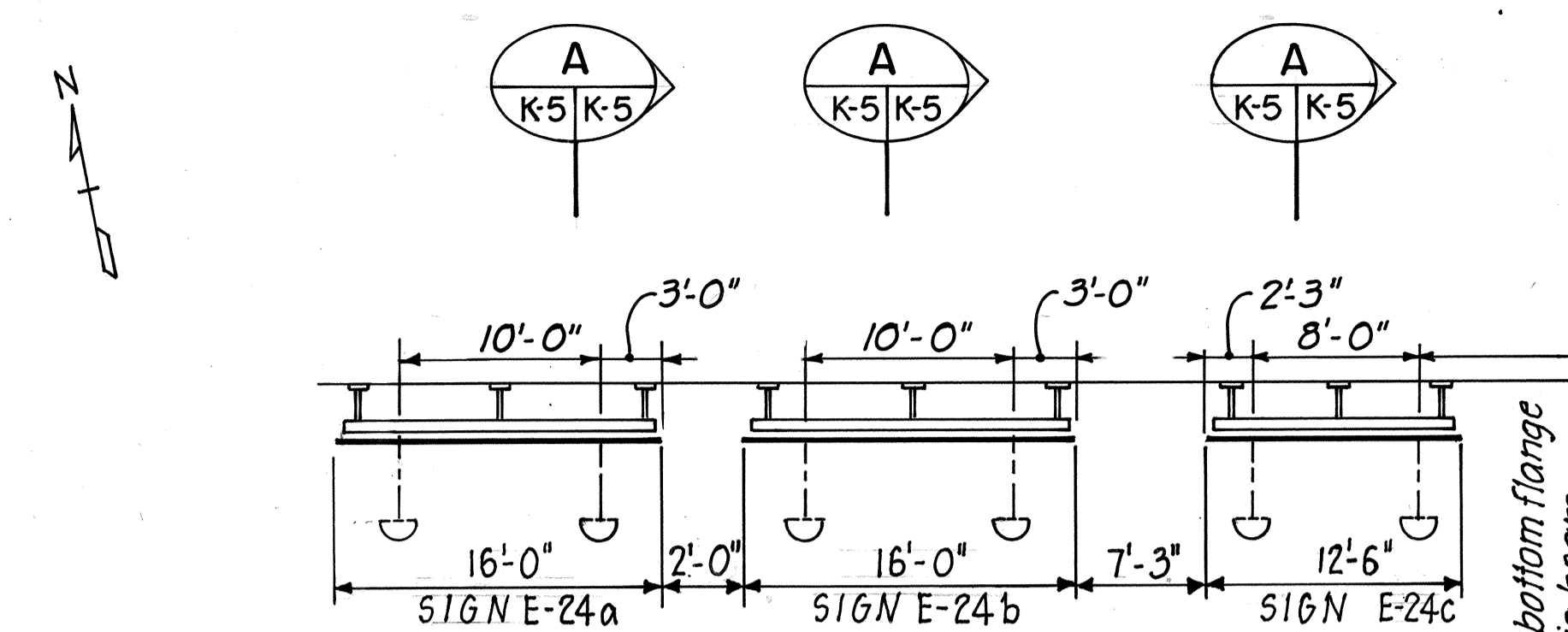
