

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(13)-17	1977	124	394

GENERAL SIGNING NOTES

- Signs, Traffic Delineators, and Barricade Warning Lights shall conform to FHWA publications, "Manual on Uniform Traffic Control Devices", 1971 and "Standard Highway Signs", 1972 and as amended.
- Unless noted otherwise, exact locations of Signs, Barricades, and Delineators will be determined by the Engineer.
- Contractor may substitute portable or temporary mountings for post mountings for construction signs with the approval of the Engineer.
- All existing and reusable Signs, Signs from storage, Barricades and Traffic Delineators, as directed by the Engineer, shall be reset at locations shown on the plans. All additional materials required shall be furnished by Contractor. Payment for resetting of Barricades and Traffic Delineators shall be considered incidental to various contract items.
- Contractor is responsible for maintaining all new and existing signs, barricades and delineators in good condition during Life of Project.
- All superfluous signs, barricades and delineators shall be removed and stored on site upon completion of construction work, as directed by the Engineer. Payment shall be considered incidental to various Contract Items.
- All proposed Signs not compatible with the existing traffic pattern shall be covered with polyethylene sheeting until the Detours are operational. Payment shall be incidental to Signs.
- All necessary traffic control devices required for the construction and not shown on plans shall be considered incidental to various Contract items.
- Payment for Signs D-2, D-3 and Sign "EXIT 18" will be made under "Regulatory and Warning Sign, (.....)".

SUMMARY OF REFLECTOR MARKERS

SHEET NO.	RM-1		RM-2		RM-3H	RM-4	RM-5
	W/P	ON PARAPET OR BARRIER OR RAILING	W/P	WO/P	N/P	WO/P	WO/P
2			13				
3			2	14			1
4	23	7		5		2	
5			4	6			
6							
7							
8					1		
TOTAL	23	7	19	5	63	2	1

SIGNING SUMMARY

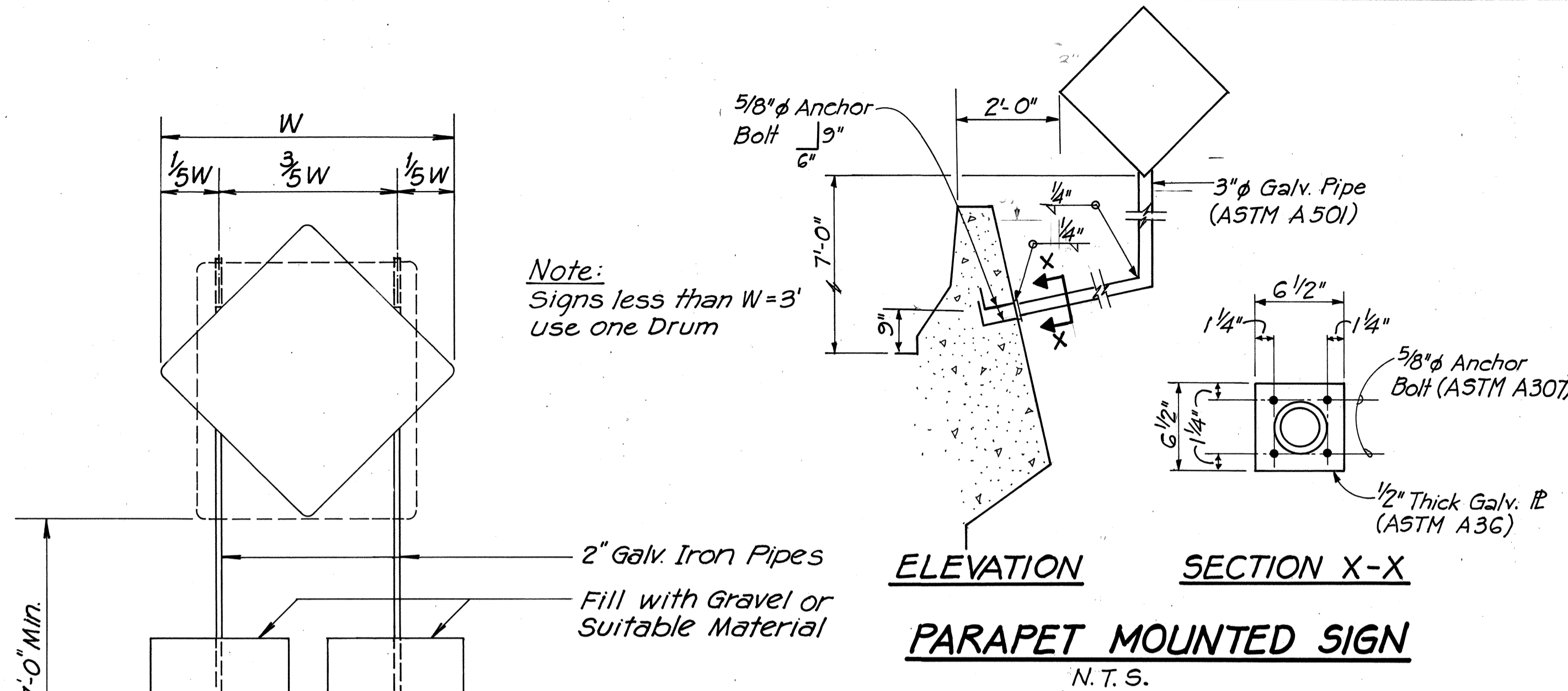
TYPE	MESSAGE	QUANTITY	
		W/P	WO/P
R1-1	STOP	3	—
R1-2	YIELD	1	—
R2-1(35)	SPEED LIMIT 35	3	6
R2-1(35)-A	SPEED LIMIT 35	2	—
R3-1	NO RIGHT TURN	—	1
R3-2	NO LEFT TURN	—	1
R3-3	NO TURNS	1	2
R3-3-A	NO TURNS	4	1
R3-4	NO U TURN	—	1
R3-8a	ONLY	1	1
R4-7	KEEP RIGHT	3	1
R5-9	WRONG WAY	4	—
R7-1	NO PARKING ANY TIME	1	—
R8-7	EMERGENCY STOPPING ONLY	2	2
R11-2	ROAD CLOSED	1	—
R17-3	ON LEFT ARROW ONLY	1	3
R3-7(R)	RIGHT LANE MUST TURN RIGHT	2	—
W1-1(R)		1	—
W1-1(L)		1	—
W1-2(R)-A		3	1
W3-1	STOP AHEAD	1	—
W3-3	SIGNAL AHEAD	1	1
W6-2	DIVIDED HIGHWAY ENDS	—	1
W13-1(35)-A	35 M.P.H.	—	4
CG20-1(A)	ROAD CONSTRUCTION NEXT 4 MILES	1	—
CG20-1(B)	ROAD CONSTRUCTION NEXT 5 MILES	4	—
CG20-2	END CONSTRUCTION	7	1
CM4-10(R)	DETOUR →	—	1
CM4-10(L)	DETOUR ←	—	1
CH1-1(L)		—	1
CH1-1(R)-A		—	1
CH1-3(R)		—	6
CH1-3(L)		—	2
CH1-3(R)-A		—	1
CH1-3(L)-A		—	1
CH1-4(R)		—	1
CH1-6		—	2
CH3-3	SIGNAL AHEAD	5	—
CH4-1(R)	MERGE	1	—
CH4-2(R)		1	—

MISCELLANEOUS :

Reset Destination Signs	Each
Reset Directional, Warning, Regulatory and Construction Sign	15 Each
Traffic Delineators	230 Each
Type III Barricades	20 Each
State Route Marker Assembly	1 Each

NOTE: Shown quantities of signs, barricades and delineators are for estimating purposes only. Contractor shall establish the actual number to be furnished based on reusable material available from site and storage, and as directed by the Engineer.

Note: Signs less than W=3' use one Drum



PARAPET MOUNTED SIGN

N.T.S.

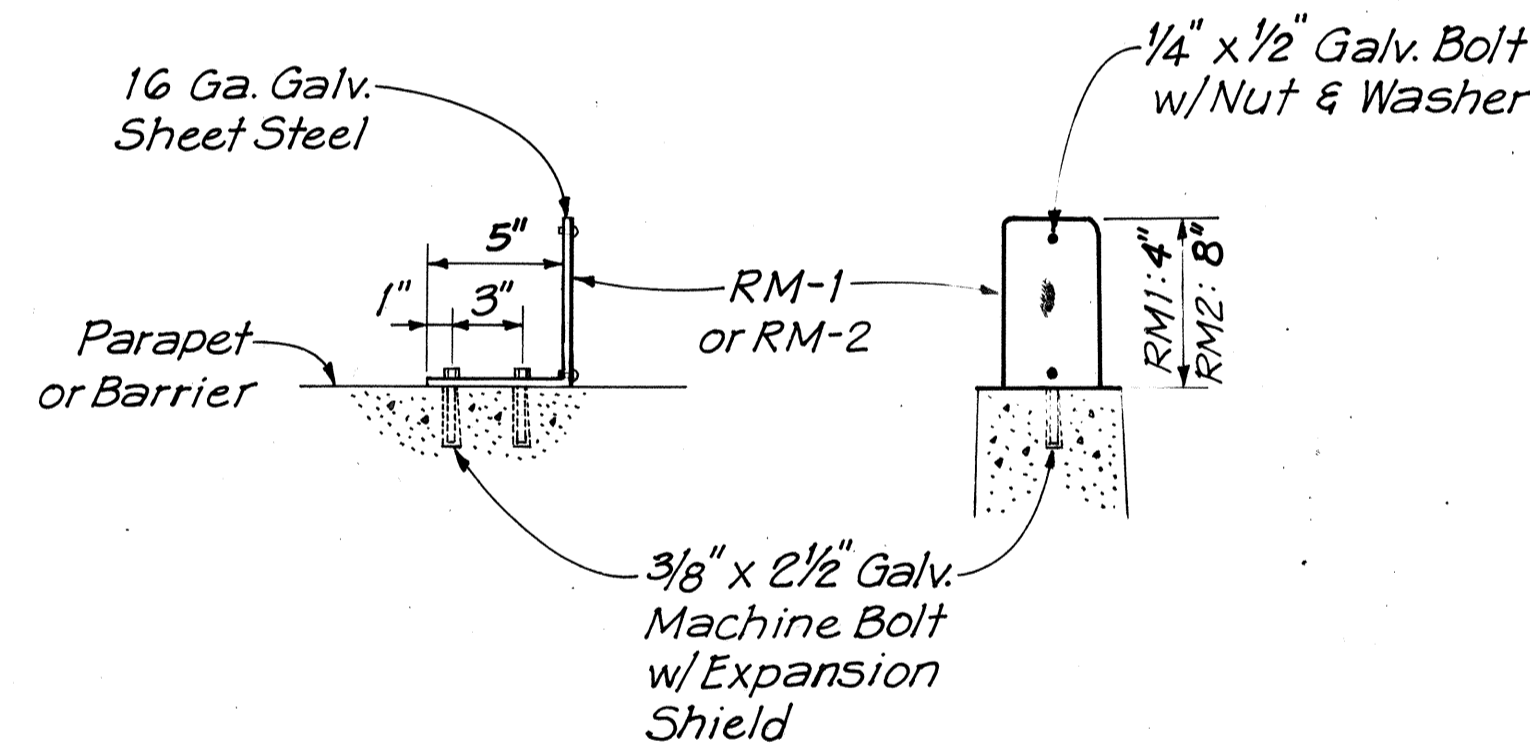
SUMMARY OF PAVEMENT MARKERS

SHEET NO.	QUANTITY			
	Type A	Type C	Type D	Type H
2	128	190	0	82
3	44	142	17	68
4	432	137	69	64
5	8	140	32	56
6	0	124	56	66
7	420	104	0	38
8	600	211	0	62
TOTAL	1632	1048	174	436

TYPE	MESSAGE	QUANTITY	
		W/P	WO/P
CW5-1	ROAD NARROWS	1	—
CW6-1	DIVIDED HIGHWAY ENDS	1	—
CW6-2	DIVIDED HIGHWAY ENDS	1	—
CW6-3	TWO WAY TRAFFIC	2	—
CH9-2(L)	LANE ENDS MERGE LEFT	—	1
CH13-1(25)	25 M.P.H.	10	2
CH13-1(25)-A	25 M.P.H.	2	1
CW20-1a	ROAD CONSTRUCTION 1500 FT	3	—
CW20-1b	ROAD CONSTRUCTION 1000 FT	5	—
CW20-1c	ROAD CONSTRUCTION 500 FT	5	—
CW20-1d	ROAD CONSTRUCTION AHEAD	3	—
CW20-2b	DETOUR 1000 FT	2	—
CW20-2d	DETOUR AHEAD	—	4
CW20-5C(R)	RIGHT LANE CLOSED 500 FT	1	—
D-2		2	—
D-3	ONLY	1	1
—	EXIT 18	1	—

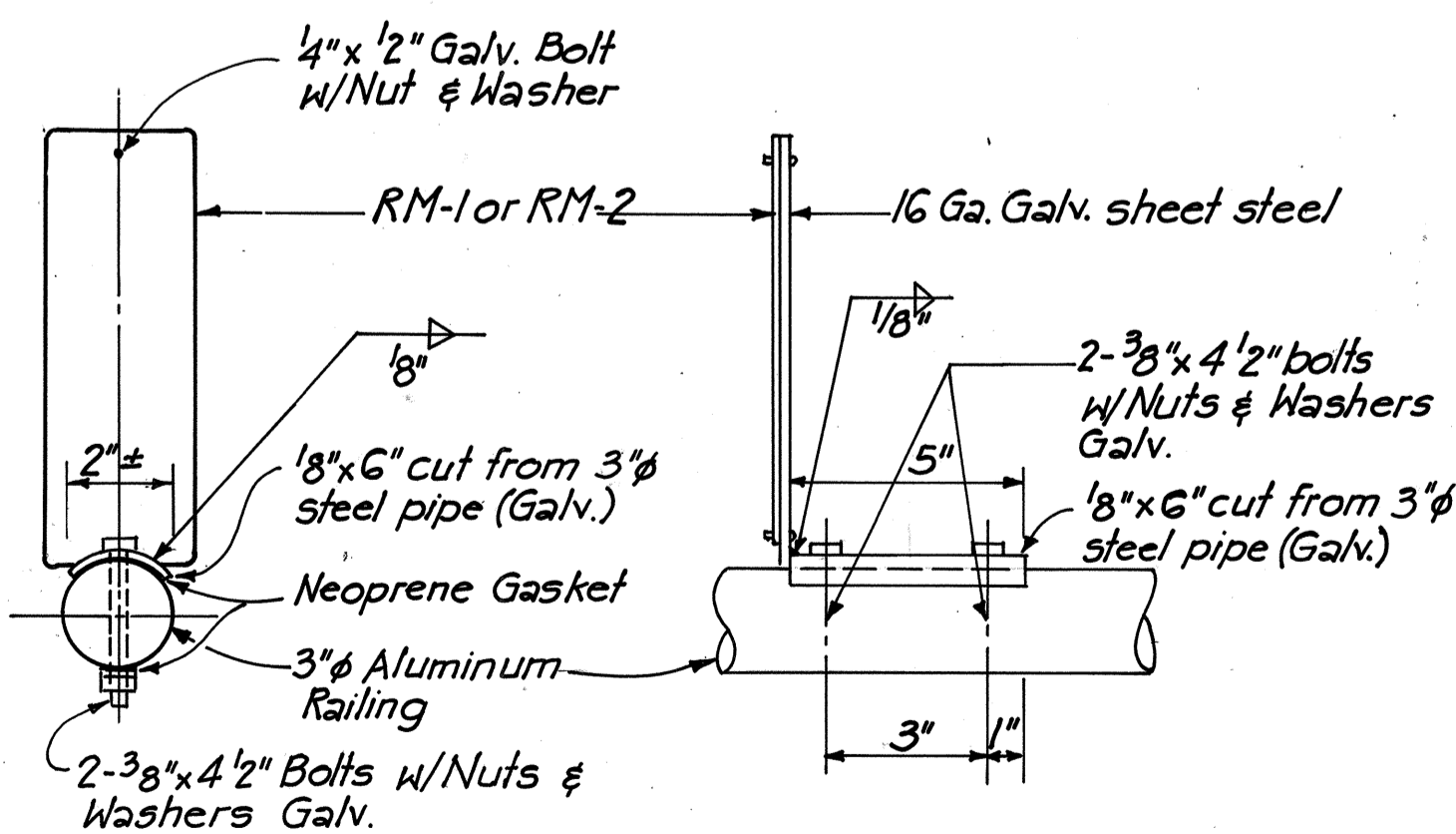
BARREL SUPPORT

N.T.S.



PARAPET OR BARRIER MOUNTED REFLECTOR MARKER

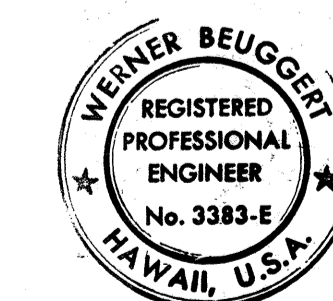
SCALE: 1/2" = 1'-0"



NOTE: Contractor has the option to install 3/4" wide, 18 gage stainless steel bands with 1/8" thick stainless steel clamp in lieu of 3/8 x 4 1/2" bolts.

RAILING MOUNTED REFLECTOR MARKER

N.T.S.



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Werner Beugger

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

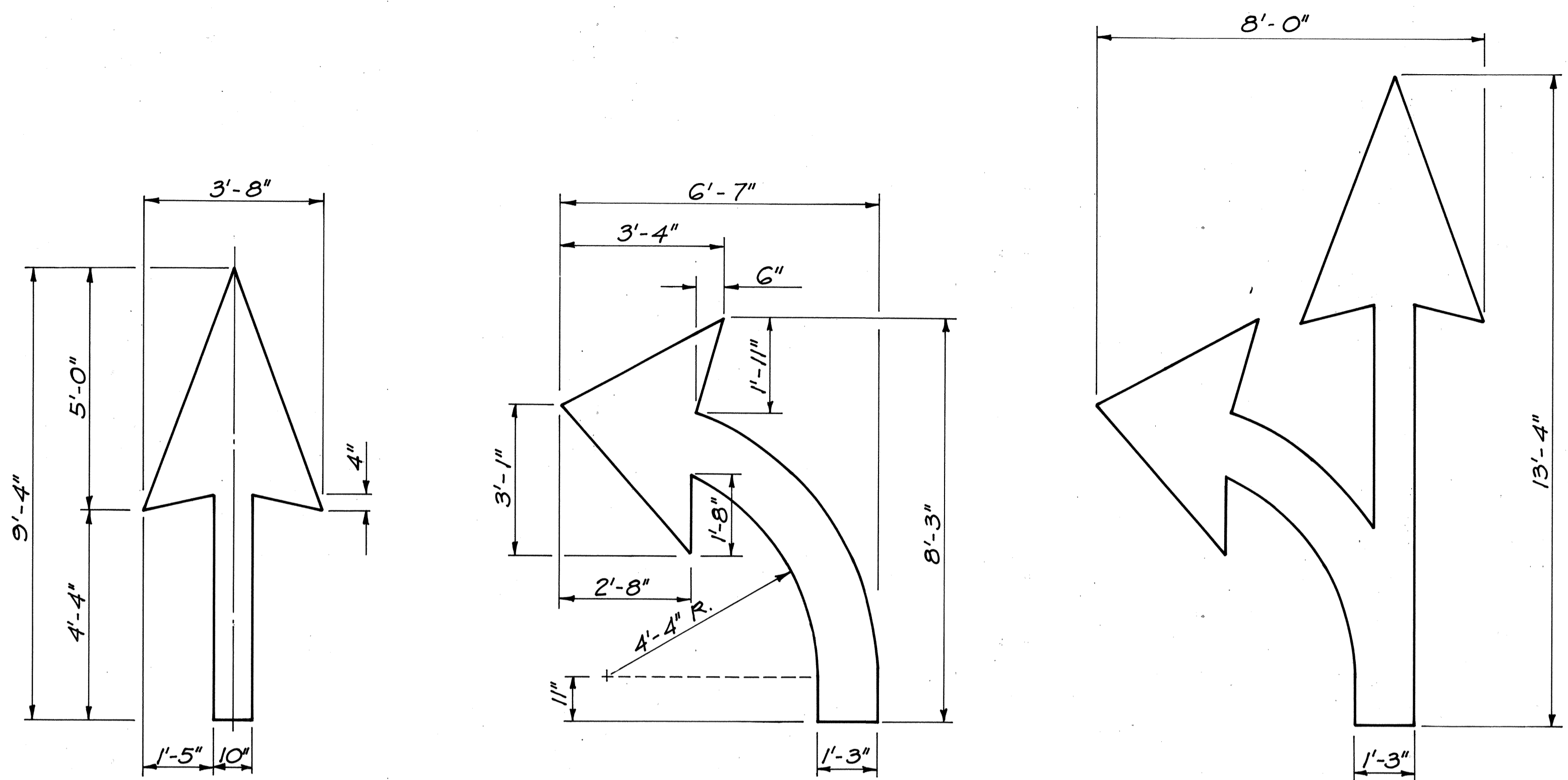
SIGNING DETAILS

INTERSTATE ROUTE H-1
PROJECT NO. I-HI-1 (13)-17

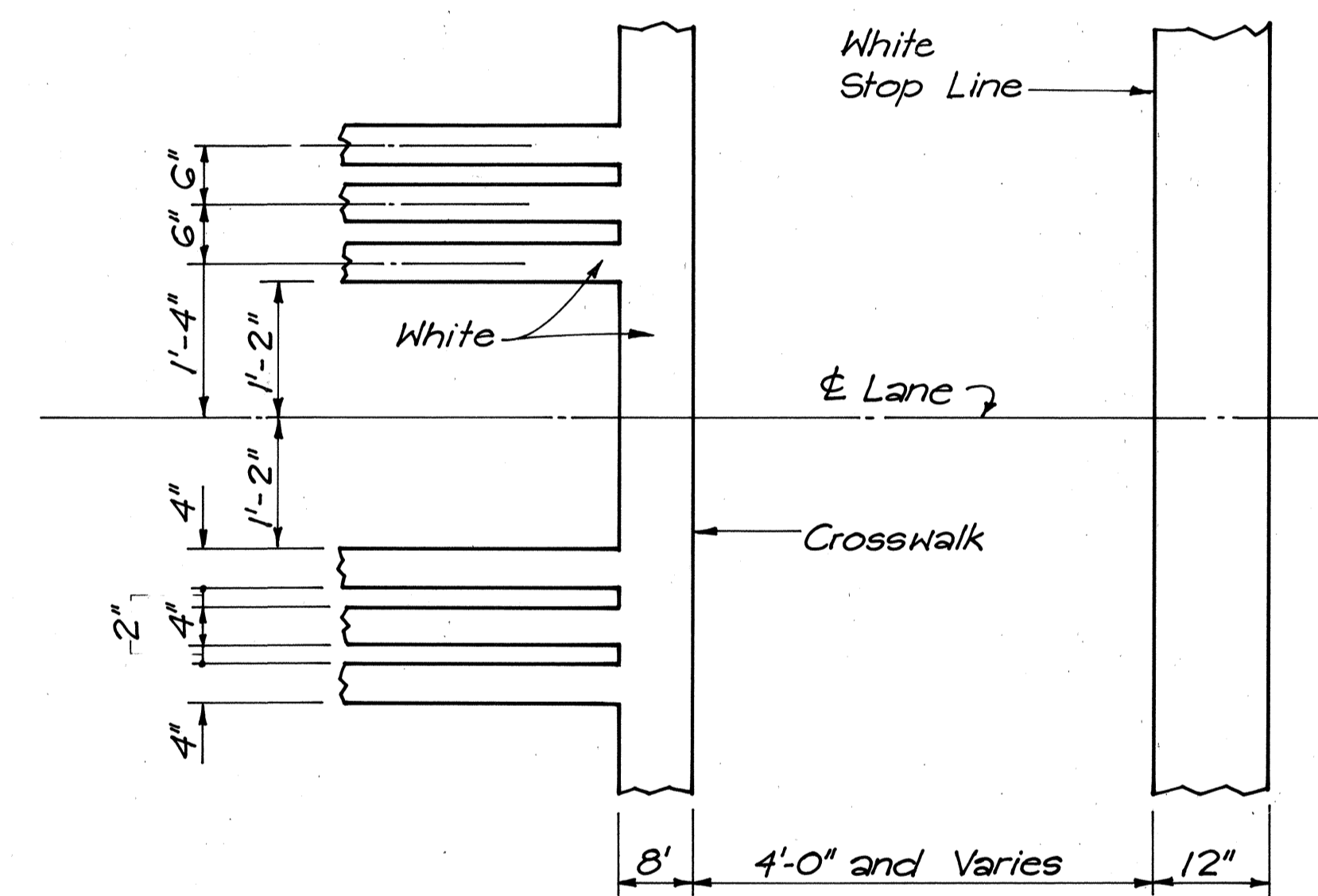
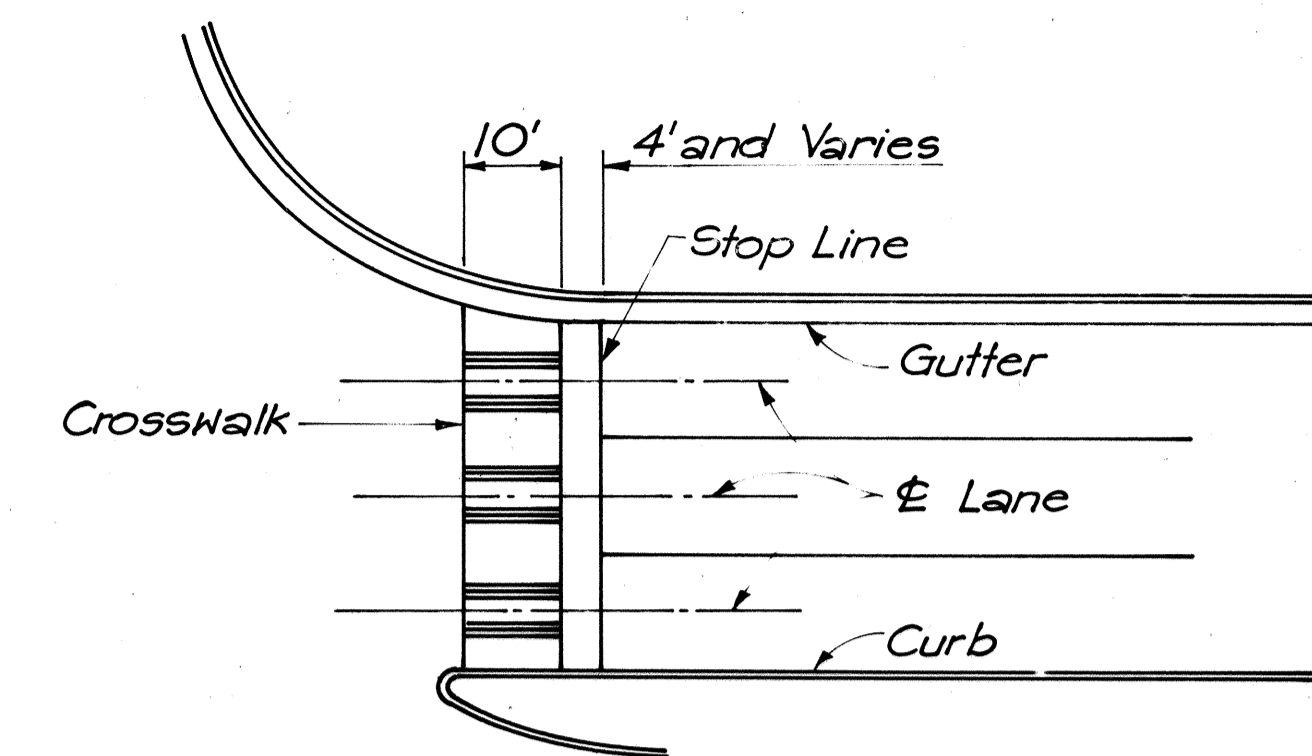
SCALE: AS SHOWN DATE: AUG. 31, 1977

SHEET NO. 1 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1(131):17	1977	125	394



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

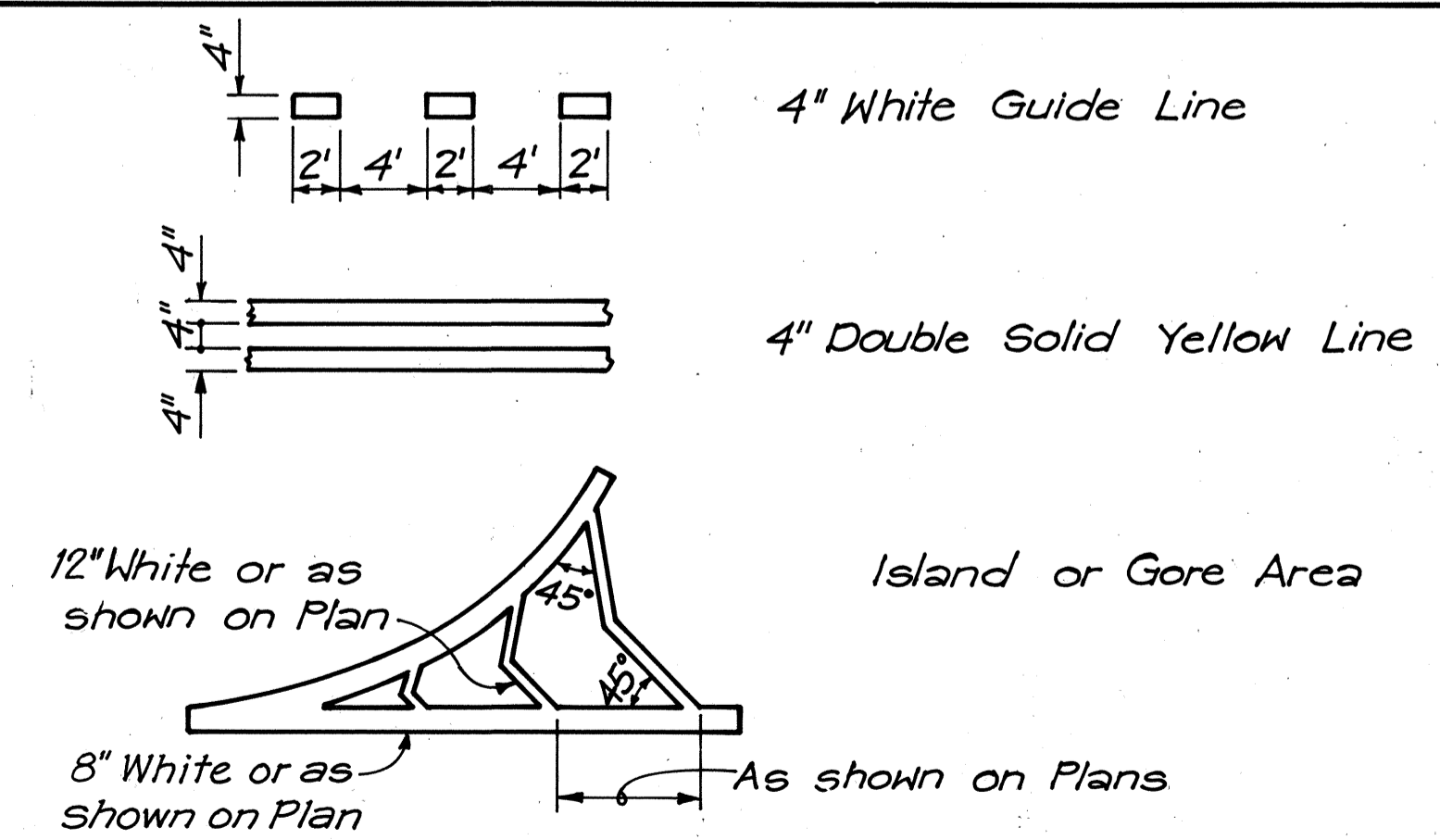


CROSSWALK AND STOP LINE DETAIL
Not to Scale

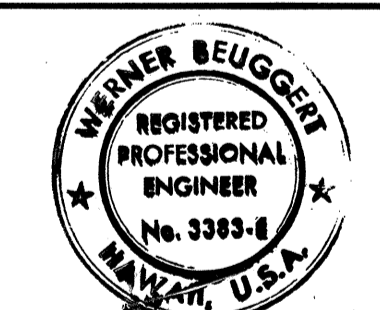
GENERAL NOTES : PAVEMENT MARKING

1. Pavement Markings shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1971, and as shown on the Plans.
2. Pavement Markings shall be done by the Contractor. Exact Locations to be determined by the Engineer.
3. Existing Pavement Markings not compatible with the Traffic Pattern shall be removed as directed by the Engineer. All costs shall be incidental to the Contract Item "Pavement Striping".

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



MISCELLANEOUS STRIPES
Not to Scale



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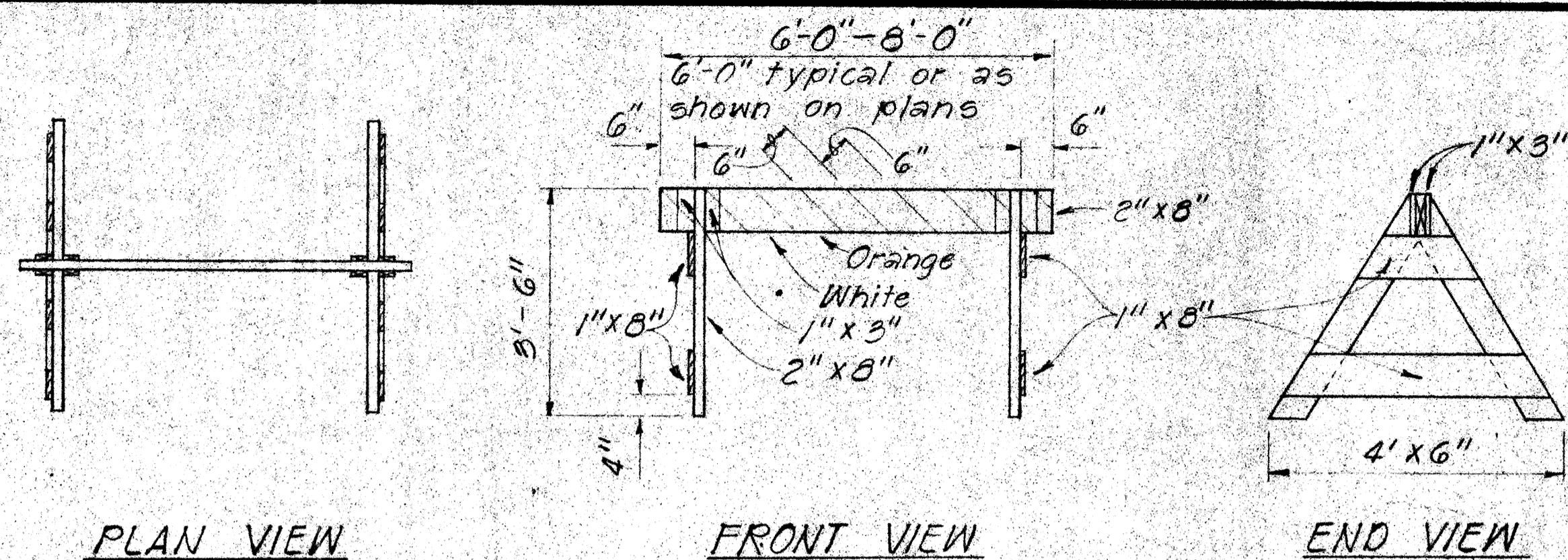
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING DETAILS

INTERSTATE ROUTE H-1
PROJECT NO. I-H1-1(131):17

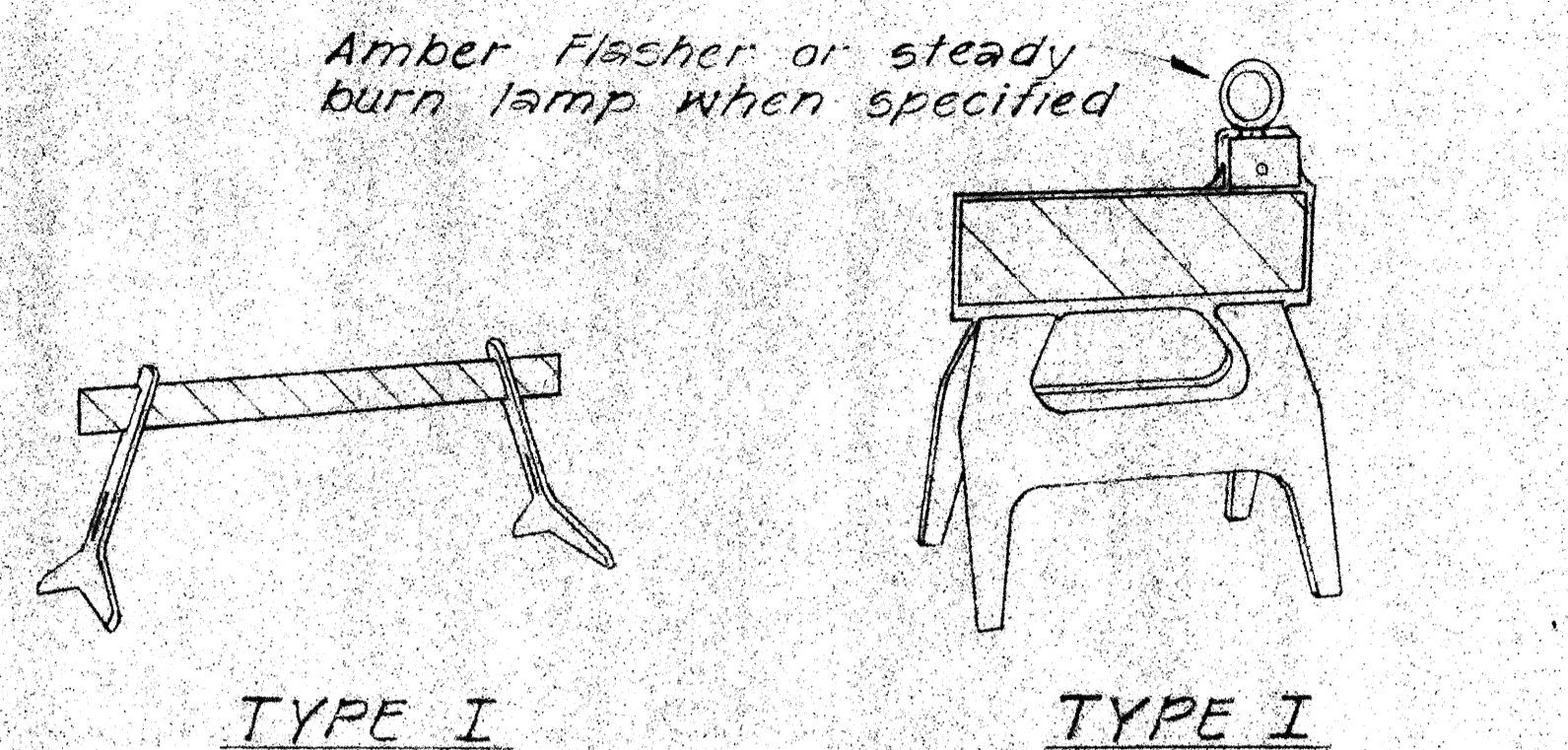
SCALE: As shown DATE: AUG. 31, 1977
SHEET NO. 2 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	126	394



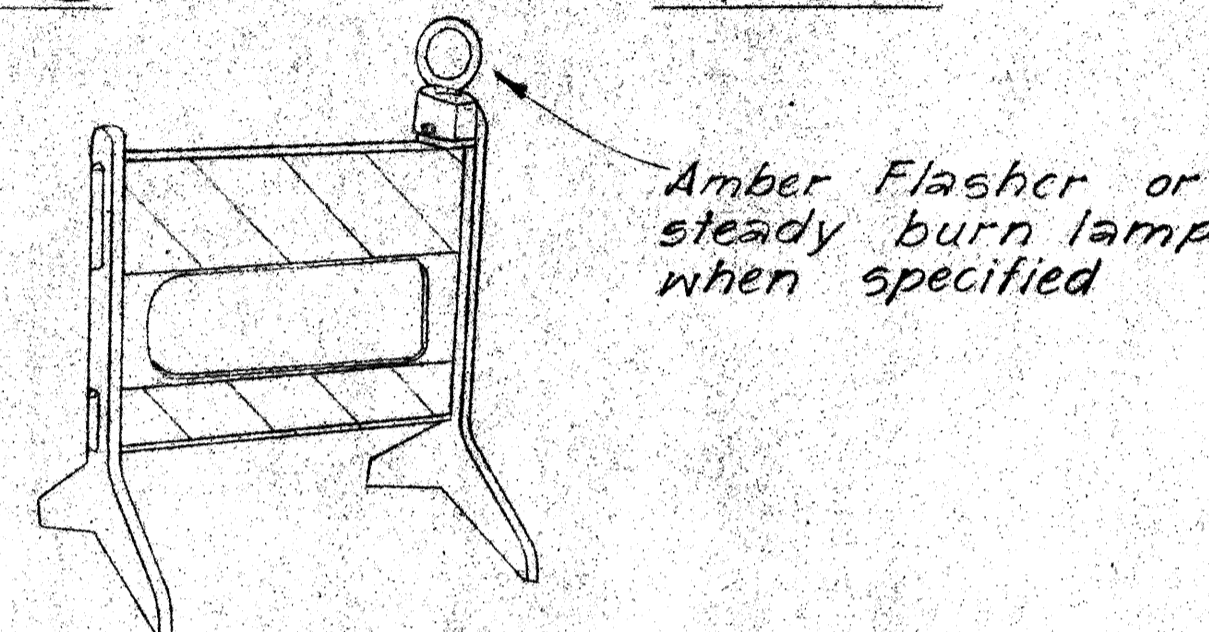
TYPE I BARRICADE

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

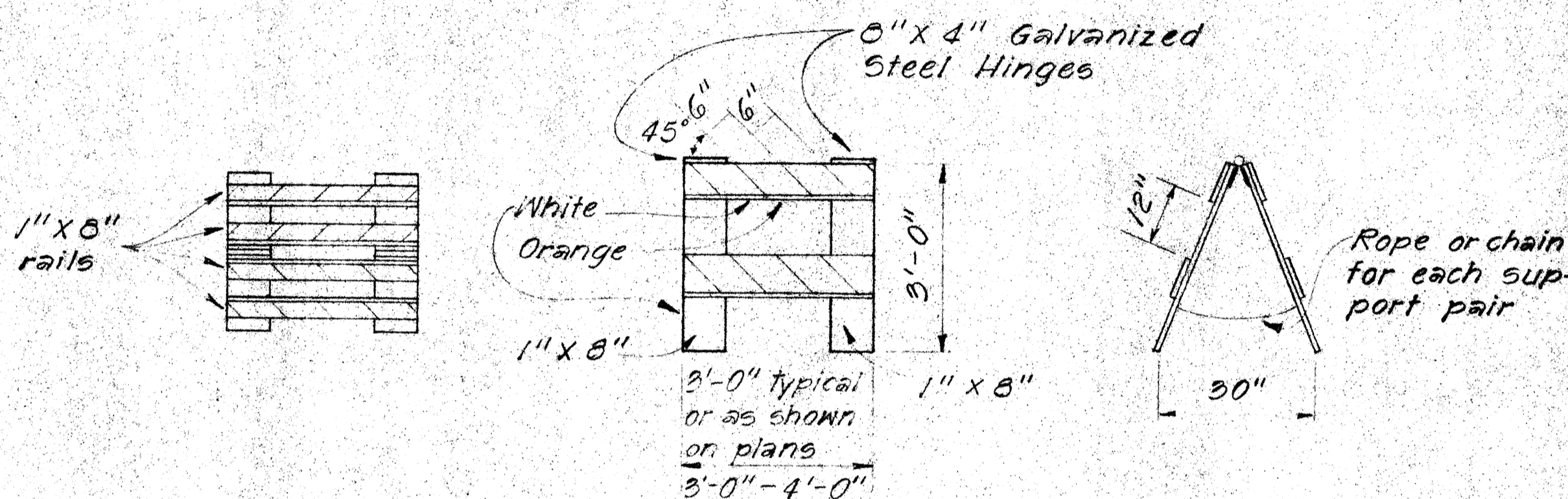


TYPE I

TYPE I



TYPE II



TYPE II BARRICADE

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

PLASTIC MOLDED BARRICADE OPTIONS *

Not to Scale

* Shop Drawings must be submitted for approval.

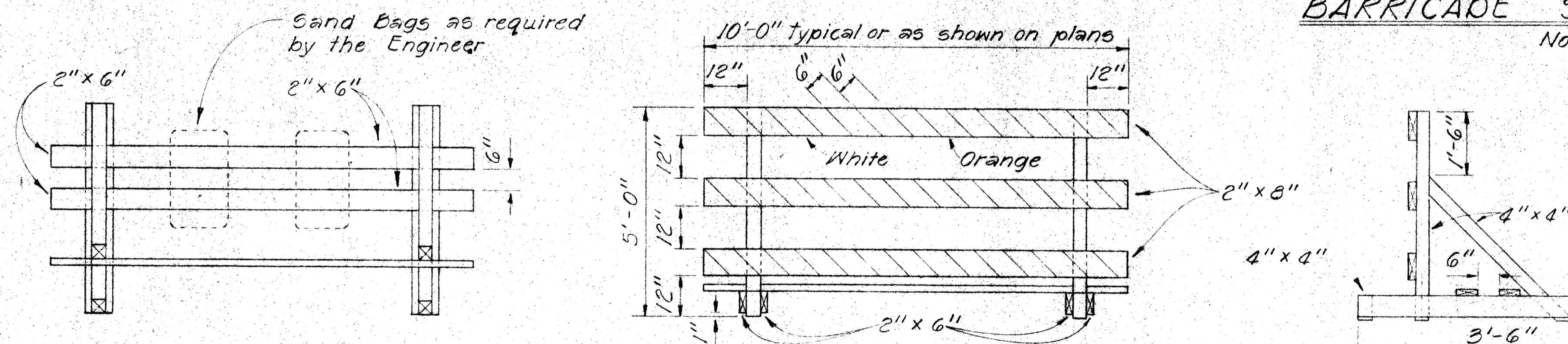


FRONT FACE

BACK FACE

BARRICADE STRIPING DETAILS

Not to Scale



PLAN VIEW

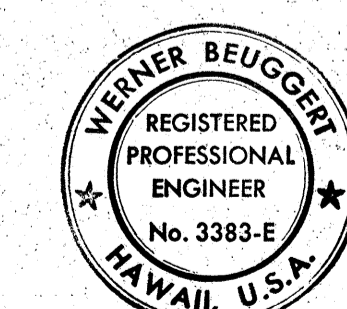
FRONT VIEW

END VIEW

TYPE III BARRICADE

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

- GENERAL NOTES**
1. The Contractor shall construct, install and maintain the barricades at the locations shown on the Plans.
 2. The barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property, unless otherwise specified.
 3. The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized with reflective sheeting.
 4. Both faces of the barricade rails shall be striped. See Striping Detail Arrangement.
 5. Contractor may submit alternate designs for approval.
 6. Barricade details shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, by the Federal Highway Administration and as amended.
 7. If wooden rails are used, 26 ga. galv. steel sheet shall be first tacked on to the rails and then overlaid with reflective sheeting.



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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

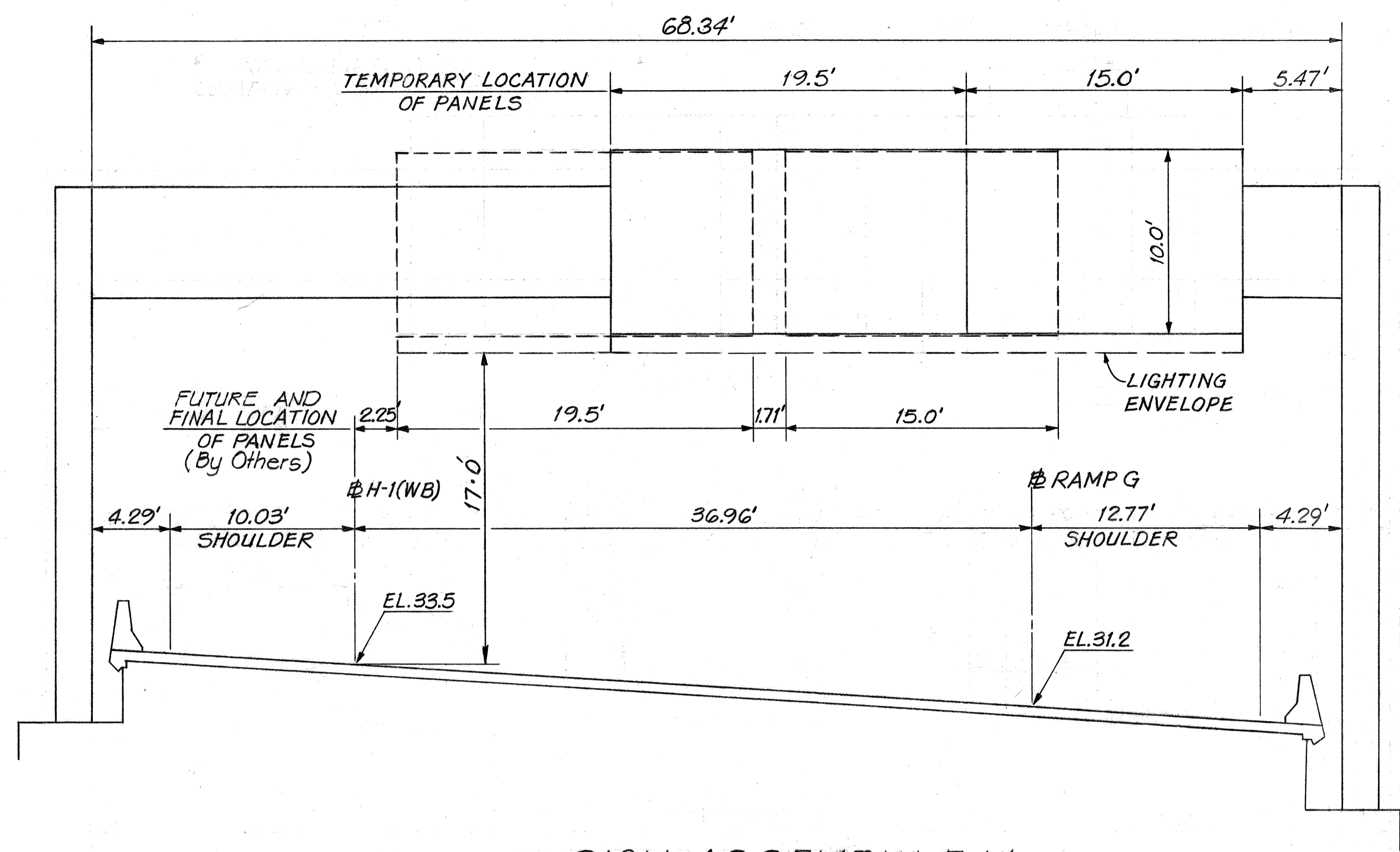
TYPICAL DETAILS

BARRICADES

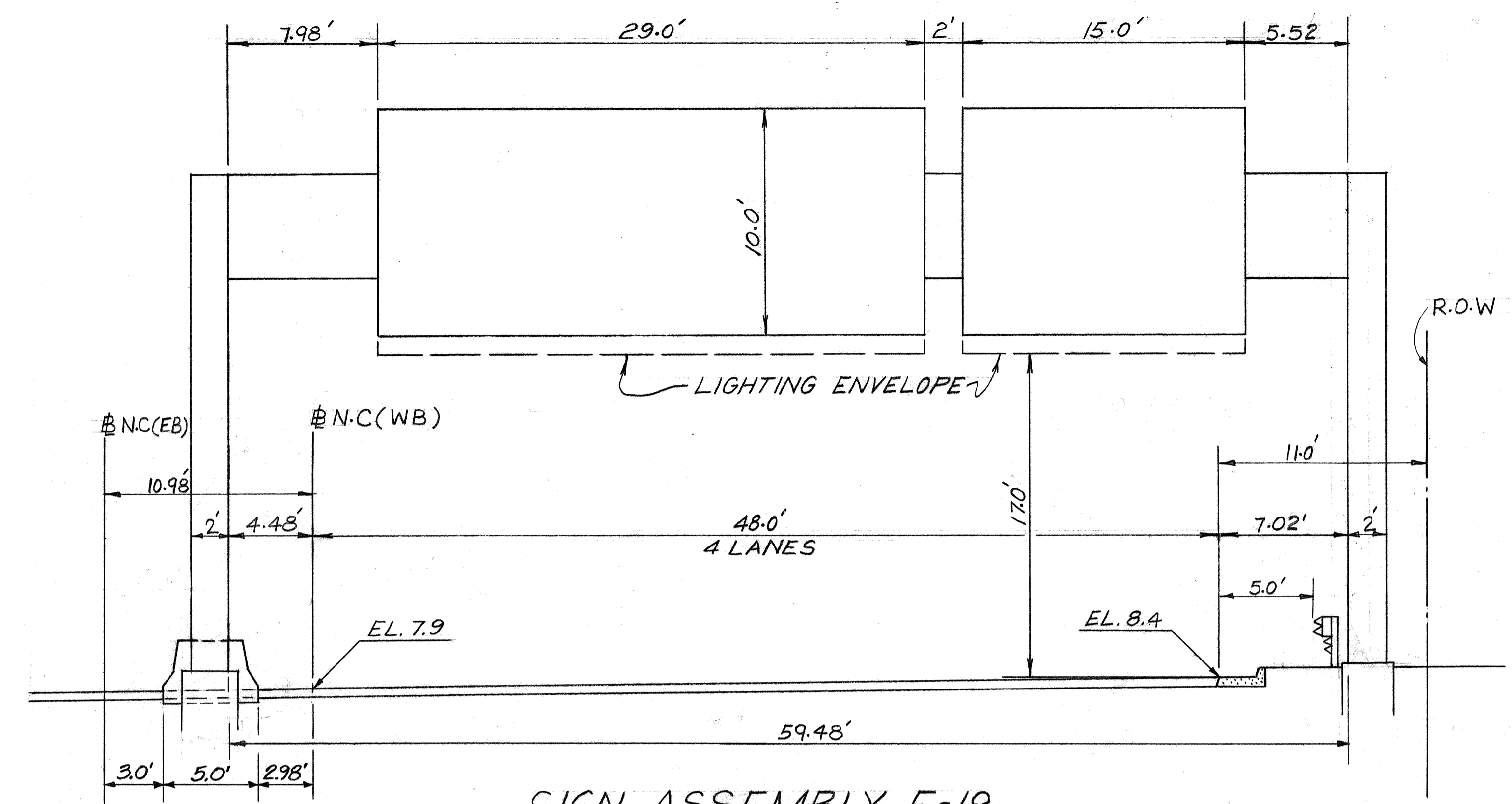
INTERSTATE ROUTE H-1
PROJECT NO. I-HI-1(131)17
SCALE: As Shown. DATE: AUG. 31, 77

SHEET No. 3 OF 8 SHEETS

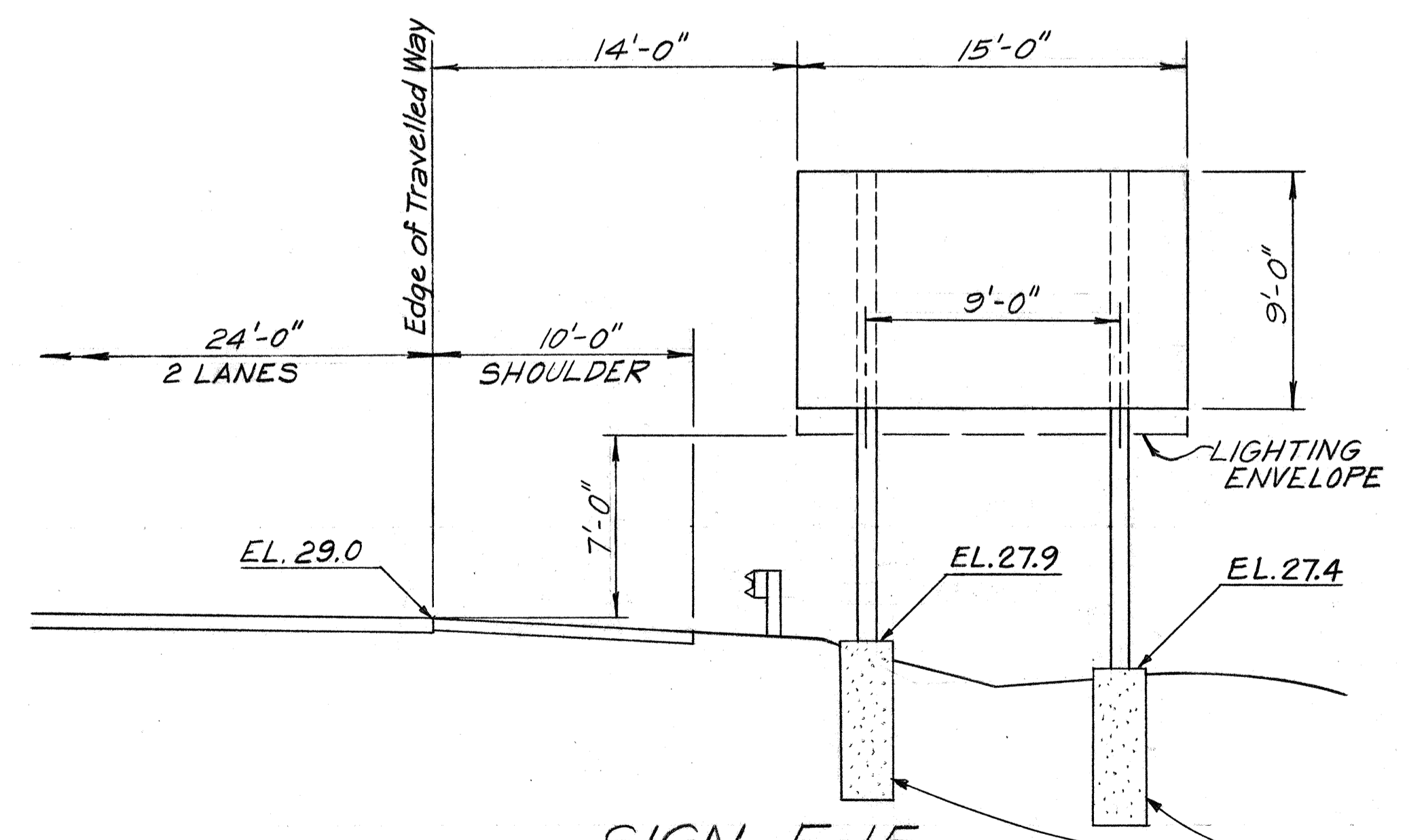
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	127	394



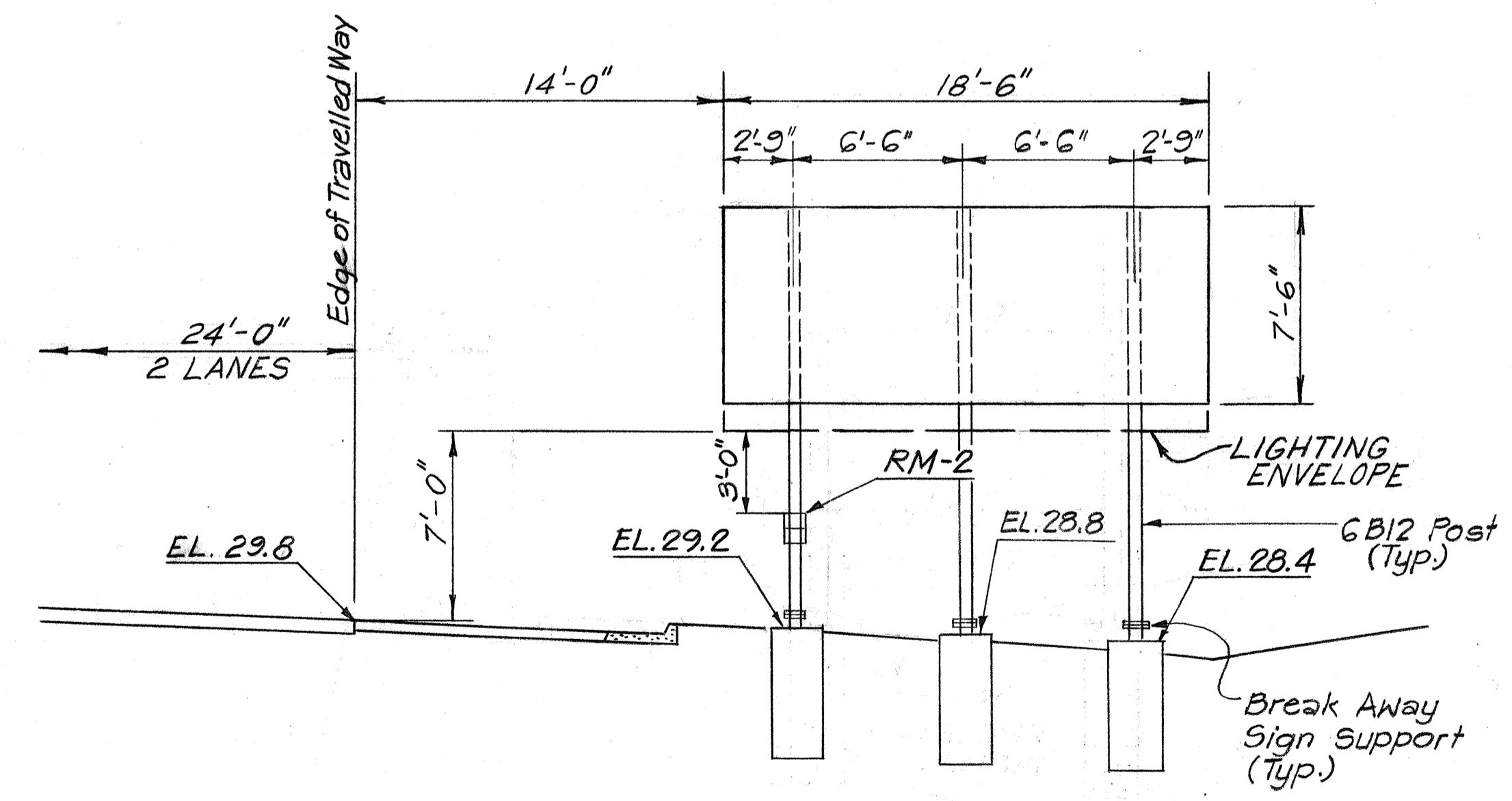
SIGN ASSEMBLY E-14
H-1(WB) STA. 257+67
N.T.S.



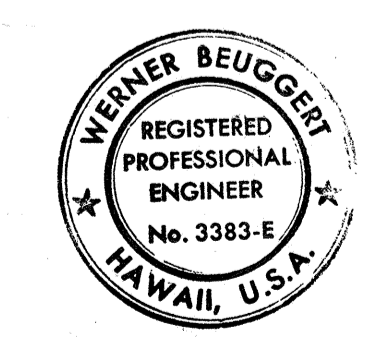
SIGN ASSEMBLY E-19
NIMITZ CONN. (WB) STA. 57+40
N.T.S.



SIGN E-15
H-1 (WB) STA. 266+00±
N.T.S.



SIGN E-16
H-1(EB) STA. 269+00±
N.T.S.

