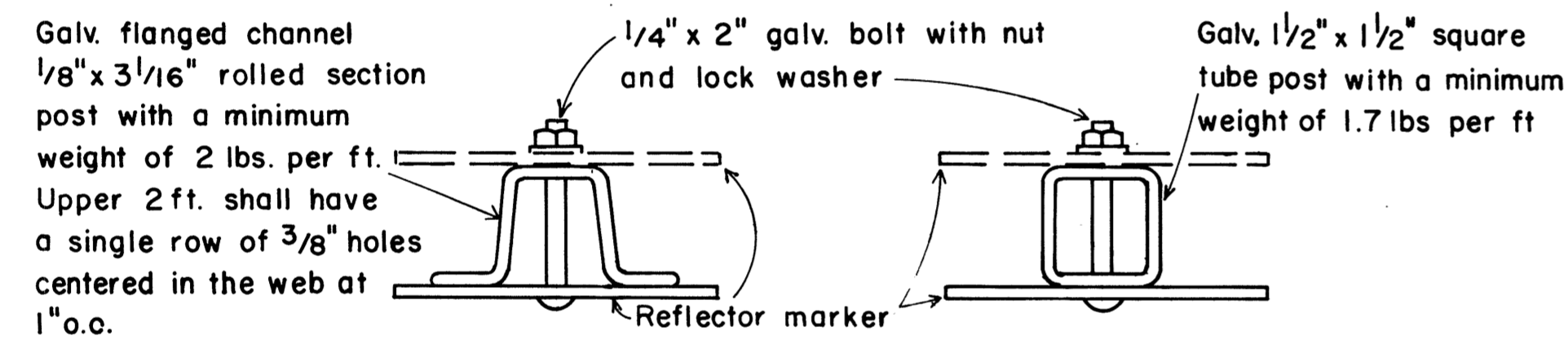
SHEET No. 26 OF 34 SHEETS DT 107

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

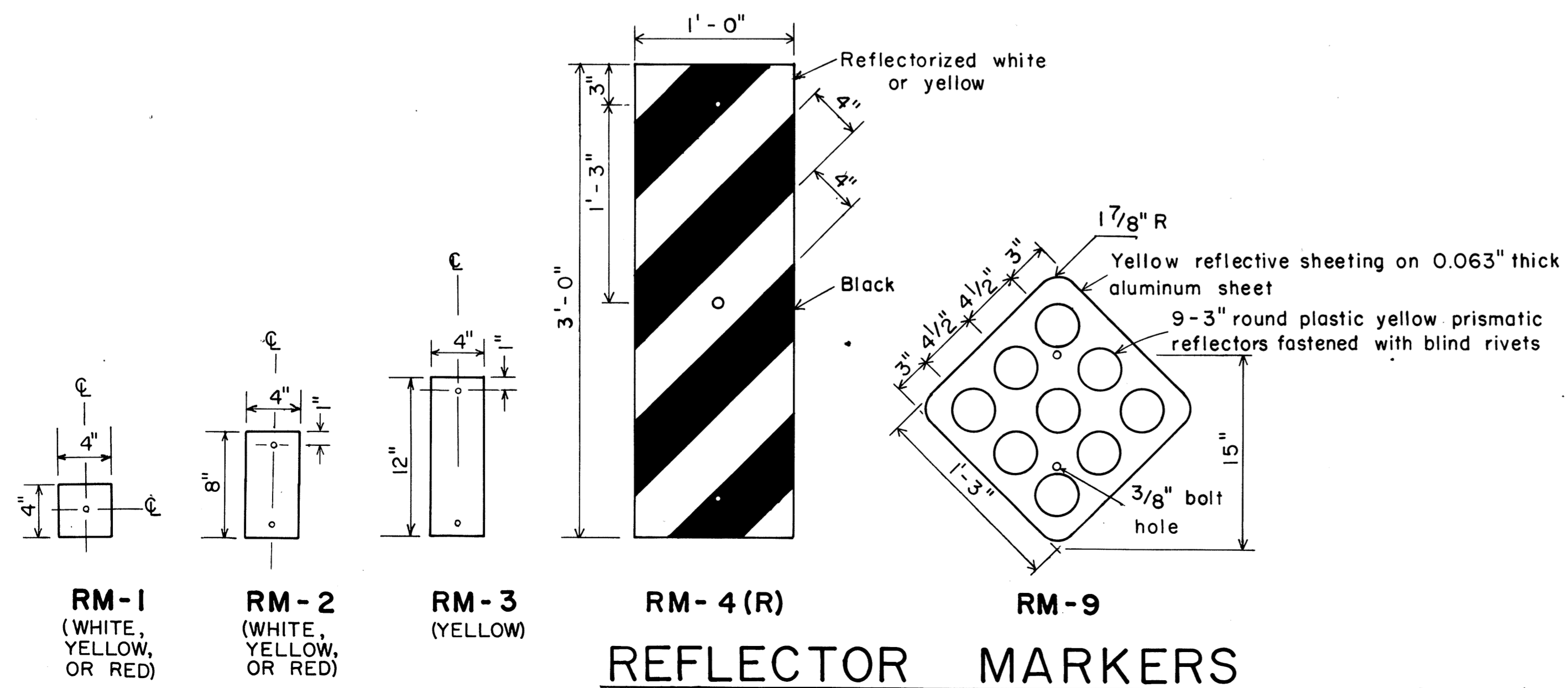
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R05-061-1(21)	1978	87	94



**REFLECTOR MARKER MOUNTING DETAIL**



**TYPICAL SECTION OF ROAD DELINEATOR**



**REFLECTOR MARKERS**

**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.

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 11/7/77  
 TRAFFIC ENGINEER DATE

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**  
 MISCELLANEOUS REFLECTOR MARKERS

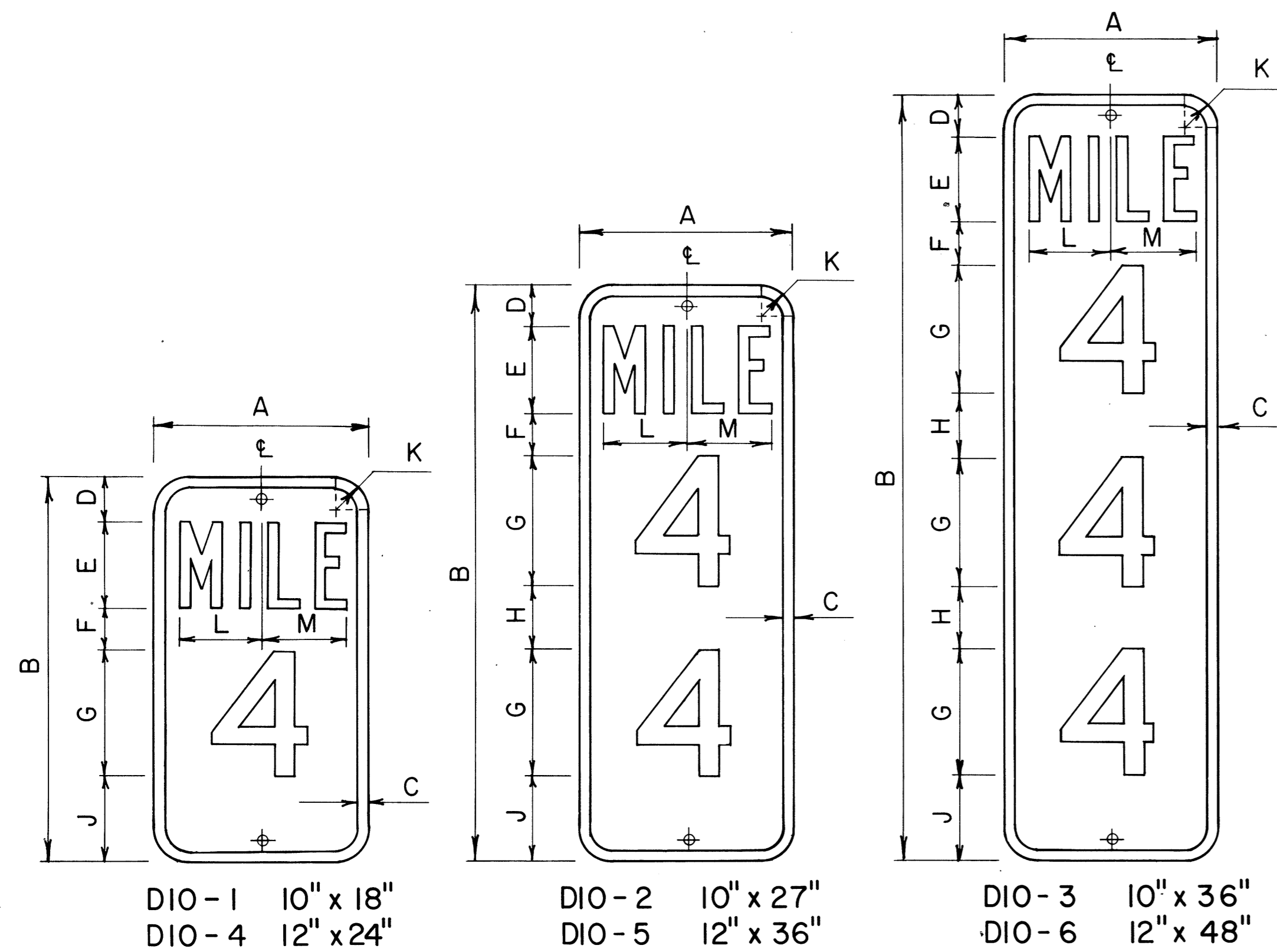
Not to scale June, 1977

SHEET No. 277 OF 34 SHEETS DT 110

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(21)	1978	88	94

**GENERAL NOTES:**

- Milepost marker and highway route number plates 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.
- Milepost markers and highway route numbers shall be completely reflectorized with reflective sheeting as follows:
  - Milepost markers shall have white legends and border on a green background.
  - Highway route numbers shall have black numerals on a white background.
- The plate backings for milepost markers and highway route numbers shall conform to the requirements for standard highway signs. The plates shall have 3/8" bolt holes drilled at appropriate locations.
- Highway route number plates shall be used in conjunction with milepost marker plates on all roadways, except Interstate freeways. Fabrication and installation costs of highway route number plates shall be considered incidental to the milepost marker assembly.
- Milepost markers shall be installed on all roadways as follows:
  - One milepost on each side of multi-lane roadways.
  - Back-to-back mileposts on one side of 2-lane roadways. (Right side of roadway in direction of increasing mileage.)

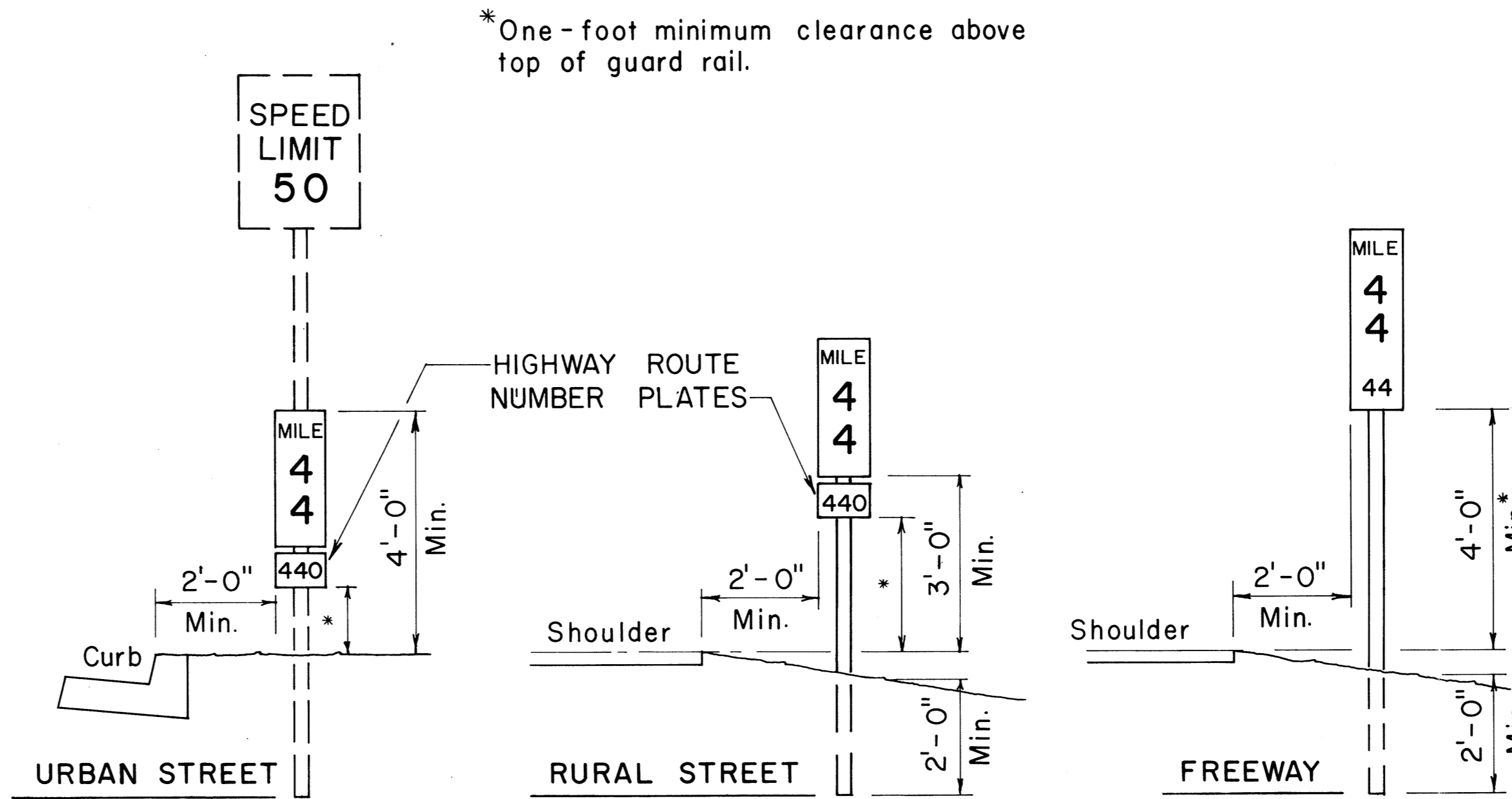


**MILEPOST MARKER PLATE DETAILS**

Scale: 3/16" = 1"

