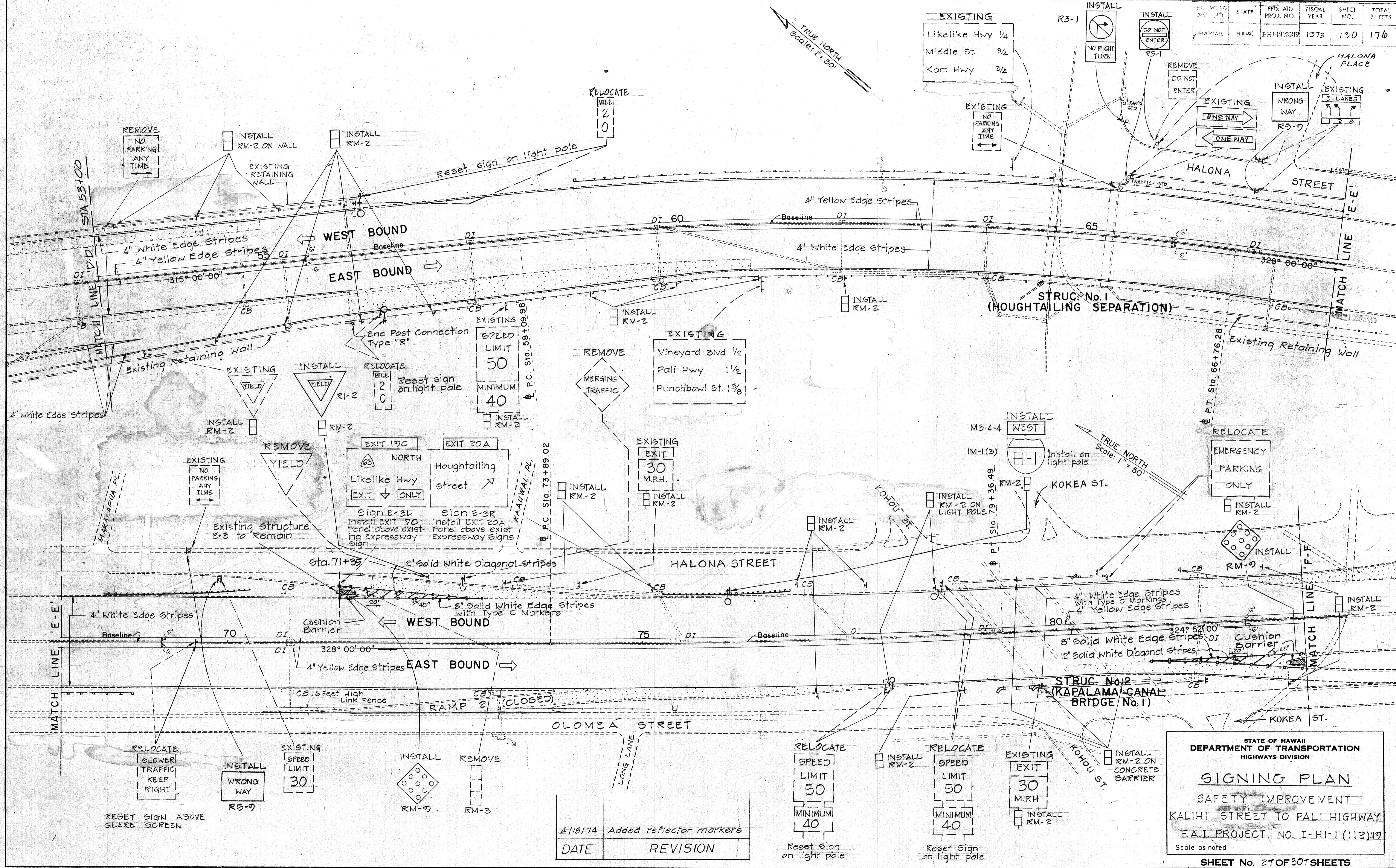




| STATE  | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|--------|--------------------|-------------|-----------|--------------|
| HAWAII | I-HI-1(112)19      | 1973        | 130       | 176          |



DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 NOTED BY: \_\_\_\_\_

| DATE    | REVISION                |
|---------|-------------------------|
| 4/18/74 | Added reflector markers |

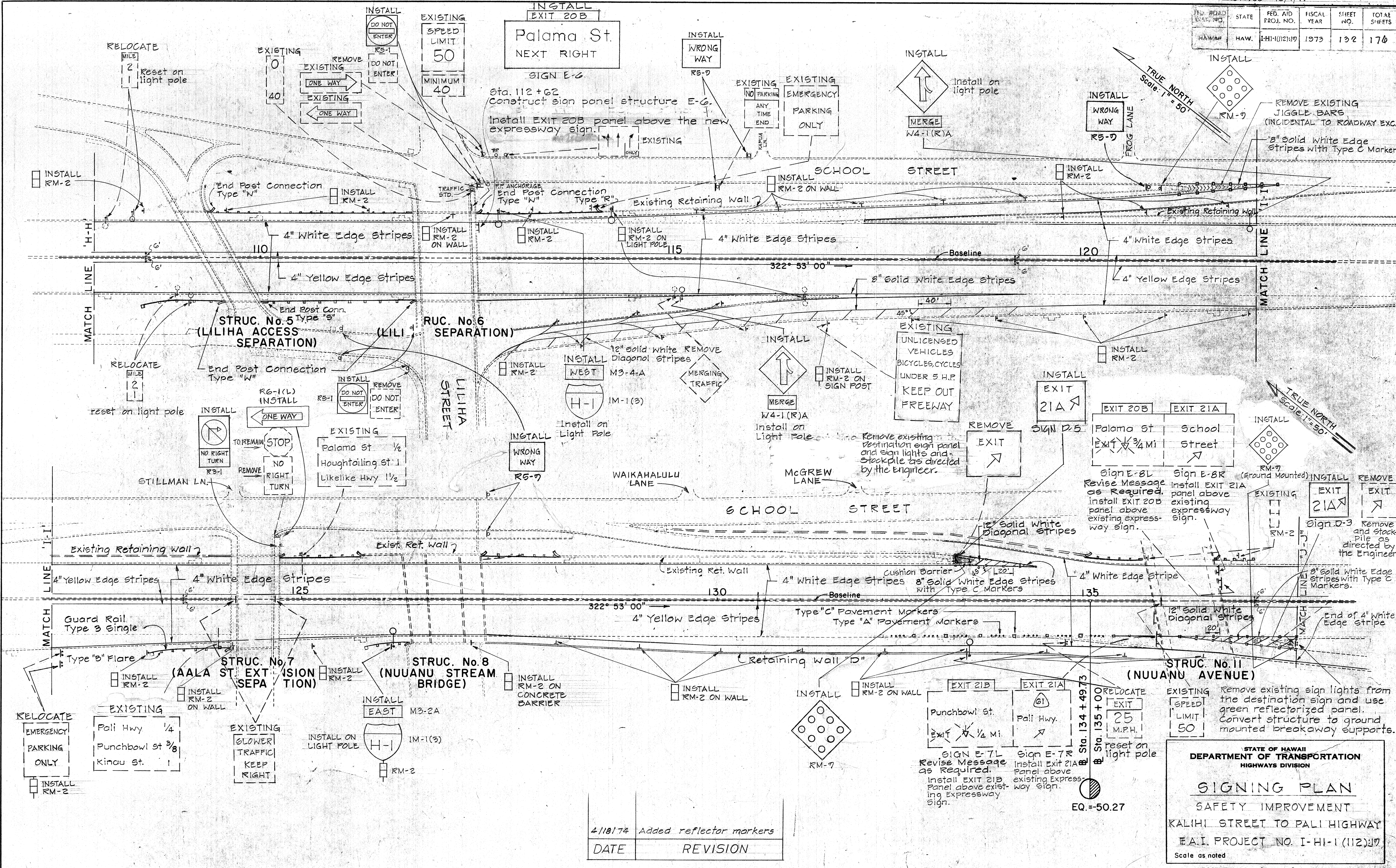
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

### SIGNING PLAN

SAFETY IMPROVEMENT  
 KALIHI STREET TO PALI HIGHWAY  
 F.A.I. PROJECT NO. I-HI-1(112)19  
 Scale as noted



| ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|----------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII         | HAW.  | I-HI-1(112)19      | 1973        | 132       | 176          |



DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

| DATE    | REVISION                |
|---------|-------------------------|
| 4/18/74 | Added reflector markers |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**SIGNING PLAN**

SAFETY IMPROVEMENT

KALIHI STREET TO PALI HIGHWAY

F.A.I. PROJECT NO. I-HI-1 (112)19

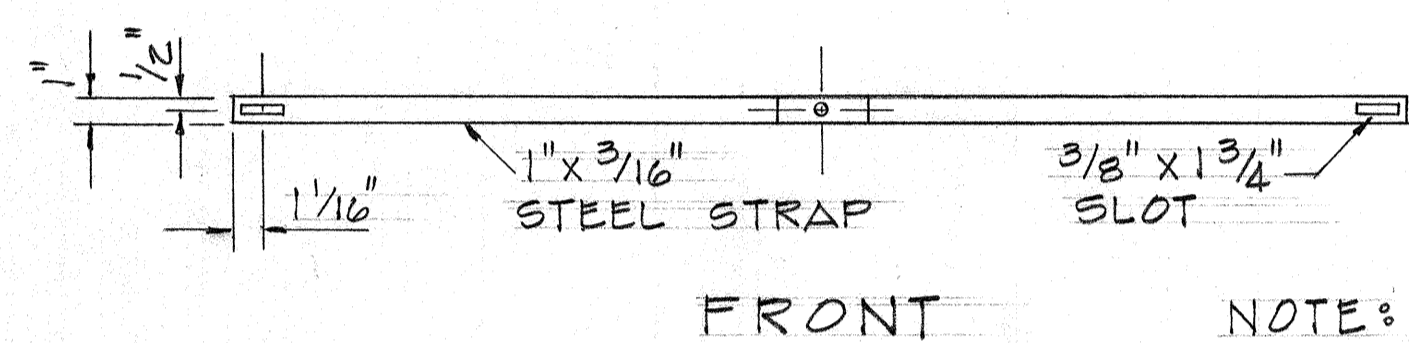
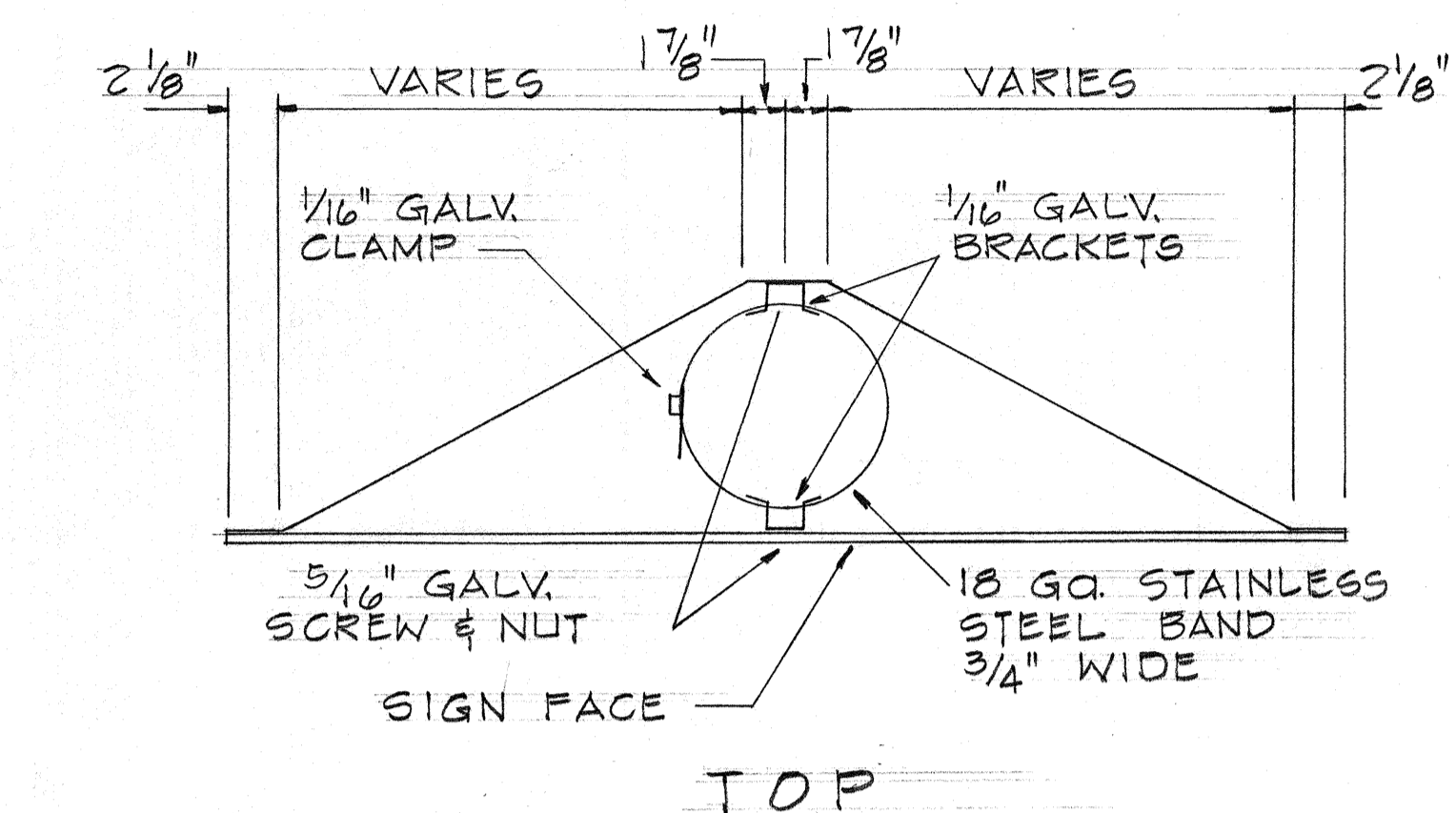
Scale as noted

SHEET No. 47 OF 307 SHEETS

C.O. 1132



| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-(112):19      | 1973        | 134       | 176          |

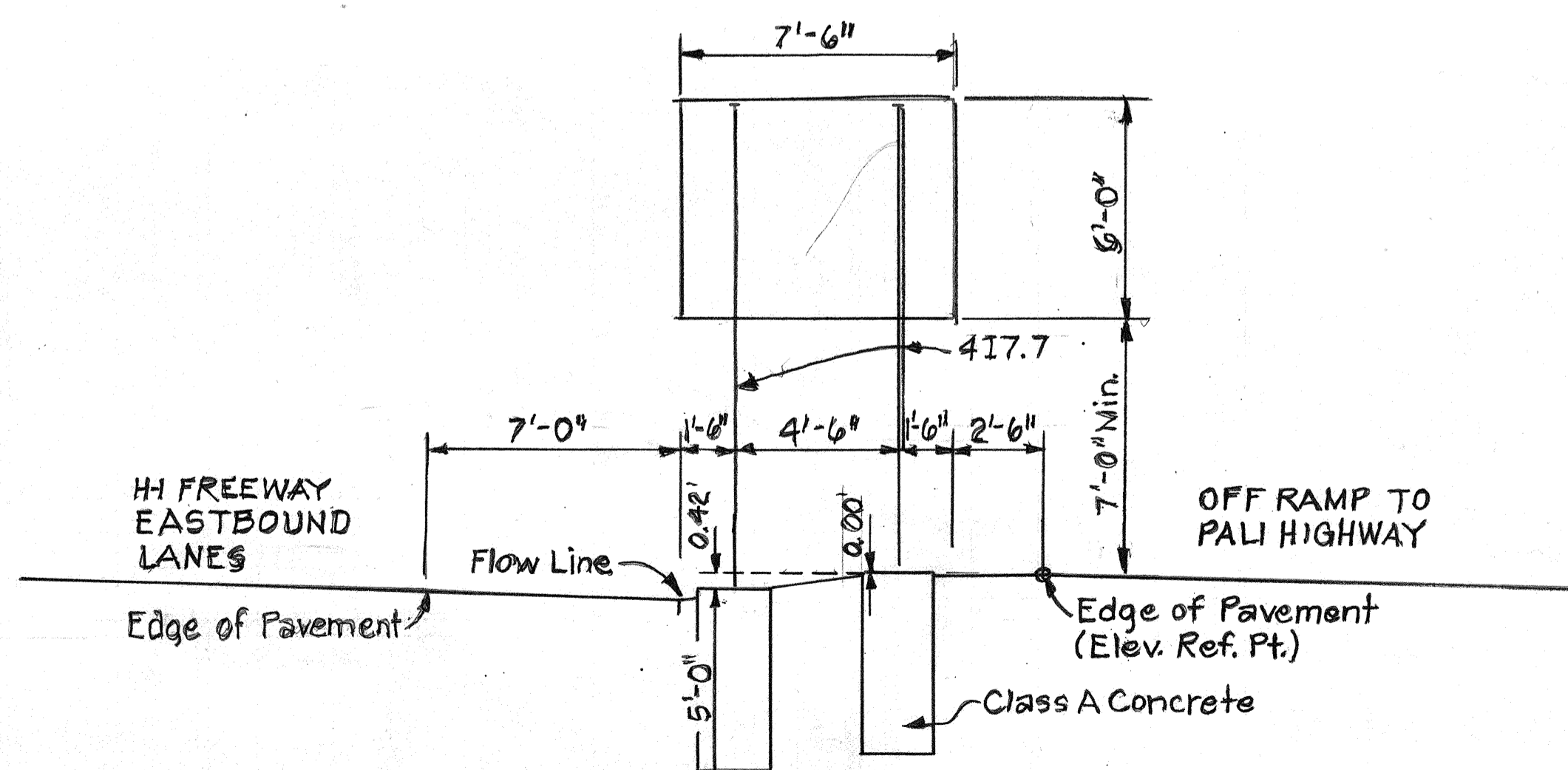


NOTE:  
FOR ADDITIONAL  
DETAILS SEE  
PLAN SHT. NO 13T

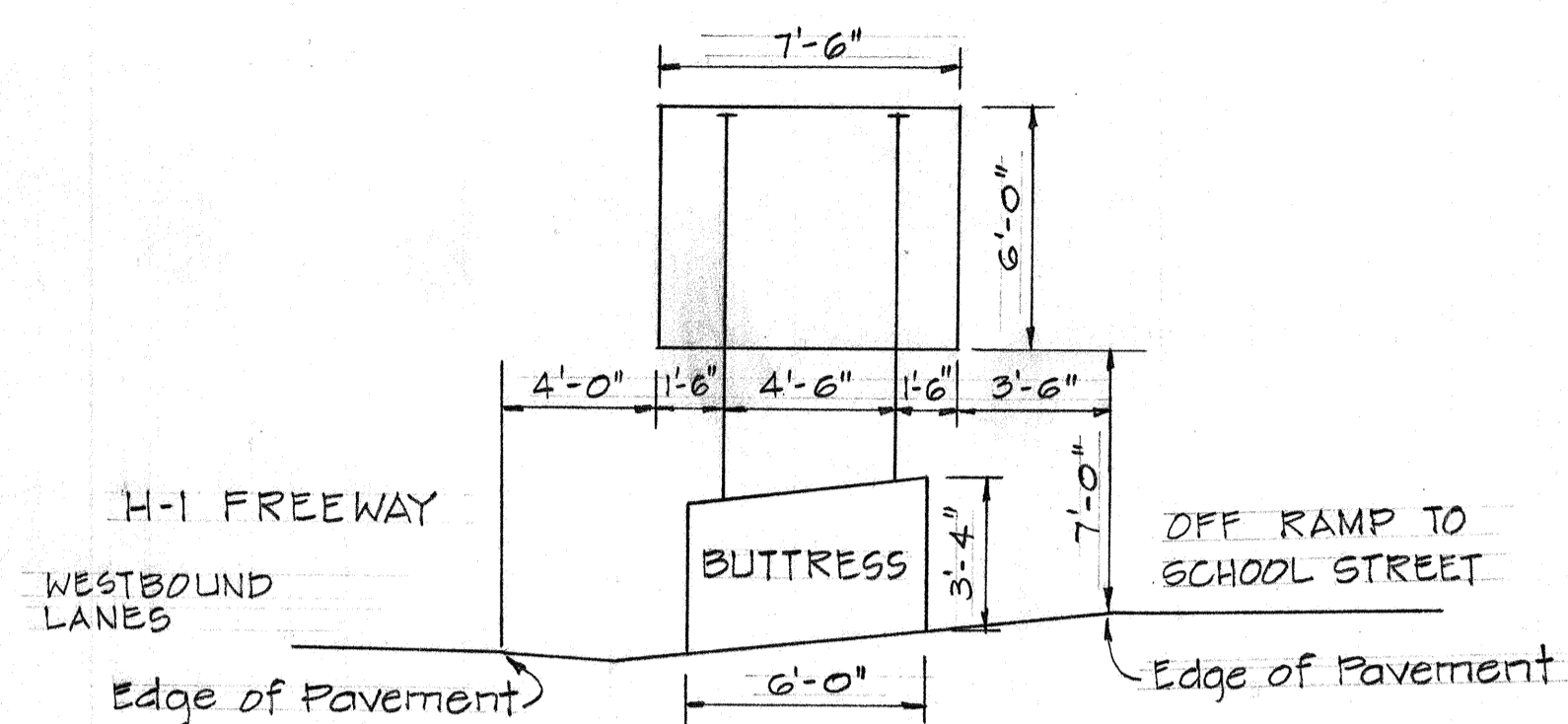
MOUNTING DETAIL OF  
\*SIGN INSTALLED ON LIGHT STANDARD  
OR EXPRESSWAY SIGN POST

\* FOR SIGNS 48" & WIDER Scale: 1/2" = 1'-0"

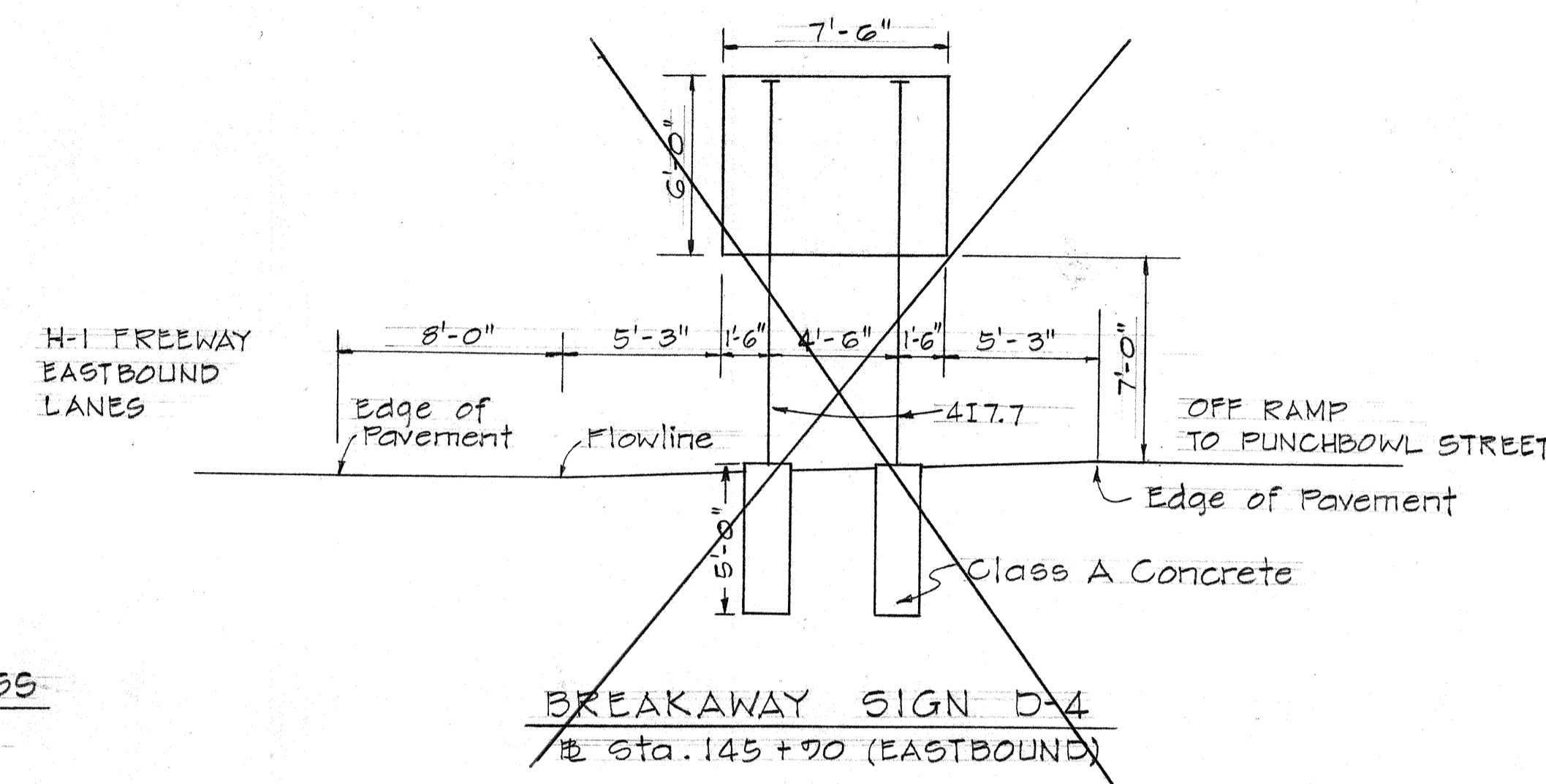
Relocate Sign D-3 from Sta. 137+50 to Sta. 137+75 (Eastbound) and revise the frame layout as shown.



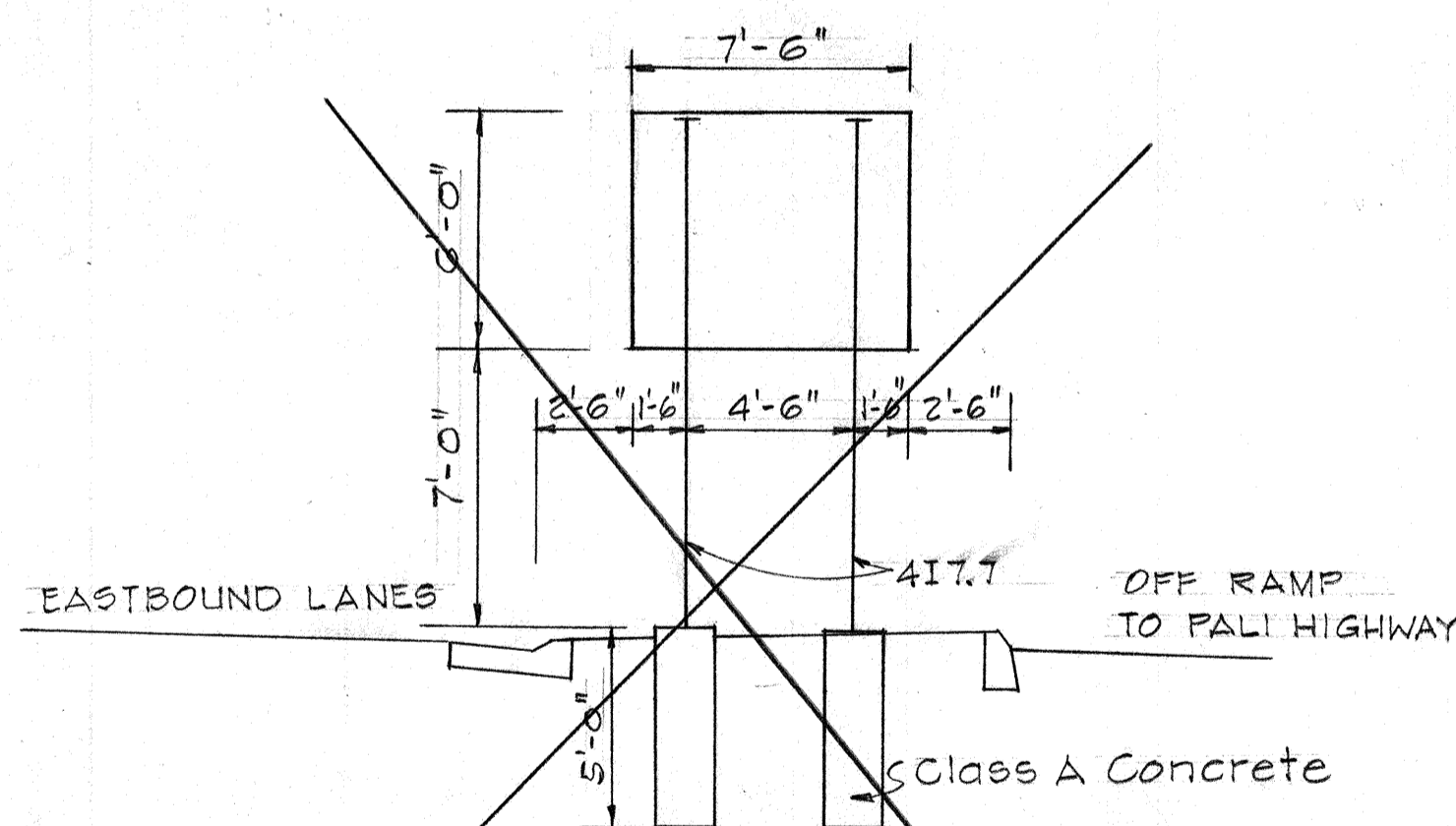
BREAKAWAY SIGN D-3  
Sta. 137+75 (Eastbound)



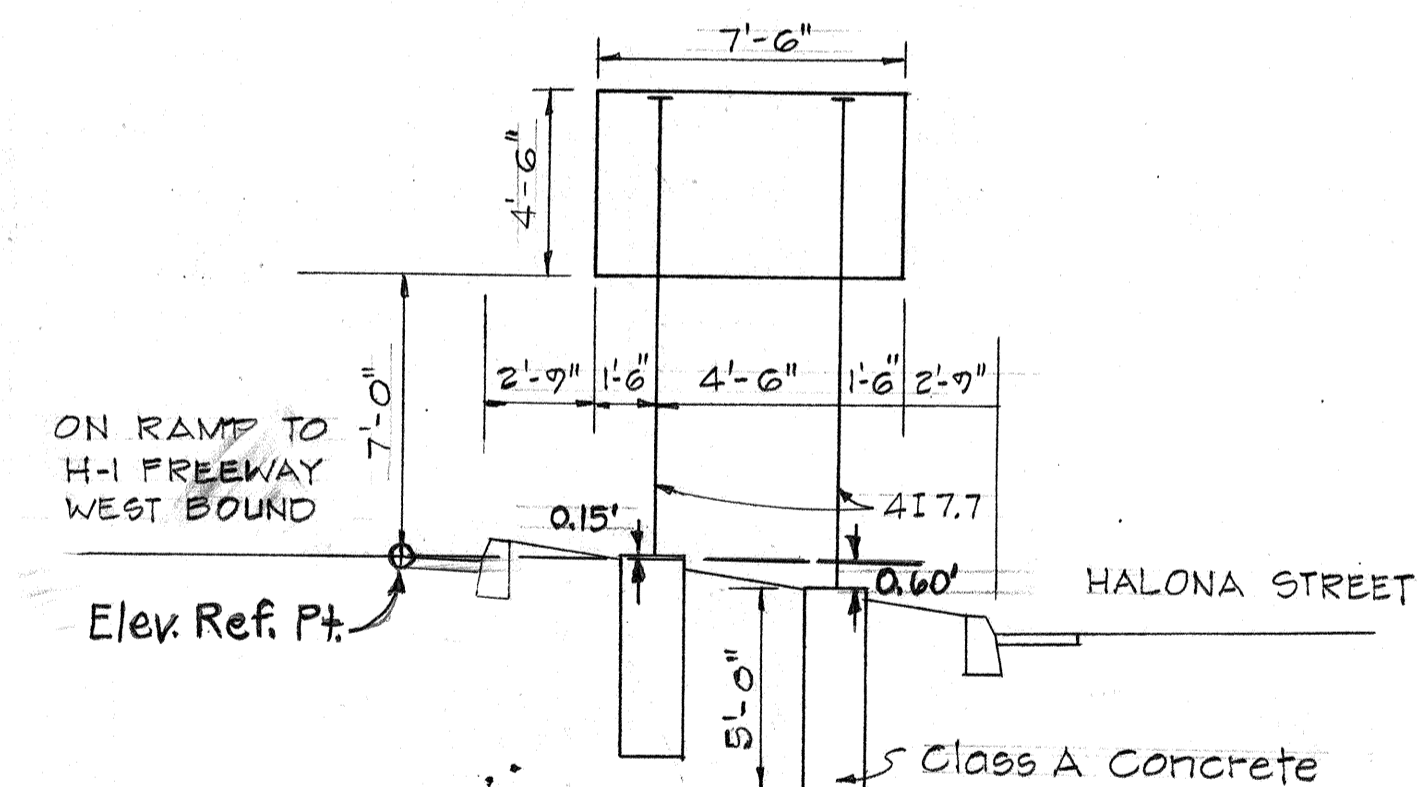
SIGN D-2  
SIGN MOUNTED ON CUSHION BARRIER BUTTRESS  
Sta. 132+85 (WESTBOUND)  
See Sheets 11T and B for Details



BREAKAWAY SIGN D-4  
Sta. 145+70 (EASTBOUND)



BREAKAWAY SIGN D-3  
Sta. 137+50 (EASTBOUND)



BREAKAWAY SIGN D-1  
Sta. 86+00 (WESTBOUND)