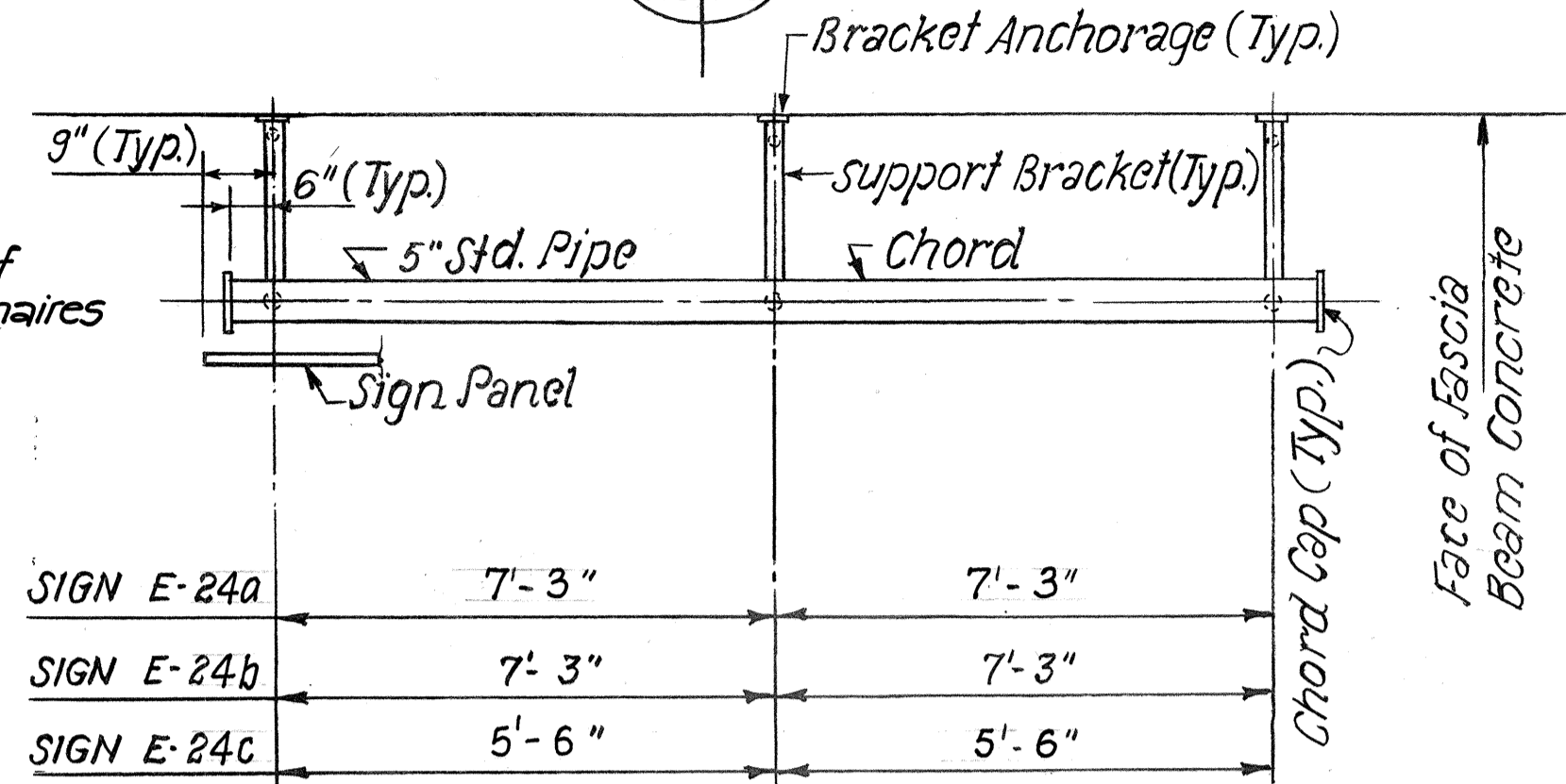