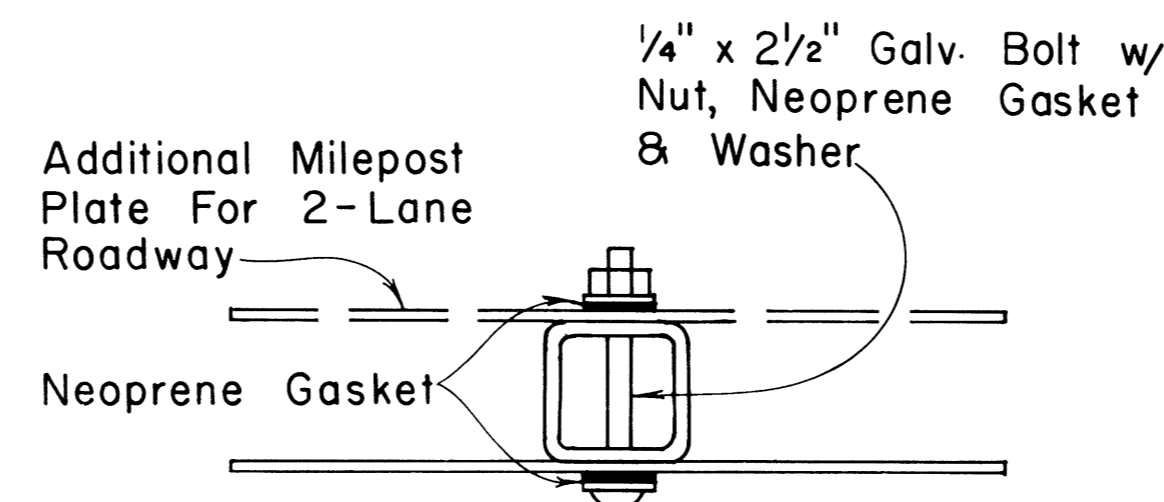
DIO-1	10" x 18"	DIO-2	10" x 27"	DIO-3	10" x 36"
DIO-4	12" x 24"	DIO-5	12" x 36"	DIO-6	12" x 48"

MILEPOST PLATE SCHEDULE (INCHES)															
NAME	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	LETTER SERIES	NUMERAL SERIES
DIO-1	10 x 18	10	18	1/2	2	4	2	6		4	1 1/2	3 5/8	3 7/8	B	C
DIO-4	12 x 24	12	24	1/2	3	4	3	10		4	1 1/2	4 7/8	4 7/8	C	C
DIO-2	10 x 27	10	27	1/2	2	4	2	6	3	4	1 1/2	3 5/8	3 7/8	B	C
DIO-5	12 x 36	12	36	1/2	3	4	3	10	3	3	1 1/2	4 7/8	4 7/8	C	C
DIO-3	10 x 36	10	36	1/2	2	4	2	6	3	4	1 1/2	3 5/8	3 7/8	B	C
DIO-6	12 x 48	12	48	1/2	3	4	3	10	2 1/2	3	1 1/2	4 7/8	4 7/8	C	C

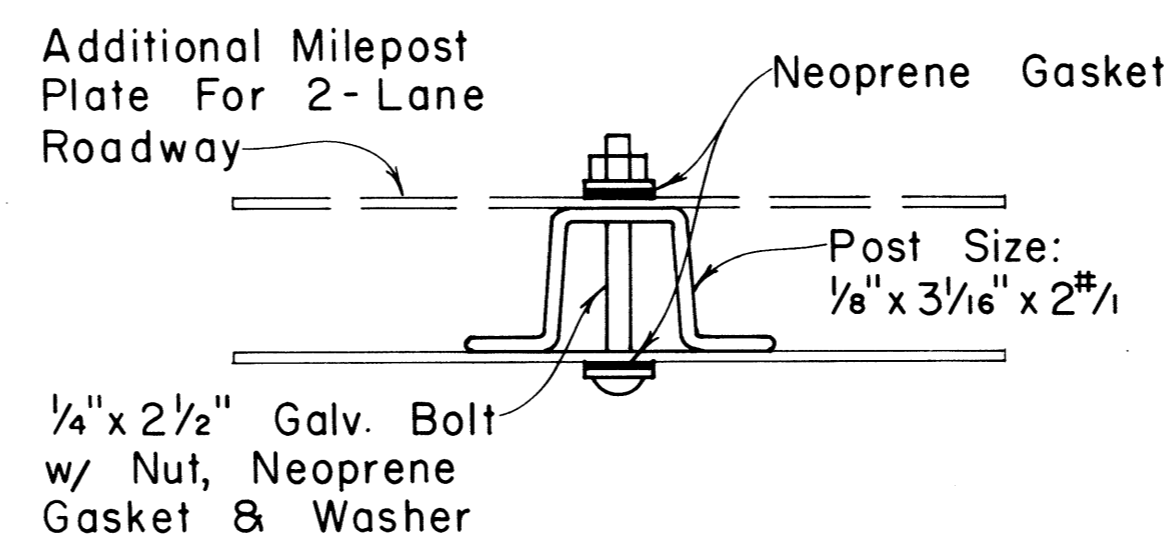


**TYPICAL ROADSIDE INSTALLATION**

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



**GALVANIZED SQUARE TUBE POST**



**GALVANIZED FLANGED CHANNEL POST**

**TYPICAL MOUNTING DETAILS**

Scale: 1/2" = 1"

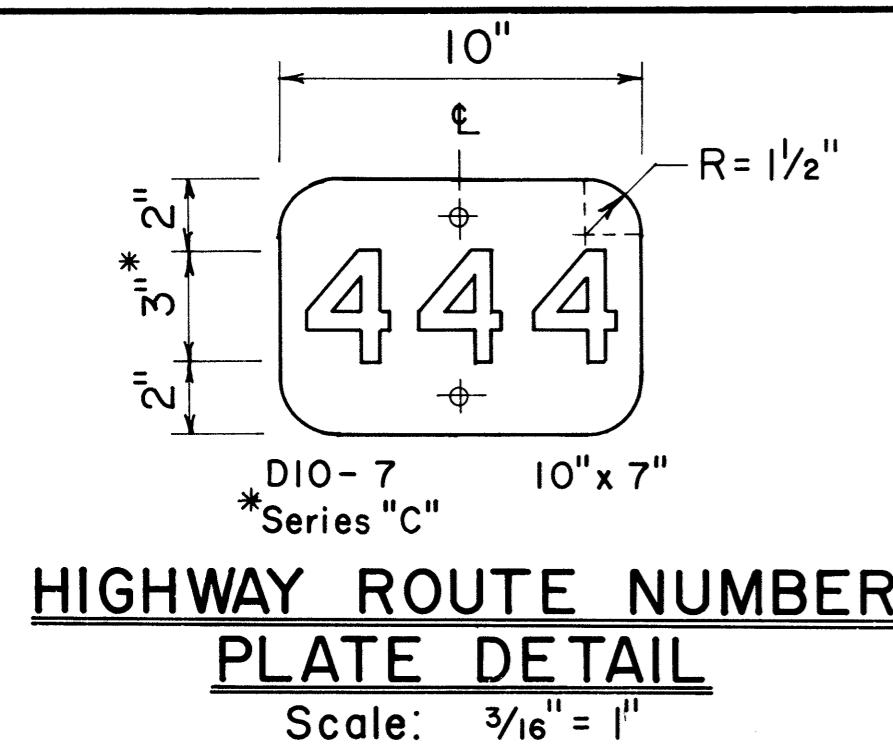
NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:  
*Eiichi Tanaka*  
 TRAFFIC ENGINEER  
 DATE: 1/17/78

APPROVED:  
*Robert S. Saleishi*  
 ASSISTANT CHIEF, ENGINEERING  
 DATE: 1/18/78

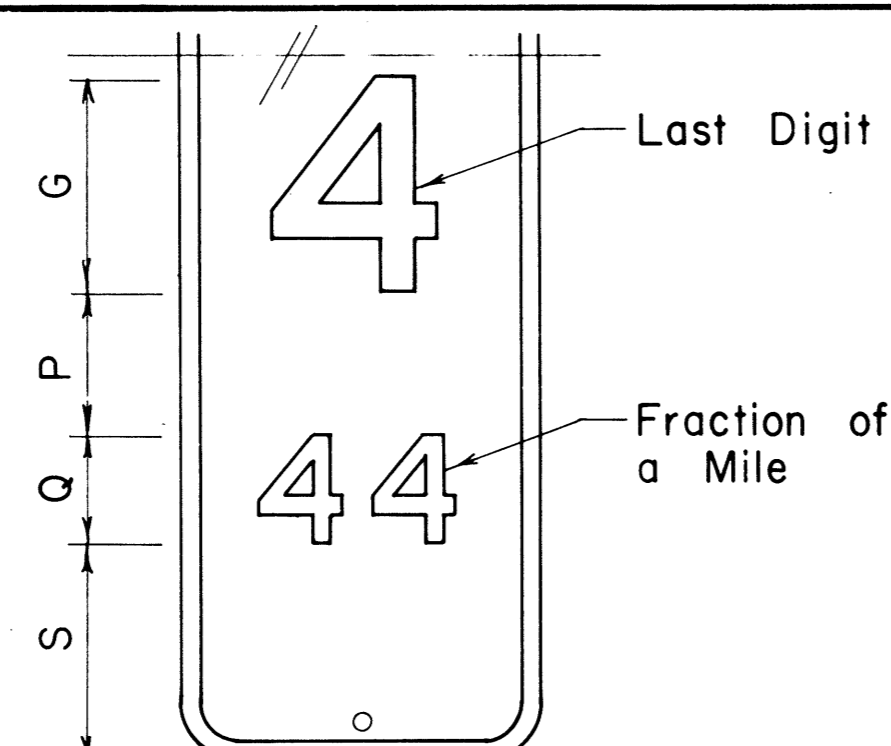
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION  
**STANDARD DETAILS**  
**MILEPOSTS**  
 SCALE: As Shown DATE: December, 1977  
 SHEET No. 237 OF 34 SHEETS DT 116

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN No. \_\_\_\_\_  
 NOTE BOOK No. \_\_\_\_\_



**HIGHWAY ROUTE NUMBER PLATE DETAIL**

Scale: 3/16" = 1"



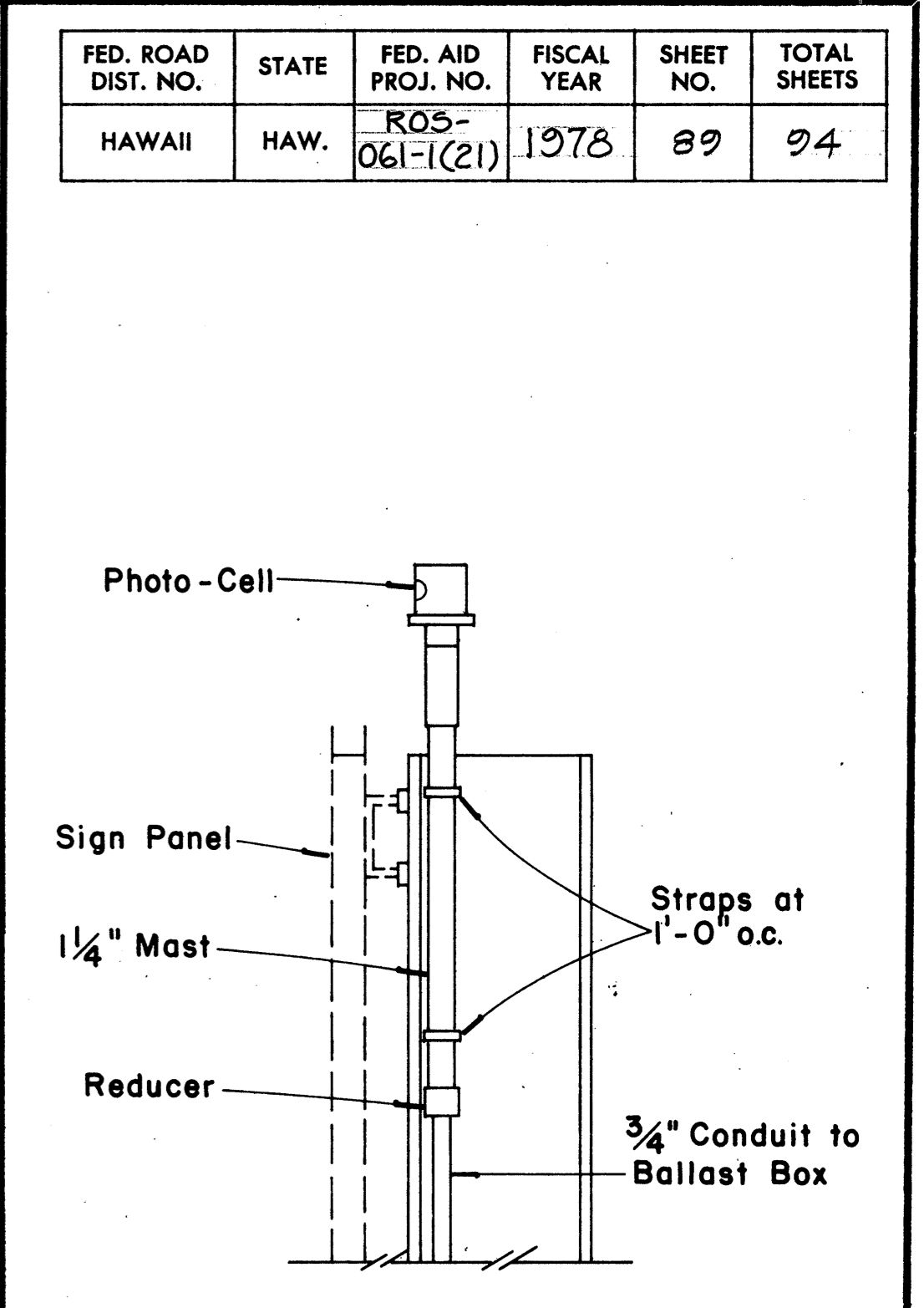
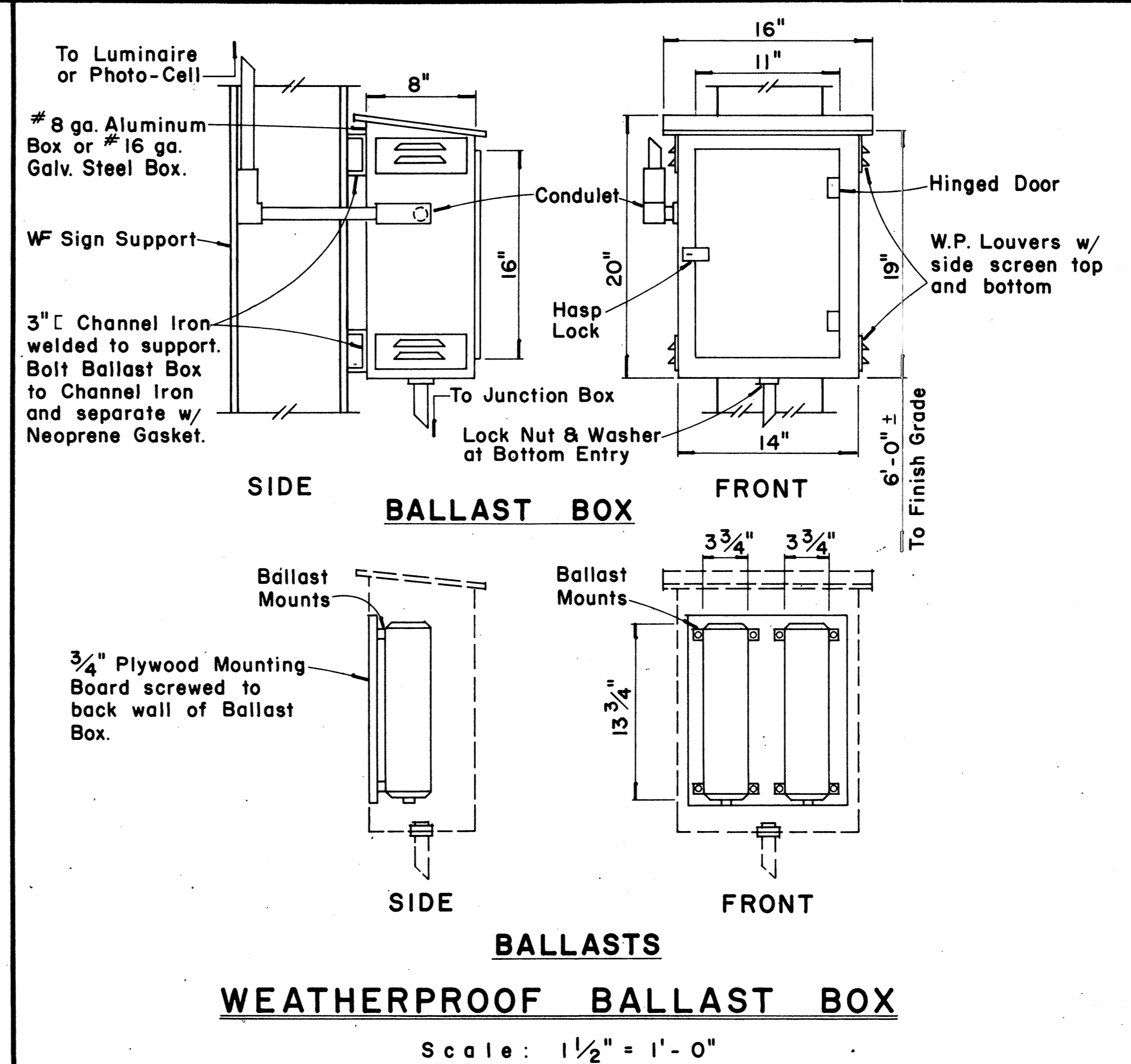
**MILEPOST MARKER FRACTION DETAIL**