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

FRAME LAYOUT  
OF DESTINATION SIGNS

F.A.I. PROJ. NO. I-HI-1 (112):19

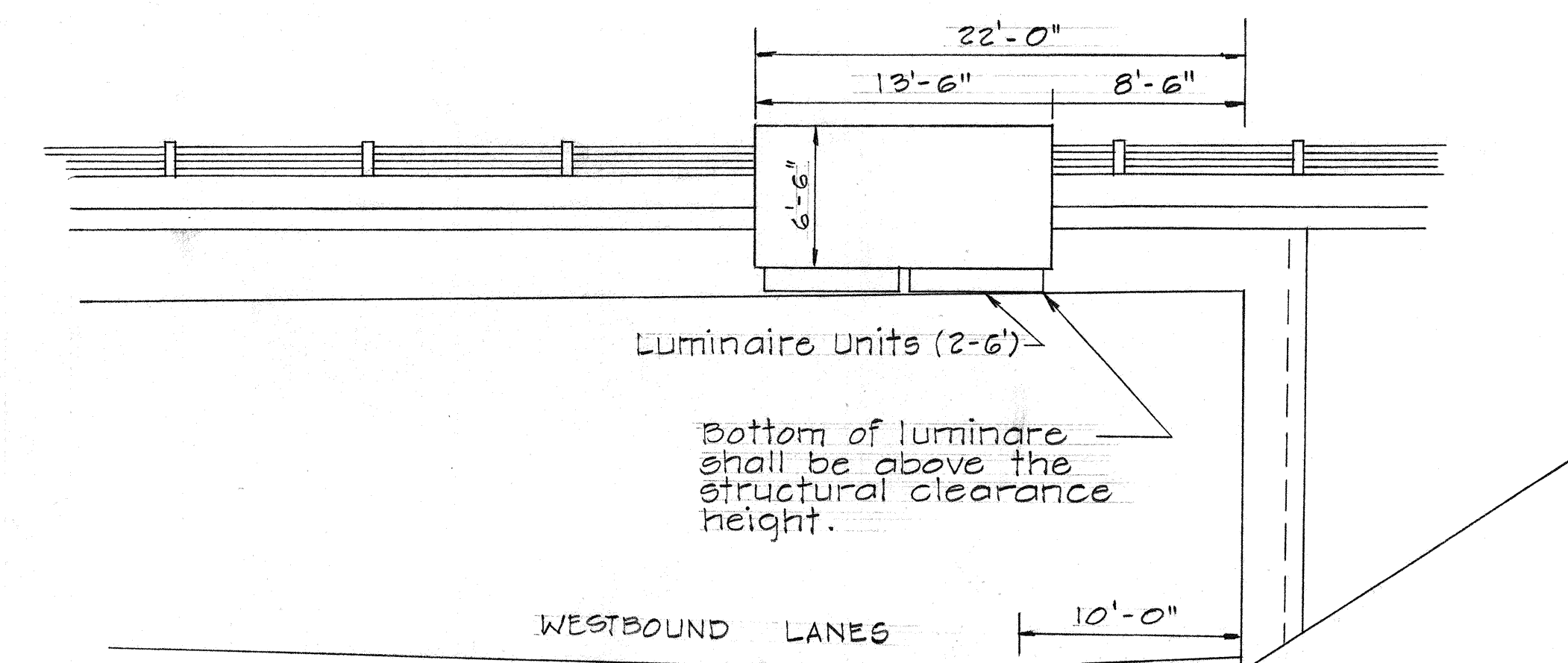
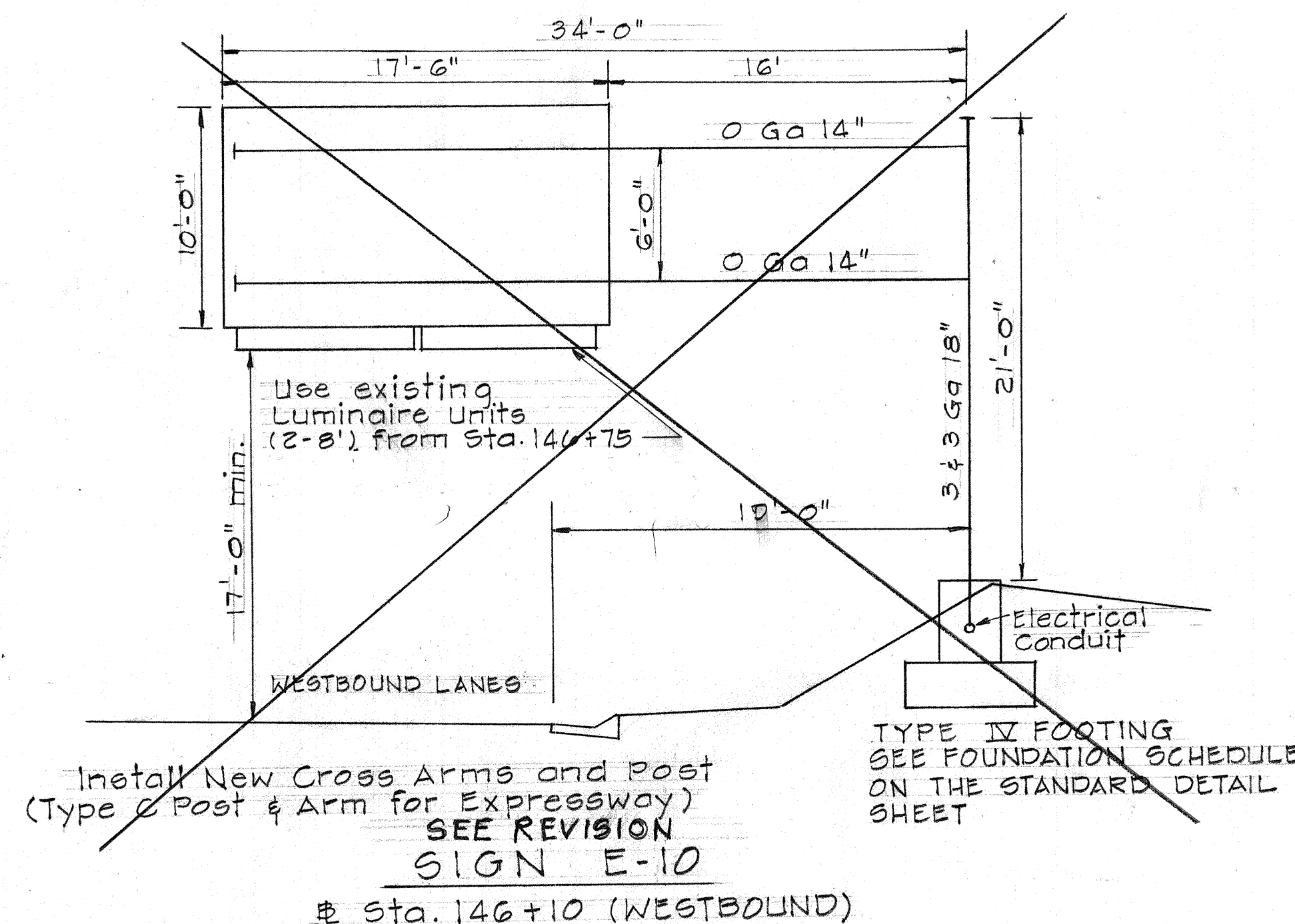
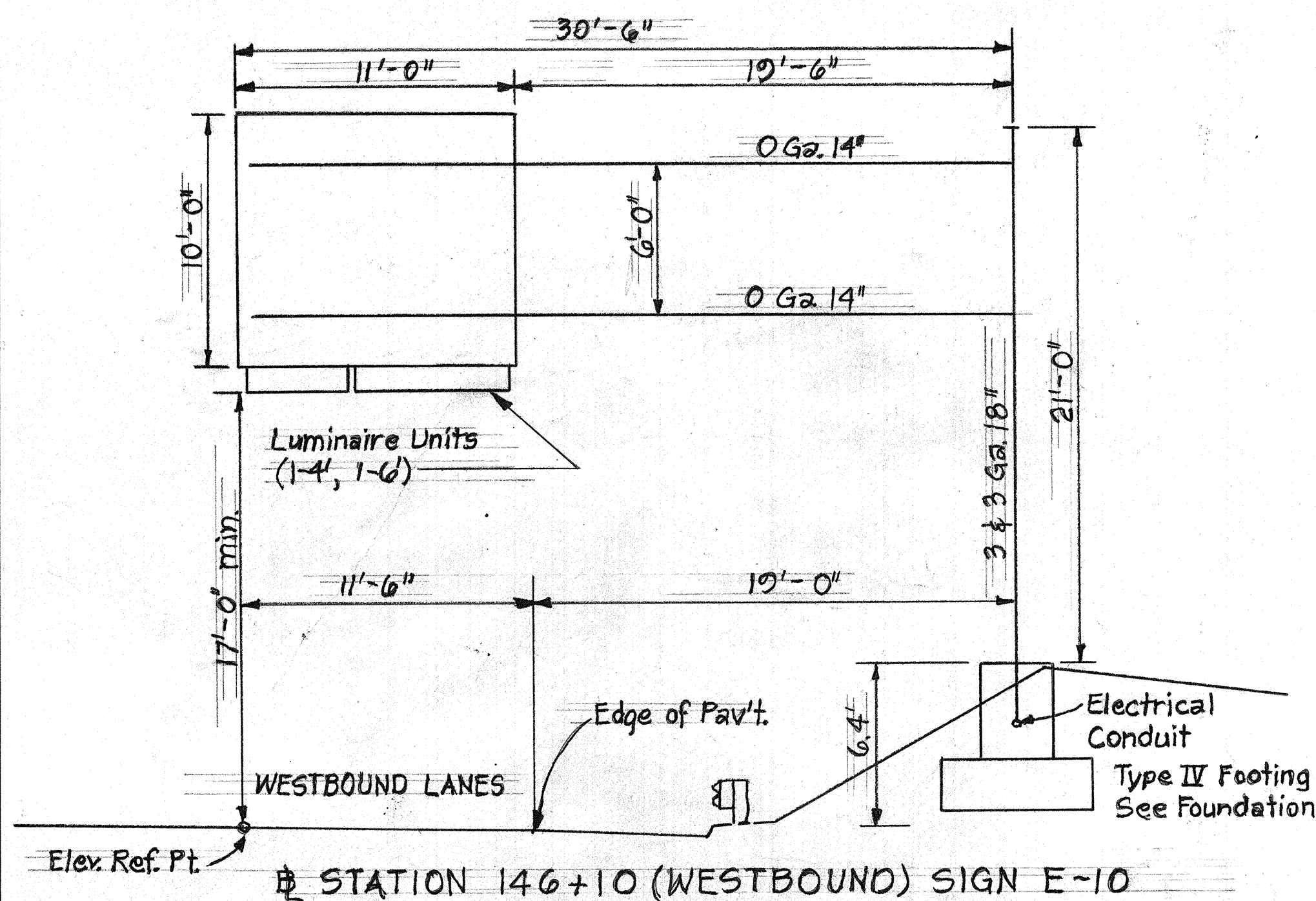
Not to Scale

SHEET No. 67 OF 307 SHEETS

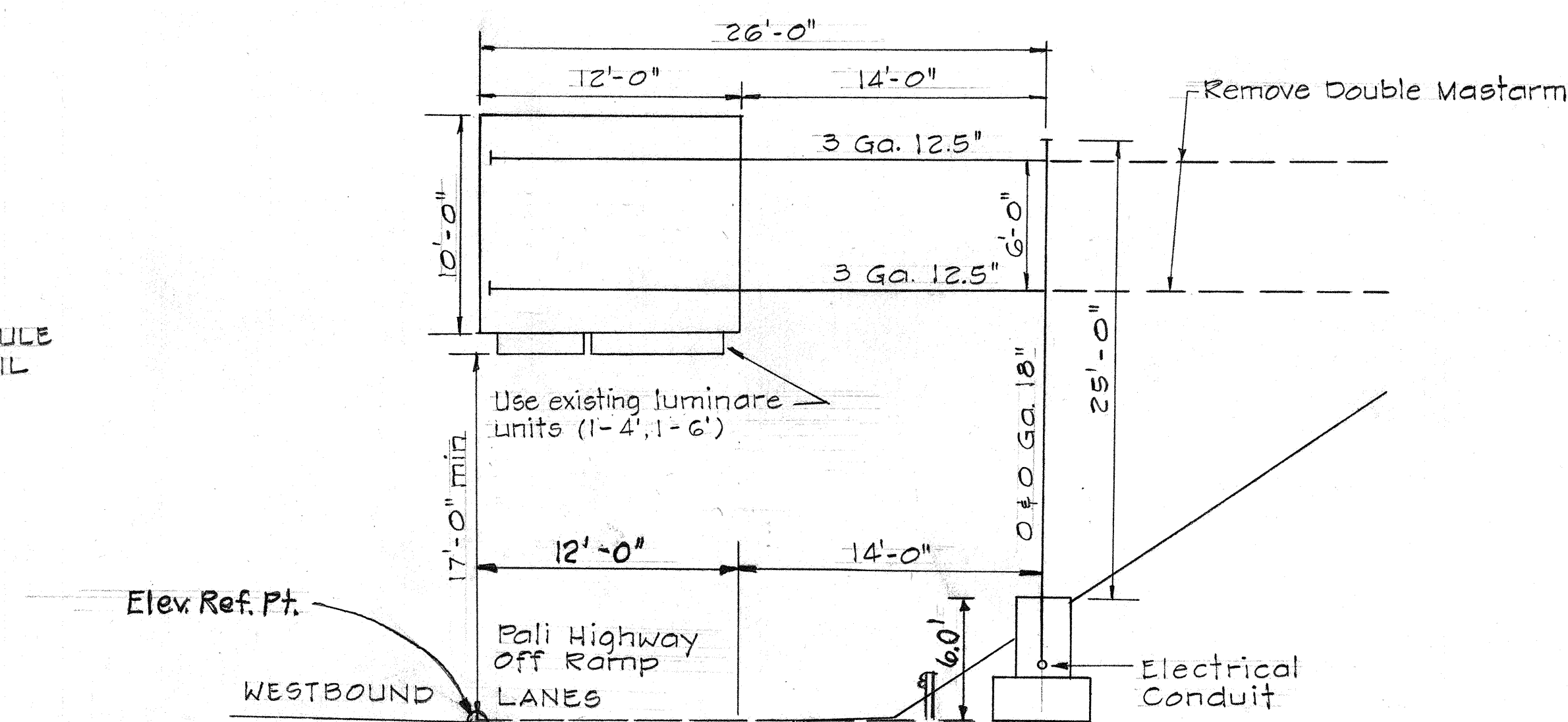
|                   |       |
|-------------------|-------|
| DATE              | _____ |
| SURVEY PLOTTED BY | _____ |
| DRAWN BY          | _____ |
| TRACED BY         | _____ |
| NOTED BY          | _____ |
| CHECKED BY        | _____ |
| NO.               | _____ |

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | EHI-1(112):10      | 1973        | 135       | 176          |

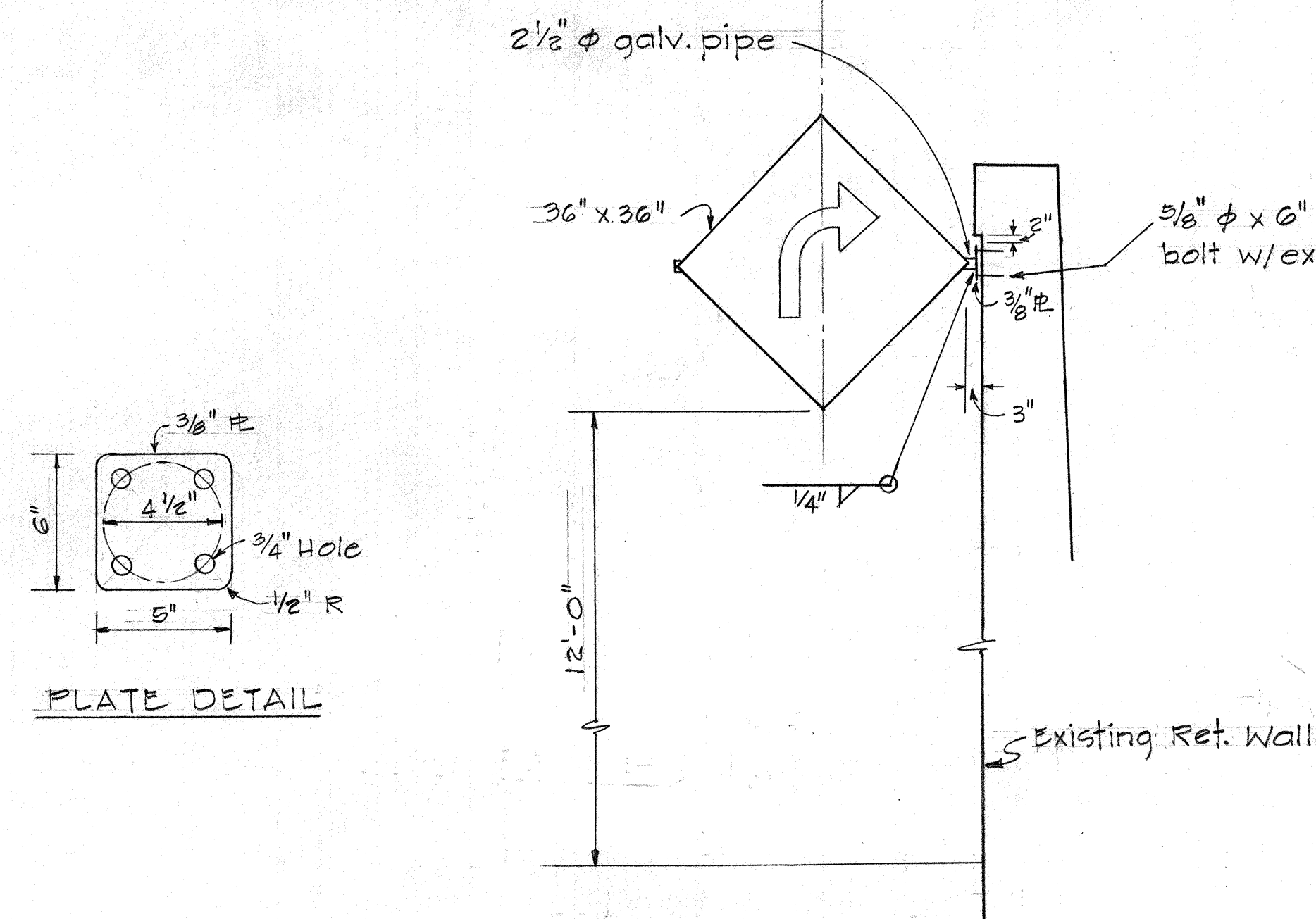
| BASE PLATE SCHEDULE |           |        |    |    |       |   |       |        |   |           |
|---------------------|-----------|--------|----|----|-------|---|-------|--------|---|-----------|
| POST Ga. No.        | BASE SIZE | B      | C  | F  | H     | P | R     | S      | T | BOLT DIA. |
| 0-0                 | 18        | 25 1/2 | 33 | 18 | 3 3/8 | 8 | 5 1/2 | 26 1/2 | 3 | 3         |
| 3-3                 | 18        | 25 1/2 | 33 | 18 | 3 3/8 | 8 | 5 1/2 | 26 1/2 | 3 | 3         |



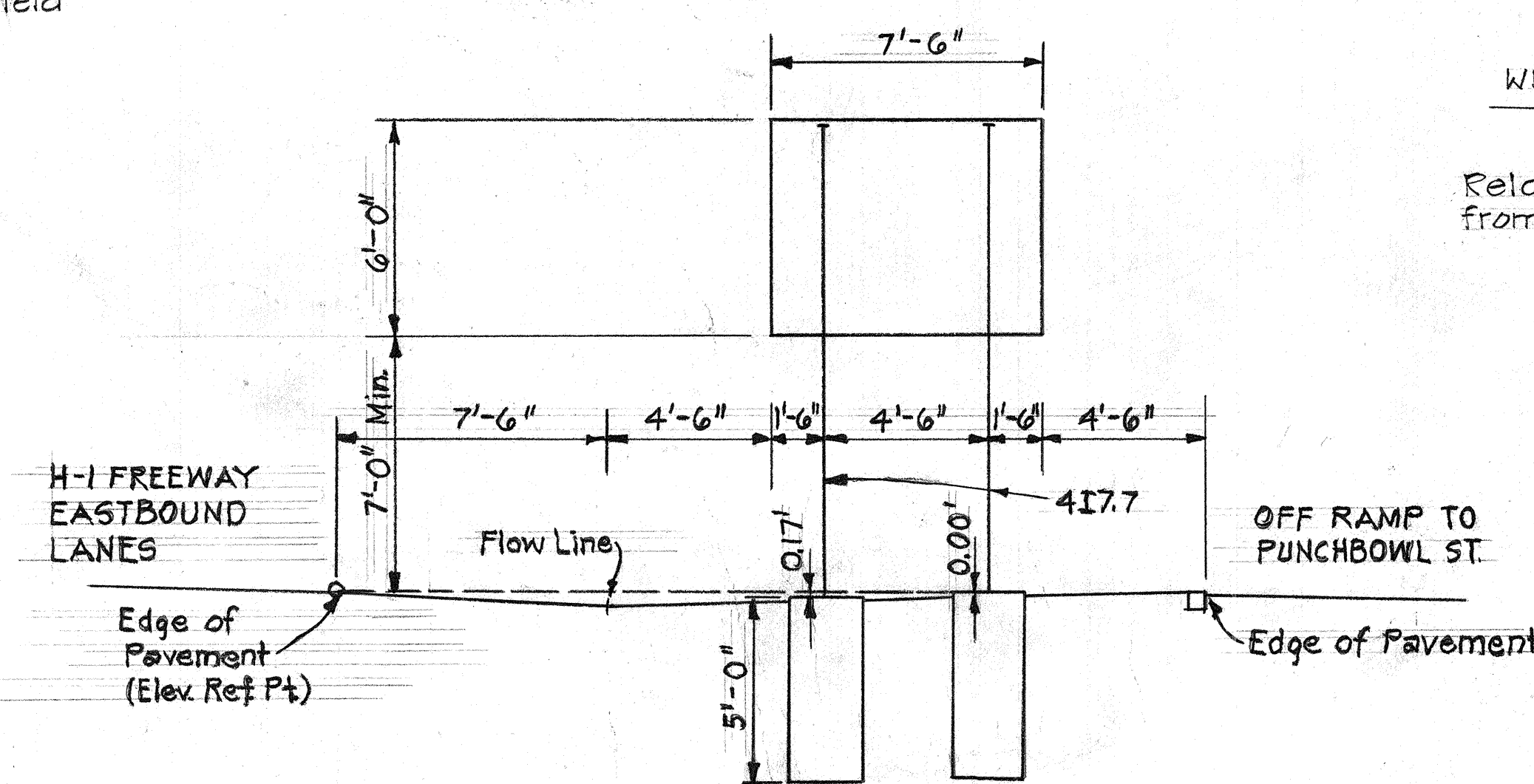
**SIGN E-6**  
 @ Sta. 112+62 (WESTBOUND)  
 SIGN ON STRUCTURE NO. 6 INTERSTATE FREEWAY  
 AT LILIIHA STREET  
 See Sheet 11T for details



Relocate Double Mastarm and Post from Sta. 146+75  
**SIGN E-12**  
 @ Sta. 148+50 (WESTBOUND)  
 TYPE IV FOOTING SEE FOUNDATION SCHEDULE ON THE STANDARD DETAIL SHEET



**SIGN MOUNTED ON RETAINING WALL**  
 @ Sta. 51+00 (WESTBOUND)



**BREAKAWAY SIGN D-4**  
 @ Sta. 145+90 (Eastbound)

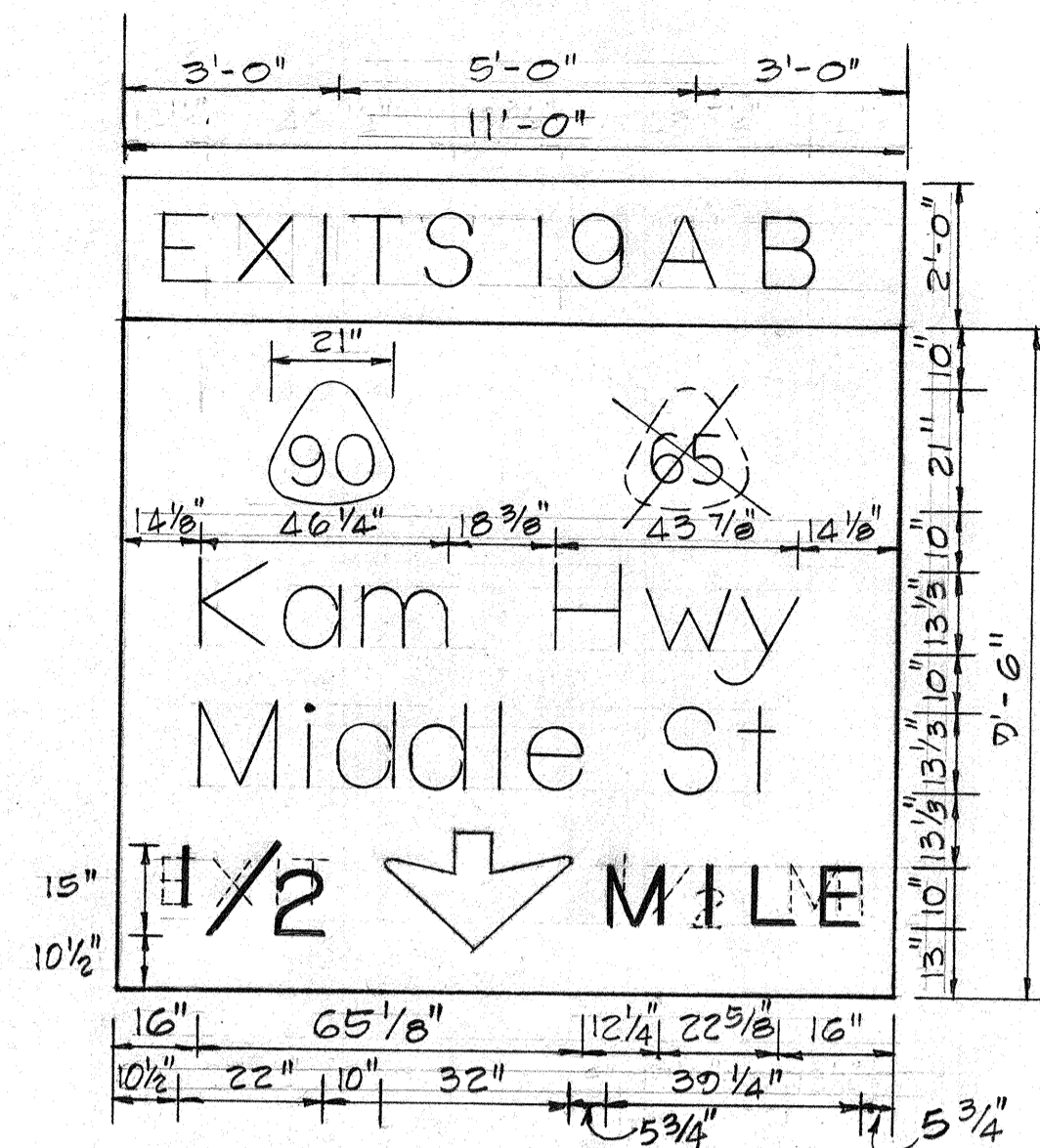
|                   |  |
|-------------------|--|
| DATE              |  |
| SURVEY PLOTTED BY |  |
| DRAWN BY          |  |
| TRACED BY         |  |
| QUANTITIES BY     |  |
| CHECKED BY        |  |
| NO.               |  |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

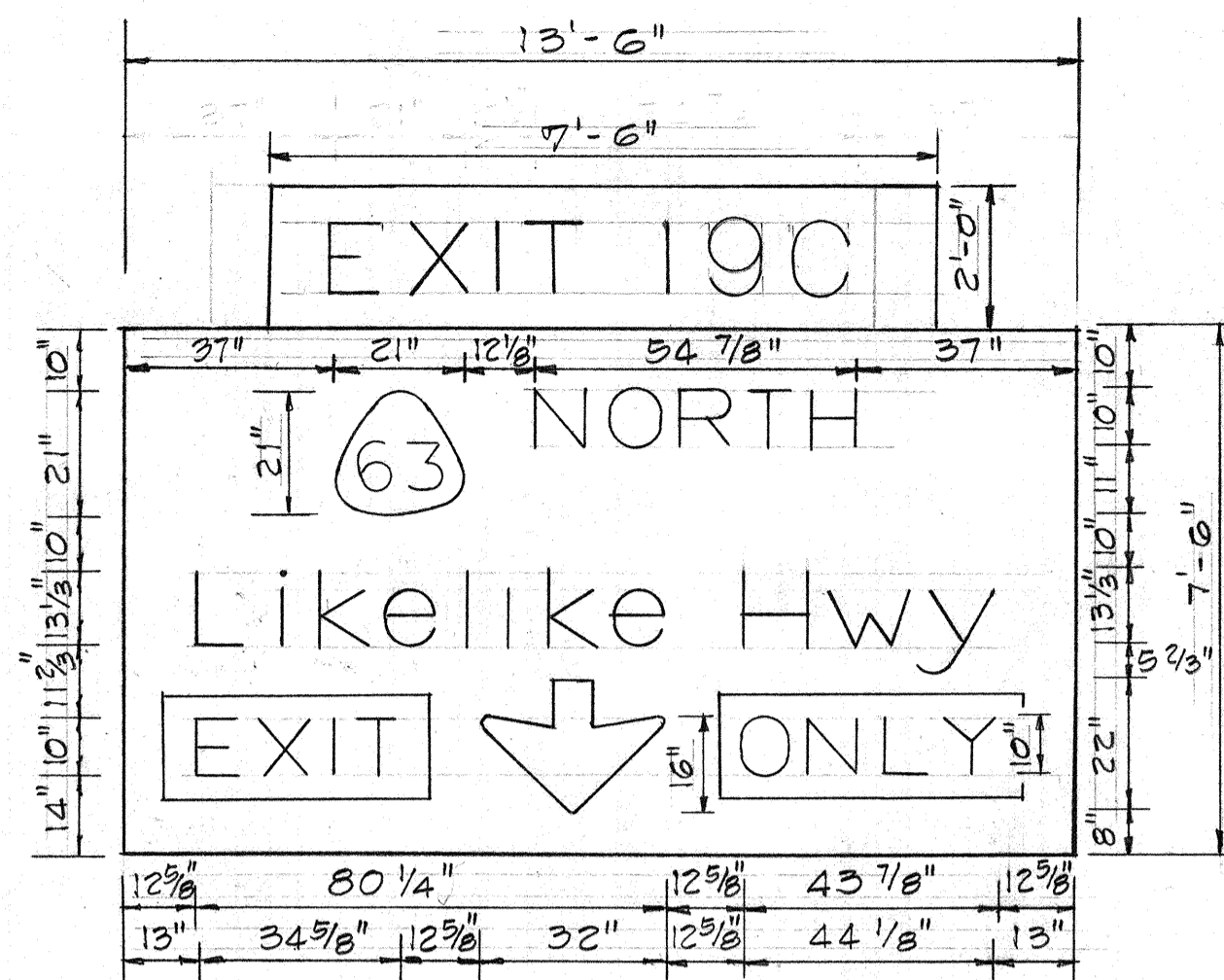
**FRAME LAYOUT  
 OF EXPRESSWAY SIGNS**

F.A.I. PROJ. NO. I-HI-1 (112):10  
 NOT TO SCALE  
 SHEET No. 7T OF 30T SHEETS

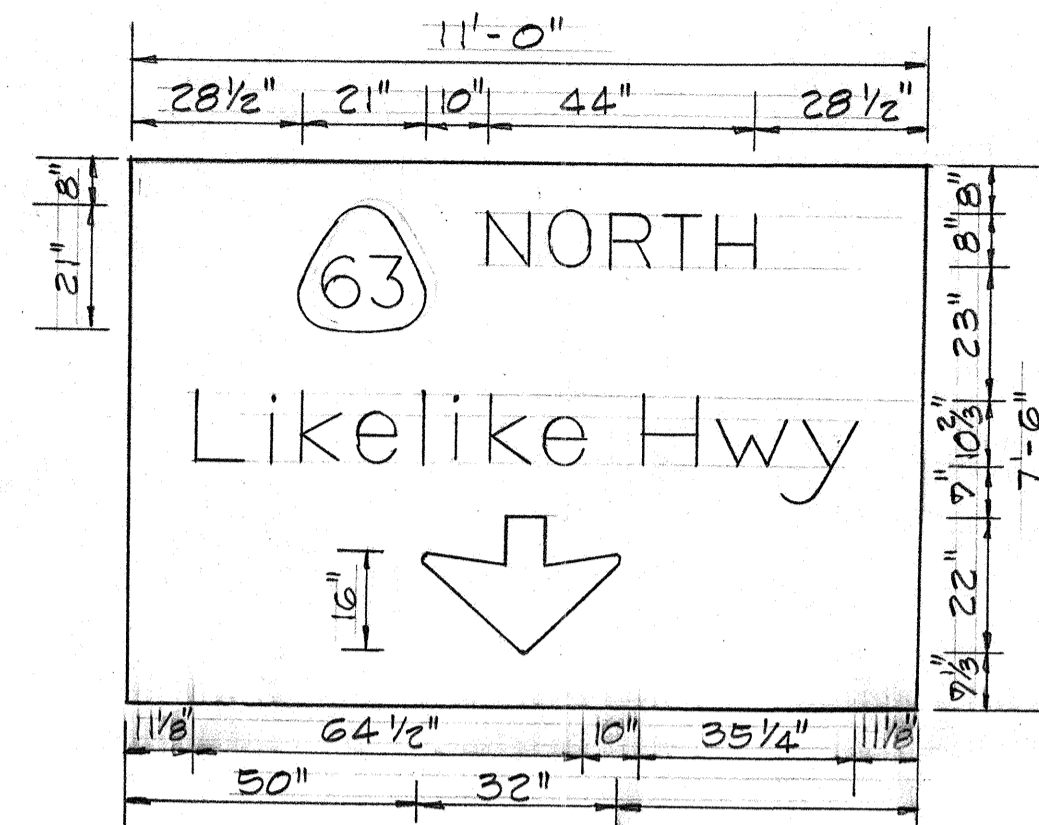
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1 (112):19    | 1973        | 136       | 176          |



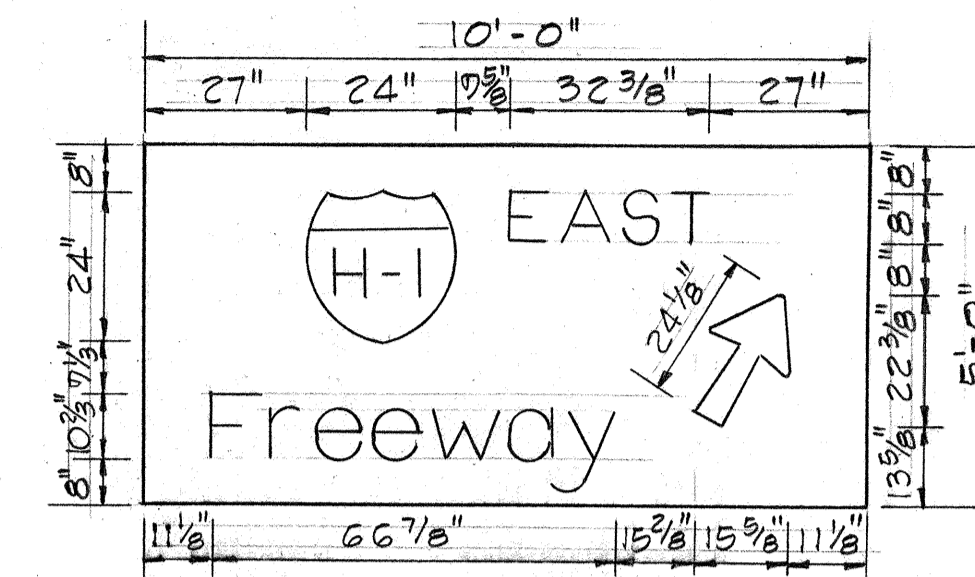
**EXISTING SIGN E-1L**  
 REMOVE ROUTE MARKER 65 AND "EXIT 1/2 MI"  
 INSTALL "1/2 MILE" AS SHOWN  
 INSTALL EXITS 19A-B SIGN PANEL