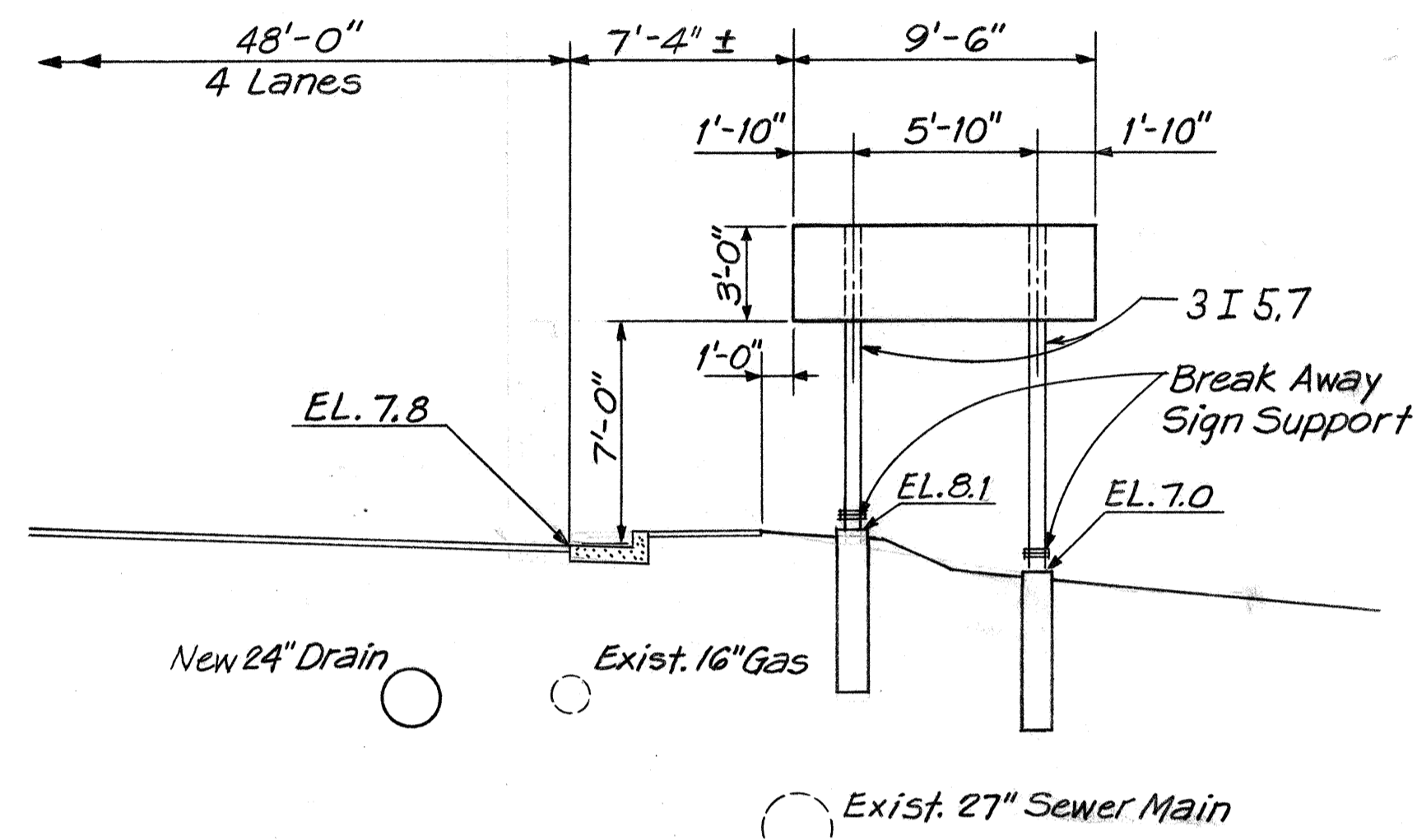


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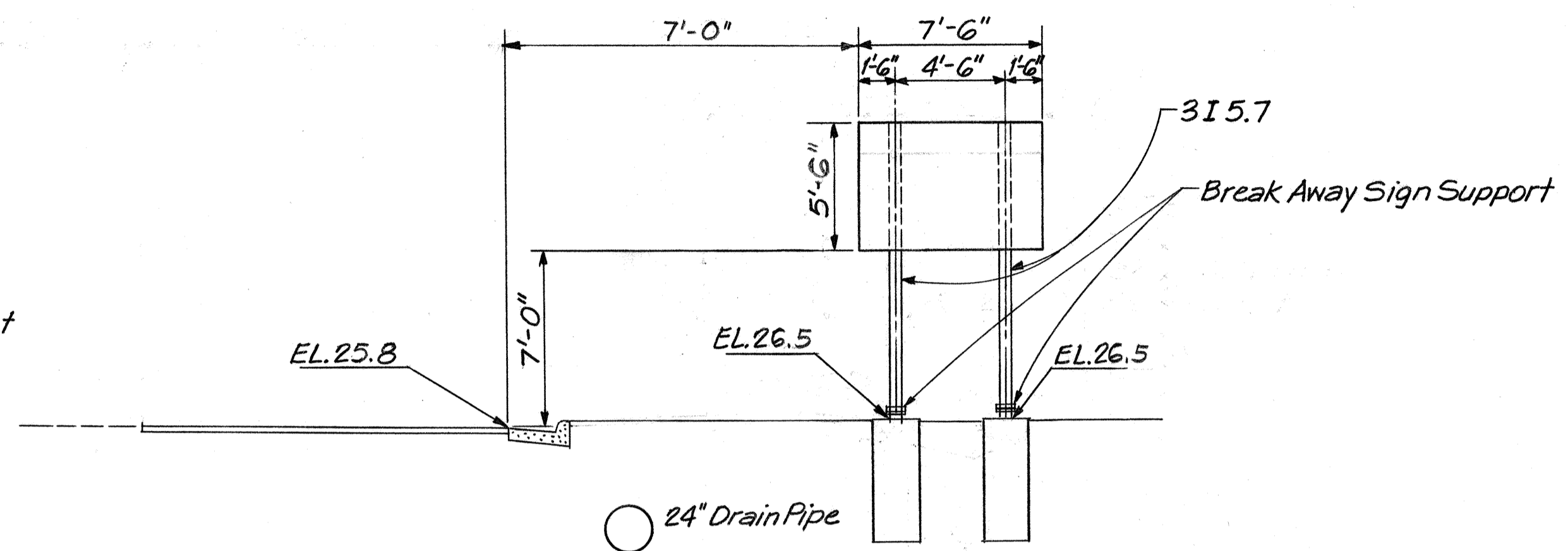
12-18-78	Revised Sign Assembly E-14
DATE	REVISIONS
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
SIGN FRAME LAYOUT	
INTERSTATE ROUTE H-1 PROJECT NO. I-HI-1 (131):17	
SCALE: N.T.S.	DATE: AUG. 31, 1977
SHEET NO. 4 OF 8 SHEETS	

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

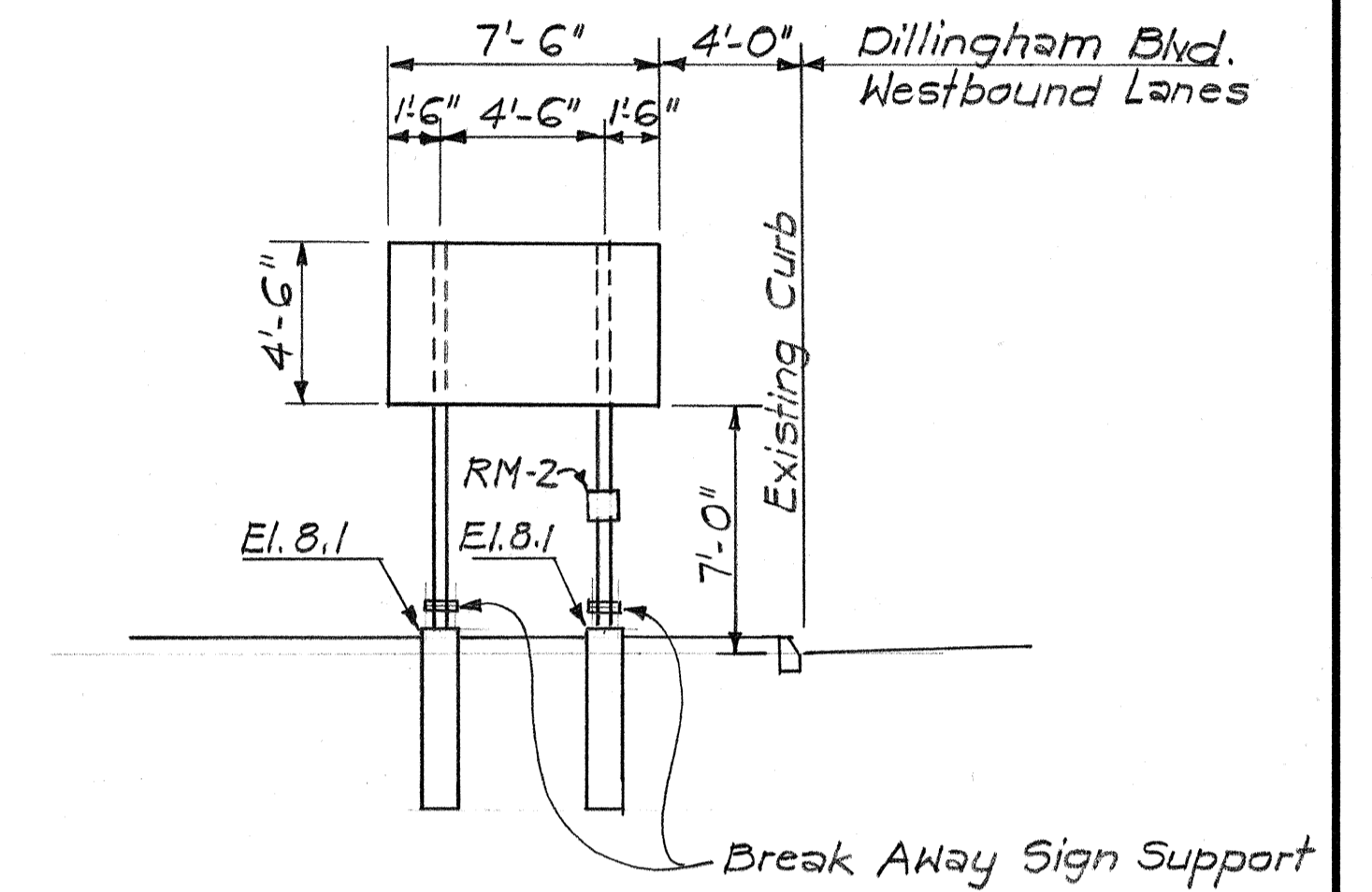
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)-17	1977	128	394



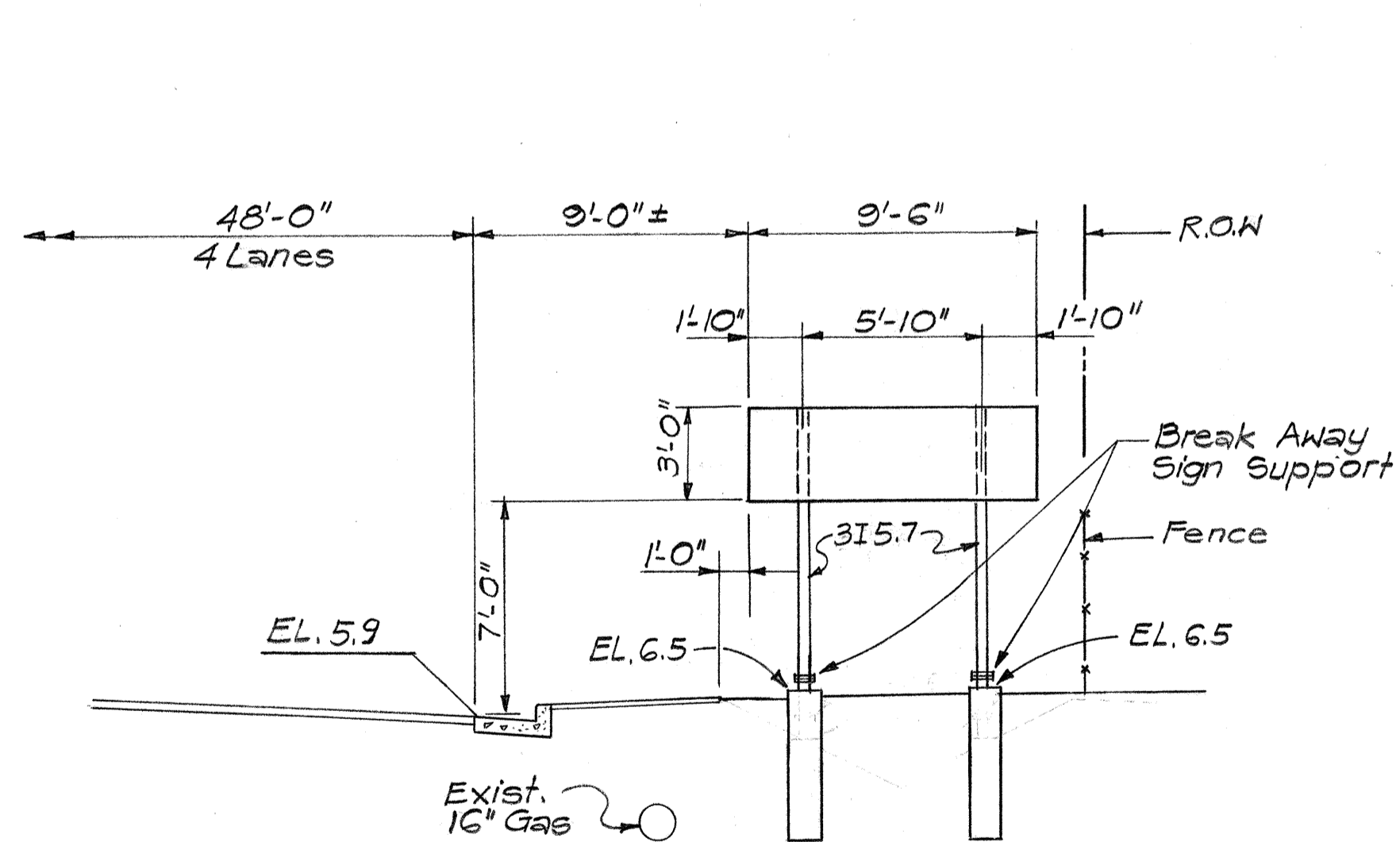
SIGN E-17(A)
NIMITZ CONN. (EB) STA. 43+15 ±



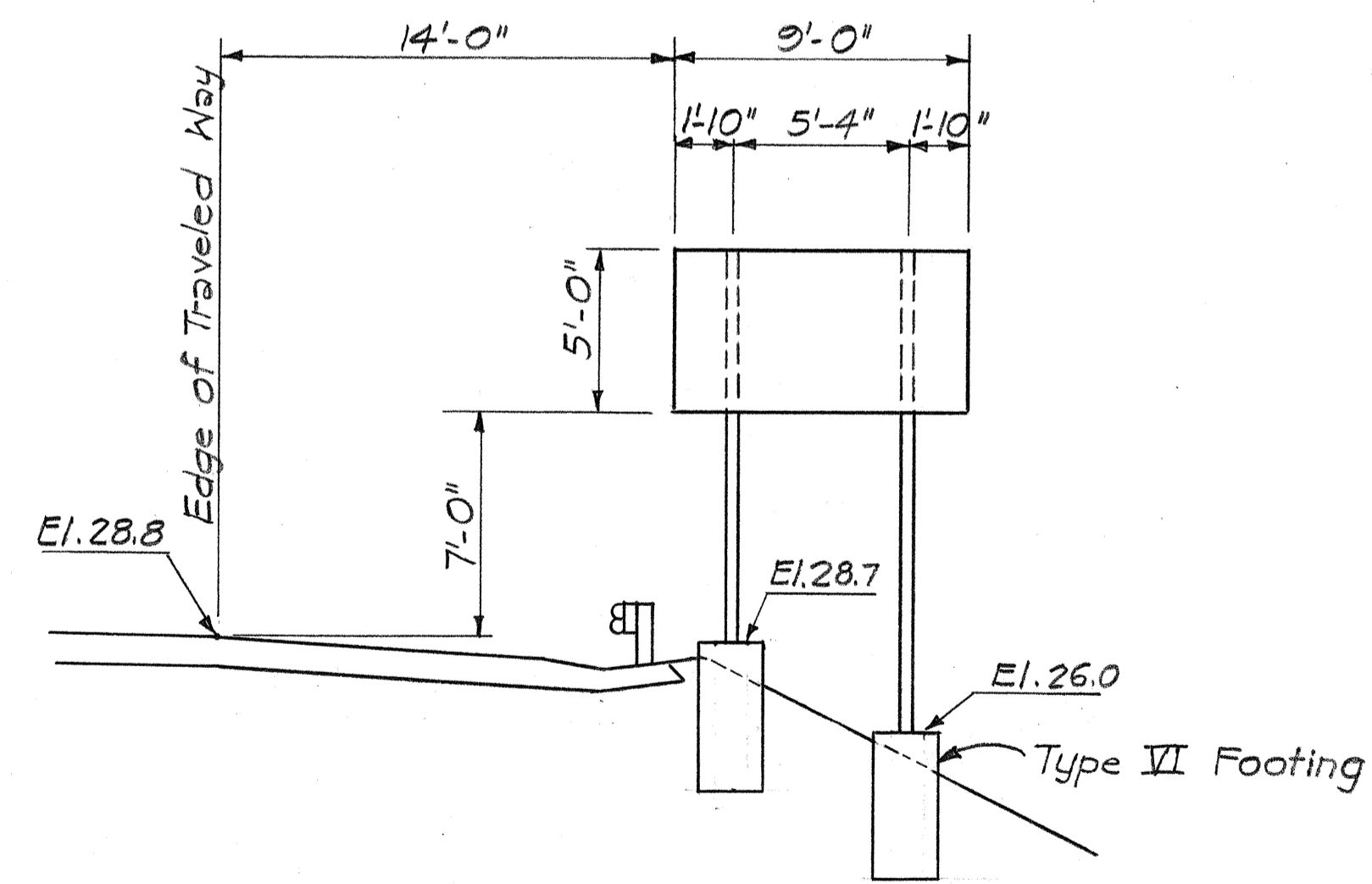
SIGN E-39
MIDDLE ST. (SB) STA. 26+50 ±



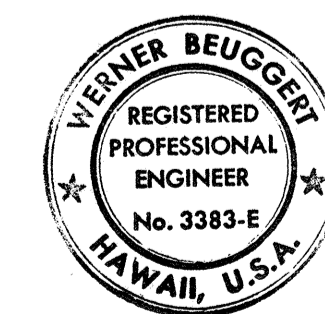
SIGN E-37A
Ramp E Sta. 35+40 ±



SIGN E-17(B)
NIMITZ CONN. (EB) STA. 49+15 ±



SIGN E-15A
H-1 (WB) Sta. 261+60



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DATE	REVISION
3/14/80	Added Signs E-15A & E-37A

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN FRAME LAYOUT

INTERSTATE ROUTE H-1
PROJECT NO. I-HI-1(131):17

SCALE: 1"=5' DATE: AUG. 31, 1977

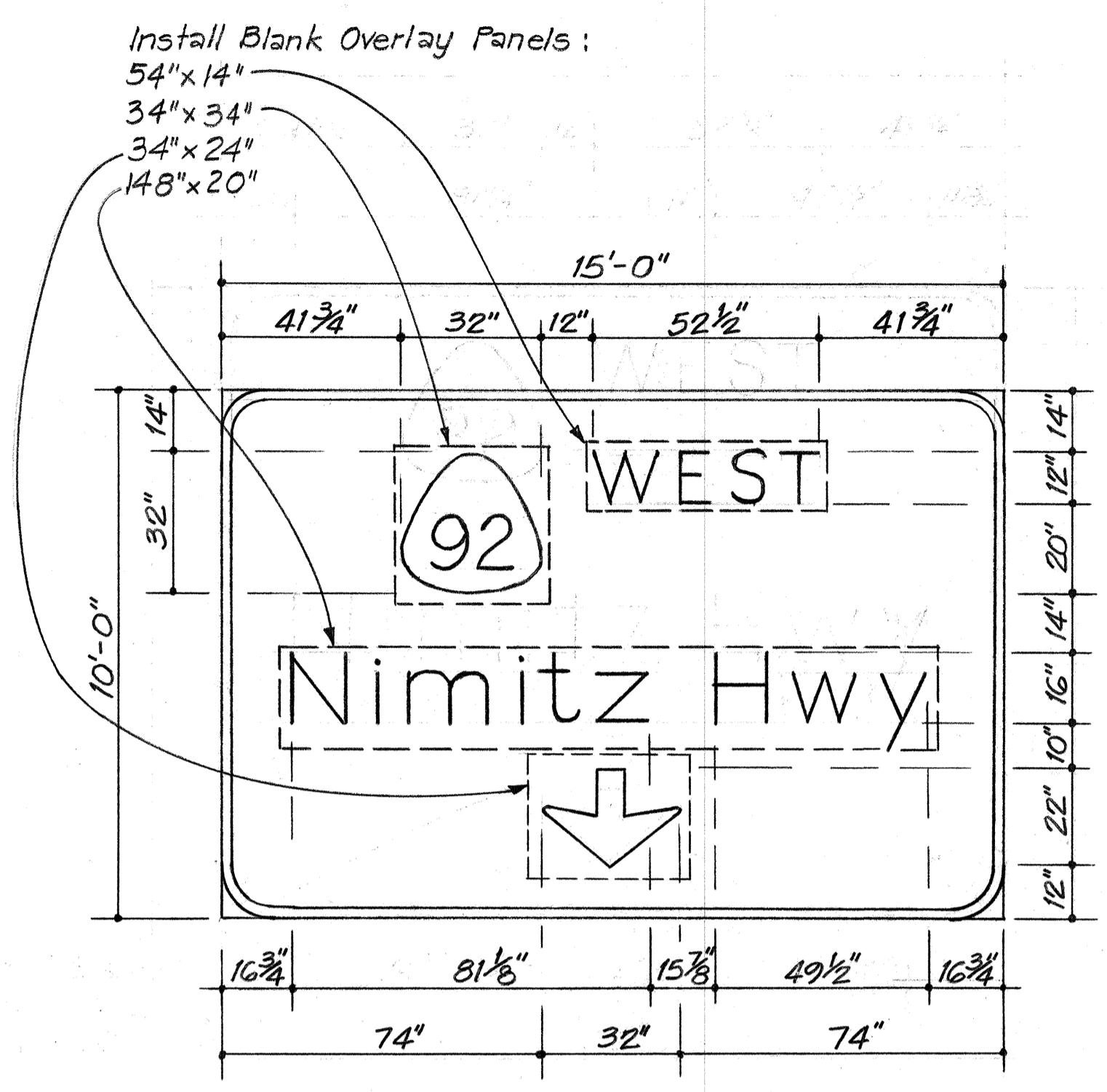
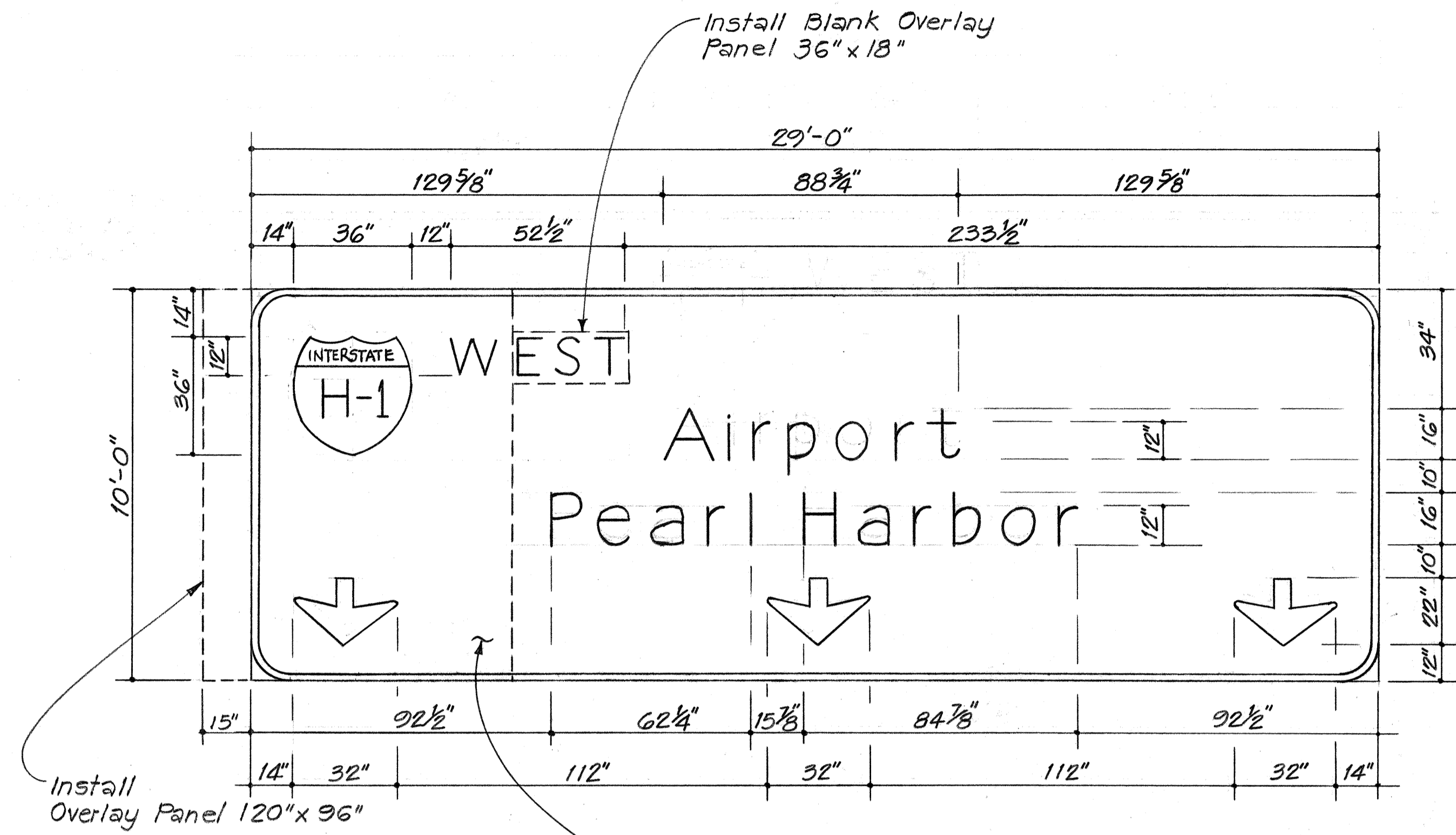
SHEET NO. 5 OF 8 SHEETS

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

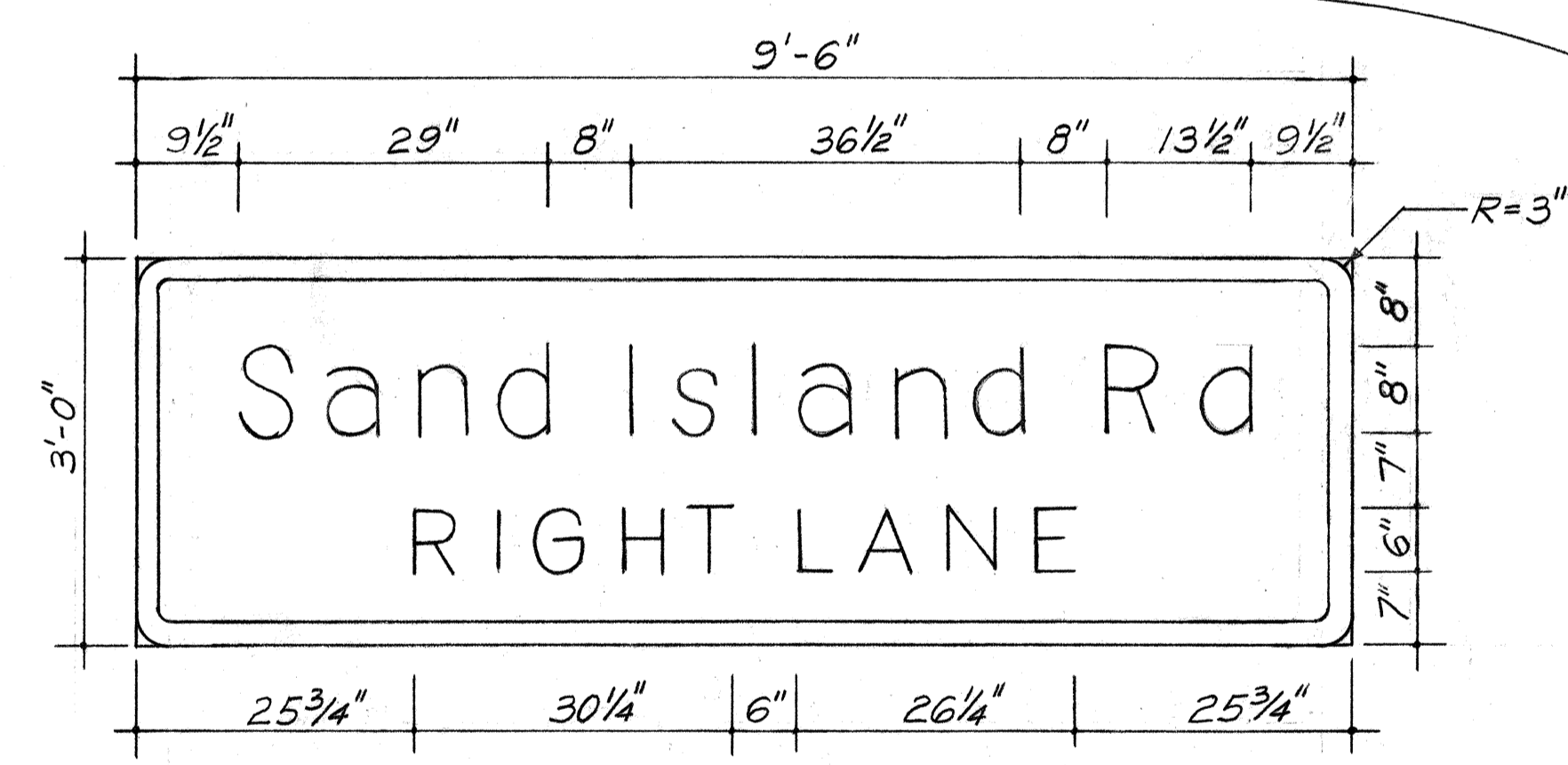
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI(131):17	1977	129	394

**NOTES FOR PERMANENT DESTINATION SIGNS:
("E" DESIGNATION)**

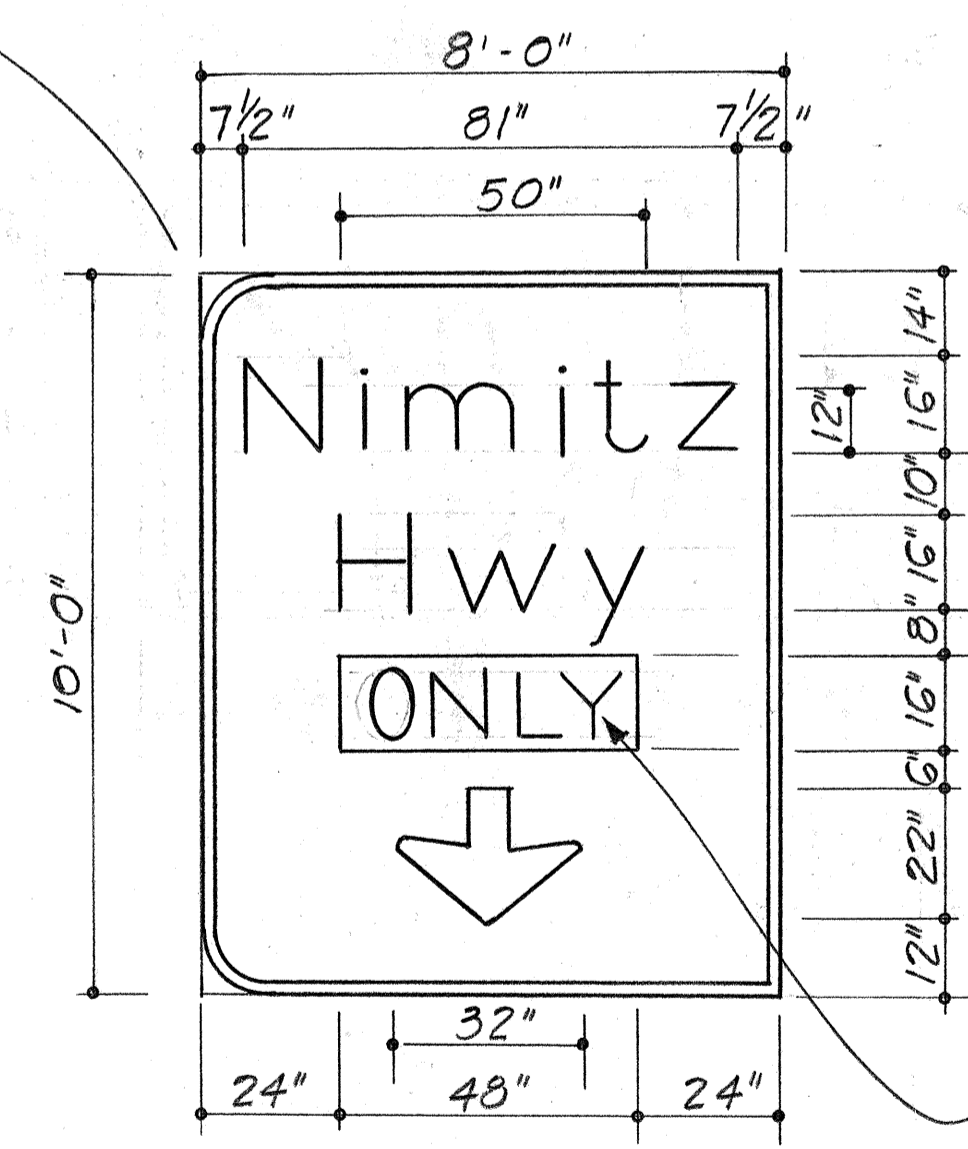
1. Alphabetical characters shall be uppercase or lowercase, as shown, and shall have Series E dimensions and spacings in accordance with the FHWA Publication "Standard Alphabets for Highway Signs", Bureau of Public Road, 1966.
2. Borders and separation lines shall have a width of 2 inches. Corner radius of borders shall be as specified on Standard Detail plans.
3. Overlay panels shall be of the same color and reflectorization as background of sign panel. Payment shall be made under "Panel for Overhead Sign".



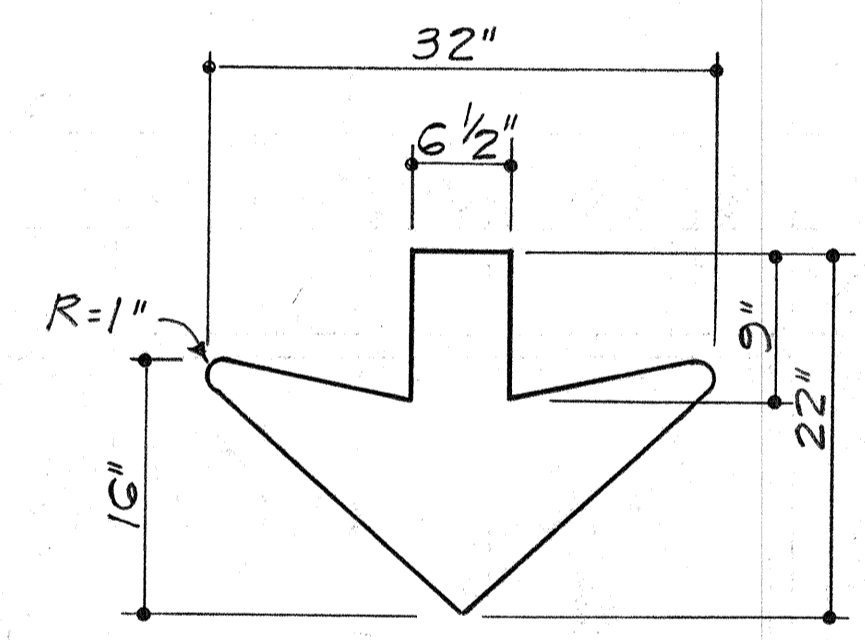
SIGN ASSEMBLY E-19
SCALE: 3/8" = 1'-0"



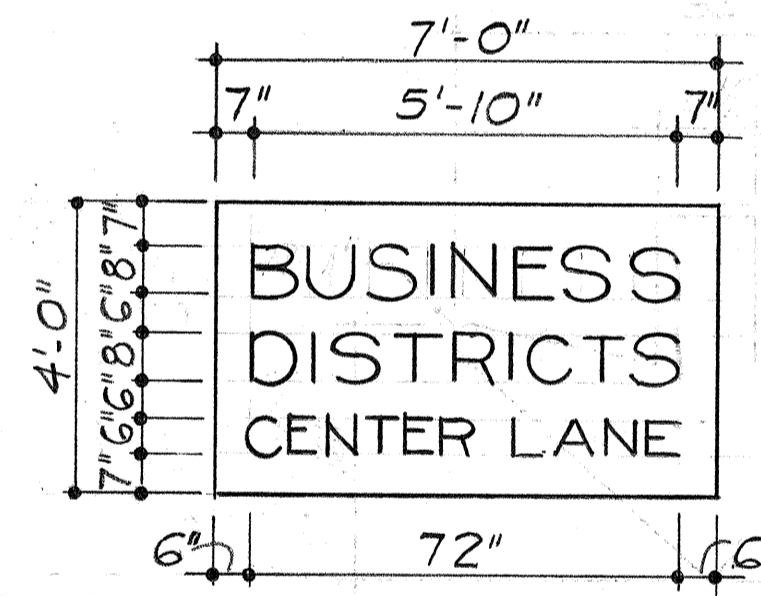
SIGN E-17(A) & E-17(B)
SCALE: 3/4" = 1'-0"



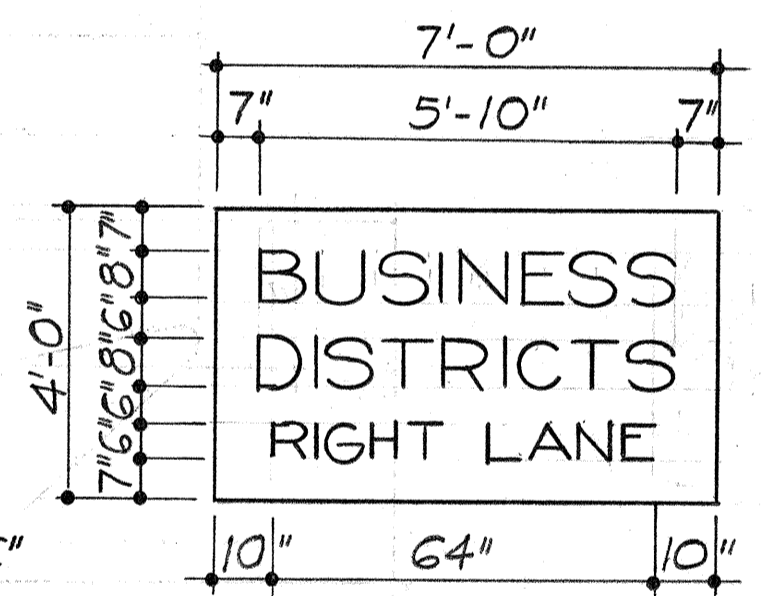
OVERLAY PANEL FOR E-19
Scale: 3/8" = 1'-0"



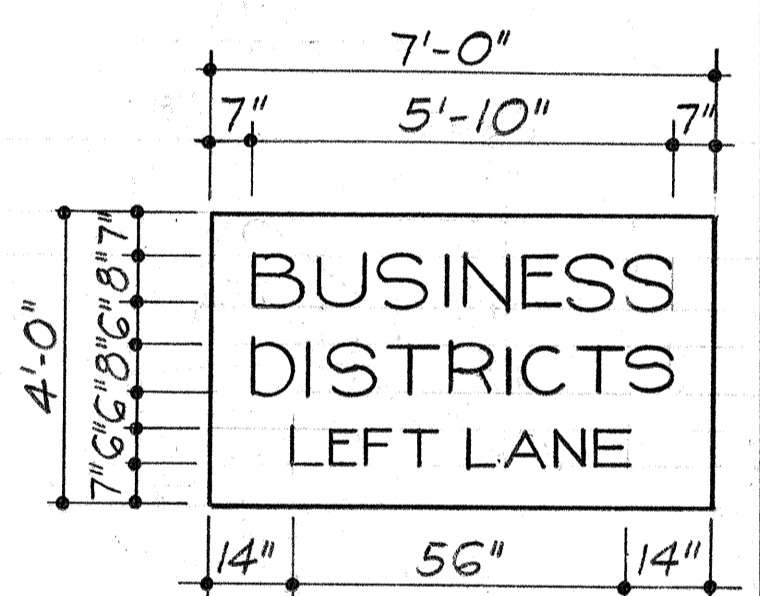
ARROW DETAIL
N.T.S.



SIGN T-20A
Scale: 3/8" = 1'-0"

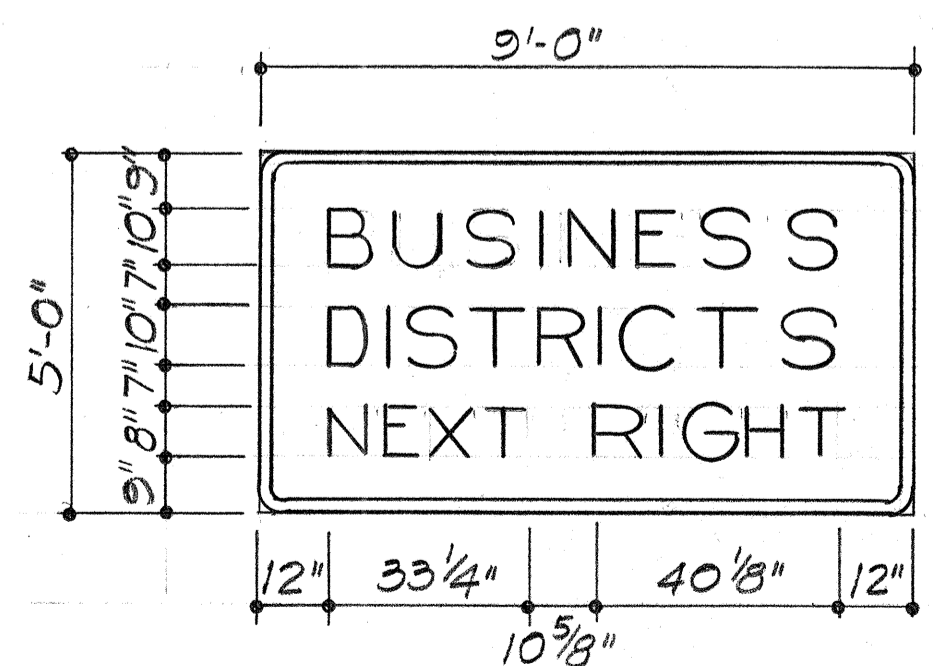


SIGN T-20B
Scale: 3/8" = 1'-0"

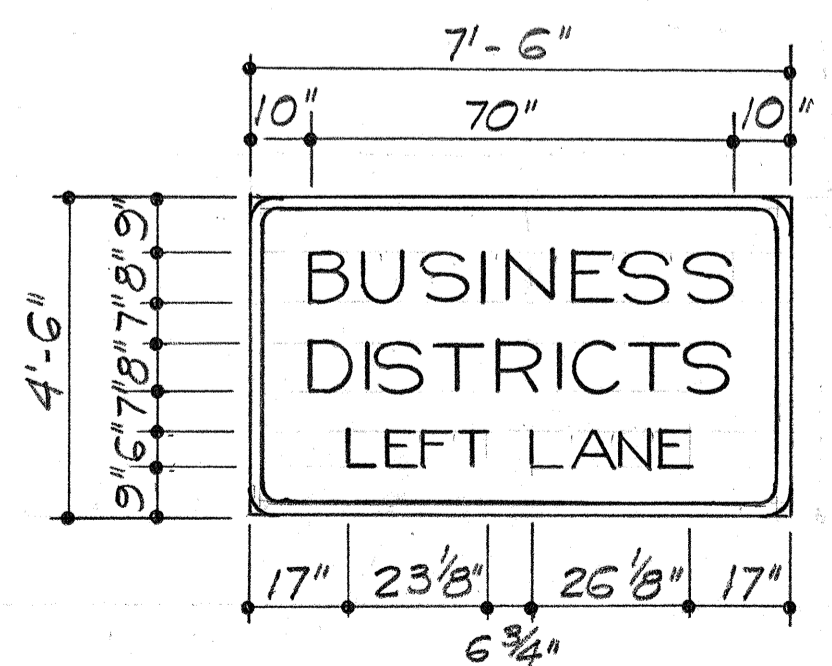


SIGN T-39B
Scale: 3/8" = 1'-0"

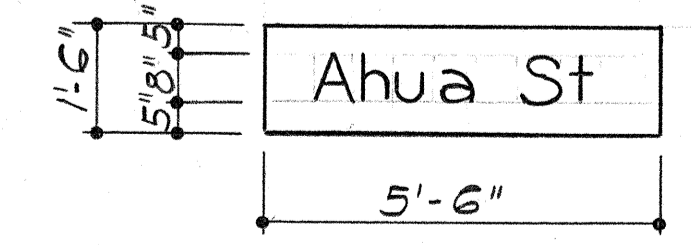
NOTE:
See sheet 131 for Notes for Temporary Destination Signs (T-Designation).



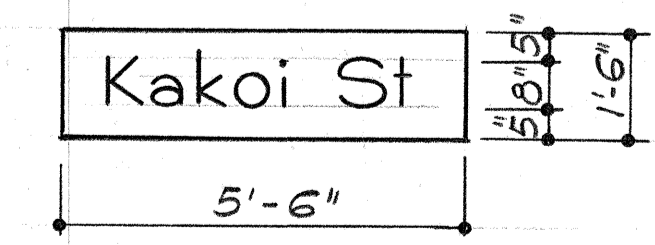
SIGN E-15A
Scale: 3/8" = 1'-0"



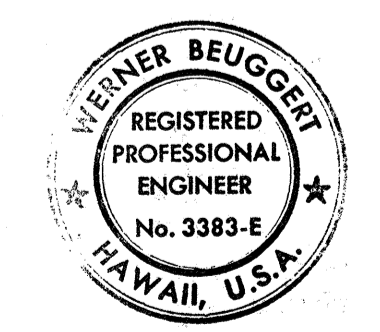
SIGN E-37A
Scale: 3/8" = 1'-0"



SIGN T-19A
Scale: 3/8" = 1'-0"



SIGN T-19B
Scale: 3/8" = 1'-0"



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Werner Beugger

DATE	REVISION
3/14/80	Added Signs E-15A, E-37A, T-19A, T-19B, T-20A, T-20B & T-39B
3/15/78	Revised overlay panels for Sign E-19

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

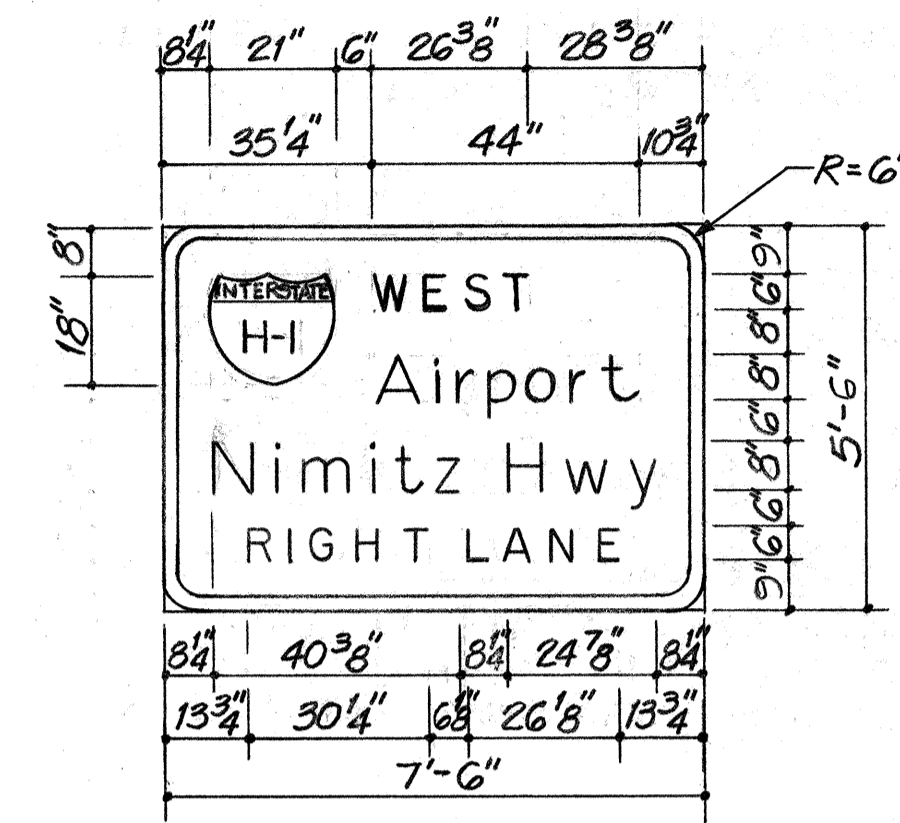
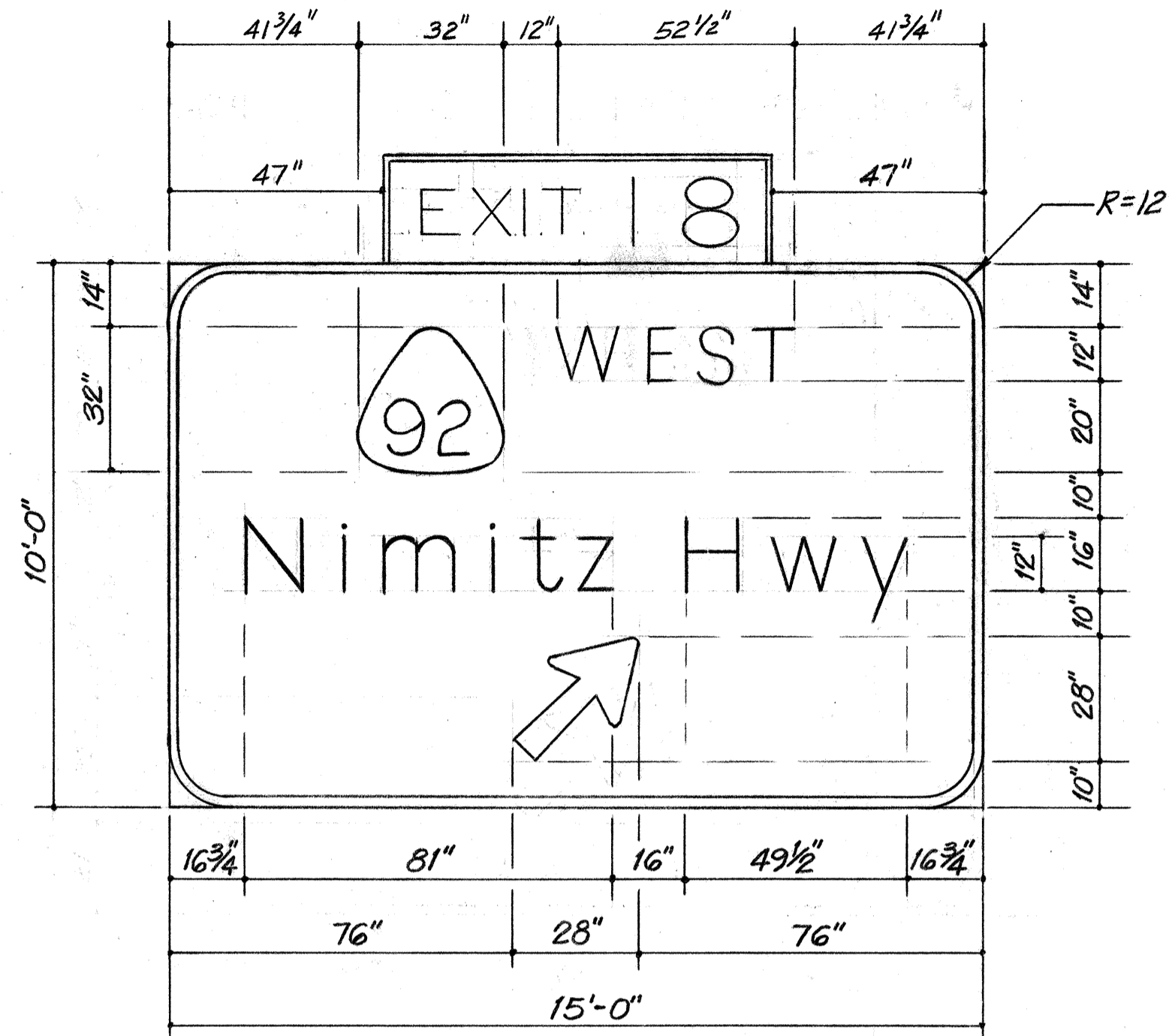
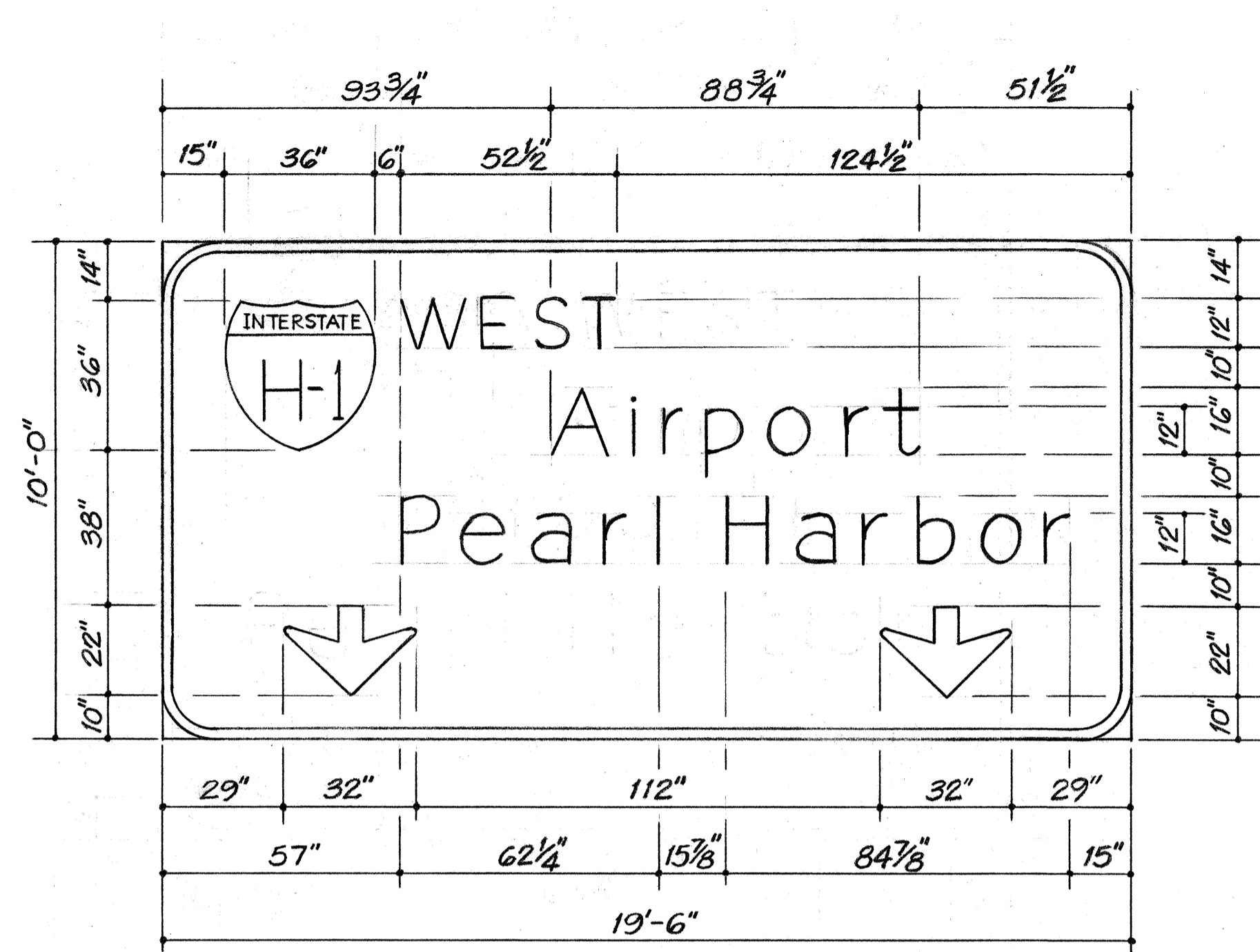
SIGN PANEL LAYOUT

INTERSTATE ROUTE H-1
PROJECT NO. I-HI-1 (131):17

SCALE: AS SHOWN DATE: AUG. 31, 1977

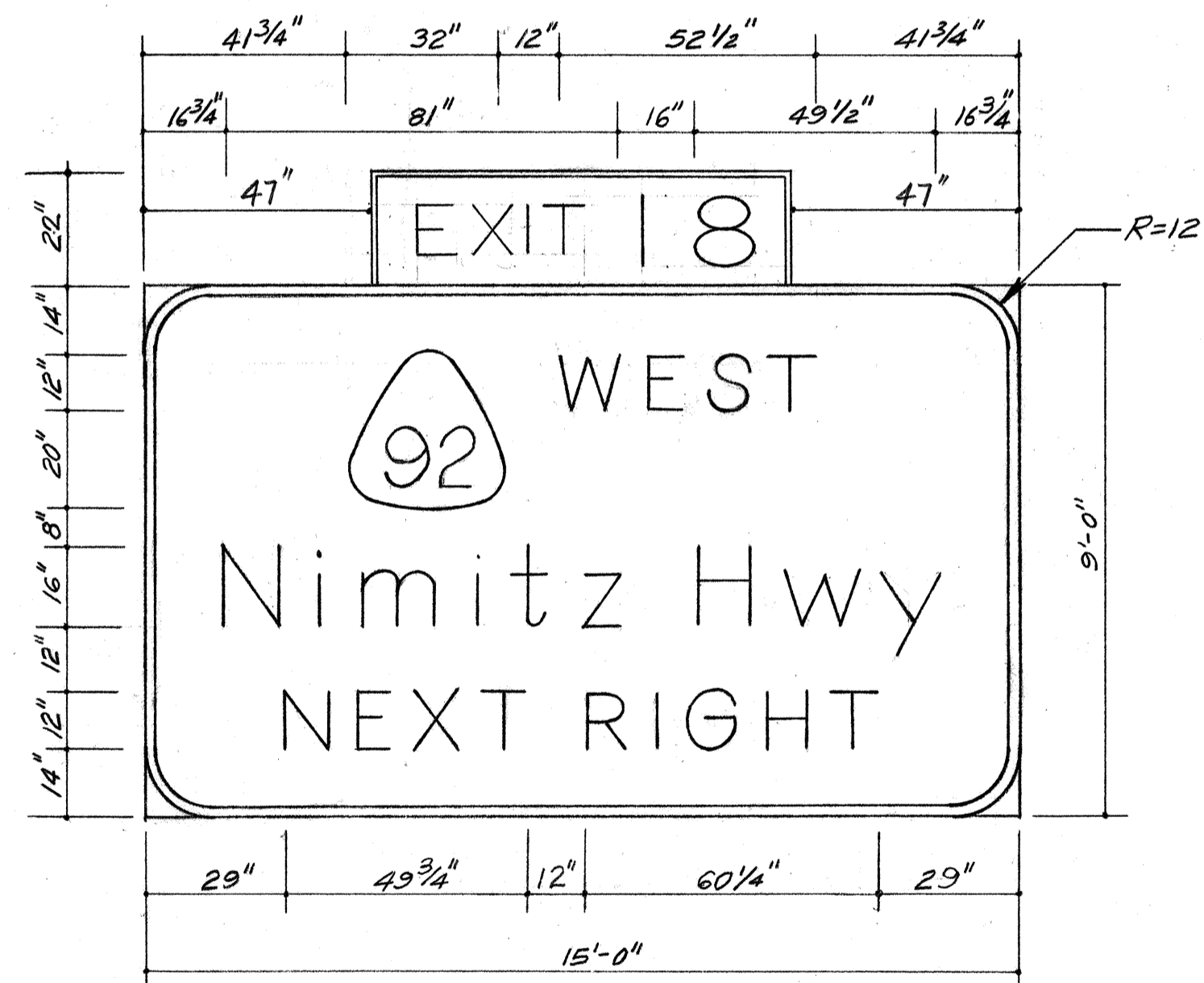
SHEET NO. 6 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131):17	1977	130	394

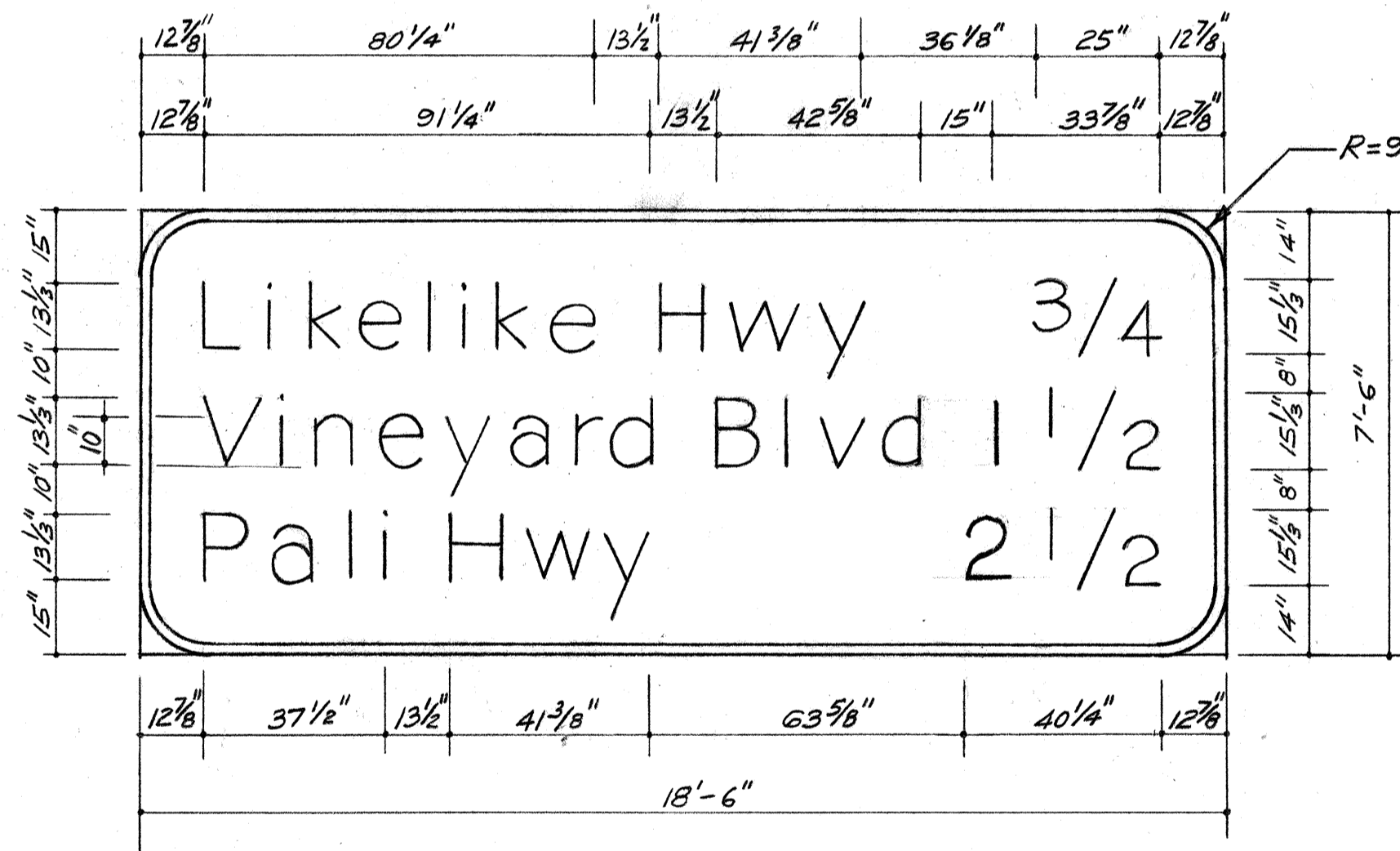


SIGN E-39
Scale: 3/8" = 1'-0"

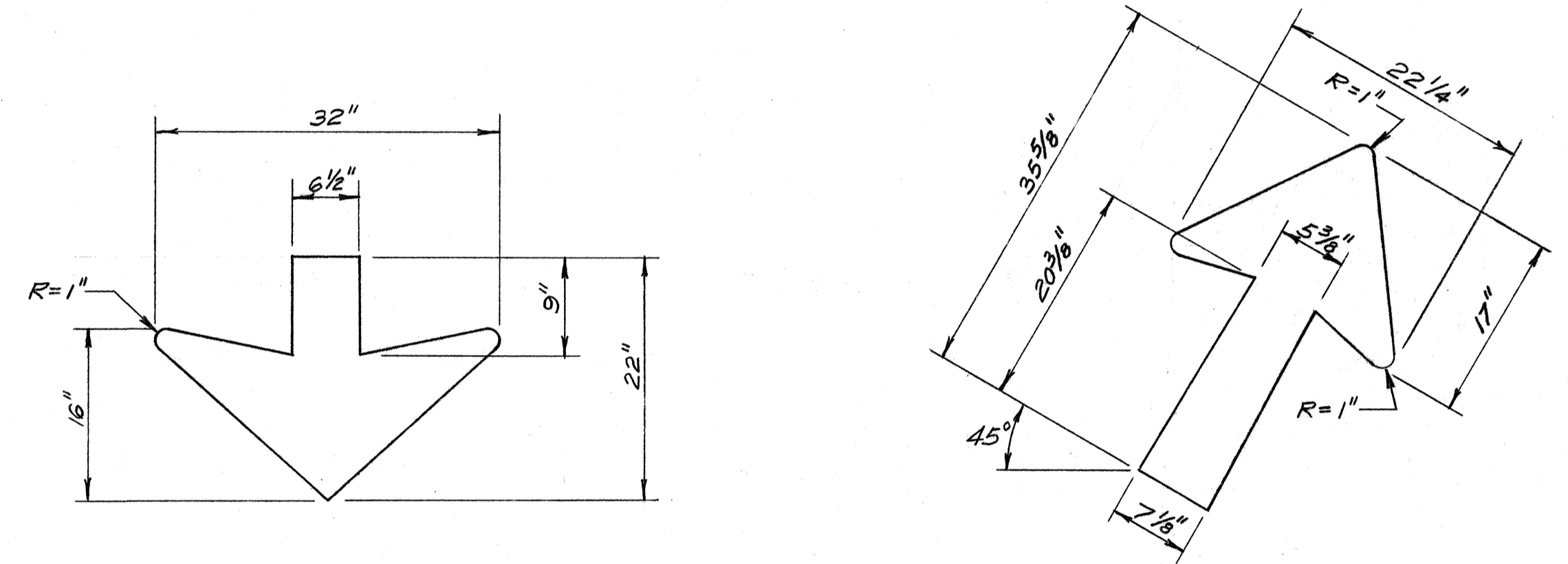
SIGN ASSEMBLY E-14
Scale: 3/8" = 1'-0"



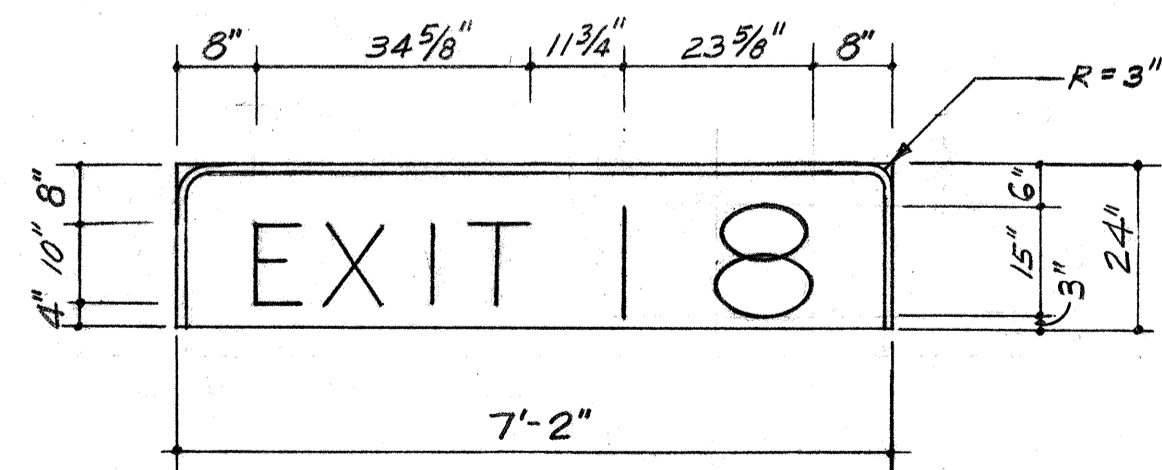
SIGN E-15
Scale: 3/8" = 1'-0"



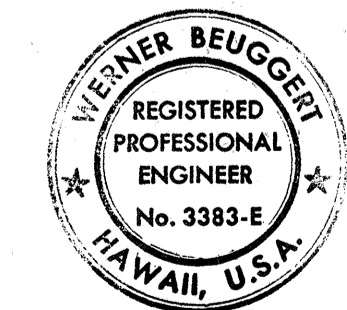
SIGN E-16
Scale: 3/8" = 1'-0"



ARROW DETAILS
N.T.S.