Scale: 3/16" = 1"

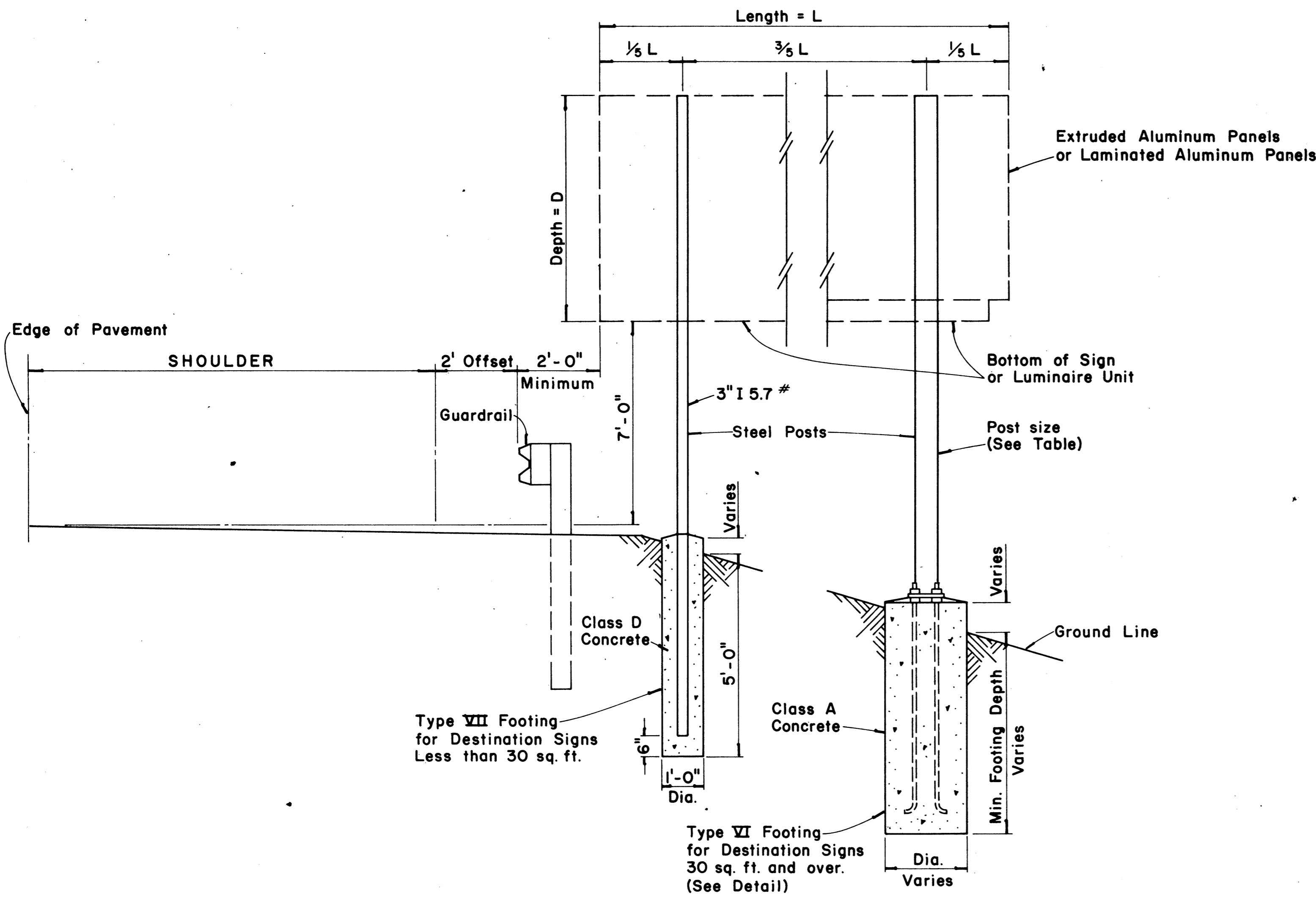
MILEPOST PLATE SCHEDULE WITH FRACTION OF A MILE						
NAME	SIZE	G	P	Q	S	NUMERAL SERIES
D10-1a	10" x 27"	6"	4"	3"	6"	C
D10-4a	12" x 36"	10"	4"	5"	7"	C
D10-2a	10" x 36"	6"	4"	3"	6"	C
D10-5a	12" x 48"	10"	4"	5"	6"	C
D10-3a	10" x 45"	6"	4"	3"	6"	C
D10-6a	12" x 60"	10"	4"	5"	6"	C

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

DATA TABLE FOR TYPE VI FOOTING																	
POST SIZE	MAXIMUM SIGN AREA	POST HEIGHT TOP OF FOUNDATION TO CENTER OF SIGN *	DIMENSIONS											ANCHOR BOLT DIA.	MINIMUM FOOTING DEPTH		
			H	J	K	M	N	O	P	S	T	U	V		W	CUT	FILL**
8 J 10	50 sq. ft.	14'	14"	5"	24"	17¼"	1⅝"	6"	1¼"	9"	6"	10"	2"	1"	1½"Ø	4½'	4½'
8 WF 24	90 sq. ft.	21'															5'
8 WF 35	190 sq. ft.	15'	16½"	6¾"	30"	20"	1¾"	6"	1⅜"	11¾"	6½"	10"	1¾"	1"	1¼"Ø	6'	7'
10 WF 45	190 sq. ft.	25'															
10 WF 45	200 sq. ft.	25'															
12 WF 50	230 sq. ft.	25'														7'	
12 WF 50	250 sq. ft.	23'															

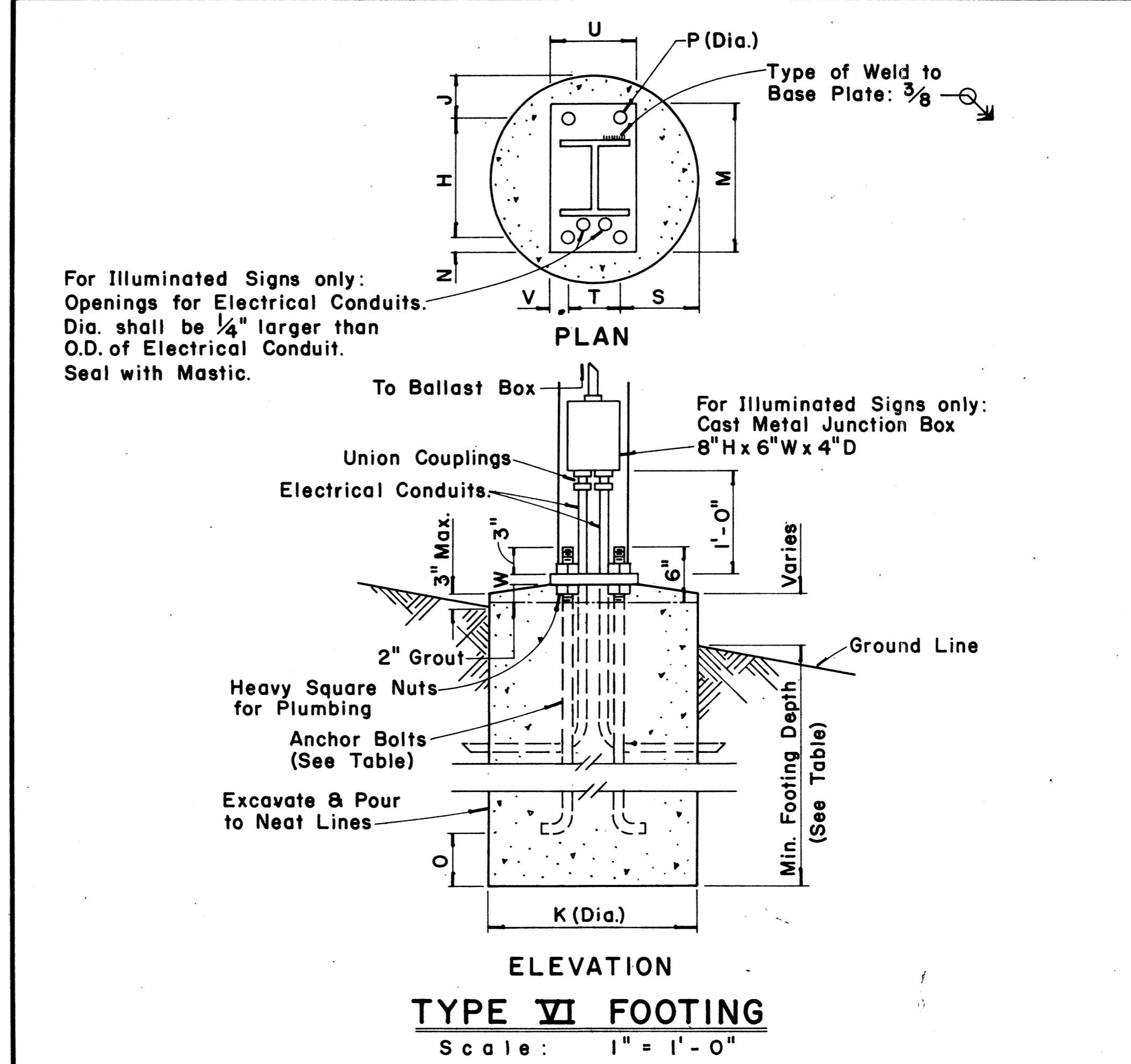


**PHOTO-CELL DETAIL**  
 Scale: 1½" = 1'-0"



**TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN**

Not to Scale



**TYPE VI FOOTING**  
 Scale: 1" = 1'-0"

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 12/29/62  
 TRAFFIC ENGINEER DATE

APPROVED:  
*John J. ...* 12-30-62  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

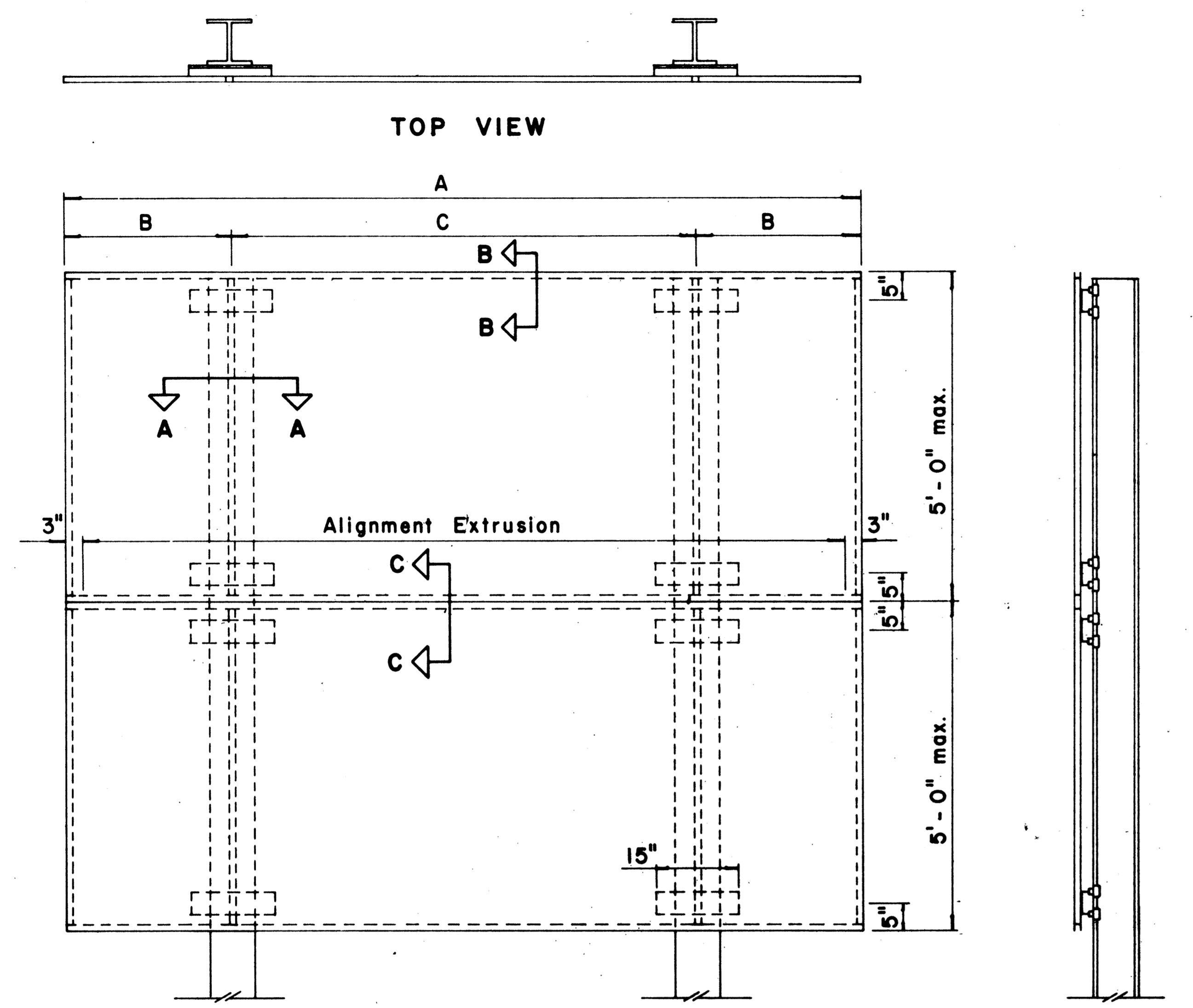
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION  
**STANDARD DETAILS**  
**DESTINATION & GROUND MOUNTED EXPRESSWAY SIGNS**  
 Scale: As Shown  
 SHEET No. 29 OF 34 SHEETS DT 203

DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R05-061-1(2)	1978	20	24

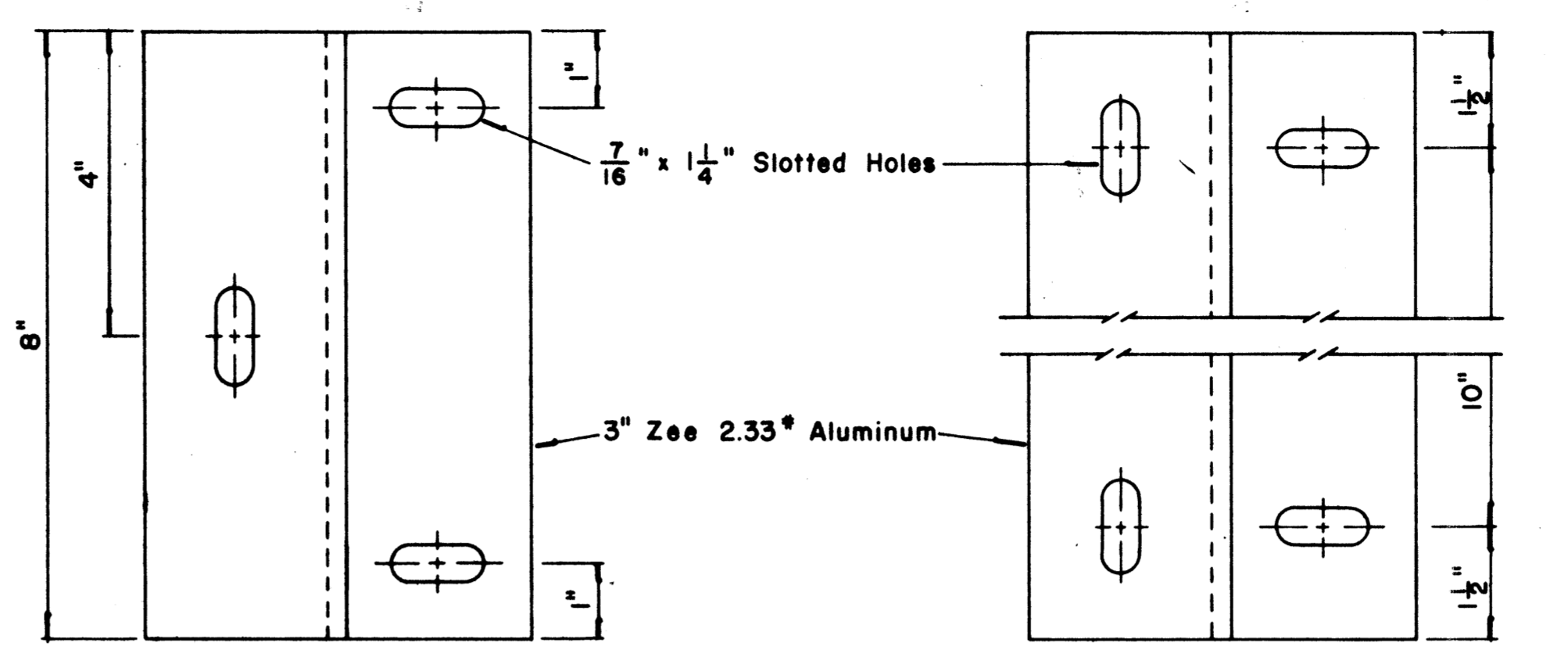
(GROUND MOUNTED SIGNS)  
SUPPORT SPACING TABLE

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



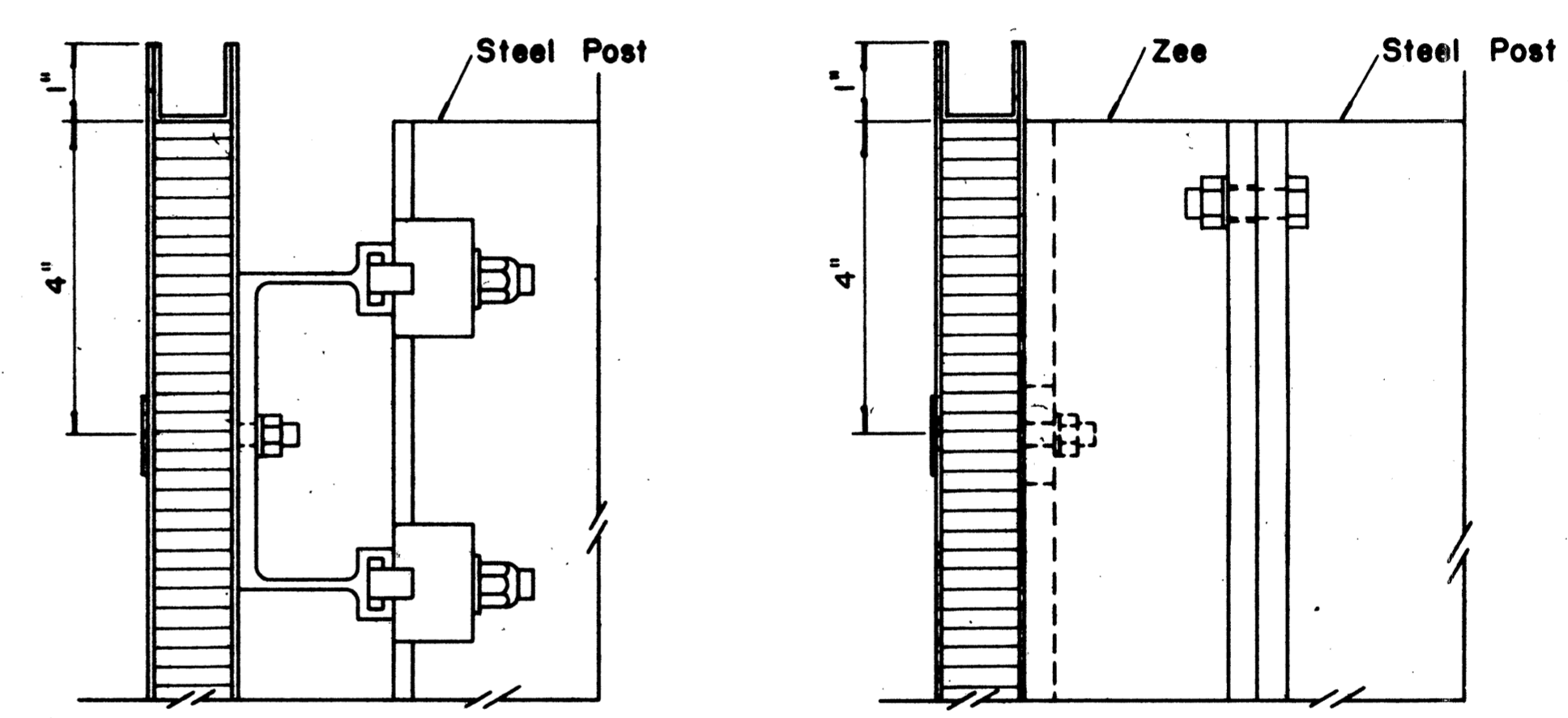
TYPICAL SIGN ASSEMBLY

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



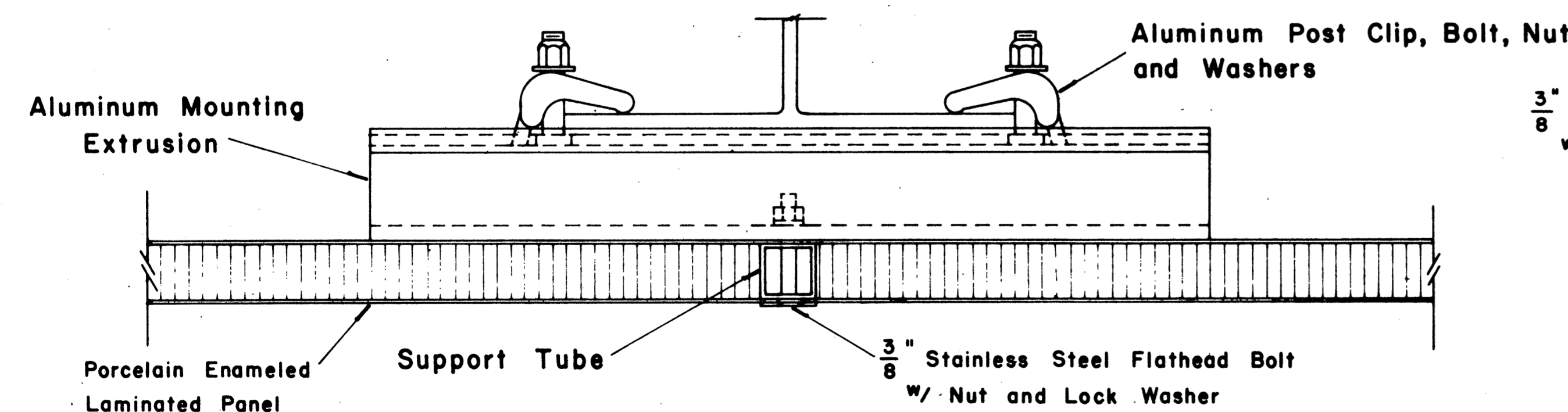
ZEE MOUNTING DETAILS

Scale: 1/2" = 1"



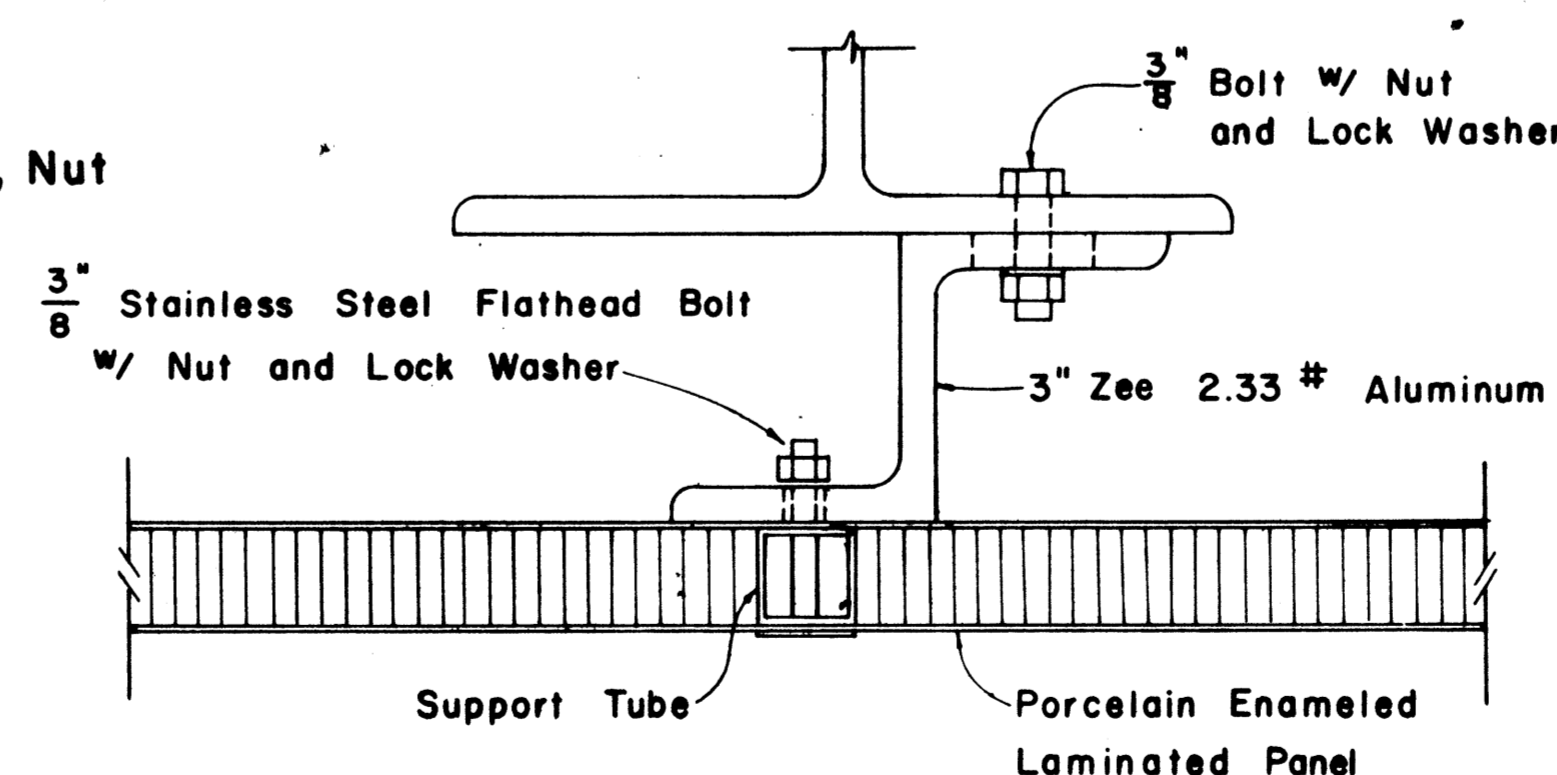
SECTION "B-B" (Alternate)

Scale: 1/2" = 1"



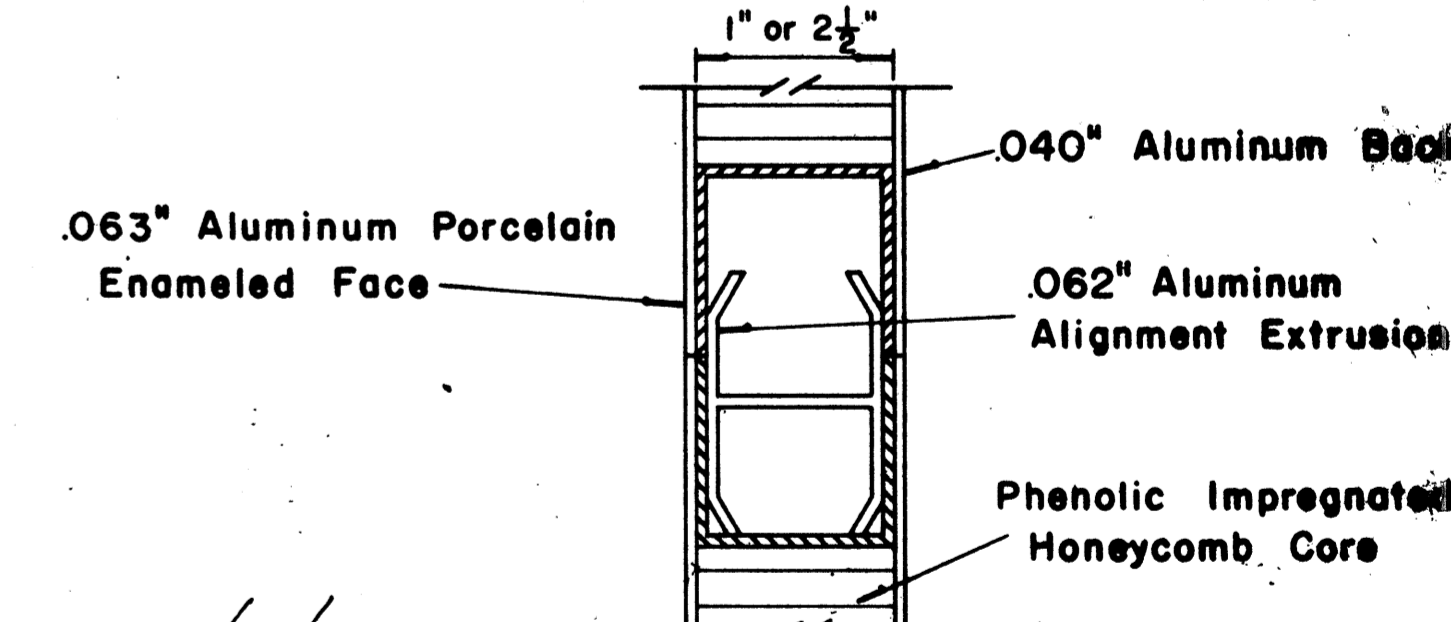
SECTION "A-A"