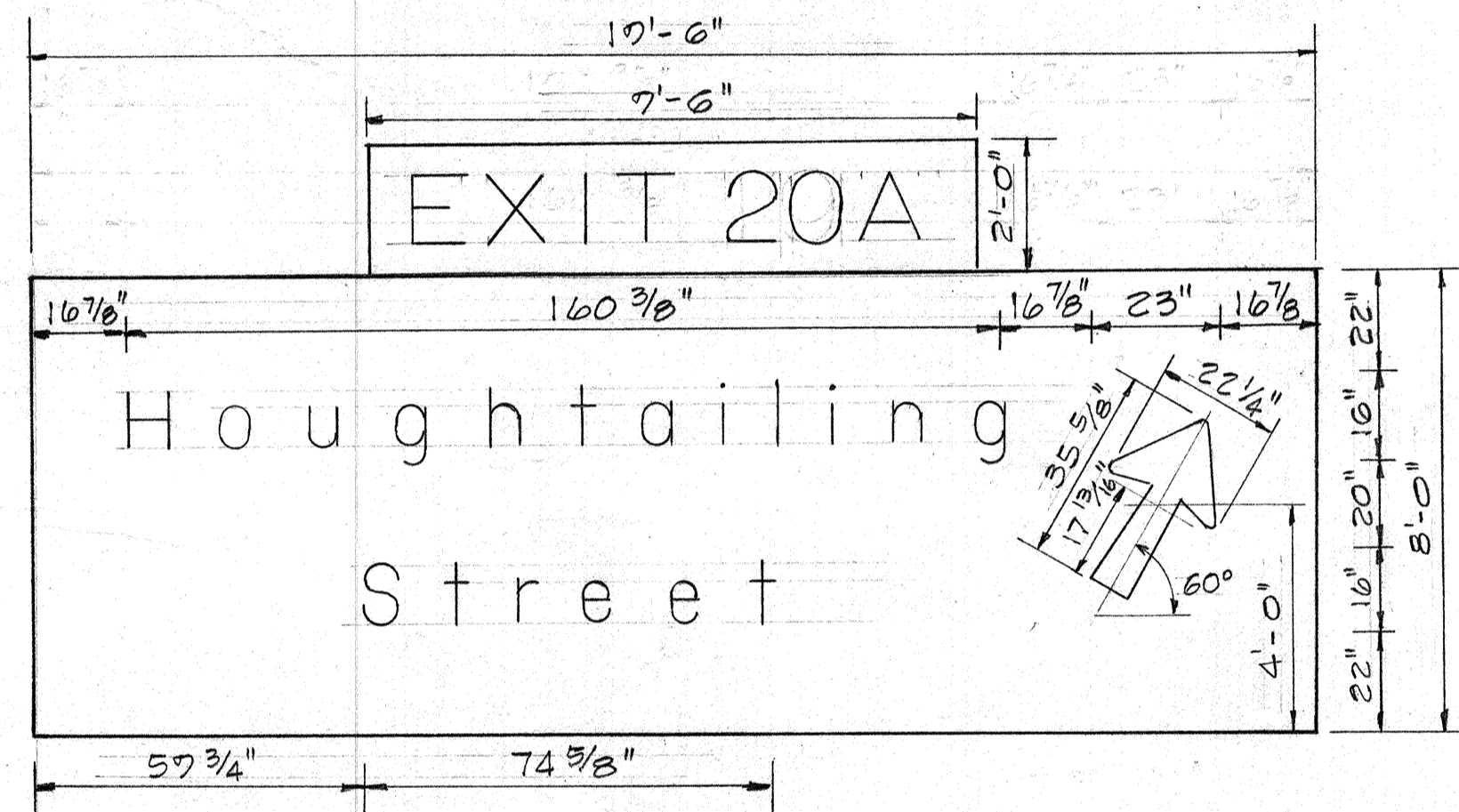
**EXISTING SIGN E-1R**  
 CHANGE FROM BLACK TO GREEN NON-REFLECTIVE OVERLAY PANEL.  
 INSTALL EXIT 19C SIGN PANEL



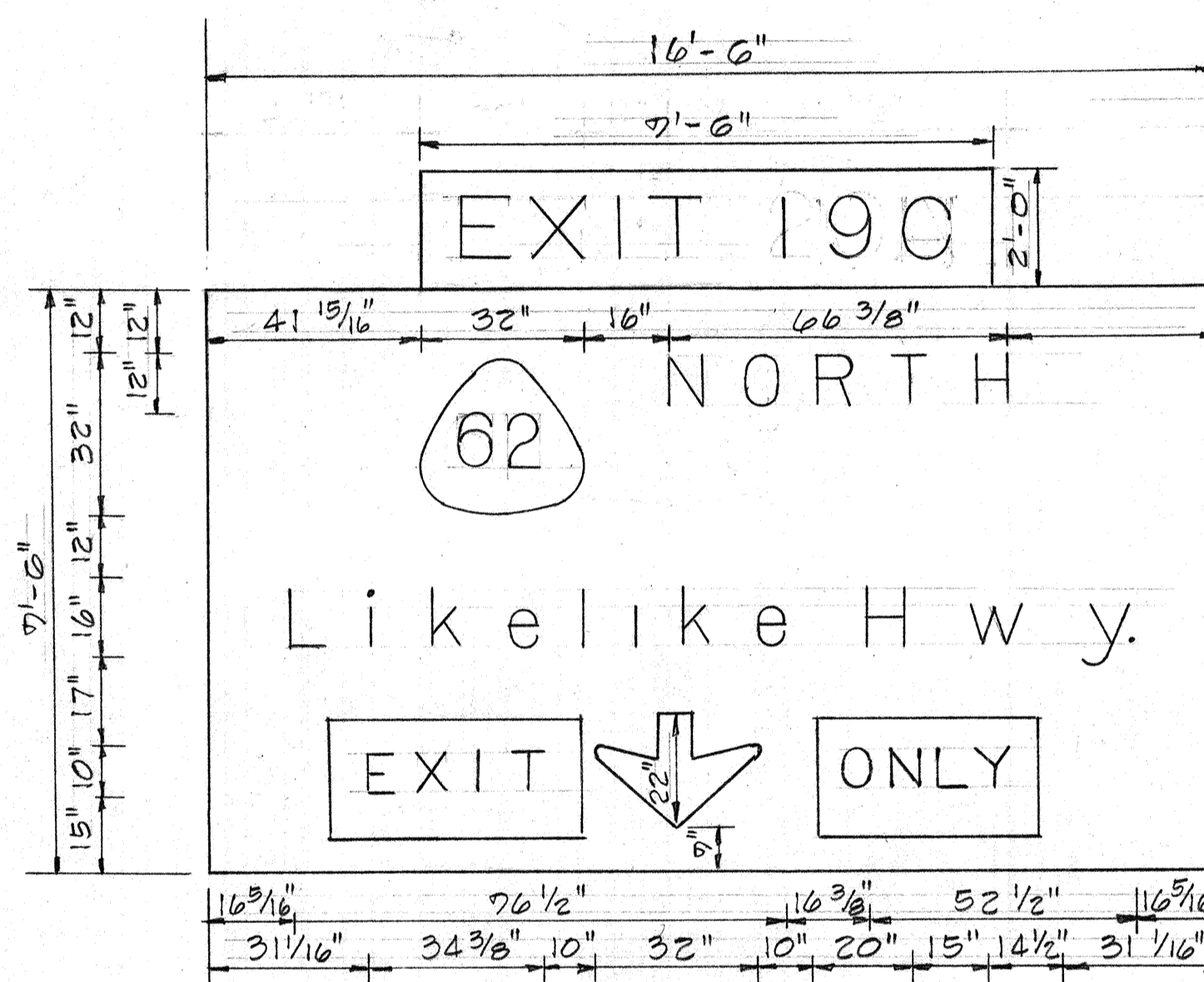
**EXISTING SIGN E-2L**  
 CHANGE FROM BLACK TO GREEN NON-REFLECTIVE OVERLAY PANEL.



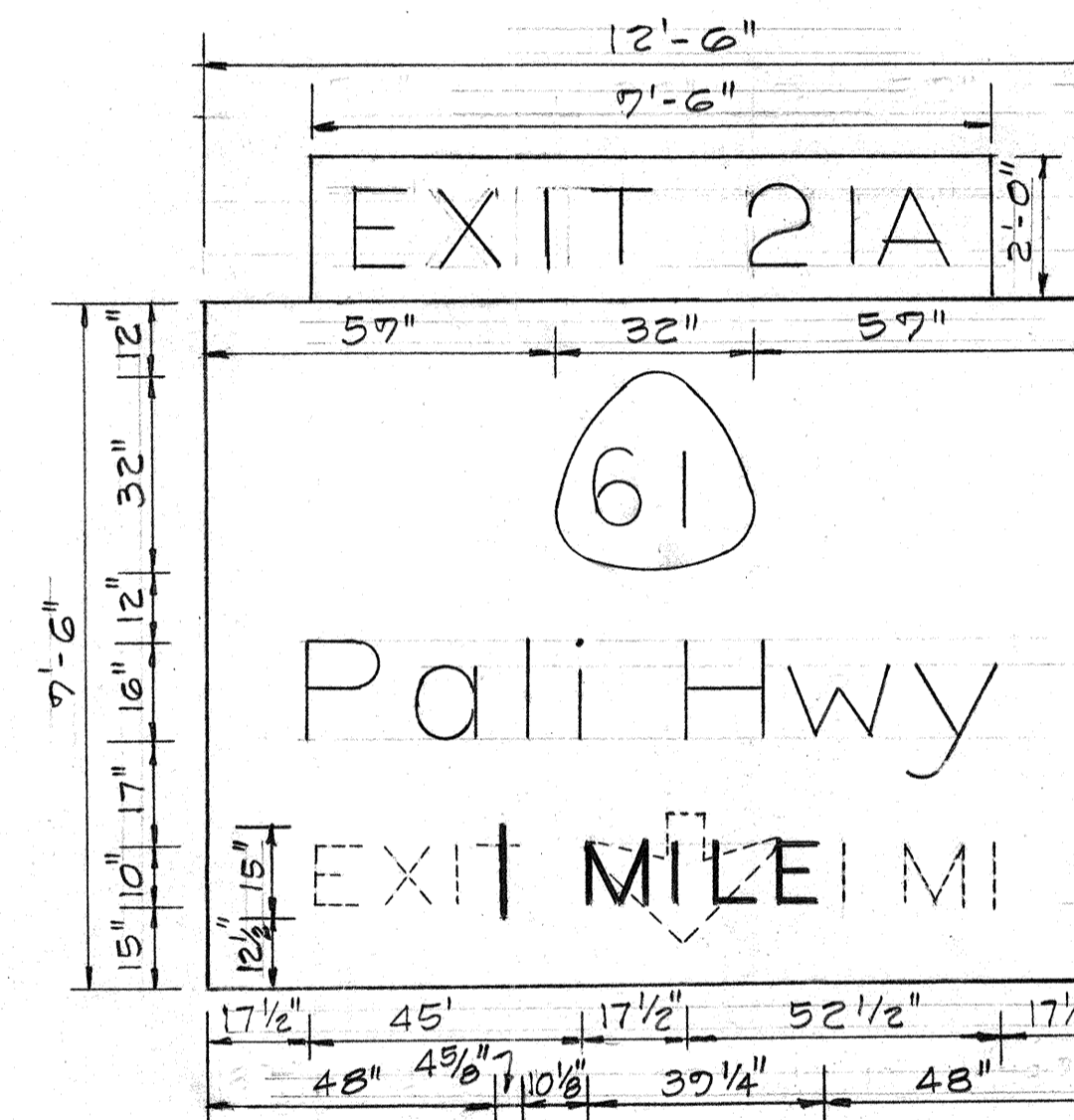
**NEW SIGN E-2R**



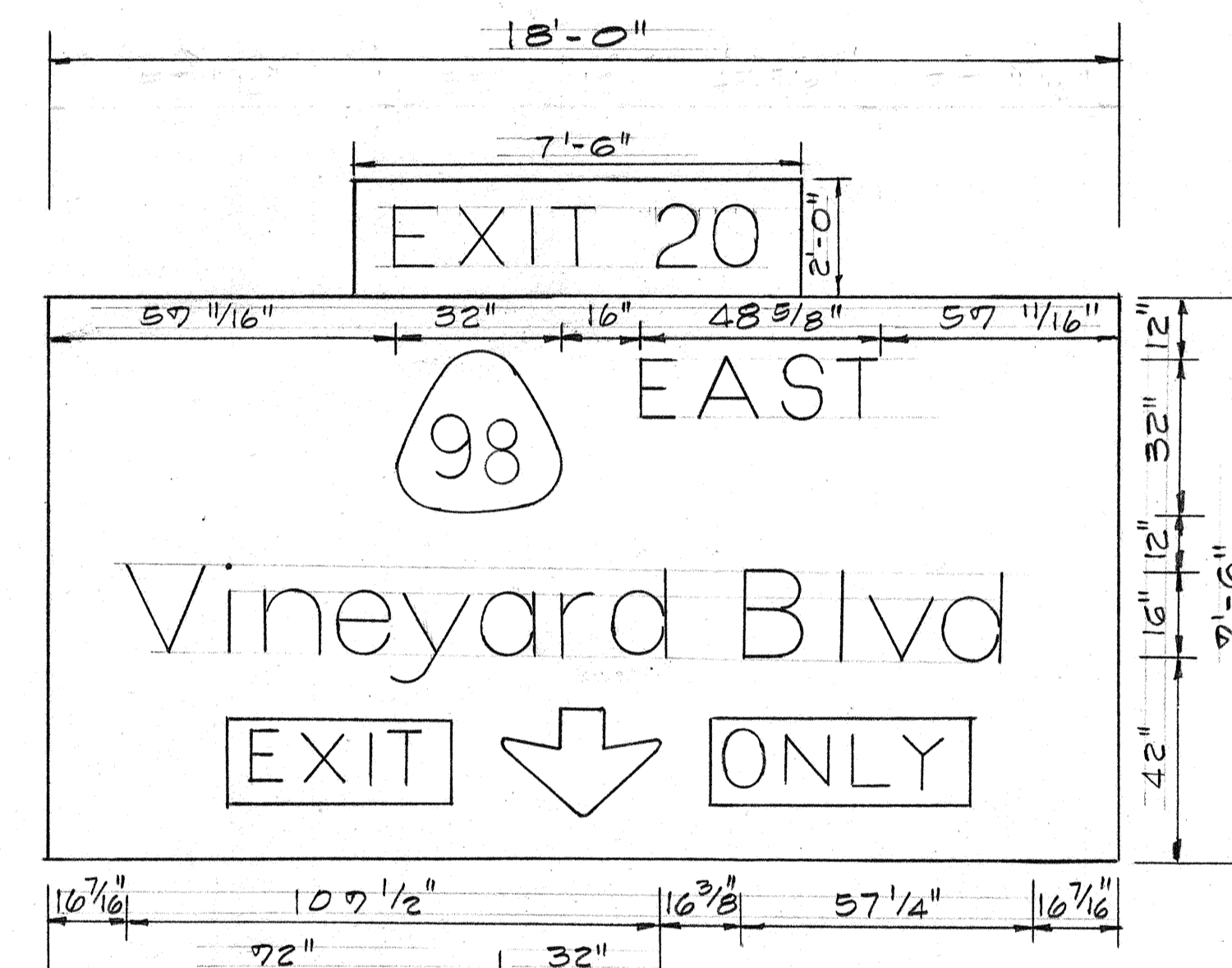
**EXISTING SIGN E-3R**  
 INSTALL EXIT 19A SIGN PANEL



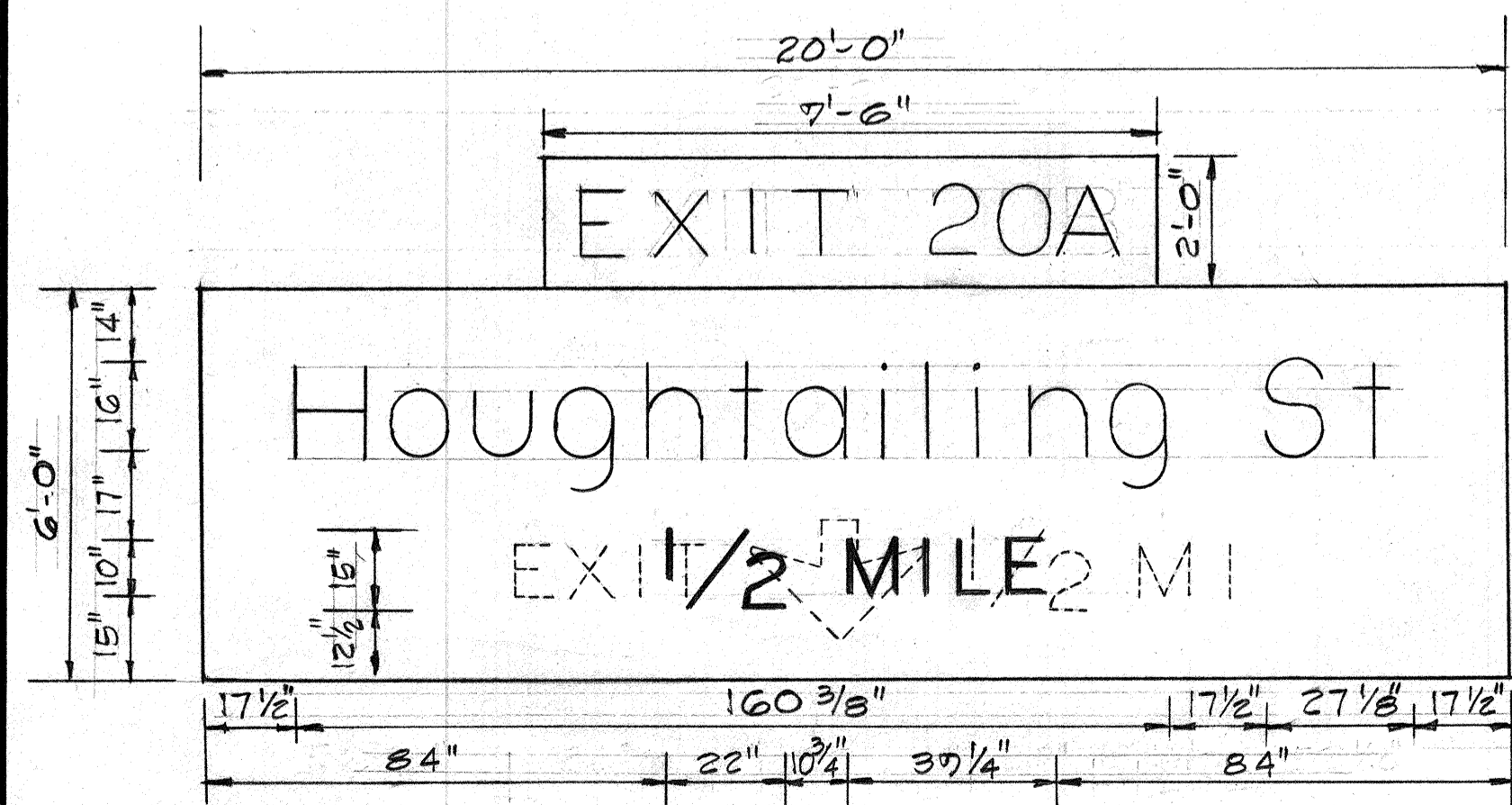
**EXISTING SIGN E-3L**  
 INSTALL EXIT 20A SIGN PANEL



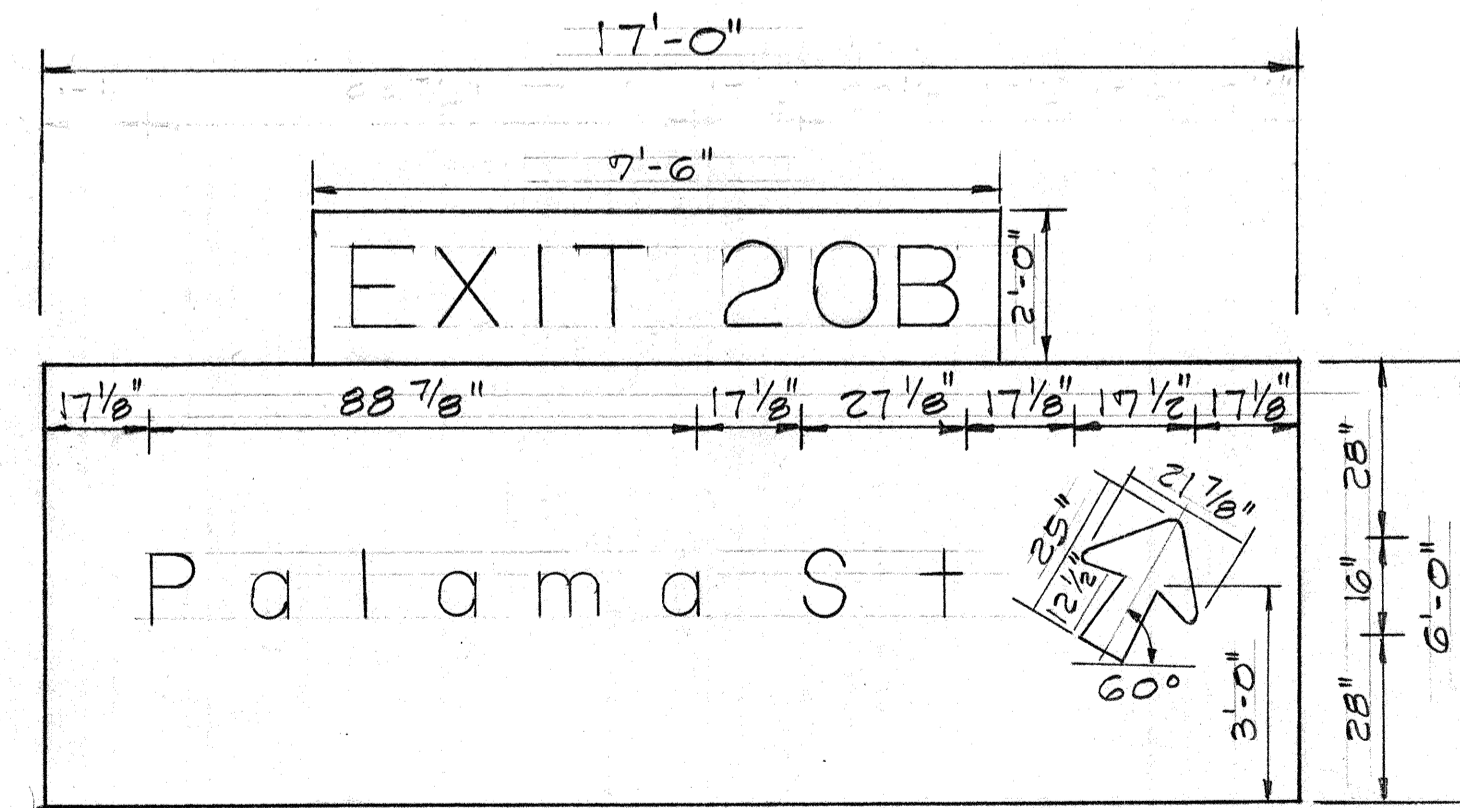
**EXISTING SIGN E-4L**  
 REMOVE "EXIT 1/2 MI"  
 INSTALL "1 MI" AS SHOWN  
 INSTALL EXIT 21A SIGN PANEL



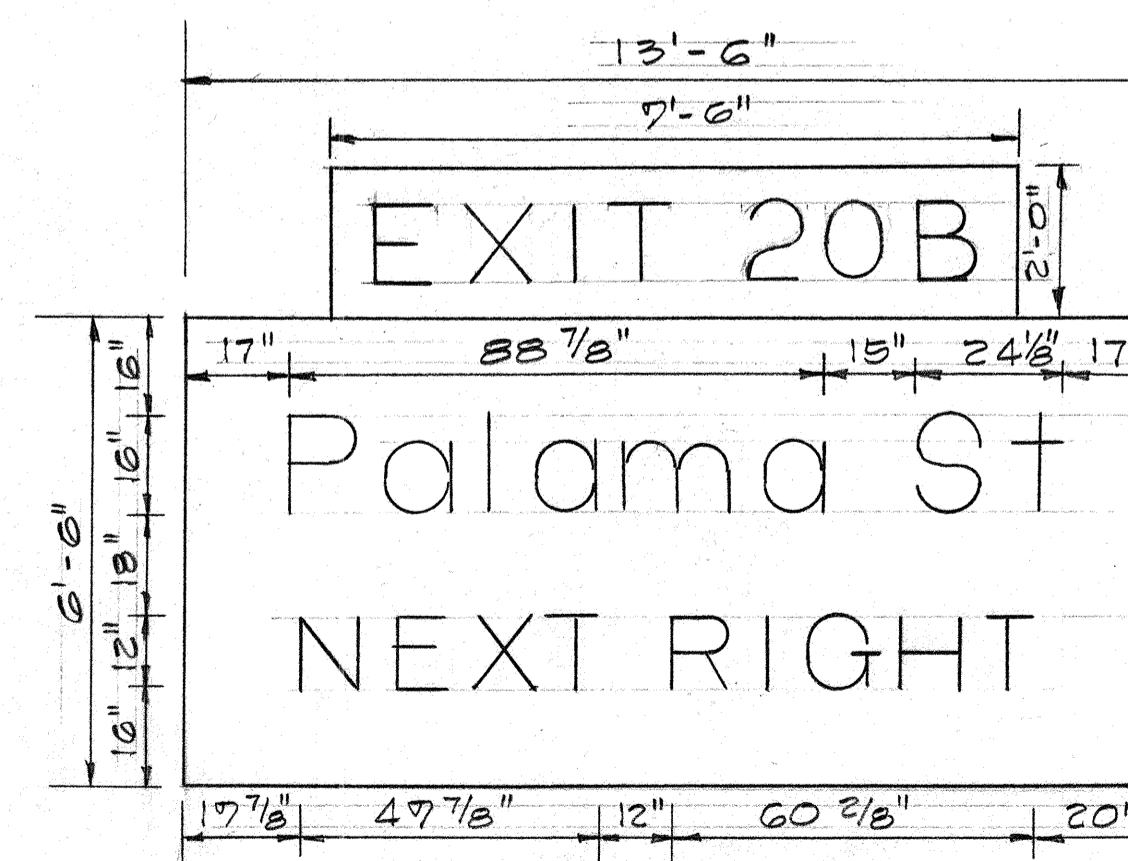
**EXISTING SIGN E-4R**  
 PLACE YELLOW OVERLAY WITH BLACK MESSAGE "EXIT" ON LEFT SIDE AND "ONLY" ON THE RIGHT SIDE OF THE VERTICAL ARROW.  
 INSTALL EXIT 20 SIGN PANEL



**EXISTING SIGN E-5L**  
 REMOVE "EXIT 1/2 MI"  
 INSTALL "1/2 MILE" AS SHOWN  
 INSTALL EXIT 20A SIGN PANEL



**EXISTING SIGN E-5R**  
 INSTALL EXIT 20B SIGN PANEL

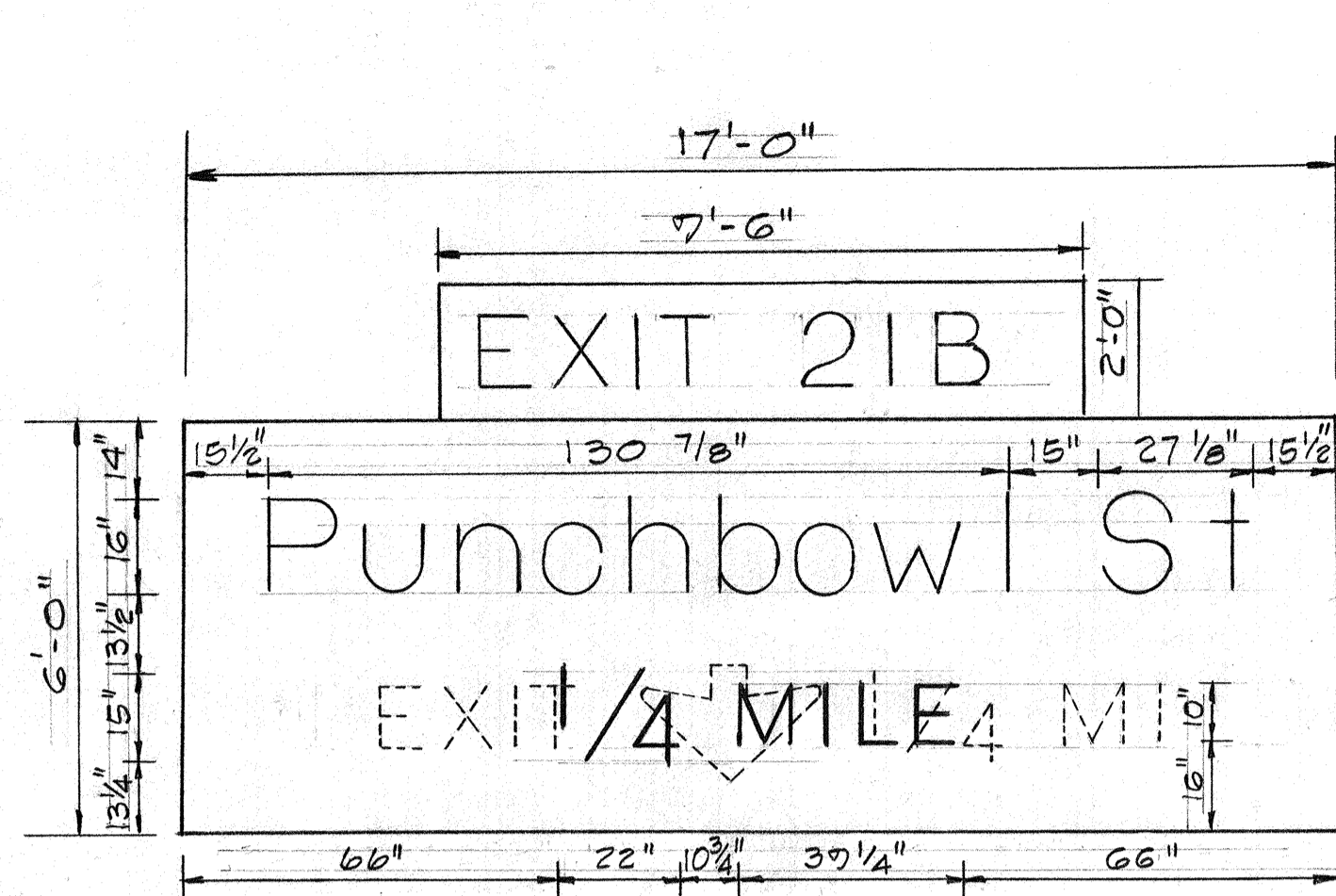


**NEW SIGN E-6**  
 INSTALL EXIT 20B SIGN PANEL

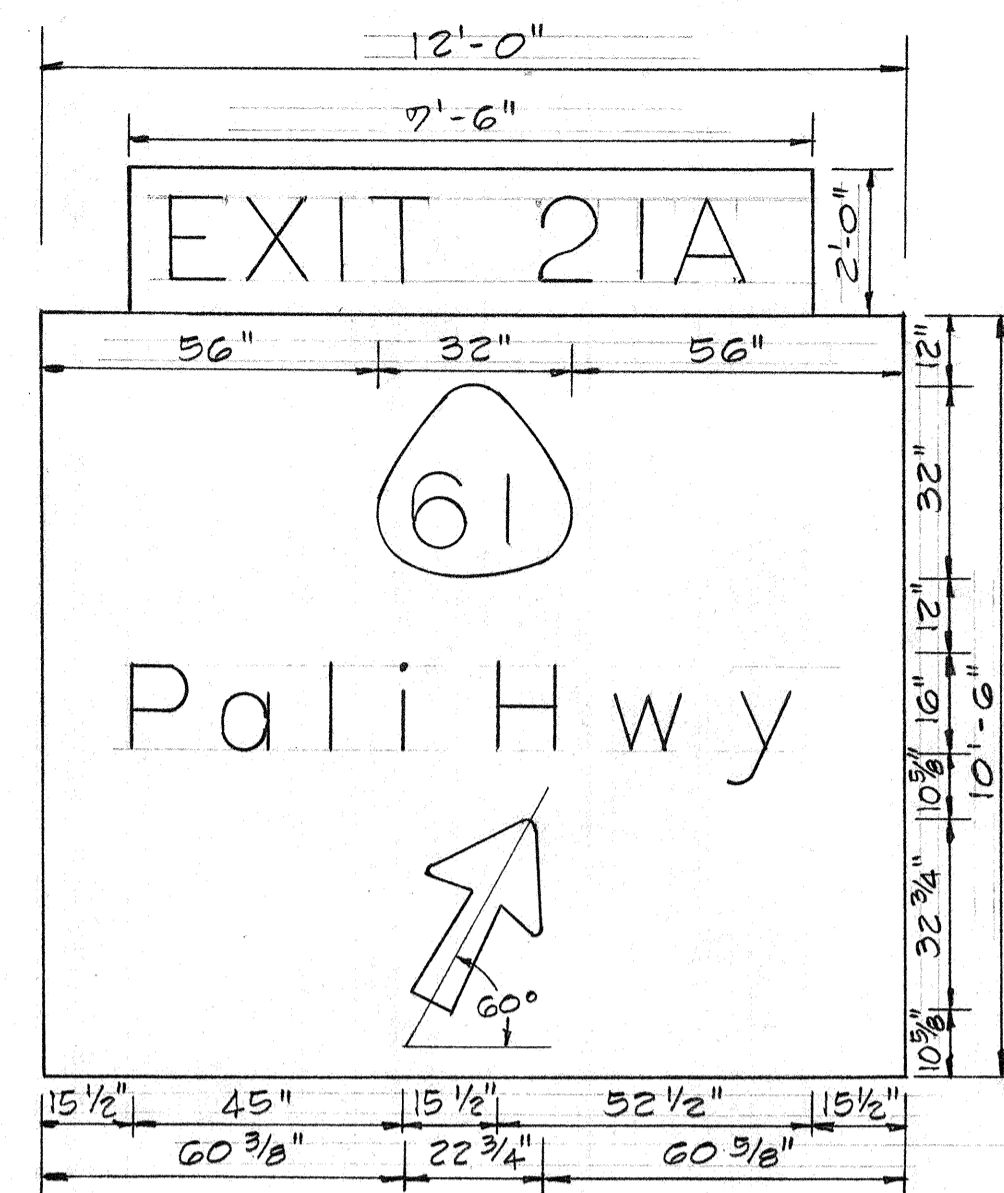
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 SIGN PANEL LAYOUT  
 F.A.I. PROJ. NO I-HI-1(112):19  
 Scale: 3/8" = 1'-0"  
 SHEET No. 87 OF 30 SHEETS

|             |      |
|-------------|------|
| DESIGNED BY | DATE |
| DRAWN BY    |      |
| CHECKED BY  |      |
| NO.         |      |

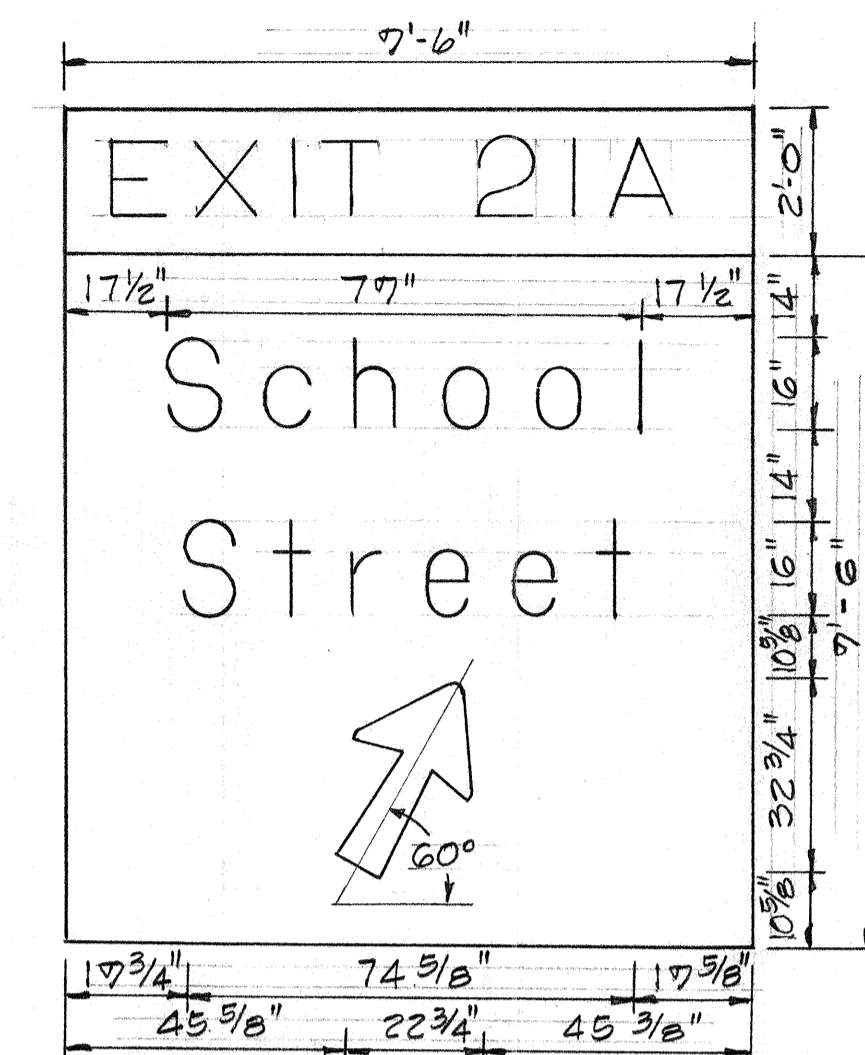
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1(112):19     | 1973        | 137       | 176          |