EXIT NUMBER PANEL DETAIL
N.T.S.

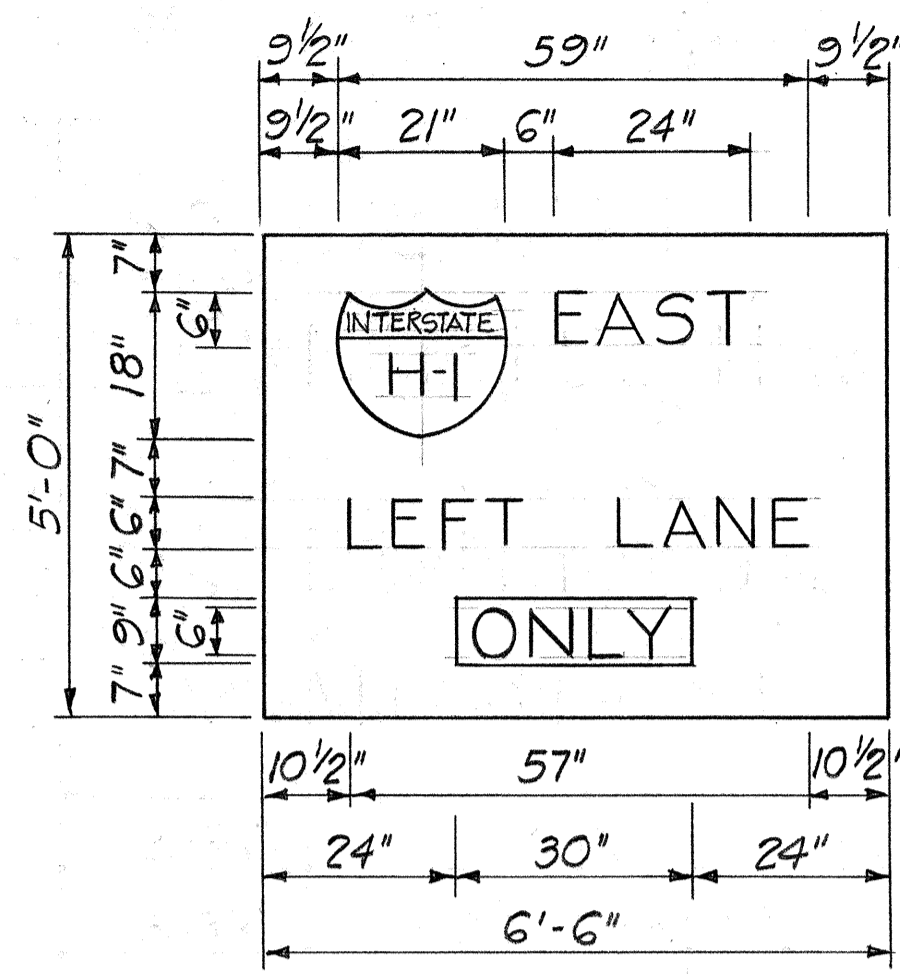


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Werner Beugget

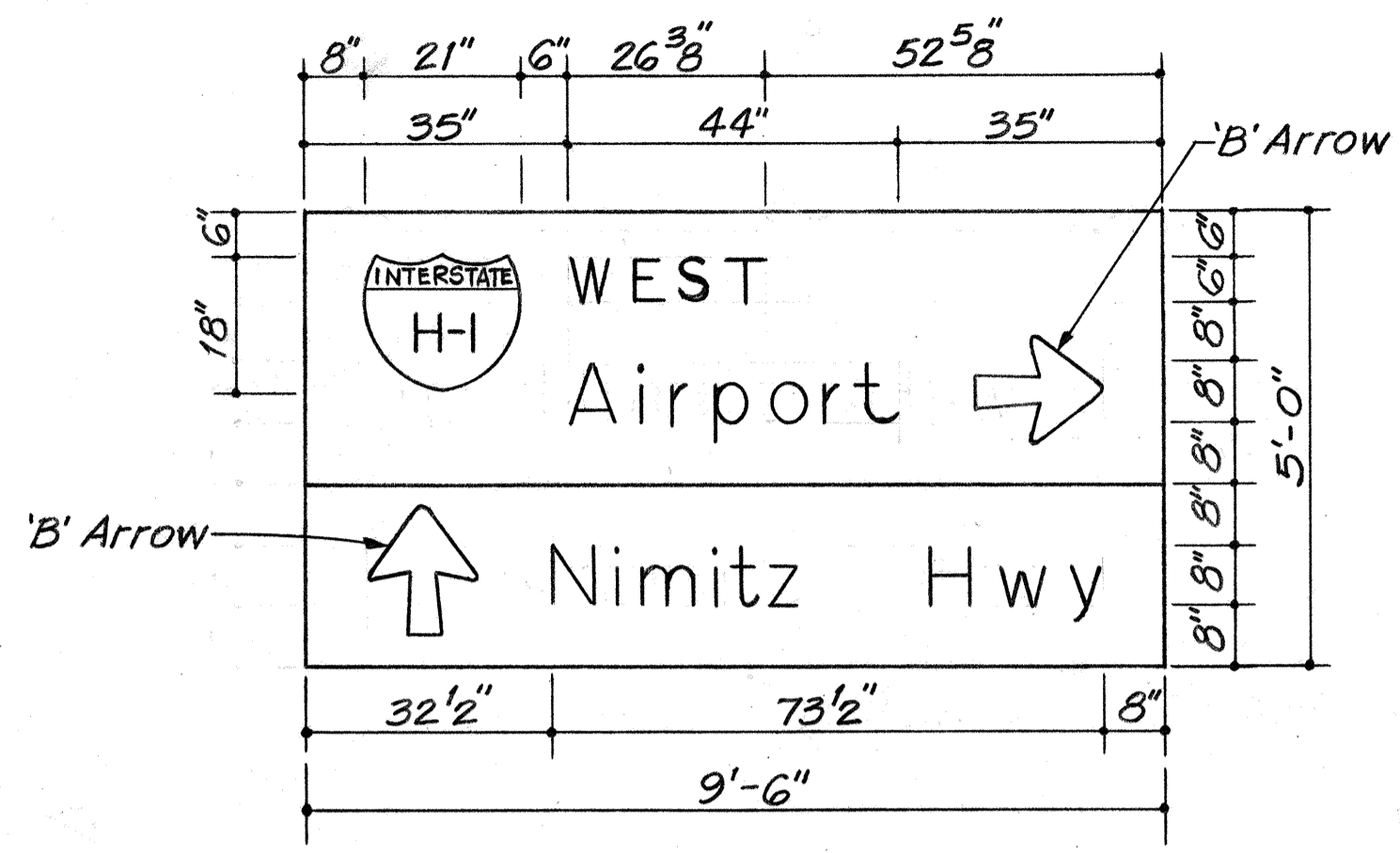
DATE	REVISION
3/23/78	Revised panel height for Sign E-39 and Exit Number
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
SIGN PANEL LAYOUT	
INTERSTATE ROUTE H-1 PROJECT NO. I-HI-1 (131):17	
SCALE: As Shown	DATE: AUG. 31, 1977
SHEET NO. 7 OF 8 SHEETS	

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

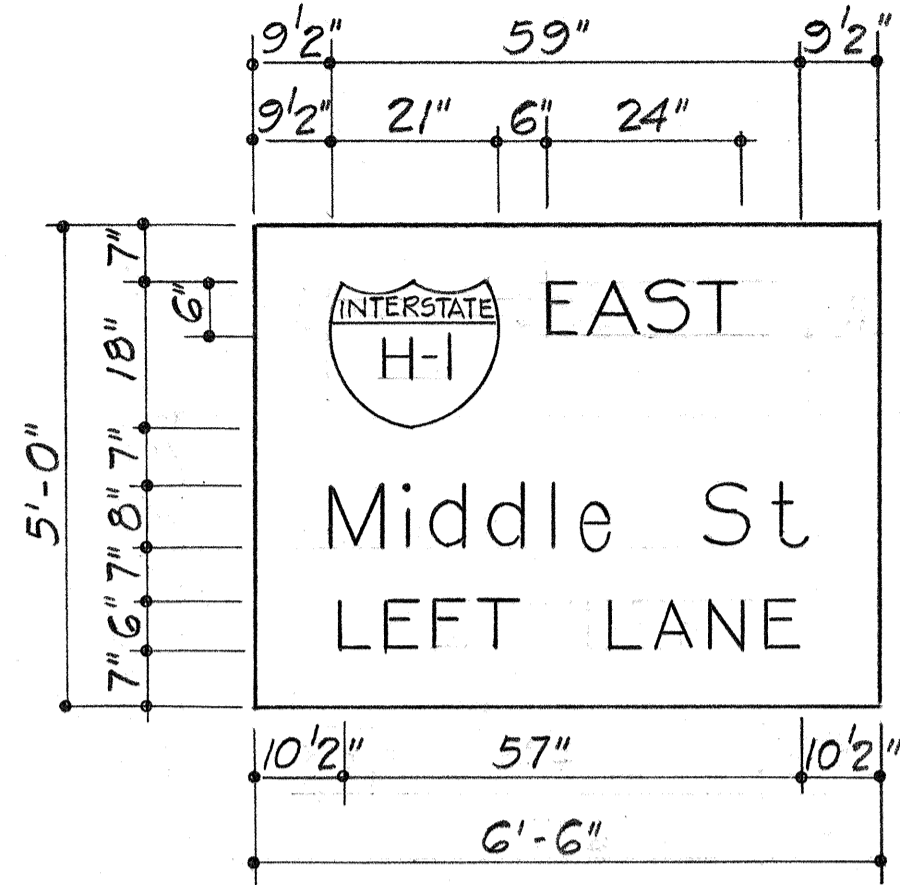
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	131	394



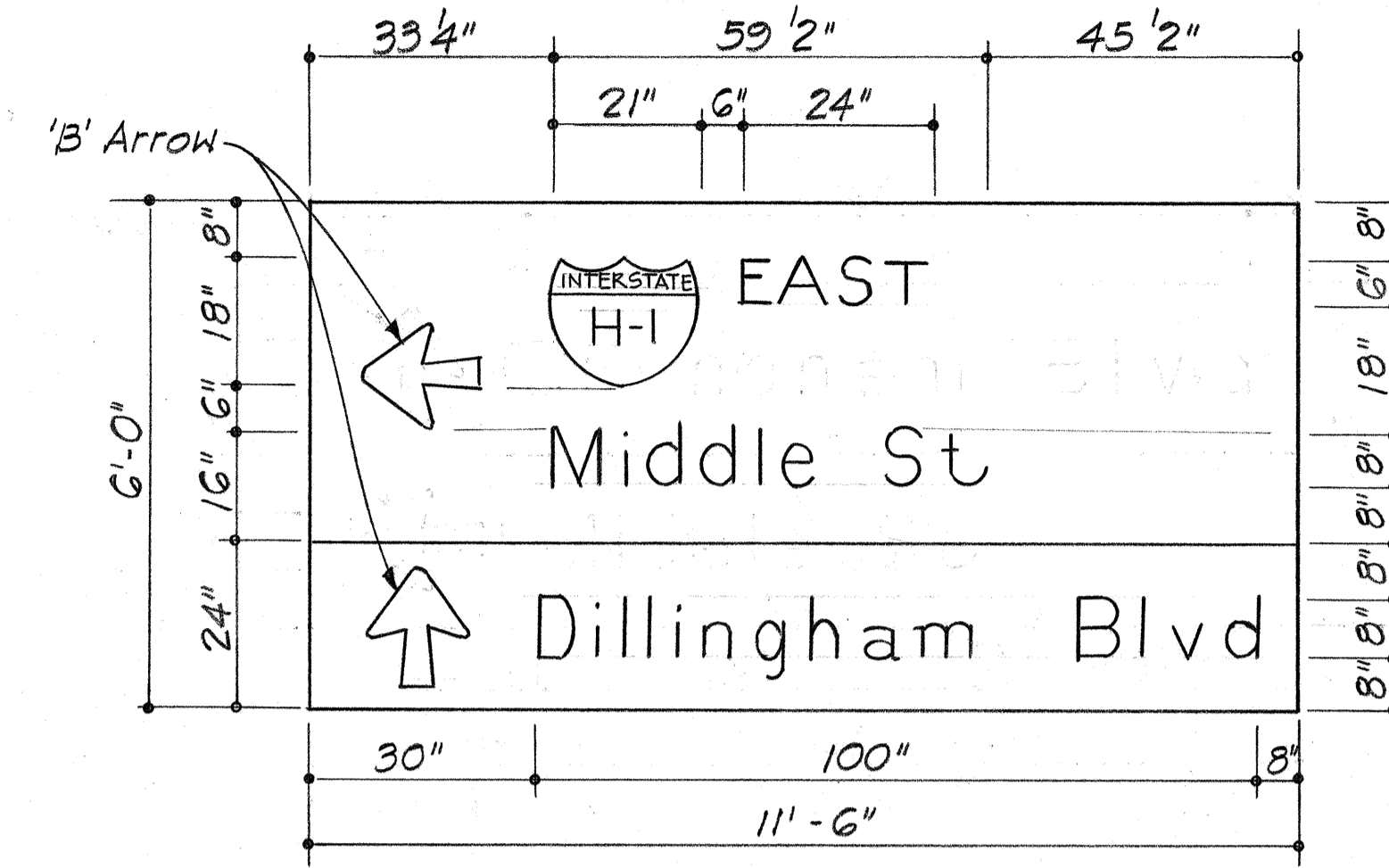
SIGN T-30



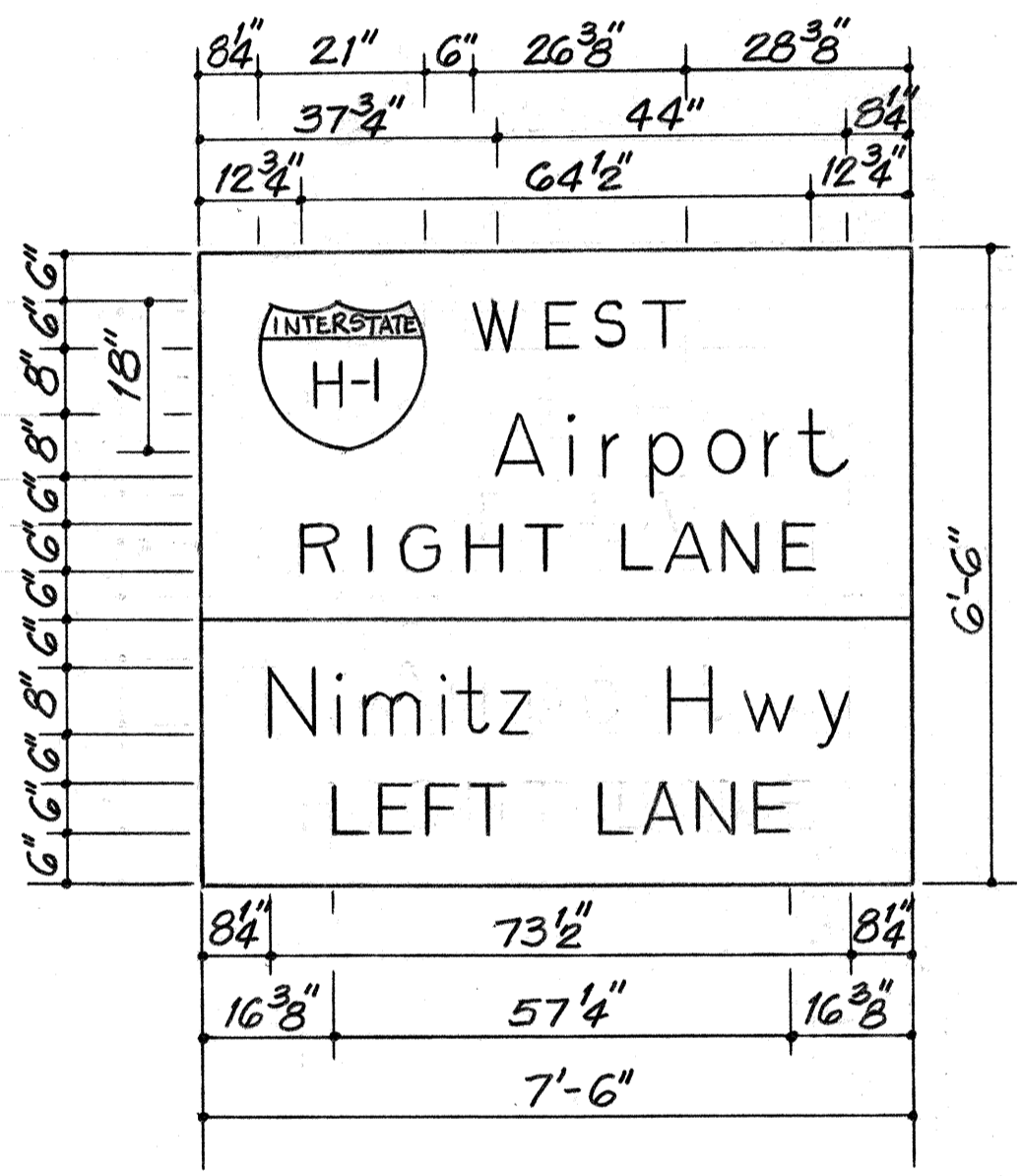
SIGN T-31



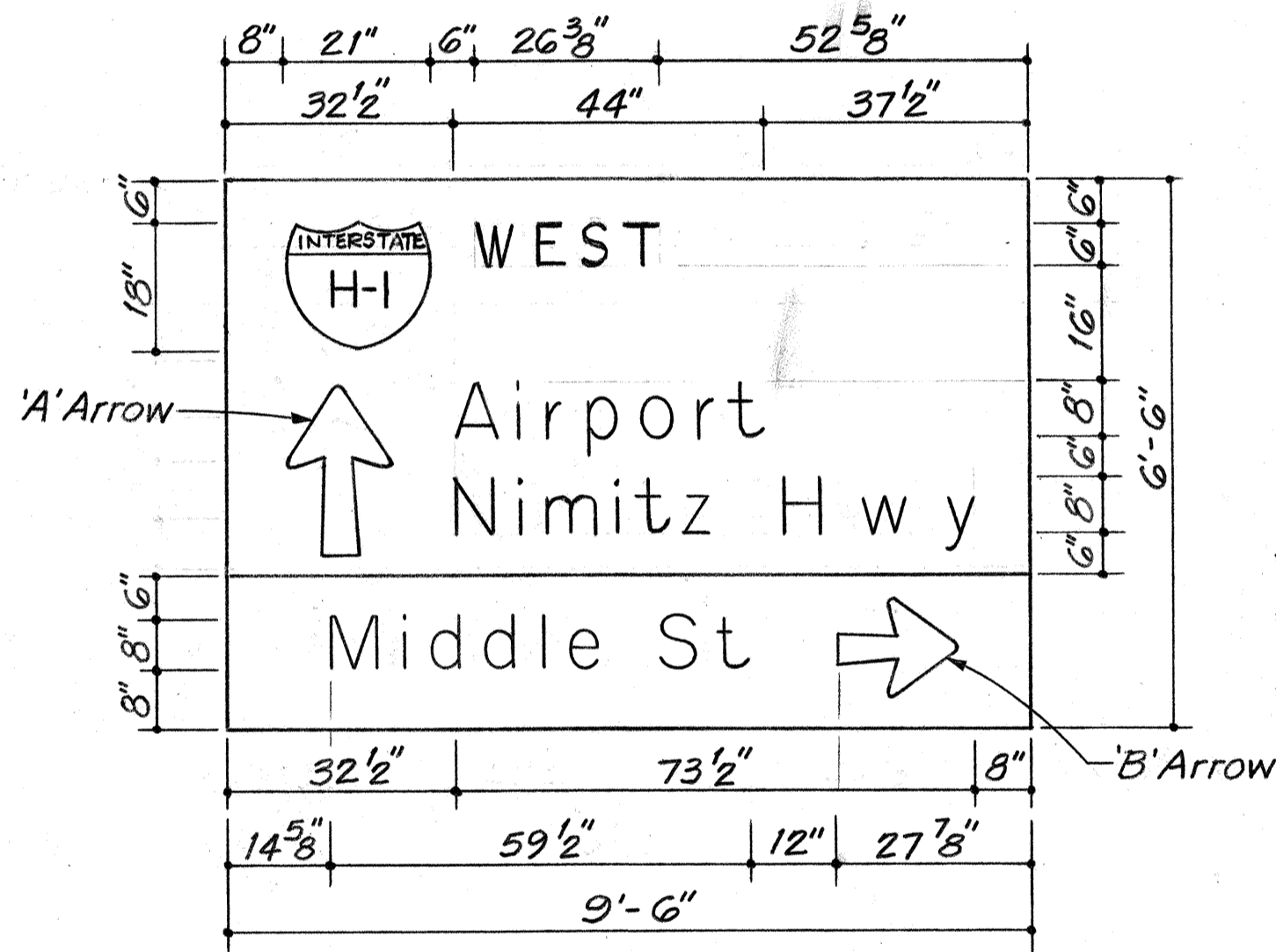
SIGN T-32



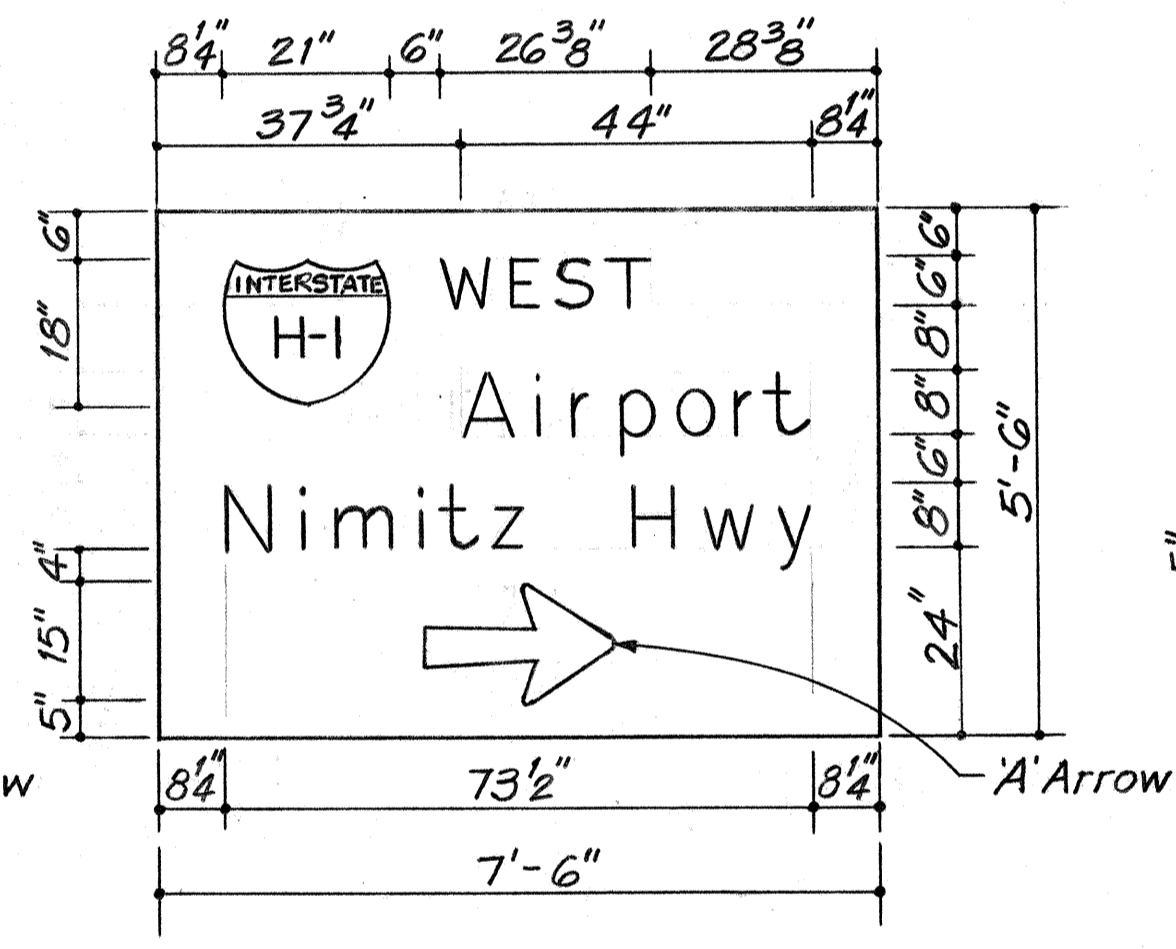
SIGN T-33



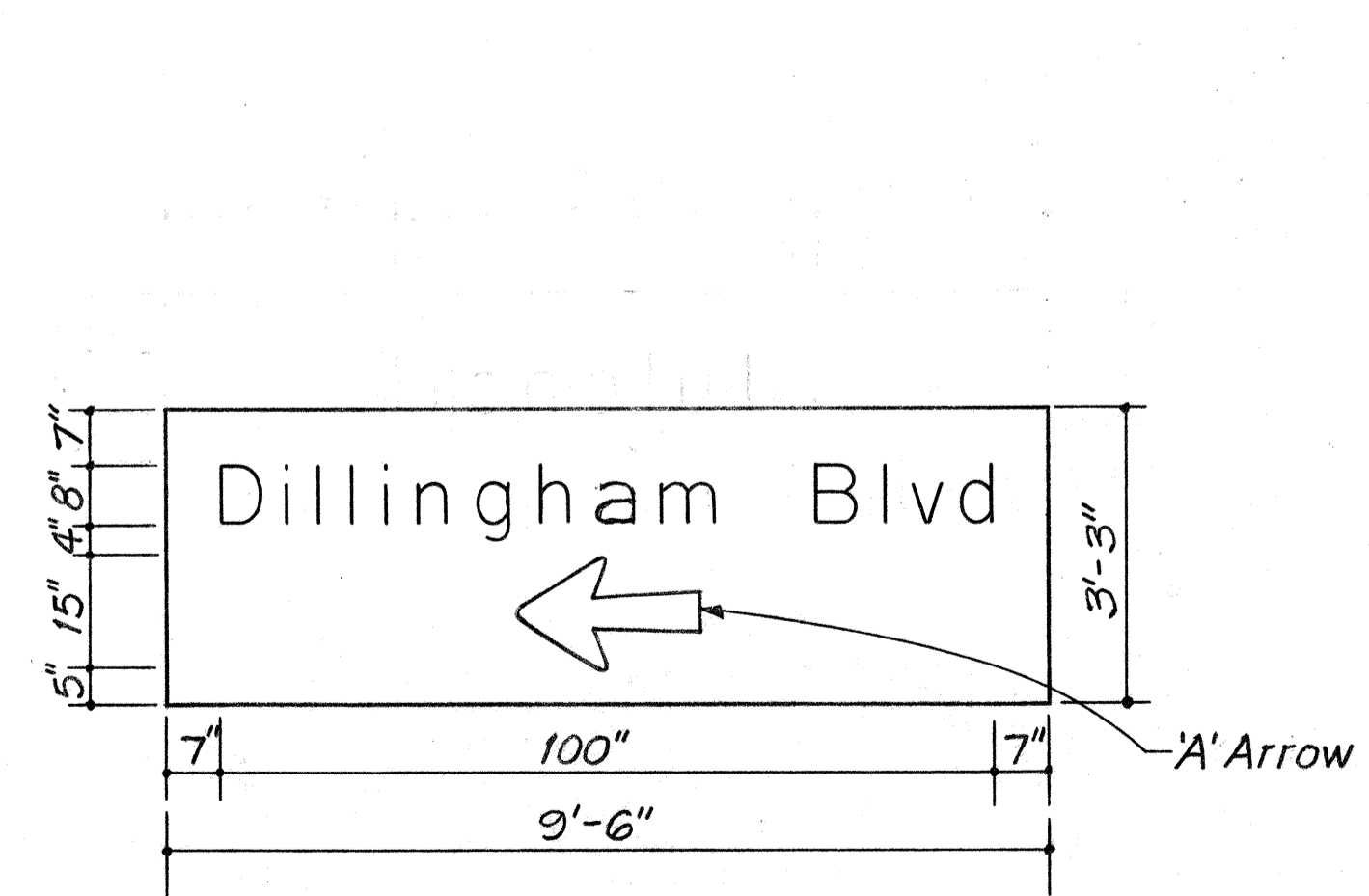
SIGN T-34



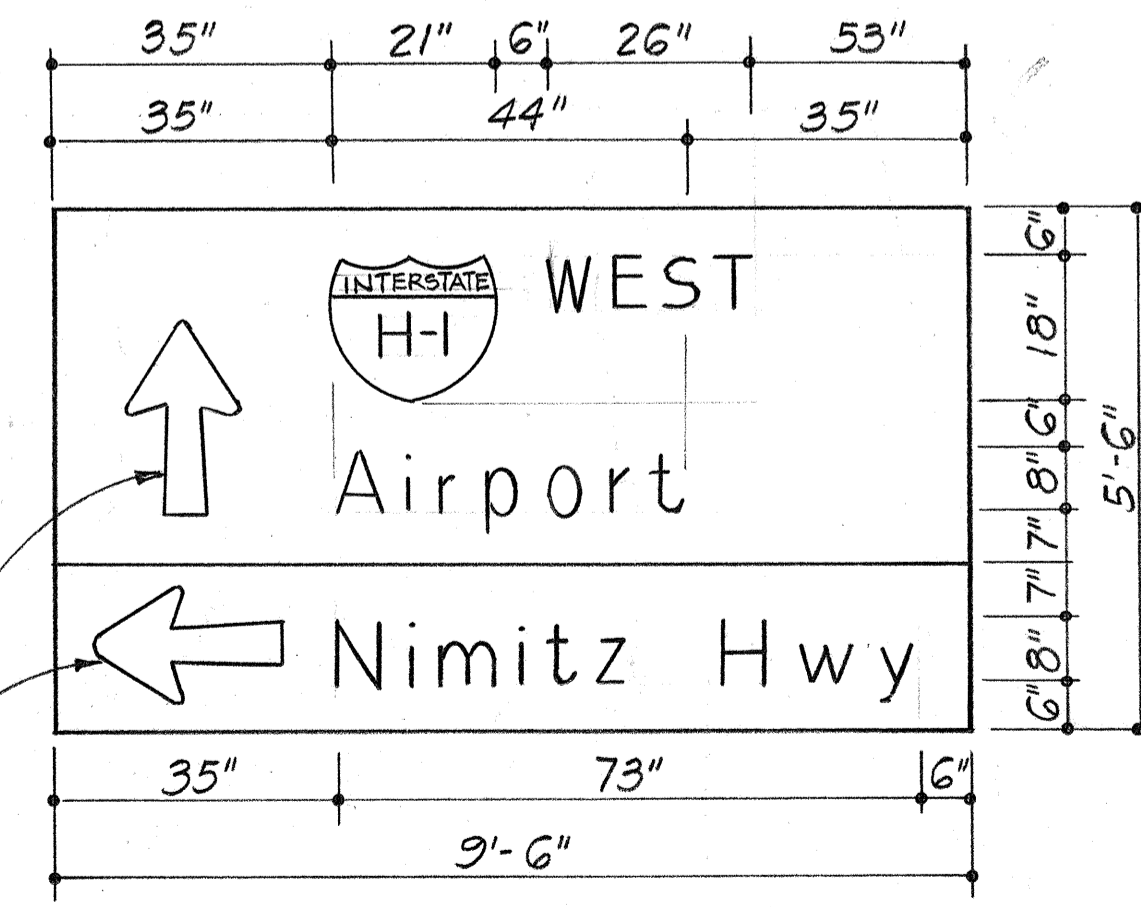
SIGN T-35



SIGN T-36



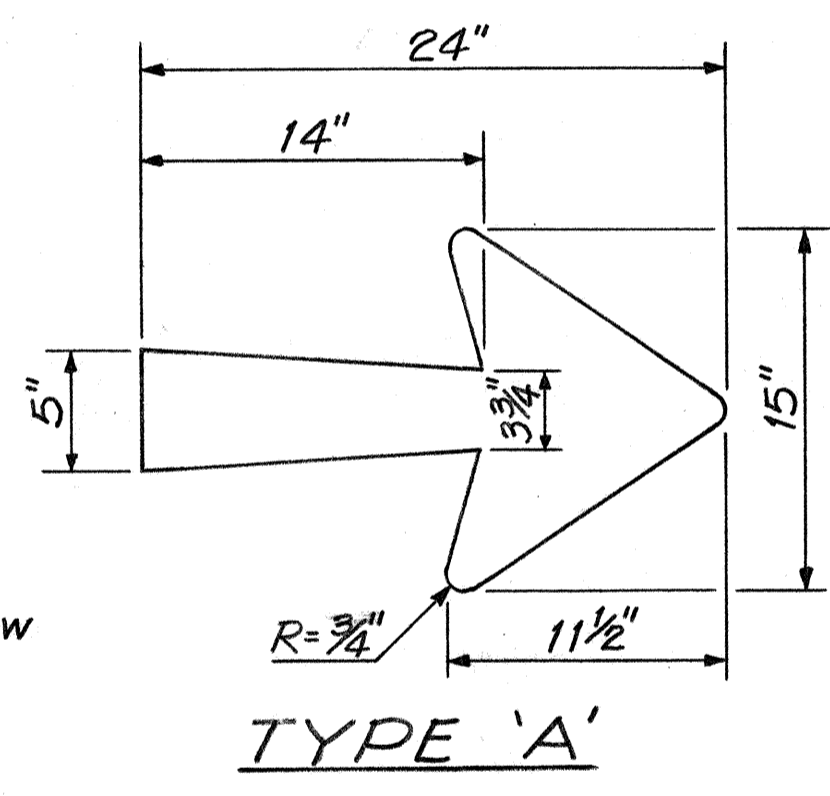
SIGN T-37



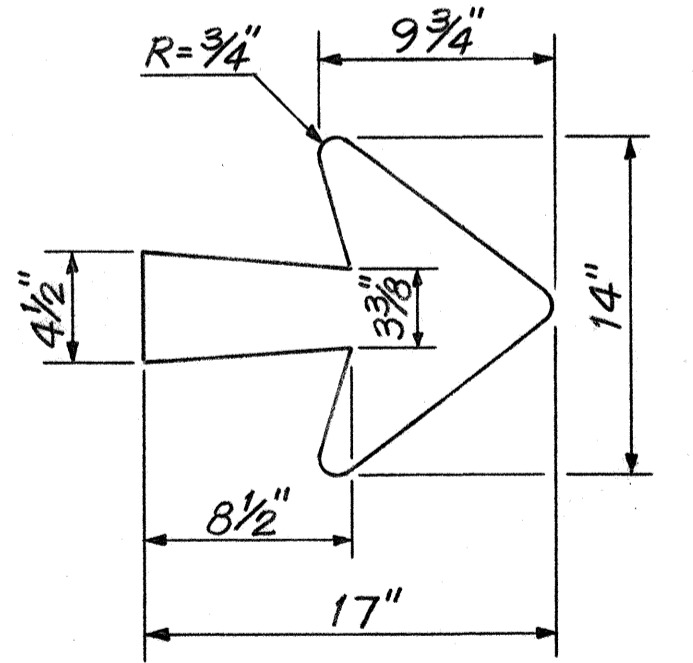
SIGN T-38 & T-39

NOTES FOR TEMPORARY DESTINATION SIGNS: ("T" DESIGNATION)

1. Type of Sign Mounting will be at the Contractors Option, Subject to approval by the Engineer.
2. Mounting to be Incidental to "Sign Panels".
3. Material used for Sign Panels shall be 3/4" thick, waterproof, Fir Plywood. Contractor may submit alternative, subject to approval by the Engineer.
4. Alphabetical Characters, Arrows, & Borders shall be of White Reflective Sheeting. Background shall be of Green Reflective Sheeting. Shields shall be of Reflective Sheeting.
5. Alphabetical Characters shall be Uppercase or Lowercase as shown, and shall have Series E dimensions and spacing in accordance with the FHWA publication "Standard Alphabets For Highway Signs" (Bureau of Public Roads, 1966).
6. Borders and Separation Lines shall have a width of 2 inches and a corner radius of 3 inches. Sign corners shall be left square.

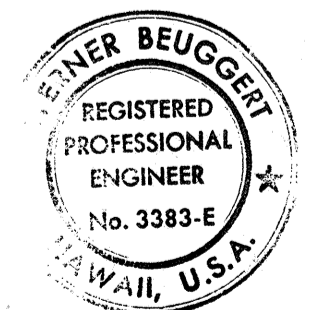


TYPE 'A'



TYPE 'B'

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



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Henry Beuggert

DATE	3/15/78	REVISION	Revised Signs T-30, T-32 & T-33, Added Signs T-38 & T-39.
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION			
SIGN PANEL LAYOUT			
INTERSTATE ROUTE H-1 PROJECT NO. I-HI-1 (131):17			
SCALE: 1/2" = 1'-0"		DATE: AUG. 31, 1977	
SHEET No. 8 OF 8 SHEETS			

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)-17	1977	132	394

GENERAL NOTES

DESIGN:
AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, dated 1975.

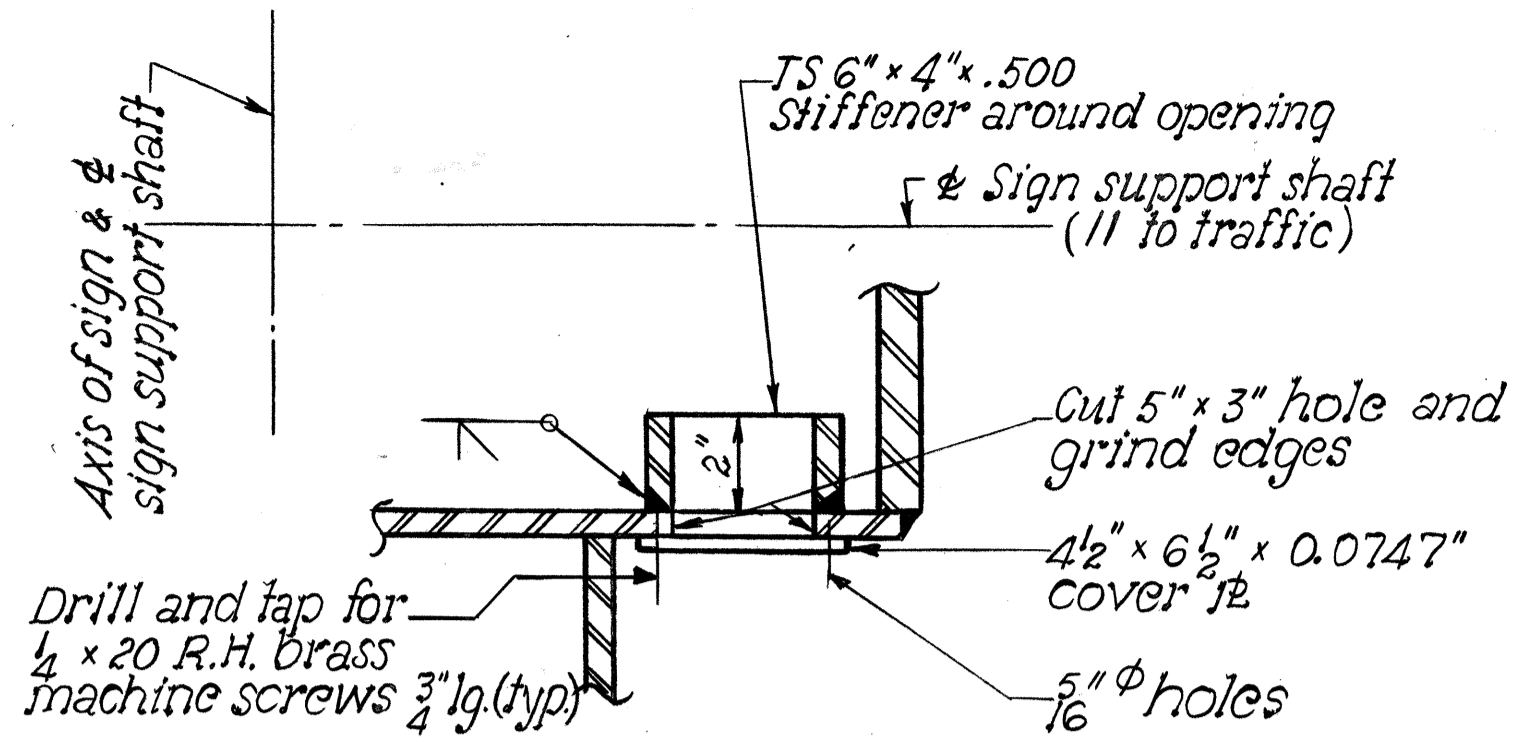
DESIGN DATA:
Wind Loading: Normal to face of sign (75mph wind):
46psf, E-14
42psf, E-19
Transverse to face of sign = 0.2 of normal force.

Walkways: None
Ice Load: None
Structural Steel: ASTM A-36 fy = 36,000psi.
High Strength Bolts: ASTM A 325 (Friction - Type Connection)

WELDING:
All welding to be continuous welds and as noted on the plans.

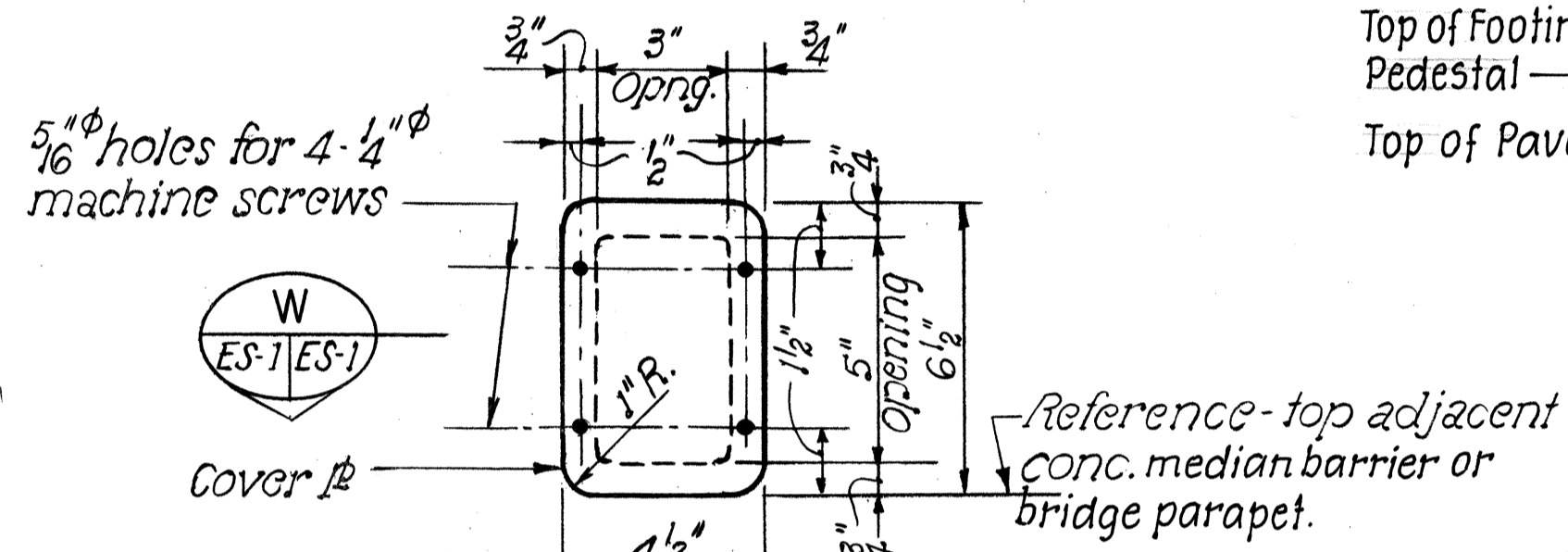
GENERAL:
1. Before preparation of shop drawings for the sign support frame structures, the contractor shall verify in the field, the exact location of each of the anchor bolts and the shelf elevation at the top of the pier caps and footing pedestals.
2. Payment for overhead sign supports E-14 and E-19 shall be made as described in the special provisions.
3. All sign structures are viewed in the direction of traffic.

REFERENCE:
1. Refer to civil drawings for General Notes, Symbols & Abbreviations not covered by these drawings.
2. Refer to civil drawings for location layout plans of signs E-14 and E-19.
3. For Anchor Bolt Details, see Sheet No. ES-6.



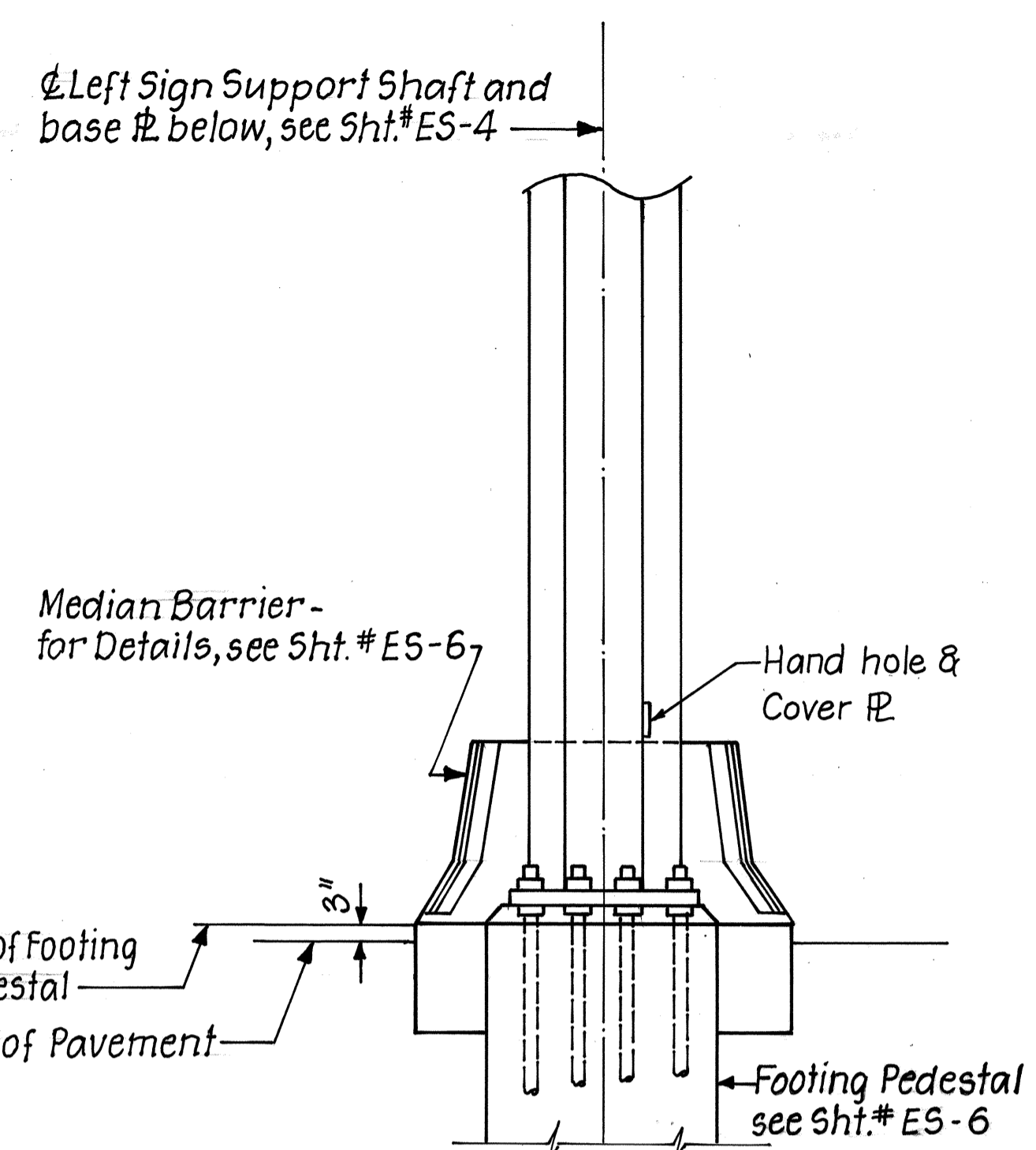
SECTION W
ES-1 ES-1
Scale: 3" = 1'-0"

NOTE: Place hand holes in support shafts where electric service is provided. For location see Electrical Dwg.



ELEVATION

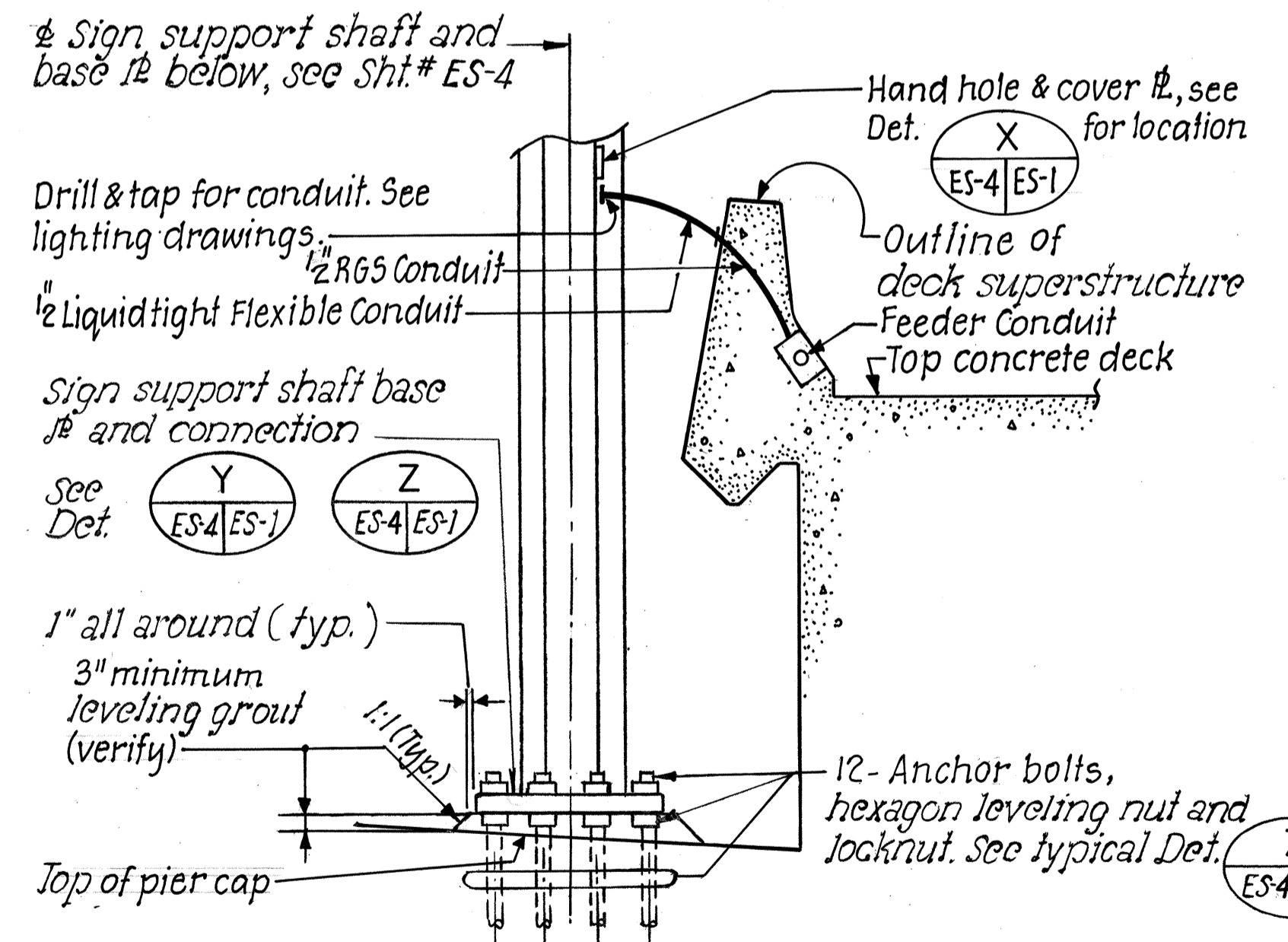
X
ES-4 ES-1
HAND HOLE & COVER PLATE DETAILS



ELEVATION - SUPPORT SHAFT BASE MOUNTED ON GROUND THRU MEDIAN BARRIER
SIGN E-19
Scale: 1/2" = 1'-0"

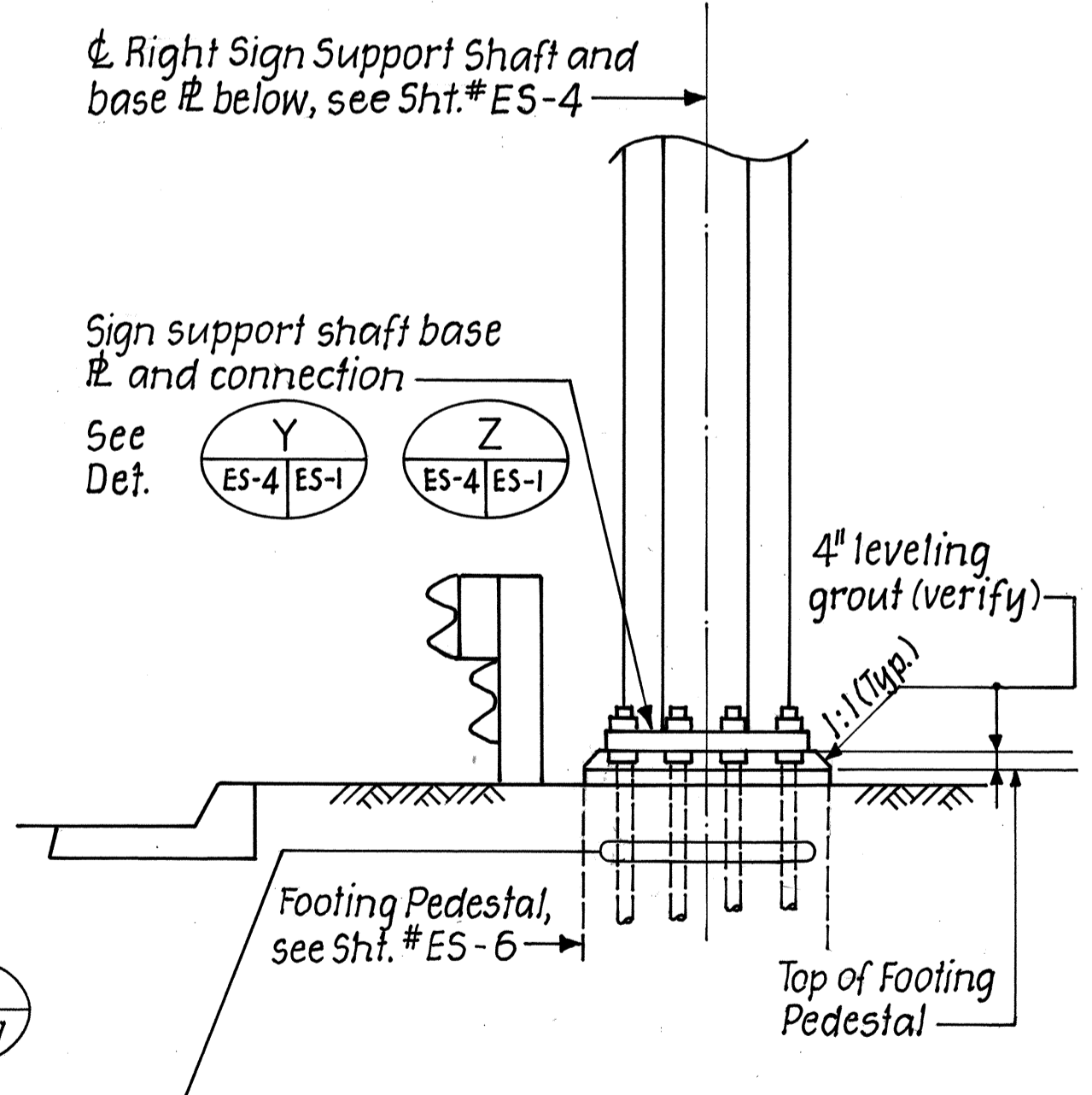
- MATERIALS:**
- Sign support box truss members & supporting shafts; sheet metal siding & edgings; connection bolts; nut & washers; to be structural steel. All surfaces shall be hot dipped galvanized after fabrication prior to painting. See Specifications & Ribbed Sheet Metal Notes on Sheet No. ES-5
 - Galvanized surfaces of expressway sign frame & supports (Note-1 above) shall be painted, see specifications. Pigment for final coats of exterior weatherproof enamel to be determined by the Engineer.
 - Aluminum members and surfaces in contact with structural steel shall be isolated with neoprene material as directed by the Engineer.
 - Contact surfaces in high strength (H.S.) bolt connections shall not be painted. The galvanizing on these surfaces shall be lightly scored by wire brushing prior to assembly.
 - H.S. Bolts shall be galvanized, furnished and installed in conformance with ASTM A325 - 71A with lubricated nuts.
 - Leveling grout shall be non-shrink and non-metallic.

- CONSTRUCTION METHOD:**
- See Hawaii Standard Specifications for Road & Bridge Construction, 1976 Edition and AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, dated 1975.