Scale: 1/2" = 1"



SECTION "A-A" (Alternate)

Scale: 1/2" = 1"



CLOSURE DETAIL SECTION "C-C"

FULL SCALE

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

APPROVED:  
*[Signature]* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS  
LAMINATED ALUMINUM  
SIGN PANELS  
(GROUND MOUNTED)

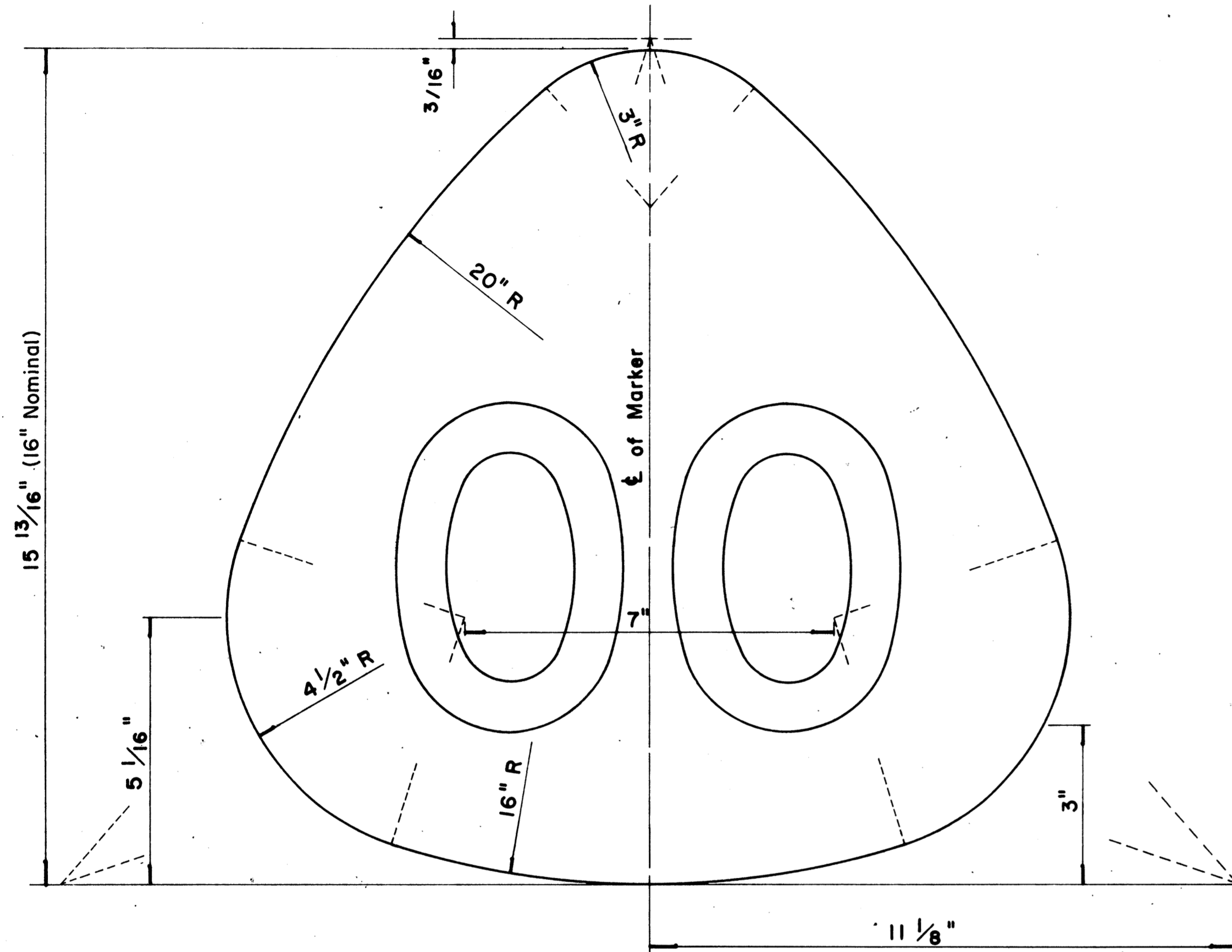
Scale: As Shown

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



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	R05-061-1(21)	1978	02	04

MARKER SIZE	MULTIPLY DIMENSIONS BY	NUMERAL SIZE
		2 Digit - Series D 3 Digit - Series C
21"	1.3	8"
32"	2.0	12"
42"	2.63	16"



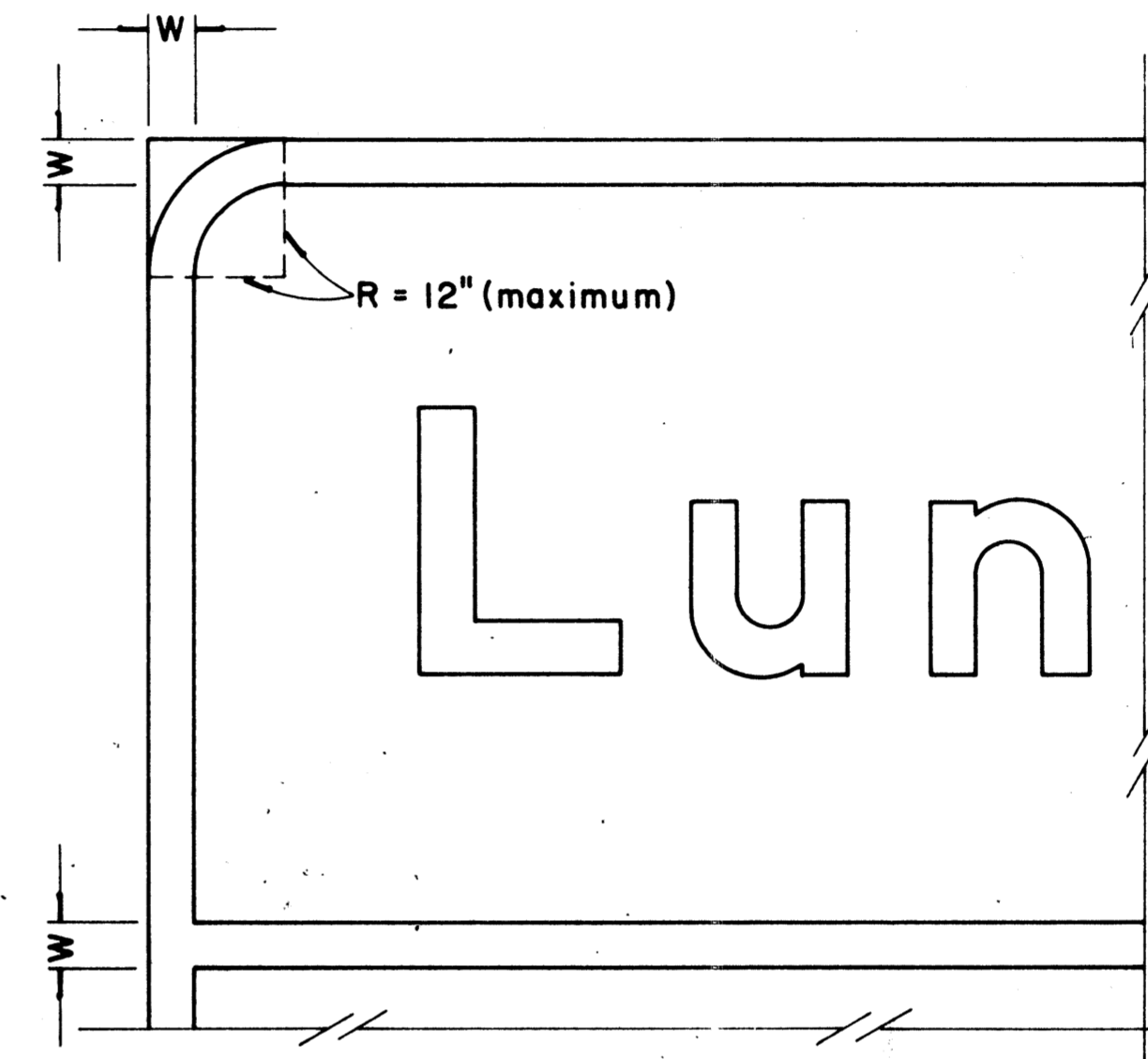
**STATE ROUTE MARKER  
FOR GUIDE SIGNS**

Scale: Half Size

**NOTE:**

1. State Route Markers on Guide signs shall have black numerals on a white reflectorized background mounted on a flat aluminum cut-out.
2. Numerals shall conform to the FHWA publication "Standard Alphabets for Highway Signs," 1966.
3. Cut-outs shall be fastened to sign panel with aluminum blind rivets. See Standard Specifications.

RADI FOR SIGNS		
Least Dimension of Sign	W	R
2'-0" to 4'-6"	2"	3"
4'-9" to 5'-6"	2"	6"
5'-9" to 7'-6"	2"	9"
7'-9" and greater	2"	12"



**BORDER DETAIL  
FOR GUIDE SIGNS**

Not to Scale

**NOTE:**

1. Area outside corner radius need not be trimmed.
2. All borders shall be white reflectorized cut-outs.
3. All Guide signs shall have borders.

APPROVAL RECOMMENDED:

*Eishi Tanaka* 4/11/72  
TRAFFIC ENGINEER DATE

APPROVED:

*Walter S. Sakishi* 4/12/72  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 209 Approved 12-30-69	H.T.	4/12/72
2	Revised Notes and Schedules	H.T.	9-14-70

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**

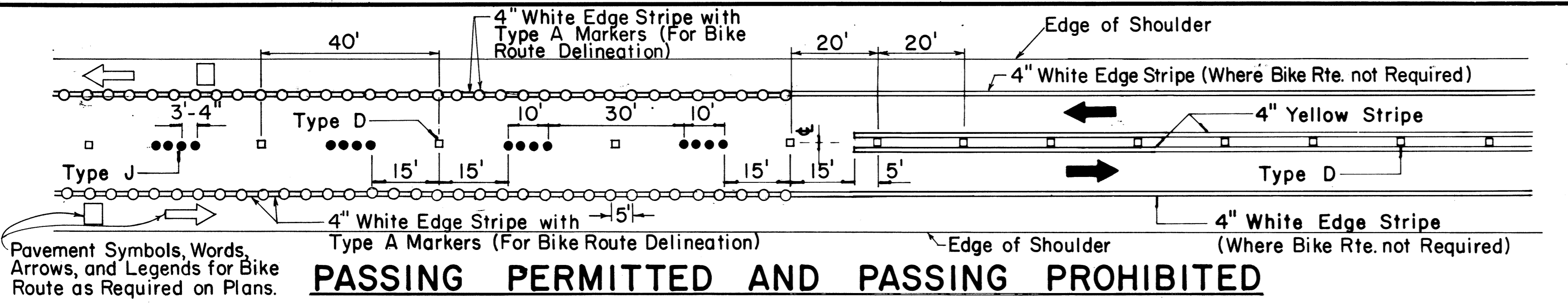
**STATE ROUTE MARKER  
AND BORDER DETAIL  
FOR GUIDE SIGNS**

Scale: As Shown

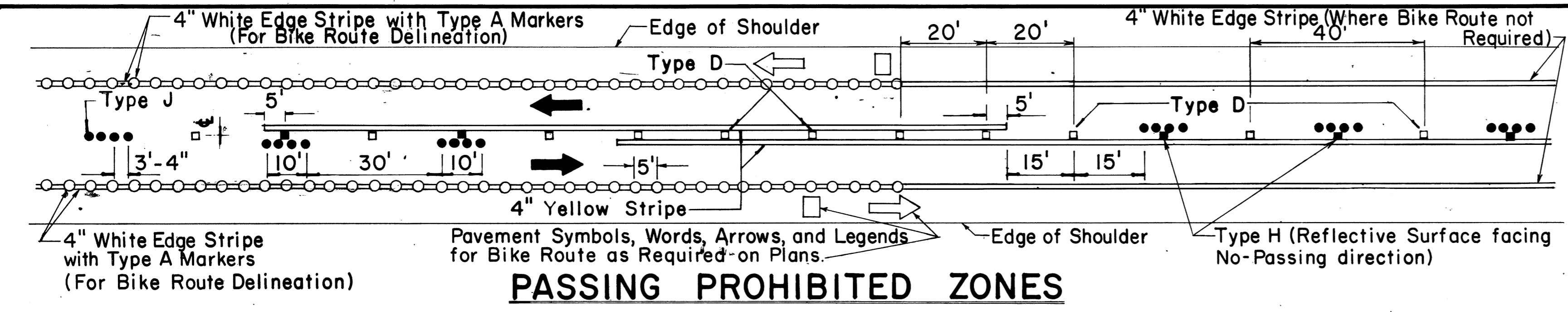
SHEET No. 32 OF 34 SHEETS DT 209

DATE	_____
DESIGNED BY	_____
CHECKED BY	_____
QUANTITIES BY	_____
NOTED BY	_____
ORIGINAL PLAN	_____

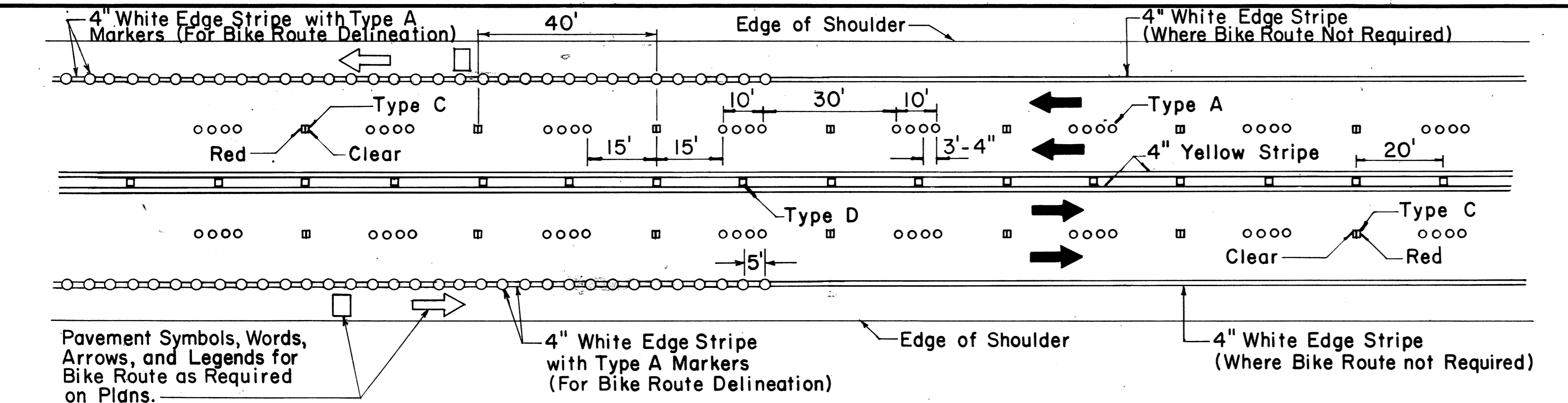
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-1(2)	1978	23	24