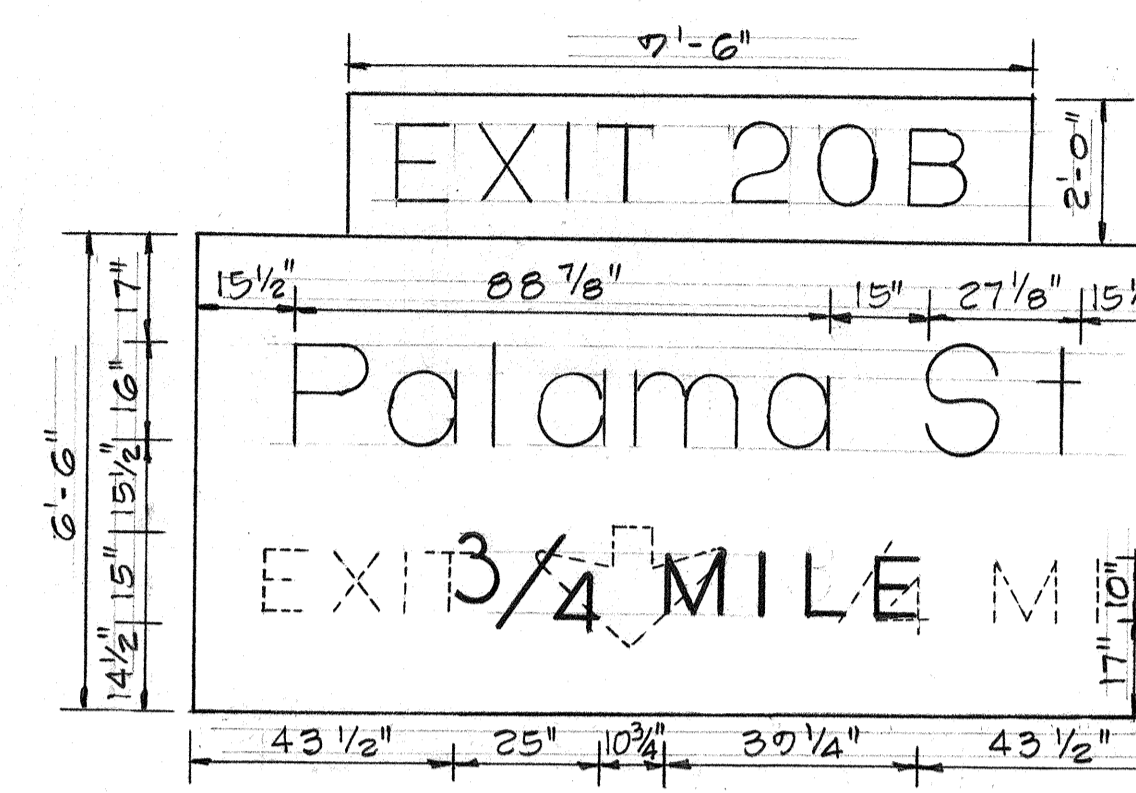
EXISTING SIGN E-7L  
 REMOVE "EXIT 1/4 MI"  
 INSTALL "1/4 MILE" AS SHOWN  
 INSTALL EXIT 21B SIGN PANEL



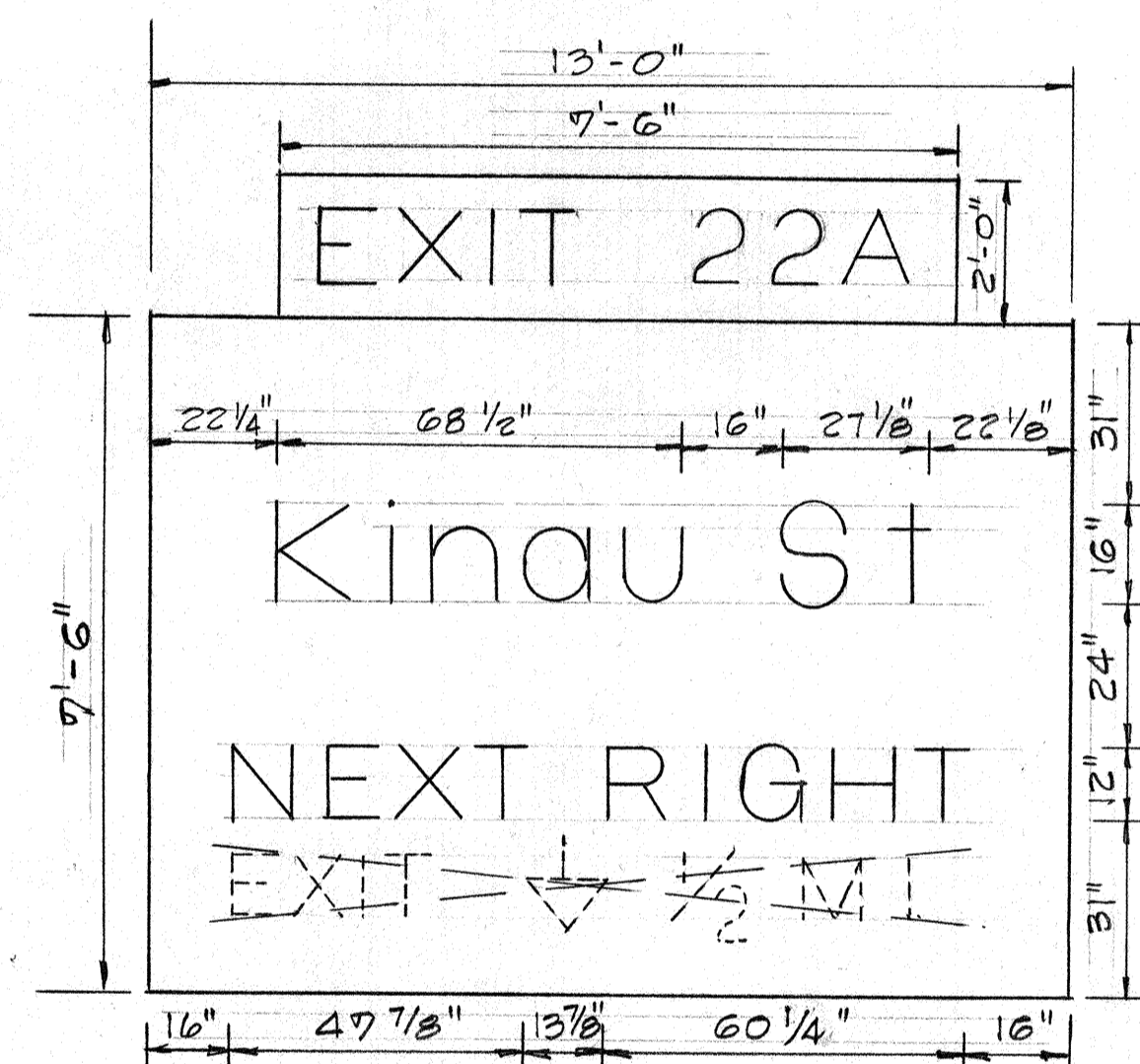
EXISTING SIGN E-7R  
 INSTALL EXIT 21A SIGN PANEL



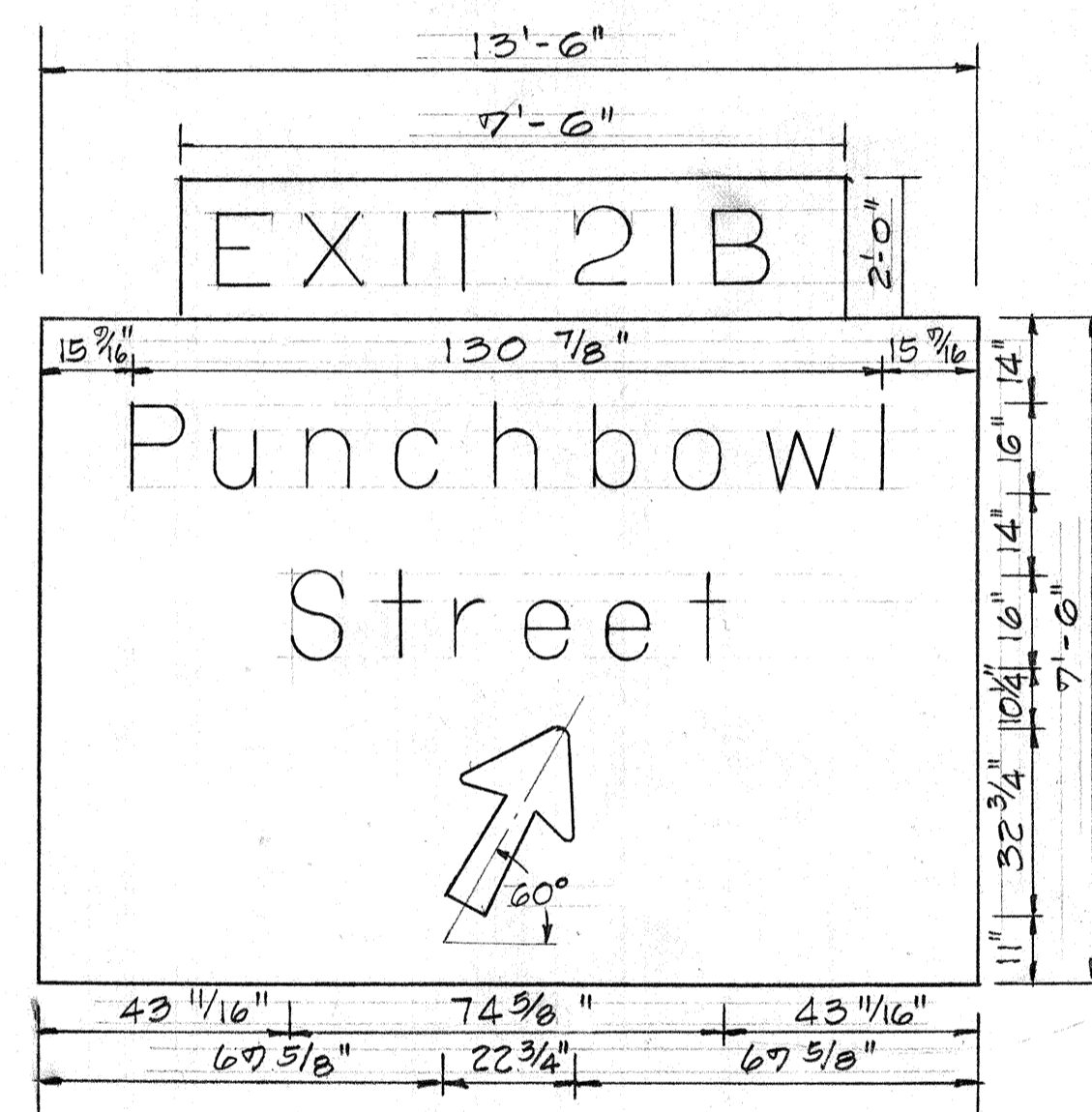
EXISTING SIGN E-8R  
 INSTALL EXIT 21A SIGN PANEL



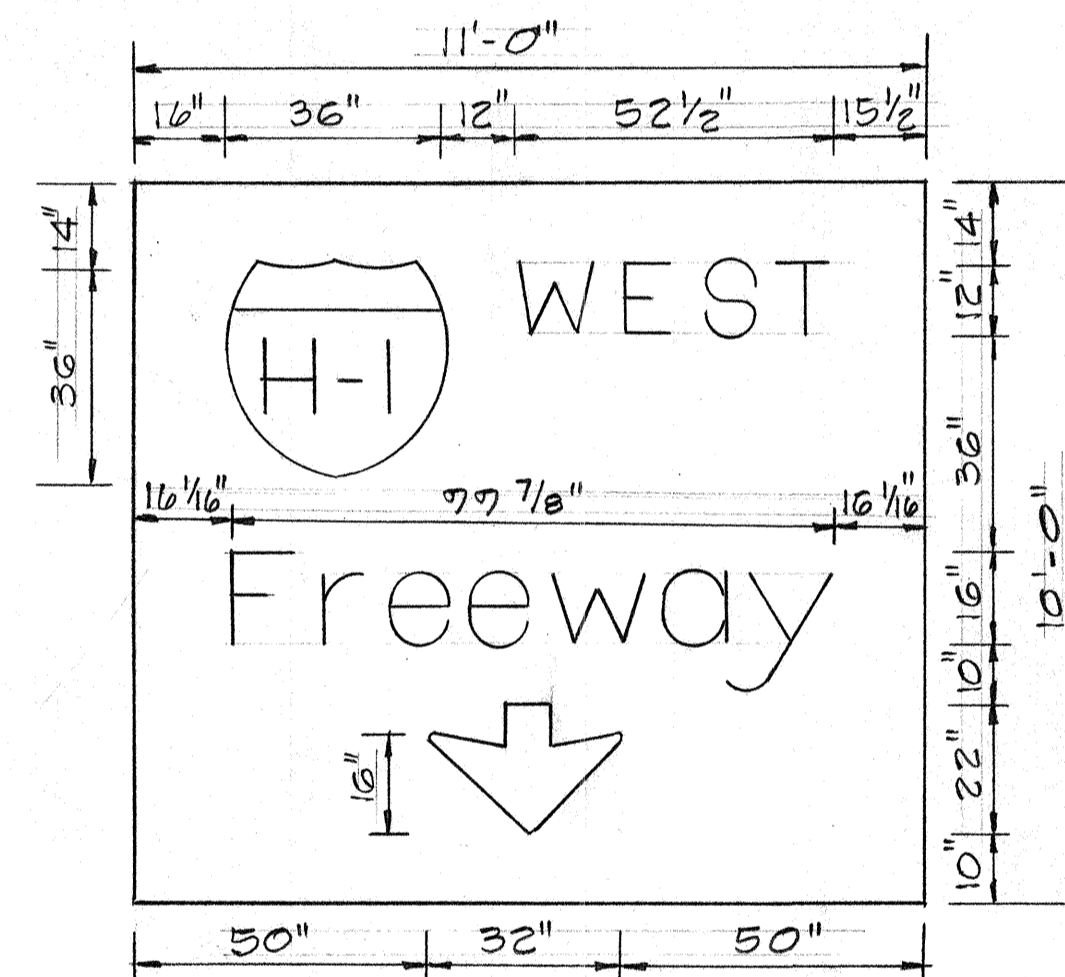
EXISTING SIGN E-8L  
 REMOVE "EXIT 3/4 MI"  
 INSTALL "3/4 MILE" AS SHOWN  
 INSTALL EXIT 20B SIGN PANEL



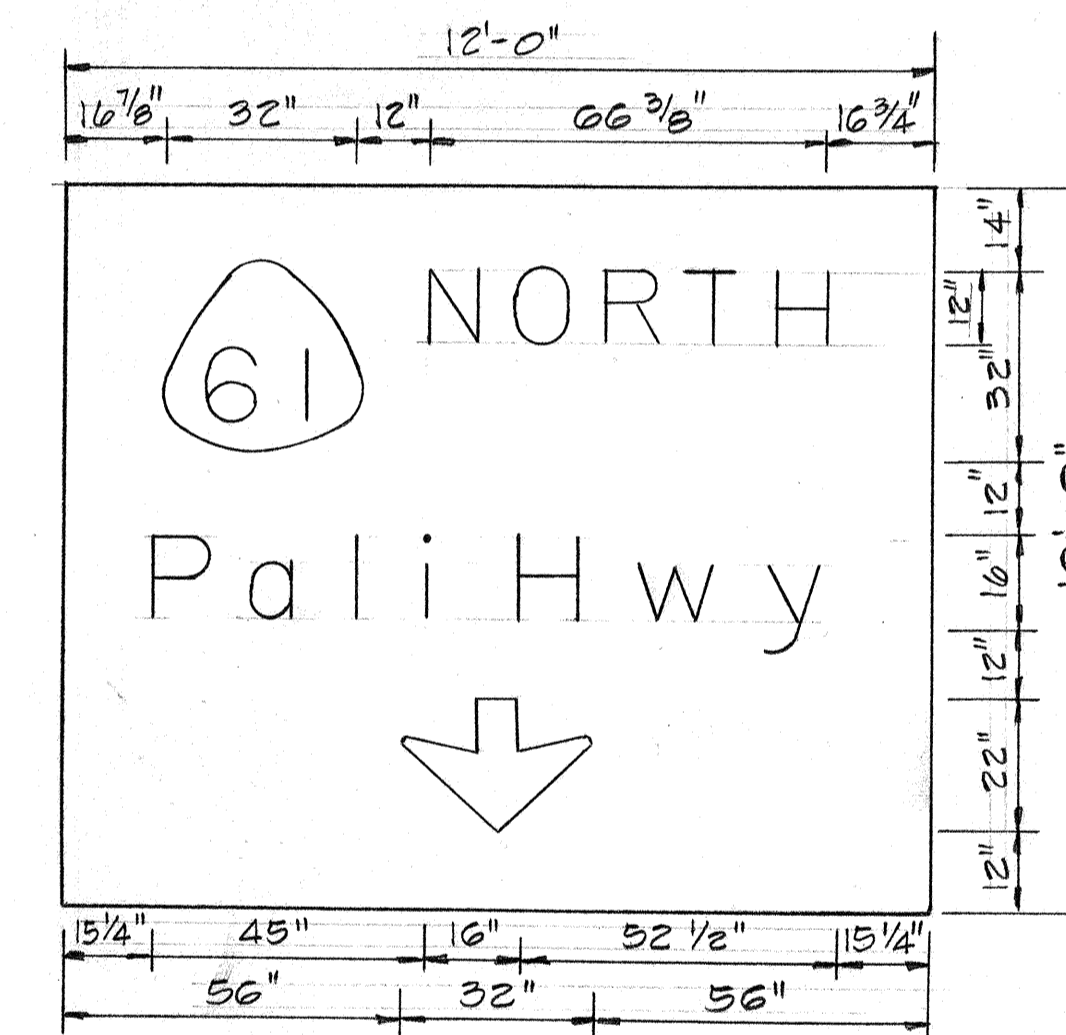
EXISTING SIGN E-9L  
 REMOVE "EXIT 1/2 MI" AND  
 INSTALL "NEXT RIGHT" AS SHOWN  
 INSTALL EXIT 22A SIGN PANEL



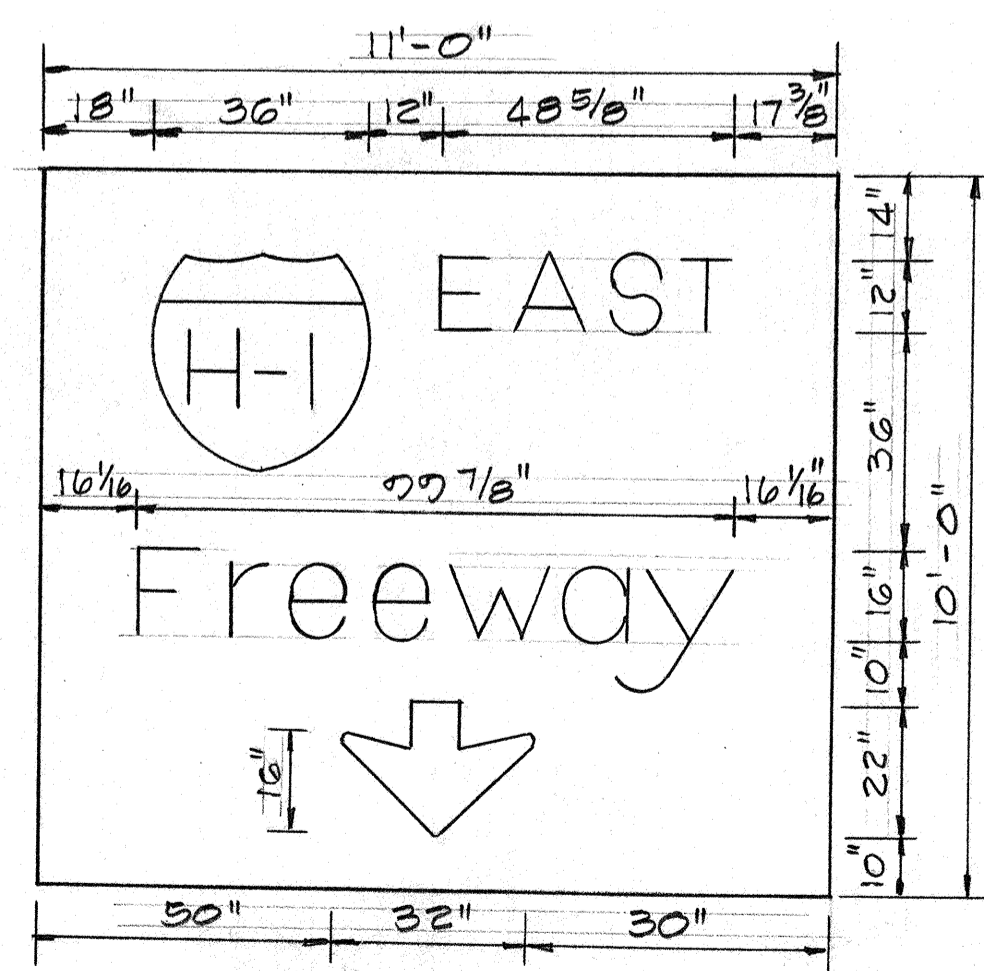
EXISTING SIGN E-9R  
 INSTALL EXIT 21B SIGN PANEL



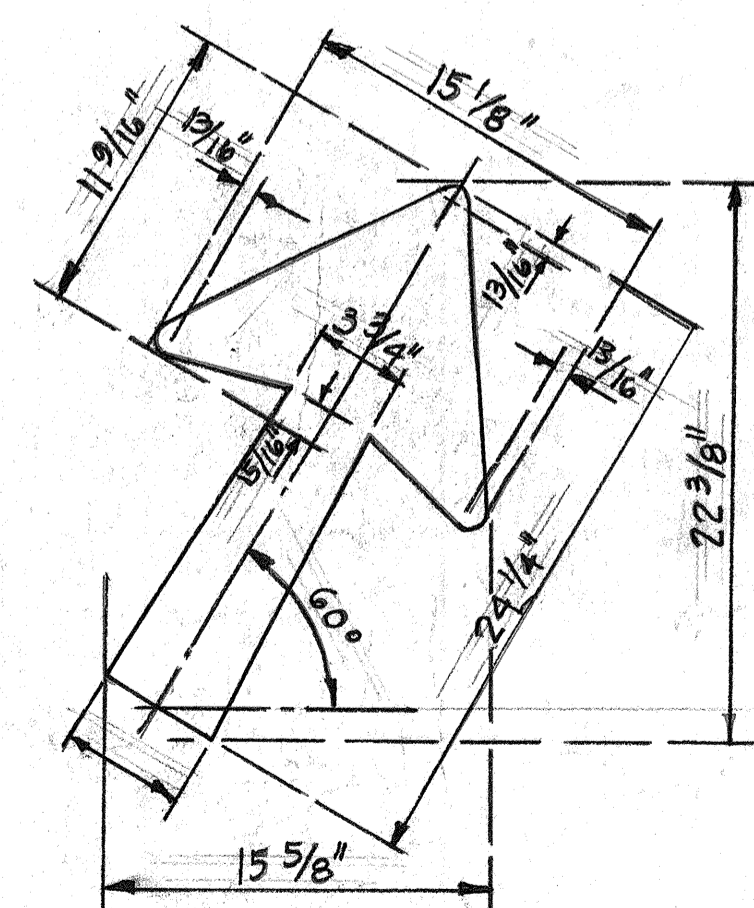
NEW SIGN E-10



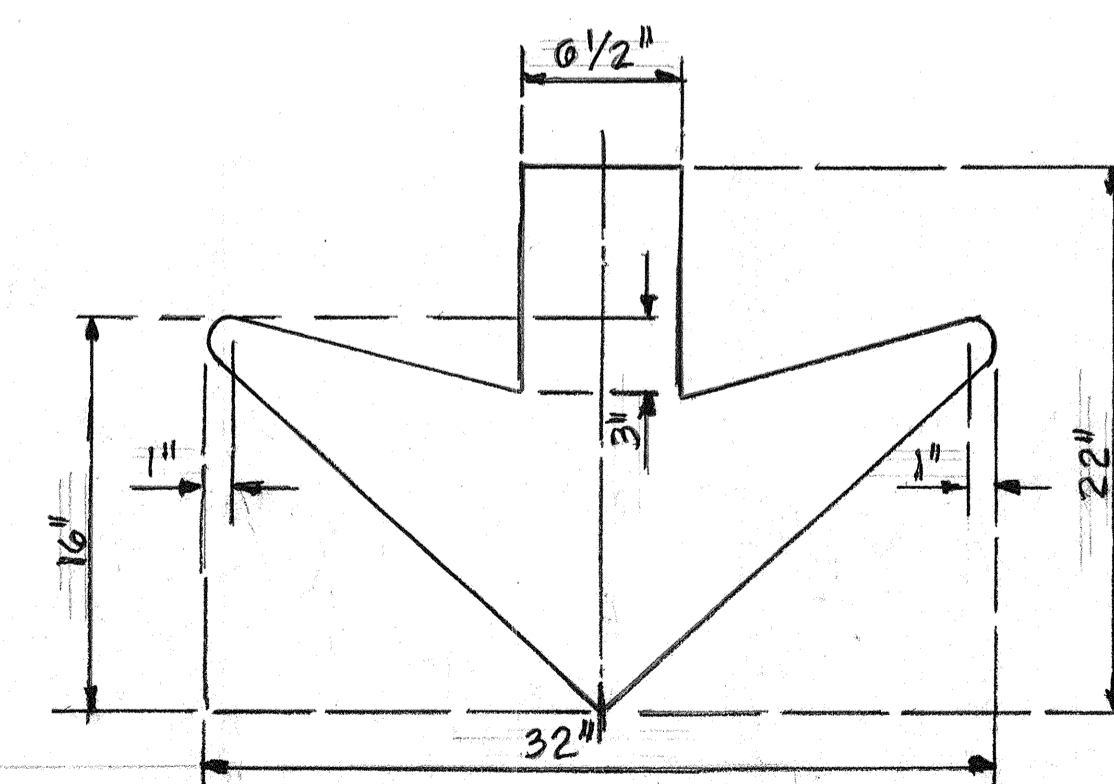
EXISTING SIGN E-11R  
 TO BE RELOCATED



NEW SIGN E-13L



DETAIL OF DIAGONAL  
 ARROW ON SIGN E-2R cco#6



DETAIL OF DOWN ARROW  
 ON SIGNS E-10 & E-13L cco#6

|               |      |
|---------------|------|
| ORIGINAL PLAN | DATE |
| DESIGNED BY   |      |
| TRACED BY     |      |
| QUANTITIES BY |      |
| CHECKED BY    |      |
| NO.           |      |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

SIGN PANEL LAYOUT

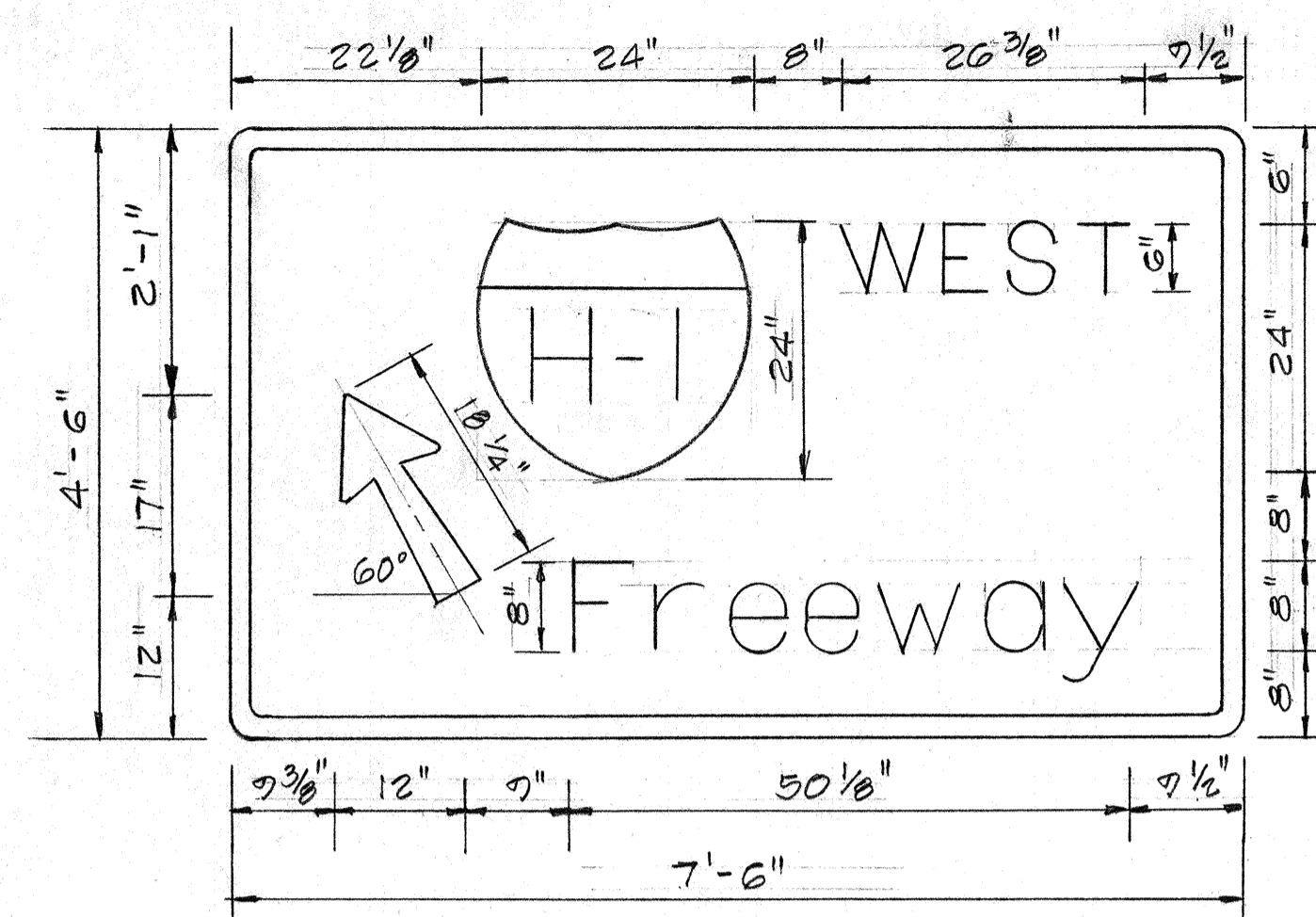
F.A.I. PROJ. NO I-HI-1(112):19

Scale: 3/8" = 1'-0"

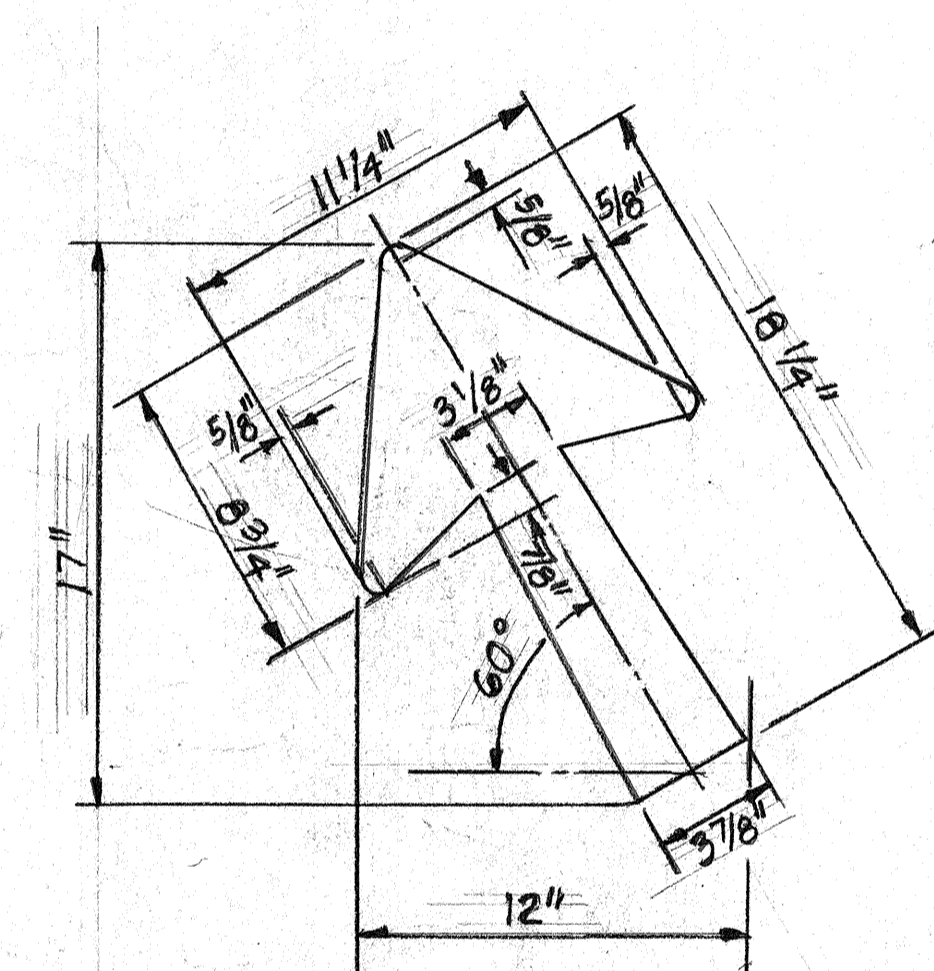
SHEET No. 97 OF 307 SHEETS

# DESTINATION SIGN

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1(112):19     | 1973        | 138       | 176          |