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HH (84) 16	1978	407	460

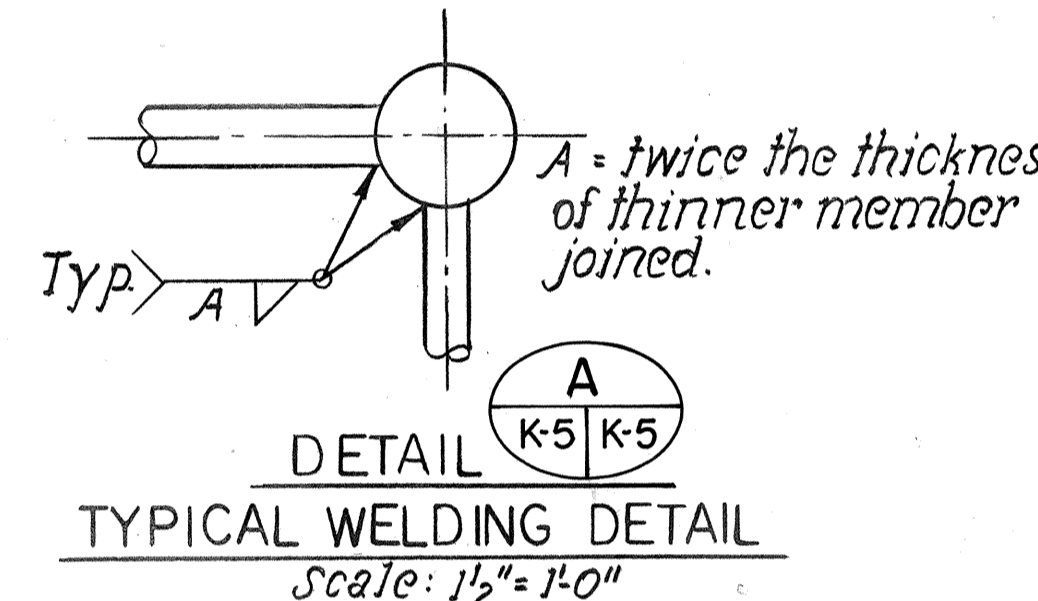
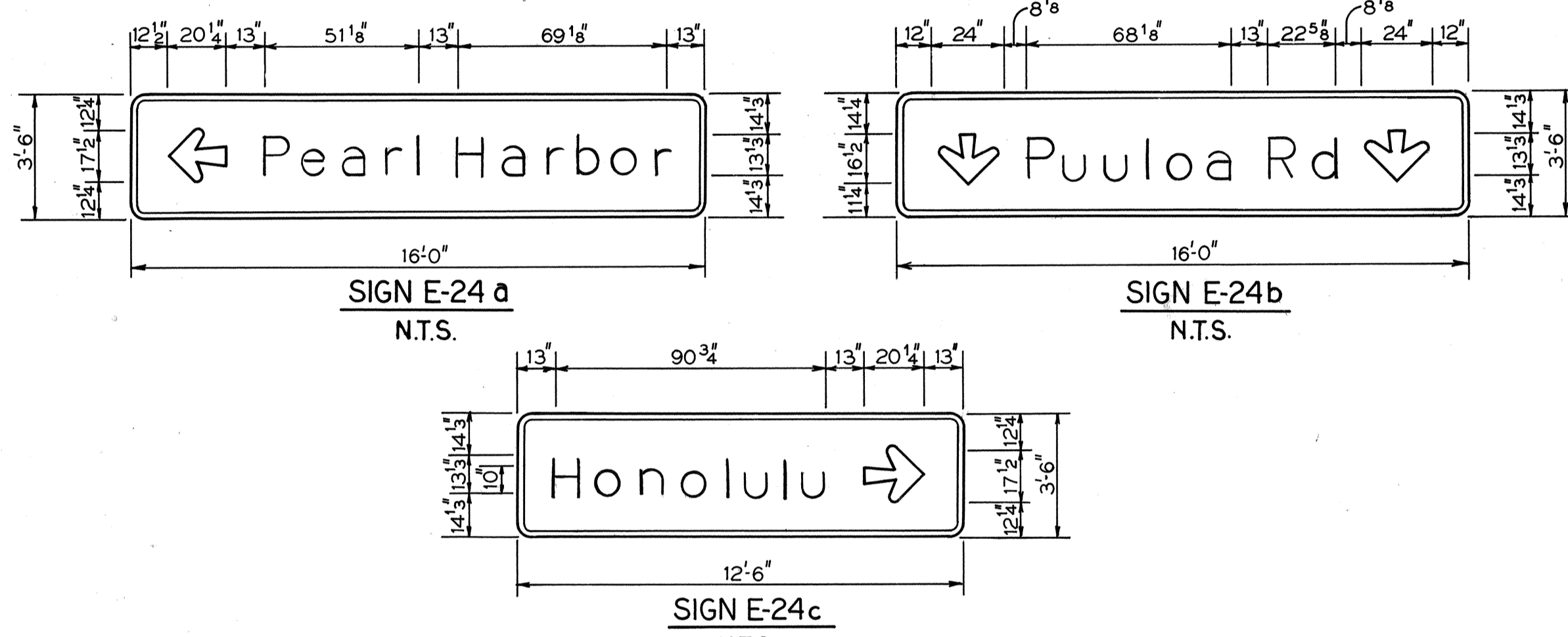


NOTE: For location of sign panels see viaduct plans Sheet No. 5-17.