**PASSING PERMITTED AND PASSING PROHIBITED**

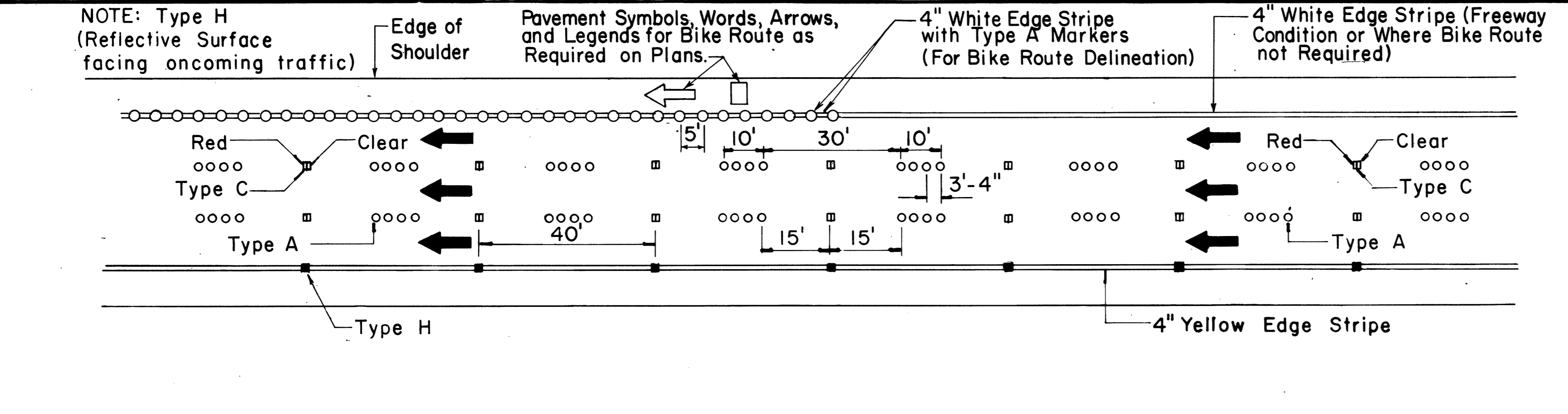


**PASSING PROHIBITED ZONES**

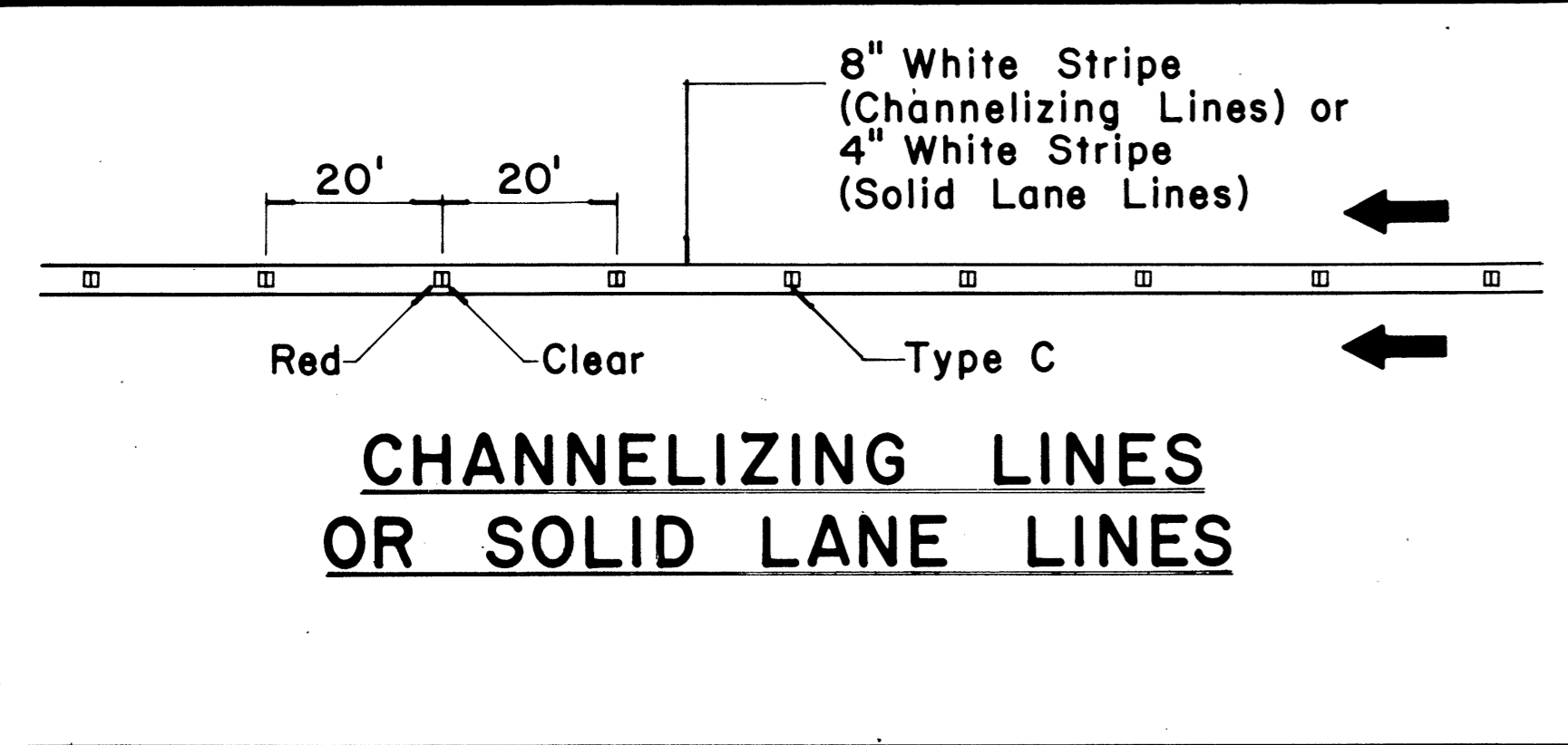


TWO - LANE

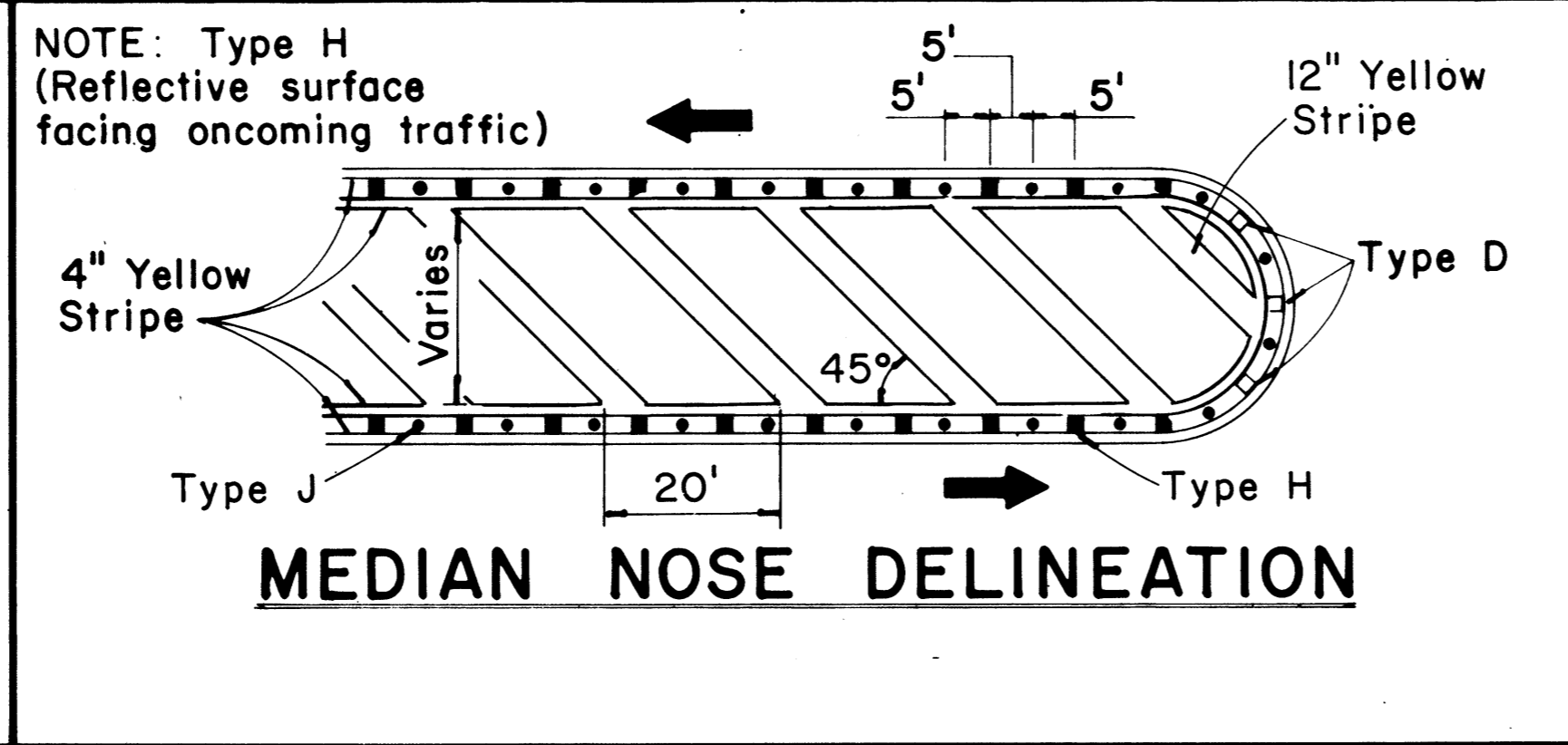
MULTI - LANE



DIVIDED HIGHWAY AND FREEWAY

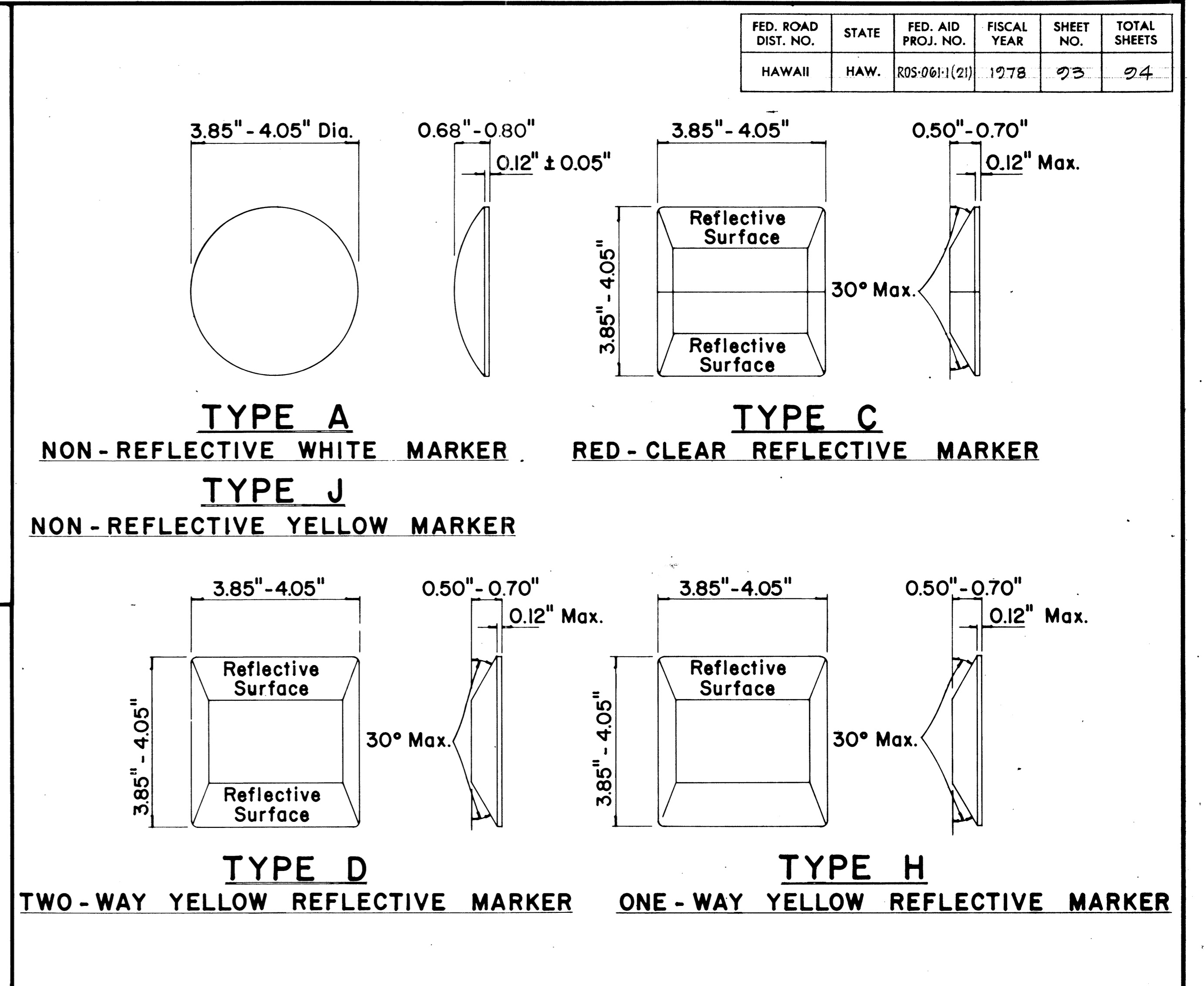


**CHANNELIZING LINES OR SOLID LANE LINES**



**MEDIAN NOSE DELINEATION**

MISCELLANEOUS



**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:  
*Eishi Tanaka* 7/21/78  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Harbert J. Zaleski* 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