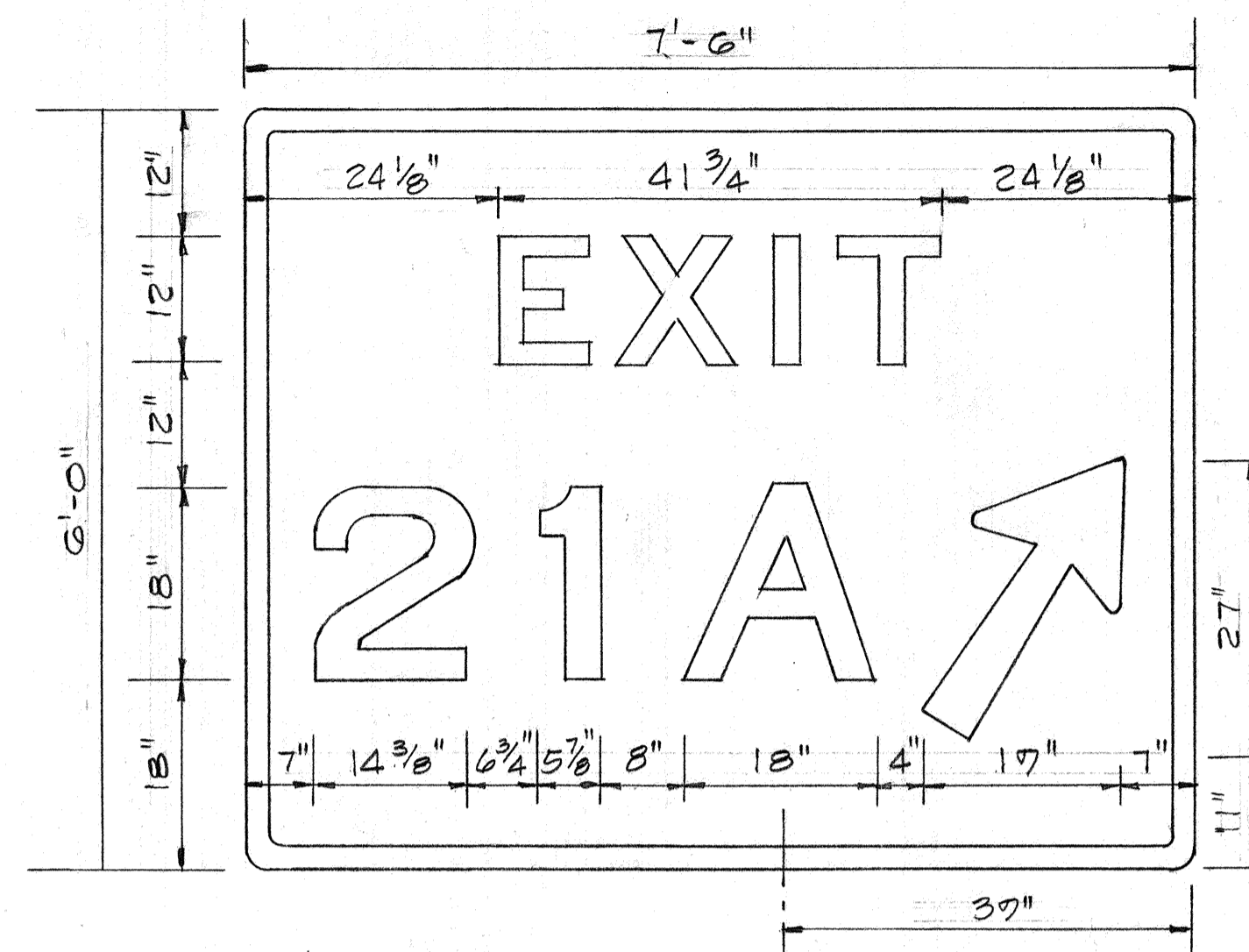


SIGN D-1  
VINEYARD WESTBOUND ON-RAMP

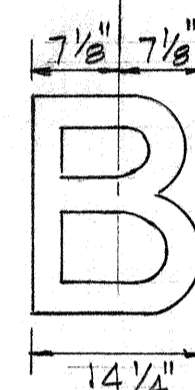


DETAIL OF DIAGONAL ARROW  
ON SIGN D-1 CCO#6

| REFERENCE TO DESTINATION SIGN PANEL DRAWING |               |                            |
|---|---------------|----------------------------|
| DESTINATION SIGN NUMBER                     | MESSAGE       | STATION                    |
| SIGN D-1                                    | FREEWAY, WEST | Vineyard on Ramp at Palama |
| SIGN D-2                                    | EXIT 21A      | 132 + 70                   |
| SIGN D-3                                    | EXIT 21A      | 137 + 50                   |
| SIGN D-4                                    | EXIT, 21B     | 145 + 70                   |



SIGN D-2  
AND SIGN D-3  
(EXIT, 21A)

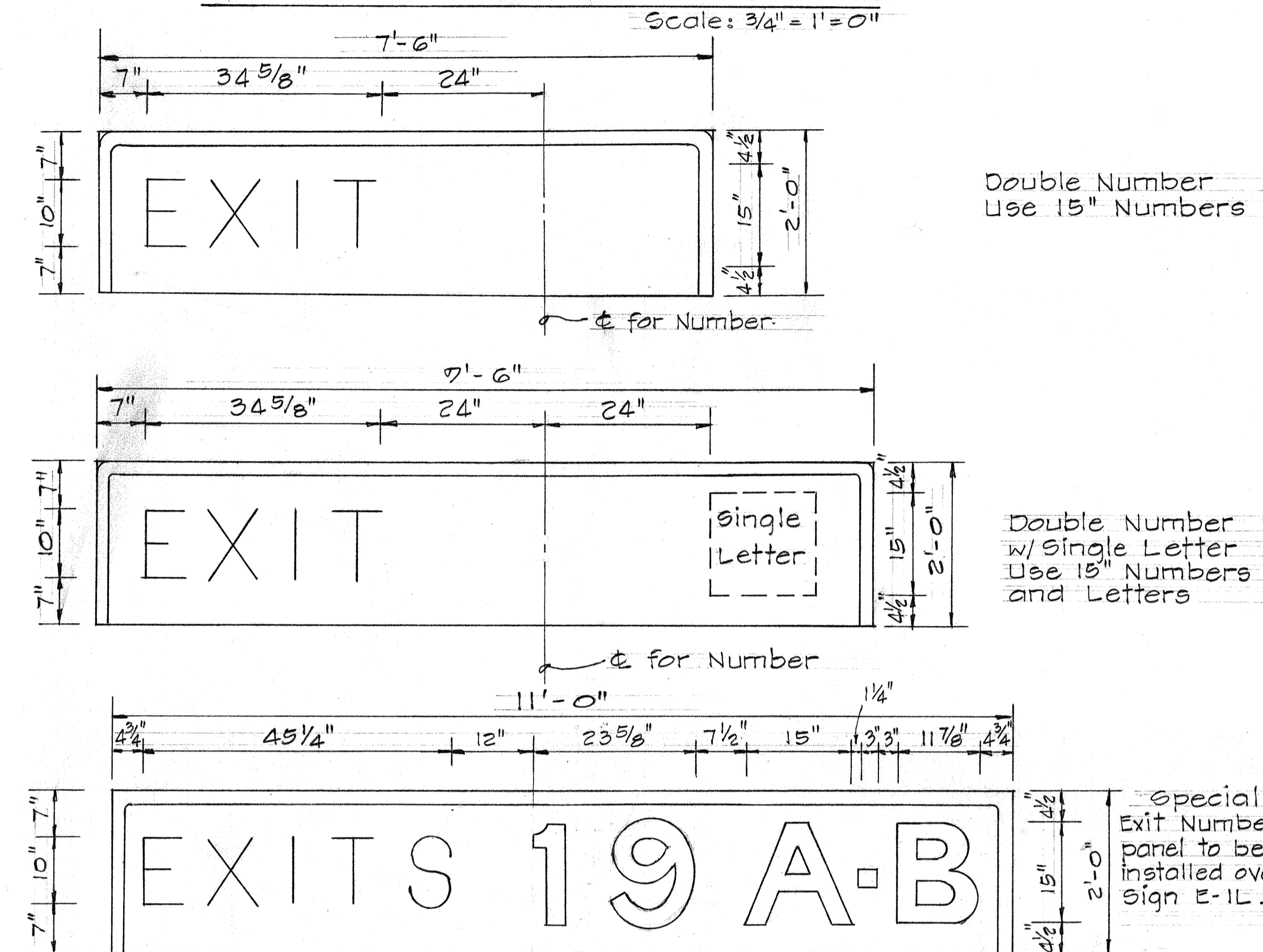


SIGN D-4  
(EXIT, 21B)

## GENERAL NOTES ~ Guide Signs C.C.O. #6

- Sign message shall be lettered according to "Standard Alphabets for Highway Signs", Bureau of Public Roads, 1966. Use Modified Series "E" capital letters and numerals unless otherwise noted.
- All Guide Signs shall have borders.
- Arrows, borders and route markers, shall conform to details as shown on the plans.
- Individual letters, numerals, symbols and borders shall be demountable and consist of either embossed aluminum cut-outs with applied silver-white high intensity reflective sheeting material or white porcelain enameled aluminum cut-outs with clear reflex reflectors as specified in the special provisions.
- Demountable characters, except as otherwise specified, shall be of one type on any sign panel or group of sign panels mounted on a common support, and shall include letters, numerals, arrows and borders.
- All illuminated Expressway (E) signs shall have a green porcelain enameled background. Destination (D) signs shall have green reflective sheeting for sign background.
- The special sign reading "EXIT ONLY" or "RIGHT LANE EXIT ONLY" shall have black legends on a yellow high intensity reflective sheeting background mounted on a flat aluminum cut-out and shall be fastened on sign panel with aluminum blind rivets. See Standard Specifications.
- Design of Exit Number Panels shall conform to all plans and specifications for either Destination or Expressway sign to which the Exit Number Panel will be attached.

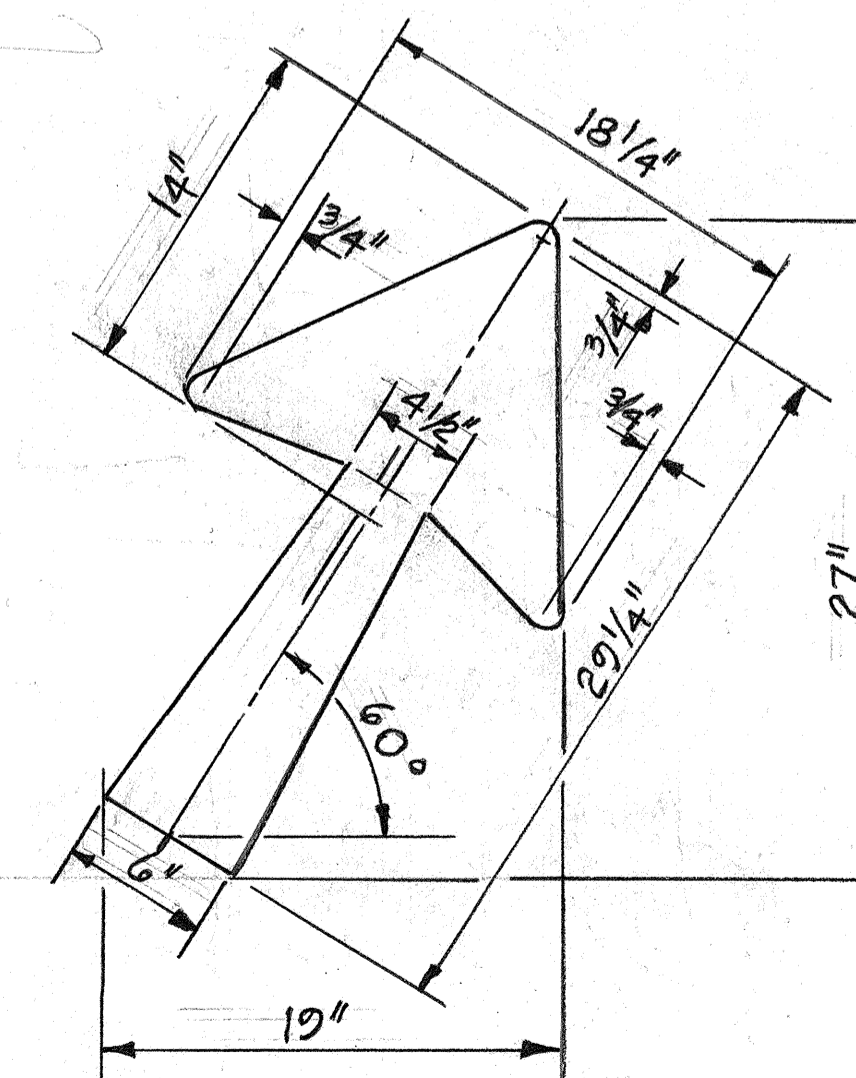
## MILEPOST EXIT NUMBER PANELS



Milepost Exit Number Panels shall conform to all plans and specifications for Expressway Sign Panels.

## GENERAL NOTES

- Sign message shall be lettered in uppercase according to Standard Alphabets for Highway Signs, Bureau of Public Roads, 1966, and, lower case according to Standard Lower-Case Alphabets for Highway Signs, Bureau of Public Roads, 1962. Use Series "E" modified letters unless otherwise noted.
- Arrows, borders, and route markers shall conform with details as shown on plans.
- Destination (D) Signs shall have white reflective sheeting on aluminum cut-out on green reflective sheeting background.



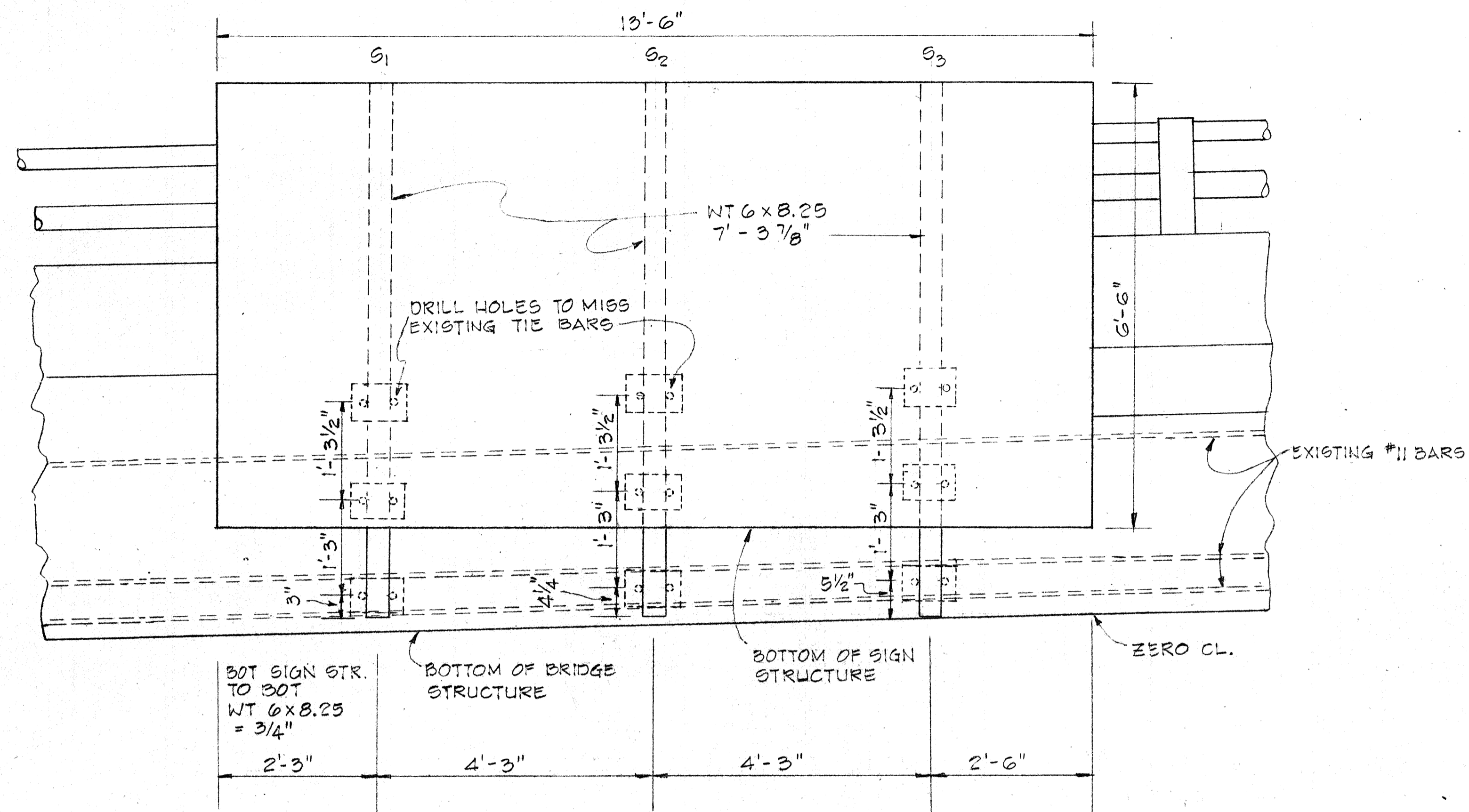
DETAIL OF DIAGONAL ARROW  
ON SIGN D-2, D-3 & D-4 CCO#6

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
PANEL LAYOUT FOR DESTINATION  
SIGNS AND EXIT NUMBER PANEL  
LAYOUT FOR EXPRESSWAY SIGNS  
F.A.I. PROJ. NO. I-HI-1(112):19  
Not to Scale

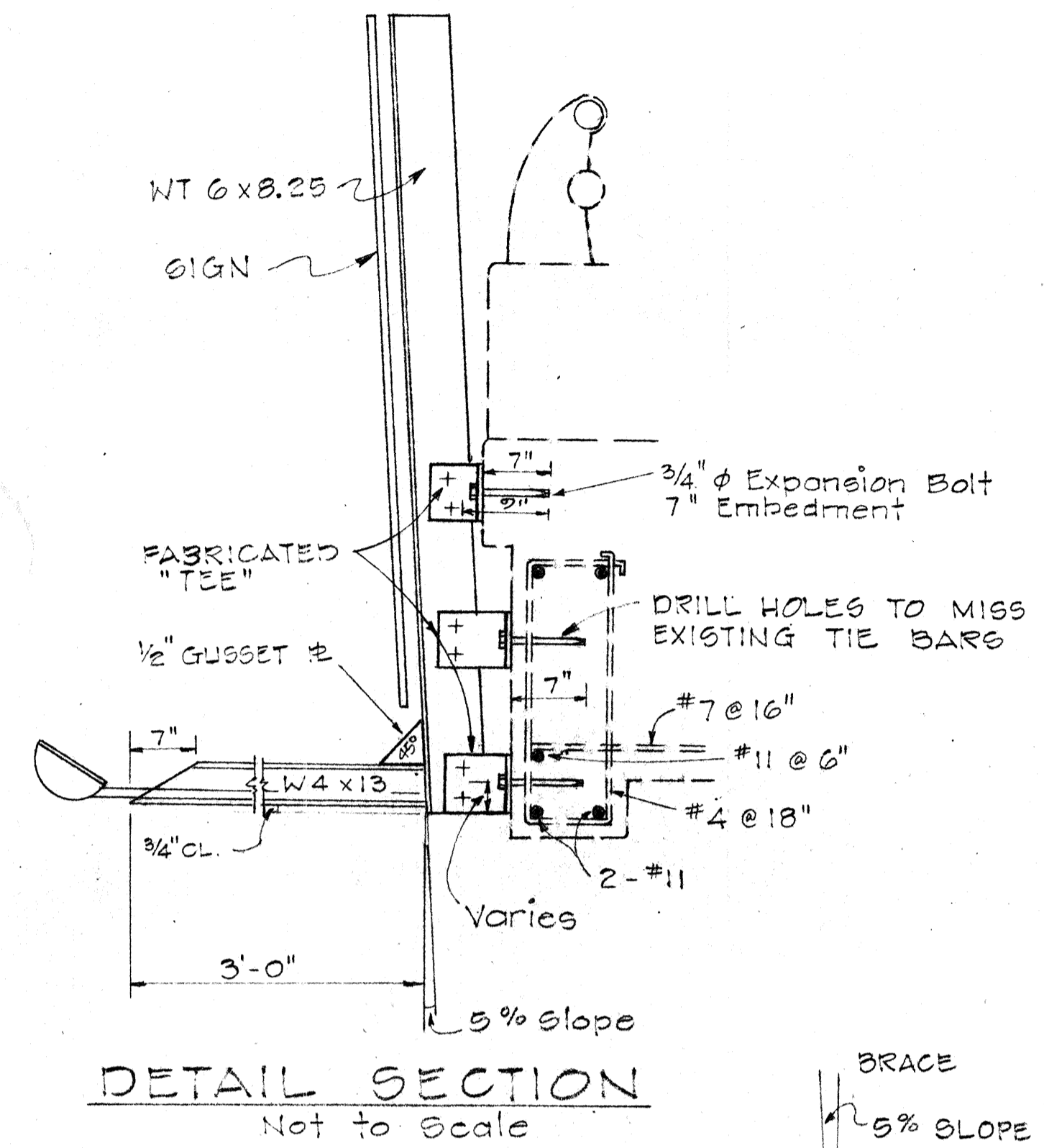
SHEET No. 107 OF 307 SHEETS

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

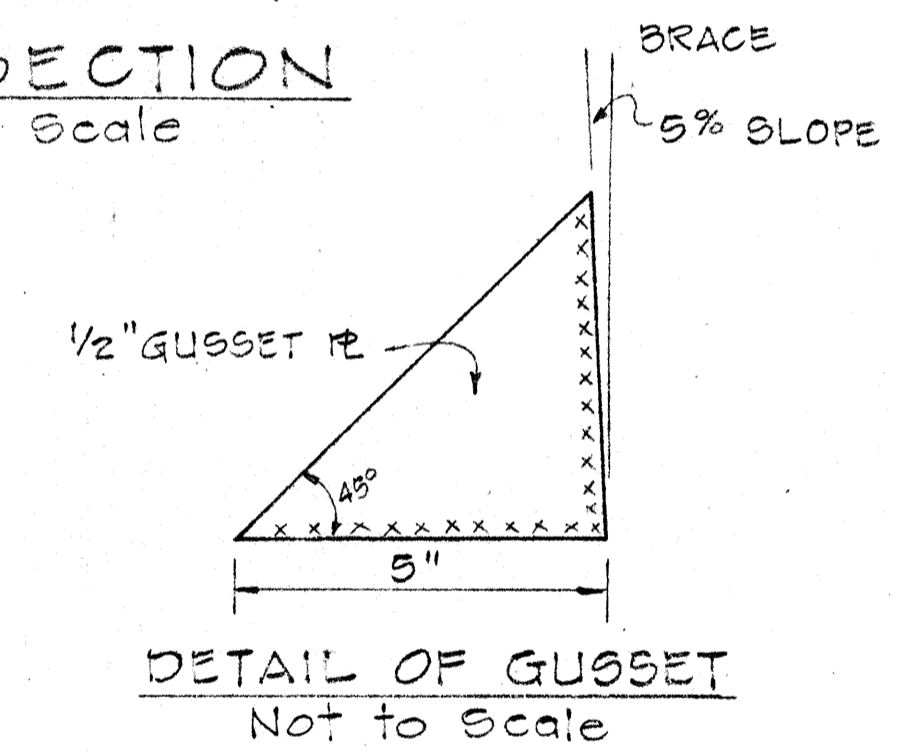
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | I-HI-1(112):19     | 1973        | 139       | 176          |



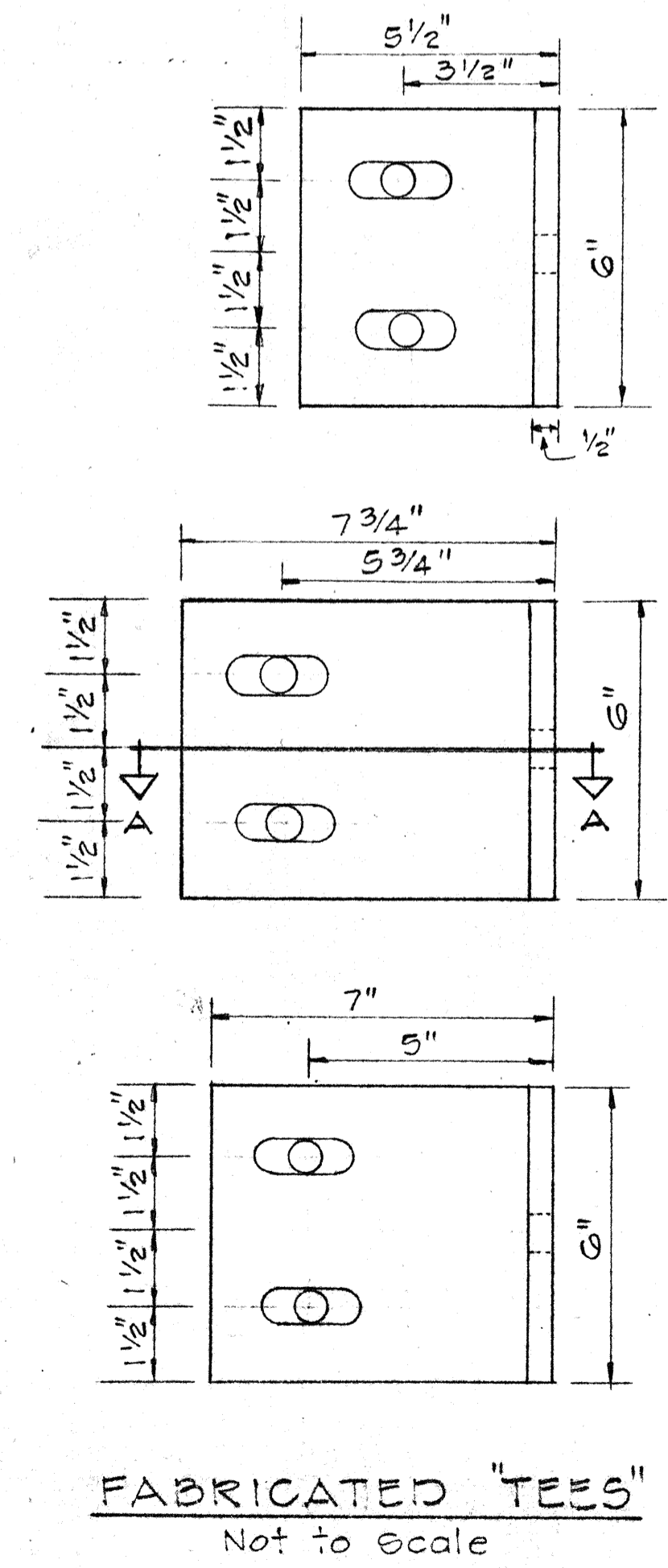
DETAIL FOR OVERHEAD EXPRESSWAY SIGN E-6 MOUNTED ON LILIIHA STREET STRUCTURE  
Not to Scale



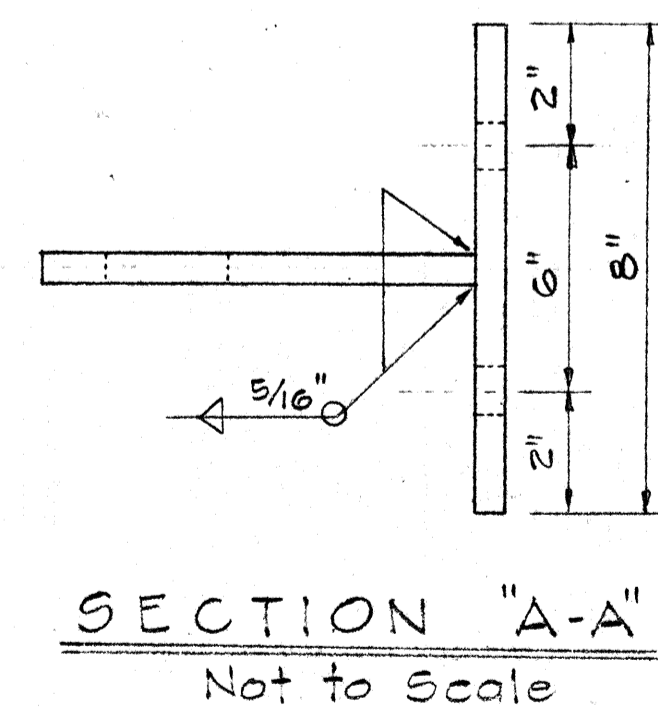
DETAIL SECTION  
Not to Scale



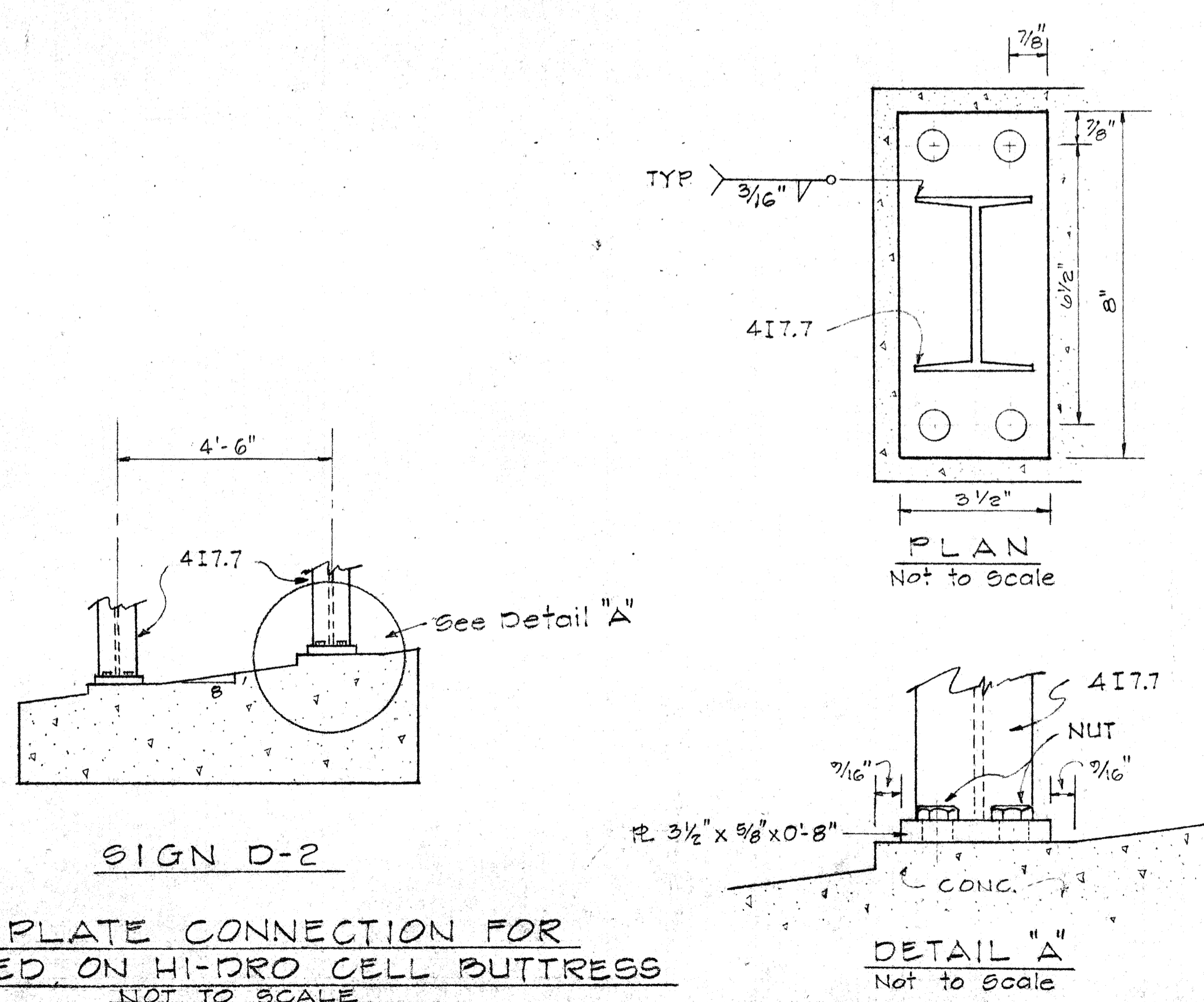
DETAIL OF GUSSET  
Not to Scale



FABRICATED "TEES"  
Not to Scale



SECTION "A-A"  
Not to Scale



BASE PLATE CONNECTION FOR SIGN MOUNTED ON HI-DRO CELL BUTTRESS  
NOT TO SCALE

DETAIL "A"  
Not to Scale

|                   |  |
|-------------------|--|
| DATE              |  |
| SURVEY PLANNED BY |  |
| DRAWN BY          |  |
| TRACED BY         |  |
| QUANTITIES BY     |  |
| CHECKED BY        |  |
| NO.               |  |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
DETAIL OF EXPRESSWAY SIGN SUPPORT MOUNTED ON STRUCTURE AND  
DETAIL OF DESTINATION SIGN MOUNTED ON BUTTRESS  
F.A.I. PROJ. NO. I-HI-1 (112):19  
Scale: As Noted  
SHEET No. 11 OF 301 SHEETS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | EH-1(112)-19       | 1973        | 140       | 176          |

| SIGN NO | MESSAGE               | AREA (SQ. FT.) |
|---------|-----------------------|----------------|
| E-2R    | FREEWAY, EAST         | 50.00          |
| E-6     | PALAMA ST, NEXT RIGHT | 87.75          |
| E-10    | FREEWAY, WEST         | 110.00         |
| E-13L   | FREEWAY, EAST         | 110.00         |
| TOTAL   |                       | 357.75         |

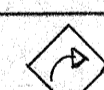
| SIGN NO. | MESSAGE             | AREA (SQ. FT.) |
|----------|---------------------|----------------|
| E-11R    | PALI HWY, G1, NORTH | 120            |
| TOTAL    |                     | 120            |

| SIGN NO | MESSAGE       | AREA (SQ. FT.) |
|---------|---------------|----------------|
| D-1     | FREEWAY, WEST | 33.75          |
| D-2     | EXIT 21A      | 45.00          |
| D-3     | EXIT 21A      | 45.00          |
| D-4     | EXIT 21B      | 45.00          |
| TOTAL   |               | 168.75         |

| TYPE     | MESSAGE   | QUANTITY |          |
|----------|---|----------|----------|
|          |   | W/POST   | W/O POST |
| R1-2     | YIELD   | 1        |          |
| R3-7     | WRONG WAY   | 10       | 10       |
| R16-5    | UNLICENSED VEHICLES, BICYCLES, CYCLES UNDER 5 HP, PEDESTRIANS, KEEP OUT FREEWAY |          | 1        |
| W4-1(R)A | MERGE   |          | 5        |
| R17-1A   | RIGHT LANE RIGHT TURN ONLY 8AM TO 8AM, MON.-FRI.                                |          | 2        |
| W4-1(R)  | MERGE   |          | 1        |
| R3-1     | NO RIGHT TURN   | 3        | 1        |
| R5-1     | DO NOT ENTER  | 2        | 0        |
| R6-1(L)  | ONE WAY   |          | 1        |
| TOTAL    |   | 16       | 30       |

| INSTALLED ABOVE SIGN NO. | MESSAGE     | AREA (SQ. FT.) |
|--------------------------|-------------|----------------|
| E-1L                     | EXITS 19A-B | 22.00          |
| E-1R                     | EXIT 19C    | 19.00          |
| E-3L                     | EXIT 19C    | 19.00          |
| E-3R                     | EXIT 20A    | 19.00          |
| E-4L                     | EXIT 21A    | 19.00          |
| E-4R                     | EXIT 20     | 15.00          |
| E-5L                     | EXIT 20A    | 19.00          |
| E-5R                     | EXIT 20B    | 19.00          |
| E-6                      | EXIT 20B    | 19.00          |
| E-7L                     | EXIT 21B    | 19.00          |
| E-7R                     | EXIT 21A    | 19.00          |
| E-8L                     | EXIT 20B    | 19.00          |
| E-8R                     | EXIT 21A    | 19.00          |
| E-9L                     | EXIT 22A    | 19.00          |
| E-9R                     | EXIT 21B    | 19.00          |
| TOTAL                    |             | 284.00         |

| TYPE    | MESSAGE | QUANTITY |          |
|---------|---------|----------|----------|
|         |         | W/POST   | W/O POST |
| IM-1(3) | H-1     |          | 4        |
| M3-2-A  | EAST    |          | 2        |
| M3-4-A  | WEST    |          | 2        |
| TOTAL   |         |          | 8        |

| TYPE           | MESSAGE   | QUANTITY |          |
|----------------|---|----------|----------|
|                |   | W/POST   | W/O POST |
| R2-4a(50/40)-A | SPEED LIMIT 50, MINIMUM 40  |          | 2        |
| R8-4-A         | EMERGENCY PARKING ONLY  | 2        | 1        |
| W1-2(R)        |  | 1        |          |
| W13-2(25)      | EXIT 25 MPH   |          | 1        |
| R4-3-A         | SLOWER TRAFFIC KEEP RIGHT   | 1        |          |
| R2-1           | SPEED LIMIT 25  | 1        |          |
| TOTAL          |   | 5        | 4        |

| TYPE    | MESSAGE           | QUANTITY |          |
|---------|-------------------|----------|----------|
|         |                   | W/POST   | W/O POST |
| IM-1(3) | H-1               |          | 1        |
| M3-4-A  | WEST              |          | 1        |
| D12-2   | MILE 20 & MILE 21 |          | 4        |
| TOTAL   |                   |          | 6        |

| SIGN NO. | MESSAGE                 | AREA (SQ. FT.) |
|----------|-------------------------|----------------|
| E-1R     | LIKELIKE HWY, EXIT ONLY | 101.25         |
| E-2L     | LIKELIKE HWY, NORTH     | 82.50          |
| TOTAL    |                         | 183.75         |

| SIGN NO | MESSAGE                      |
|---------|------------------------------|
| E-1L    | KAM HWY, MIDDLE ST, 1/2 MILE |
| E-4L    | PALI HWY, 1 MI.              |
| E-5L    | HOUGHTAILING ST., 1/2 MI     |
| E-7L    | PUNCHBOWL ST., 1/4 MI.       |
| E-8L    | PALAMA ST., 3/4 MI.          |
| E-9L    | Kinohiwa St., 1/2 MI         |

| SHEET NO. | RM-7   |          | RM-2   |          |         |            |
|-----------|--------|----------|--------|----------|---------|------------|
|           | W/POST | W/O POST | W/POST | W/O POST | ON WALL | ON BARRIER |
| 1T        |        | 2        | 16     | 2        | 3       |            |
| 2T        |        | 2        | 17     | 0        | 3       | 3          |
| 3T        |        | 1        | 7      |          |         |            |
| 4T        | 2      | 1        | 20     | 5        | 16      | 1          |
| 5T        | 2      |          |        |          |         |            |
| TOTAL     | 4      | 6        | 60     | 16       | 22      | 4          |

| SIGN NO. | MESSAGE              | AREA (SQ. FT.) |
|----------|----------------------|----------------|
| E-4R     | VINEYARD BLVD., EAST | 11             |
| TOTAL    |                      | 11             |

| SHEET NO. | QUANTITY |        |        |
|-----------|----------|--------|--------|
|           | TYPE A   | TYPE C | TYPE H |
| 1T        |          | 38     | 15     |
| 2T        |          | 286    | 150    |
| 3T        |          | 174    | 125    |
| 4T        | 28       | 207    | 145    |
| 5T        | 128      | 218    | 85     |
| TOTAL     | 156      | 923    | 520    |