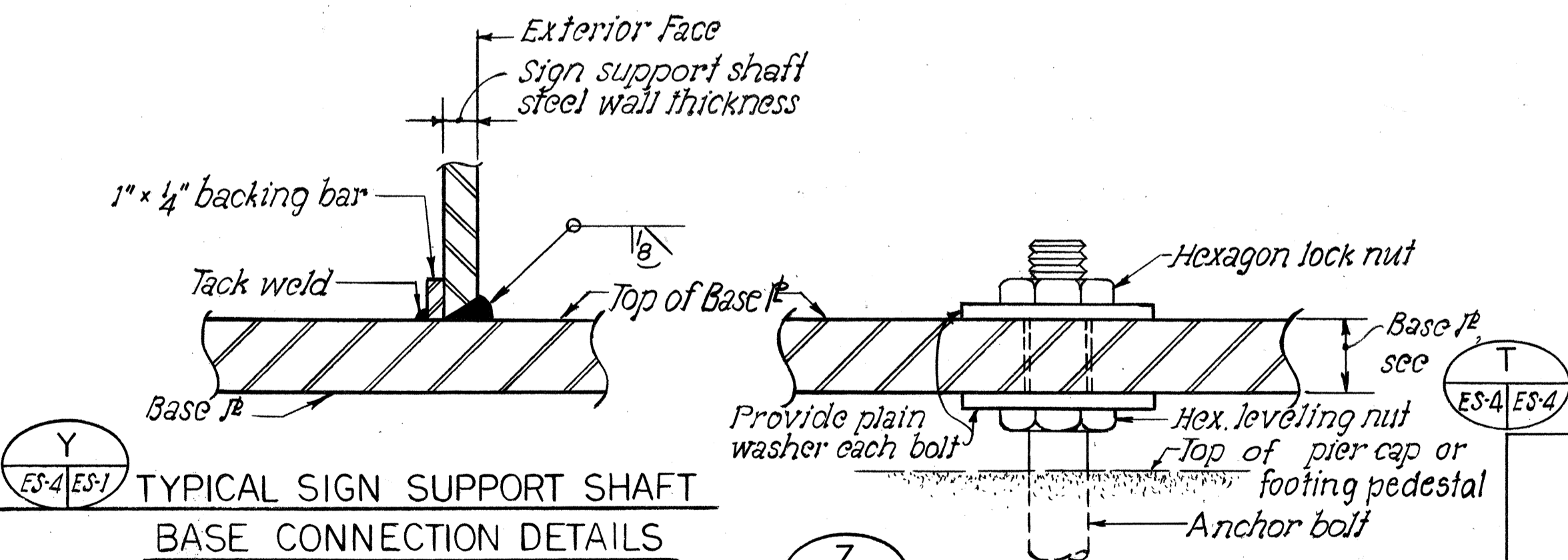
Note: Left Support Shaft shown. Right Support Shaft similar but opposite hand.

ELEVATION - SUPPORT SHAFT BASE MOUNTED ON PIER
SIGN E-14
Scale: 1/2" = 1'-0"

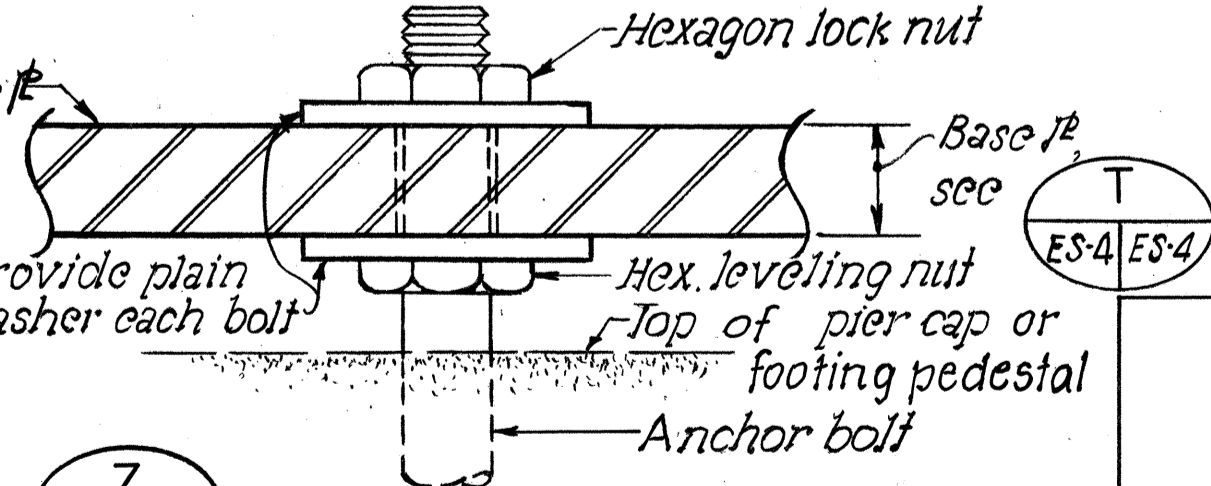


ELEVATION - SUPPORT SHAFT BASE MOUNTED ON GROUND
SIGN E-19
Scale: 1/2" = 1'-0"

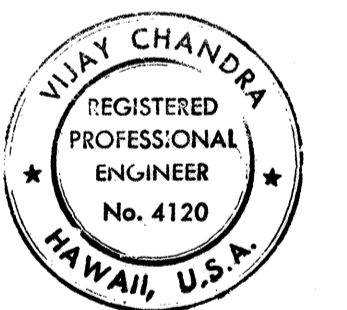
NOTE: For elevation at bottom of base plates, see Table on Sheet No. ES-2.



TYPICAL SIGN SUPPORT SHAFT BASE CONNECTION DETAILS
Not to scale



TYPICAL BASE PLATE ANCHOR BOLT CONNECTION DETAIL
Scale: 3" = 1'-0"



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Vijay Chandra
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

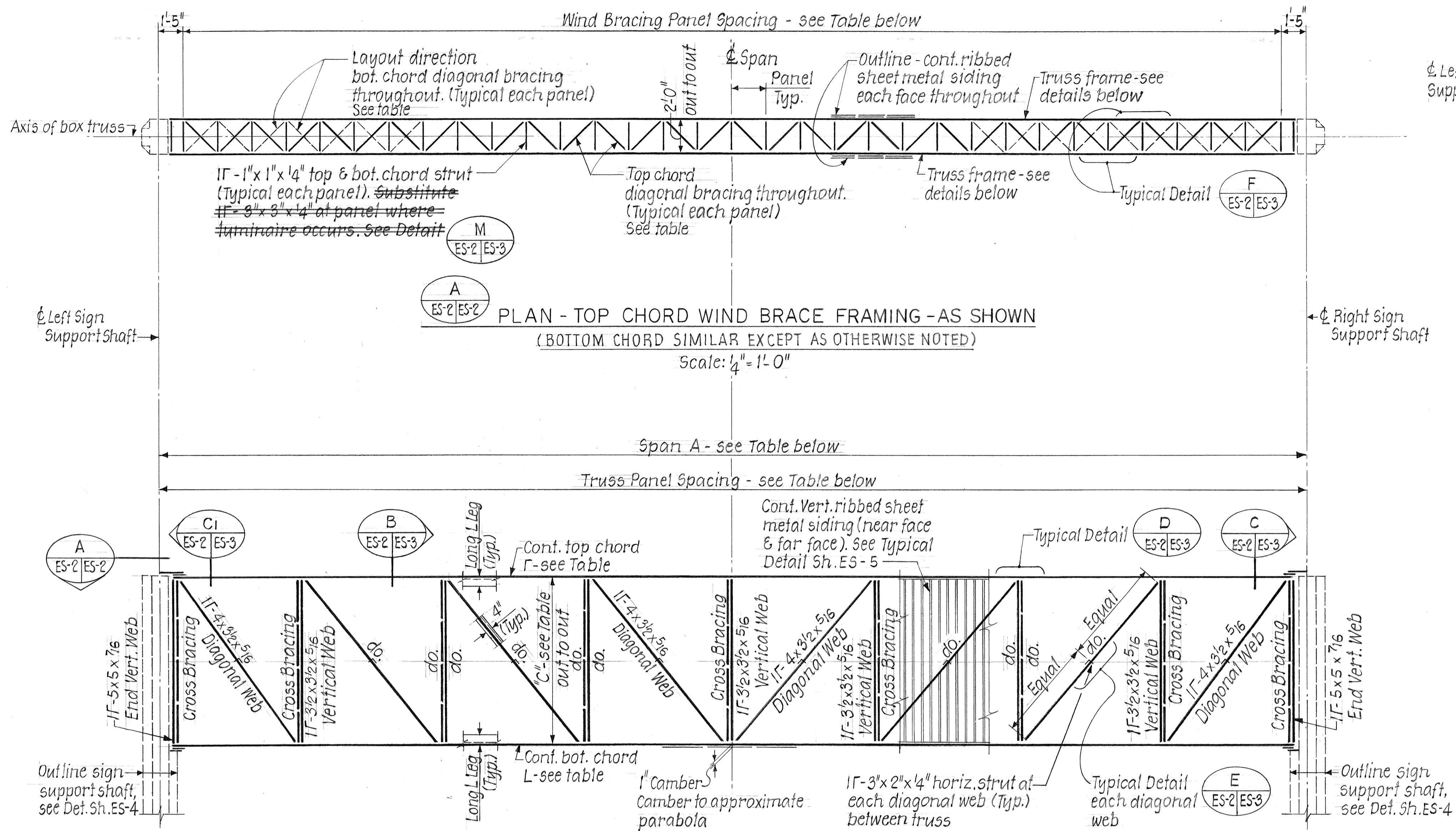
SIGNS E-14 AND E-19
SUPPORT SHAFT BASE & DETAILS
GENERAL NOTES

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131) :17
SCALE: AS NOTED DATE: Aug 31, 77

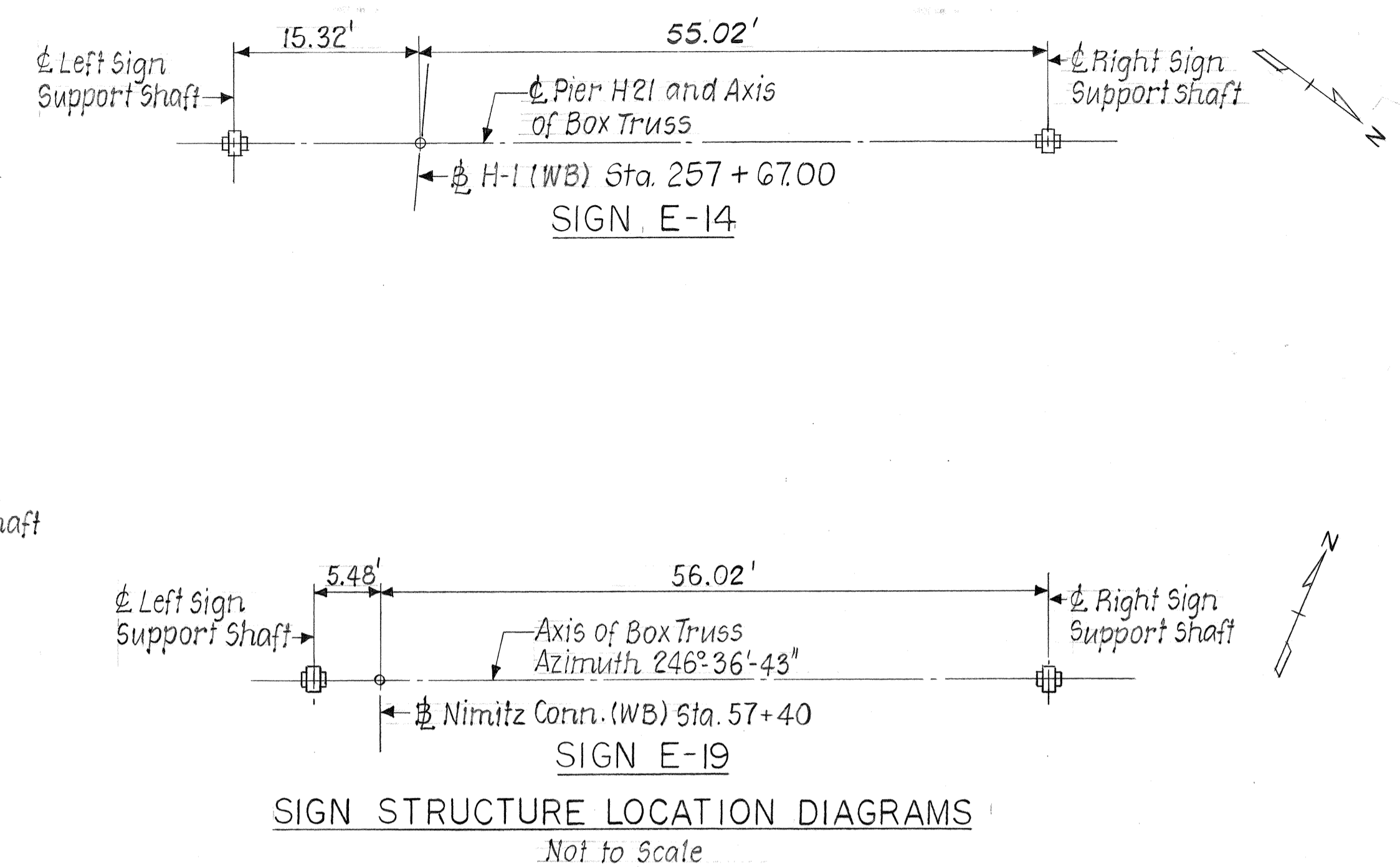
SHEET NO. ES-1 OF 6 SHEETS

SURVEY PLOTTED BY	DATE
PLAN	12-76
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(131):17	1977	133	394



ELEVATION - TYPICAL TRUSS FRAMING DETAIL - BOX BEAM CLOSED TRUSS
Scale: 1/4" = 1'-0"

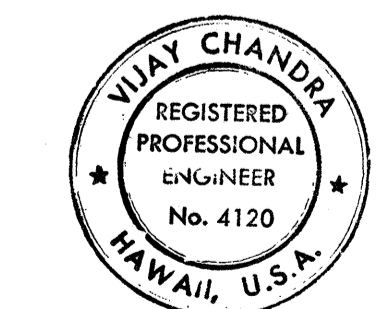


SIGN STRUCTURE LOCATION DIAGRAMS
Not to Scale

- NOTES:
1. For General & Design Notes, refer to Sh. No. ES-1.
 2. Luminaire support framing; sign supports & mounting beams not shown. Refer to corresponding details Sh. No. ES-3 & ES-5. For additional details, refer to corresponding highway lighting & sign drawings.

IDENTIFICATION NO.	SPAN A	LEFT POST B SHEET ES-4	RIGHT POST B SHEET ES-4	TRUSS DEPTH C	TRUSS PANELS SPACING	TRUSS			WIND BRACING PANEL SPACING	DIAG. BRACING TOP & BOTTOM CHORDS	ELEVATION BOTTOM OF BASE PLATES	
						TOP & BOTTOM CHORD SIZE	VERT. WEB SIZE	DIAG. WEB SIZE			LEFT POST	RIGHT POST
E-14	70'-4"	33'-6 3/8"	37'-11 5/8"	9'-11 1/2"	8 equal panels @ 8'-9 1/2" = 70'-4"	L6 x 4 x 9/16	L3/2 x 3/2 x 5/16	L4 x 3/2 x 5/16	34 equal panels @ 1'-11 13/16" = 67'-6"	L1 3/4 x 1 3/4 x 1/4	28.24'	23.81'
E-19	61'-6"	28'-1 1/8"	27'-0 1/2"	9'-11 1/2"	8 equal panels @ 7'-8 1/4" = 61'-6"	L5 x 3/2 x 5/8	L3/2 x 3/2 x 5/16	L4 x 3/2 x 5/16	30 equal panels @ 1'-11 7/16" = 58'-8"	L1 1/2 x 1 1/2 x 1/4	8.58'	9.63'

SURVEY PLOTTED BY: MALKIN DATE: 12-76
 DRAWN BY: PATRICIA MALKIN
 DESIGNED BY: C. FISAL
 QUANTITIES BY: S. W. RAGE
 CHECKED BY: J. B. TIMONEY



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 Vijay Chandra
 Signature

12-18-78 Revised Sign Table of Sign E-14. Revised Sign Structure Location Diagram of Sign E-14.

DATE	REVISIONS

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

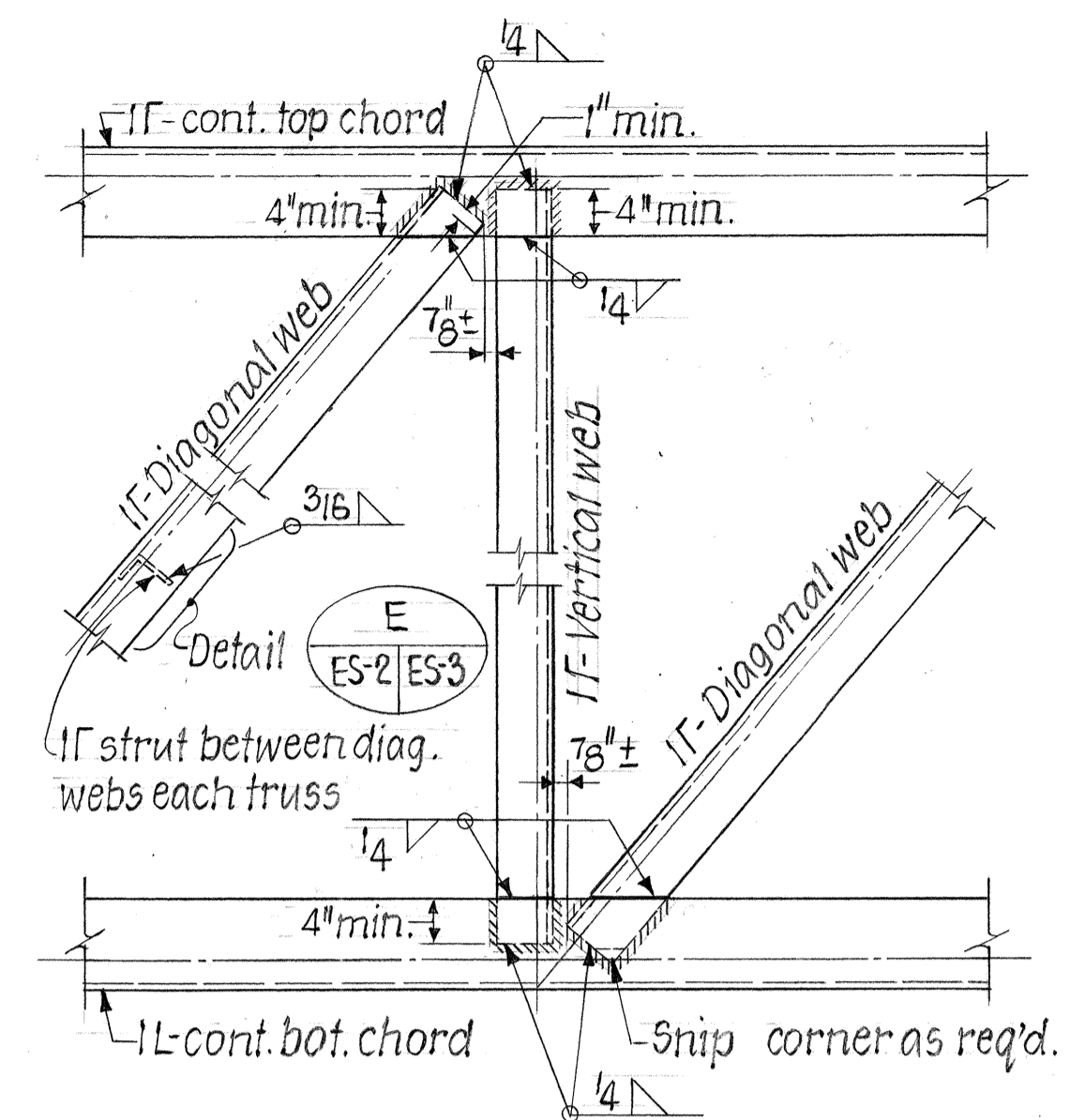
SIGNS E-14 AND E-19
 BOX BEAM CLOSED TRUSS
 FRAMING DETAILS

KEEHI INTERCHANGE
 F.A.I. PROJ. NO. 1-HI-1 (131):17
 SCALE: AS NOTED DATE: Aug. 31, 77

SHEET No. ES-2 OF 6 SHEETS

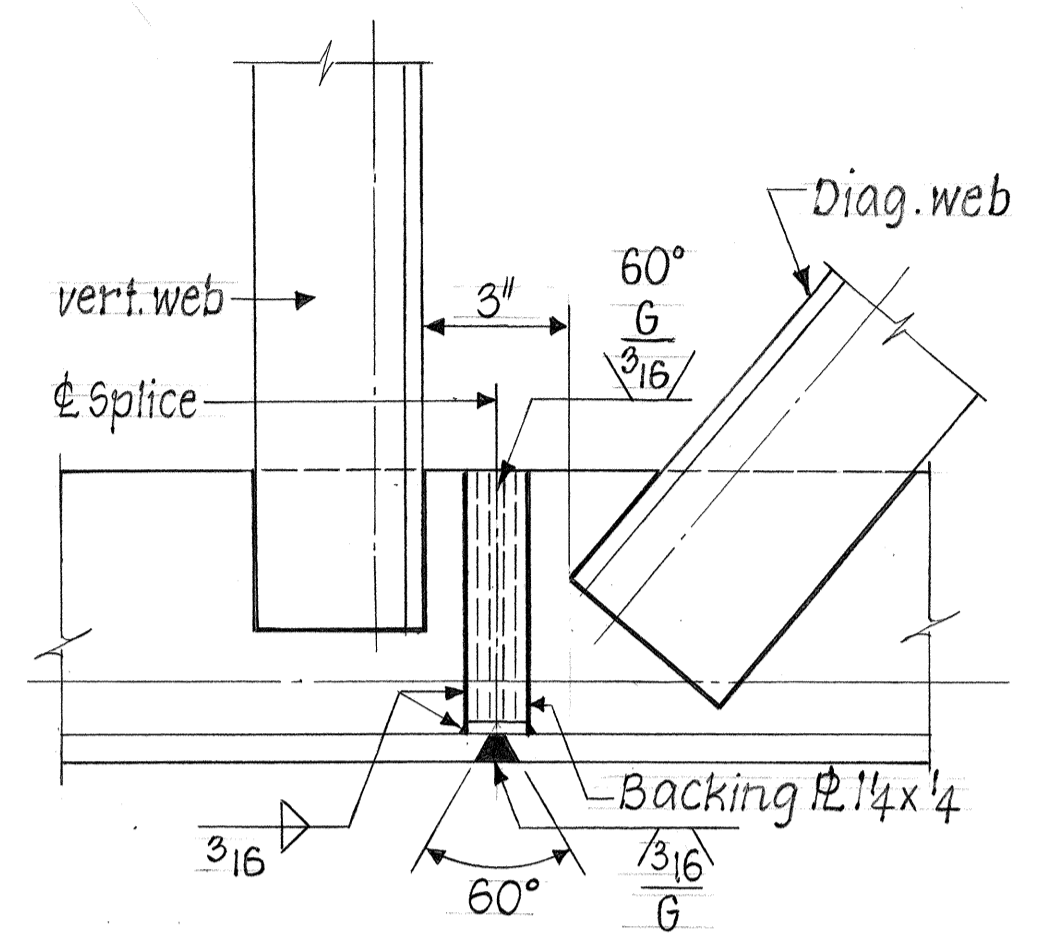
C.O.133

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(131)-17	1977	134	394

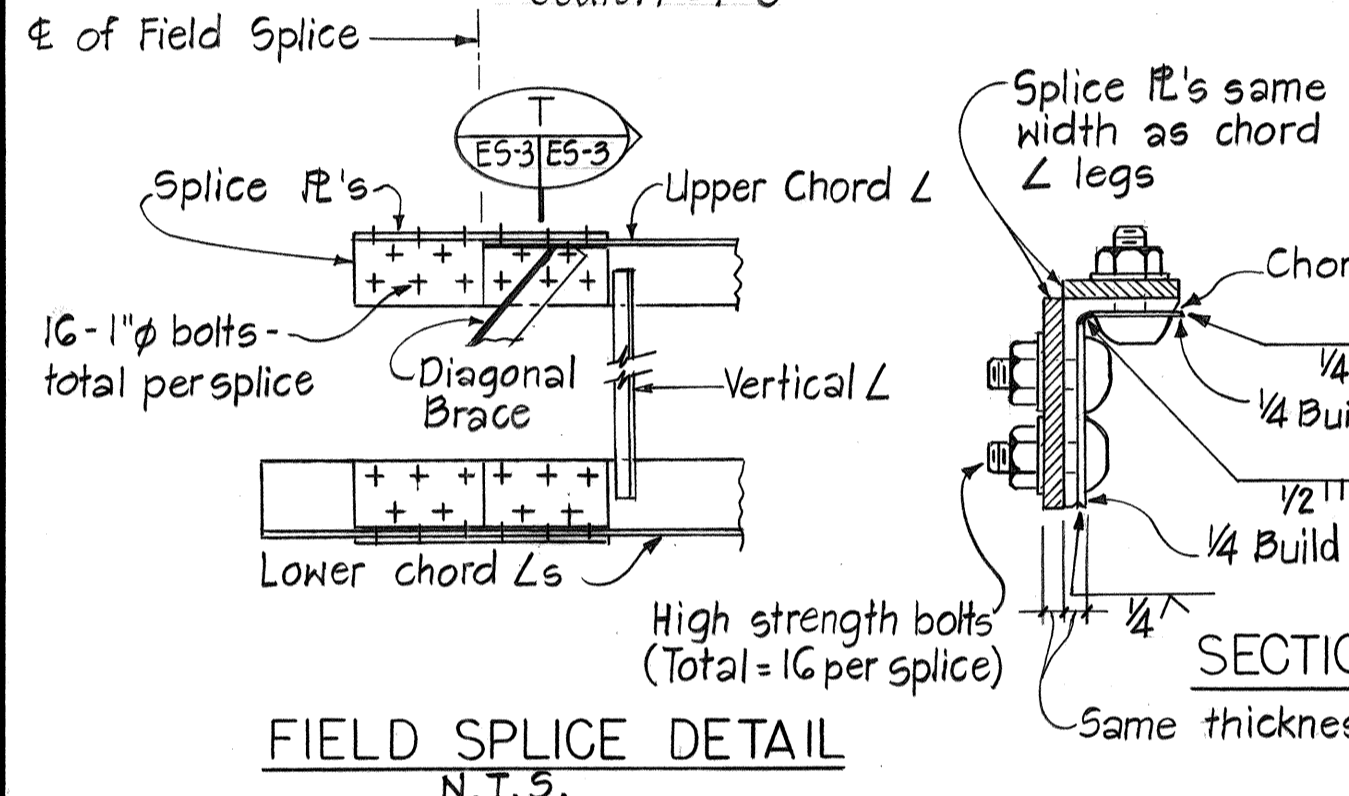


TYPICAL DETAIL ES-2/ES-3
Scale: 1"=1'-0"

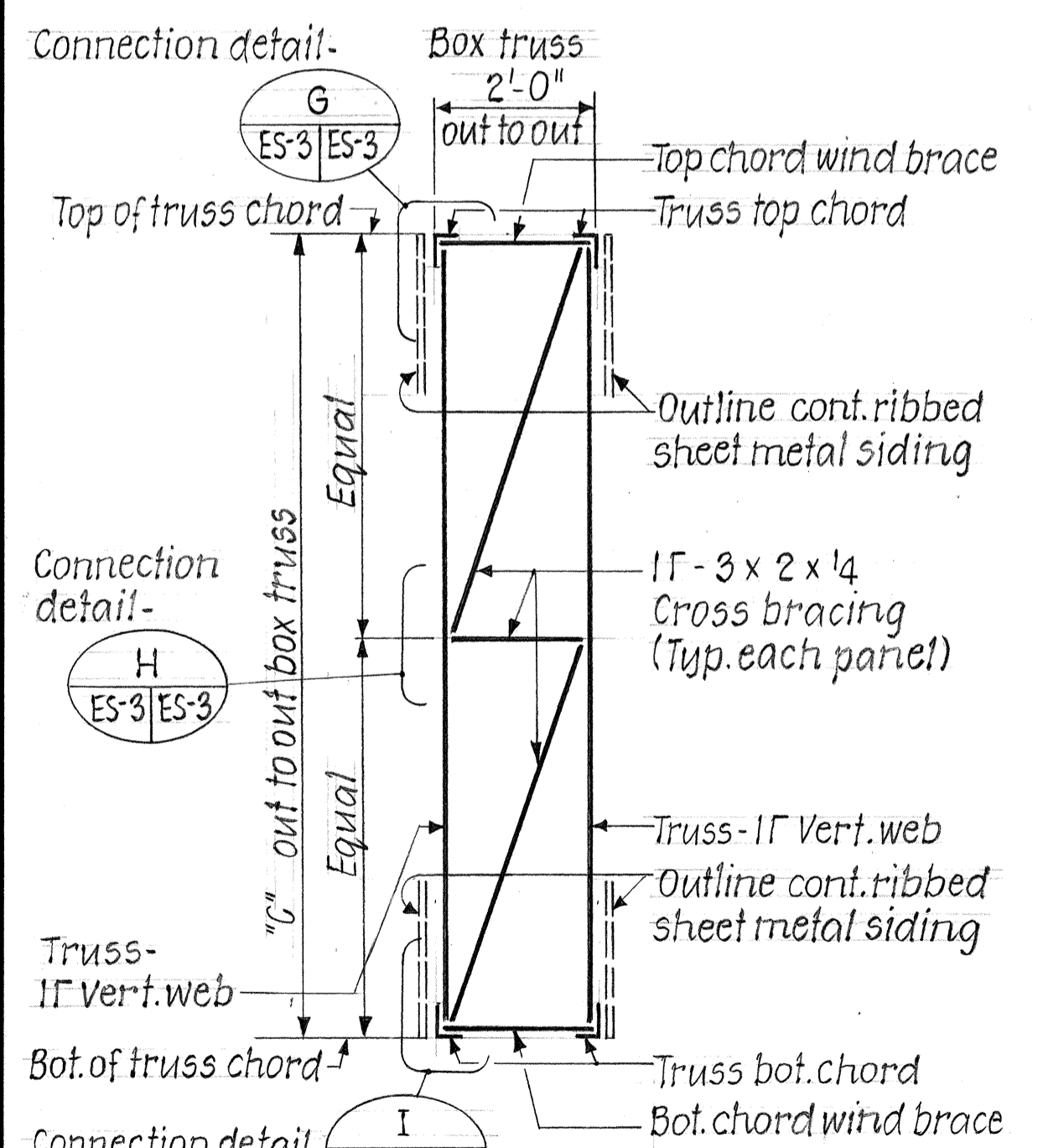
NOTE:
Indicate splice locations on shop fabrication drawings for approval.
In no case shall splices be located at midspan of truss.
The splice shall be located so as not to interfere with mounting the light fixture brackets.



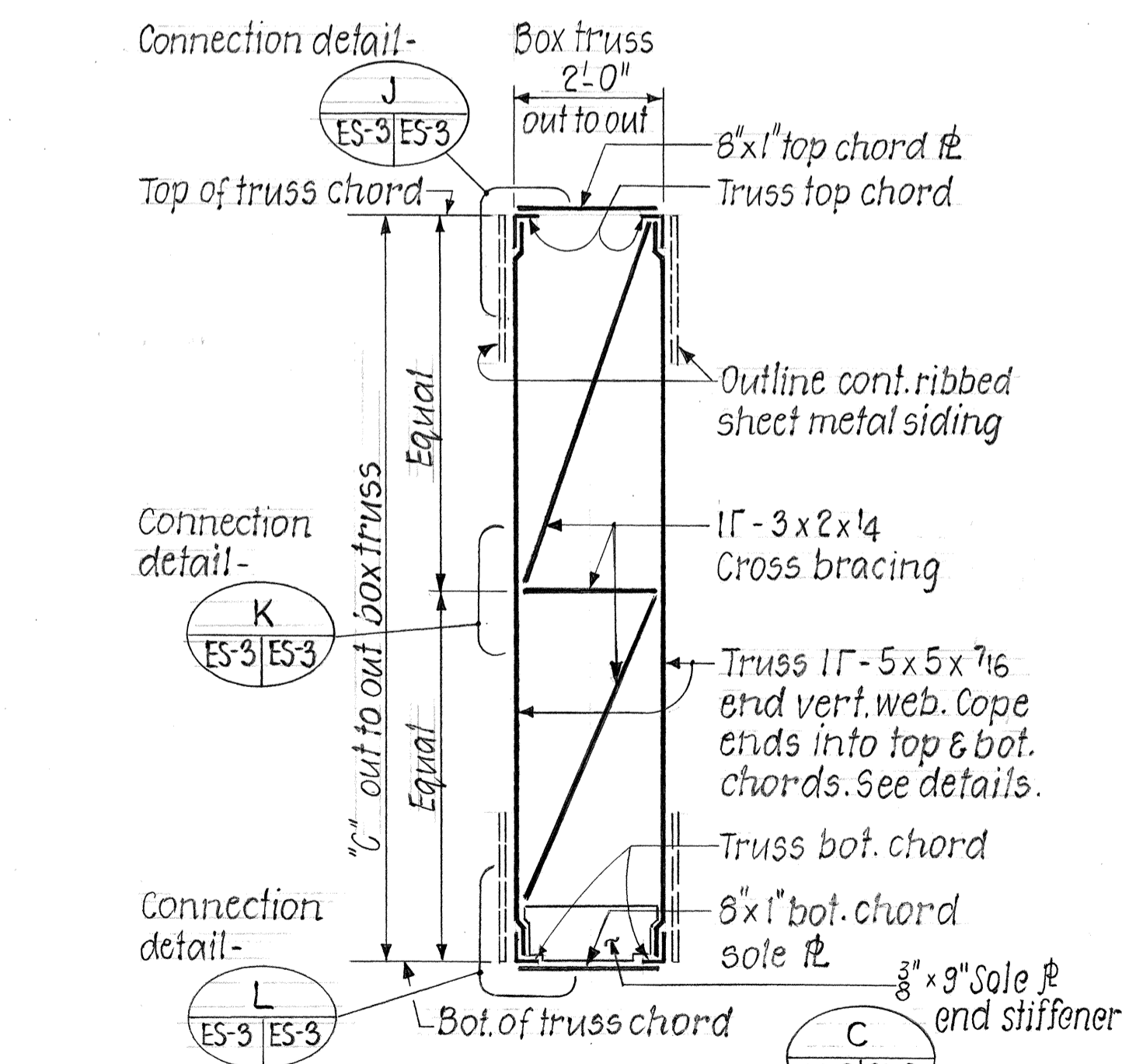
INTERIOR ELEVATION - TYPICAL SHOP TOP OR BOTTOM TRUSS CHORD SPLICE DETAILS
Scale: 3"=1'-0"



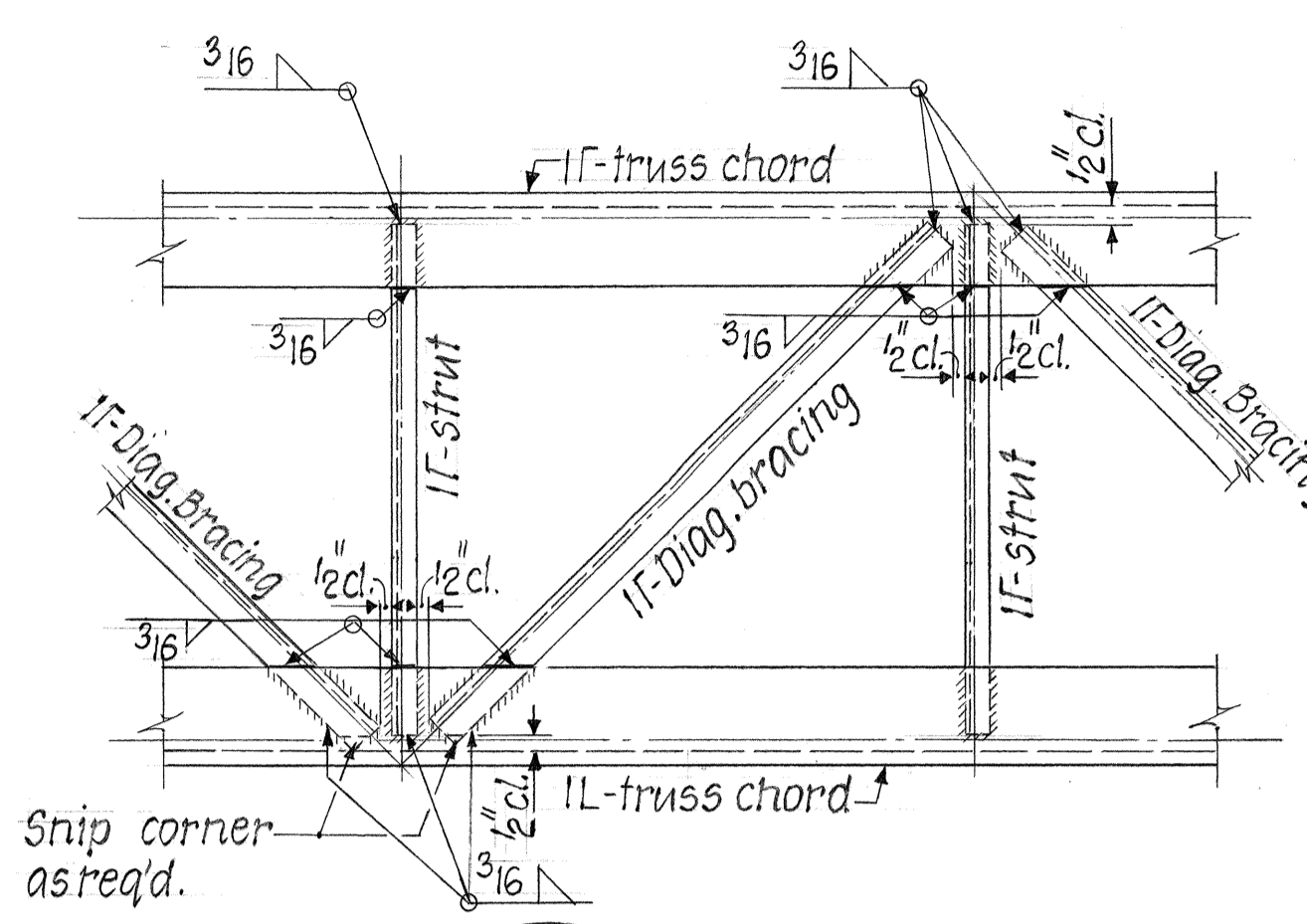
BUILD UP PLATE:
The plates welded to the angle legs on the inside shall be welded before punching the bolt holes. They shall be the same length as the cover plates.



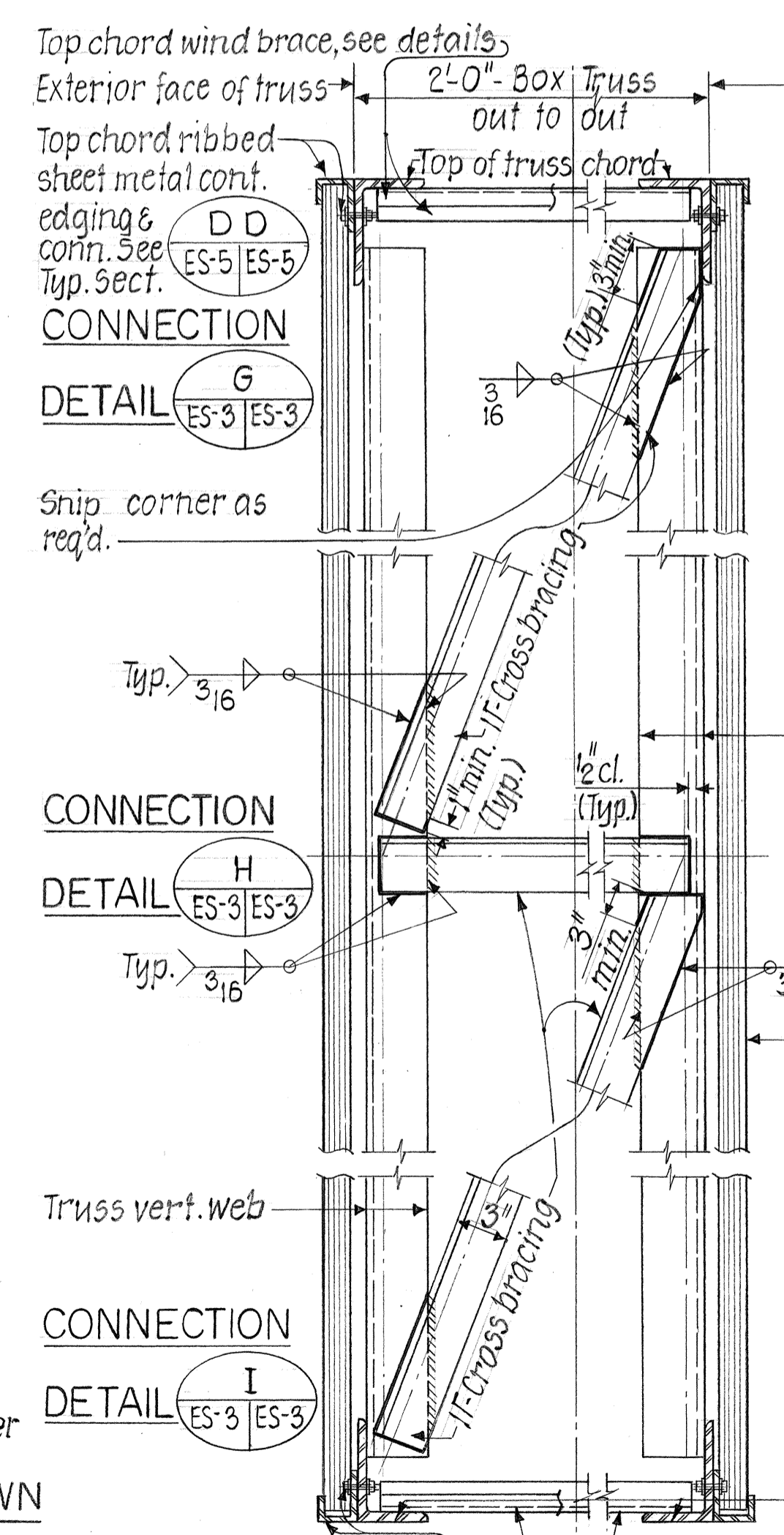
TYPICAL BOX TRUSS SECTION (INTERMEDIATE CROSS BRACING DETAILS)
Scale: 1/2"=1'-0"



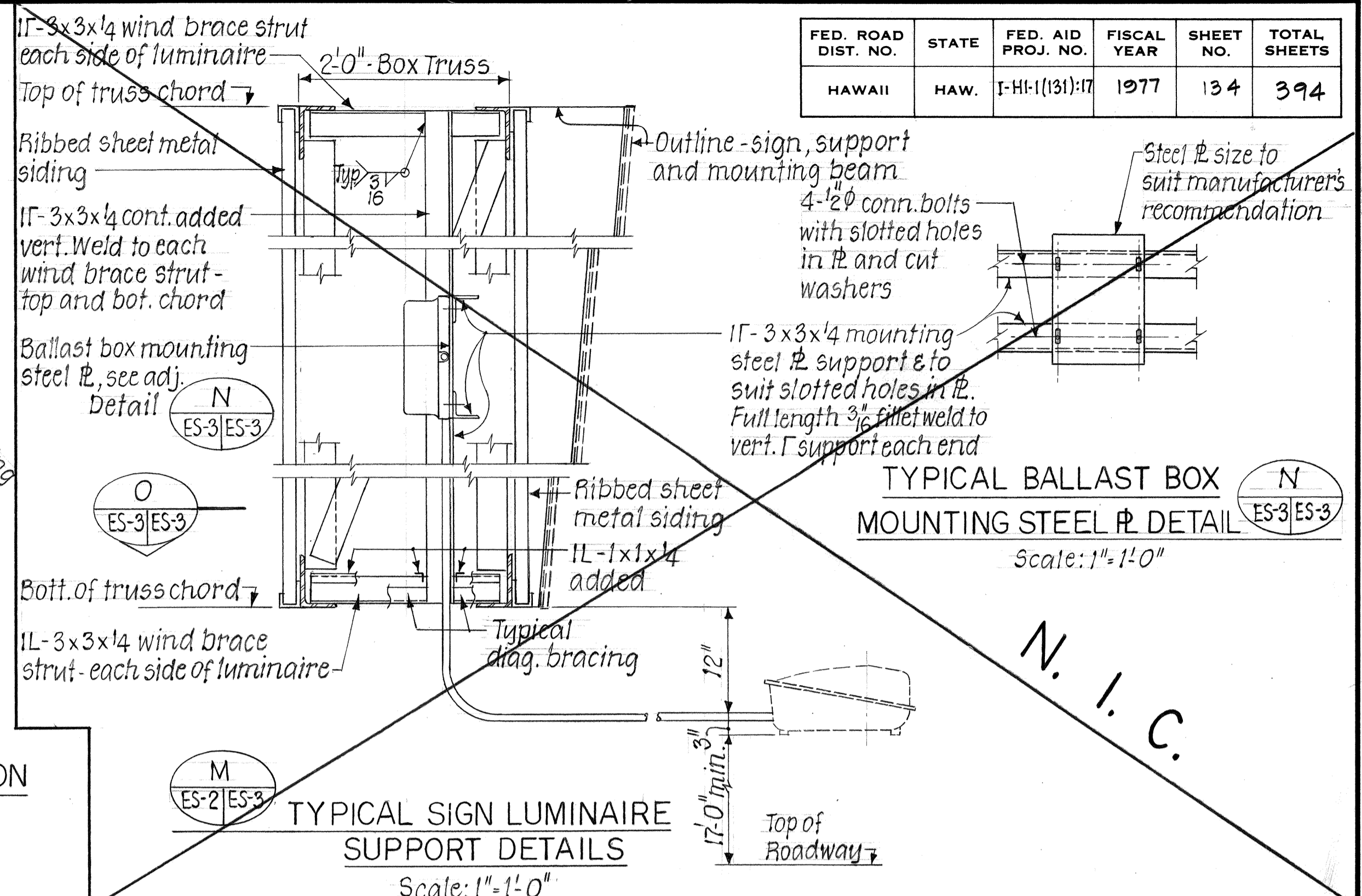
SECTION C1 SIMILAR EXCEPT OPPOSITE HAND (END CROSS BRACING DETAILS)
Scale: 1/2"=1'-0"



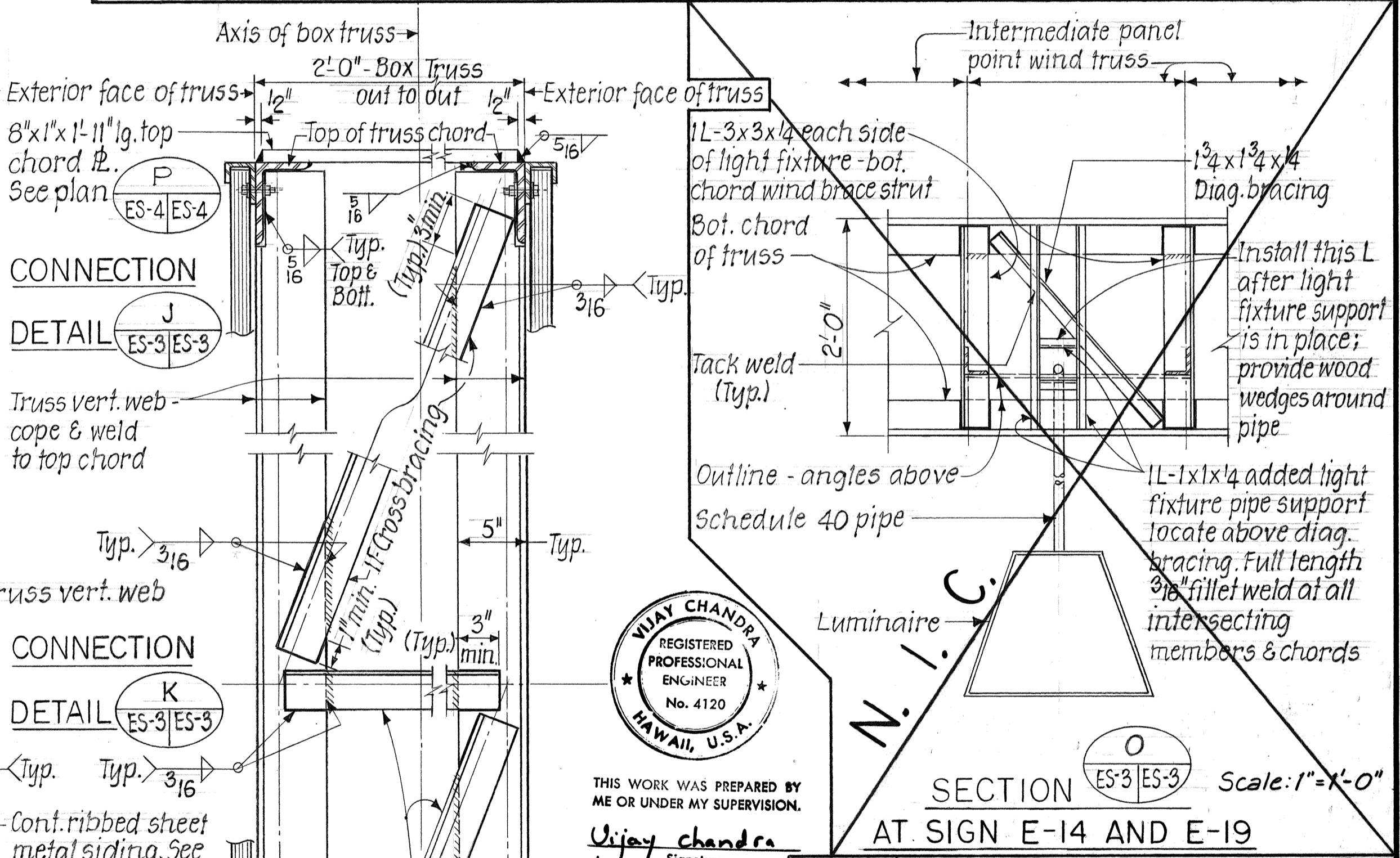
TYPICAL DETAIL ES-2/ES-3 WIND BRACE CONNECTION (TOP CHORD SHOWN - BOT. CHORD SIMILAR)
Scale: 1/2"=1'-0"



CONNECTION DETAILS G, H, I, J, K, L
Scale: 1/2"=1'-0"



TYPICAL SIGN LUMINAIRE SUPPORT DETAILS
Scale: 1"=1'-0"



SECTION O AT SIGN E-14 AND E-19
Scale: 1"=1'-0"

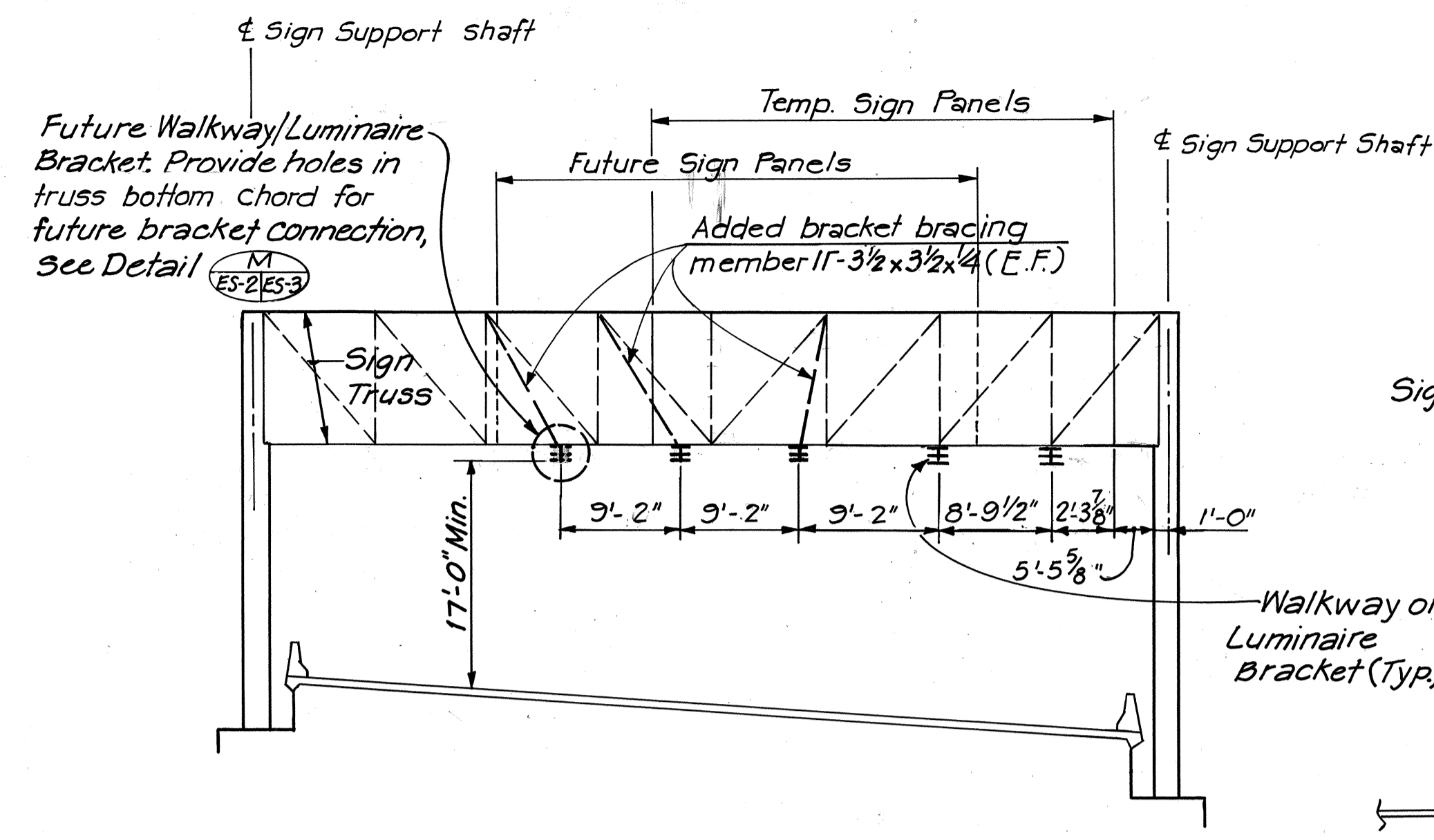
VIJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.
Signature

SURVEY PLOTTED BY: DATE: 12-76
DRAWN BY: P. MALIKIN
DESIGNED BY: C. LEA
QUANTITIES BY: S. WALKER
CHECKED BY: J. E. TIMONEY

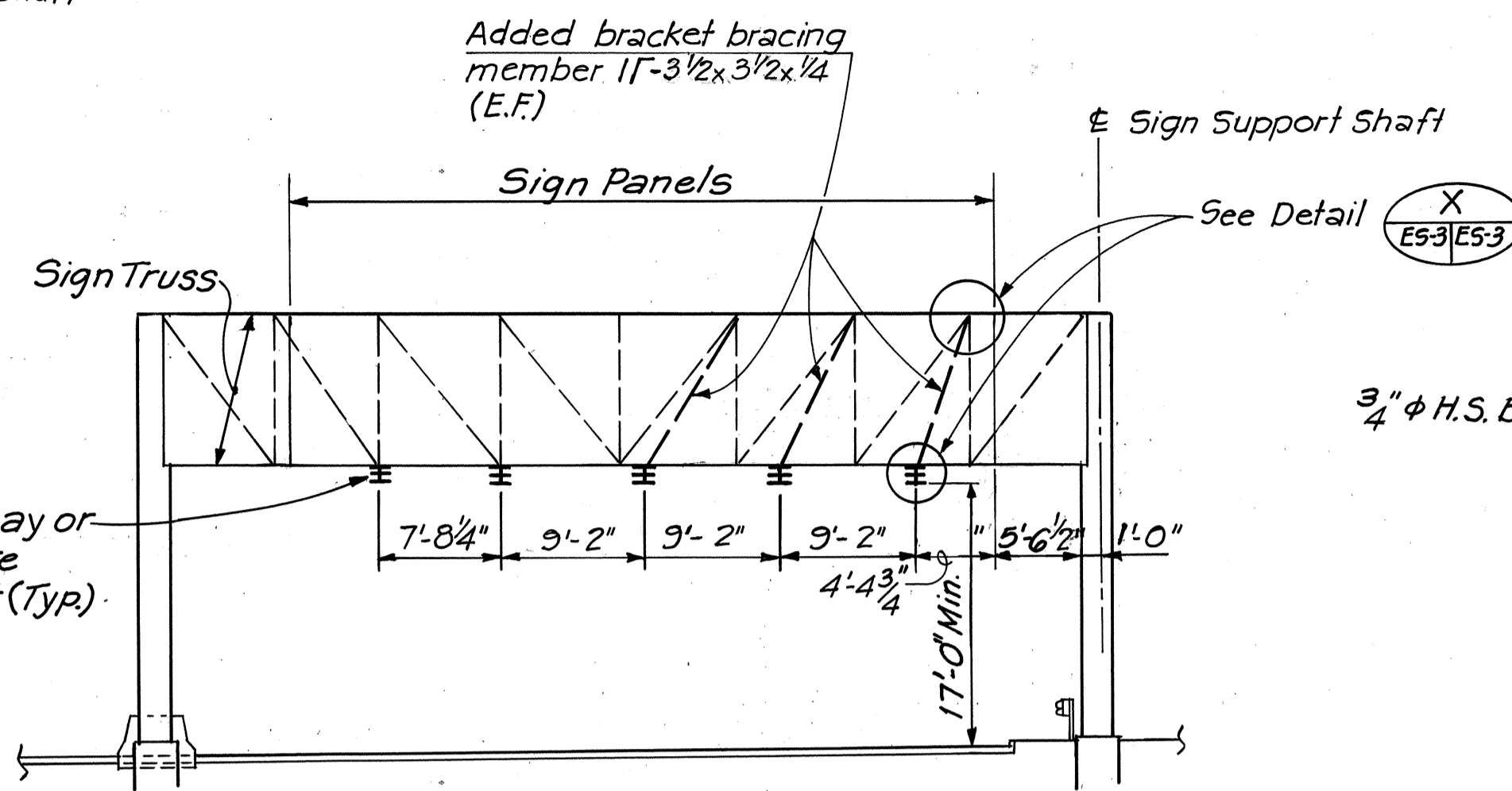
3-23-78	Details M, N, O deleted. See new details on Sht. No. ADD. 134-1.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
SIGNS E-14 AND E-19 BOX BEAM CLOSED TRUSS TRUSS DETAILS	
KEEHI INTERCHANGE F.A.I. PROJ. NO. 1-HI-1(131)-17	
SCALE: AS NOTED	DATE: Aug. 31, 77
SHEET No. ES-3 OF 6 SHEETS	

ADD. 134

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)17	1977	134	394

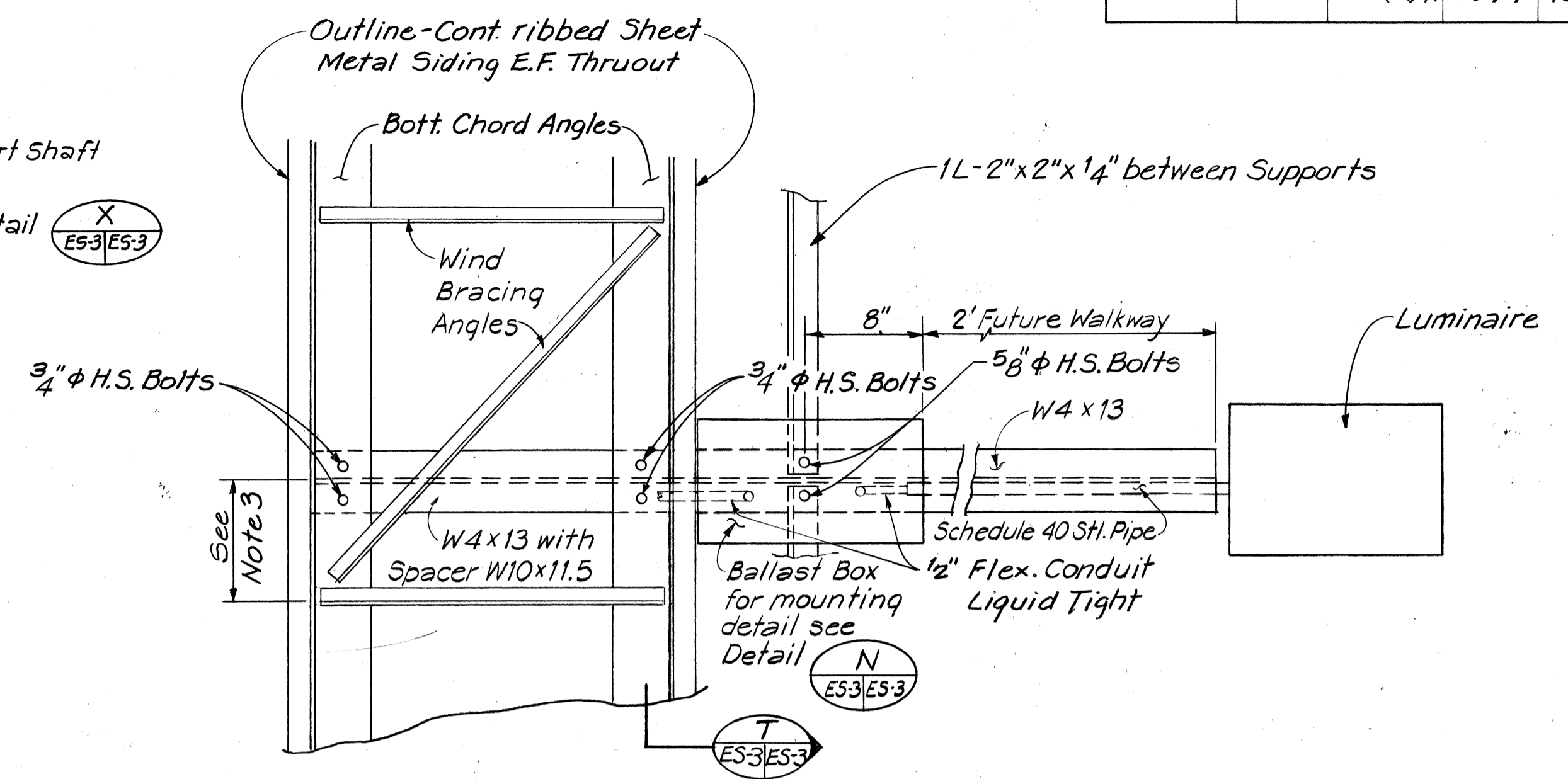


SIGN E-14

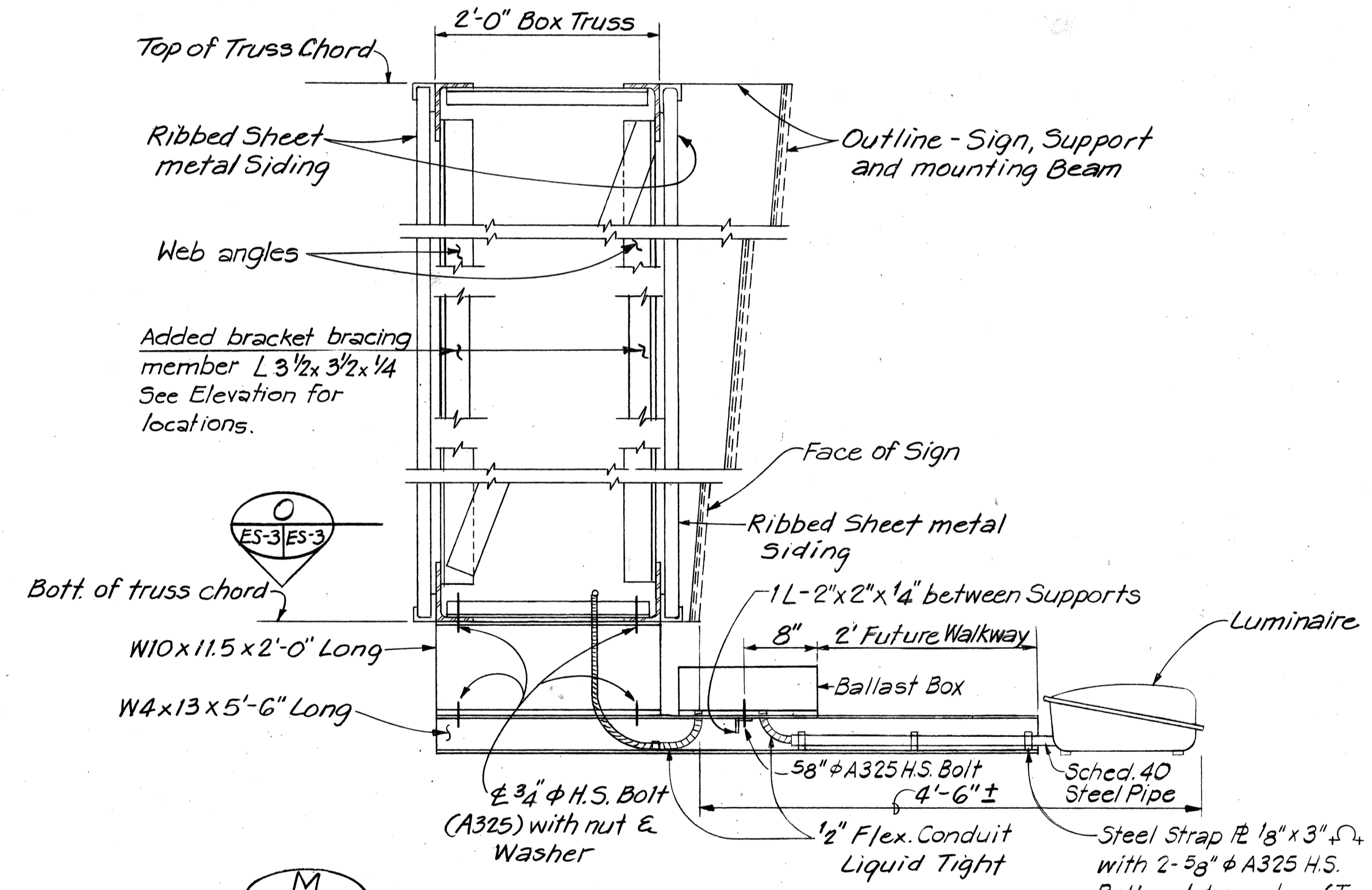


SIGN E-19

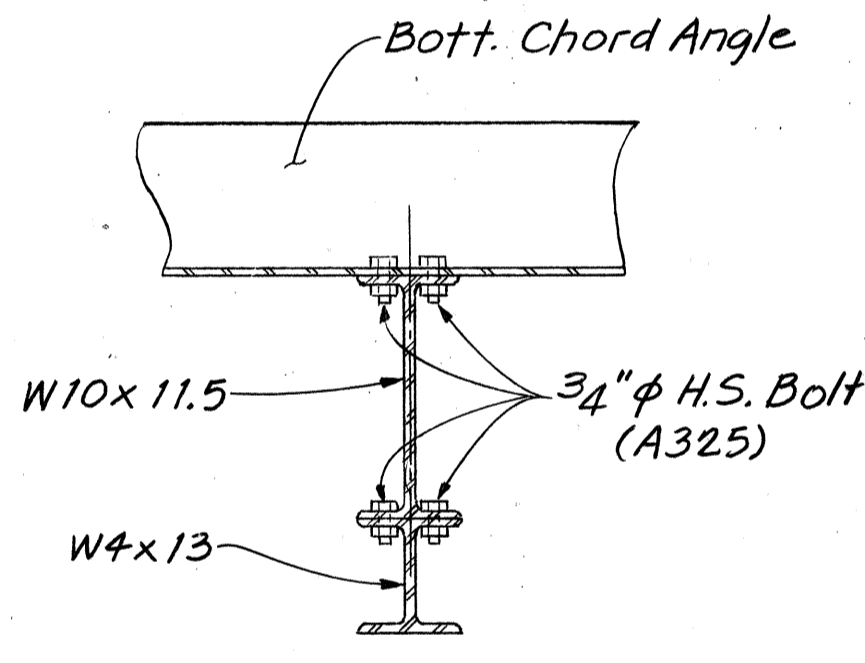
ELEVATION
SCALE: 1" = 10'-0"