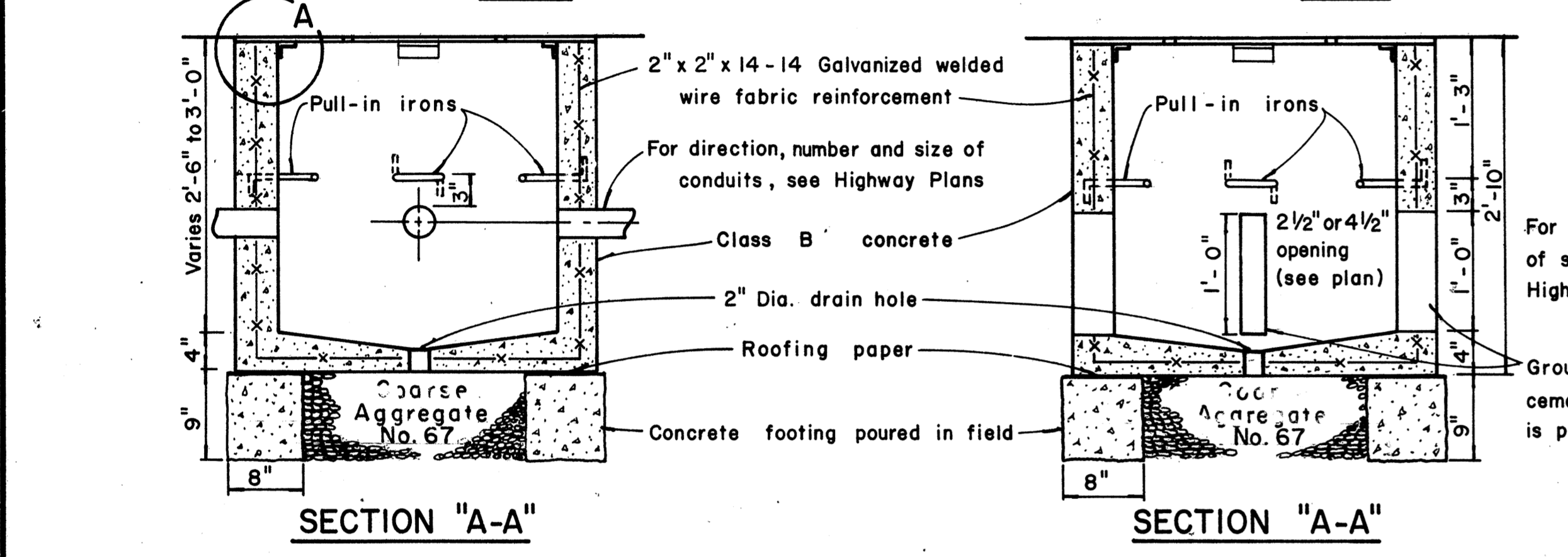
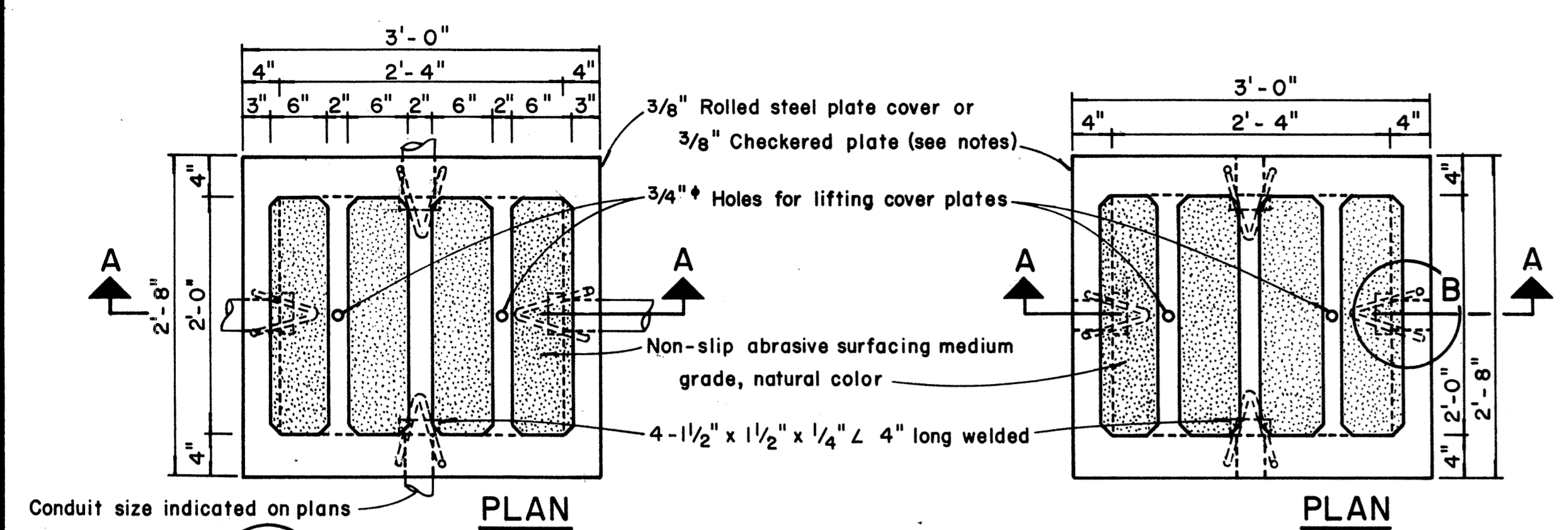
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**  
**RAISED PAVEMENT MARKERS**  
**AND STRIPING**

Not to Scale July 1978  
 SHEET No.33T OF 34 SHEETS DT 300

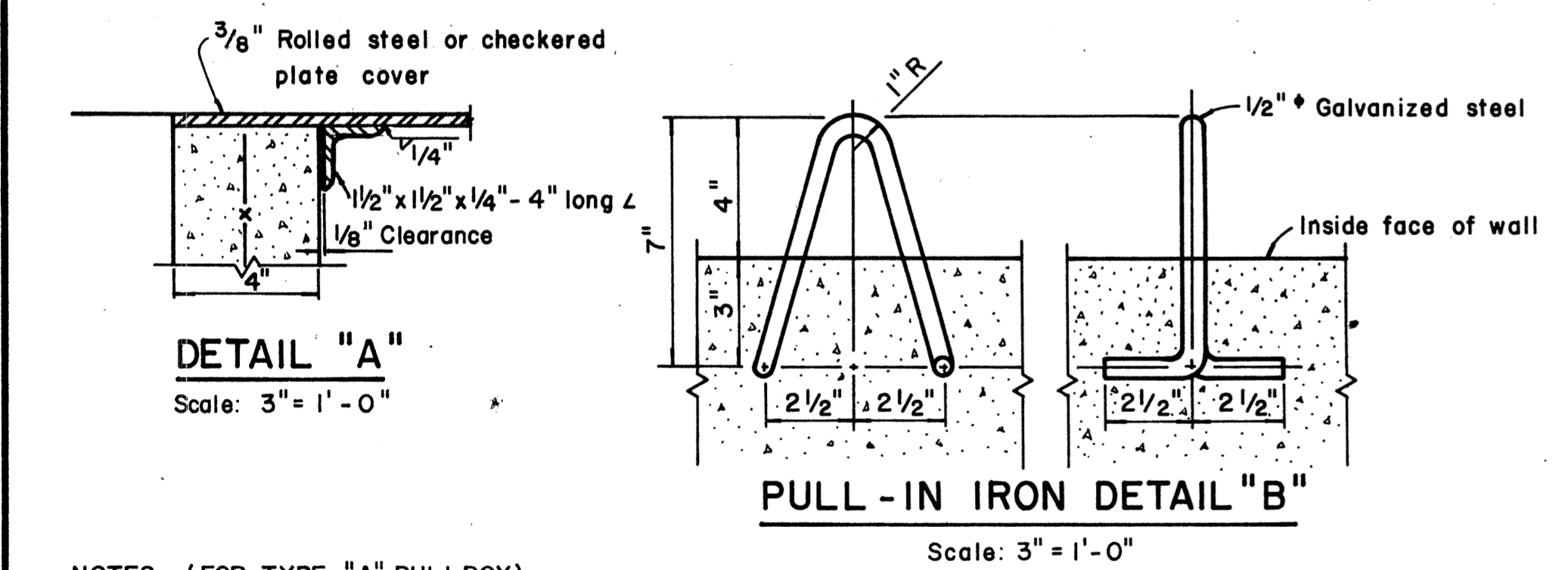
SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN NO. \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ROS-061-(21)	1978	24	24



**TYPE "A" PULLBOX CAST-IN-PLACE**  
Scale: 1" = 1'-0"

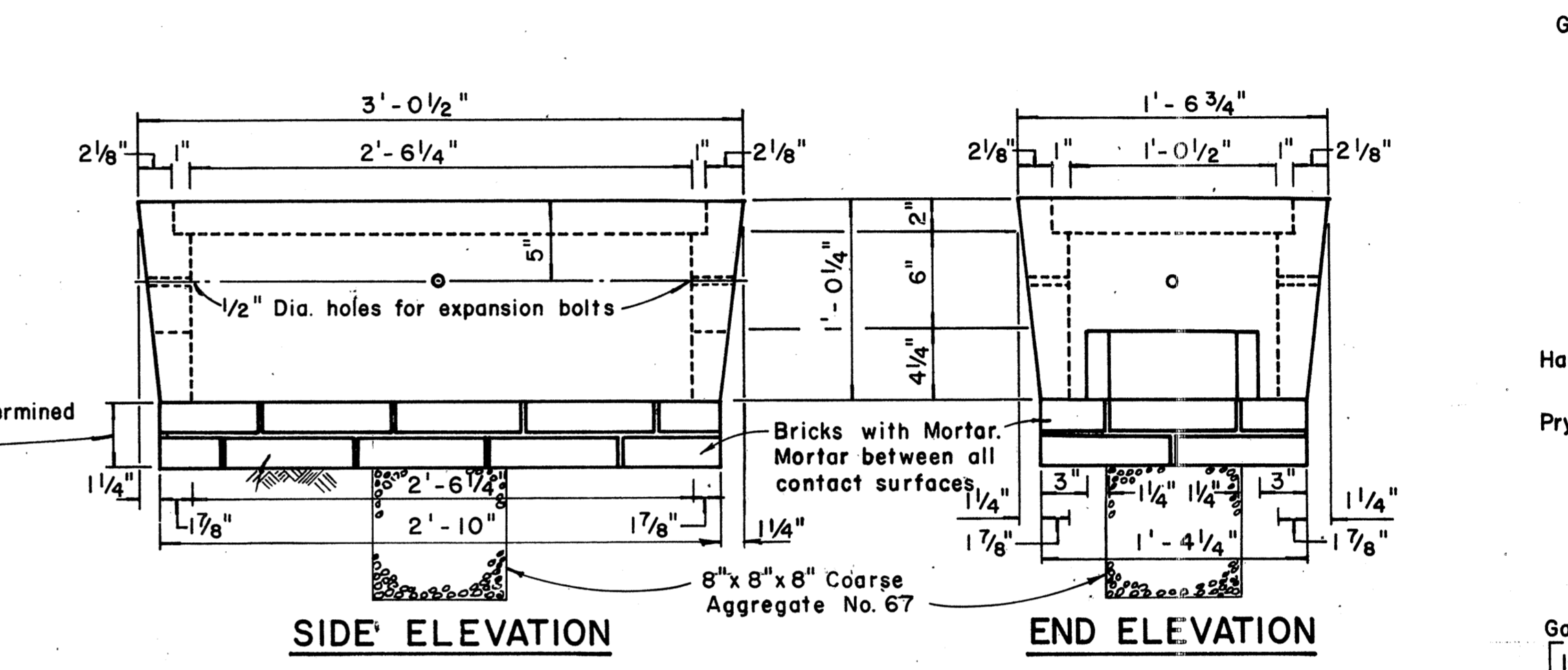
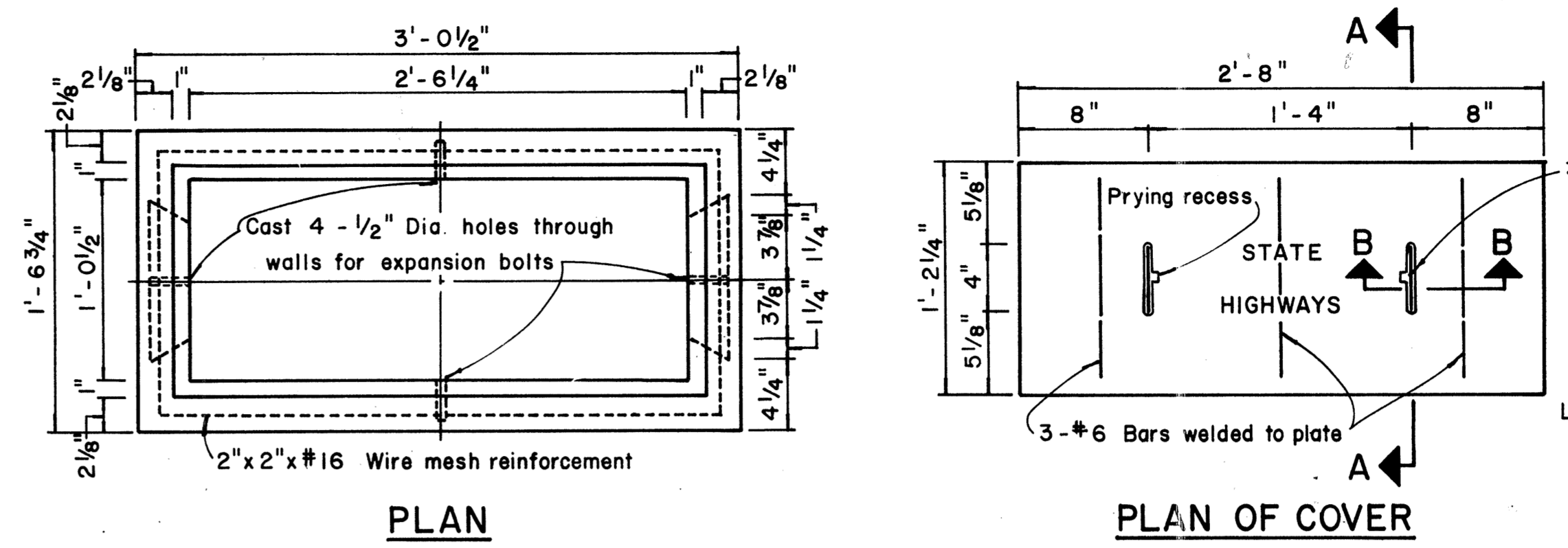
**TYPE "A" PULLBOX PRECAST**  
Scale: 1" = 1'-0"



- NOTES: (FOR TYPE "A" PULLBOX)
- 3/8" Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
  - 3/8" Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
  - Pull irons shall be placed opposite each conduit slot.
  - Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
  - Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.