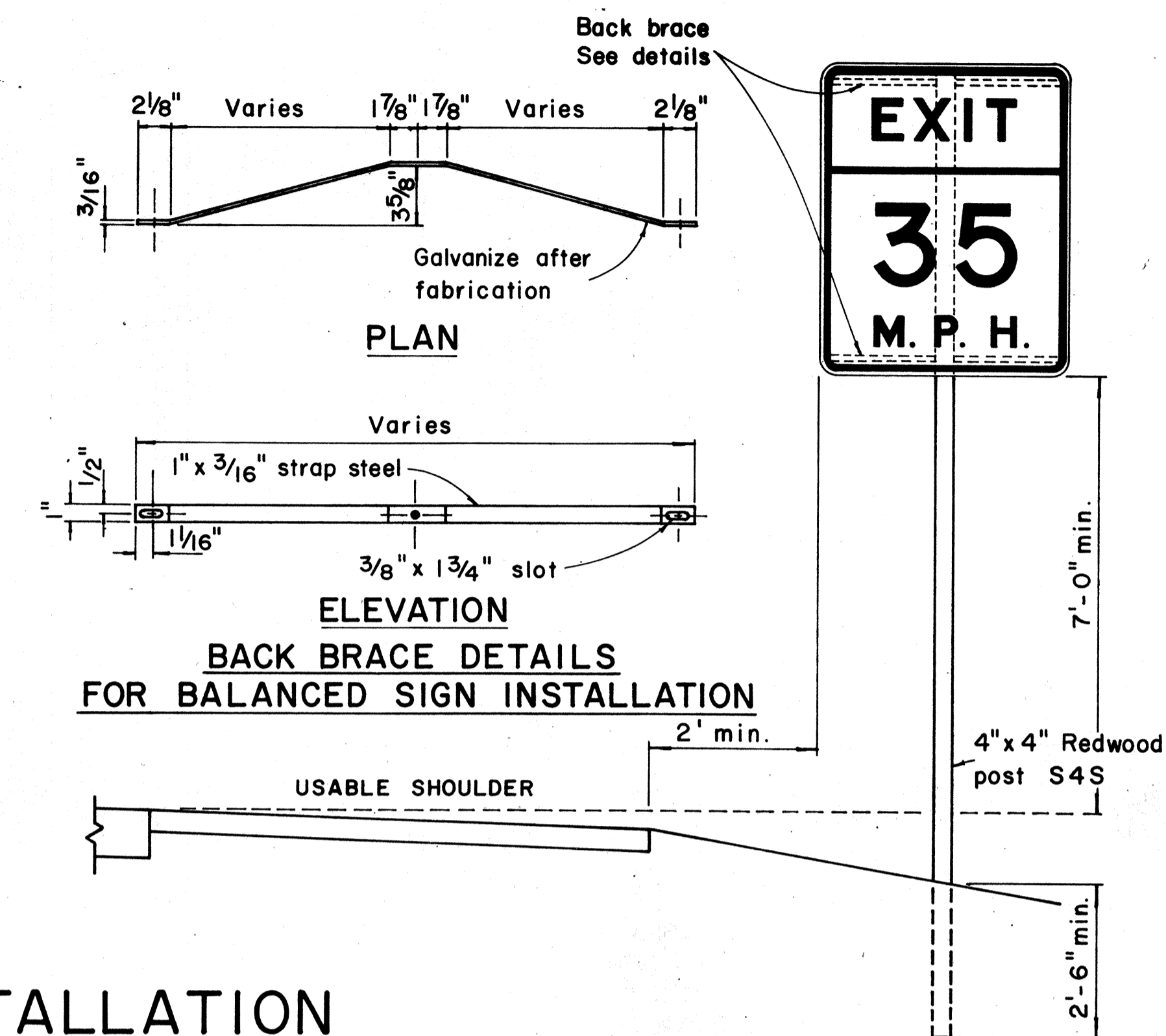
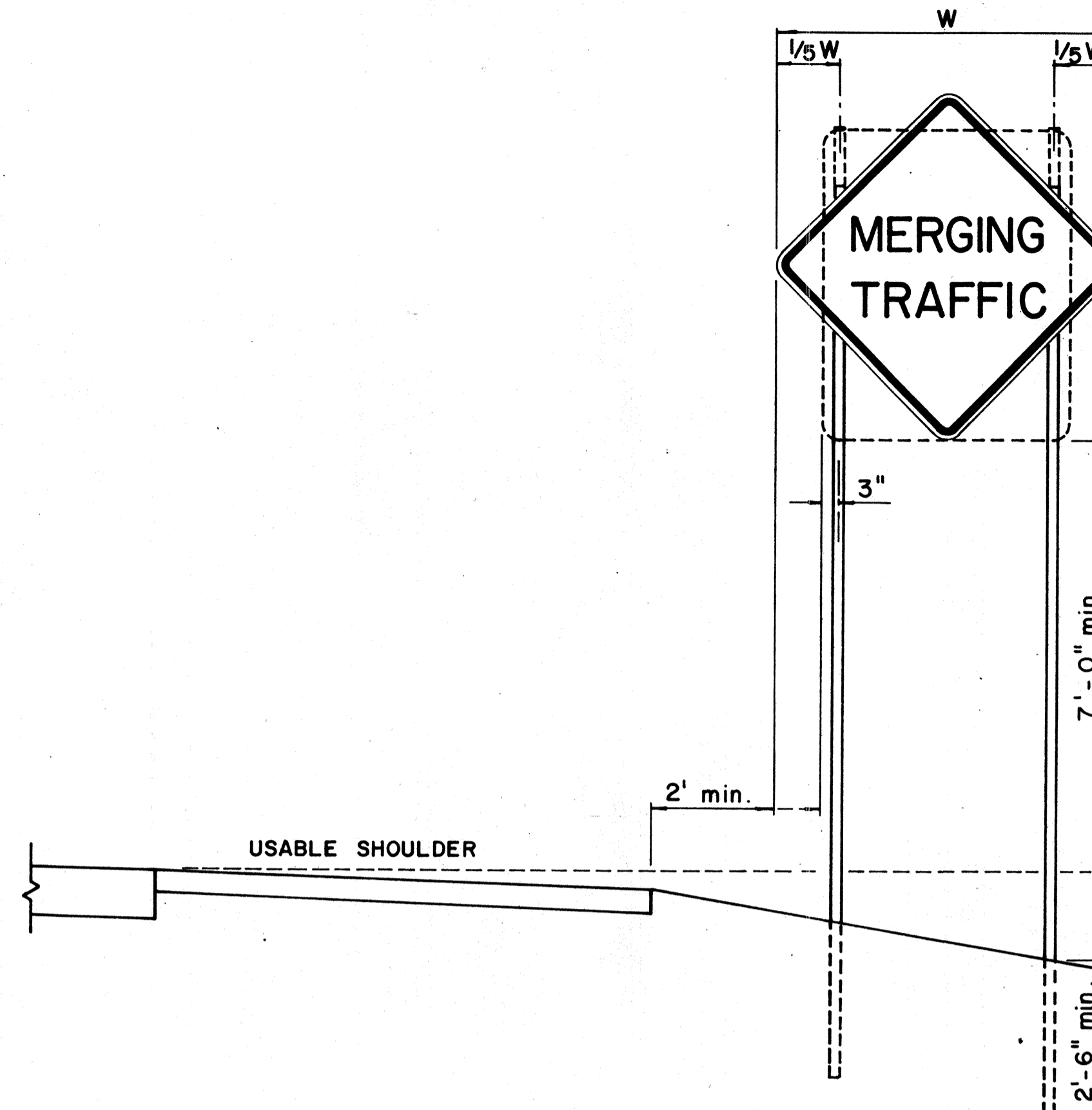
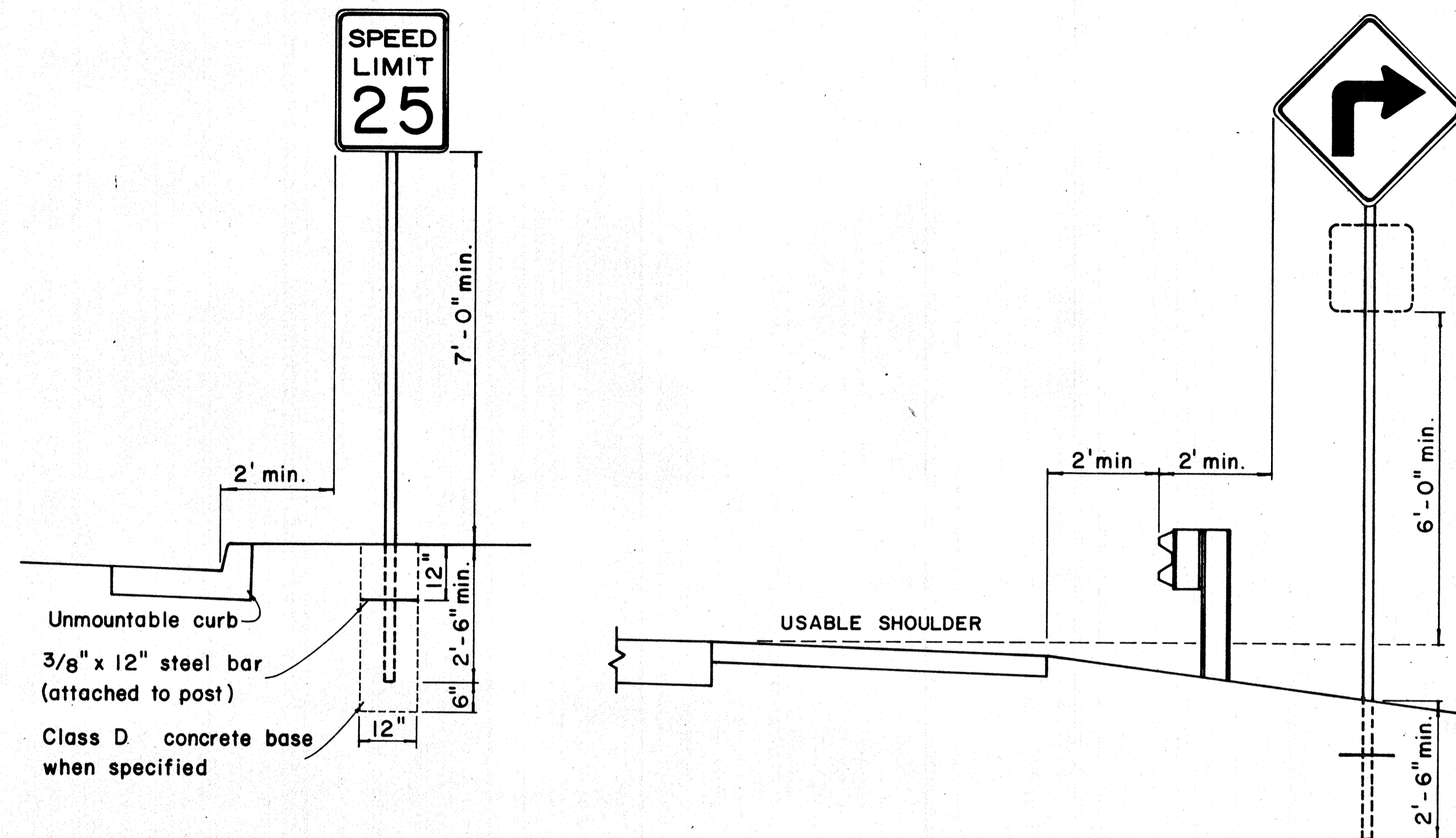
| SHEET NO. | LENGTH - L.F. |        |
|-----------|---------------|--------|
|           | YELLOW        | WHITE  |
| 1T        | 600           | 1,000  |
| 2T        | 6,000         | 7,160  |
| 3T        | 5,000         | 6,600  |
| 4T        | 5,800         | 8,880  |
| 5T        | 3,400         | 5,040  |
| TOTAL     | 20,800        | 28,680 |

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

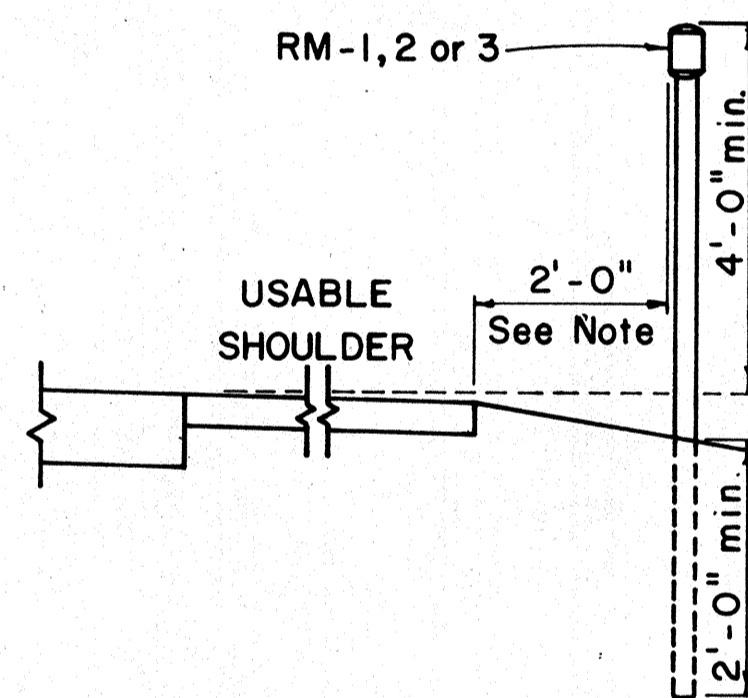
|         |  |
|---------|--|
| 4/18/74 | Revised reflector marker and pavement marker summaries |
| DATE    | REVISION   |

**STATE OF HAWAII**  
**DEPARTMENT OF TRANSPORTATION**  
**HIGHWAYS DIVISION**  
**SUMMARY OF SIGNS**  
 REFLECTOR MARKERS,  
 PAVEMENT MARKERS AND  
 PAVEMENT STRIPING  
 F.A.I. PROJ. NO. I-HI-1 (112)-19

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 111-1(12)17        | 1973        | 141       | 176          |

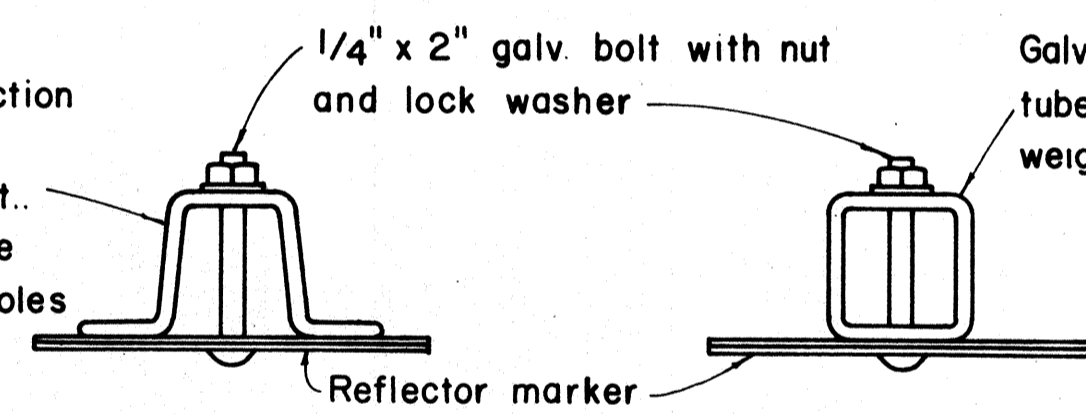


## HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



Galv. flanged channel 1/8" x 3/16" rolled section post with a minimum weight of 2 lbs. per ft. Upper 2 ft. shall have a single row of 3/8" holes centered in the web at 1" o.c.

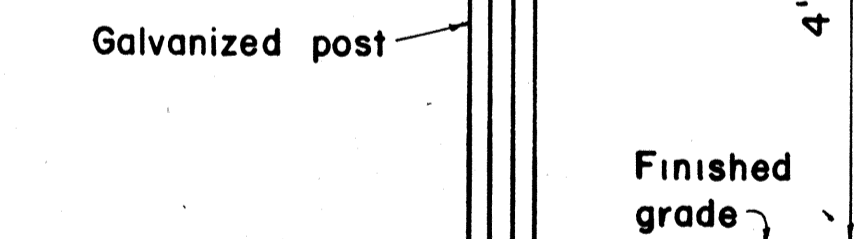
TYPICAL SECTION OF ROAD DELINEATOR



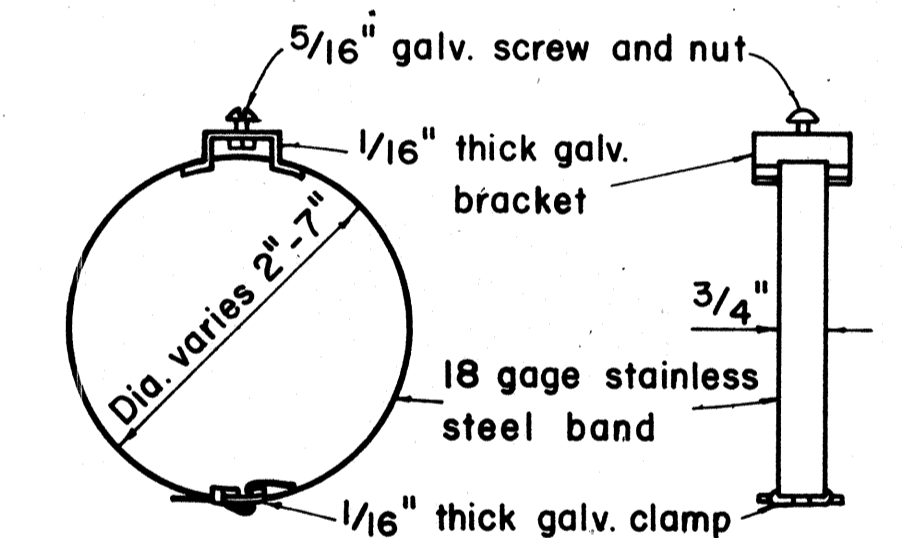
Galv 1/2" x 1/2" square tube post with a minimum weight of 1.7 lbs per ft

1/4" x 1/2" galv. bolt with nut and lock washer

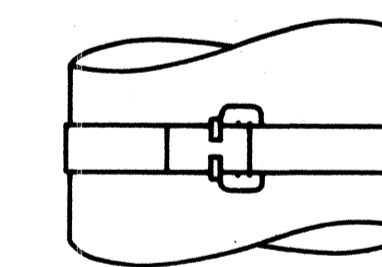
1'-5" x 6" x 0.063" anodized aluminum plate with 3/8" holes drilled as shown



TYPICAL DETAIL HORIZONTAL REFLECTOR MARKER RM-3H



PLAN SIDE VIEW



TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

### GENERAL NOTES:

- Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 2" galv. standard pipe or two 2" x 2" galv. sq. tube post or 4" x 4" redwood post S4S.
- 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.
- Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
- Reflector markers RM-1, 2, 3 shall be glass sphere reflector markers with 4" x 5" reflector units (as shown) or plastic prismatic reflector markers with 3" diameter reflector units.
- Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
- (R) or (L) indicates right or left and shall be as shown on the plans.

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

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

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

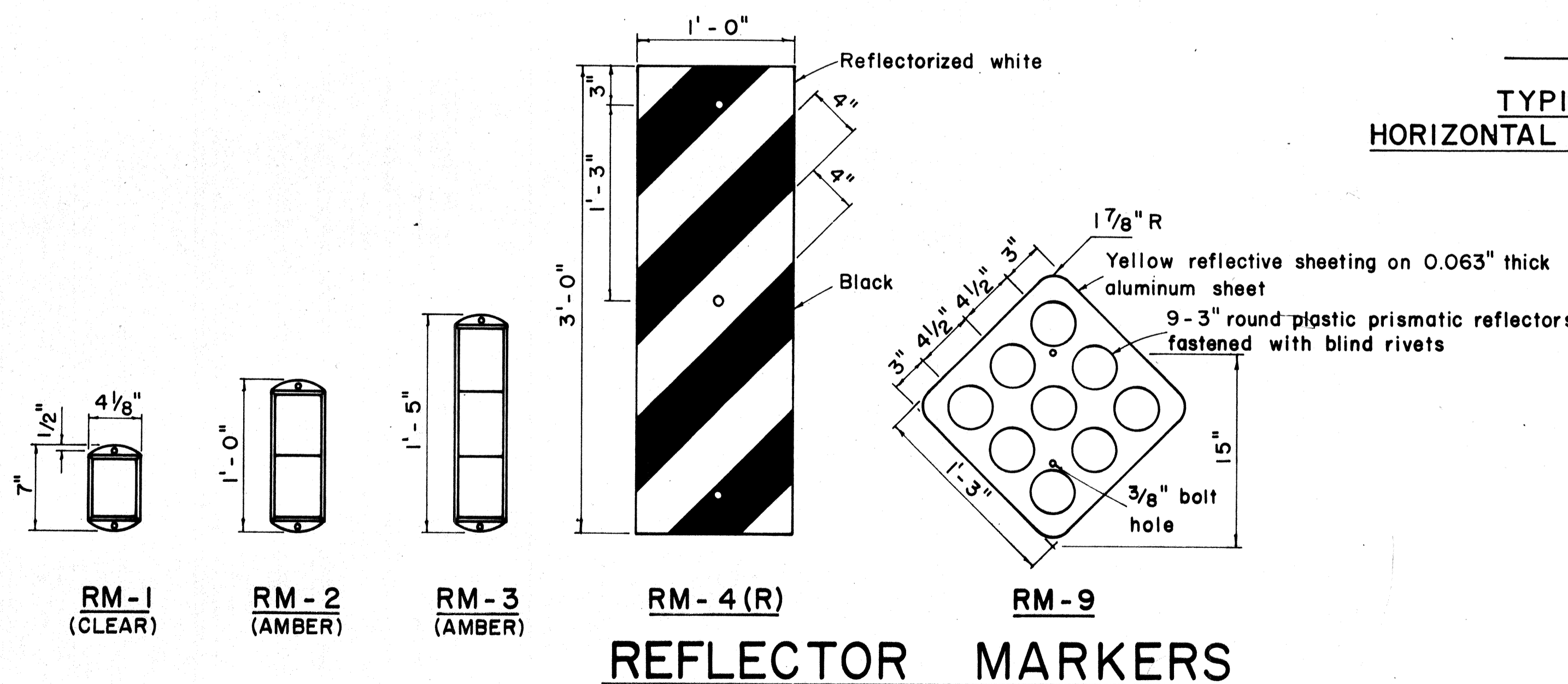
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**MISCELLANEOUS SIGN DETAILS**

Not to scale March, 1968

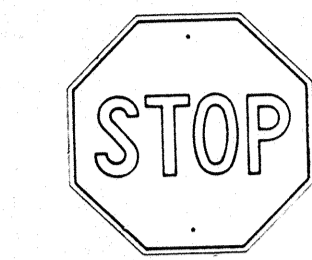
|               |  |
|---------------|--|
| DATE          |  |
| DESIGNED BY   |  |
| CHECKED BY    |  |
| QUANTITIES BY |  |
| NOTE BOOK     |  |
| ORIGINAL PLAN |  |
| DESIGNED BY   |  |
| CHECKED BY    |  |
| QUANTITIES BY |  |
| NOTE BOOK     |  |
| ORIGINAL PLAN |  |

ROAD DELINEATOR

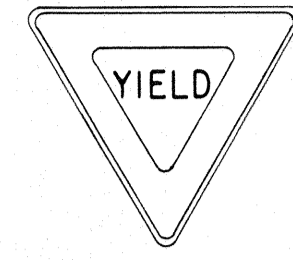


REFLECTOR MARKERS

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 1-11-1(112)-19     | 1973        | 142       | 176          |



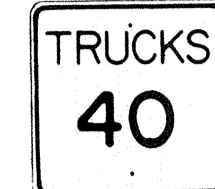
R1-1 30" x 30"  
R1-1-A 36" x 36"  
**4-WAY**  
R1-3 12" x 6"  
R1-3-A 18" x 9"



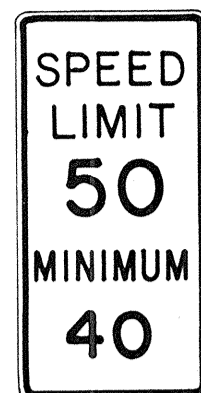
R1-2 36" x 36" x 36"  
R1-2-A 48" x 48" x 48"



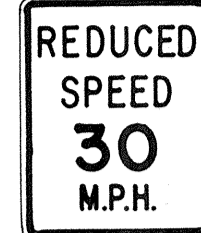
R2-1(50) 24" x 30"  
R2-1(50)-A 48" x 60"



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



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



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



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



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



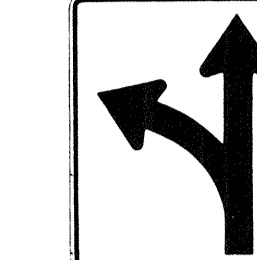
R3-3 24" x 24"  
R3-3-A 48" x 48"



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



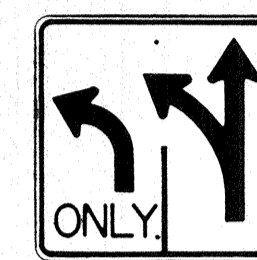
R3-5(L) 30" x 36"  
R3-5(L)-A 48" x 60"



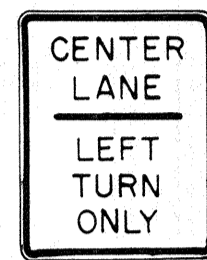
R3-6(L) 30" x 36"  
R3-6(L)-A 48" x 60"



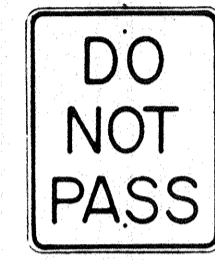
R3-7(R) 30" x 30"  
R3-7(R)-A 48" x 48"



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



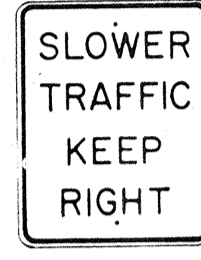
R3-9 24" x 30"



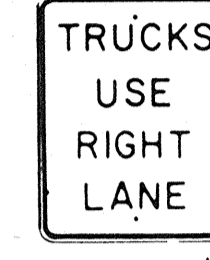
R4-1 24" x 30"



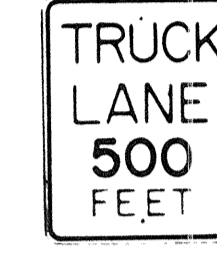
R4-2 24" x 30"



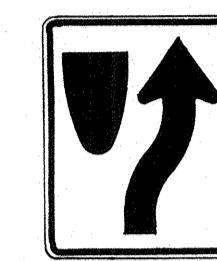
R4-3 24" x 30"  
R4-3-A 48" x 60"



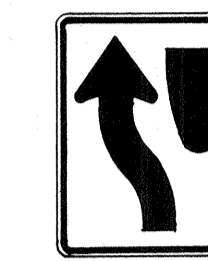
R4-5 24" x 30"



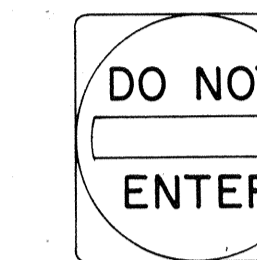
R4-6(500) 24" x 30"



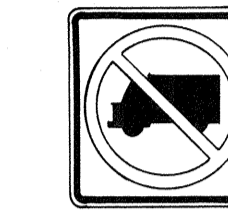
R4-7 24" x 30"  
24" x 18"



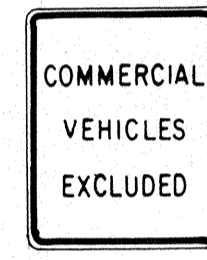
R4-8 24" x 30"  
24" x 18"



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"



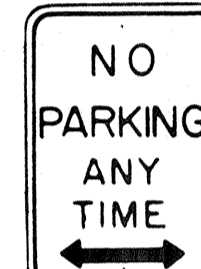
R5-9 36" x 24"



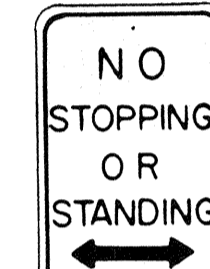
R6-1 (R) 36" x 12"



R6-2(R) 18" x 24"



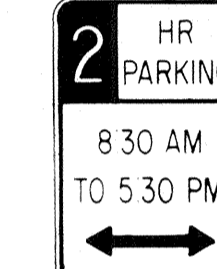
R7-1 12" x 18"  
R7-1-A 24" x 30"



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



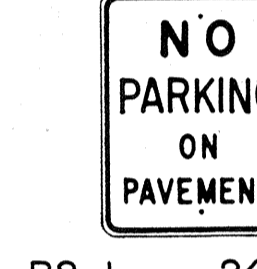
R7-107(R) 12" x 18"



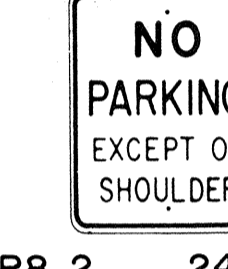
R7-108 12" x 18"



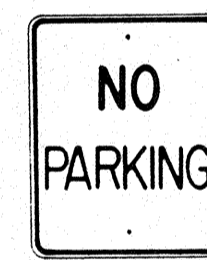
R7-201 12" x 6"  
R7-201-A 24" x 12"



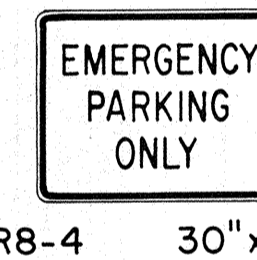
R8-1 24" x 30"



R8-2 24" x 30"



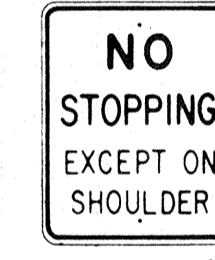
R8-3 24" x 30"



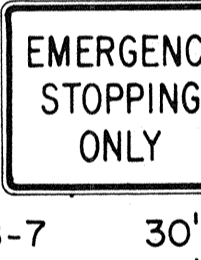
R8-4 30" x 24"  
R8-4-A 48" x 36"



R8-5 24" x 30"



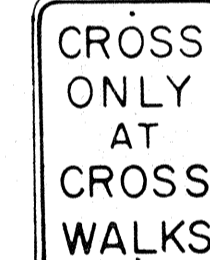
R8-6 24" x 30"



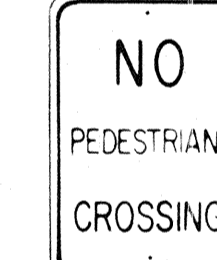
R8-7 30" x 24"  
R8-7-A 48" x 36"



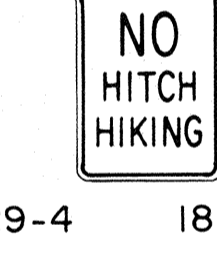
R9-1 18" x 24"



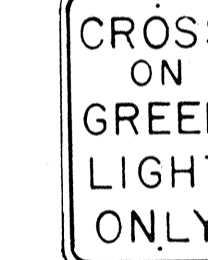
R9-2 12" x 18"



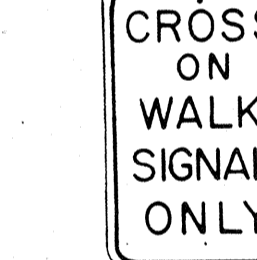
R9-3 12" x 18"



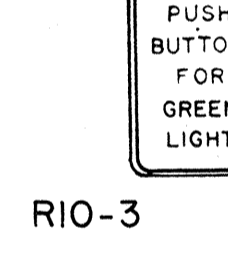
R9-4 18" x 24"



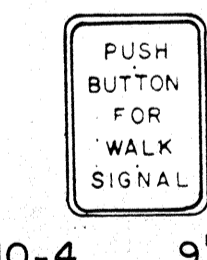
R10-1 12" x 18"



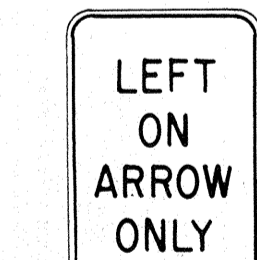
R10-2 12" x 18"



R10-3 9" x 12"



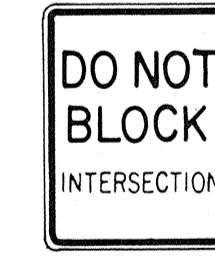
R10-4 9" x 12"



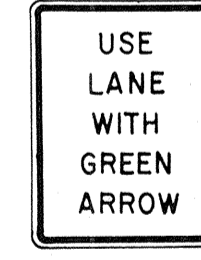
R10-5 24" x 30"



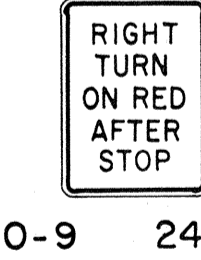
R10-6 24" x 36"



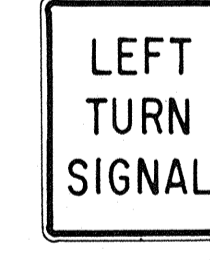
R10-7 24" x 30"



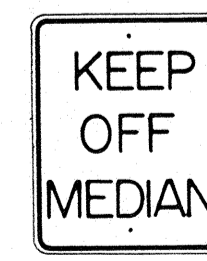
R10-8 24" x 30"



R10-9 24" x 30"



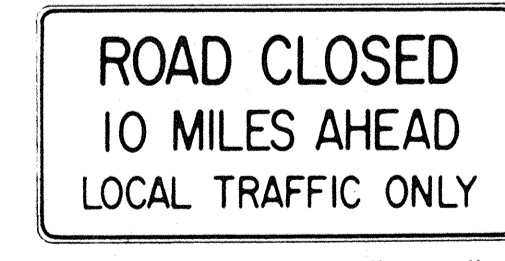
R10-10 24" x 30"