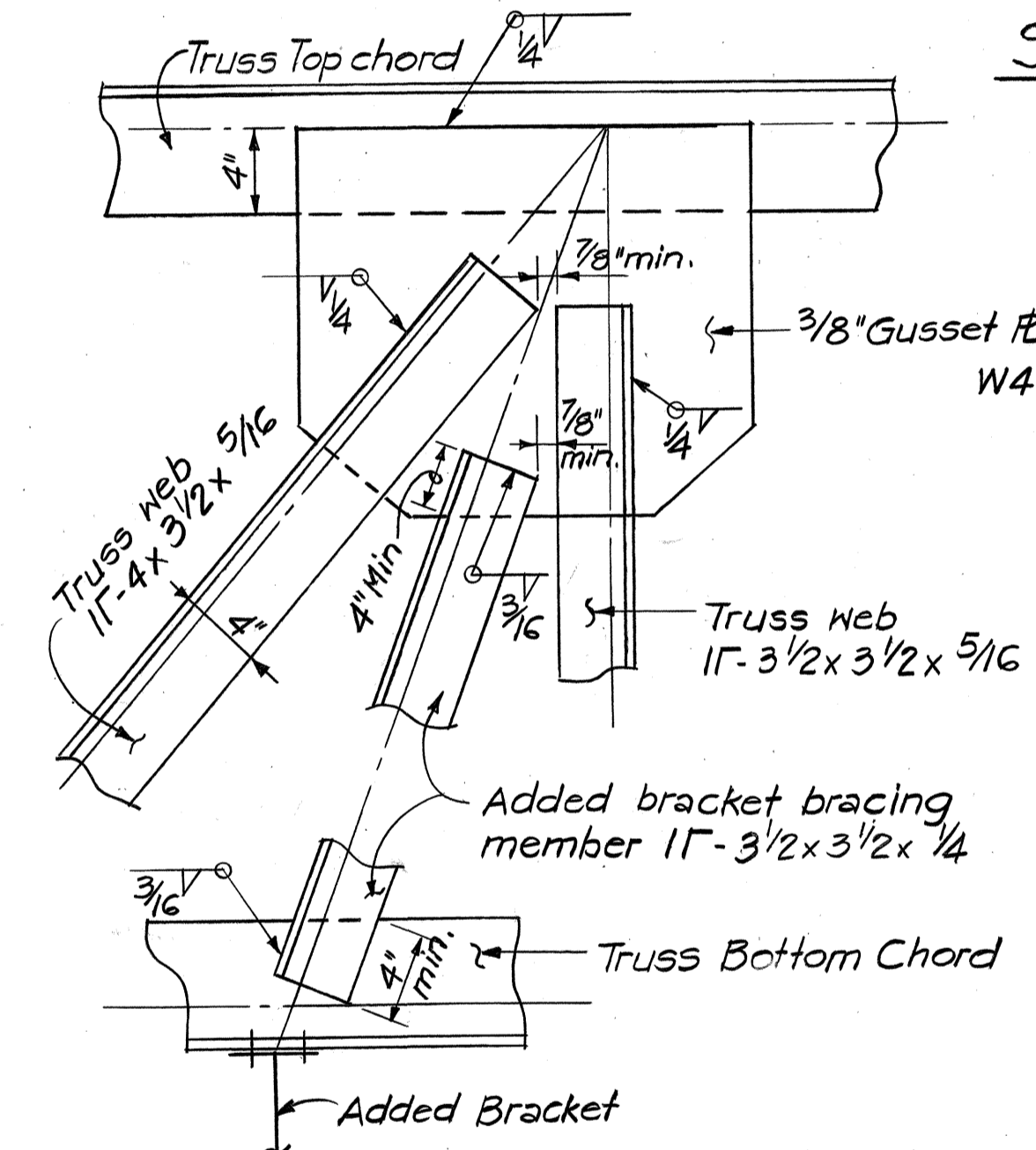
SECTION
Scale: 1/2" = 1'-0"



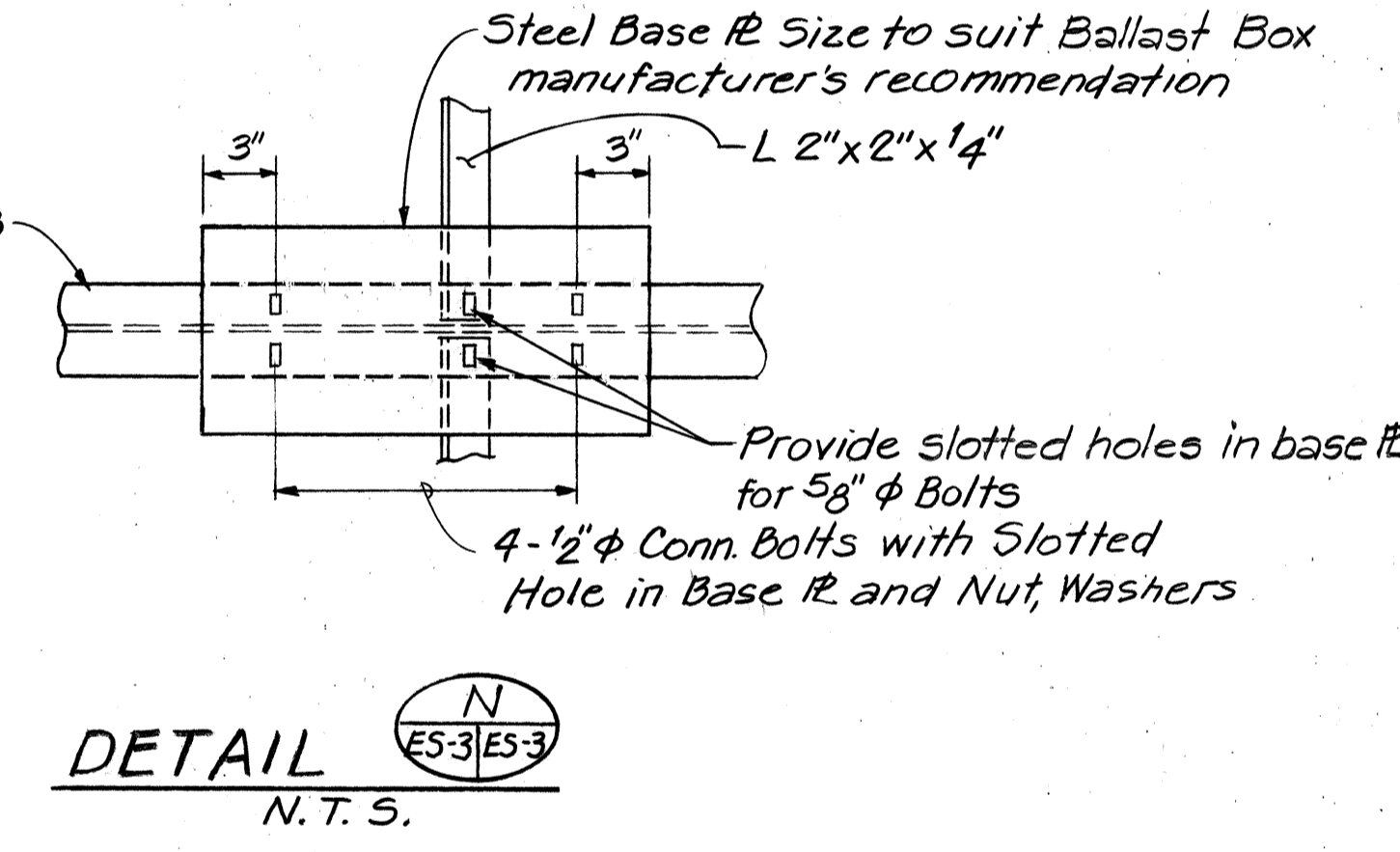
TYPICAL SIGN LUMINAIRE AND WALKWAY SUPPORT DETAILS
Scale: 1" = 1'-0"



SECTION
Scale: 3" = 1'-0"



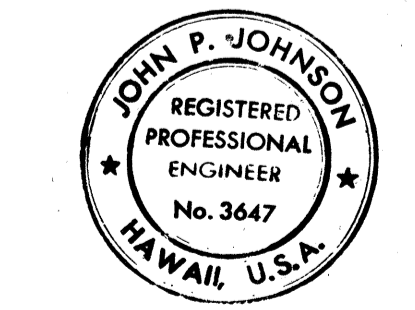
DETAIL
Scale: 1/2" = 1'-0"



DETAIL
N.T.S.

- NOTES:**
- For General Notes see Sheet No. 132.
 - Locations of Luminaires of Signs E-14 and E-19 shown on sheet No. ADD 1CG shall be changed to conform to the dimensions shown on Elevation this sheet.
 - Locations of bottom wind bracing may be adjusted to avoid any interference with Sign Luminaires and walkway brackets subject to the Approval of the Engineer.
 - Load of walkway and railing on each bracket shall not exceed 375 lbs.
 - Live load on each bracket = 500 lbs.

SURVEY PLOTTED BY: _____ DATE: _____
 DRAWN BY: _____
 CHECKED BY: _____
 NOTE BOOK NO. _____



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John P. Johnson

DATE	REVISION
12-18-78	Revised location of walkway brackets in Elevations of Sign E-14 & E-19.
8-25-78	Revised Notes. Added Detail X ES-3/ES-3. Revised locations of walkway bracket in Elevations. Revised walkway support detail in Details ES-2/ES-3, ES-3/ES-3 and Section ES-3/ES-3.
3-23-78	Sheet added to Contract Plan Set for additional details required on Sheet No. ADD. 134.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNS E-14 AND E-19
BOX BEAM CLOSED TRUSS
TRUSS DETAILS

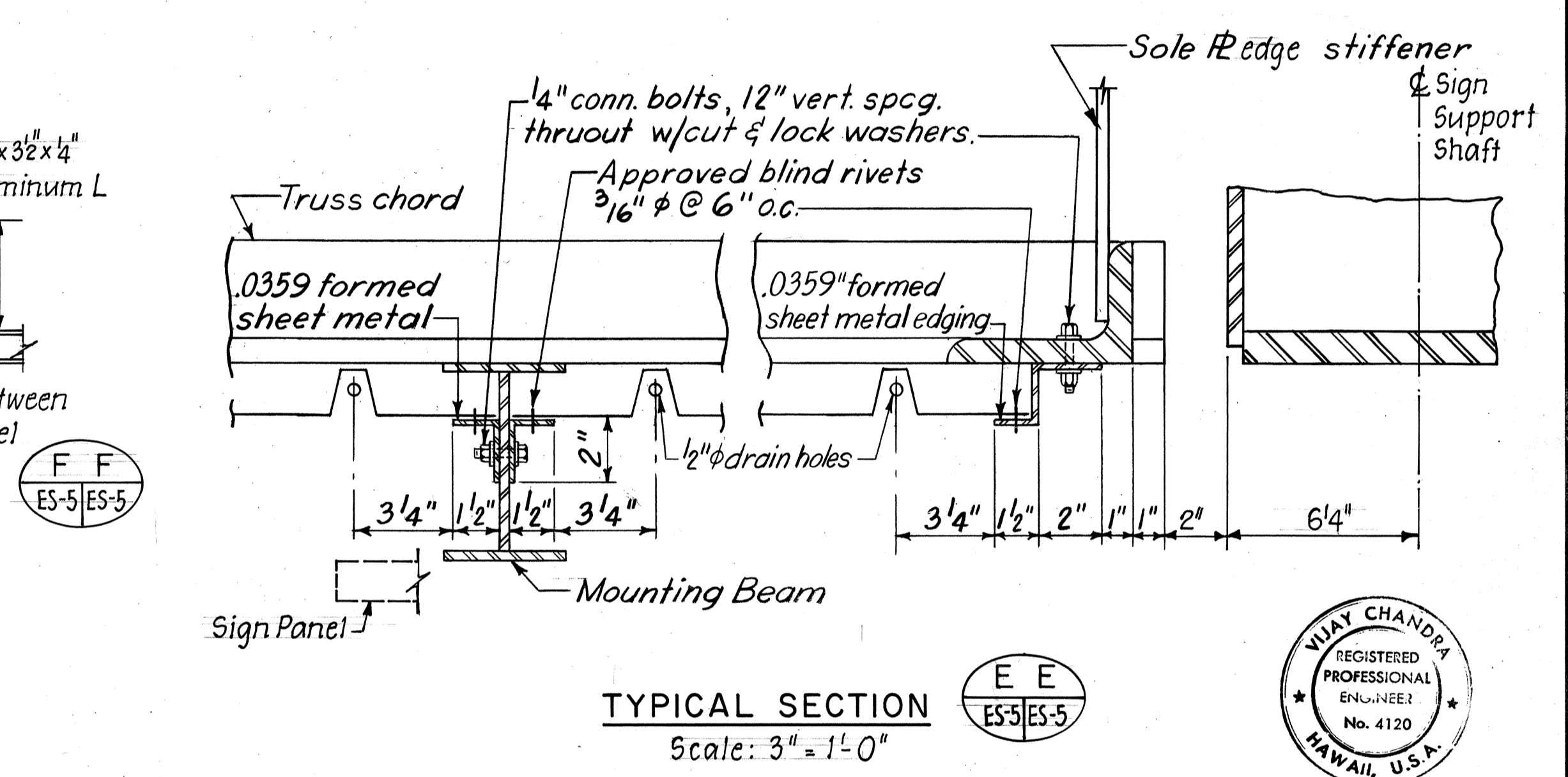
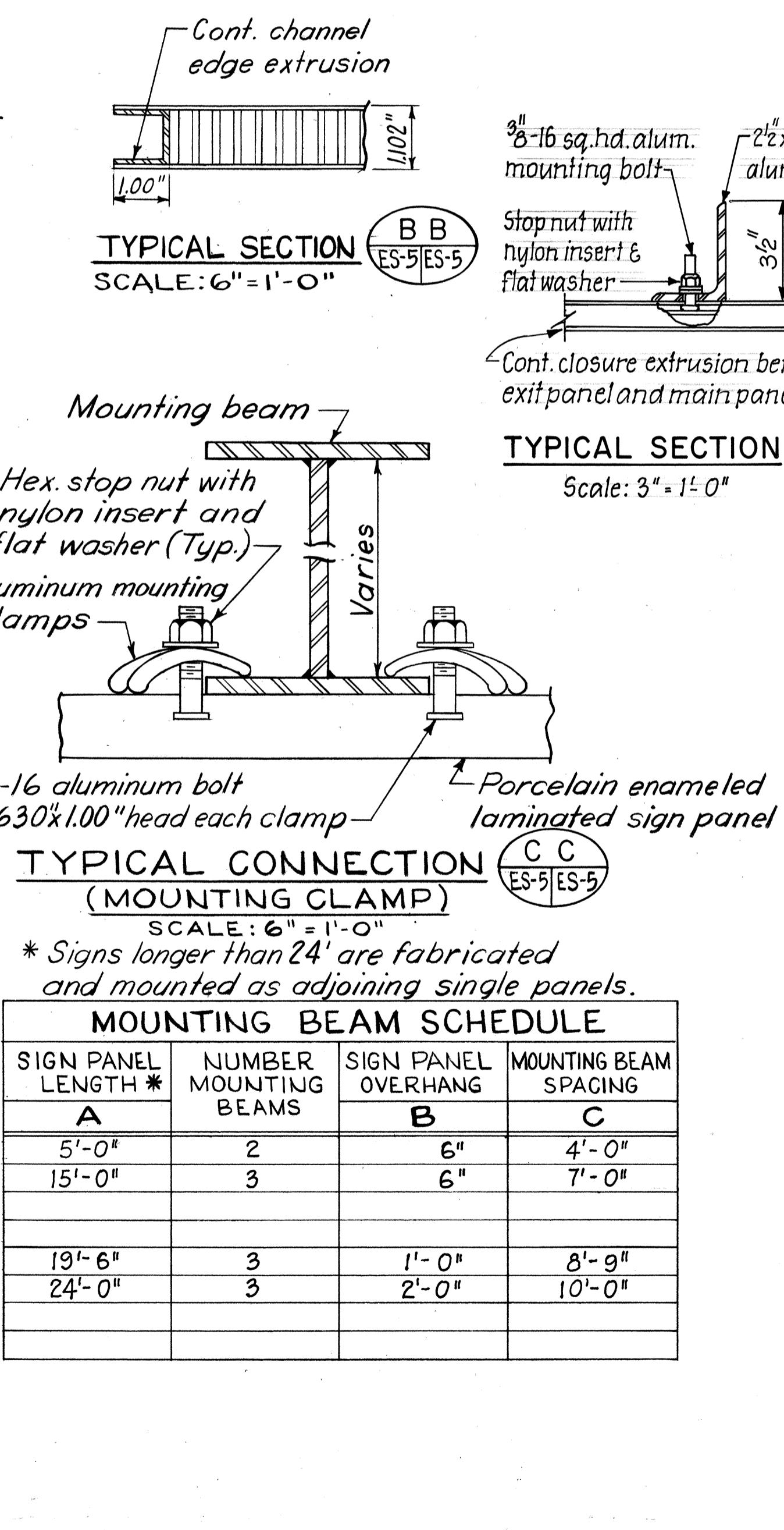
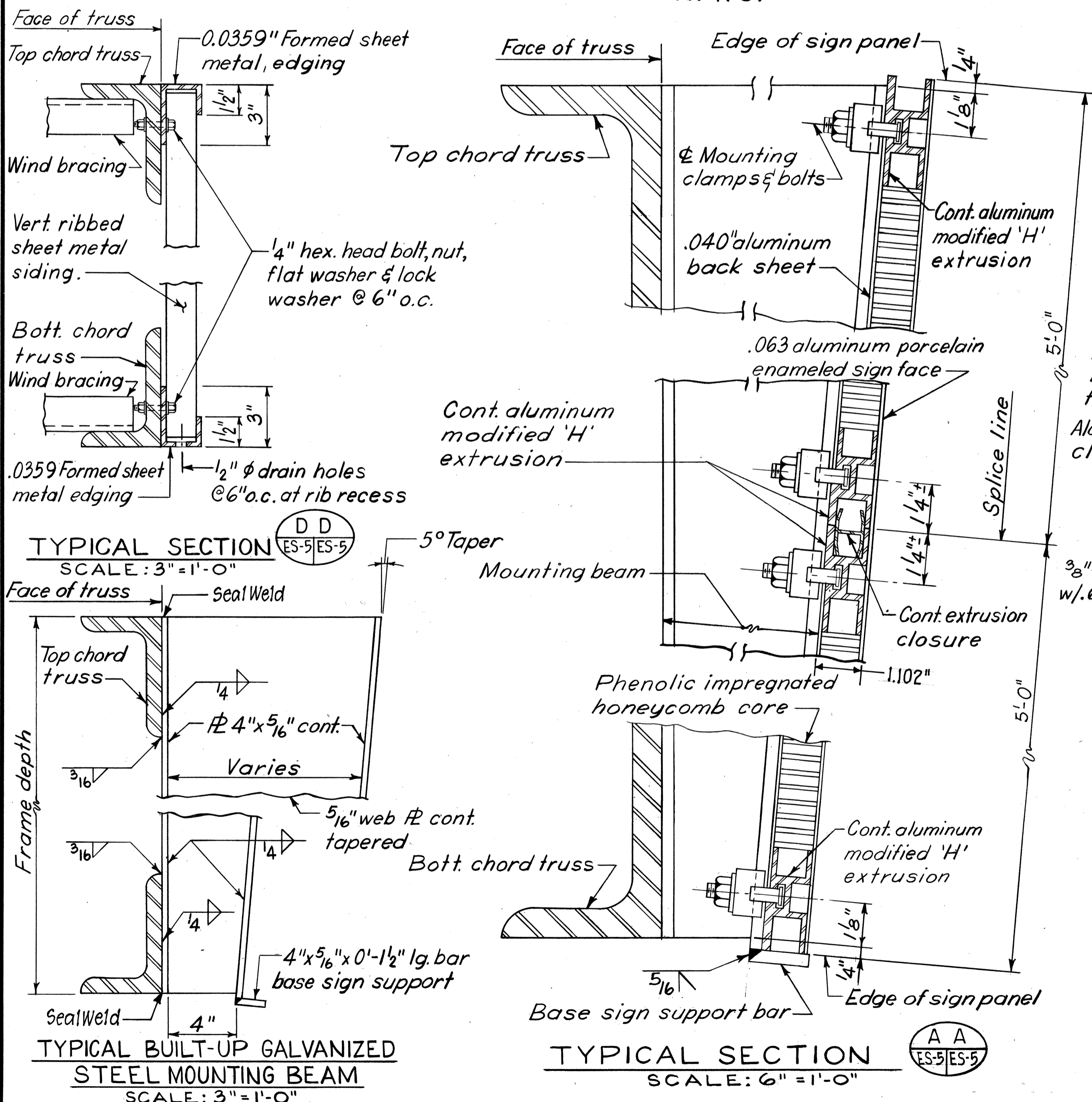
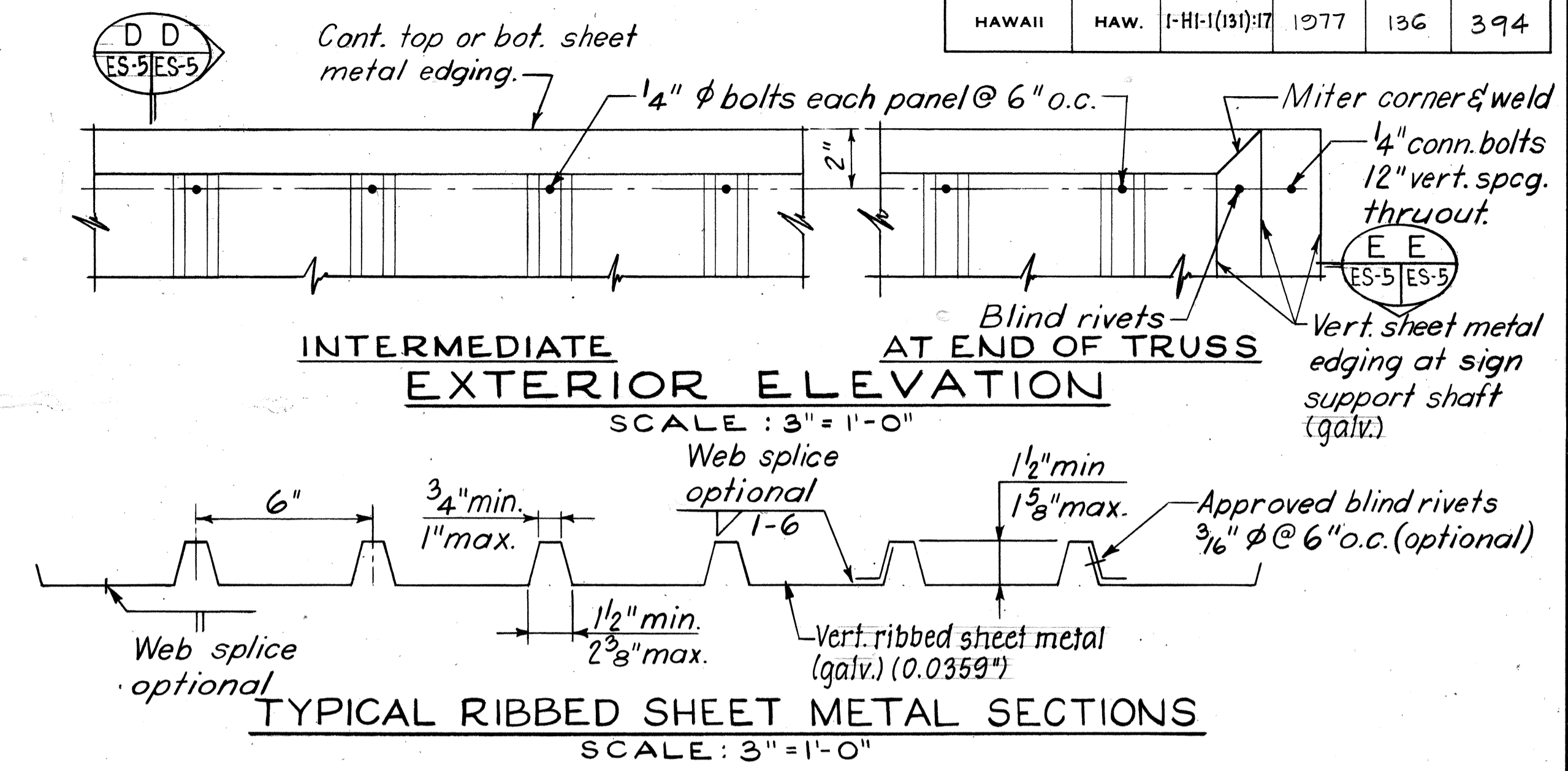
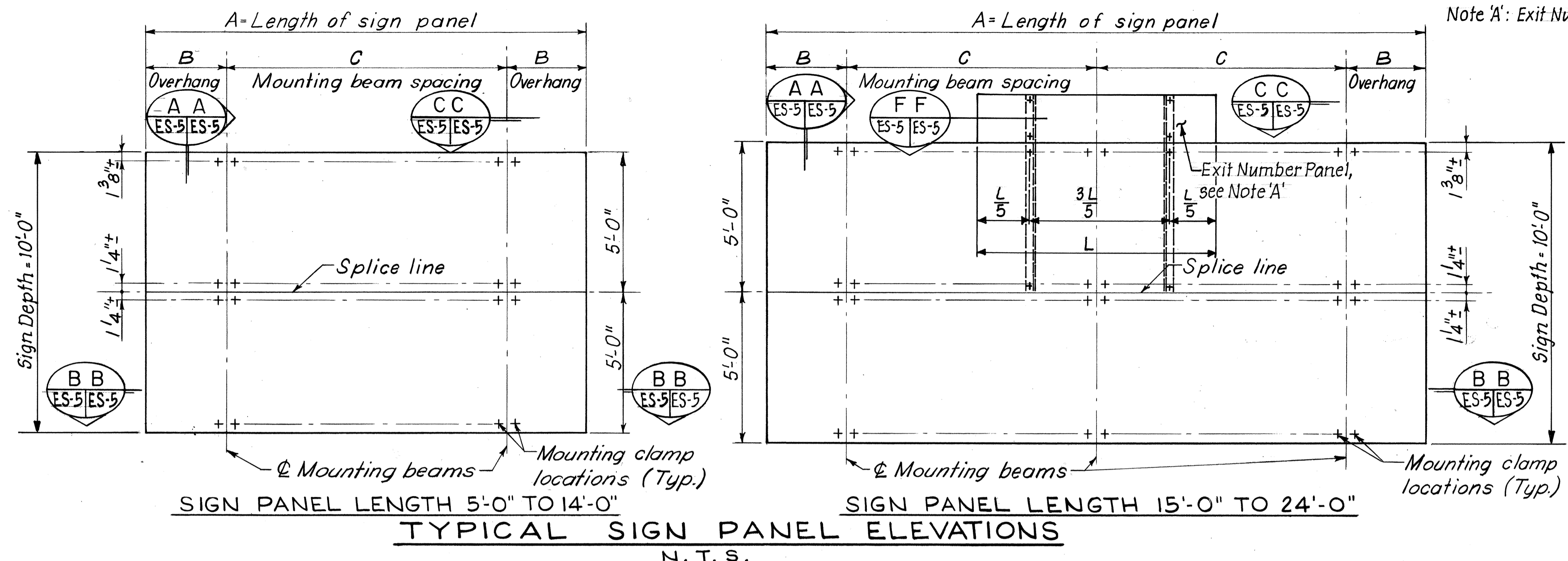
KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131):17
SCALE: AS NOTED DATE: MAR. 23, 1978

SHEET NO. ES-3A OF 6 SHEETS

C.O. ADD. 134S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(131):17	1977	136	394

Note A': Exit Number Panels (where required) to be of same material as main sign panels.



* Signs longer than 24' are fabricated and mounted as adjoining single panels.

MOUNTING BEAM SCHEDULE			
SIGN PANEL LENGTH *	NUMBER MOUNTING BEAMS	SIGN PANEL OVERHANG	MOUNTING BEAM SPACING
5'-0"	2	6"	4'-0"
15'-0"	3	6"	7'-0"
19'-6"	3	1'-0"	8'-9"
24'-0"	3	2'-0"	10'-0"

RIBBED SHEET METAL NOTES

- All ribbed sheet metal and formed edging shall be galvanized steel conforming to ASTM Designation: A446, Grade A; G165 Coating Designation in conformance with ASTM Designation: A525.
- Connection bolts, nuts and washers to be galvanized steel ASTM A307

SIGN PANEL MOUNTING NOTES

- Laminated panel sign depths more than 60" require additional mounting clamps located 1/4"± ea. side of panel splice line. Exact location is dependent on sign panel manufacturer.
- Torque aluminum sign panel mounting bolt to 100 in.-lbs.

NOTE:
Mounting beams for temporary and final locations of Sign Assembly E-14 to be provided in this Contract. (See Civil drawings). The Sign Panels will be moved to their final locations by others.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGNS E-14 AND E-19

TYPICAL SIGN PANEL MOUNTING & RIBBED SHEET METAL SIDING DETAILS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. 1-HI-1 (131) :17
SCALE: AS NOTED DATE: Aug. 31, 77

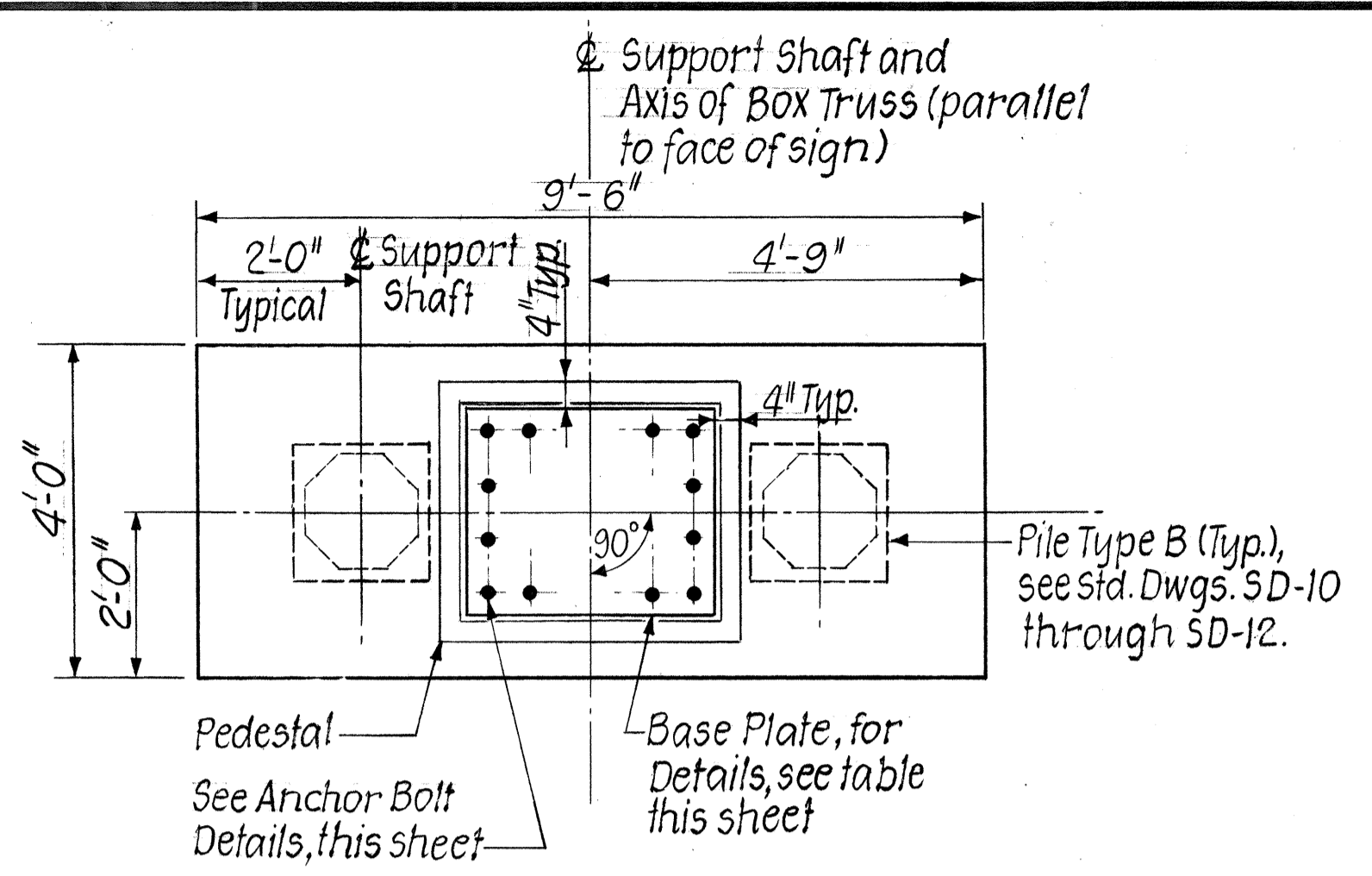
SHEET No. ES-5 OF 6 SHEETS

ORIGINAL PLAN
DRAWN BY: A. Cazden
DESIGNED BY: Y.M. TASHAN
CHECKED BY: J.B. TIMONEY

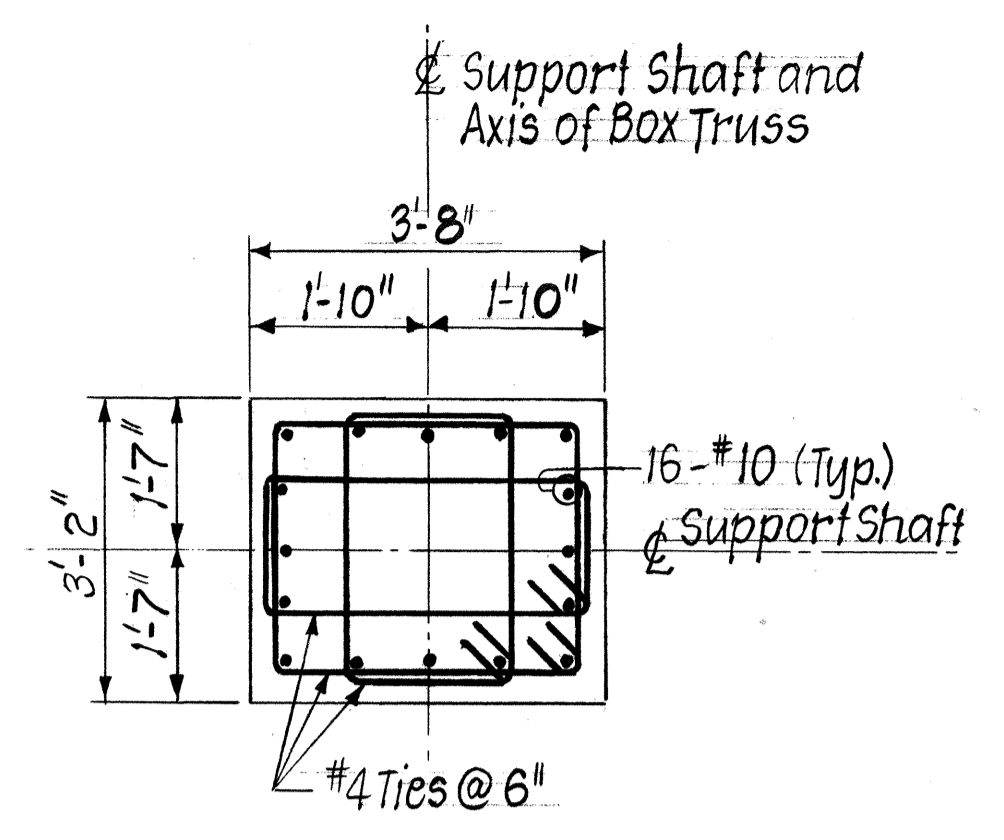
WJAY CHANDRA
REGISTERED PROFESSIONAL ENGINEER
No. 4120
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Wjay chandra
Signature

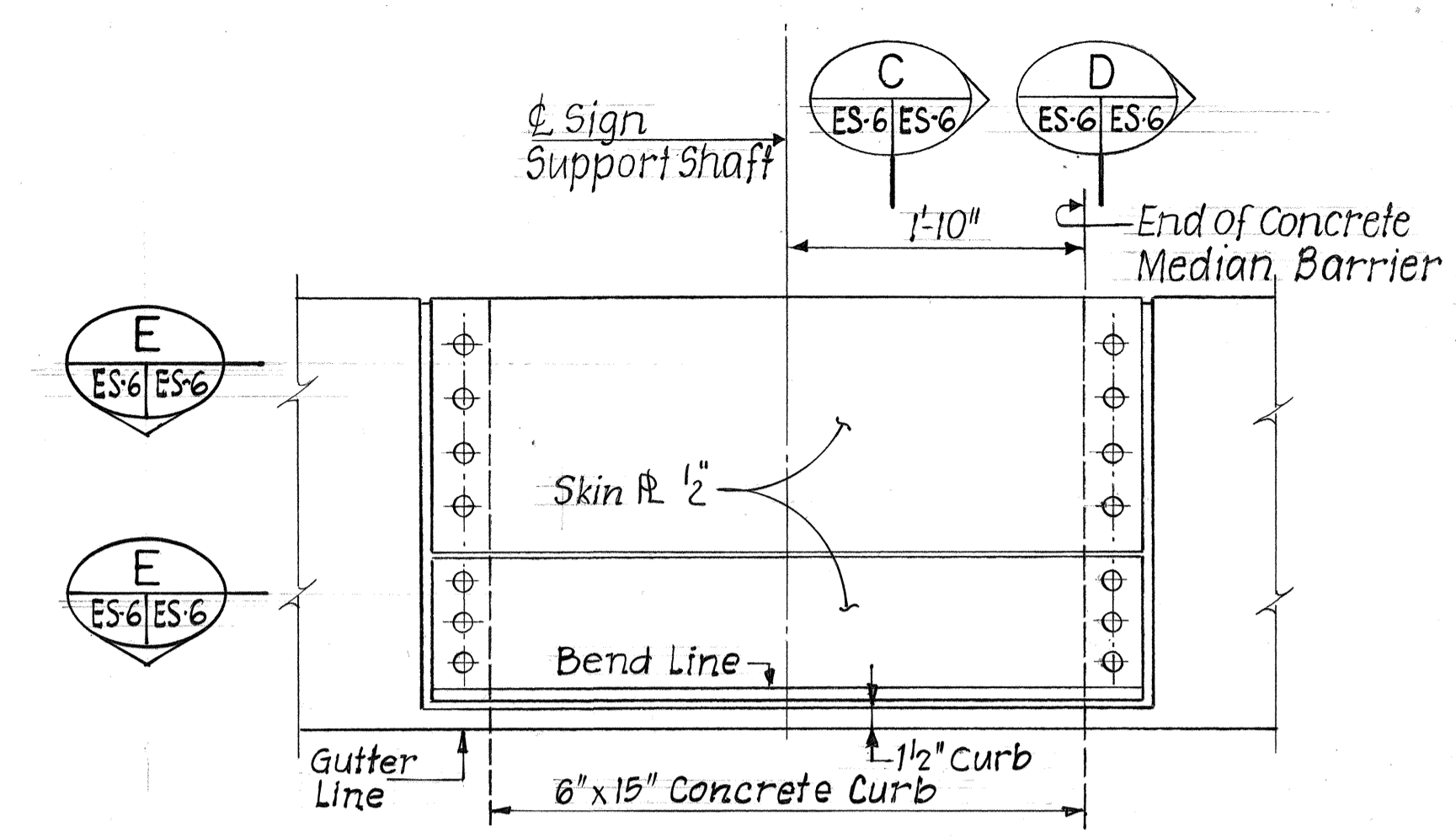
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(131)-17	1977	137	394



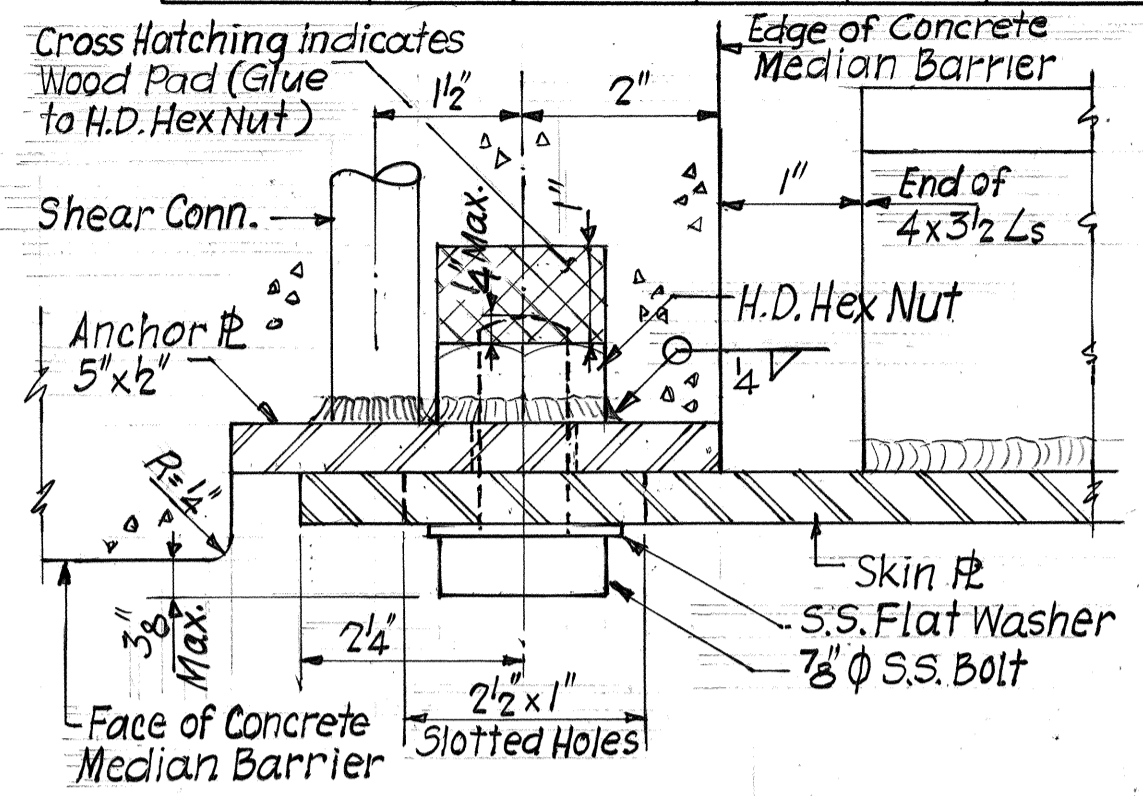
PLAN
Scale: 1/2" = 1'-0"



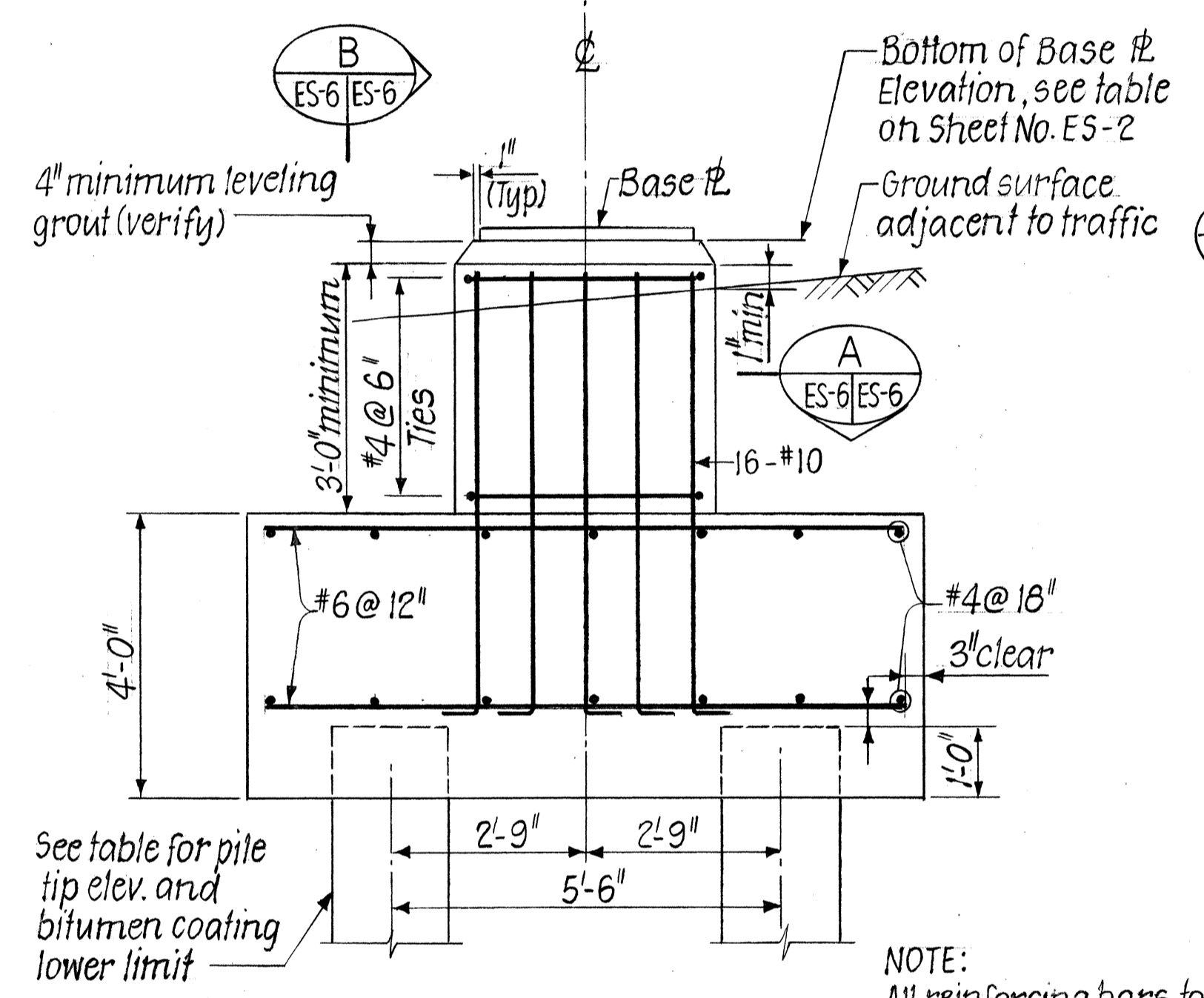
SECTION A
Scale: 1/2" = 1'-0"



SIDE ELEVATION
Scale: 1" = 1'-0"

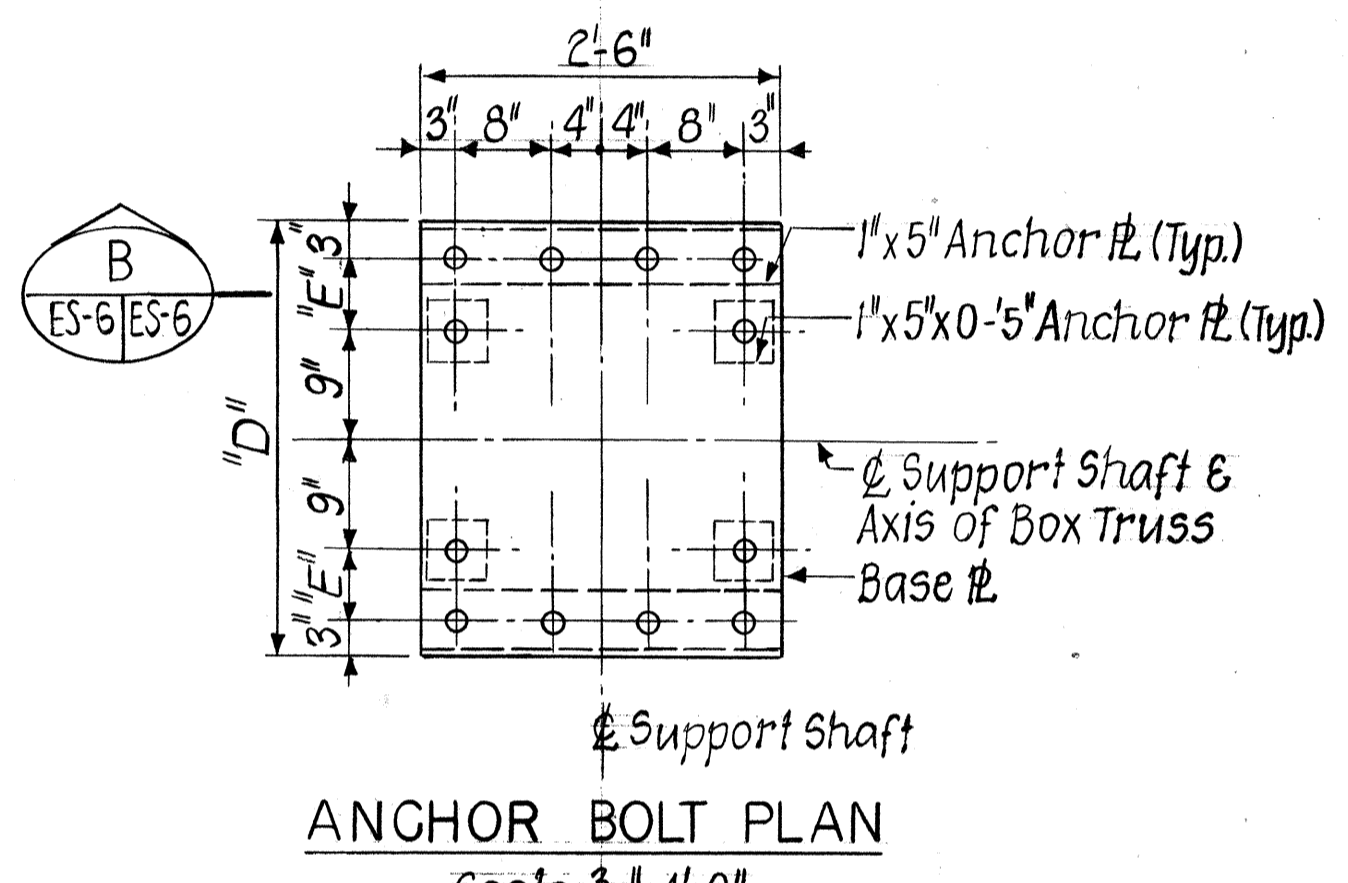


SECTION E
Scale: 1/2" Size

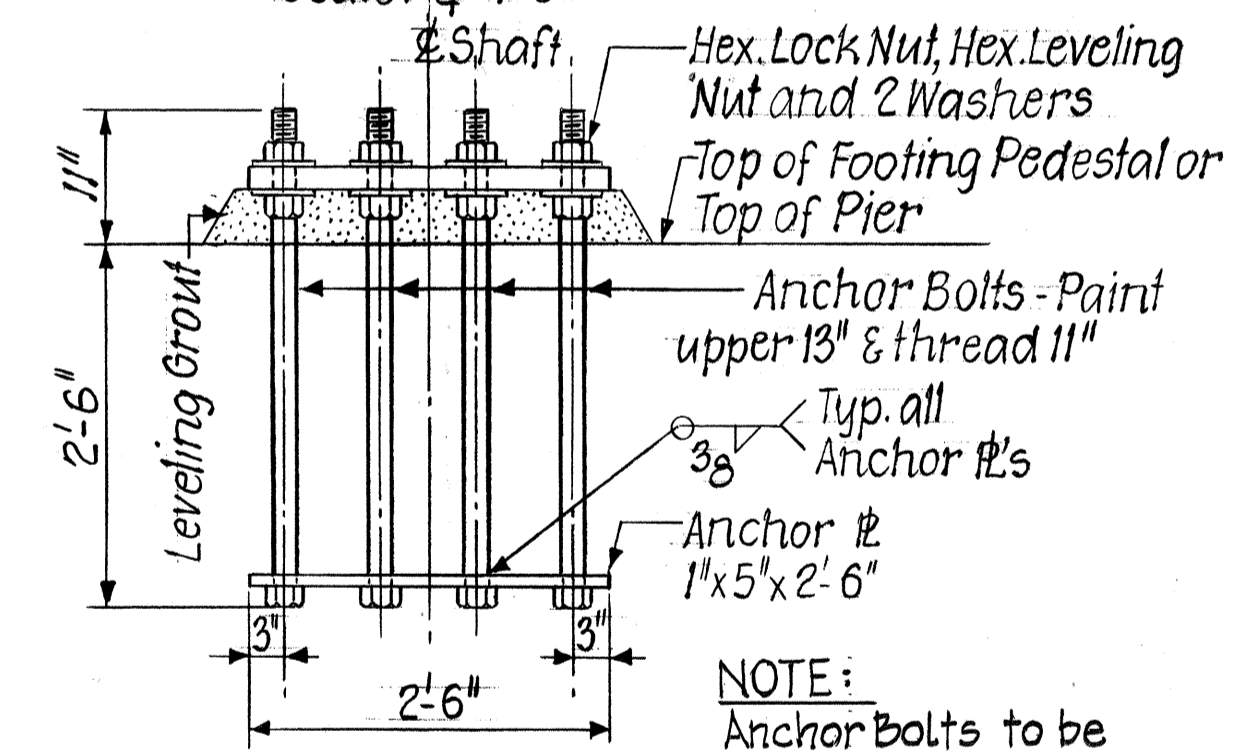


ELEVATION
Scale: 1/2" = 1'-0"

NOTE:
All reinforcing bars to have 2" clear to face of concrete unless noted.

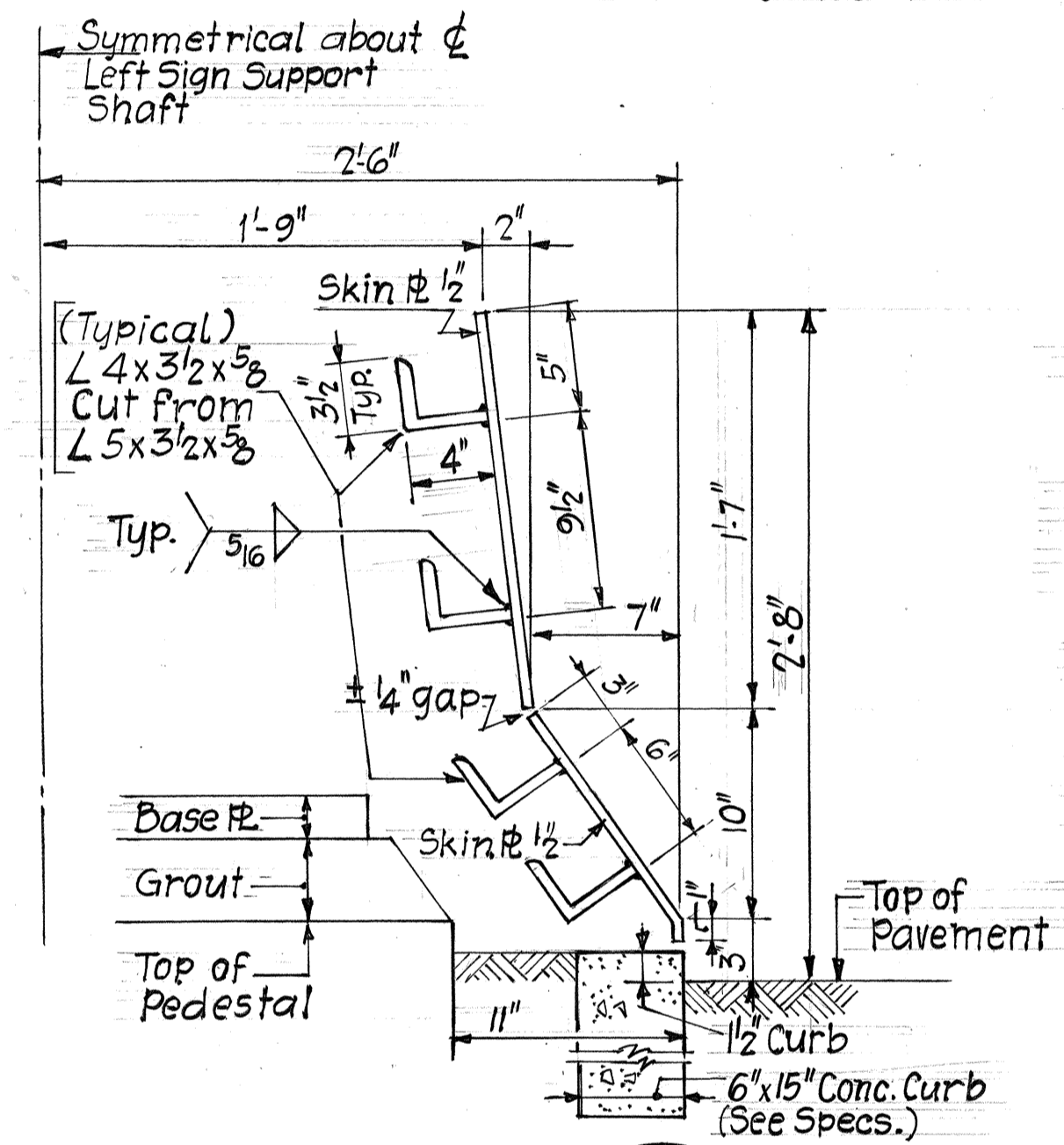


ANCHOR BOLT PLAN
Scale: 3/4" = 1'-0"

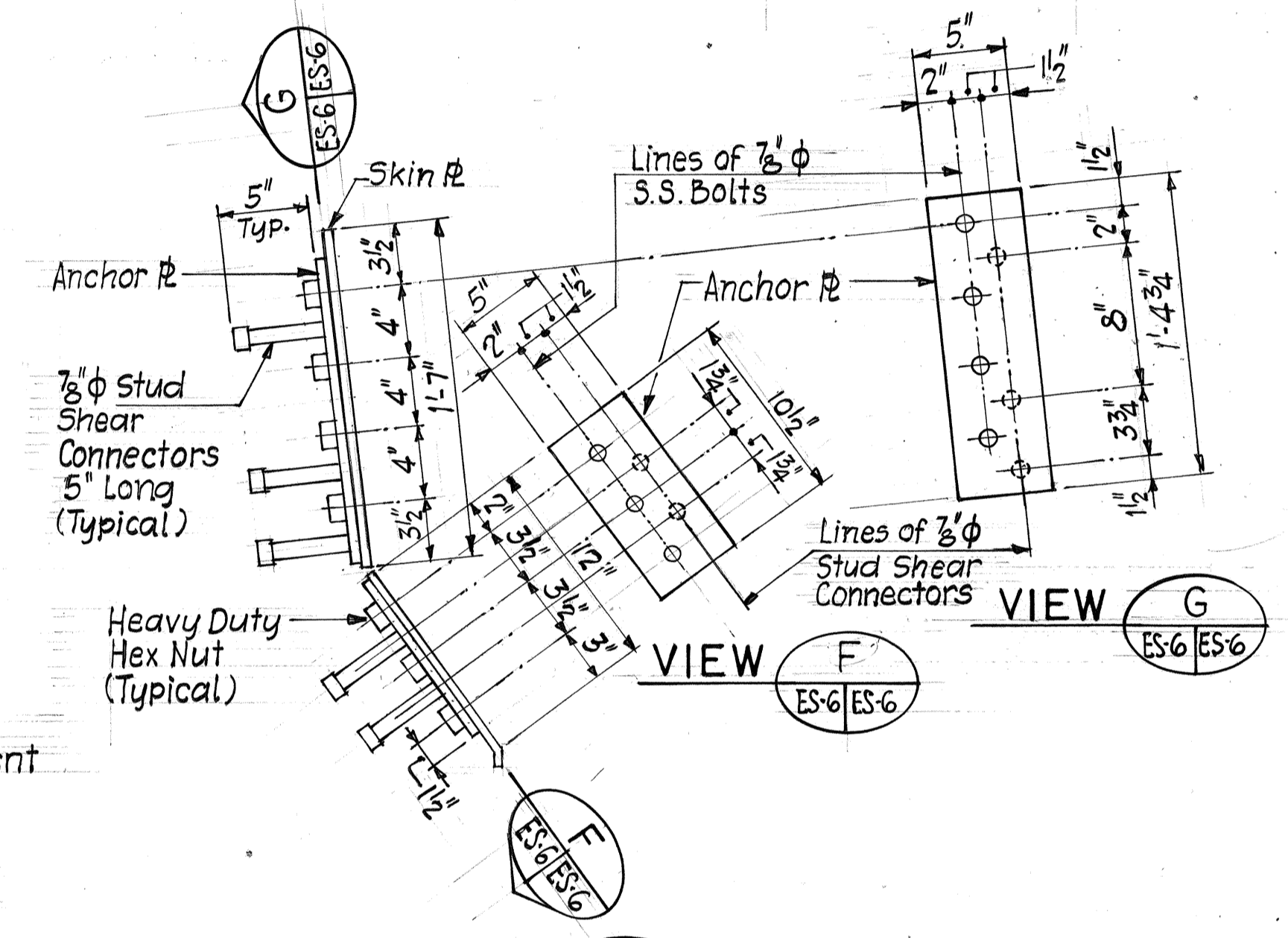


SECTION B
Scale: 3/4" = 1'-0"

NOTE:
Anchor Bolts to be A.S.T.M. A-307, Galv.