PLAN
Scale: 1/8" = 1'-0"



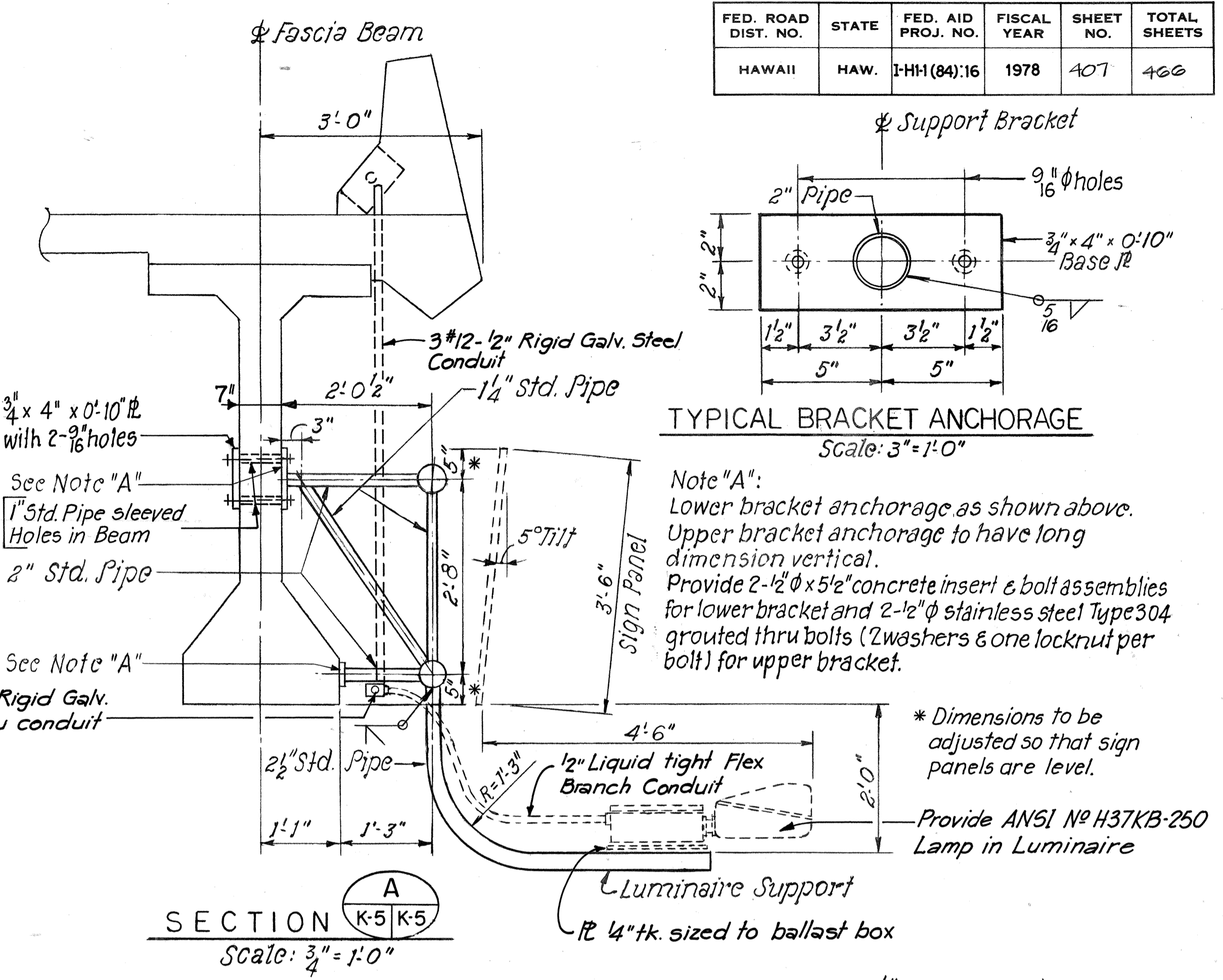
PLAN OF TOP CHORD FRAMING
Bottom Chord Similar
Scale: 1/2" = 1'-0"



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

GENERAL NOTES FOR SIGN SUPPORT

- MATERIALS:**
- All surfaces of sign support structure members shall be hot dipped galvanized after fabrication prior to painting. See Specifications.
 - 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.
- DESIGN DATA:**
- Wind Loading: Normal to face of sign (75 mph wind) 30 psf.
Transverse to face of sign = 0.2 of normal force.
- WALKWAYS:** None
ICE LOAD: None
- WELDING:**
All welding to be continuous welds and as noted on the plans.
- GENERAL:**
- Before preparation of shop drawings for the sign support structures, the Contractor shall verify in the field, the exact location of each of anchor bolts and concrete insert and bolt assemblies.
 - Payment for overhead sign support E-24 shall be made as described in the Special Provisions.
- 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.
- DESIGN:**
AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals dated 1975.