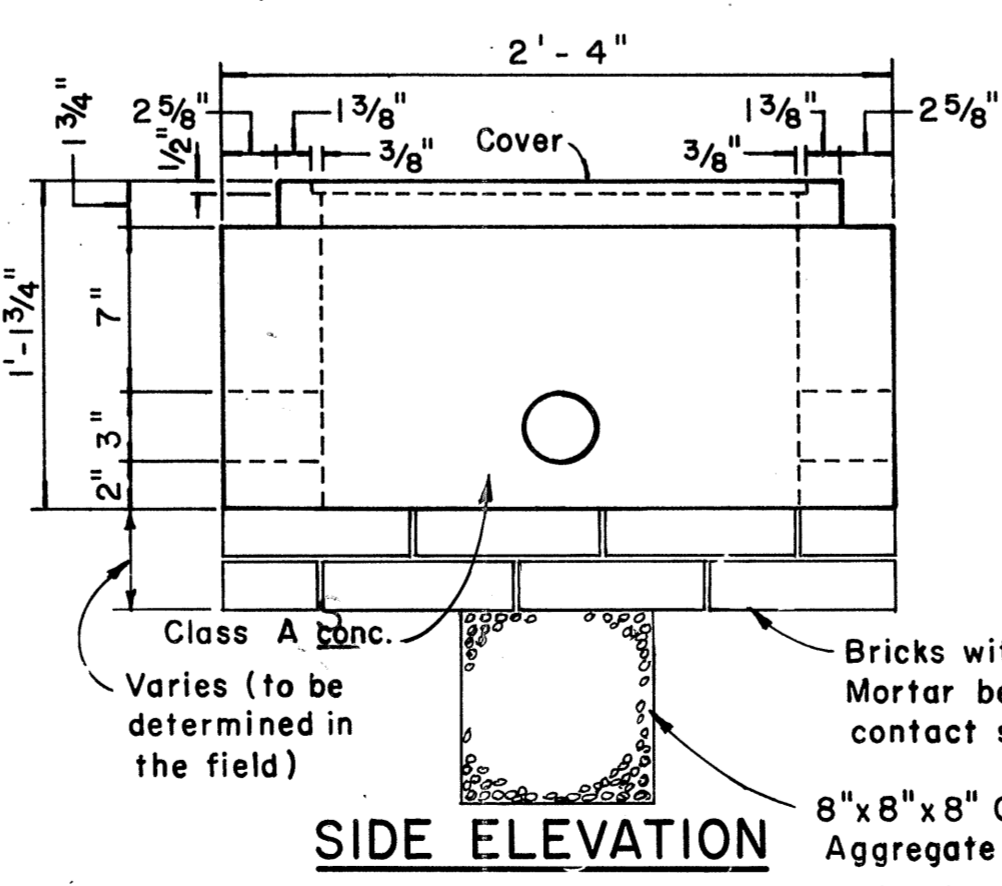
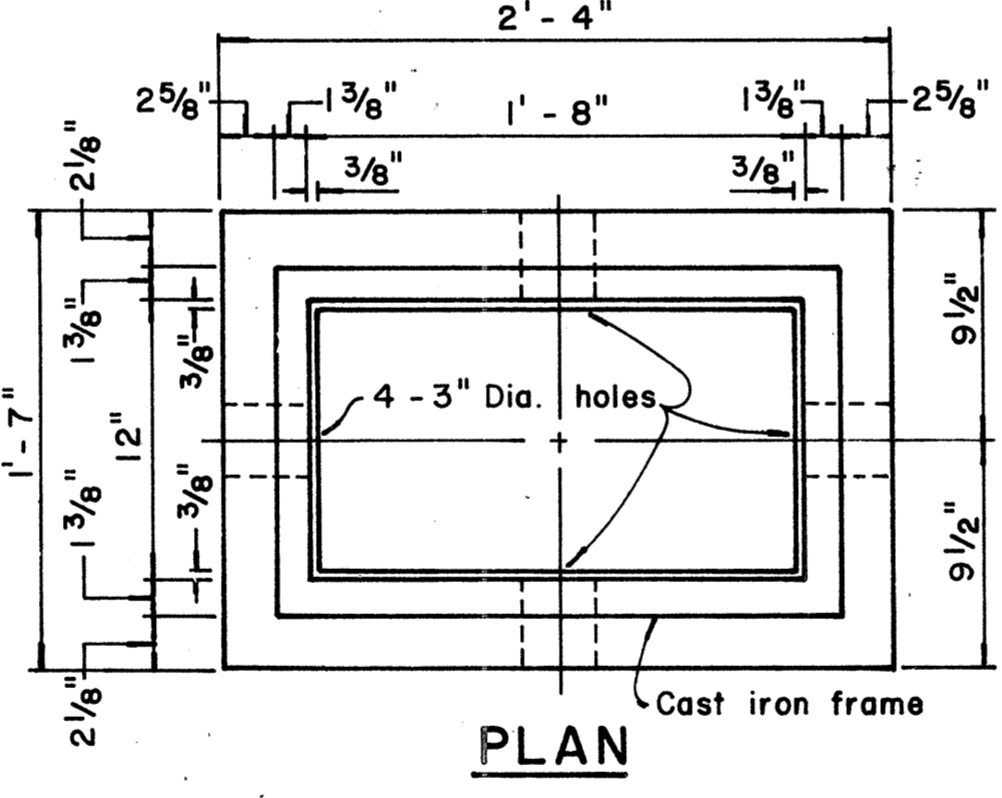
DATE	
ORIGINAL PLAN	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
No.	

PRINTED ON NO. 1000H CLEARPRINT

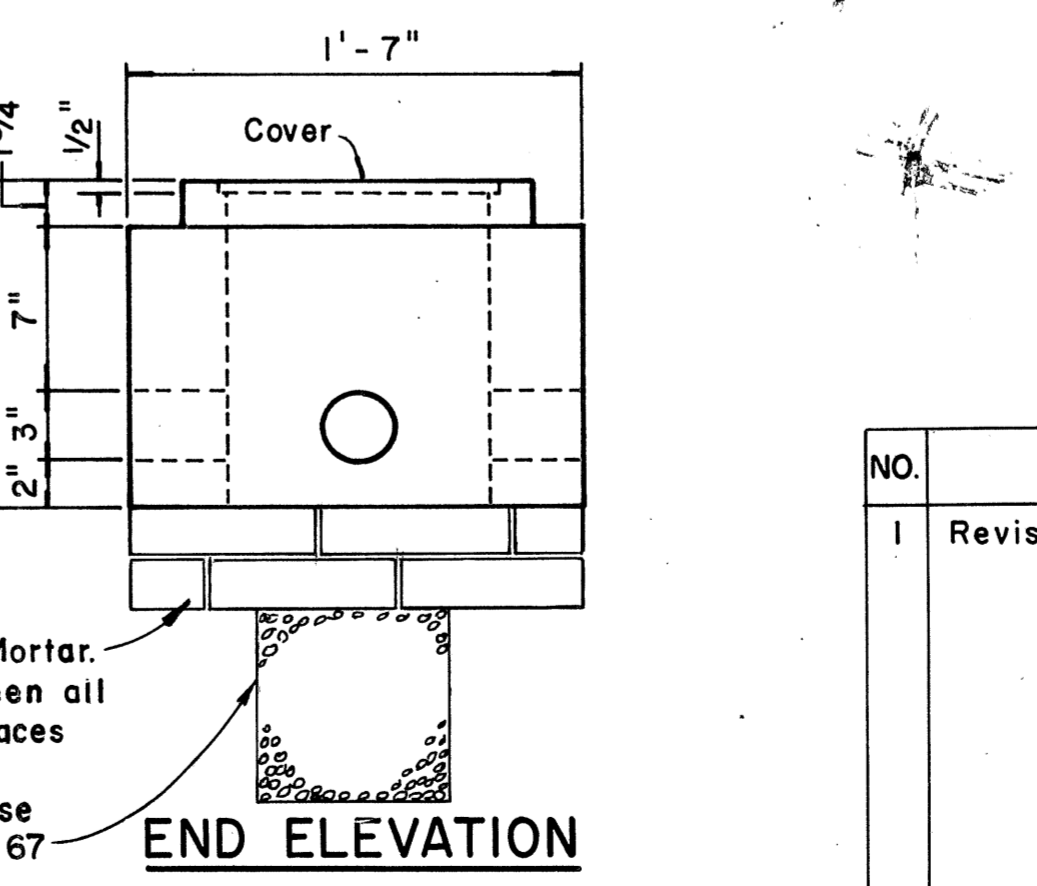
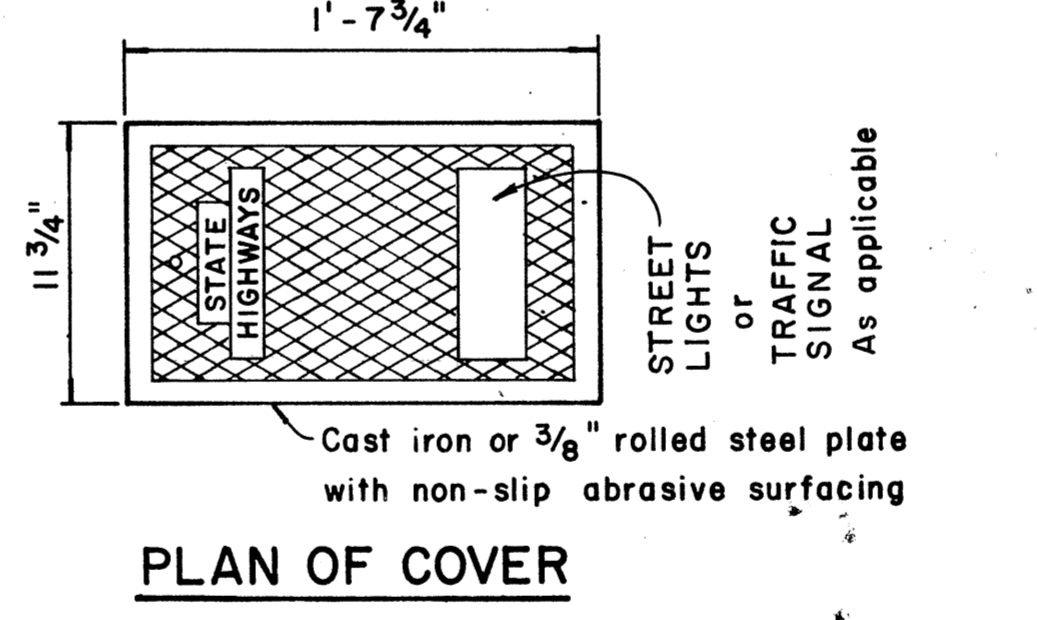


**TYPE "C" PULLBOX**  
Scale: 1/2" = 1'-0"

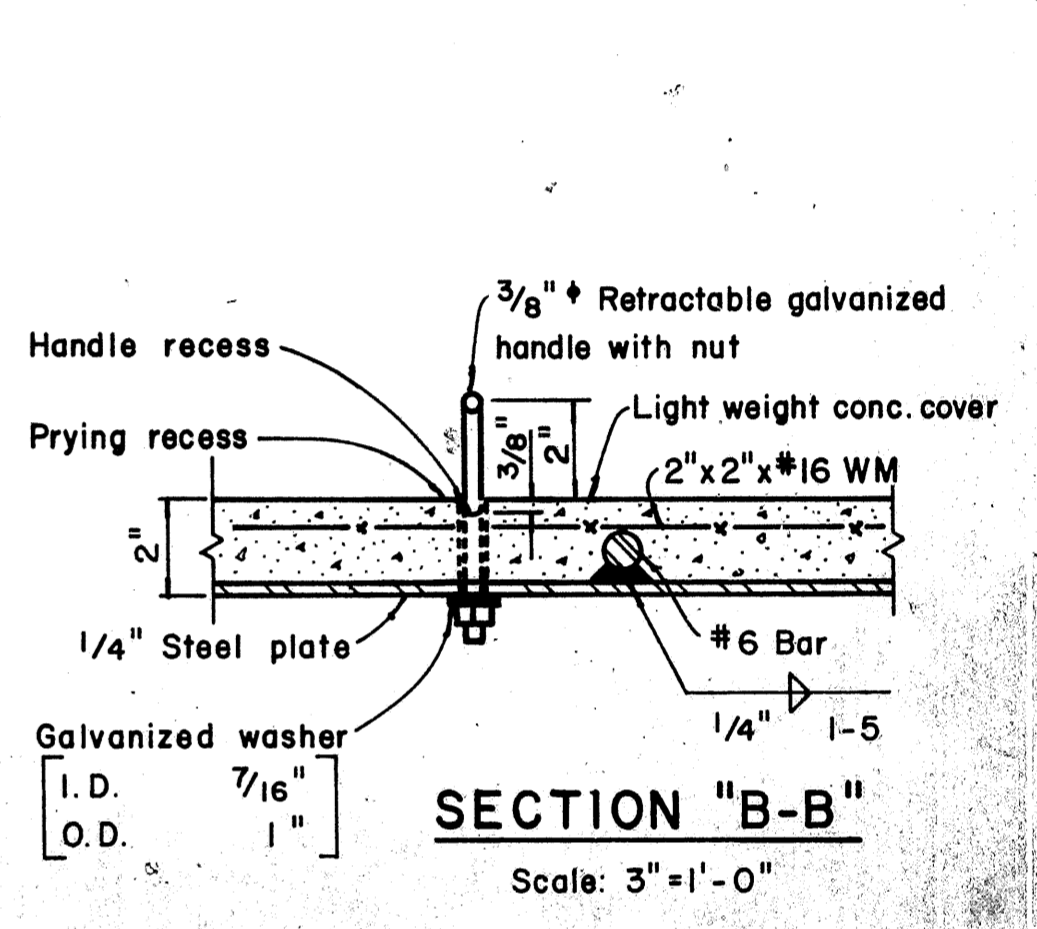
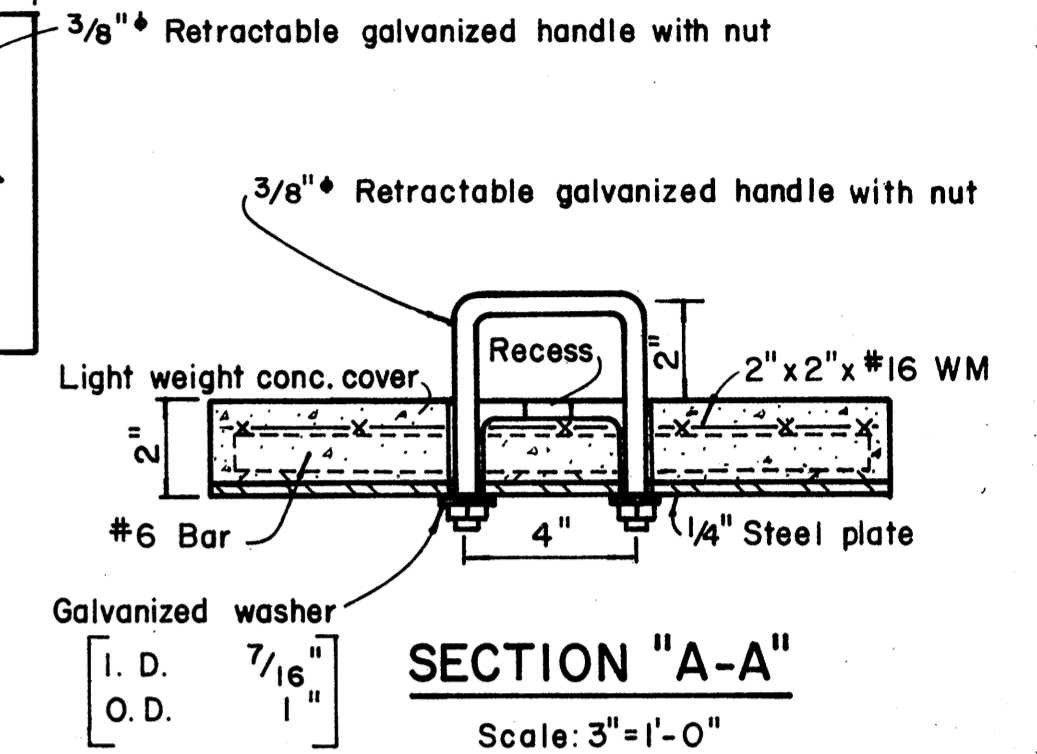
NOTE:  
Steel rim shall be welded to bottom of steel cover if necessary so that top of cover and frame are flush.



**TYPE "B" PULLBOX**  
Scale: 1/2" = 1'-0"



**TYPE "B" PULLBOX**  
Scale: 1/2" = 1'-0"



**SECTION "B-B"**  
Scale: 3" = 1'-0"

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 12/22/69  
TRAFFIC ENGINEER DATE

APPROVED:  
*[Signature]* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.T.	3-5-76

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS**  
**PULLBOXES**

Scale as noted Date

SHEET No. 34 OF 34 SHEETS DT 40