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



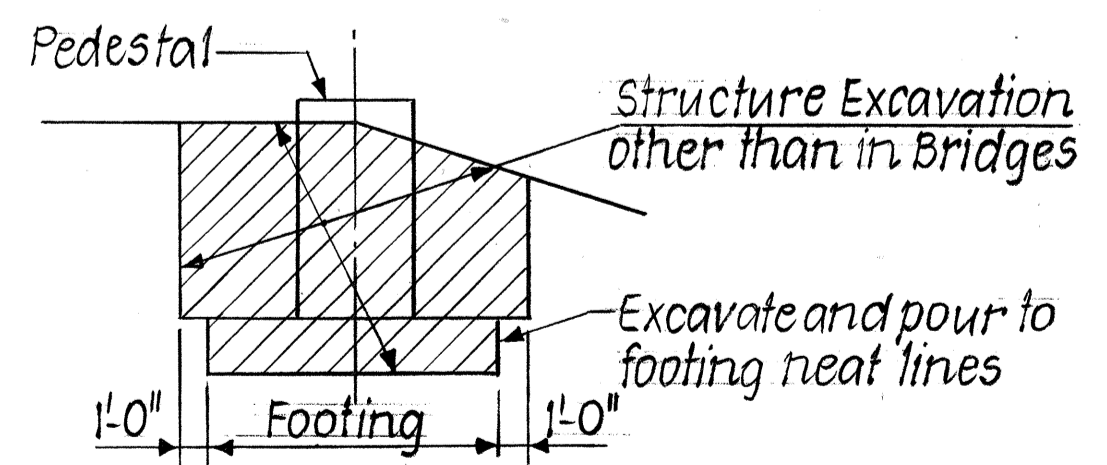
SECTION D
Scale: 1/2" = 1'-0"

MEDIAN BARRIER DETAILS

- NOTES:
- All Concrete shall have a minimum compressive strength of 3,000 PSI at 28 days.
 - Reinforcing Steel shall conform to A.S.T.M. A-615 Grade 40.
 - Develop all Reinforcing Steel in accordance with ACI 318-71.
 - Metal Median Barrier material shall be Structural Steel A.S.T.M. A-36 $f_y = 36,000$ PSI, Galvanized.
 - Stainless Steel Bolts shall conform to A.S.T.M. A-276 Type 305.
 - For Location and details of lighting conduits in the Pedestals see Electrical Drawings.

IDENTIFICATION NO.	PILE TIP ELEVATION	LOWER LIMIT OF BITUMEN COATING
E-19	-140.0	Elev. -80.0

IDENTIFICATION NO.	BASE PLATE		ANCHOR BOLT SIZE	BOLT HOLE SIZE
	"D"	THICKNESS		
E-14	3'-3"	2 1/2"	7 1/2"	2 3/4"
E-19	3'-0"	2"	6"	2 1/4"



EXCAVATION PAYMENT LIMITS

NOTE:
Upper limit for payment of Structure Excavation shall be the lower of: Existing Ground, Finished Ground or Subgrade of Roadway.

SURVEY PLOTTED BY: DATE: 8-77
 DRAWN BY: PATRICIA MALKIN
 TRACED BY: J.B. MACKAY
 QUANTITIES BY: MACKAY
 CHECKED BY: S. MUELLER



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
John P. Johnson

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

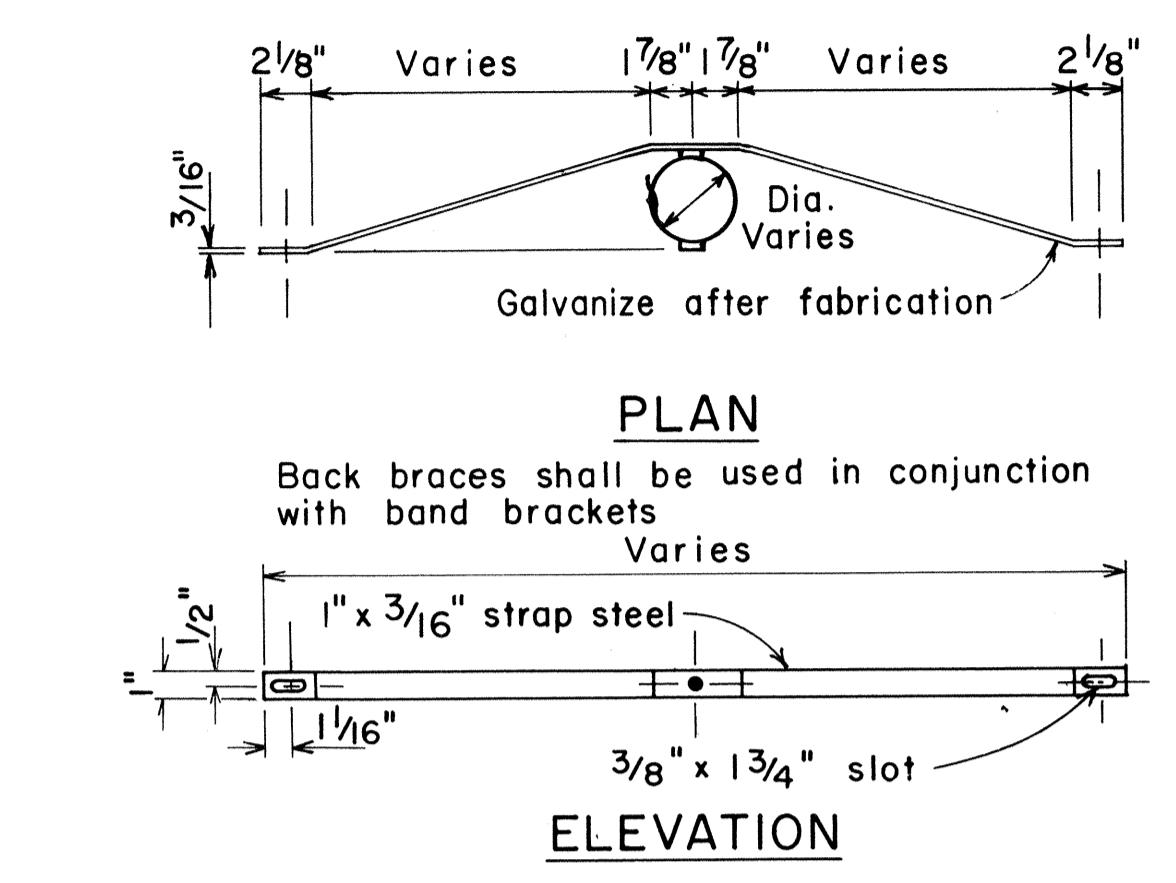
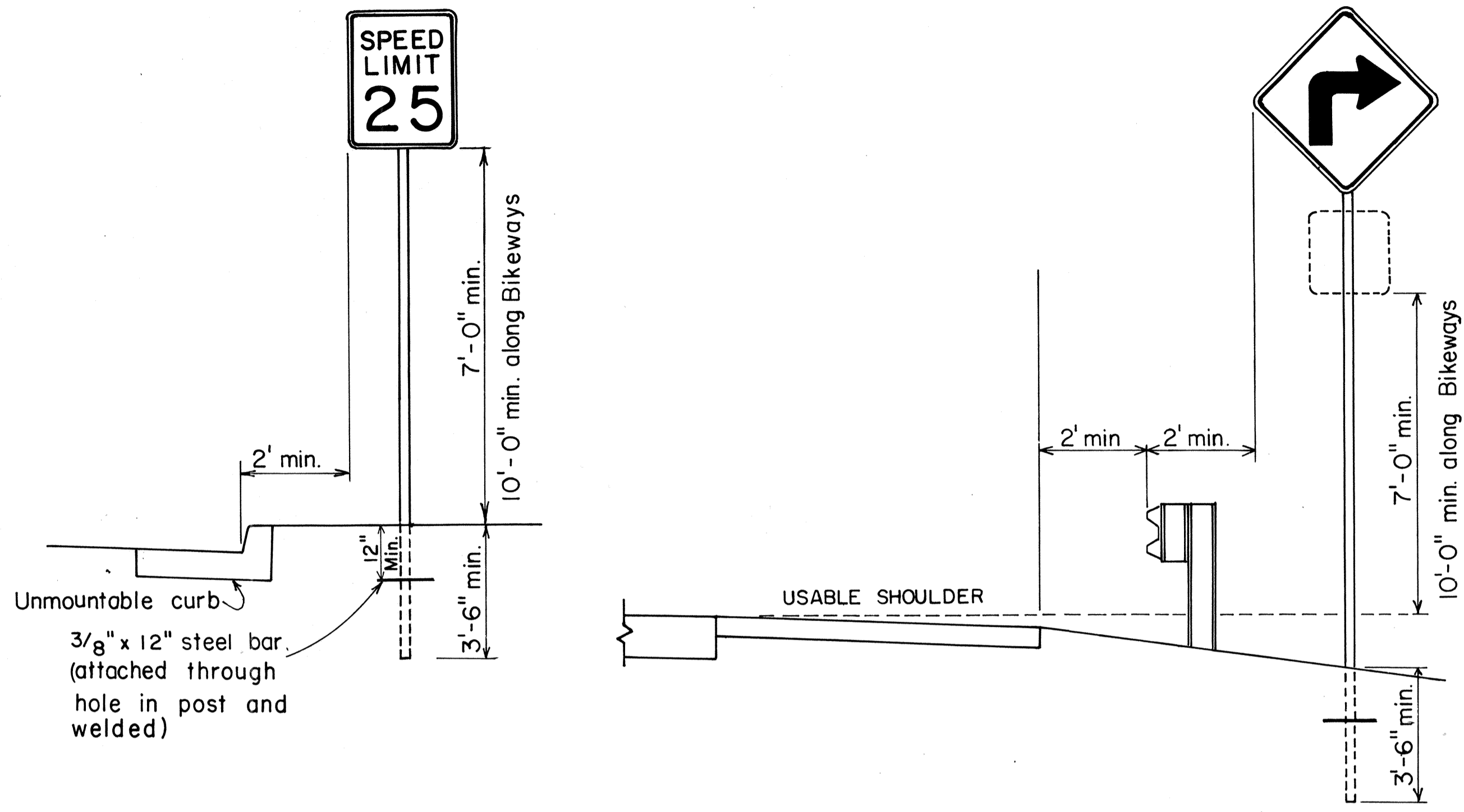
SIGN E-14 & SIGN E-19
OVERHEAD SIGN FOUNDATIONS

KEEHI INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (131) :17
SCALE: AS NOTED DATE: Aug. 31, 77
SHEET NO. ES-6 OF 6 SHEETS

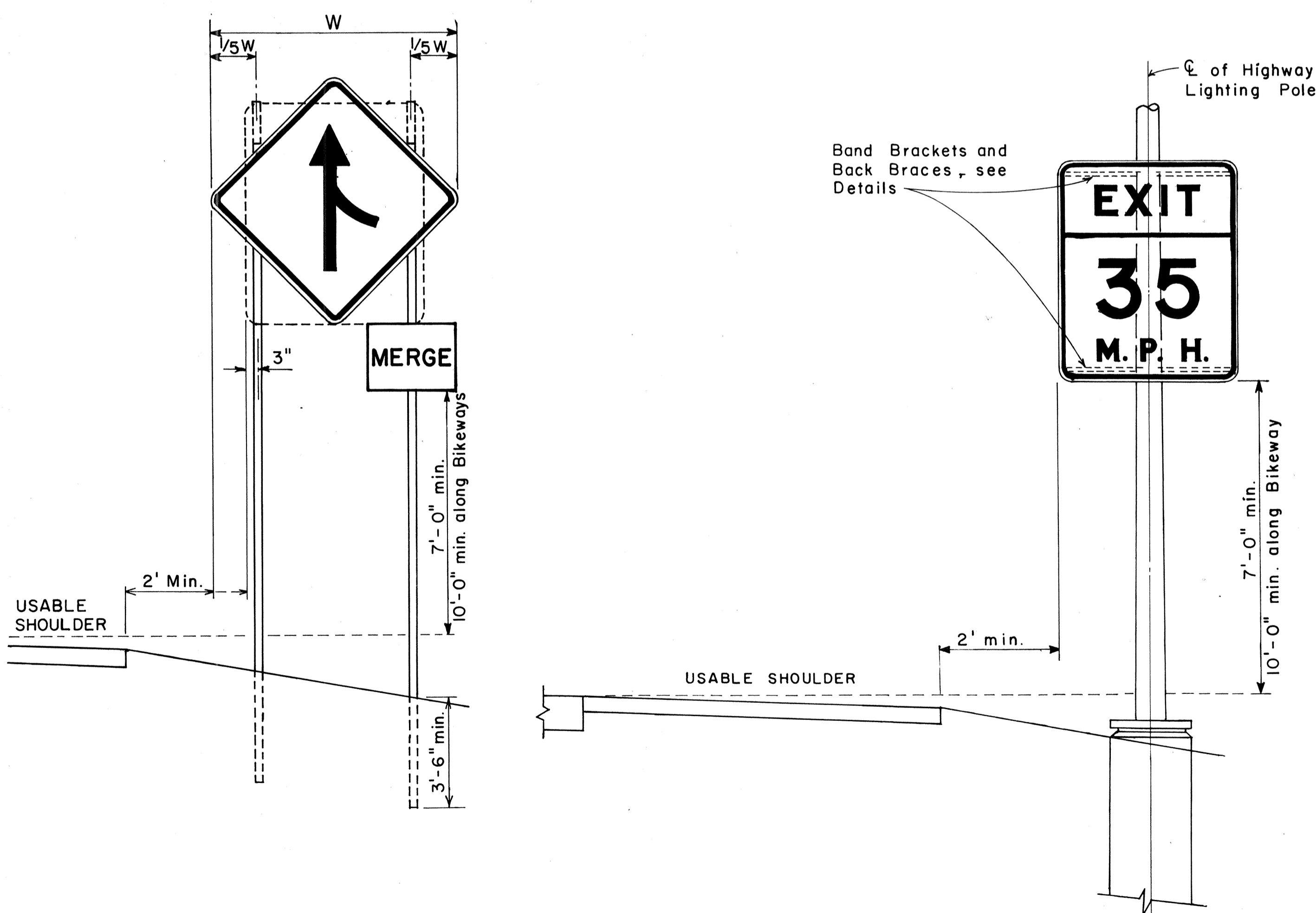
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(13)-17	1977	138	394

GENERAL NOTES

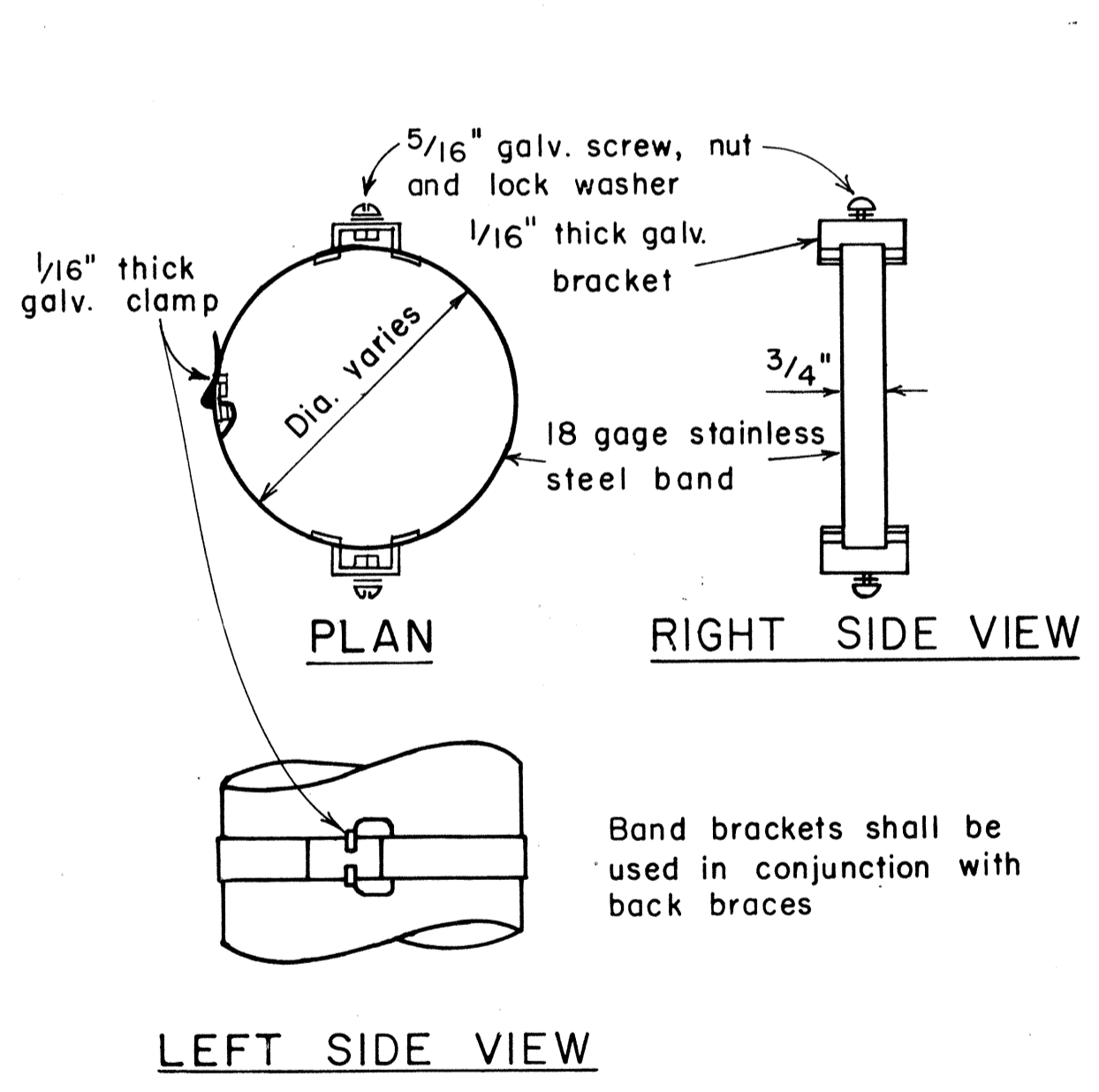
1. Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts.
2. All signs larger than 10 sq. ft. in area or 48" inches and wider, and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least two sets of band brackets and back braces.
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



HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION



TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

APPROVAL RECOMMENDED:
Etichi 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

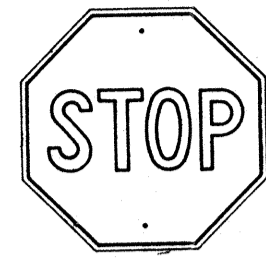
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
 MISCELLANEOUS SIGN DETAILS

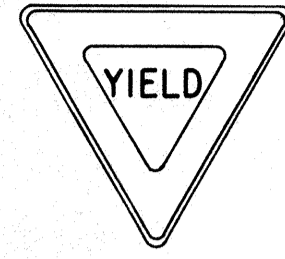
Not to scale June, 1977

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

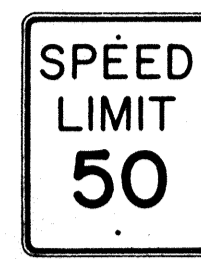
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-11(13)17	1977	139	394



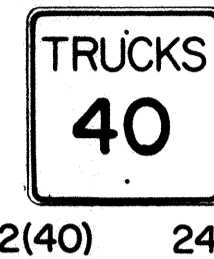
R1-1 30" x 30"
R1-1-A 36" x 36"
4-WAY
R1-3 12" x 6"
R1-3-A 18" x 9"



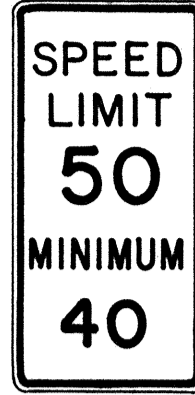
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



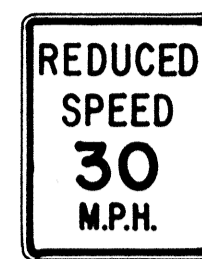
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



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"



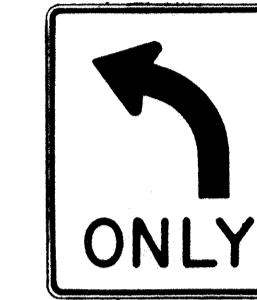
R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



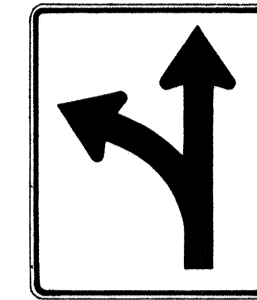
R3-3 24" x 24"
R3-3-A 48" x 48"



R3-4 24" x 24"
24" x 18"
R3-4-A 48" x 46"
48" x 36"



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



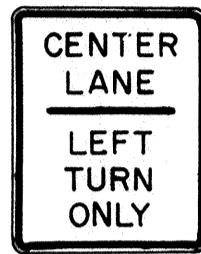
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



R3-7(R) 30" x 30"
R3-7(R)-A 48" x 48"



R3-8(L) 30" x 30"
R3-8(L)-A 36" x 36"
R3-8(L)-B 48" x 48"



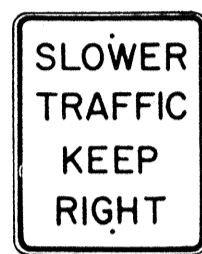
R3-9 24" x 30"



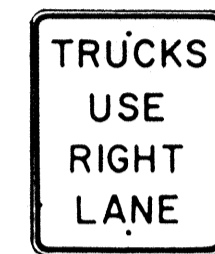
R4-1 24" x 30"



R4-2 24" x 30"



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



R4-5 24" x 30"



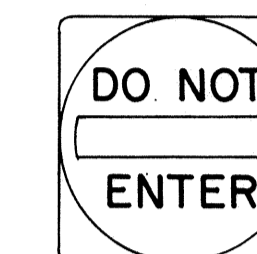
R4-6(500) 24" x 30"



R4-7 24" x 30"
24" x 18"



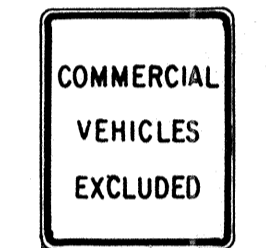
R4-8 24" x 30"
24" x 18"



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



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



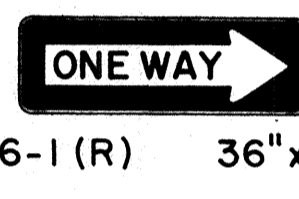
R5-4 24" x 30"



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



R5-9 36" x 24"



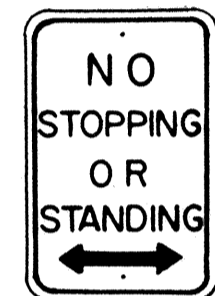
R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



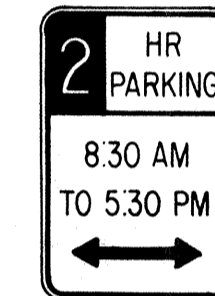
R7-1 12" x 18"
R7-1-A 24" x 30"



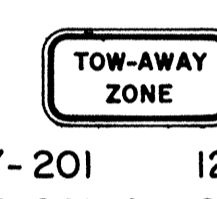
R7-4 12" x 18"
R7-4-A 24" x 30"



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"



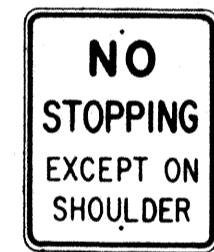
R8-3 24" x 30"



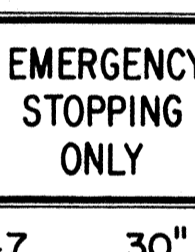
R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



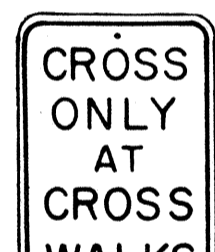
R8-6 24" x 30"



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



R9-1 18" x 24"



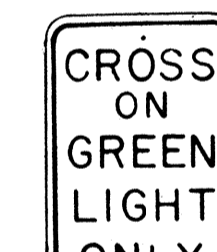
R9-2 12" x 18"



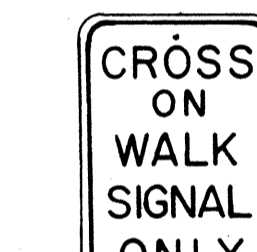
R9-3 12" x 18"



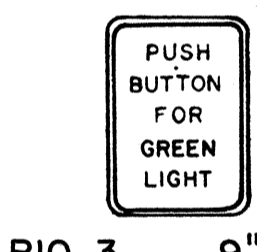
R9-4 18" x 24"



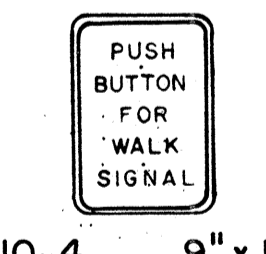
R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



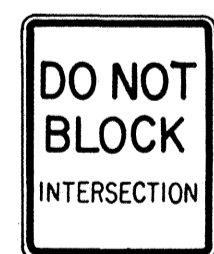
R10-4 9" x 12"



R10-5 24" x 30"



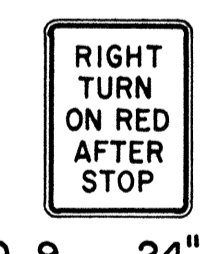
R10-6 24" x 36"



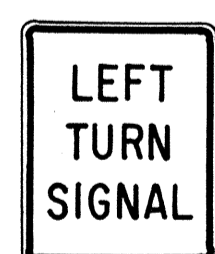
R10-7 24" x 30"



R10-8 24" x 30"



R10-9 24" x 30"



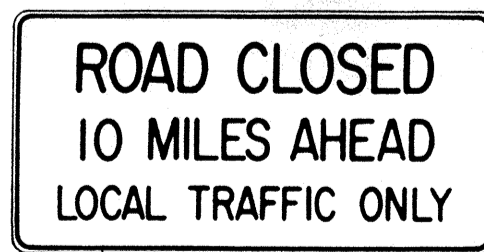
R10-10 24" x 30"



R11-1 24" x 30"



R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

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:
Eiichi Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:
Robert Zelen 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

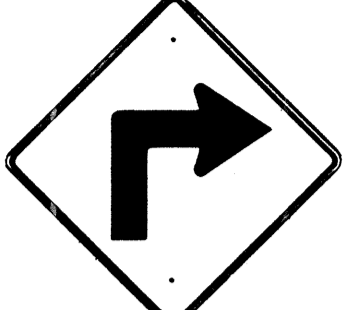

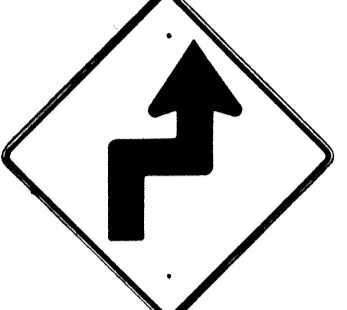
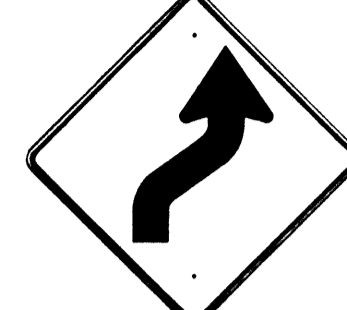
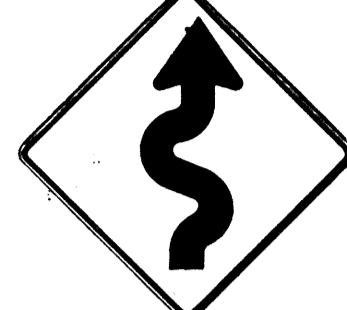

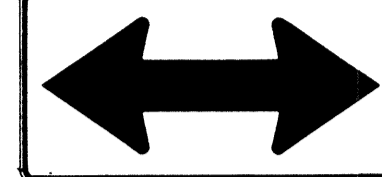
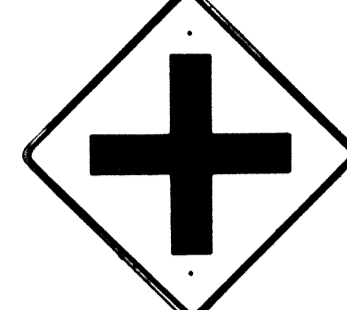
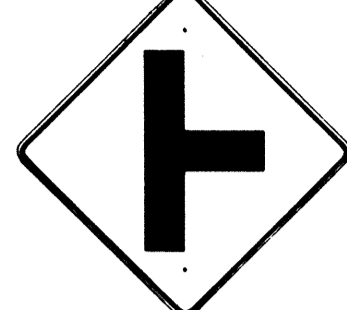
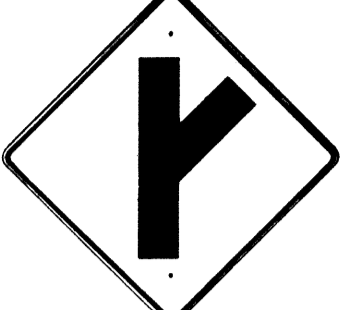
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

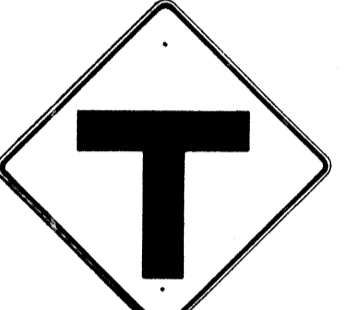



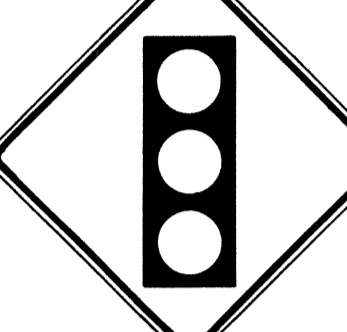

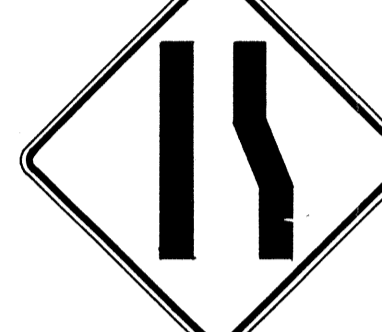



STANDARD DETAILS
REGULATORY SIGNS











NOT TO SCALE
SHEET No. 2 OF 16 SHEETS DT 101








DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTE BOOK	_____
CHECKED BY	_____
NO.	_____

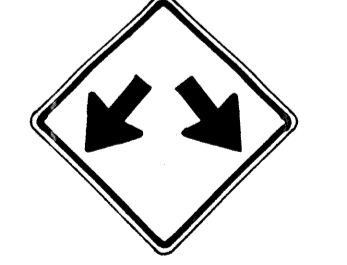


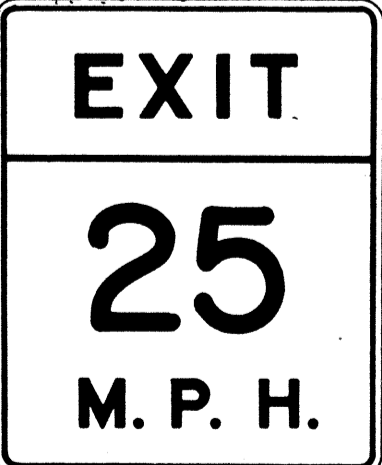
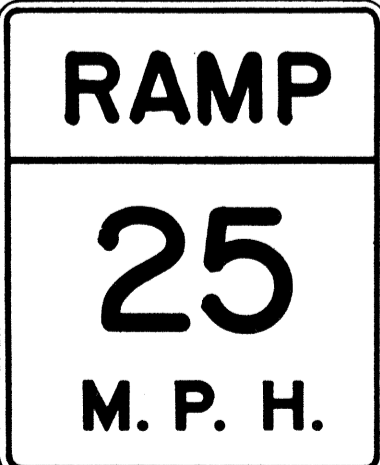


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII*	HAW.	1-HI-1(13):17	1977	140	394

 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"	 SIGNAL AHEAD W3-3 36"x36" 24"x18"	 MERGE W4-1(R) 30"x30" 24"x18" W4-1(R)-A 48"x48" 24"x18"	 W4-2(R) 36"x36" W4-2(R)-A 48"x48"	 ROAD NARROWS W5-1 36"x36"	 NARROW BRIDGE W5-2 30"x30" W5-2-A 36"x36"	 ONE LANE BRIDGE W5-3 36"x36"
---	---	--	---	--	--	---	---	--	--

 DIVIDED HIGHWAY W6-1 36"x36" 24"x18"	 DIVIDED HIGHWAY ENDS W6-2 36"x36" 24"x18"	 TWO WAY TRAFFIC W6-3 30"x30" 24"x18" W6-3-A 36"x36" 24"x18" W6-3-B 48"x48" 24"x18"	 HILL W7-1 30"x30" 24"x18" W7-1-A 36"x36" 24"x18"	 USE LOW GEAR W7-2 24"x18"	 BUMP W8-1 30"x30" W8-1-A 36"x36"	 DIP W8-2 30"x30" W8-2-A 36"x36"	 PAVEMENT ENDS W8-3 30"x30" W8-3-A 36"x36"	 SOFT SHOULDER W8-4 30"x30" W8-4-A 36"x36"	 SLIPPERY WHEN WET W8-5 30"x30" 24"x18" W8-5-A 36"x36" 24"x18"
--	---	---	--	--	--	---	---	---	---

 RIGHT LANE ENDS W9-1(R) 30"x30" W9-1(R)-A 36"x36" W9-1(R)-B 48"x48"	 LANE ENDS MERGE LEFT W9-2(L) 36"x36" W9-2(L)-A 48"x48"	 W10-1 36" Diameter	 BIKE XING W11-1 30"x30" 24"x18" W11-1-A 36"x36" 24"x18"	 PED XING W11-2 30"x30" 24"x18" W11-2-A 36"x36" 24"x18"	 CATTLE XING W11-4 30"x30" 24"x18" W11-4-A 36"x36" 24"x18"	 FARM MACHINERY W11-5 30"x30" 24"x18" W11-5-A 36"x36" 24"x18"
---	---	--	--	---	--	---

 W12-1 24"x24" W12-1-A 36"x36" W12-1-B 48"x48"	 12'-6" LOW CLEARANCE W12-2(12'-6") 36"x36" 24"x18"	 25 MPH W13-1(25) 18"x18" W13-1(25)-A 24"x24"	 EXIT 25 M. P. H. W13-2(25) 48"x60"	 RAMP 25 M. P. H. W13-3(25) 48"x60"	 DEAD END W14-1 30"x30"	 NO PASSING ZONE W14-3 36"x48"x48"
--	---	--	--	--	--	---

GENERAL NOTES

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

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

APPROVED:
Walter Ralsjens 3-30-72
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.	10/10/72
3	Revised General Note 5	M.H.	9-16-75
4	Revised General Note 5	H.T.	9-14-76

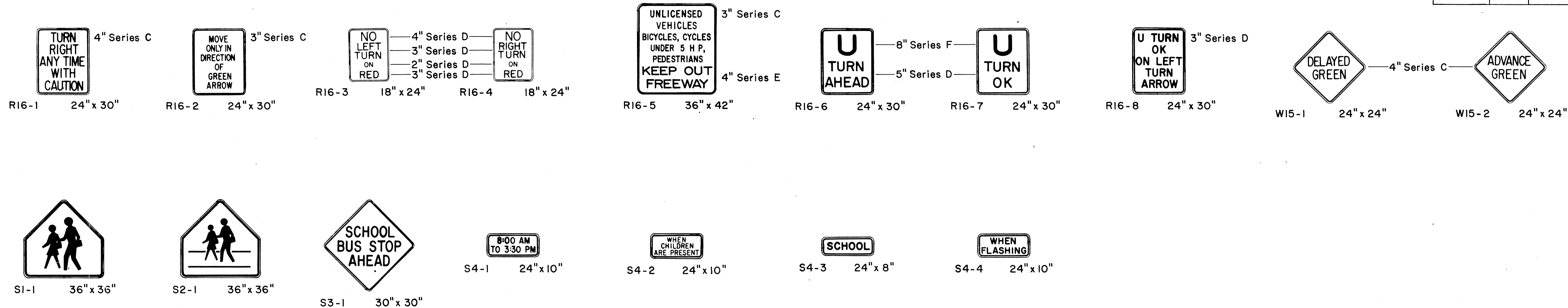
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(13):17	1977	141	394



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 and warning signs shall be reflectorized unless otherwise specified.
3. All regulatory and warning signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

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

APPROVED:
Shigeru Zatside 2-20-72
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 Approved 12-30-69	H.C.	3/20/72
2	Revised General Note 1	H.C.	10/16/74

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

NOT TO SCALE

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(13)17	1977	142	394



CW20-1a 48" x 48"



CW20-2d 48" x 48"



CW20-3b 48" x 48"



CW20-4d 48" x 48"



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



CW20-7c 48" x 48"



CW21-1 30" x 30"



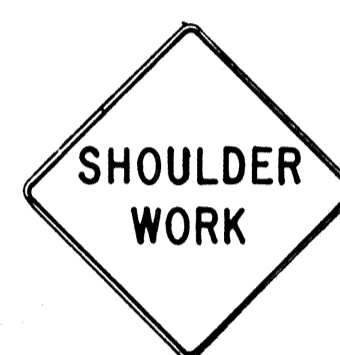
CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



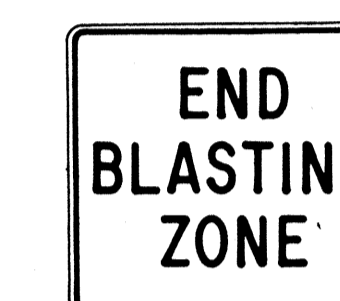
CW21-6 30" x 30"



CW22-1b 48" x 48"



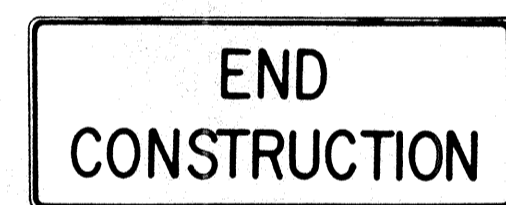
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



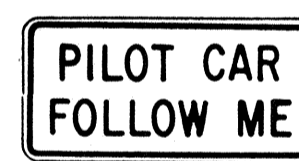
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



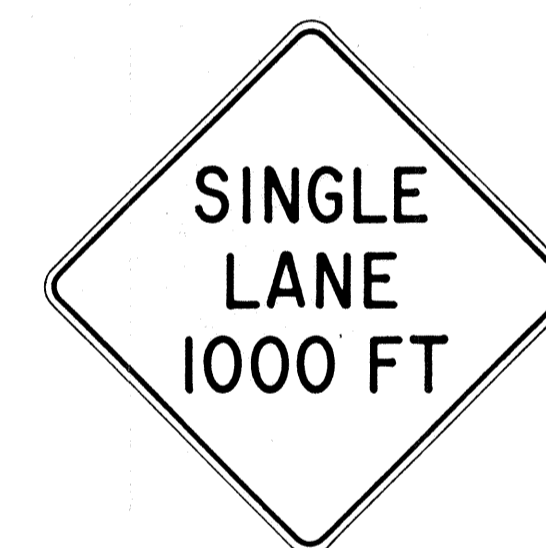
CM4-10(R) 48" x 18"



CG20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

GENERAL NOTES

- Sign details shall conform to the 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:
Etsuo Tanaka 3/21/72
TRAFFIC ENGINEER DATE

APPROVED:
Shigeru Sakishima 2/23/72
ASSISTANT CHIEF, ENGINEERING DATE

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

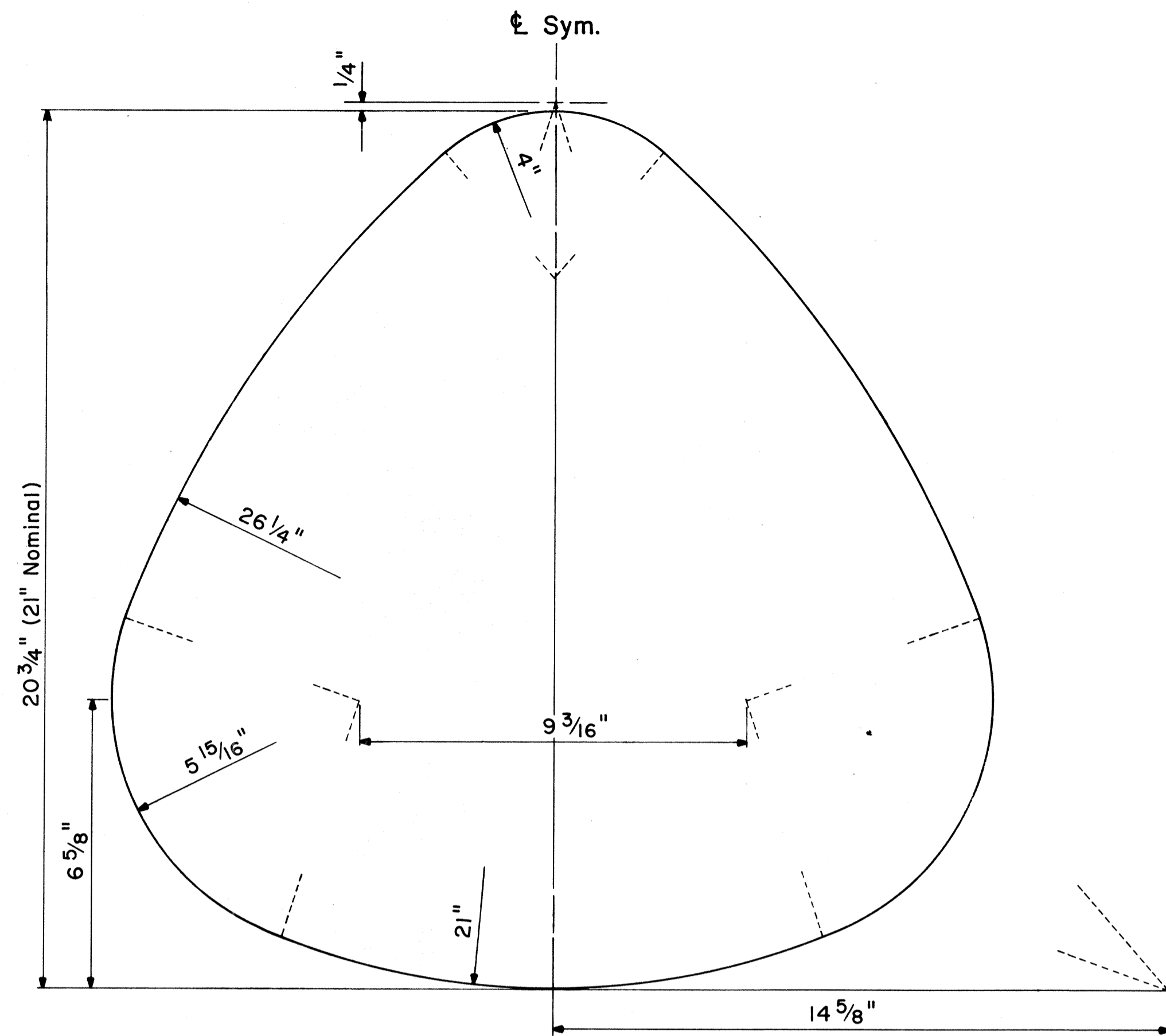
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

NOT TO SCALE

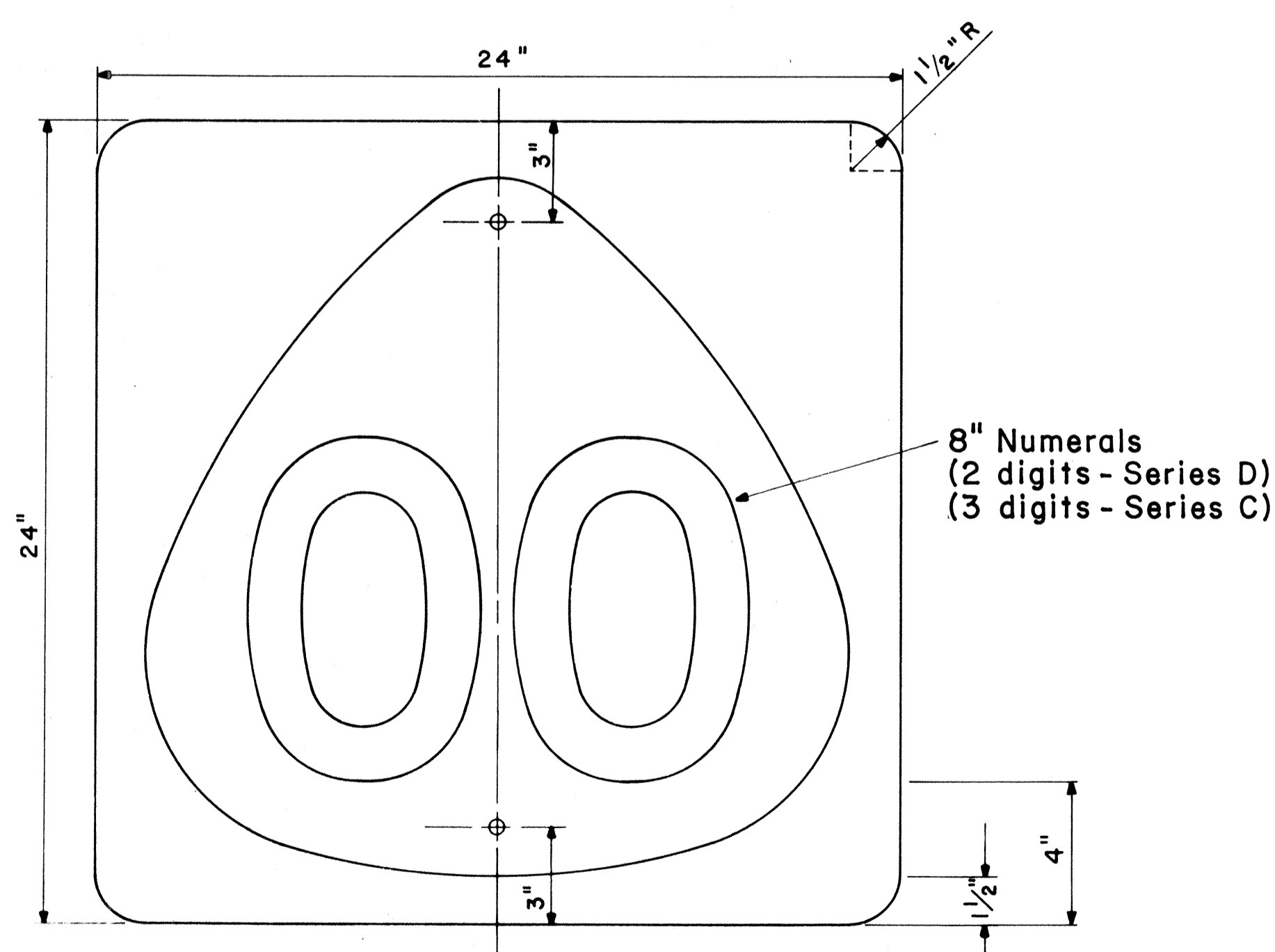
DESIGNED BY	DATE
DRAWN BY	" "
CHECKED BY	" "
NOTED BY	" "
DATE	" "

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(13):17	1977	143	394



STATE ROUTE MARKER DETAIL

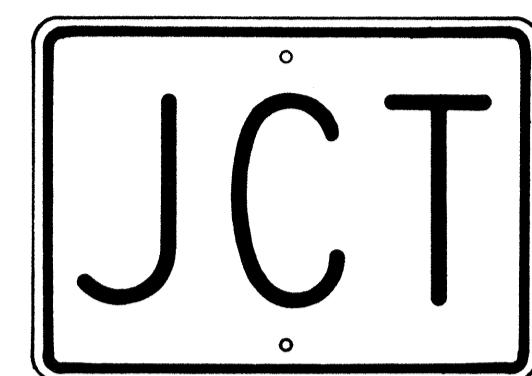
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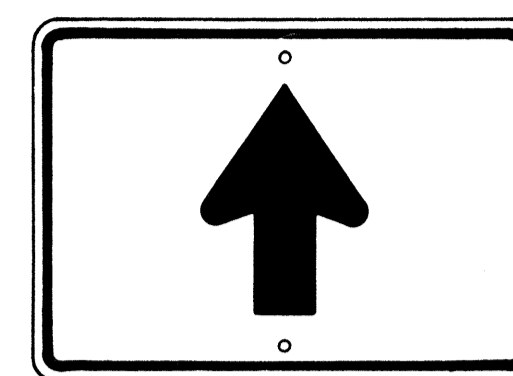
STATE ROUTE MARKER

MI-6 (00) 24" x 24"

Scale: 1/4" = 1"



M2-1 21" x 15"



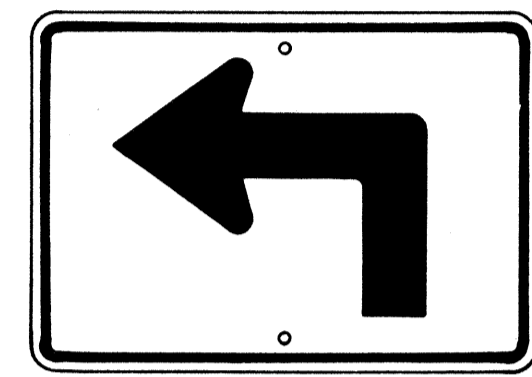
M6-3 21" x 15"



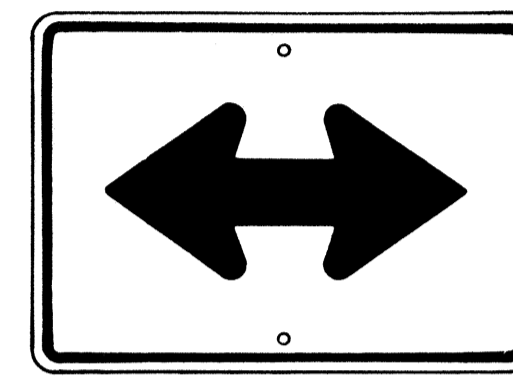
M3-1 24" x 12"
M3-1-A 36" x 18"



M4-1 24" x 12"



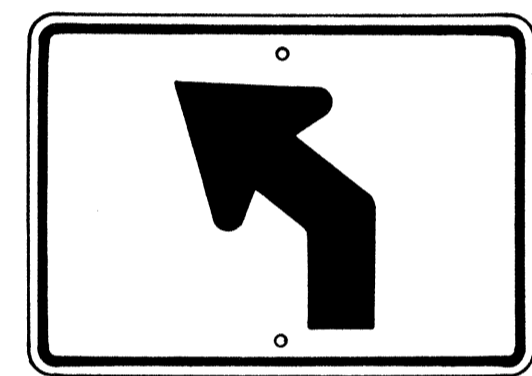
M5-1(L) 21" x 15"



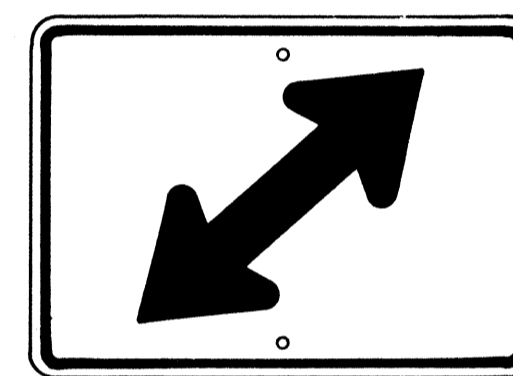
M6-4 21" x 15"



M4-2 24" x 12"



M5-2(L) 21" x 15"



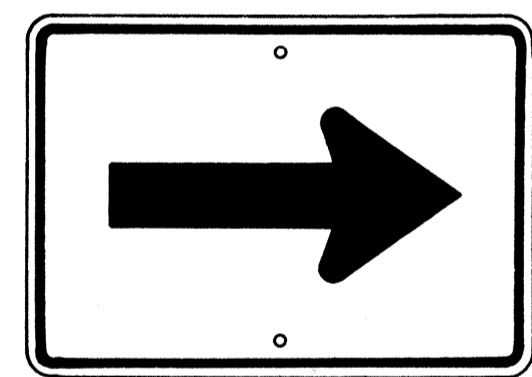
M6-5(R) 21" x 15"



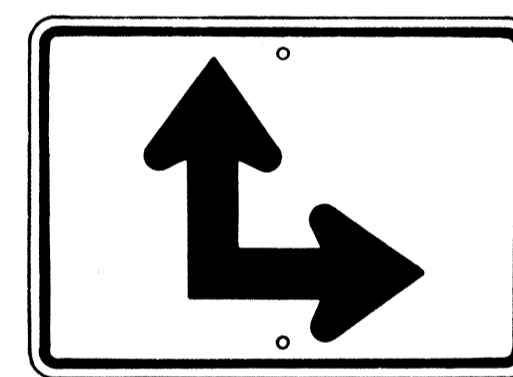
M4-3 24" x 12"



M4-5 24" x 12"



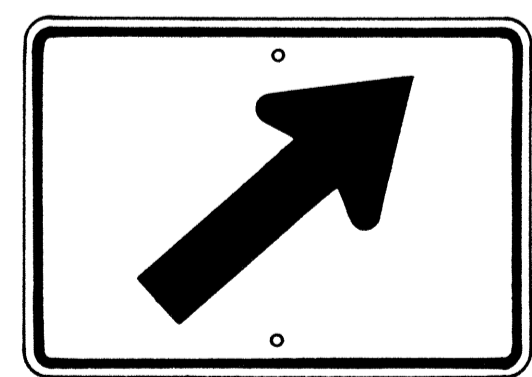
M6-1 21" x 15"



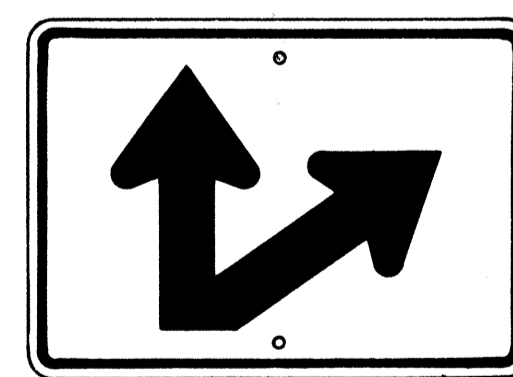
M6-6(R) 21" x 15"



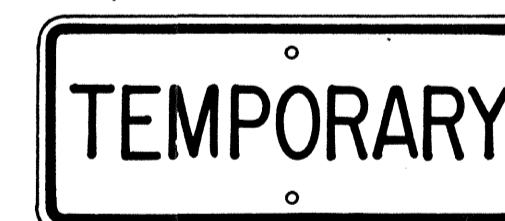
M4-6 24" x 12"



M6-2(R) 21" x 15"



M6-7(R) 21" x 15"



M4-7 24" x 12"



M4-8 24" x 12"

GENERAL NOTES

1. 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.
2. All markers shall be reflectorized unless otherwise specified.
3. All markers shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for marker message. (R) or (L) indicates right or left.
5. 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
6. Markers prefixed with "IM" on the plans shall have a white legend on a blue background.

APPROVAL RECOMMENDED:

Erich Tanaka 6/6/77
TRAFFIC ENGINEER DATE

APPROVED:

Abdur S. Sakidi 6-7-77
ASSISTANT CHIEF, ENGINEERING DATE

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

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

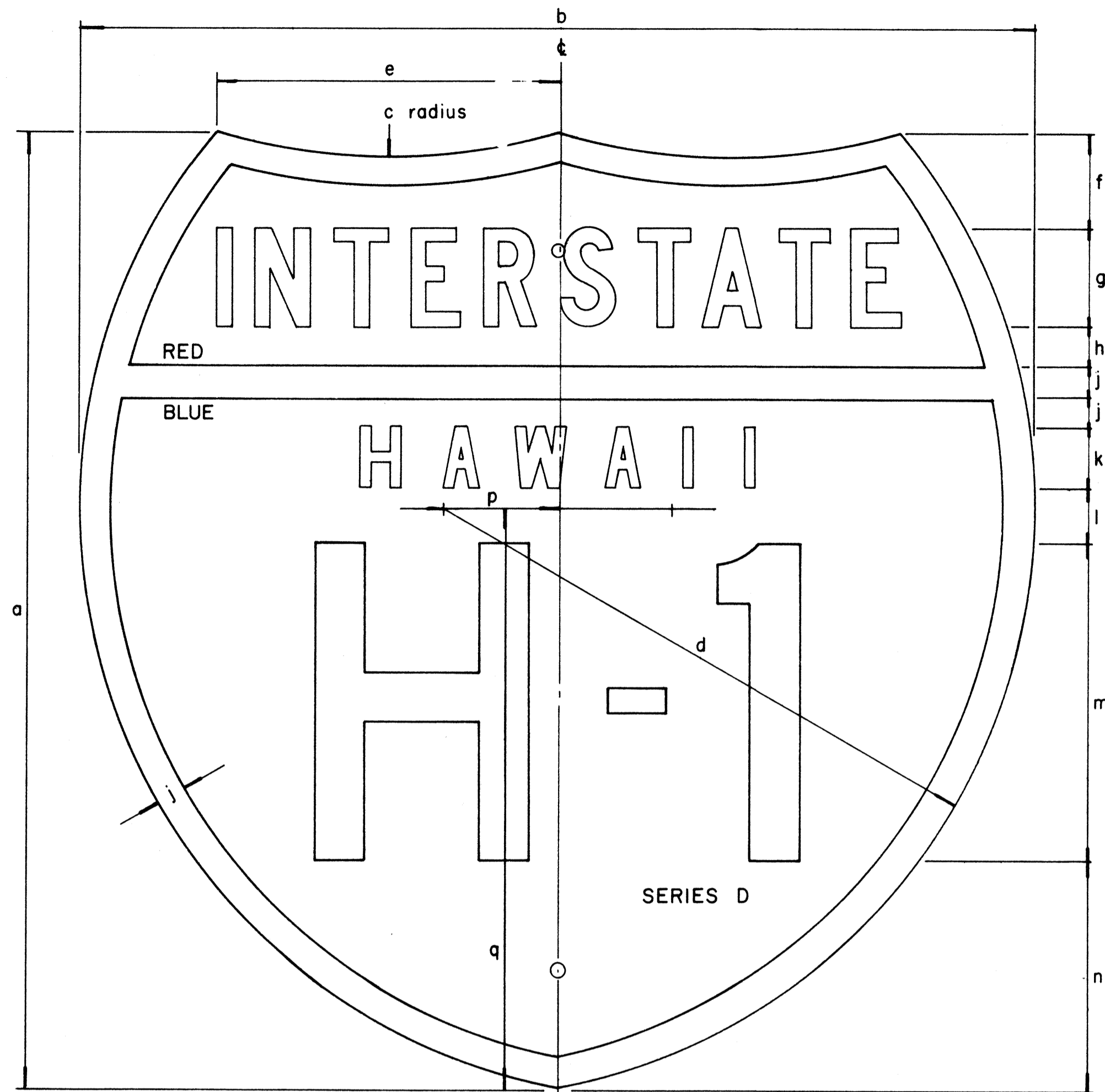
Scale: As Shown
SHEET NO. 6 OF 16 SHEETS DT 105

AUXILIARY MARKERS

Not to Scale

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

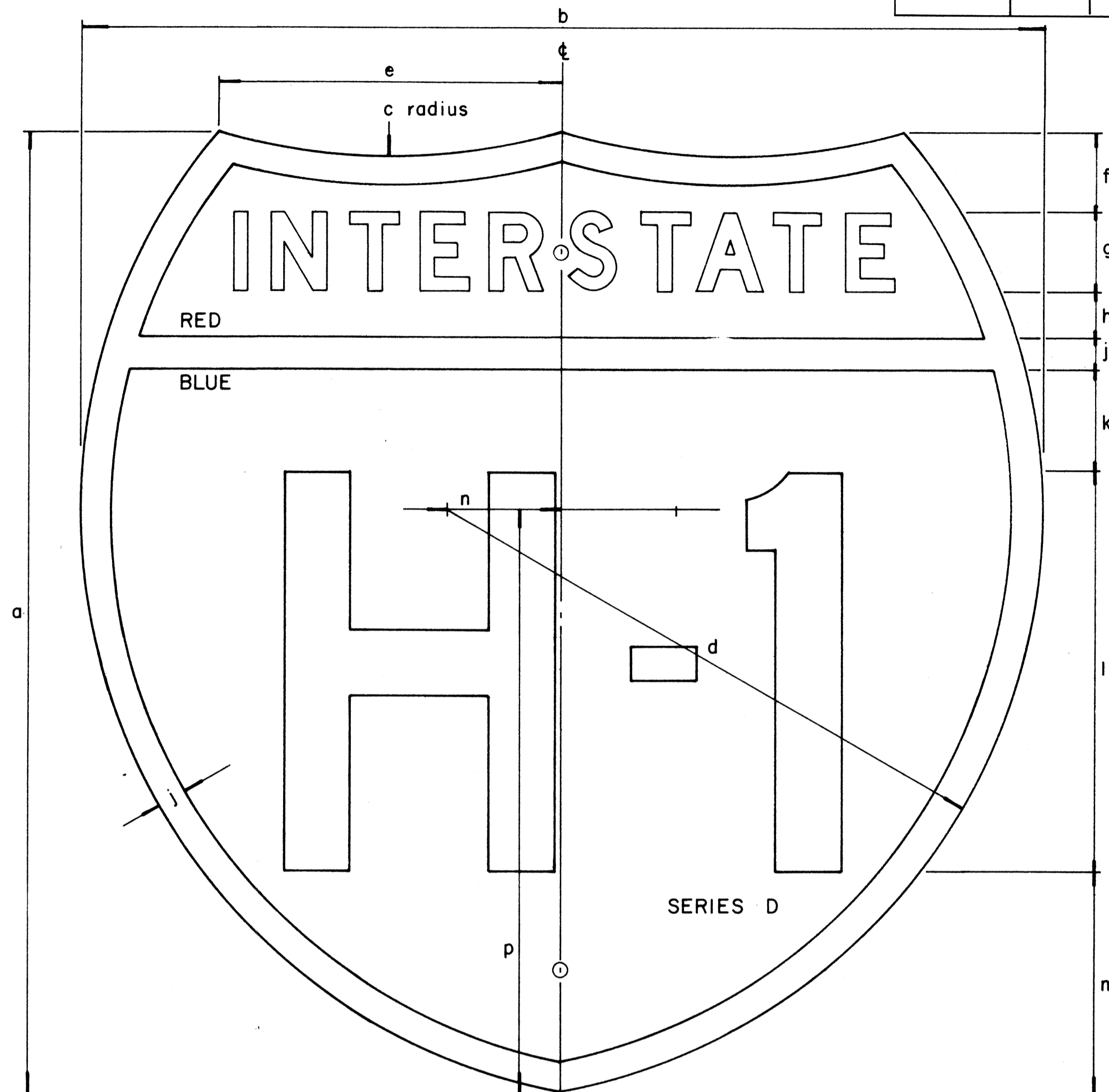
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(131)-17	1977	144	394



INTERSTATE ROUTE MARKER
IM-1()

INTERSTATE SHIELDS - INDEPENDENT USE

()	a	b	c	d	e	f	g	h	j	k	l	m	n	p	q
1	18	21	13 1/8	12 9/16	9 3/16	1 25/32	1 7/8 C	3/4	9/16	1 1/8 D	1 1/32	6	4 5/16	2 1/16	12 7/16
2	24	24	15	14 7/8	8 5/8	2 3/8	2 1/2 C	1	3/4	1 1/2 D	1 3/8	8	5 3/4	2 7/8	14 5/8
3	36	36	22 1/2	22 5/16	12 15/16	3 9/16	3 3/4 C	1 1/2	1 1/8	2 1/4 D	2 1/16	12	8 5/8	4 5/16	21 15/16



INTERSTATE ROUTE MARKER
IM-2()

INTERSTATE SHIELDS ON GUIDE SIGNS

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

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

GENERAL NOTES

1. 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.
2. All markers shall be reflectorized unless otherwise specified.
3. All markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
4. The interstate Route Marker shall be cut-out shield, in a red, white and blue design as shown on the plans.