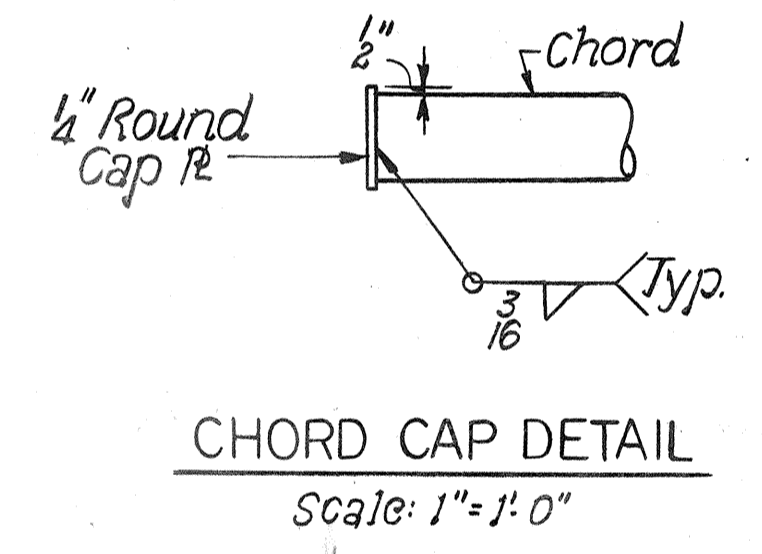
SECTION
Scale: 3/4" = 1'-0"

TYPICAL BRACKET ANCHORAGE
Scale: 3/4" = 1'-0"

Note "A": Lower bracket anchorage as shown above. Upper bracket anchorage to have long dimension vertical. Provide 2-1/2" x 5/8" concrete insert & bolt assemblies for lower bracket and 2-1/2" x 5/8" stainless steel Type 304 grouted thru bolts (2 washers & one locknut per bolt) for upper bracket.

* Dimensions to be adjusted so that sign panels are level.
Provide ANSI No H37KB-250 Lamp in Luminaire

- NOTES:**
- For details of sign panels and connections see Standard Sheet No. DT 205 and DT 200
 - Connection of sign panel to vertical support members to be located to clear sign bracket assembly connection to supporting truss.
 - For details and location of luminaires see lighting drawings.
 - All pipe members to be welded at joints. See Detail "A"
 - Std. Pipe to be A.S.T.M. A501 or A.S.T.M. A53 galvanized and painted. See General Notes.
 - 12" x 5 1/2" concrete insert and bolt assembly to have minimum ultimate tensile strength of 7,000 lbs. and minimum ultimate shear strength of 4,500 lbs.
 - Concrete insert and bolt assemblies and stainless steel bolts shall be installed to clear all prestressing strands in fascia beams.
 - Bracket anchorage base plates to be A36 Steel, galvanized.
 - Alphabetical characters for sign panels shall be upper case or lower case, as shown, and shall have Series E dimensions and spacings in accordance with the FHWA publication "Standard Alphabets for Highway Signs", Bureau of Public Roads, 1966.
 - Borders and separation lines on sign panels shall have a width of 2 inches. Corner radius of borders shall be as specified on Standard Detail plans.
 - For location of sign panels see Sheet No. 5-17.



CHORD CAP DETAIL
Scale: 1" = 1'-0"

DATE	2-77
SURVEY PLOTTED BY	S. SHERMAN
DRAWN BY	S. SHERMAN
DESIGNED BY	S. SHERMAN
CHECKED BY	S. SHERMAN
NOTE BOOK	
No.	



CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY SUPERVISION.
John P. Johnson

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN E-24

SIGNS MOUNTED ON BRIDGE BEAMS
DETAILS OF SUPPORT STRUCTURE

INTERSTATE ROUTE H-1
PROJECT NO. I-HI-1 (84) 16

SCALE: AS NOTED DATE: MAY 16, 1978

SHEET No. K-5 OF K-5 SHEETS