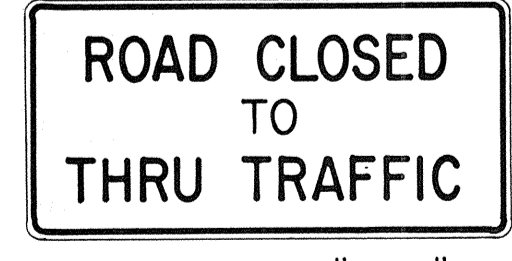
R11-1 24" x 30"



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

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

APPROVED:  
*Robert Robinson* 3-20-72  
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION                                    | APPROVED BY | DATE    |
|-----|---|-------------|---------|
| 1   | Supersedes Sht. DT 101<br>Approved 12-30-69 | H.C.        | 3/20/72 |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

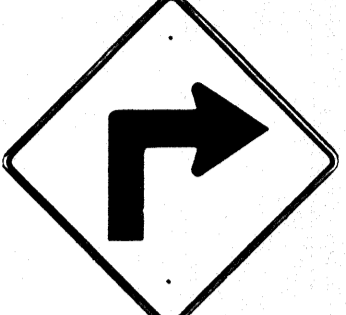
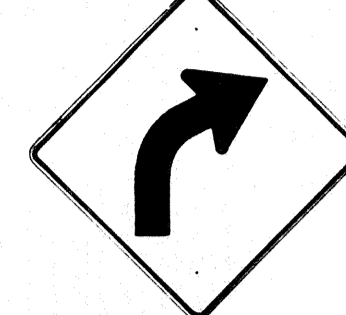
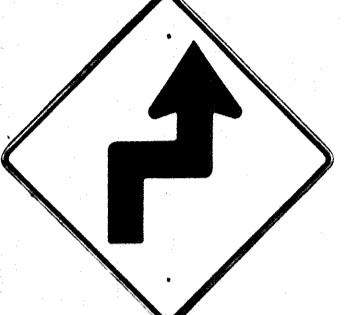


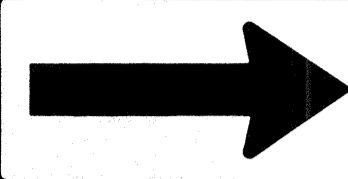
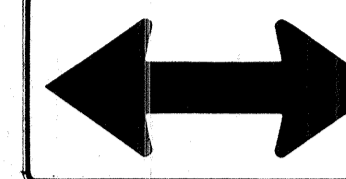
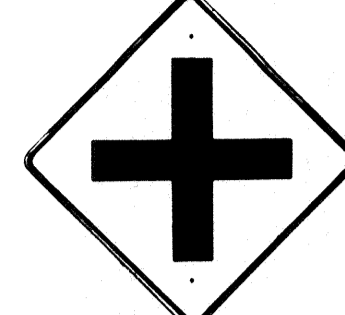
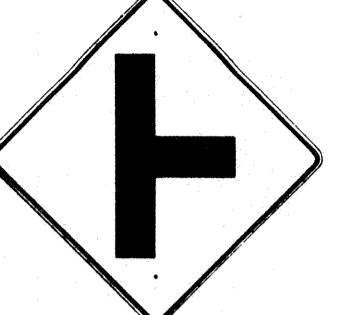
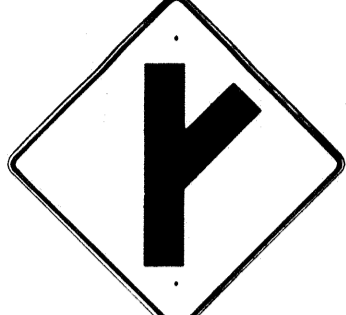
**STANDARD DETAILS**  
**REGULATORY SIGNS**

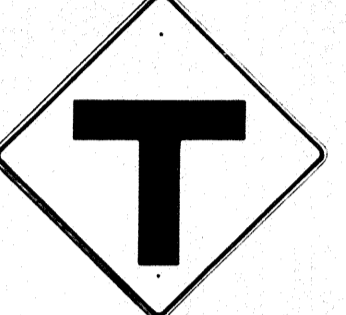
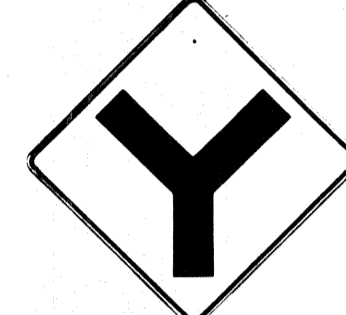


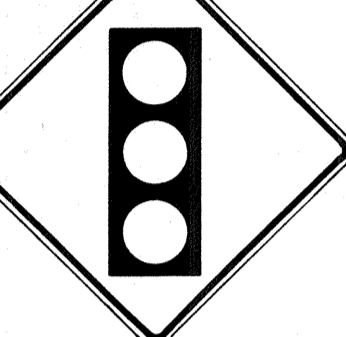
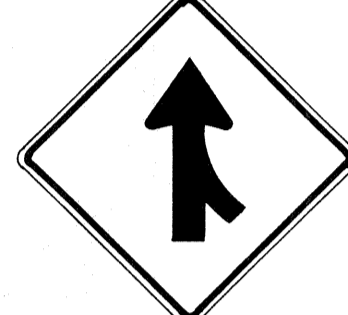
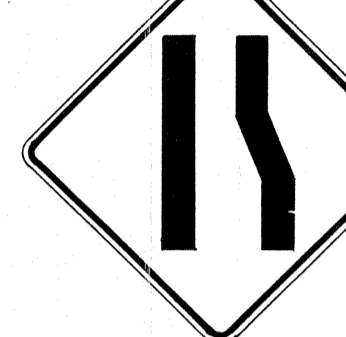



NOT TO SCALE


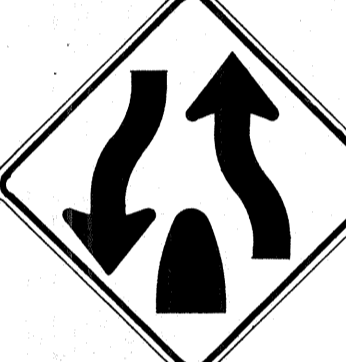


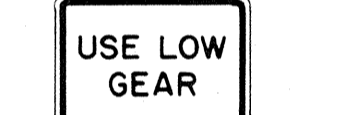





SHEET No. 142 OF 307 SHEETS DT 101








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

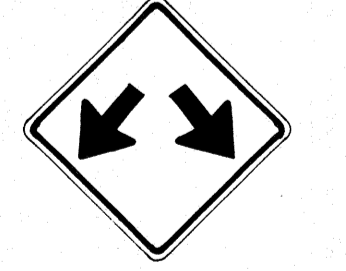

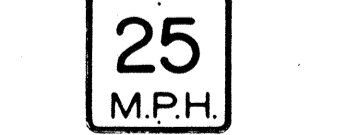
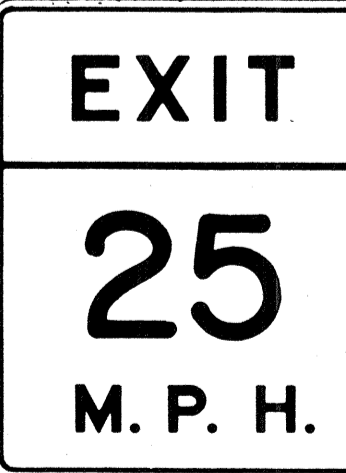
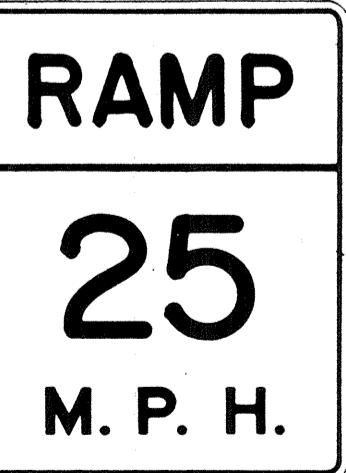


| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 5-H-1(12)-19       | 1973        | 149       | 176          |

|   |   |  |   |   |   |   |   |   |   |
|---|---|--|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |
| W1-1(R) 30"x30"<br>W1-1(R)-A 48"x48"  | W1-2(R) 30"x30"<br>W1-2(R)-A 48"x48"  | W1-3(R) 30"x30"<br>W1-3(R)-A 48"x48"   | W1-4(R) 30"x30"<br>W1-4(R)-A 48"x48"  | W1-5(R) 30"x30"<br>W1-5(R)-A 48"x48"  | W1-6 48"x24"  | W1-7 48"x24"  | W2-1 30"x30"<br>W2-1-A 48"x48"  | W2-2 30"x30"<br>W2-2-A 48"x48"  | W2-3(R) 30"x30"<br>W2-3(R)-A 48"x48"  |

|   |   |  |   |   |   |   |   |   |   |
|---|---|--|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |  |  |  |
| W2-4 30"x30"<br>W2-4-A 48"x48"  | W2-5 30"x30"<br>W2-5-A 48"x48"  | W3-1 30"x30"<br>W3-1-A 36"x36"   | W3-2 30"x30"<br>W3-2-A 36"x36"  | W3-3 36"x36"<br>24"x18"   | W4-1(R) 30"x30"<br>24"x18"<br>W4-1(R)-A 48"x48"<br>24"x18"                          | W4-2(R) 36"x36"<br>W4-2(R)-A 48"x48"  | W5-1 36"x36"  | W5-2 30"x30"<br>W5-2-A 36"x36"  | W5-3 36"x36"  |

|  |  |   |  |  |  |  |  |  |  |
|--|--|---|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |  |
| W6-1 36"x36"<br>24"x18"  | W6-2 36"x36"<br>24"x18"  | W6-3 30"x30"<br>24"x18"<br>W6-3-A 36"x36"<br>24"x18"<br>W6-3-B 48"x48"<br>24"x18"   | W7-1 30"x30"<br>24"x18"<br>W7-1-A 36"x36"<br>24"x18"                                 | W7-2 24"x18"   | W8-1 30"x30"<br>W8-1-A 36"x36"   | W8-2 30"x30"<br>W8-2-A 36"x36"   | W8-3 30"x30"<br>W8-3-A 36"x36"   | W8-4 30"x30"<br>W8-4-A 36"x36"   | W8-5 30"x30"<br>24"x18"<br>W8-5-A 36"x36"<br>24"x18"                                 |

|   |   |  |   |   |   |   |
|---|---|--|---|---|---|---|
|  |  |  |  |  |  |  |
| W9-1(R) 30"x30"<br>W9-1(R)-A 36"x36"<br>W9-1(R)-B 48"x48"                           | W9-2(L) 36"x36"<br>W9-2(L)-A 48"x48"  | W10-1 36" Diameter   | W11-1 30"x30"<br>24"x18"<br>W11-1-A 36"x36"<br>24"x18"                                | W11-2 30"x30"<br>24"x18"<br>W11-2-A 36"x36"<br>24"x18"                                | W11-4 30"x30"<br>24"x18"<br>W11-4-A 36"x36"<br>24"x18"                                | W11-5 30"x30"<br>24"x18"<br>W11-5-A 36"x36"<br>24"x18"                                |

|   |  |  |   |   |   |   |
|---|--|--|---|---|---|---|
|  |  |  |  |  |  |  |
| W12-1 24"x24"<br>W12-1-A 36"x36"<br>W12-1-B 48"x48"                                 | W12-2(12'-6") 36"x36"<br>24"x18"   | W13-1(25) 18"x18"<br>W13-1(25)-A 24"x24"   | W13-2(25) 48"x60"   | W13-3(25) 48"x60"   | W14-1 30"x30"   | W14-3 36"x48"x48"   |

**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."
- All warning signs shall be reflectorized unless otherwise specified.
- All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs.

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

APPROVED:  
*Hubert P. Salsitz* 3-20-72  
 ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION                                 | APPROVED BY | DATE    |
|-----|--|-------------|---------|
| 1   | Supersedes Sht. DT 102 Approved 12-30-69 | H.T.        | 3/20/72 |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS  
 WARNING SIGNS**

NOT TO SCALE

SHEET No. 157 OF 307 SHEETS DT 102

DATE \_\_\_\_\_  
 SURVEY PLOTTED BY \_\_\_\_\_  
 DRAWN 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.  | [HI-1(112)-19      | 1973        | 144       | 176          |



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"



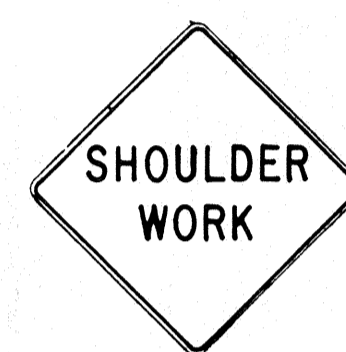
CW21-2 30" x 30"



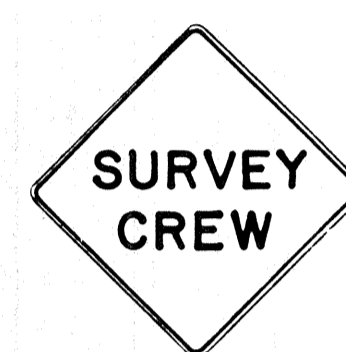
CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



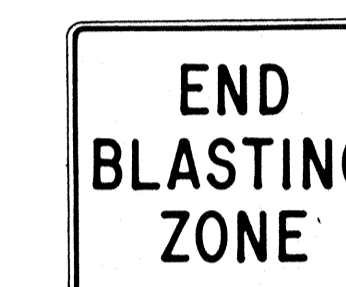
CW21-6 30" x 30"



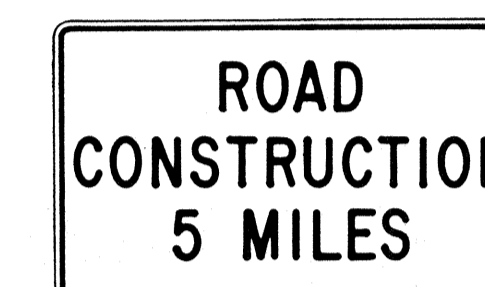
CW22-1b 48" x 48"



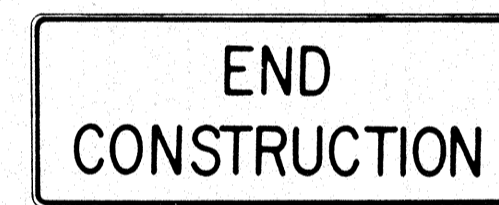
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



CG20-2 60" x 24"



CM4-9(R) 30" x 24"



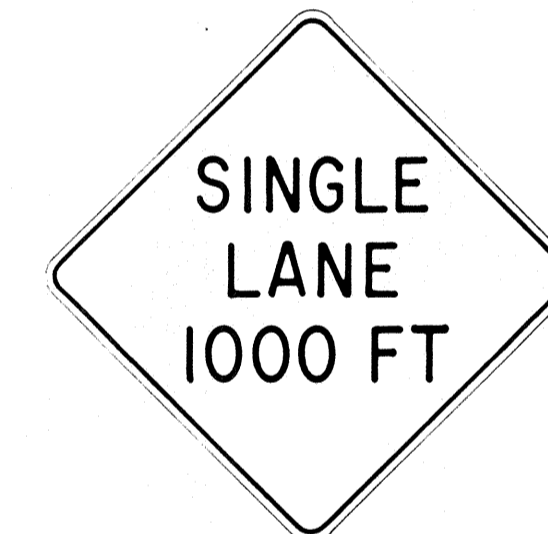
CM4-10(R) 48" x 18"



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."
- All construction signs shall be reflectorized unless otherwise specified.
- 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:  
*Eiichi Tanaka* 3/21/72  
TRAFFIC ENGINEER DATE

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

| NO. | REVISION                                    | APPROVED BY | DATE    |
|-----|---|-------------|---------|
| 1   | Supersedes Sht. DT 104<br>Approved 12-30-69 | H.T.        | 3/23/72 |

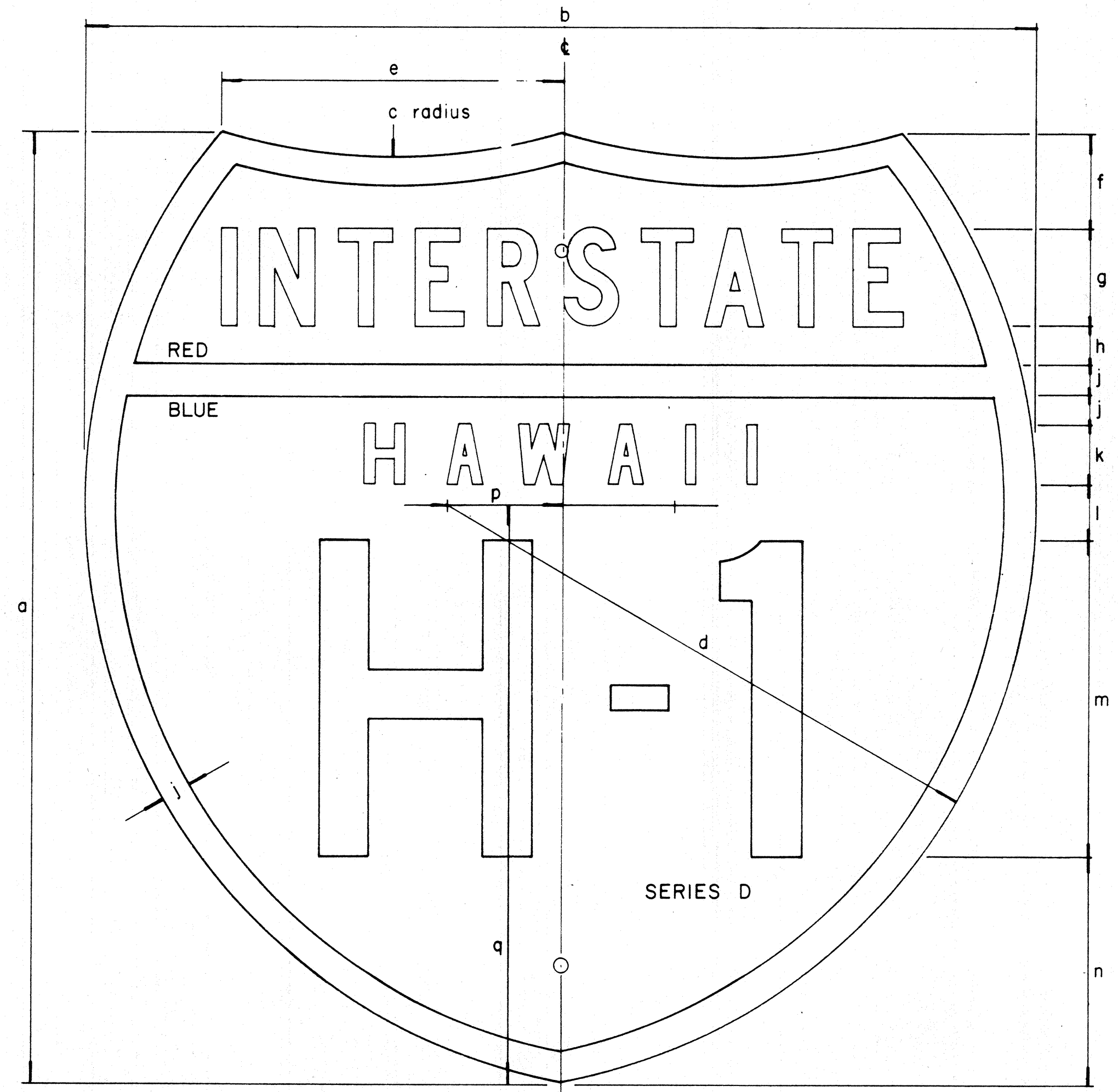
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

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

NOT TO SCALE

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

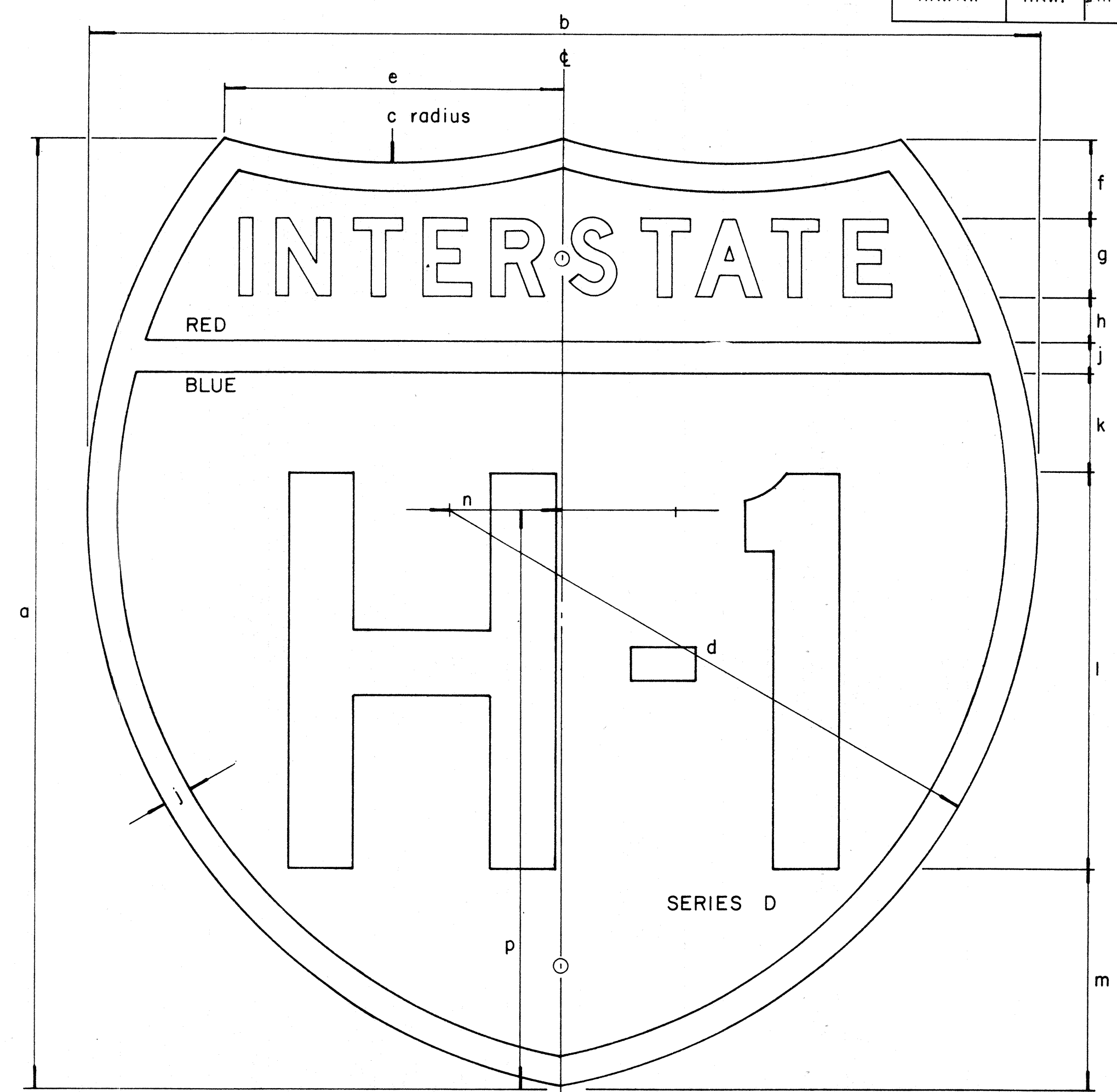
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | FHI-1(112)19       | 1973        | 145       | 176          |



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   | 12 5/32 | 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   |

GENERAL NOTES

- The shape, dimensions, symbols, wording, lettering, color and reflectorizing of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June, 1961 and the BPR manual "Standard Highway Signs," dated September, 1961, unless otherwise specified.
- All letters and figures shall conform to the manual "Standard Alphabets for Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1966
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- The Interstate Route Marker shall be a cut-out shield, in a red, white and blue design as shown on the plans.

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

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

| NO | REVISION | APPROVED BY | DATE |
|----|----------|-------------|------|
|    |          |             |      |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**INTERSTATE ROUTE MARKERS**

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | FH-10219           | 1973        | 146       | 176          |

(OVERHEAD SIGNS)  
SUPPORT SPACING TABLE

| PANEL THICK. | LENGTH OF SIGN<br>A | NO. OF SUPPORTS | OVERHANG |                     |
|--------------|---------------------|-----------------|----------|---------------------|
|              |                     |                 | B        | C or C <sub>1</sub> |
| 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"                |
| 1"           | 15'-6"              | 3               | 24"      | 69"                 |
| 1"           | 16'-0"              | 3               | 24"      | 72"                 |
| 1"           | 16'-6"              | 3               | 24"      | 75"                 |
| 1"           | 17'-0"              | 3               | 24"      | 78"                 |
| 1"           | 17'-6"              | 3               | 24"      | 81"                 |
| 1"           | 18'-0"              | 3               | 24"      | 84"                 |
| 1"           | 18'-6"              | 3               | 27"      | 84"                 |
| 1"           | 19'-0"              | 3               | 27"      | 87"                 |
| 1"           | 19'-6"              | 3               | 27"      | 90"                 |
| 1"           | 20'-0"              | 3               | 30"      | 90"                 |
| 1"           | 20'-6"              | 3               | 30"      | 93"                 |
| 1"           | 21'-0"              | 3               | 30"      | 96"                 |
| 1"           | 21'-6"              | 3               | 33"      | 96"                 |
| 1"           | 22'-0"              | 3               | 36"      | 96"                 |
| 1"           | 22'-6"              | 3               | 36"      | 99"                 |
| 1"           | 23'-0"              | 3               | 36"      | 102"                |
| 1"           | 23'-6"              | 3               | 36"      | 105"                |
| 1"           | 24'-0"              | 3               | 36"      | 108"                |

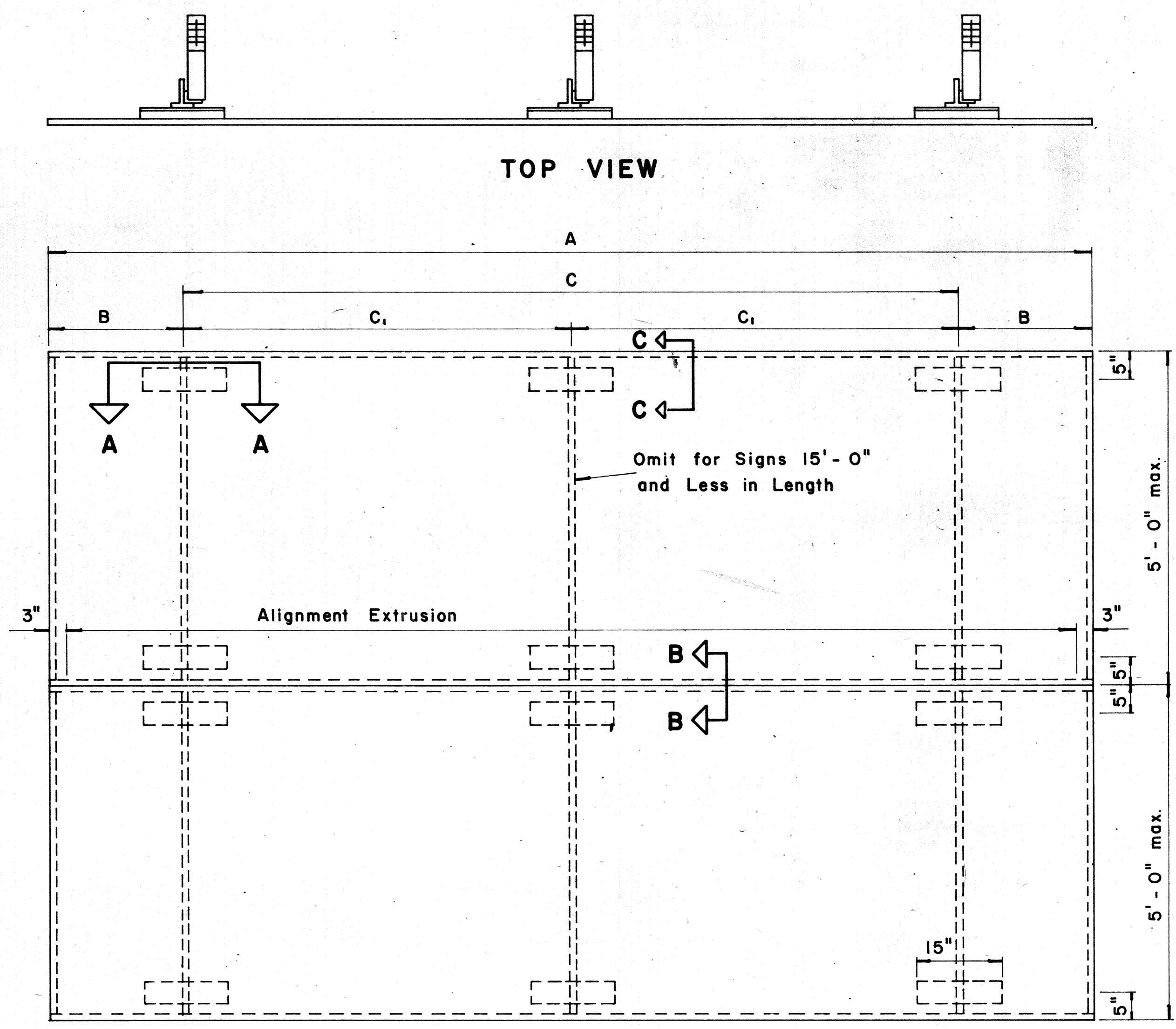
APPROVAL RECOMMENDED:  
*Eishi Tanaka* 12/29/69  
TRAFFIC ENGINEER DATE

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

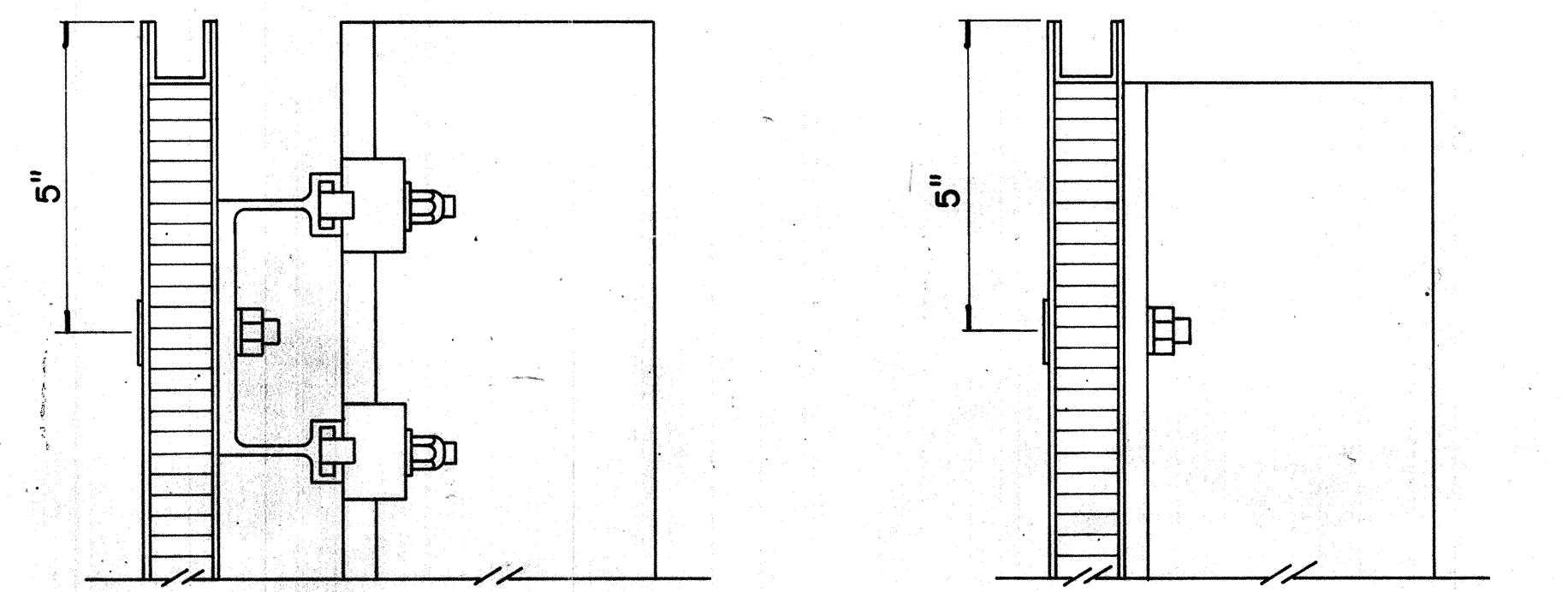
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
LAMINATED ALUMINUM  
SIGN PANELS  
(OVERHEAD)  
Scale: As Shown

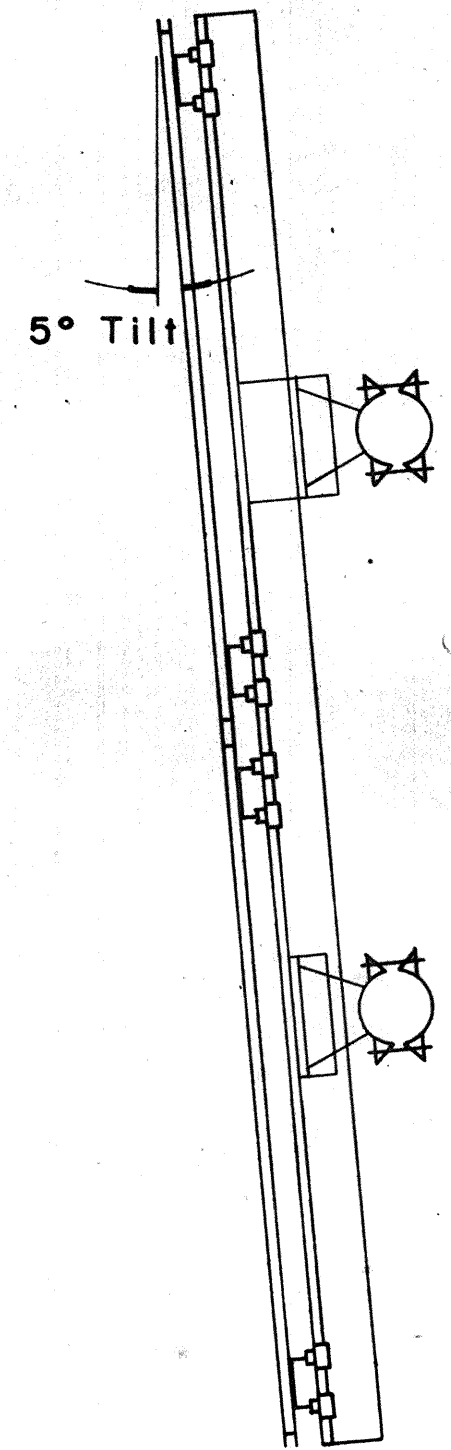
146



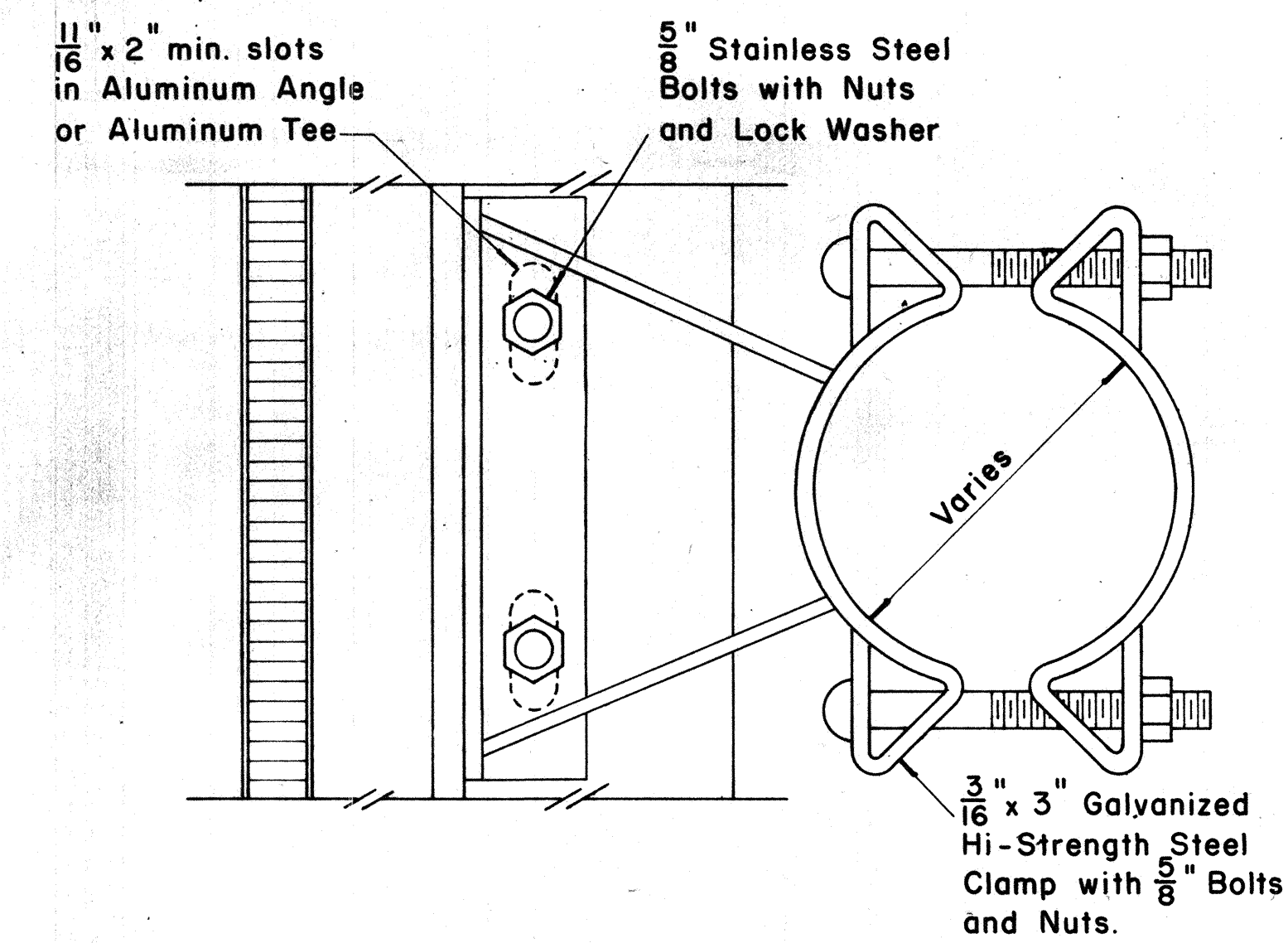
**TYPICAL SIGN ASSEMBLY**  
Scale:  $\frac{3}{4}$ " = 1'-0"