APPROVAL RECOMMENDED:
Eiichi Tanaka
 TRAFFIC ENGINEER
 12/29/69
 DATE

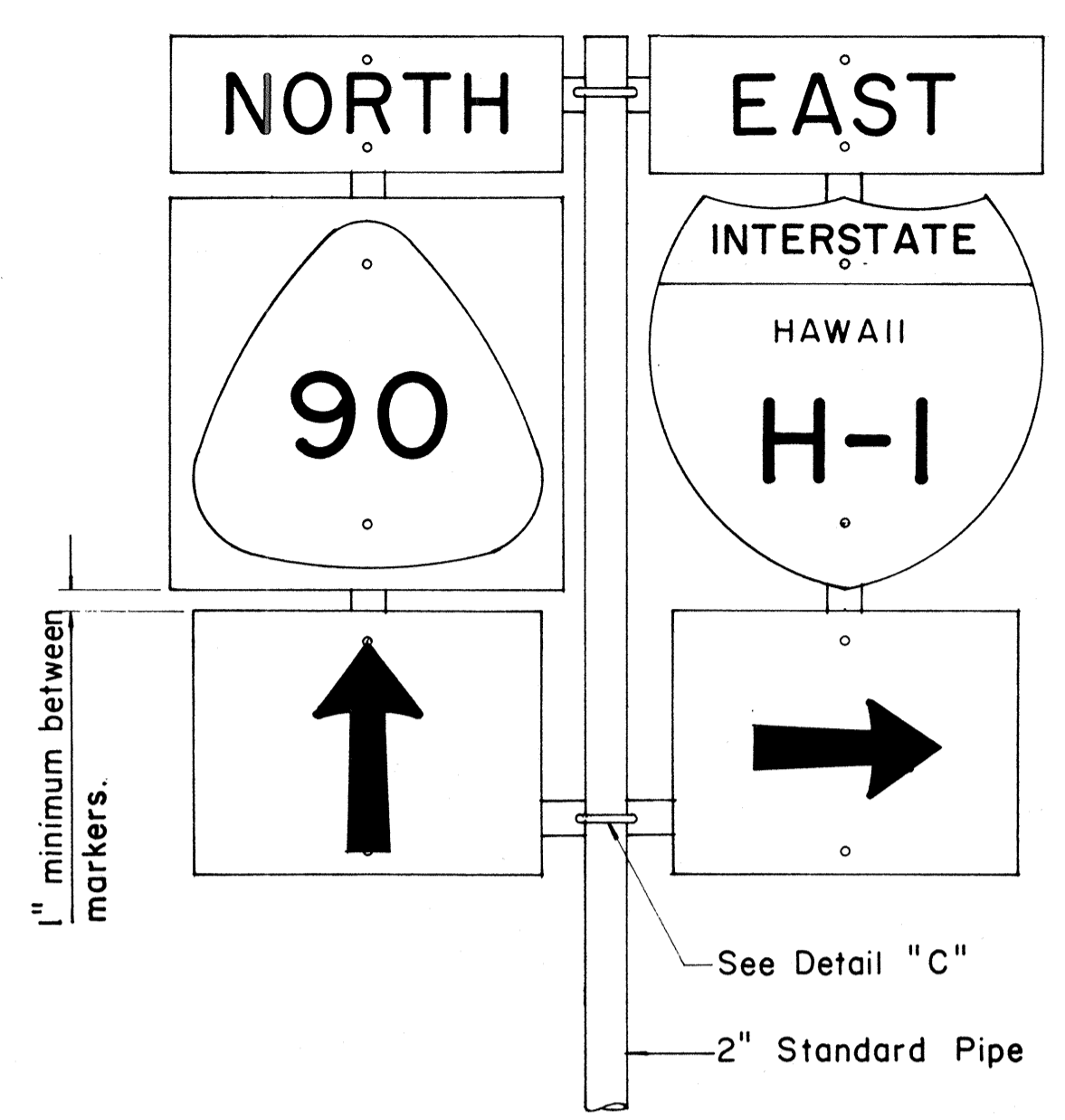
APPROVED:
Andy P. [Signature]
 ASSISTANT CHIEF, ENGINEERING
 12-30-69
 DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised General Notes	HC	10/16/74

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
INTERSTATE ROUTE MARKERS

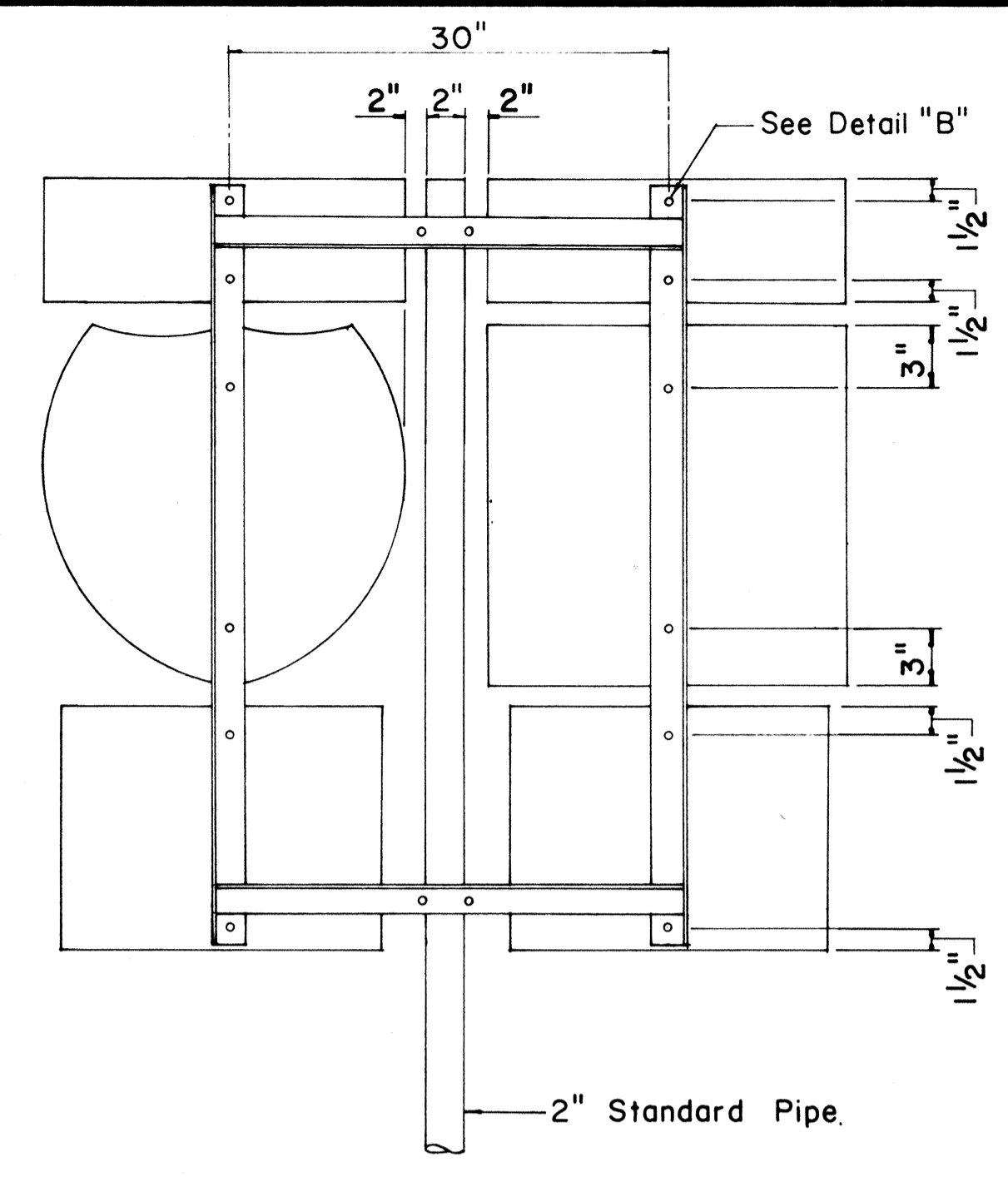
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	H-1(13)17	1977	145	394



FRONT ELEVATION

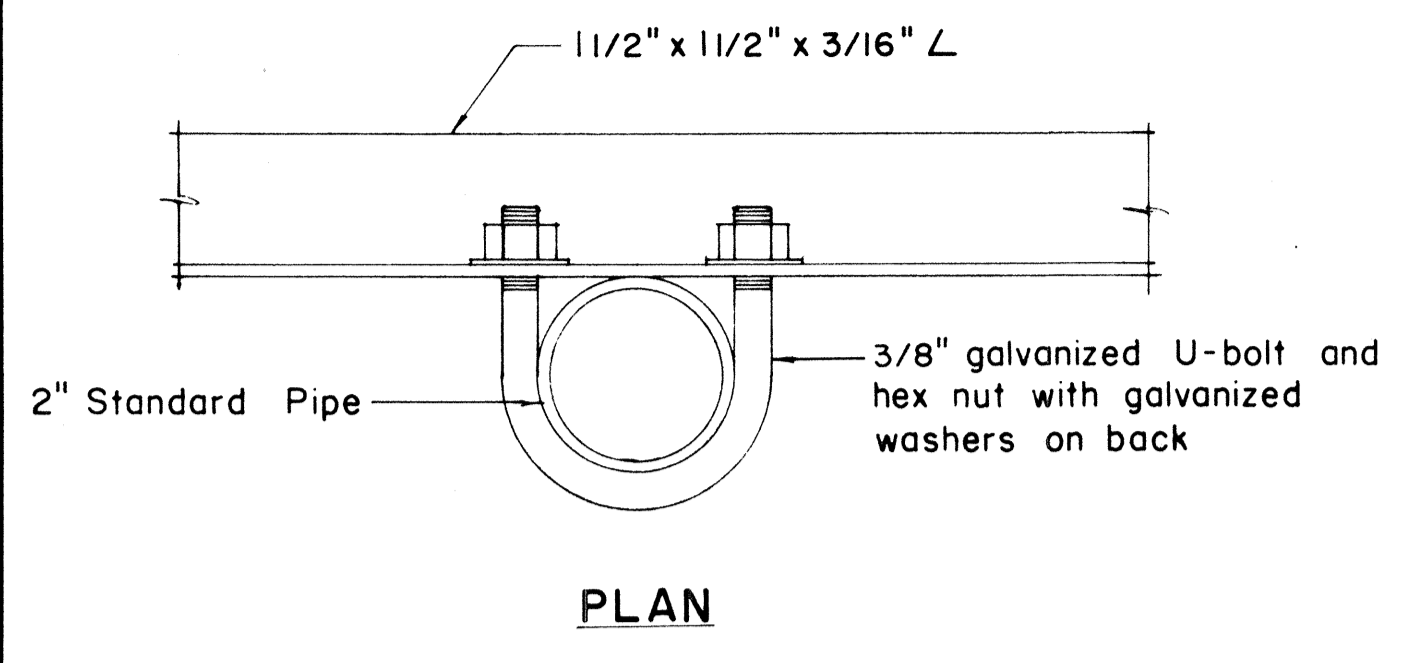
TYPE "B" ASSEMBLY

Not to Scale

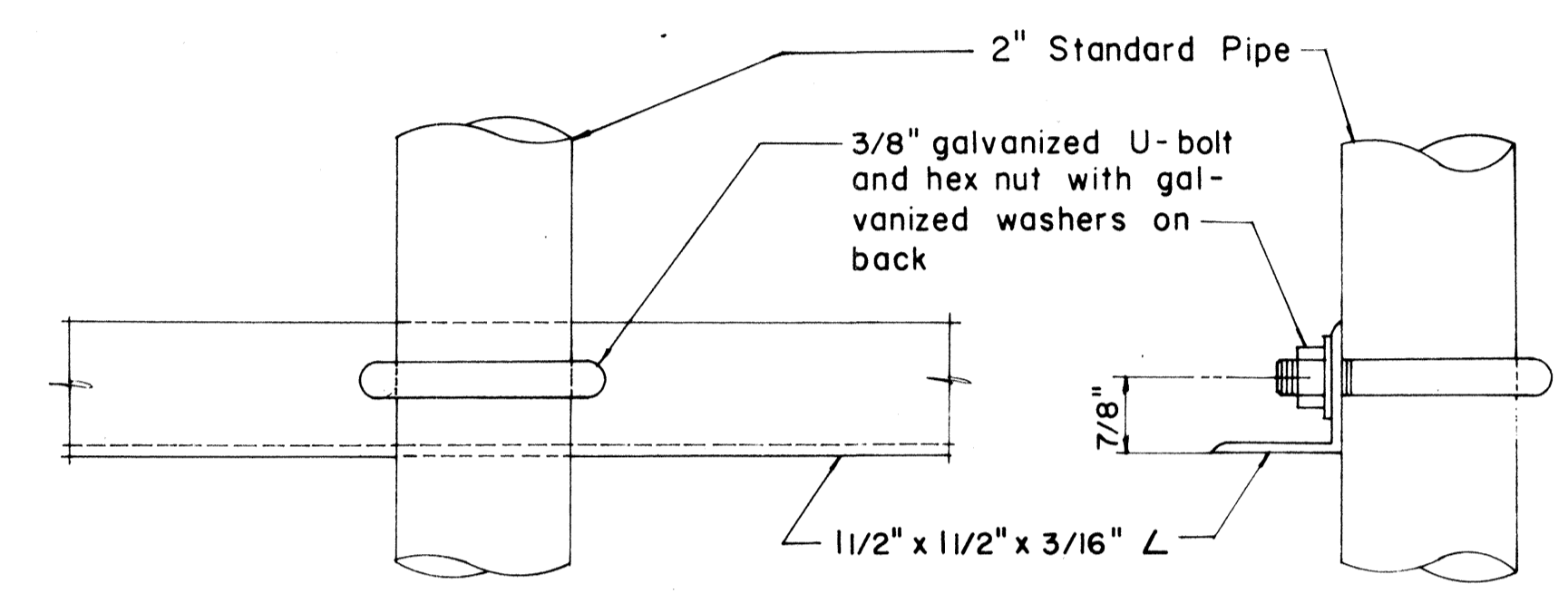


REAR ELEVATION

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.



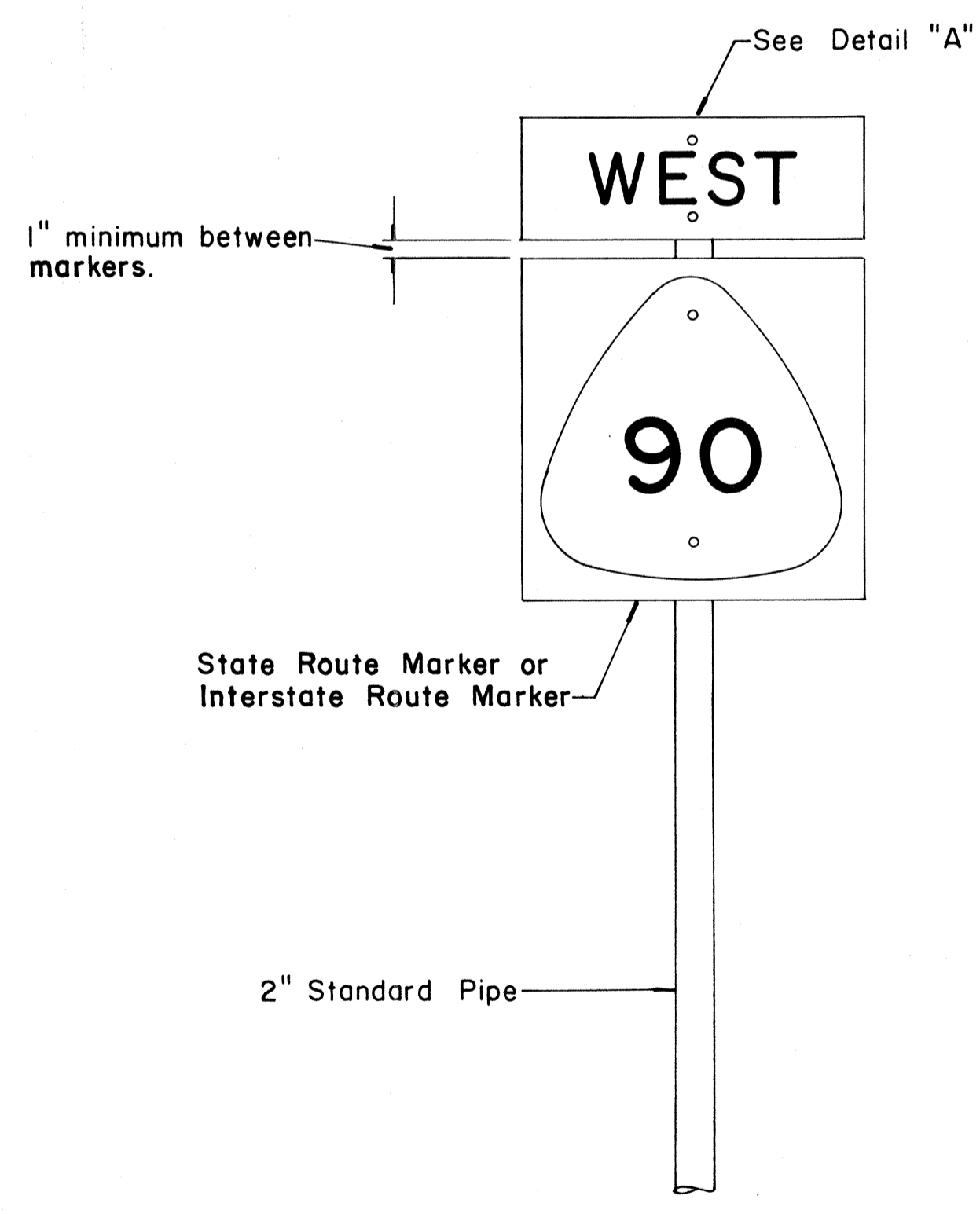
PLAN



FRONT ELEVATION

SIDE ELEVATION

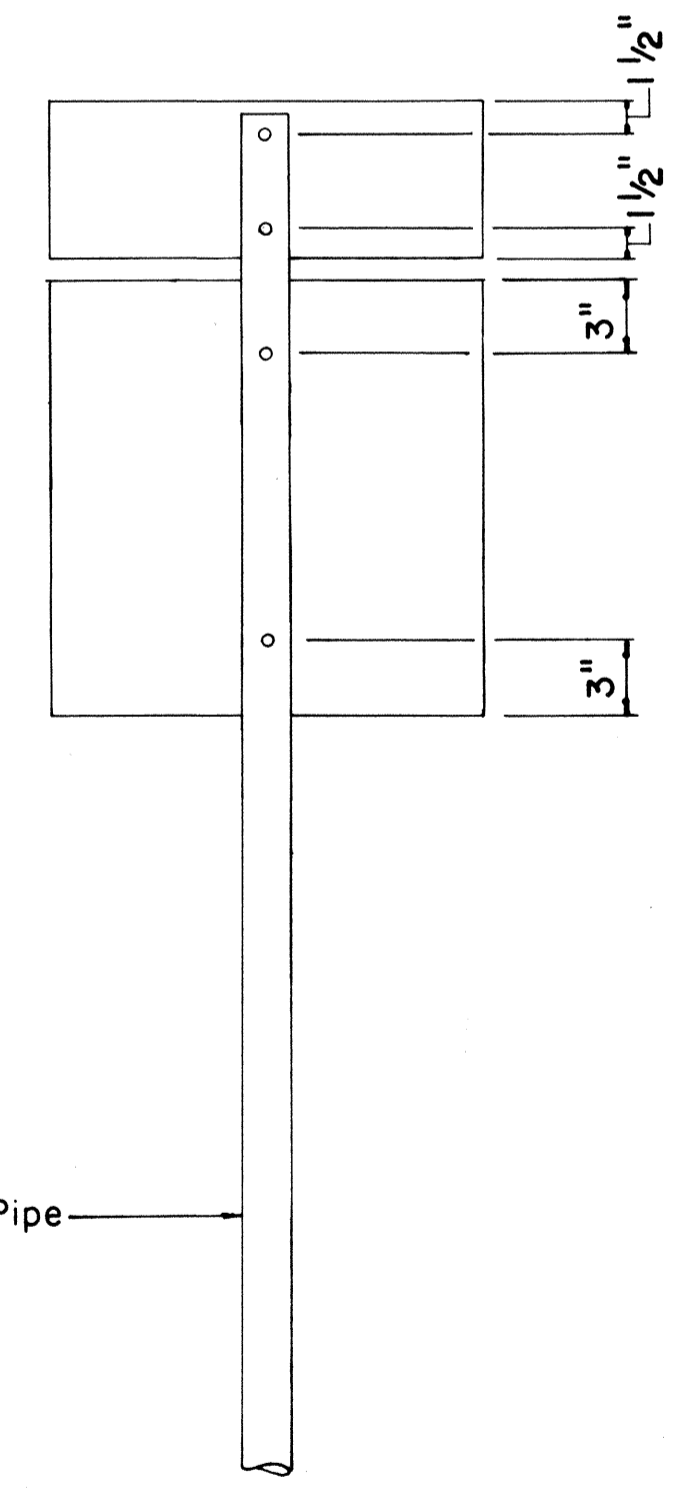
DETAIL "C"



FRONT ELEVATION

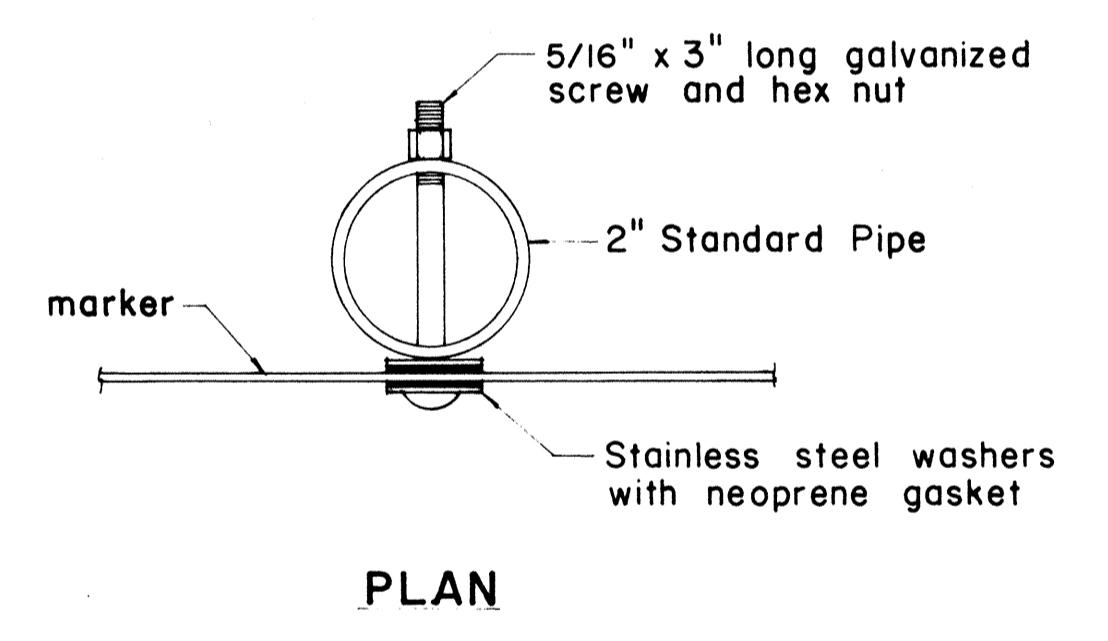
TYPE "A" ASSEMBLY

Not to Scale

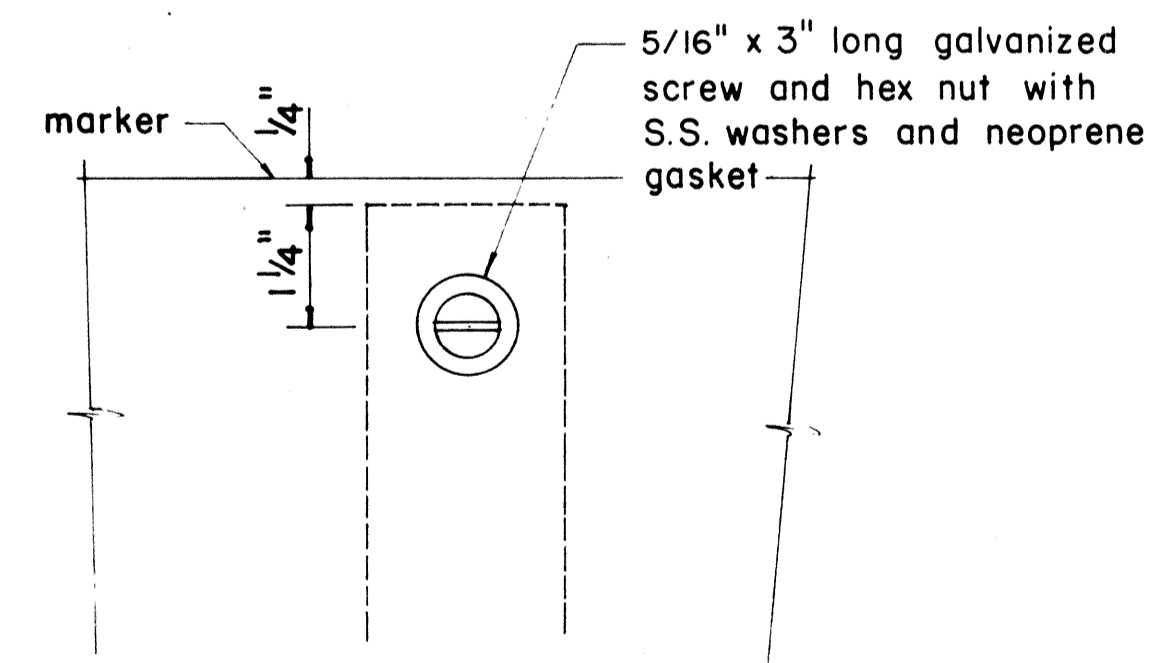


REAR ELEVATION

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

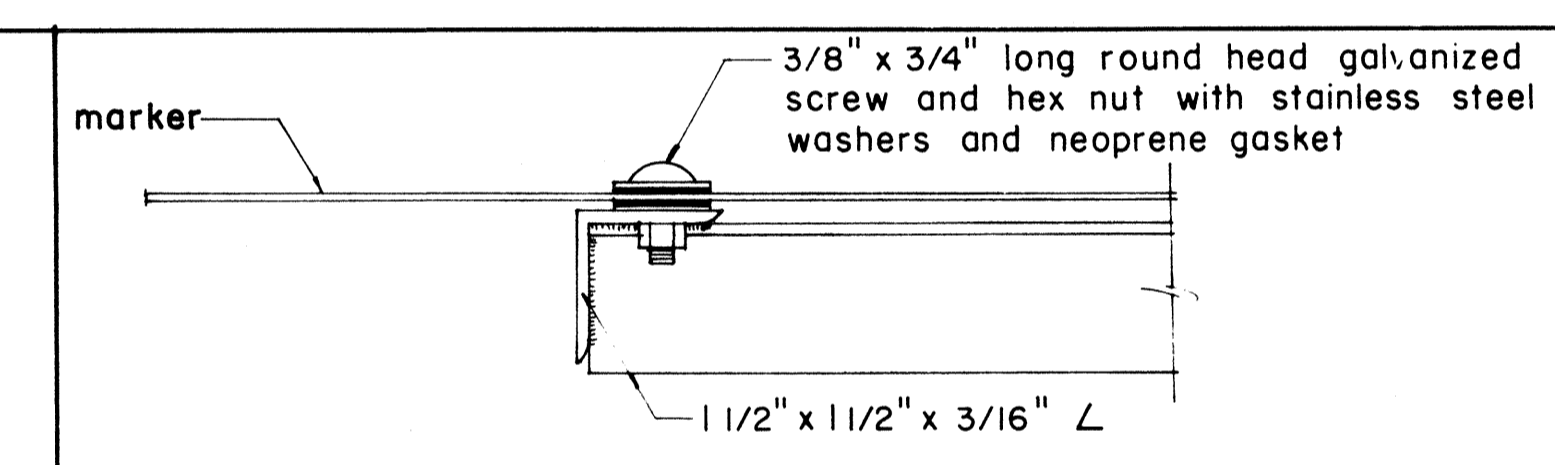


PLAN

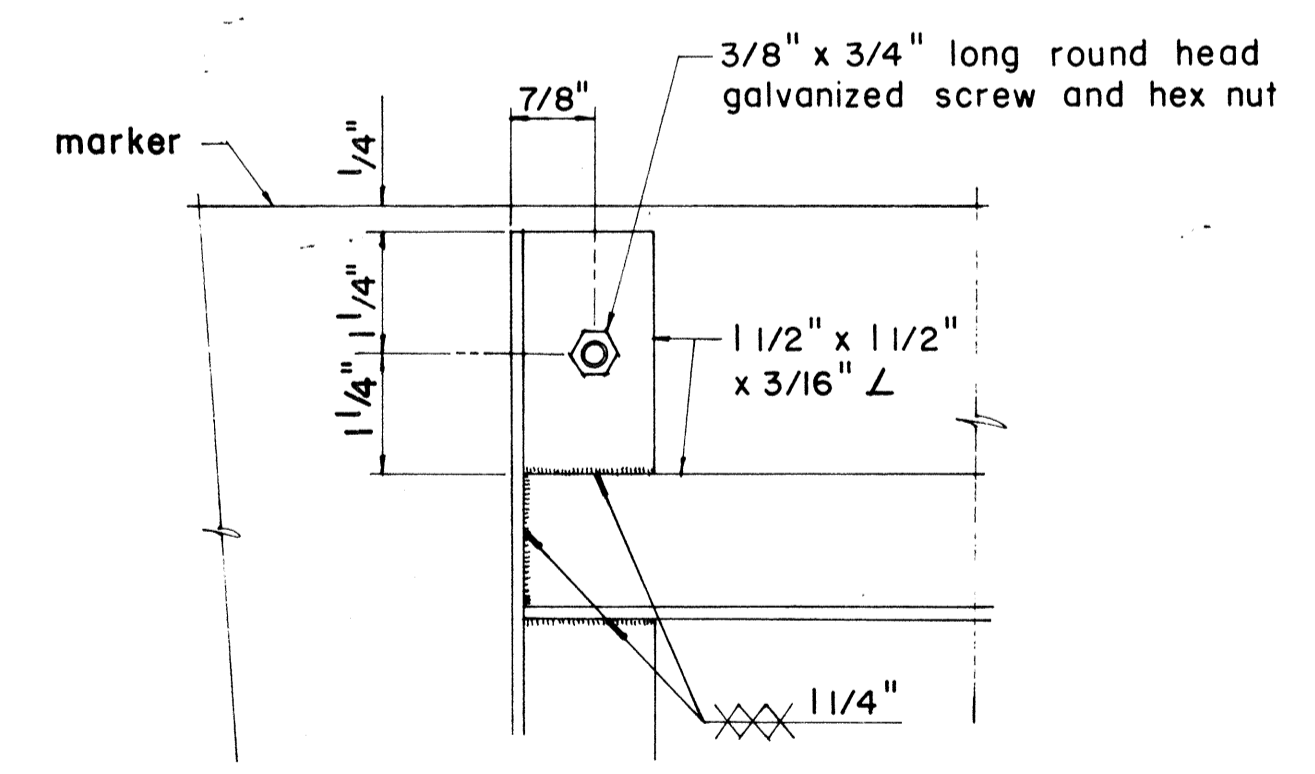


FRONT ELEVATION

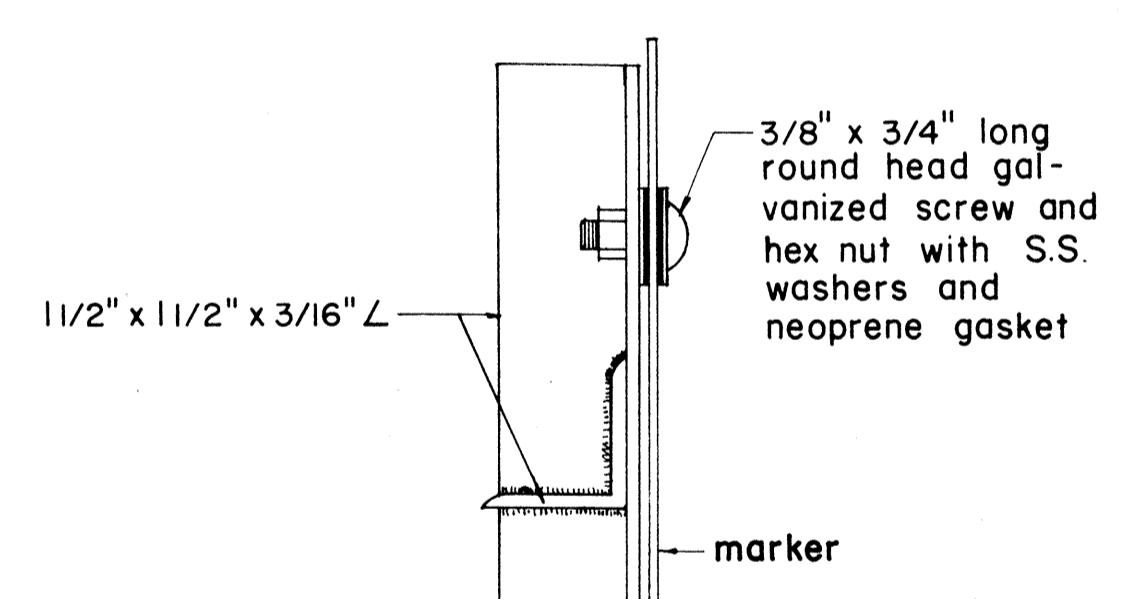
DETAIL "A"



PLAN



ELEVATION



SECTION

DETAIL "B"

APPROVAL RECOMMENDED:
E. Tanaka
 TRAFFIC ENGINEER DATE 12/29/69

APPROVED:
Shelton
 ASSISTANT CHIEF, ENGINEERING DATE 12-30-69

NO.	REVISION	APPROVED BY	DATE
1	Revisions to Route Marker Assemblies.	H.T.	6/1/72

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

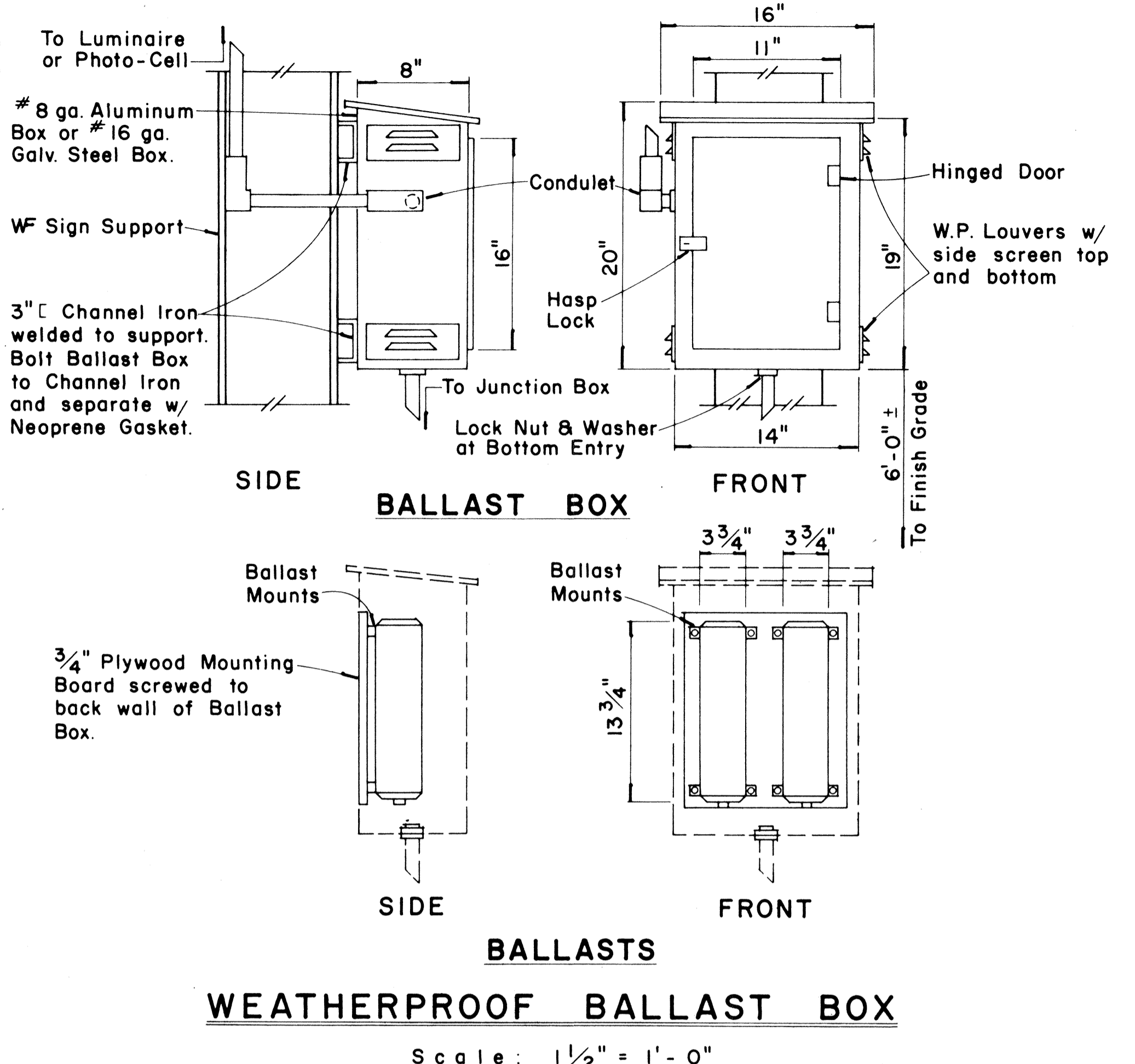
STANDARD DETAILS
ROUTE MARKER ASSEMBLIES

Scale: As Shown
 SHEET No. 8 OF 16 SHEETS DT 107

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

* 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 4 1/2 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"	17 1/4"	1 5/8"	6"	1 1/4"	9"	6"	10"	2"	1"	1 1/8" ø	4 1/2'	4 1/2'
8 WF 24	90 sq. ft.	21'															5'
8 WF 35	190 sq. ft.	15'	16 1/2"	6 3/4"	30"	20"	1 3/4"	6"	1 3/8"	11 3/4"	6 1/2"	10"	1 3/4"	1"	1 1/4" ø	6'	7'
10 WF 45	190 sq. ft.	25'															
10 WF 45	200 sq. ft.	25'															
12 WF 50	230 sq. ft.	25'															
12 WF 50	250 sq. ft.	23'															



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(131):17	1977	148	394

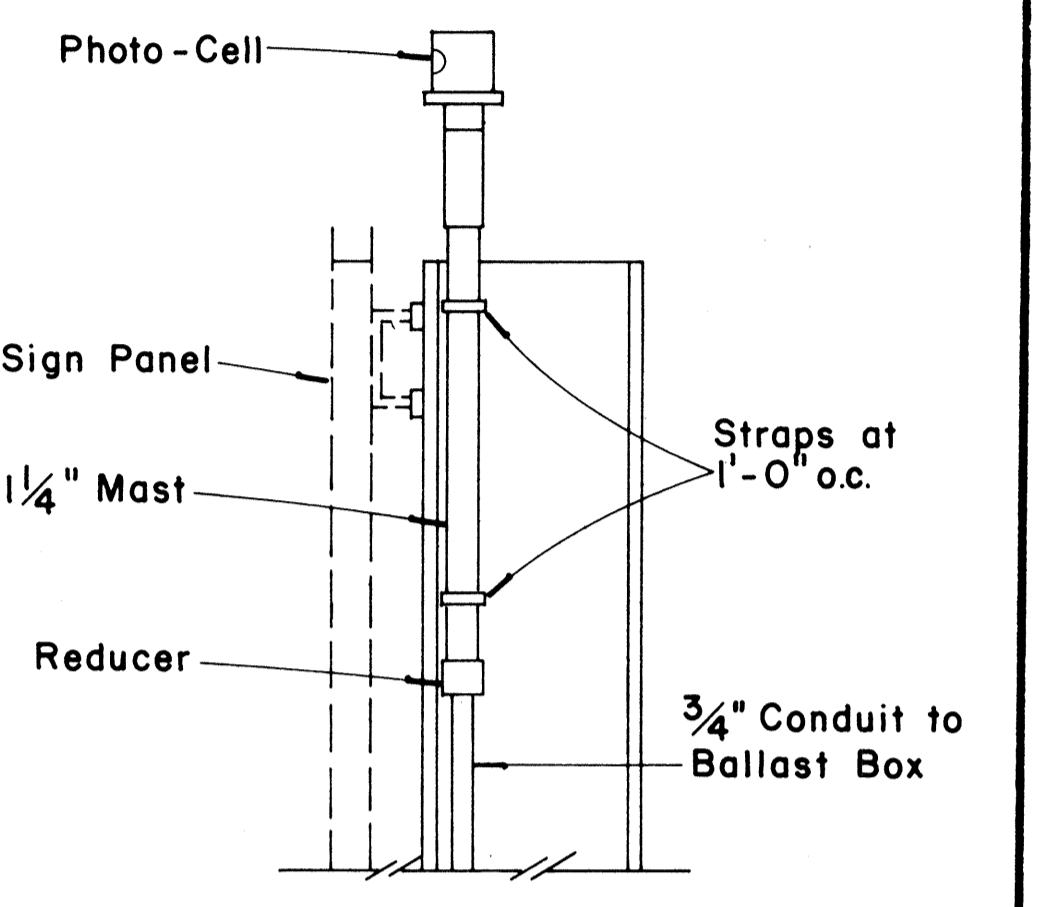
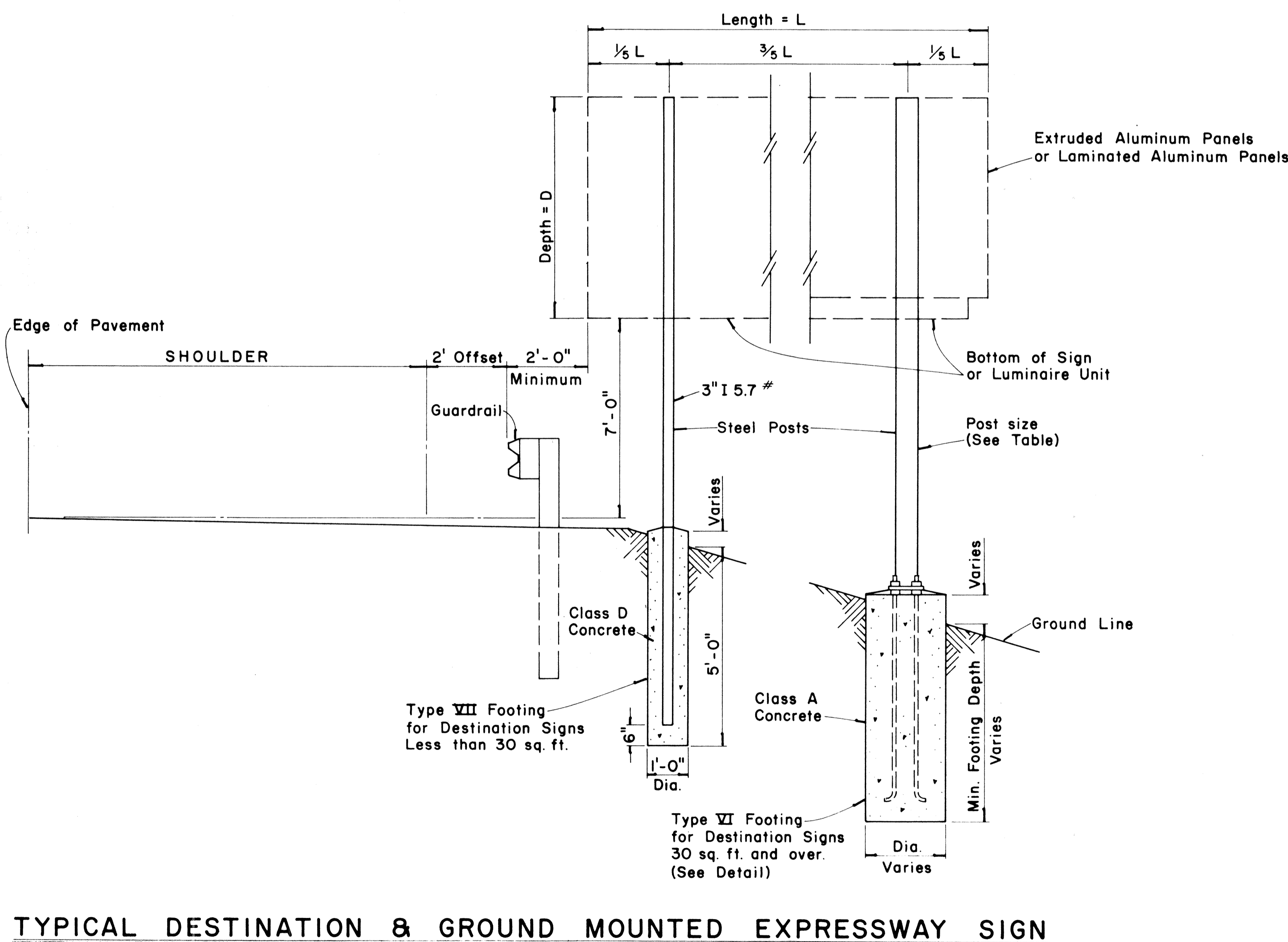
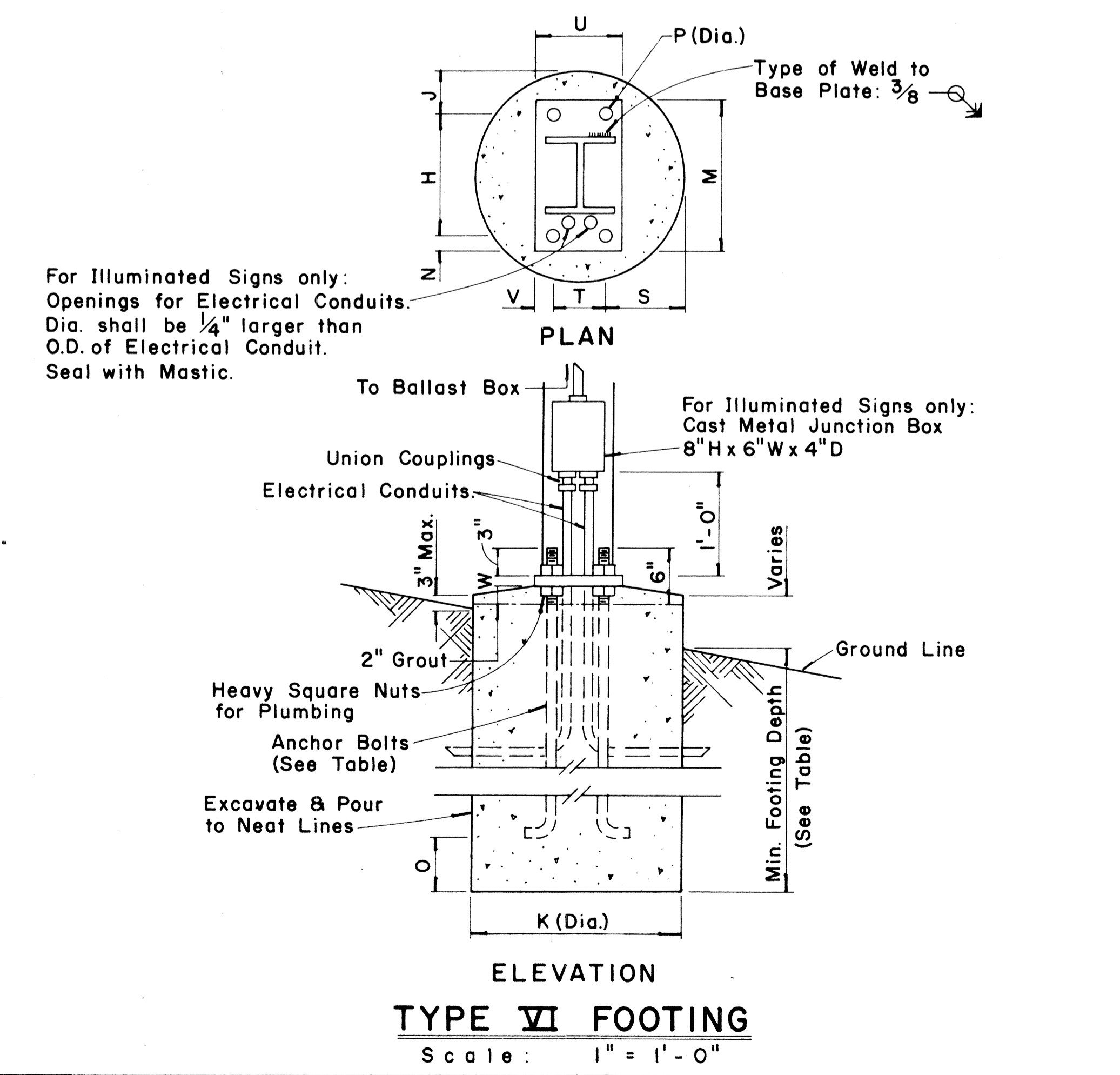


PHOTO-CELL DETAIL
 Scale: 1 1/2" = 1'-0"



TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN
 Not to Scale



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

APPROVAL RECOMMENDED:
Eishi Tanaka 12/29/69
 TRAFFIC ENGINEER DATE

APPROVED:
John S. Pal... 12-29-69
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

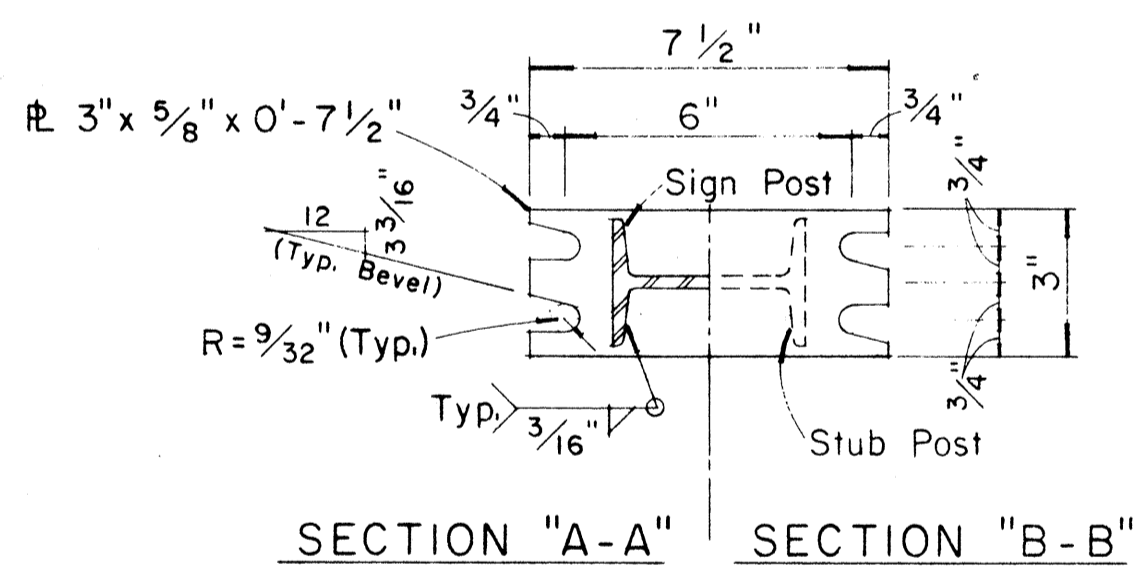
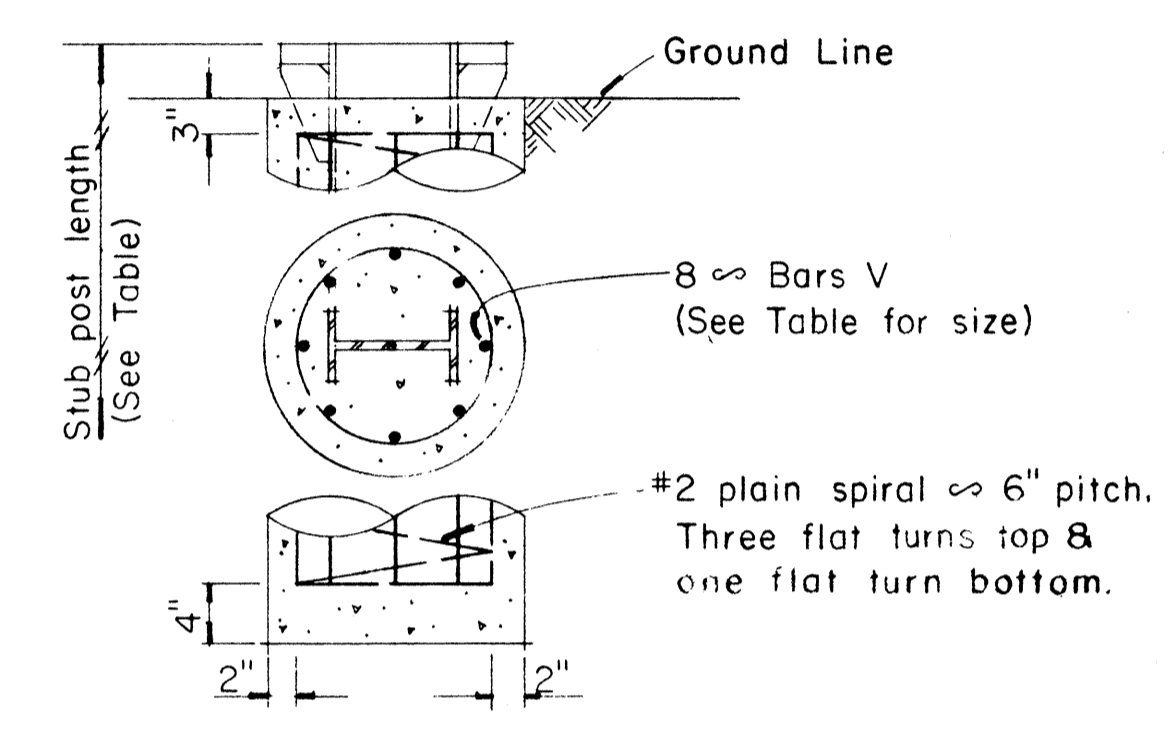
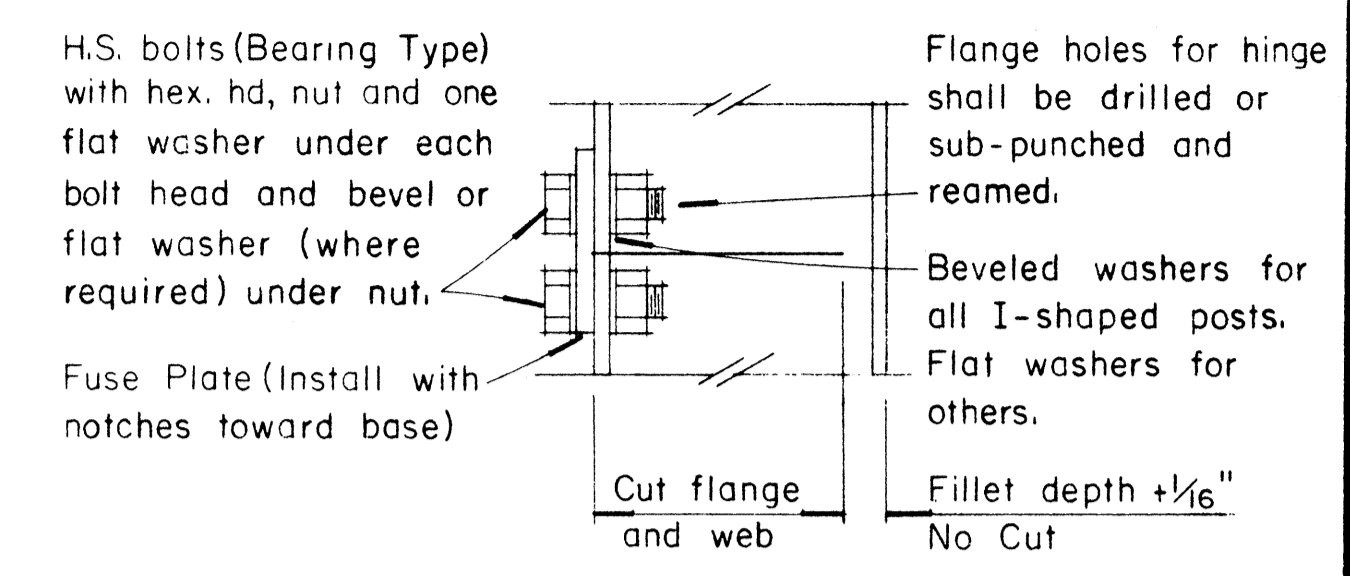
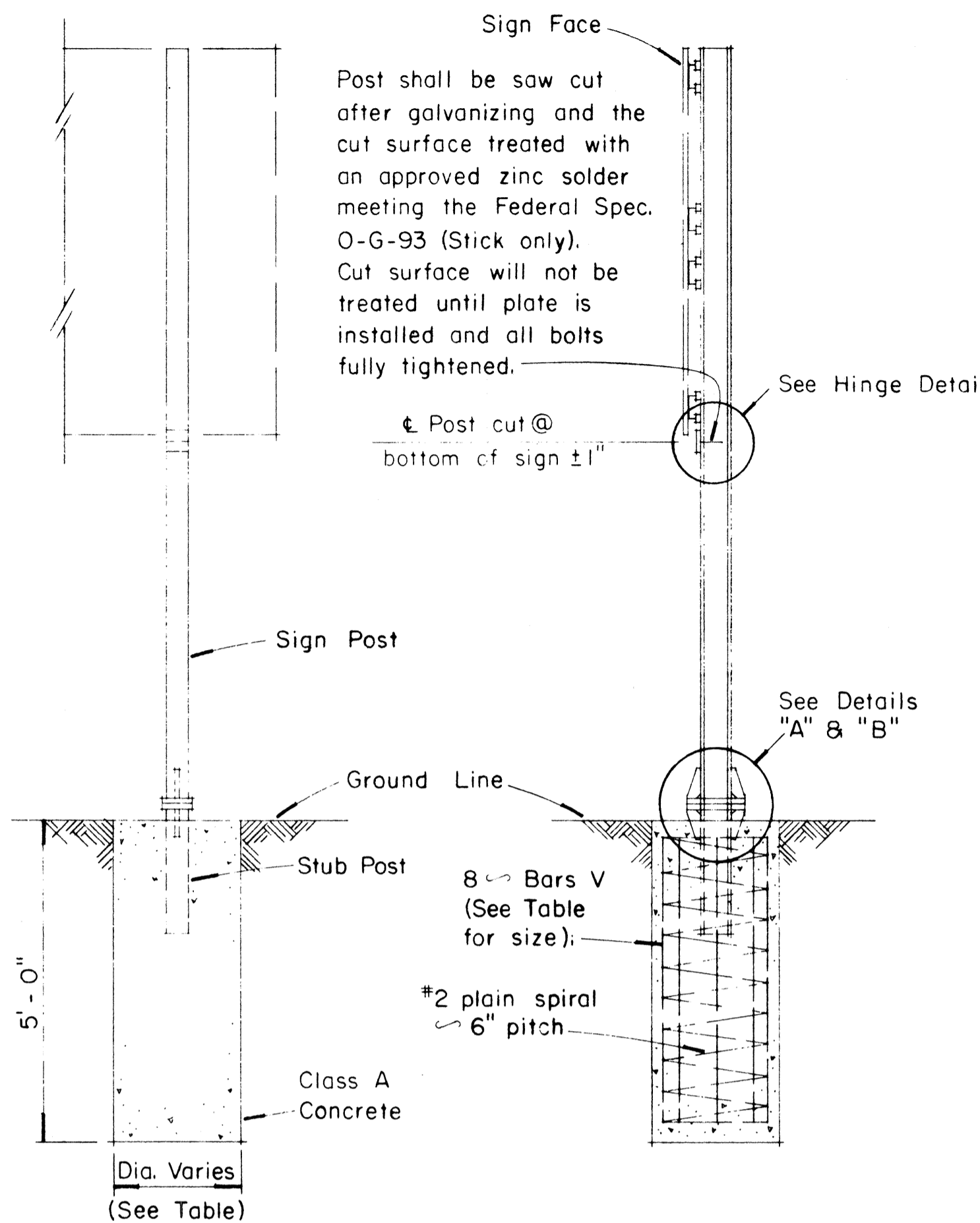
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
 DESTINATION & GROUND MOUNTED
 EXPRESSWAY SIGNS

Scale: As Shown
 SHEET No. 11 OF 16 SHEETS DT 203

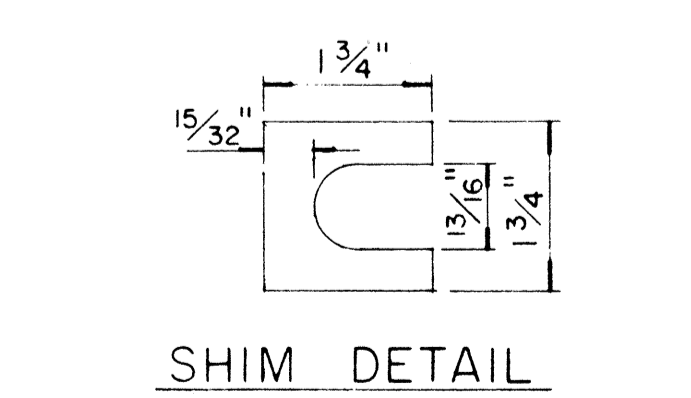
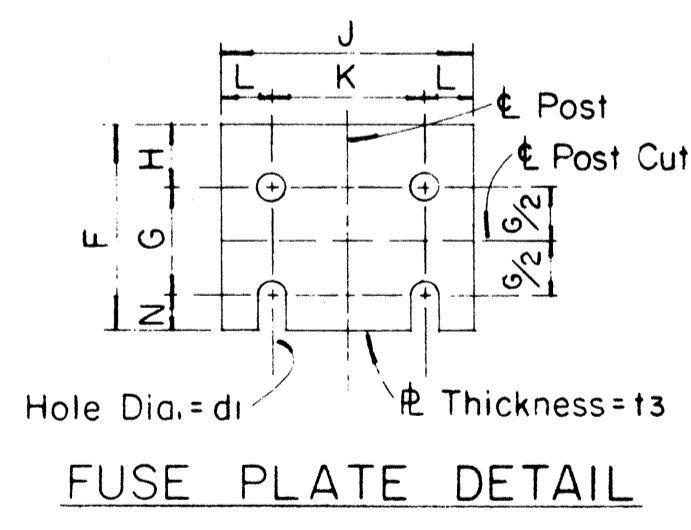
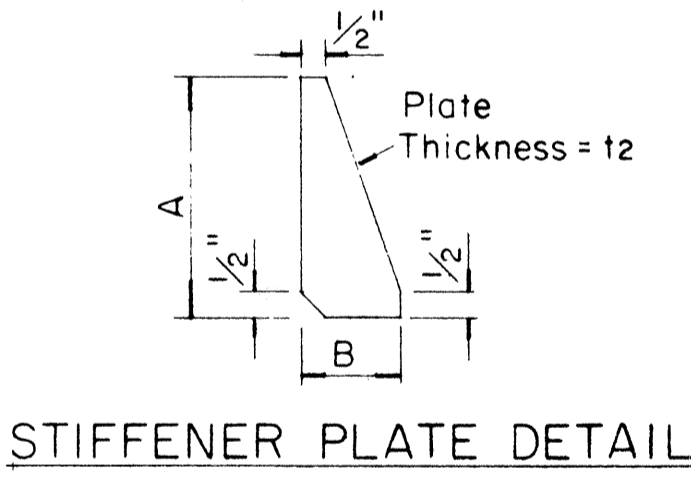
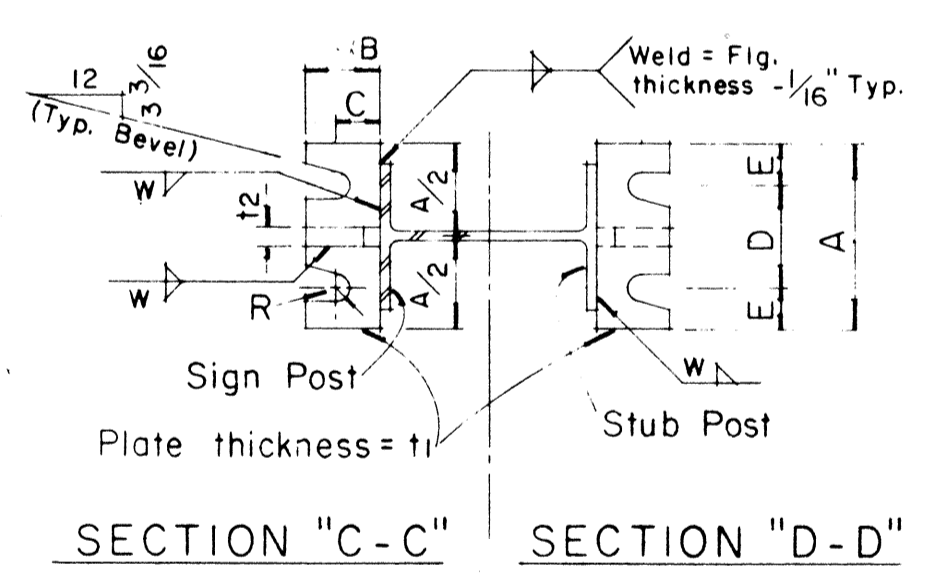
DATE
 CHECKED BY
 DESIGNED BY
 TRACED BY
 DRAWN BY
 ORIGINAL PLAN
 NOTE BOOK
 No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	-H1-(13)17	1977	149	394

BASE CONNECTION DATA TABLE											FUSE PLATE DATA TABLE											FOUNDATION DATA			
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450" #	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	1 1/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2" ϕ	1.09 #	2'-0"	3"	2'-0"	#5
6 B 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	1/16"	3/8"	5/8" ϕ	1.60 #	2'-0"	3"	2'-0"	#5
6 B 15.5											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	1 3/16"	1/2"	3/4" ϕ	3.75 #	2'-6"	3"	2'-0"	#6
8 WF 17											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	1 3/16"	1/2"	3/4" ϕ	3.27 #	2'-6"	3"	2'-0"	#7
8 WF 20	3/4" ϕ x 3 1/2" Torque = 750" #	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	1 3/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	1 5/16"	9/16"	7/8" ϕ	3.93 #	3'-0"	2 1/2"	2'-0"	#8
10 WF 21											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	1 5/16"	9/16"	7/8" ϕ	4.75 #	3'-0"	2 1/2"	2'-0"	#9
10 WF 25											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	1 5/16"	9/16"	7/8" ϕ	4.79 #	3'-0"	2 1/2"	2'-0"	#10
12 WF 27											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	1 5/16"	9/16"	7/8" ϕ	5.42 #	3'-0"	2 1/2"	2'-0"	#11
3 I 5.7	1/2" ϕ x 2 1/2" Torque = 200" #	SEE DETAIL "A"									3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64 #	1'-6"	3 1/2"	1'-6"	#5
4 I 7.7	SEE DETAIL "A"									3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64 #	1'-6"	3 1/2"	1'-6"	#5	



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



GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM A 307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with with the requirements of ASTM A 441
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

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

Furnish 2 x .012" ± thick and 2 x .032" ± thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to A.S.T.M. - B 36.

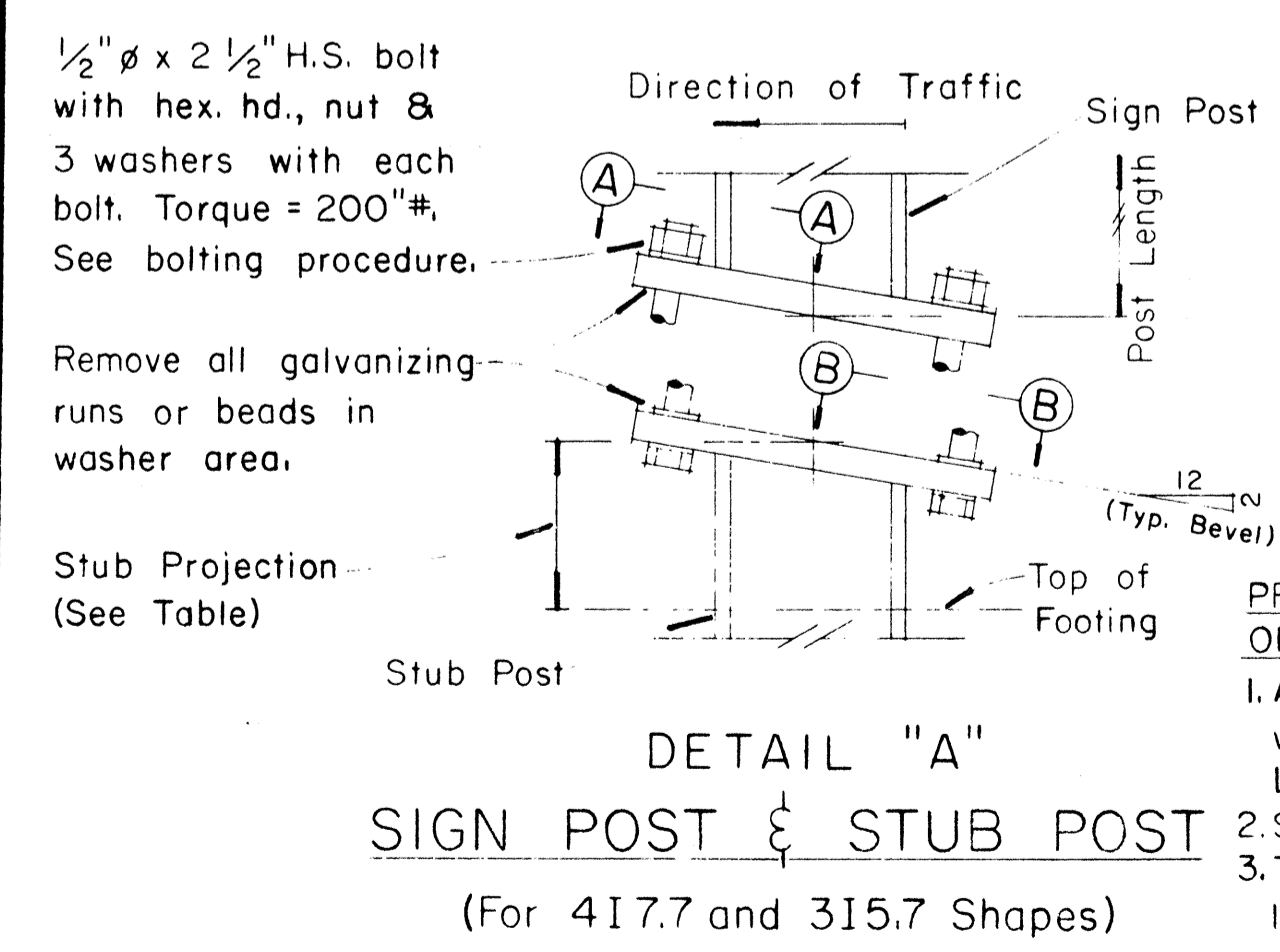
APPROVAL RECOMMENDED:
Eiichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:
John J. [Signature] 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

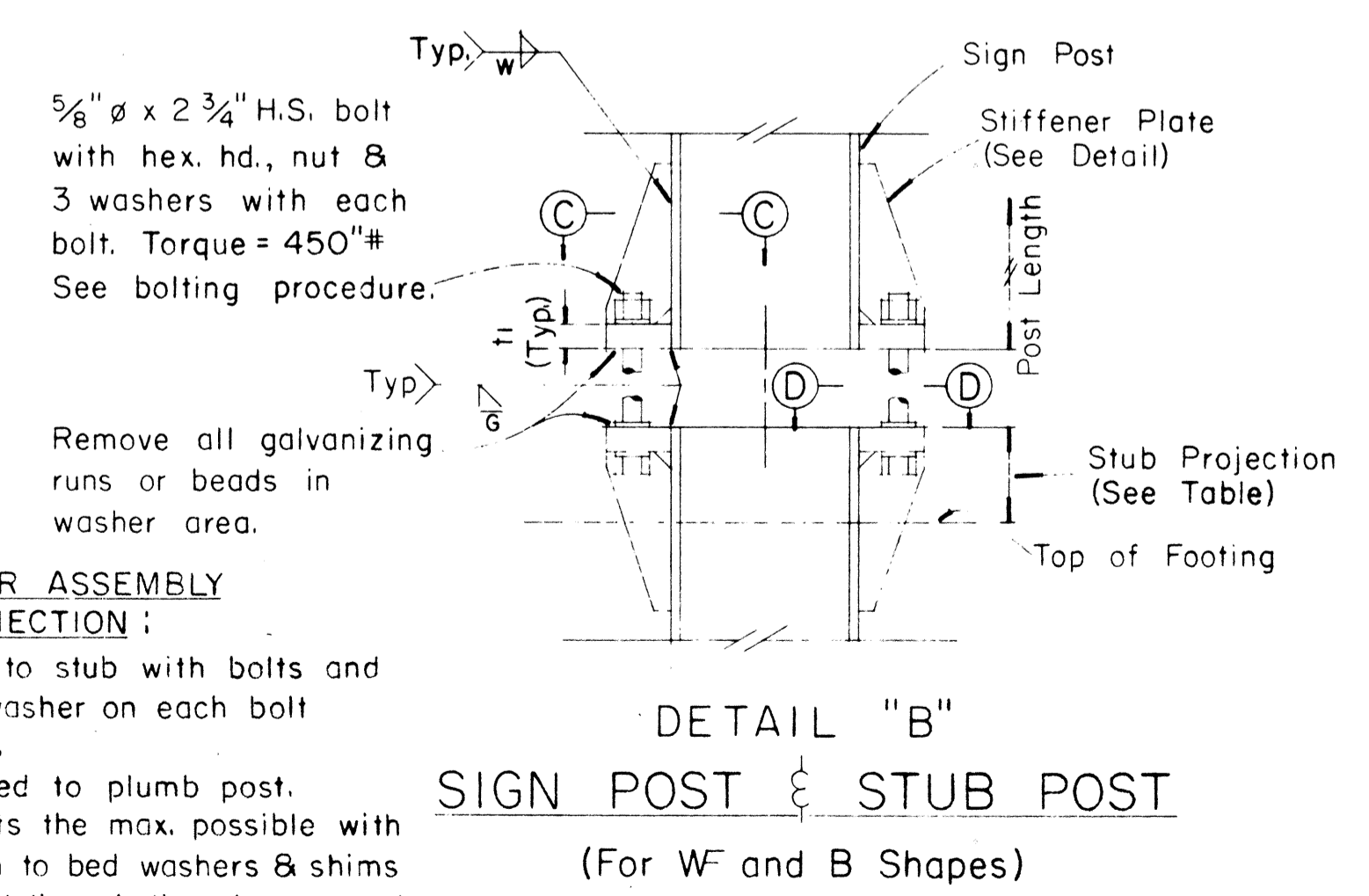
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS
Not to Scale
SHEET No. 12 OF 16 SHEETS DT204

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



PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

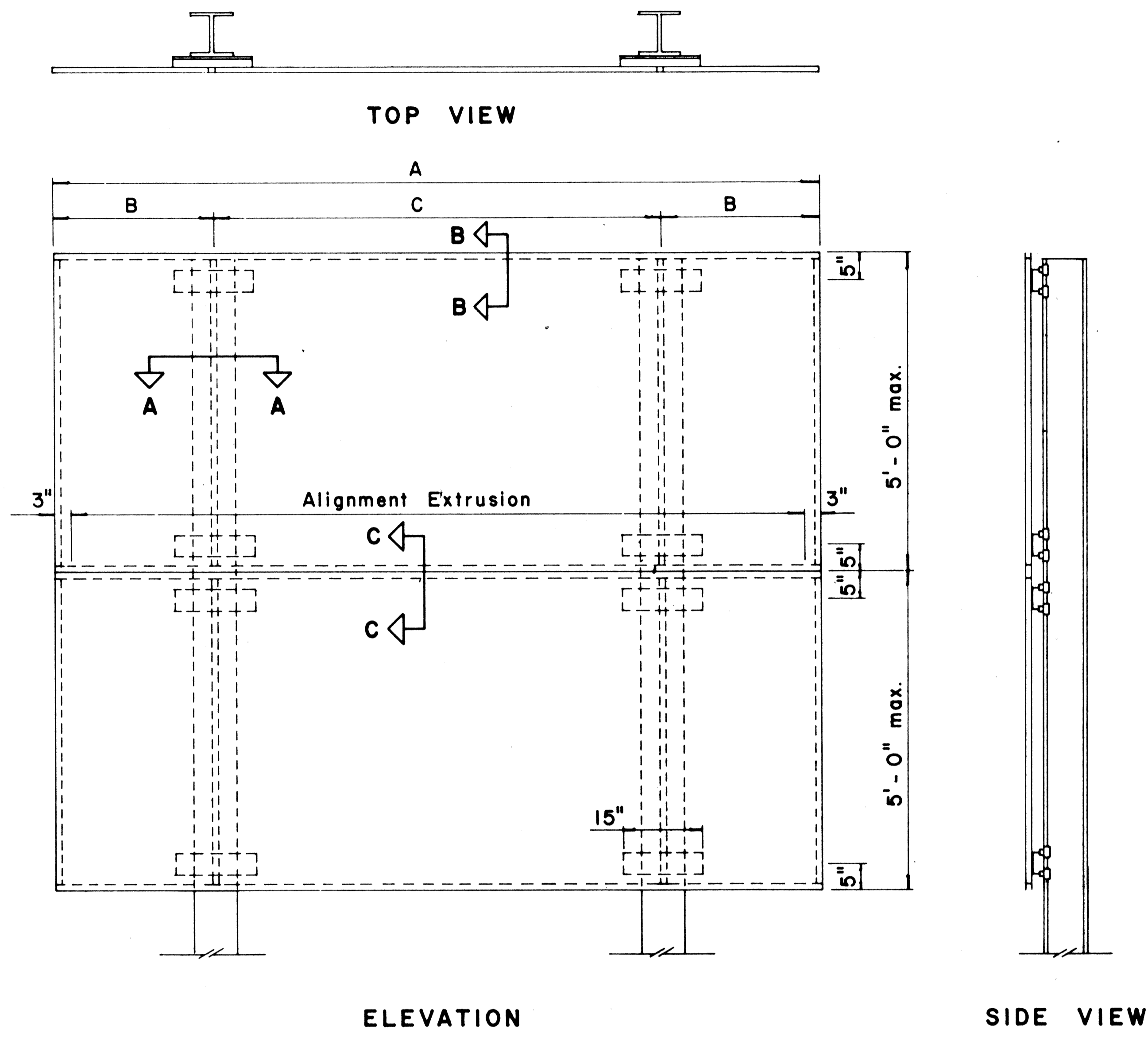
- Assemble post to stub with bolts and with one flat washer on each bolt between plates.
- Shim as required to plumb post.
- Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt in turn & retighten bolts in systematic order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



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(131)-17	1977	150	394

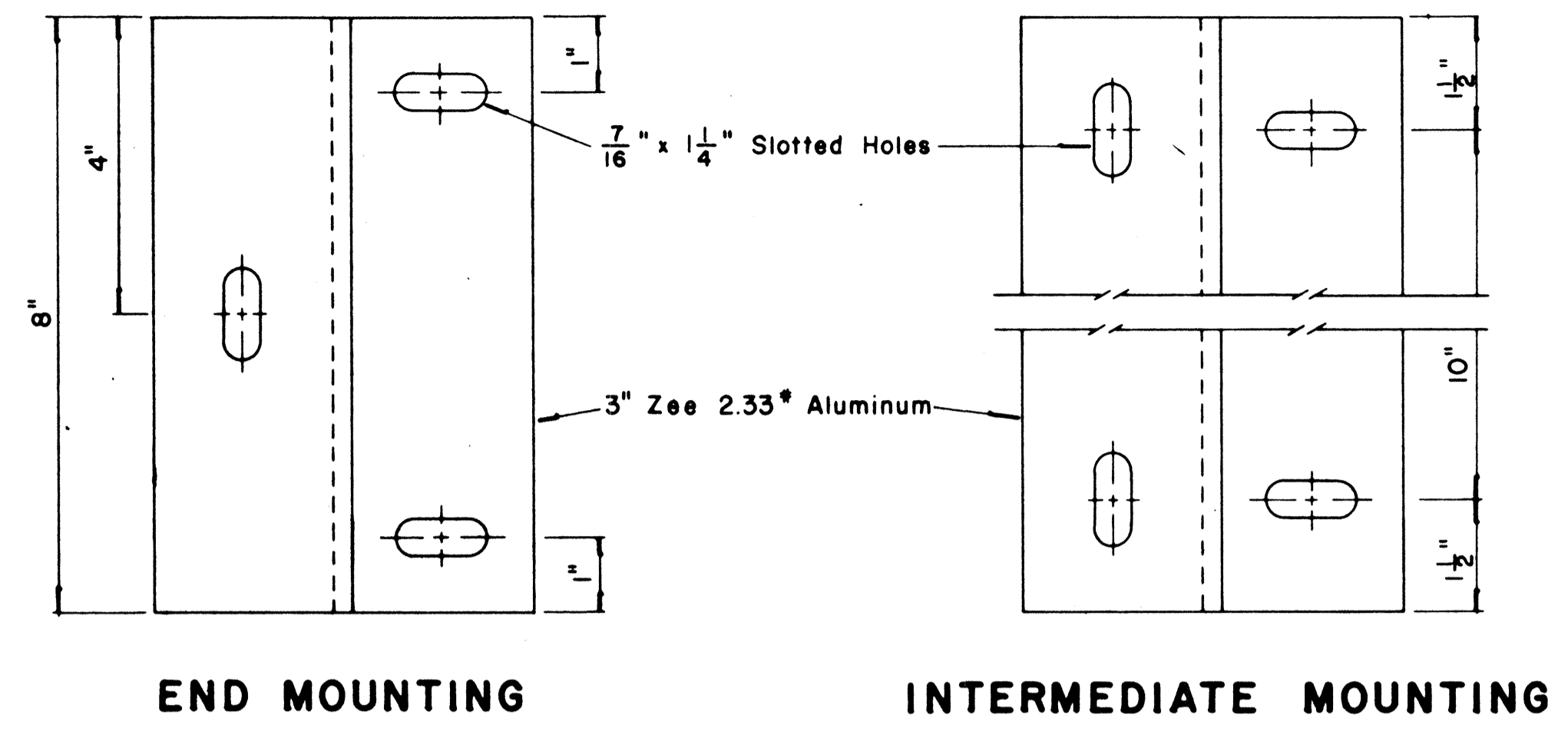
(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

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"	



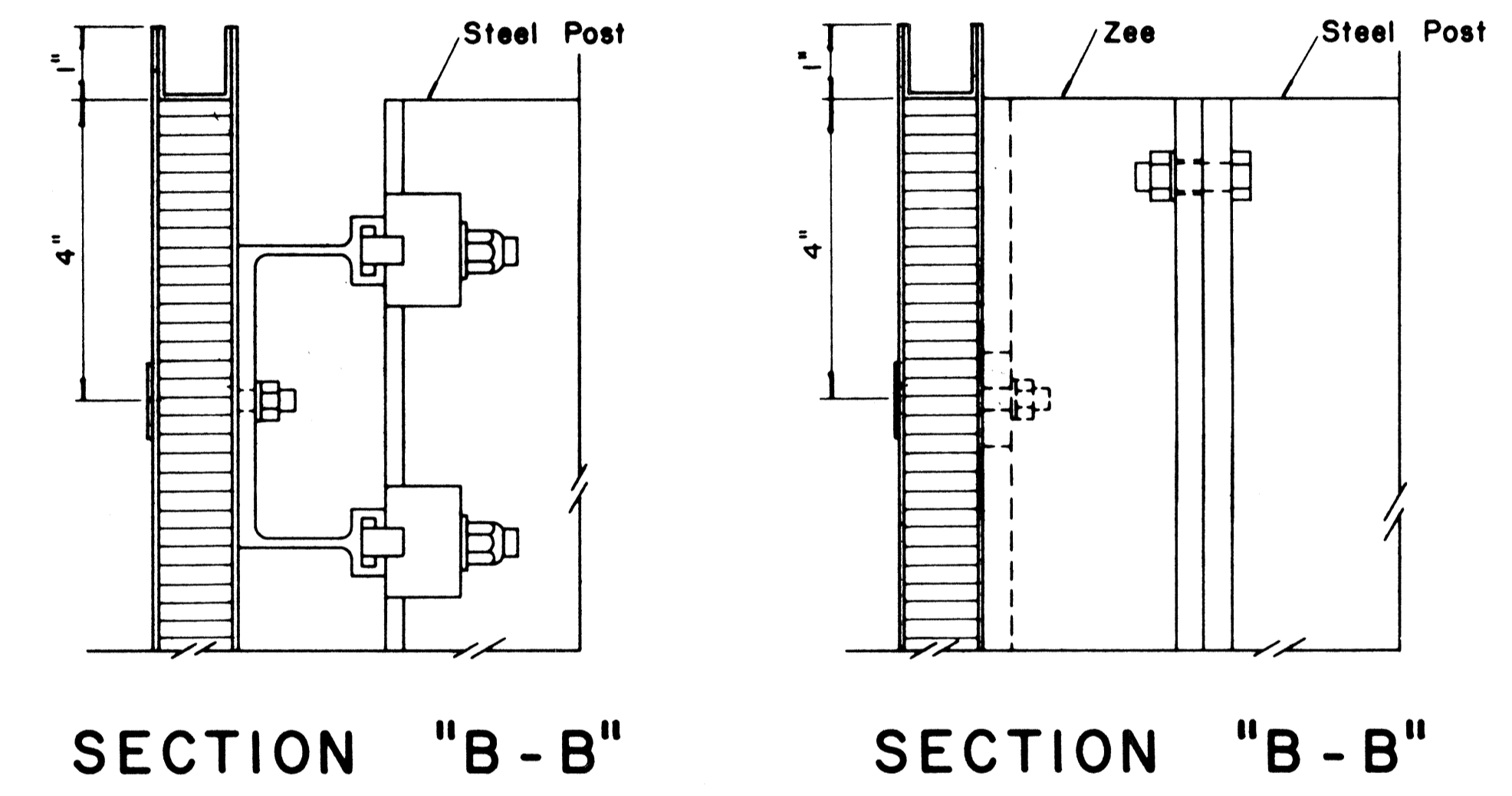
TYPICAL SIGN ASSEMBLY

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



ZEE MOUNTING DETAILS

Scale: 1/2" = 1"

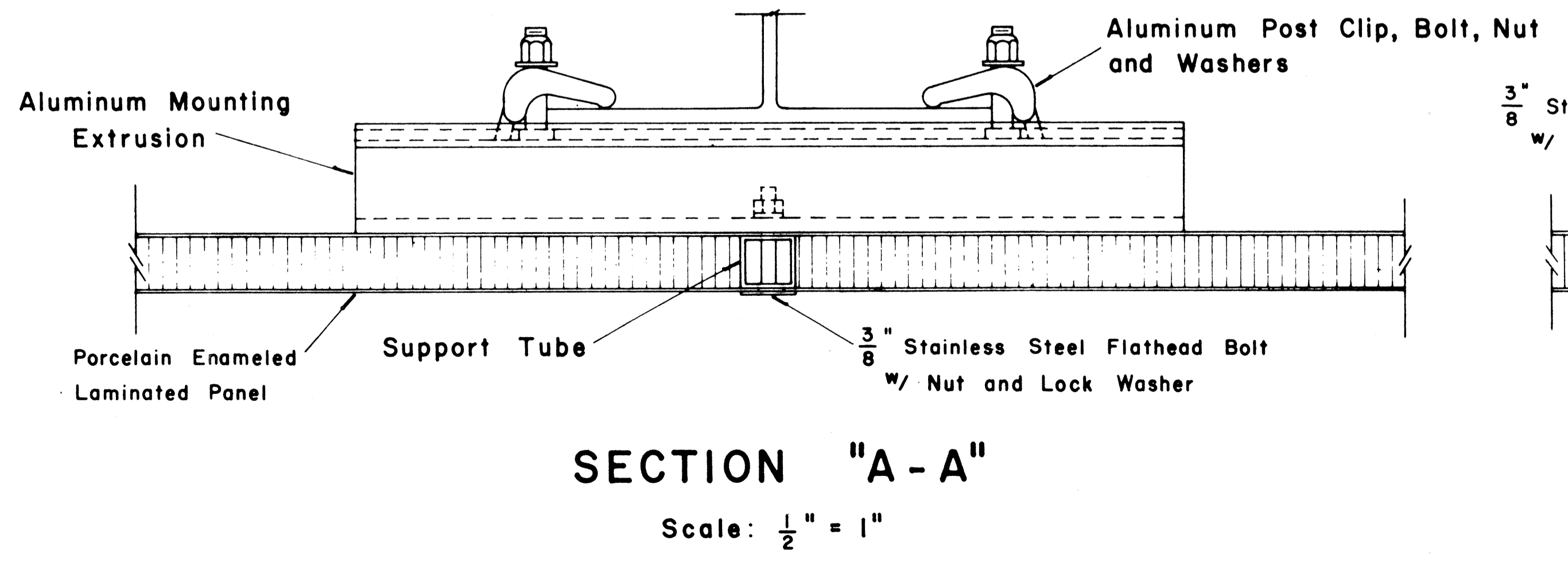


SECTION "B-B"

Scale: 1/2" = 1"

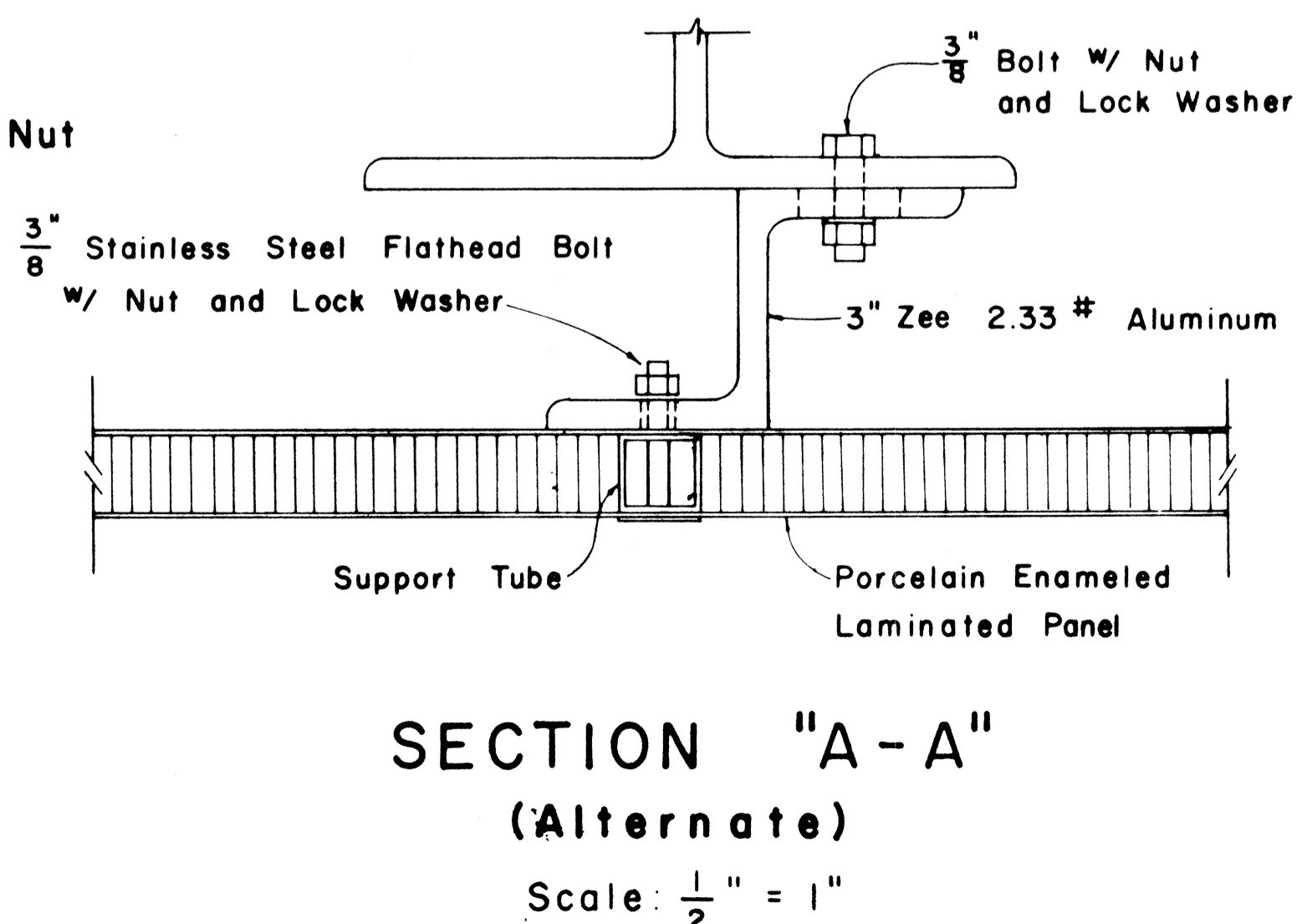
SECTION "B-B" (Alternate)

Scale: 1/2" = 1"



SECTION "A-A"

Scale: 1/2" = 1"

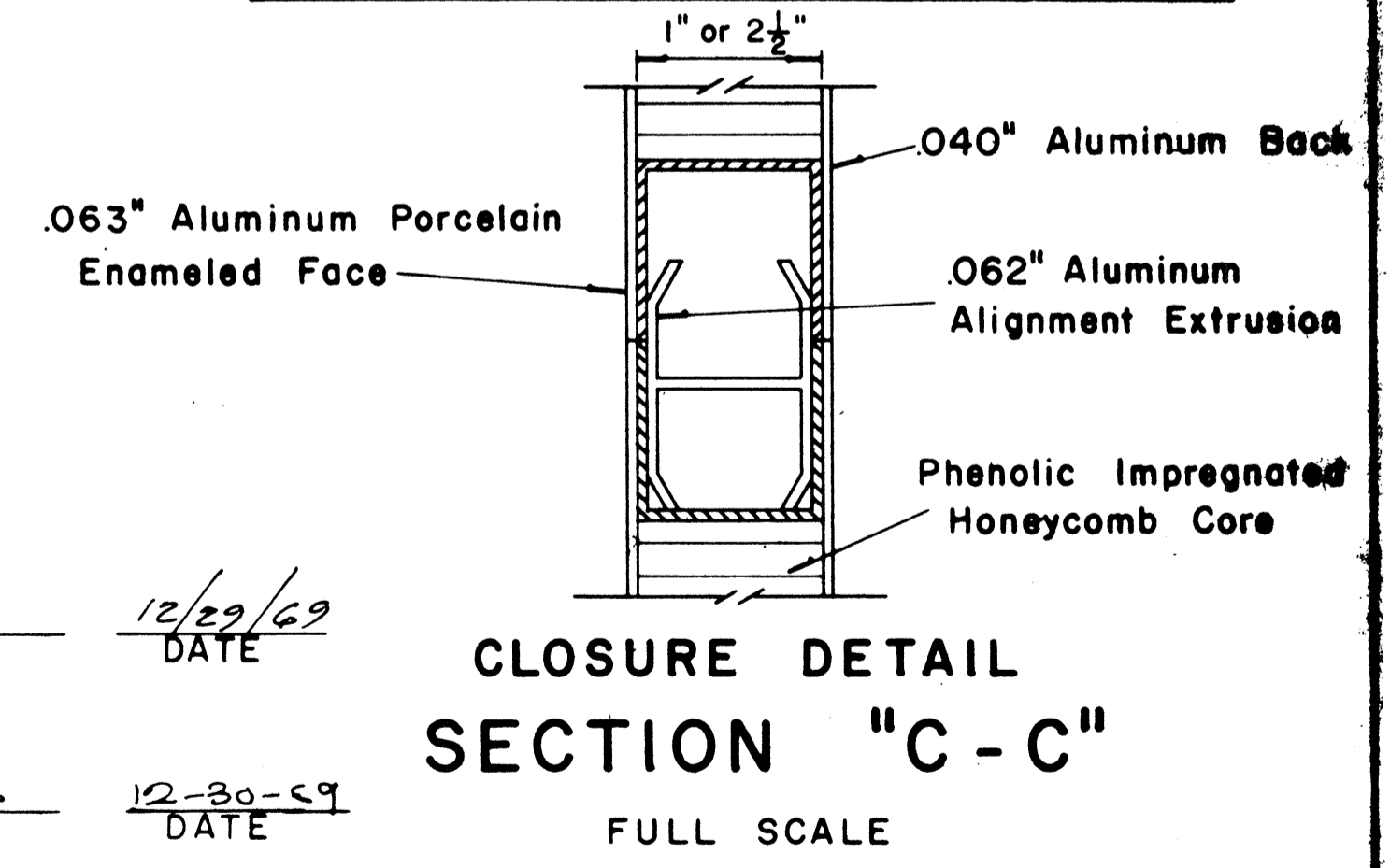


SECTION "A-A" (Alternate)

Scale: 1/2" = 1"

APPROVAL RECOMMENDED:
Etschi Tanaka
TRAFFIC ENGINEER
12/29/69
DATE

APPROVED:
John S. [Signature]
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE



CLOSURE DETAIL SECTION "C-C"

FULL SCALE

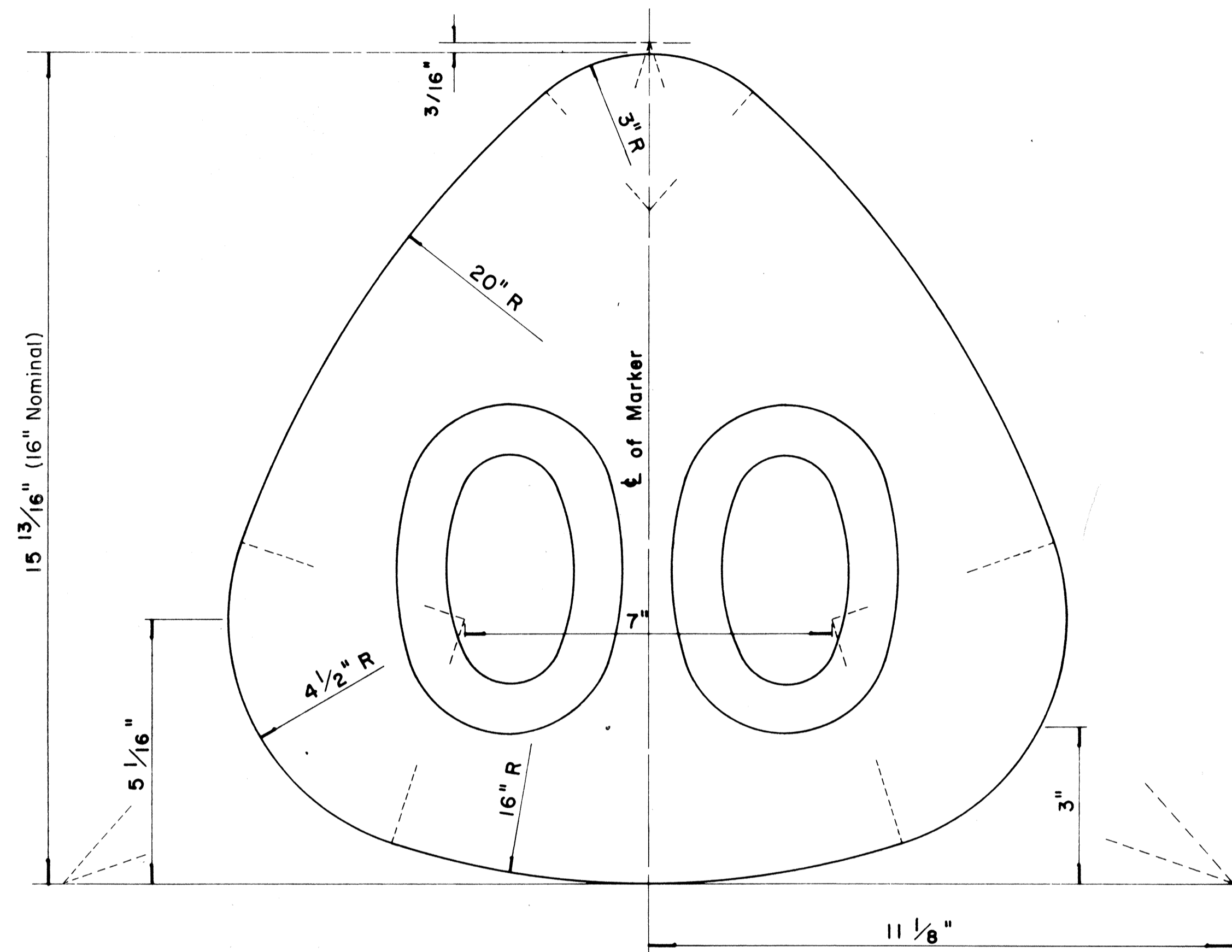
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)
Scale: As Shown

SURVEY PLOTTED BY
 DRAWN BY
 DESIGNED BY
 QUANTITIES BY
 CHECKED BY
 No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(13):17	1977	152	394

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"



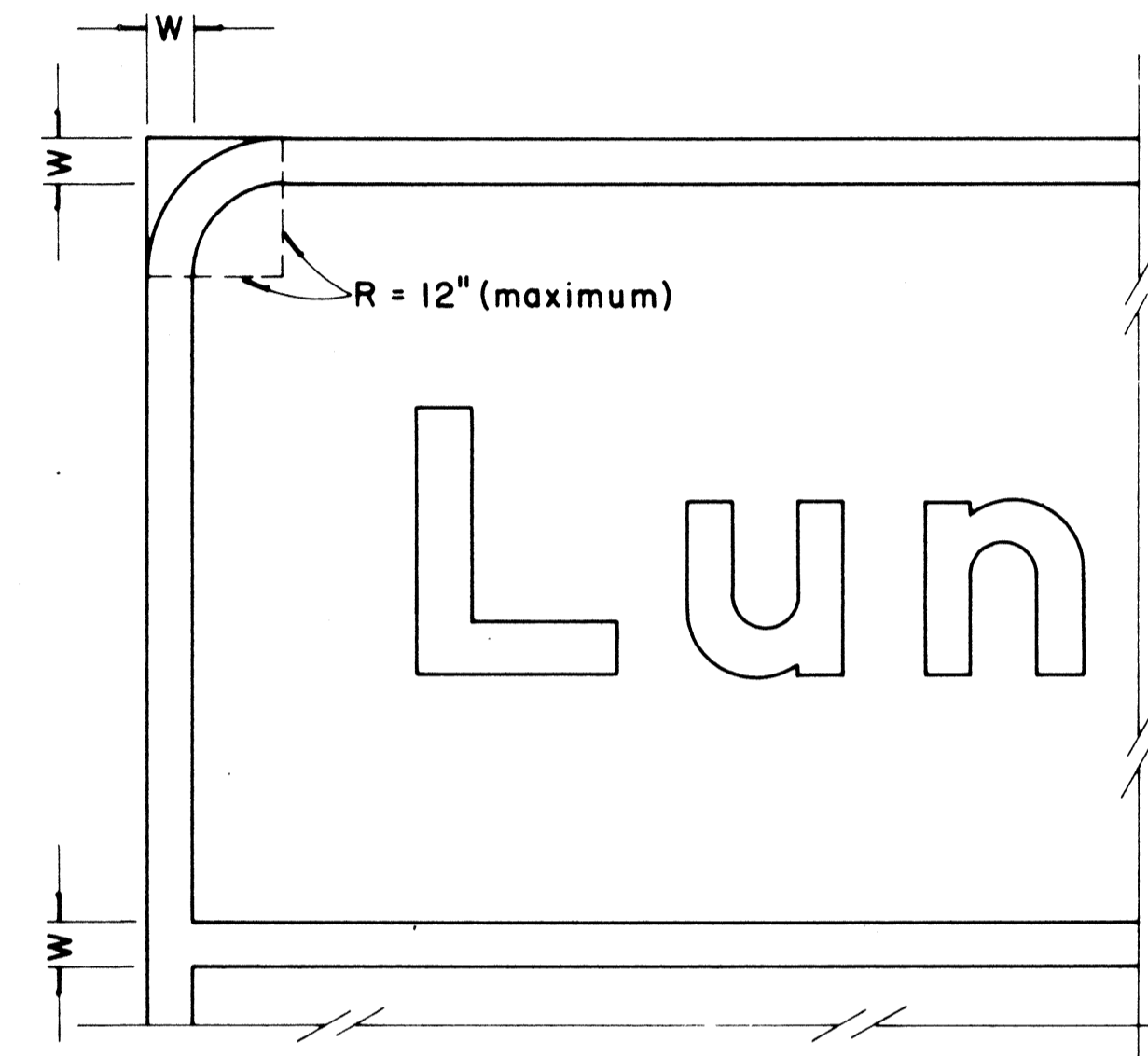
**STATE ROUTE MARKER
FOR GUIDE SIGNS**

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 on 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:

Eiichi Tanaka 4/11/72
TRAFFIC ENGINEER DATE

APPROVED:

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

NO	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 209 Approved 12-30-69	H.C.	4/12/72
2	Revised Notes and Schedules	H.C.	9-14-76

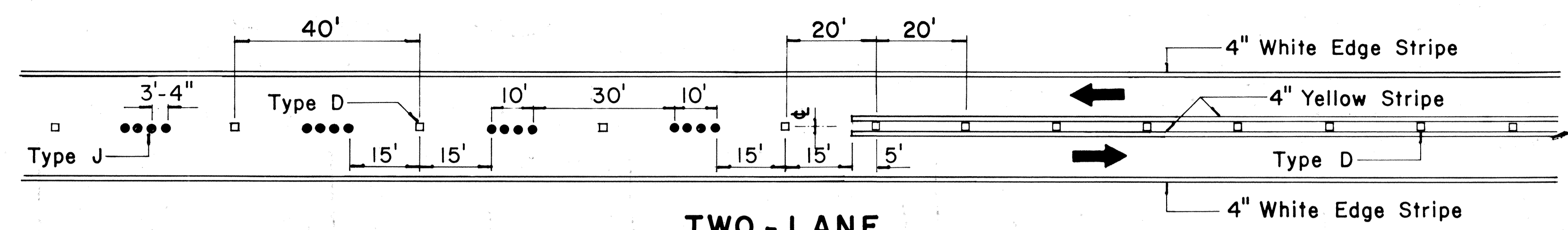
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
**STATE ROUTE MARKER
AND BORDER DETAIL
FOR GUIDE SIGNS**

Scale: As Shown

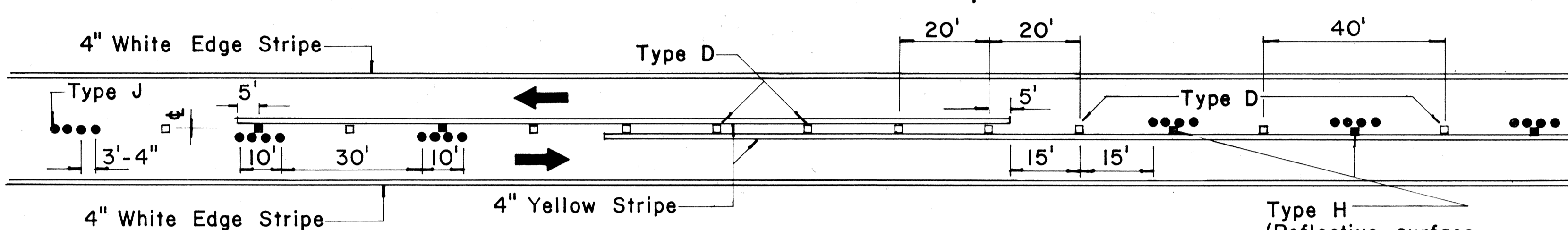
SHEET No. 15 OF 16 SHEETS DT 209

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

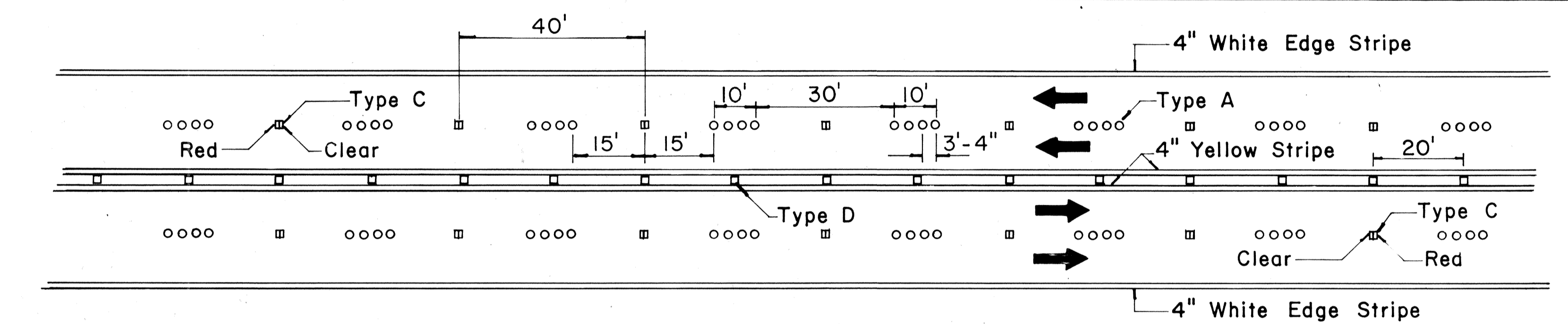
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-41-1(131)-17	1977	153	394



**TWO - LANE
PASSING PERMITTED AND PASSING PROHIBITED**

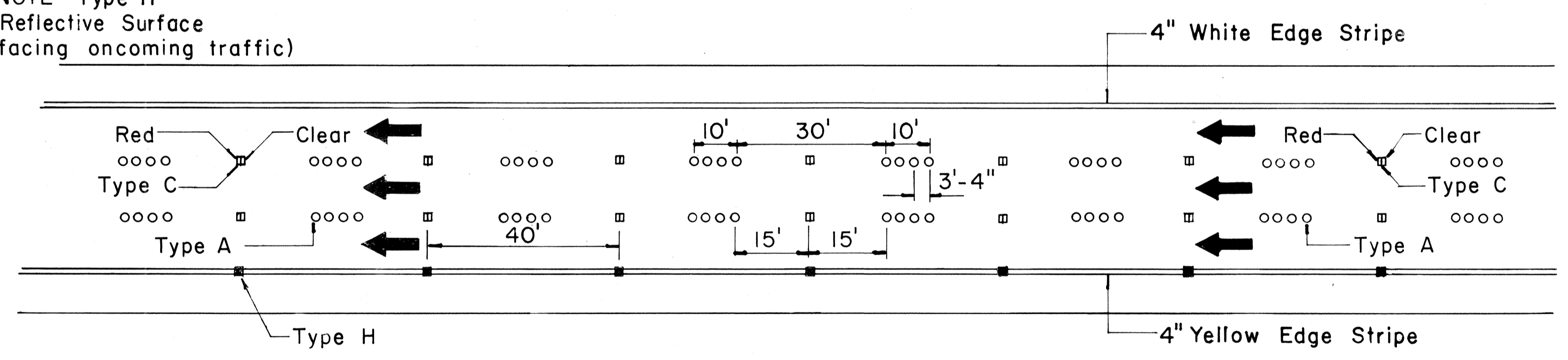


**TWO - LANE
PASSING PROHIBITED ZONES**

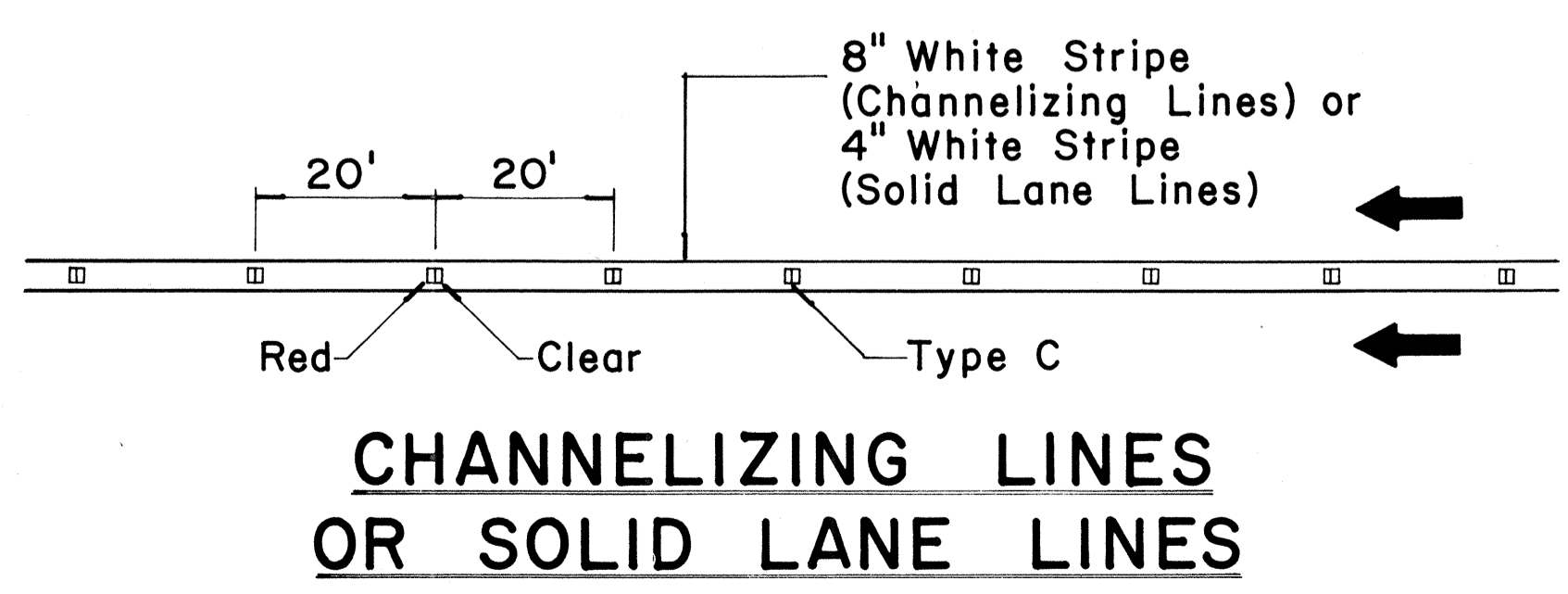


**MULTI - LANE
LANE LINES AND CENTER LINE**

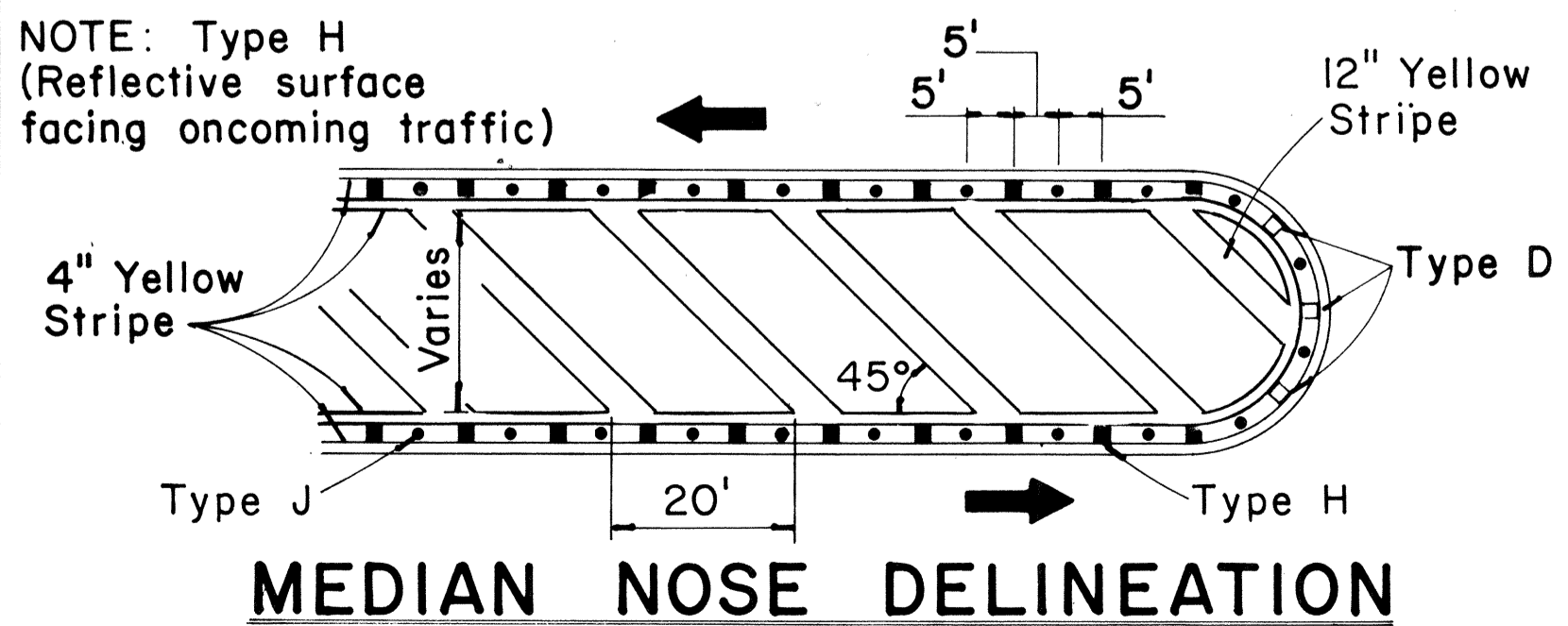
NOTE: Type H
(Reflective Surface
facing oncoming traffic)



**DIVIDED HIGHWAY
AND
FREEWAY**



**CHANNELIZING LINES
OR SOLID LANE LINES**

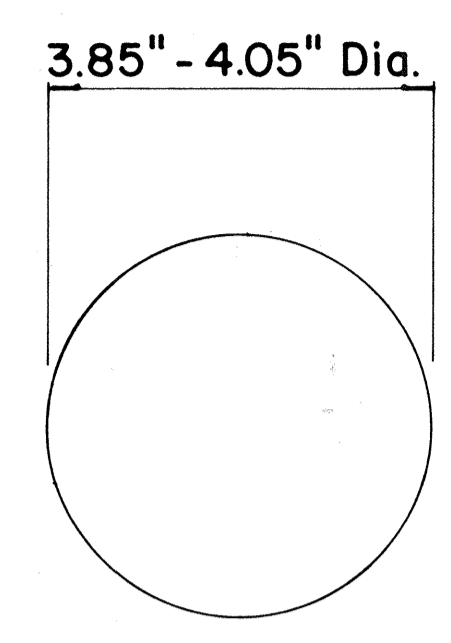


MEDIAN NOSE DELINEATION

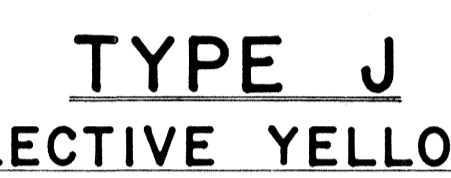
MISCELLANEOUS

TWO - LANE

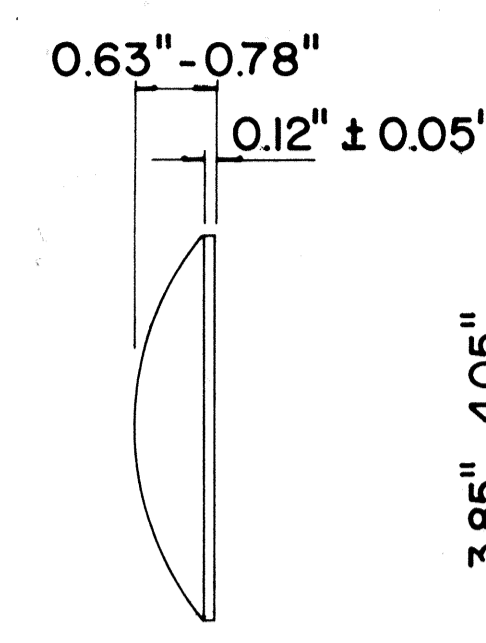
MULTI - LANE



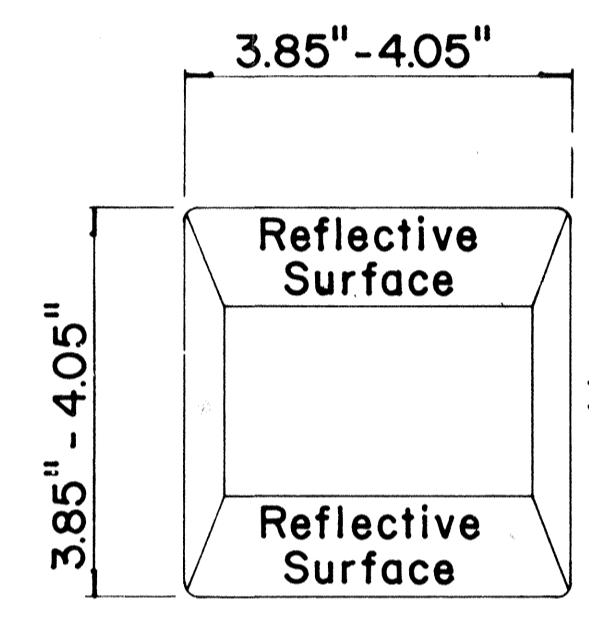
**TYPE A
NON - REFLECTIVE WHITE MARKER**



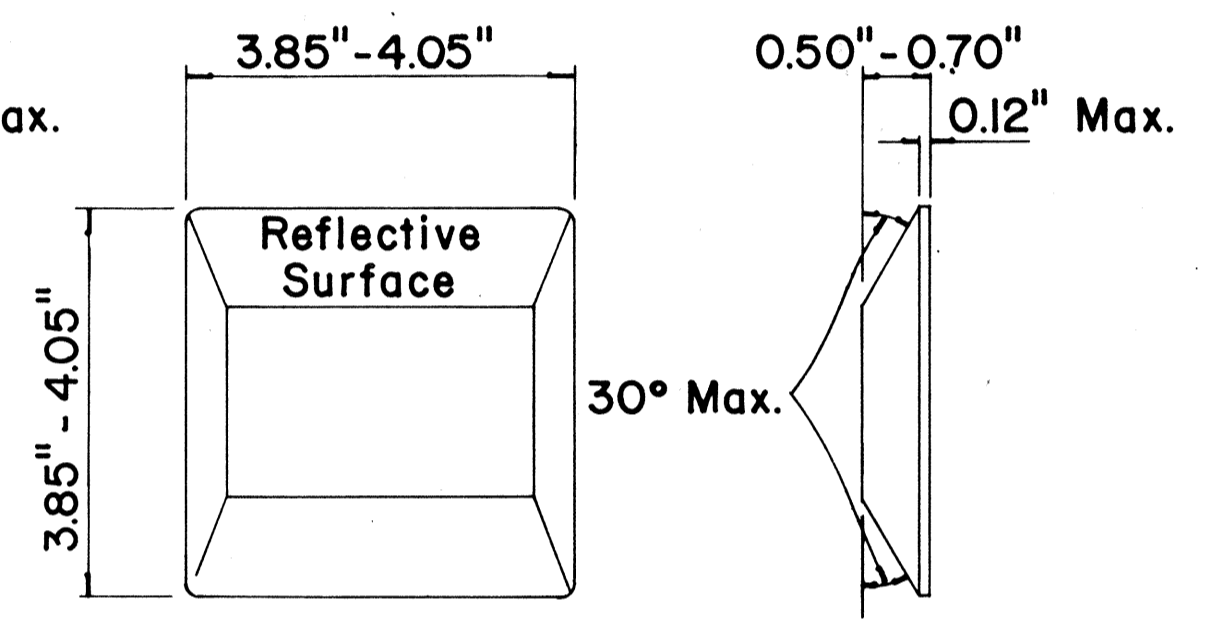
**TYPE J
NON - REFLECTIVE YELLOW MARKER**



**TYPE C
RED - CLEAR REFLECTIVE MARKER**



**TYPE D
TWO - WAY YELLOW REFLECTIVE MARKER**



**TYPE H
ONE - WAY YELLOW REFLECTIVE MARKER**

GENERAL NOTES

1. Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
2. 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:
E. Ichi Tanaka 4/18/71
TRAFFIC ENGINEER DATE

APPROVED:
Shelton S. Kato 11/18/71
ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72
3	Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of a travel path and Add Type H Reflector Marker.	H.C.	5-22-74
4	Revised details, General Notes & Title Box.	H.C.	1-13-77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

**STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING**

Not to Scale
SHEET No. 16 OF 16 SHEETS DT 300

DATE
DRAWN BY
DESIGNED BY
CHECKED BY
No.