**SECTION "C-C"** Scale:  $\frac{3}{8}$ " = 1"  
**SECTION "C-C" (Alternate)** Scale:  $\frac{3}{8}$ " = 1"

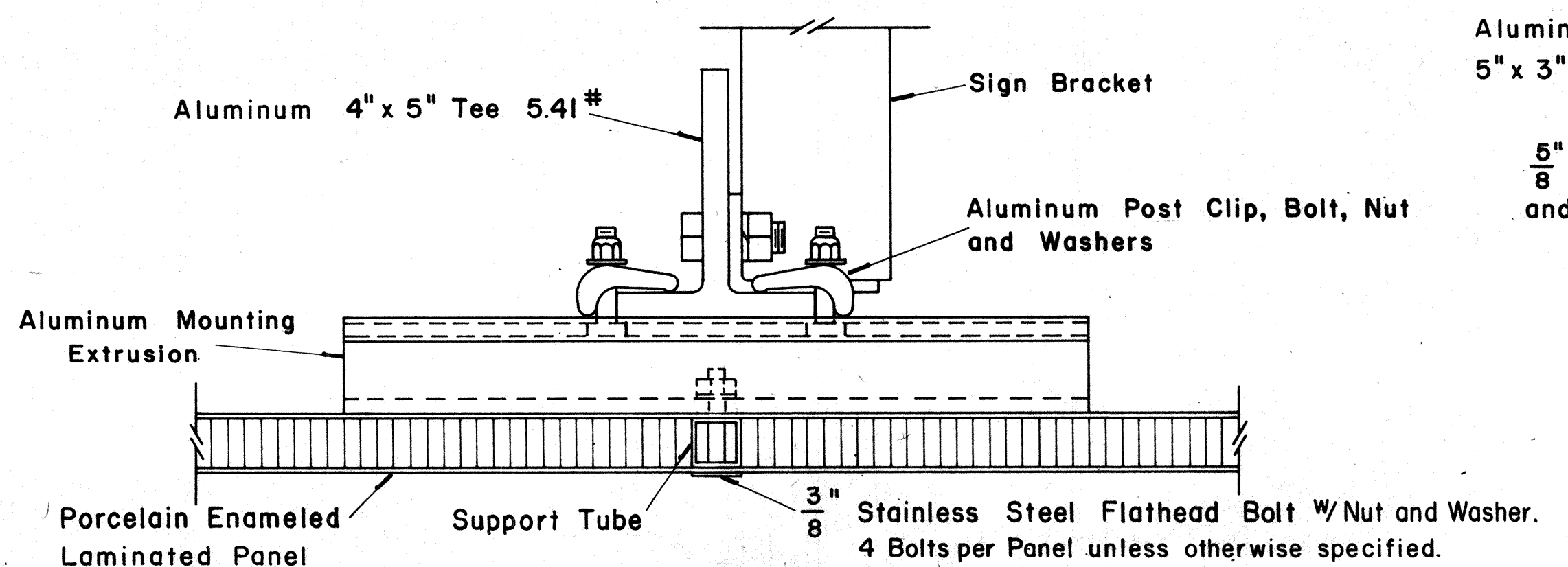


**SIDE VIEW**

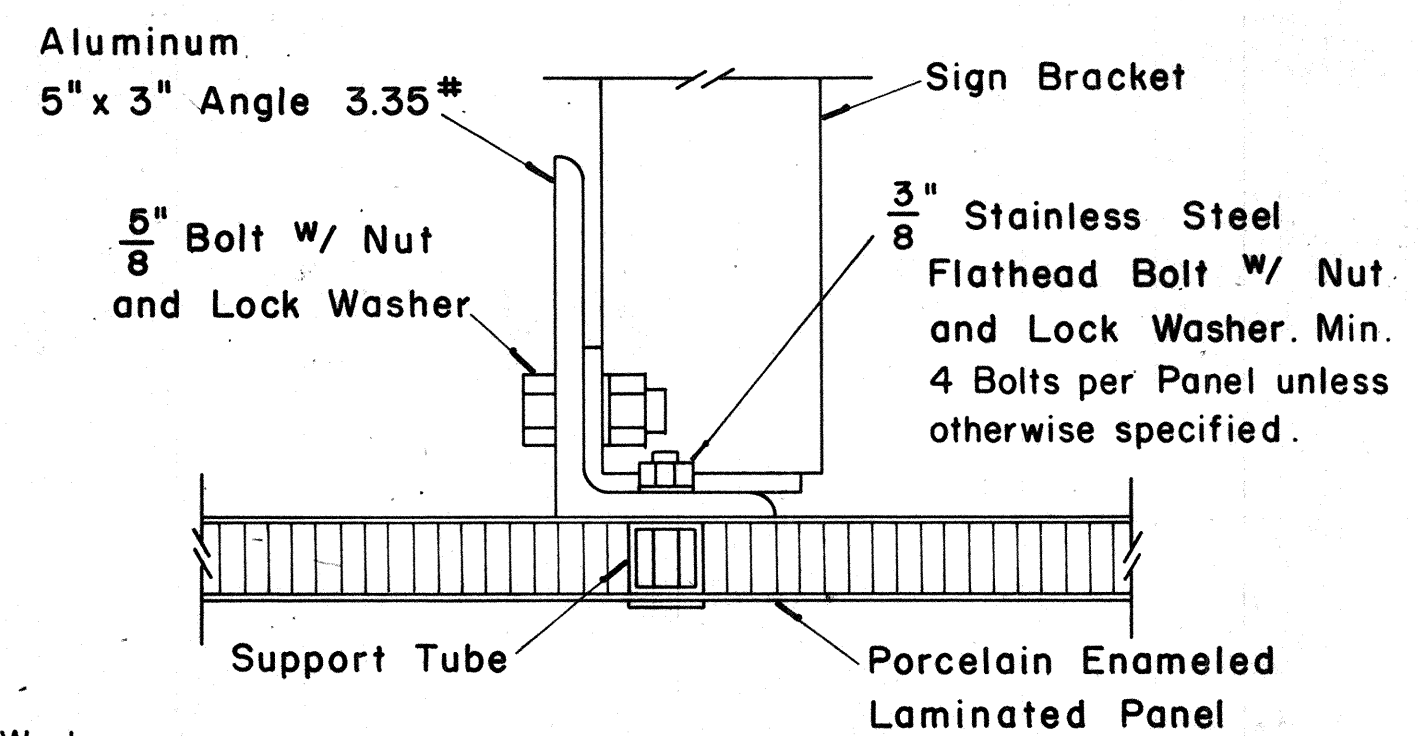


**SIGN BRACKET ASSEMBLY**  
Scale:  $\frac{3}{8}$ " = 1"

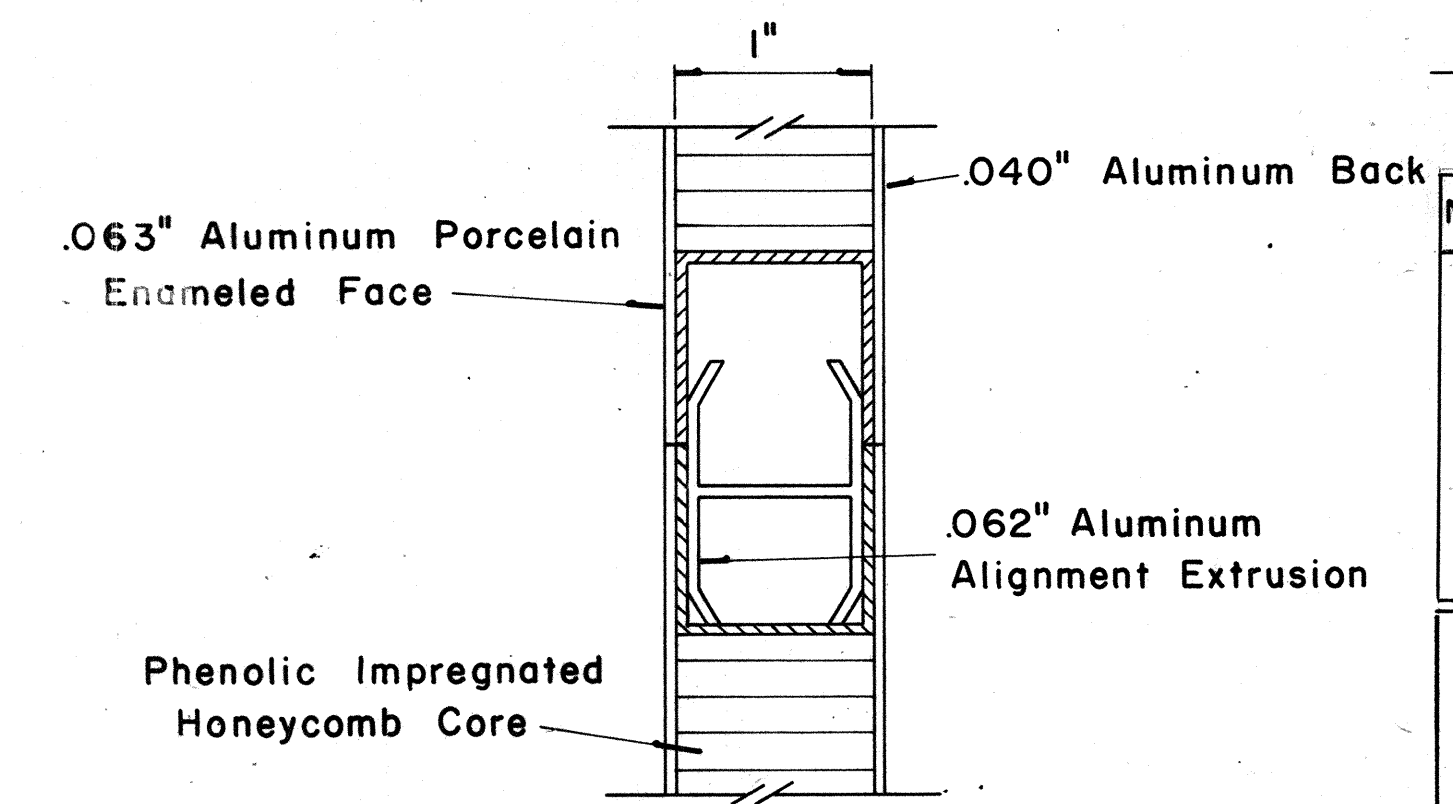
NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



**SECTION "A-A"**  
Scale:  $\frac{3}{8}$ " = 1"



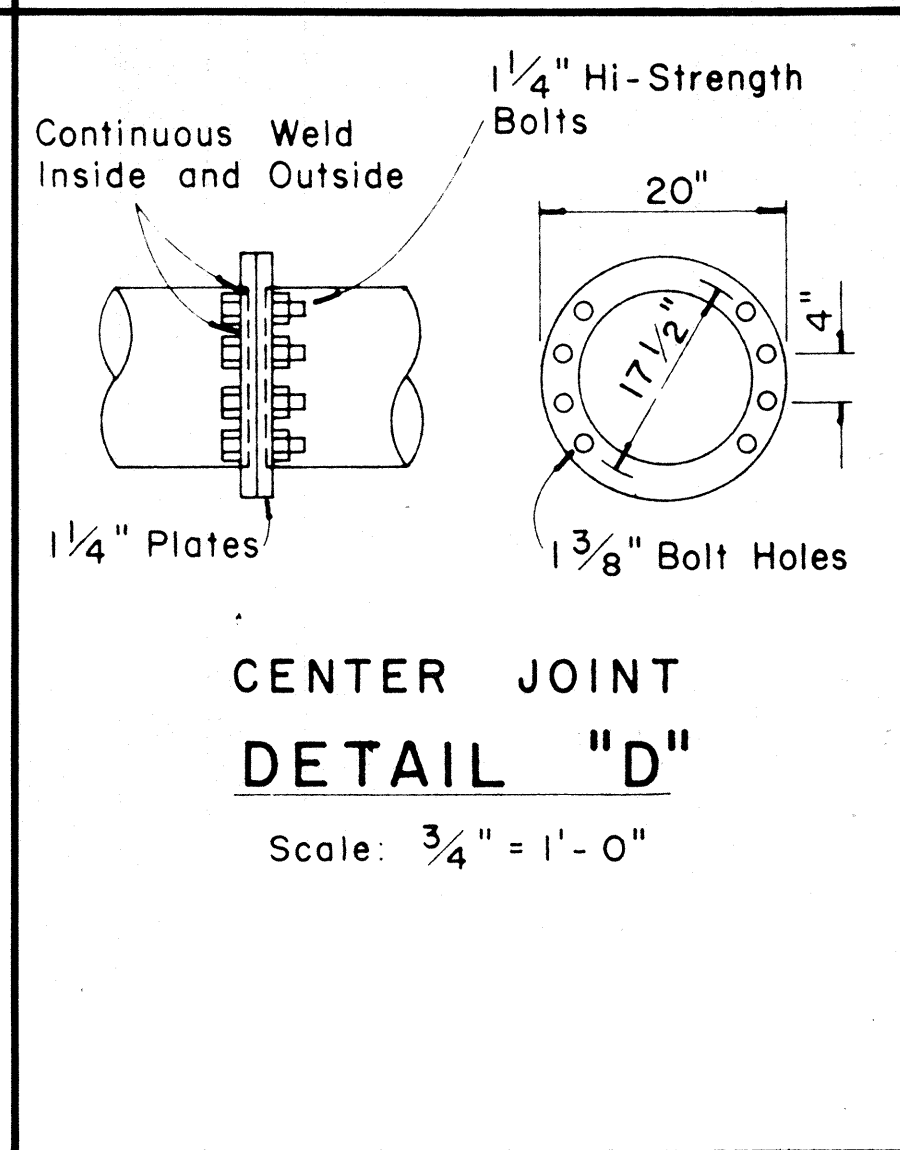
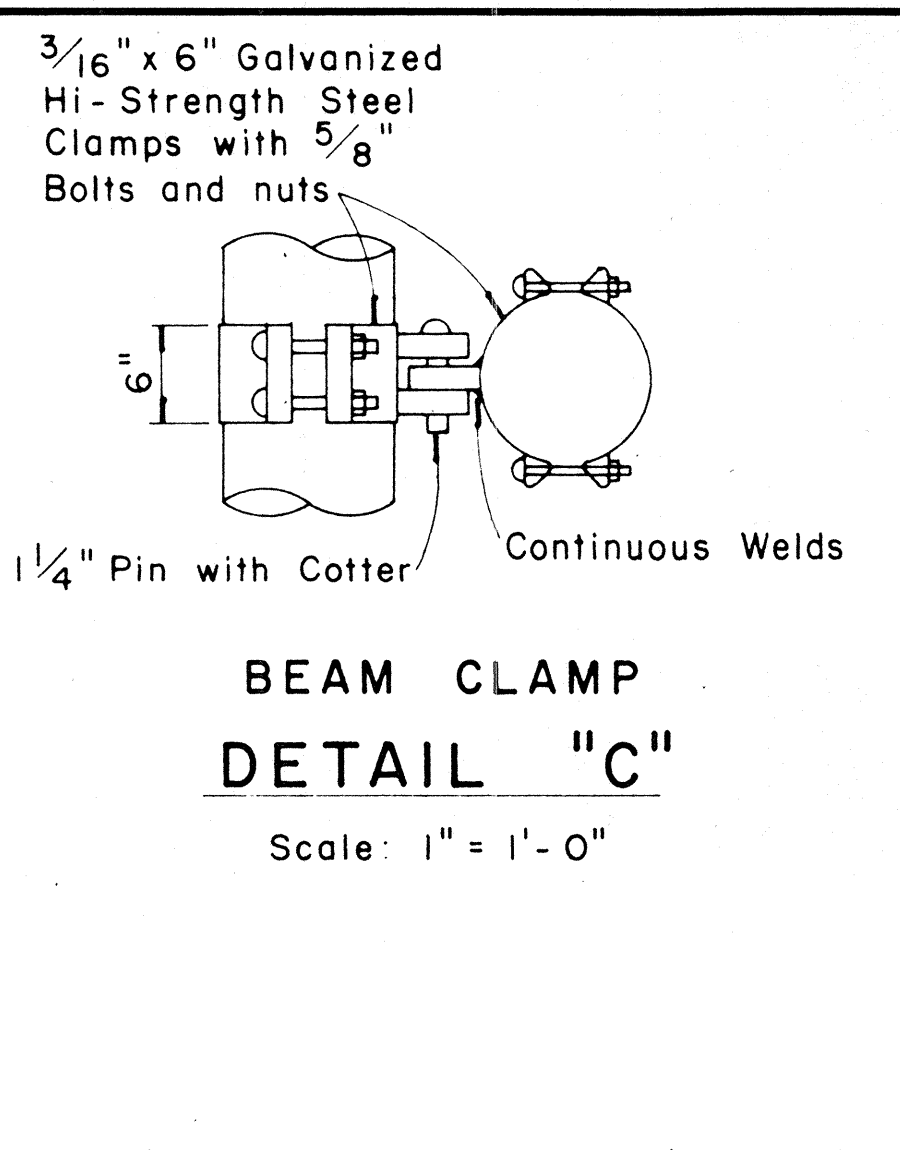
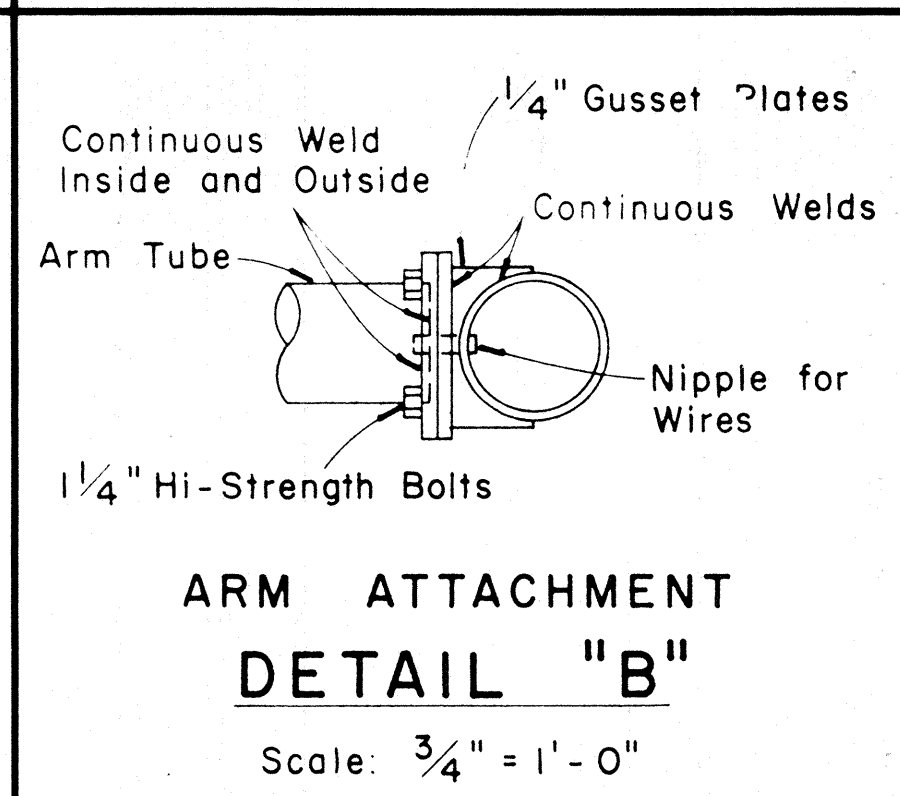
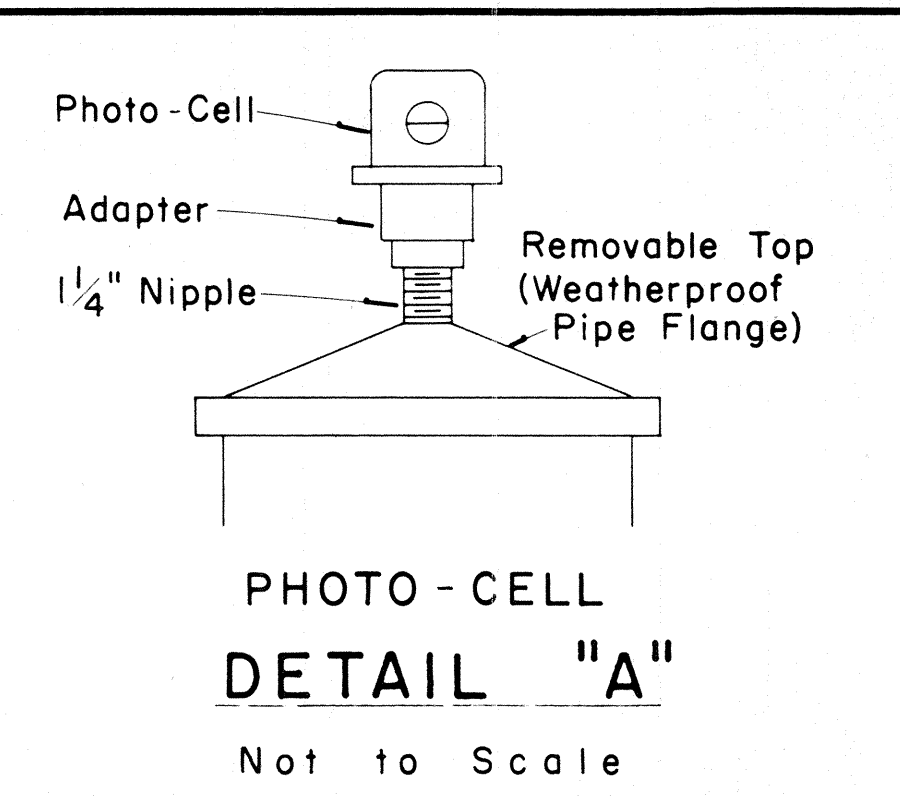
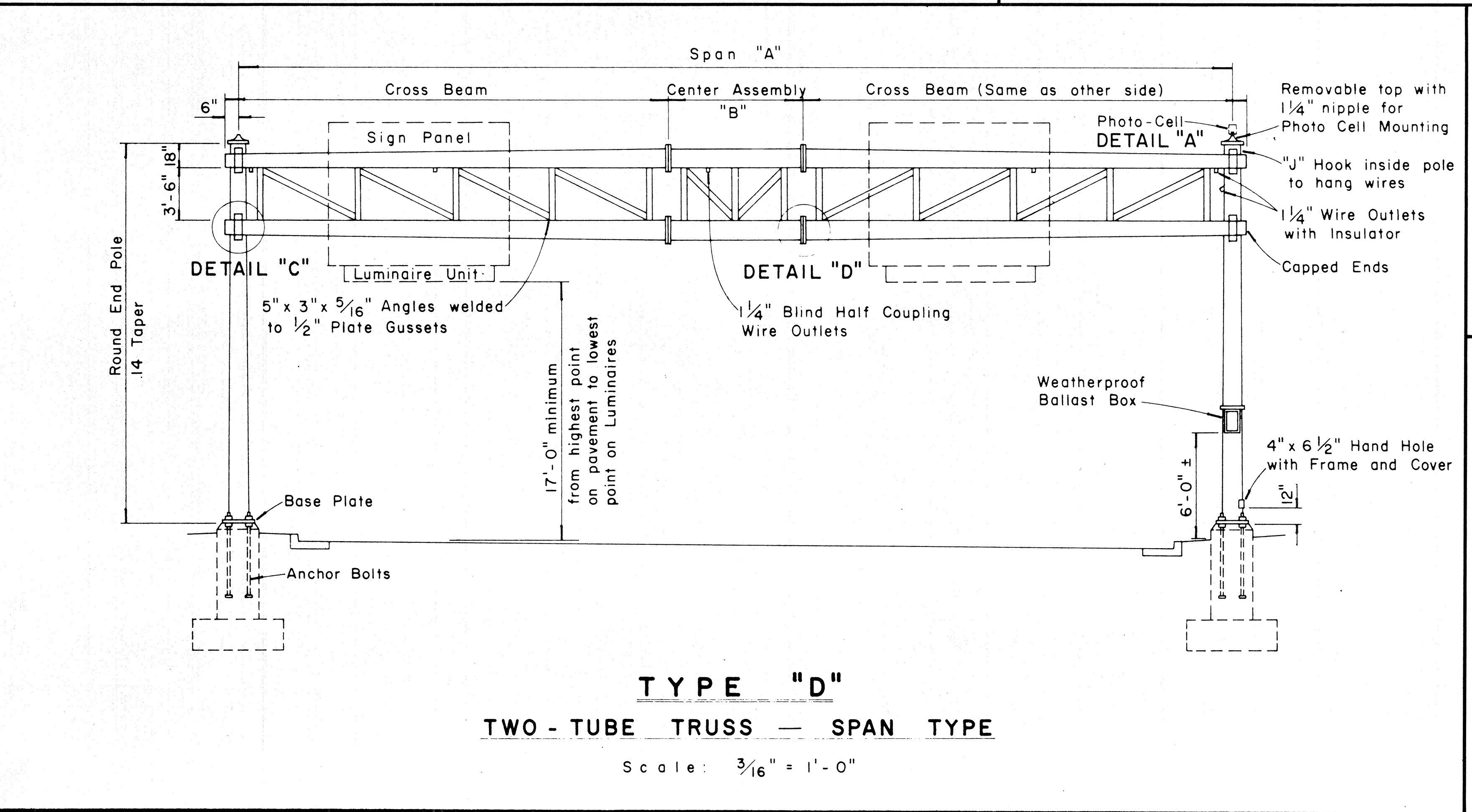
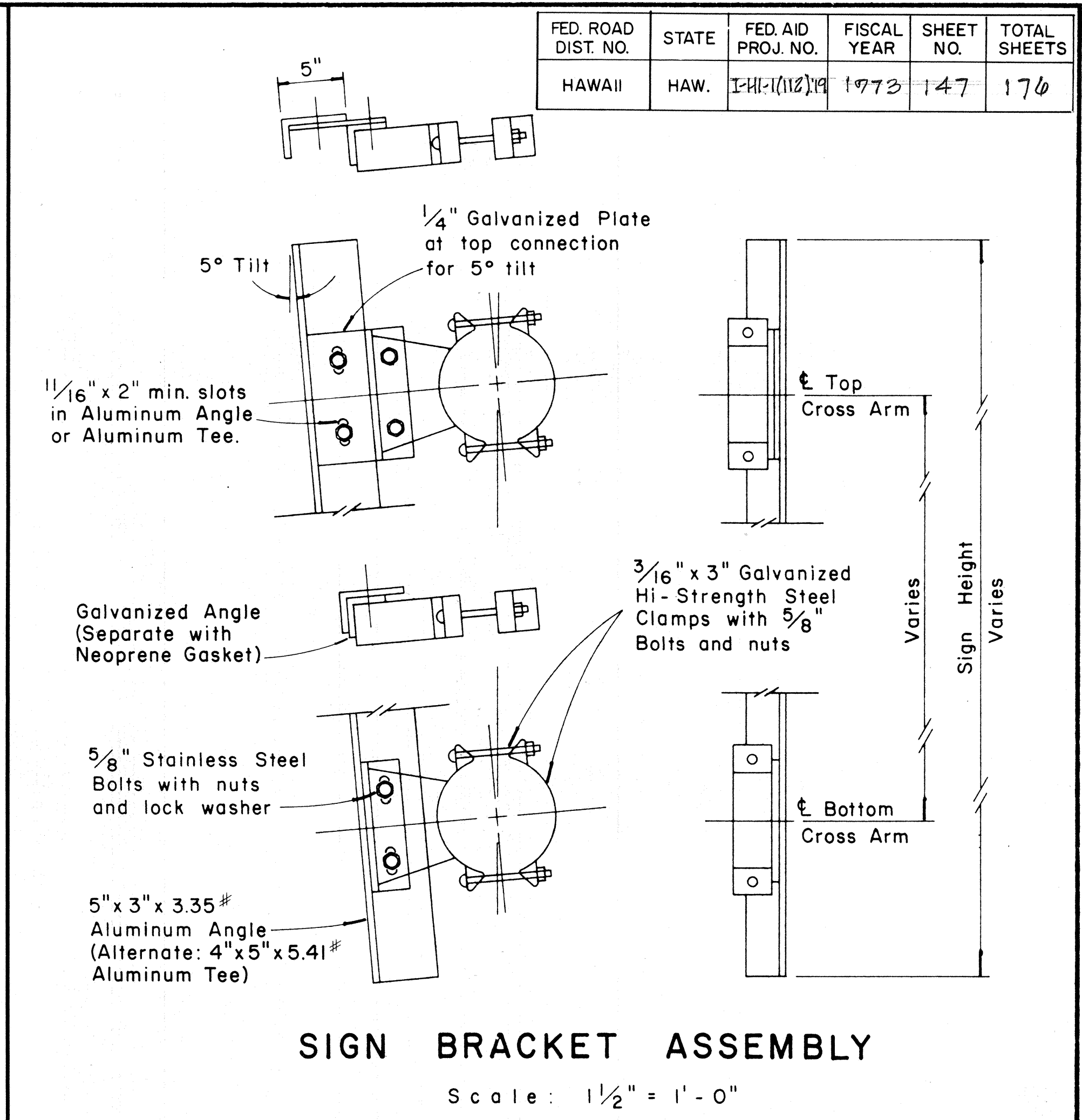
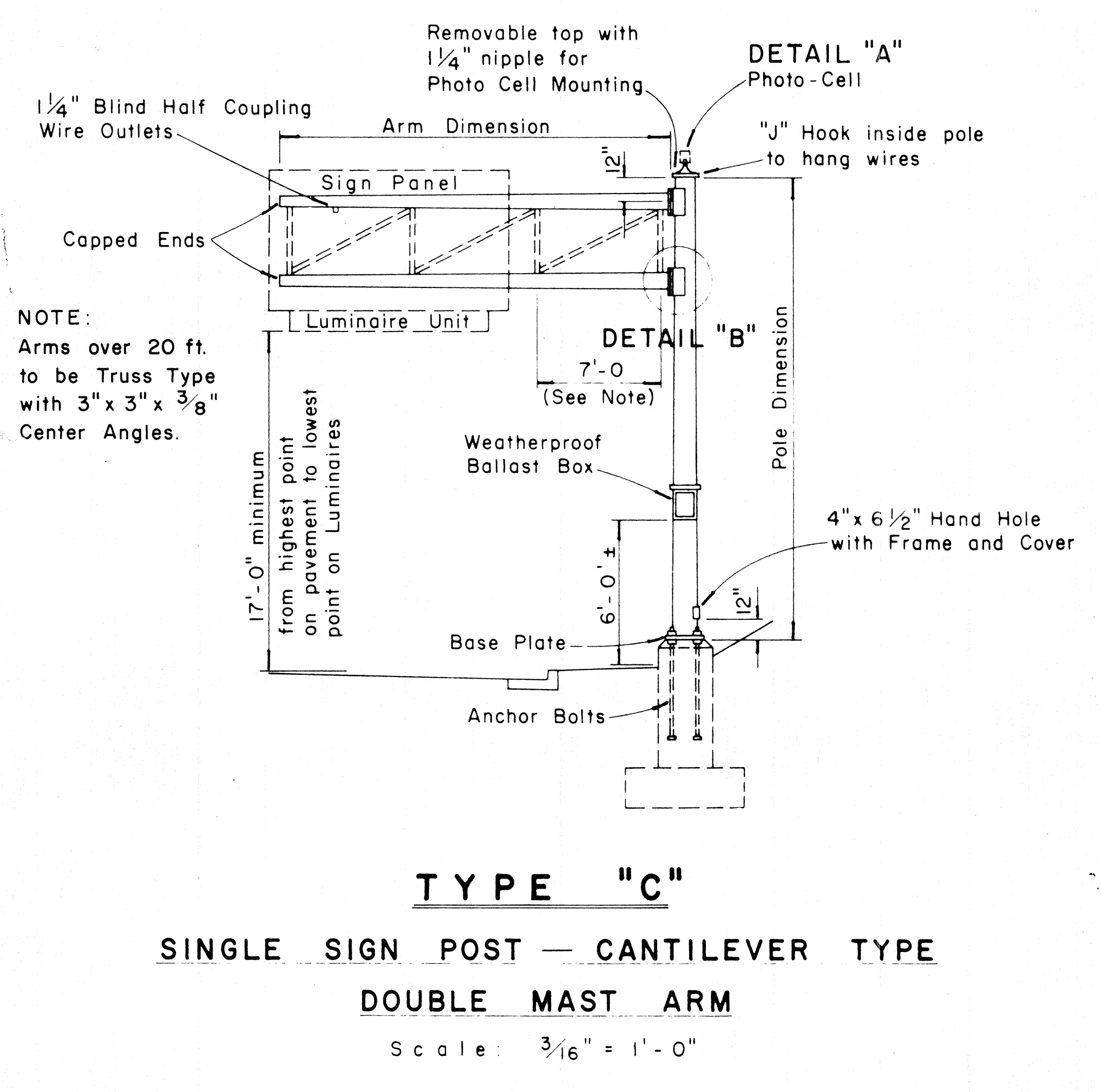
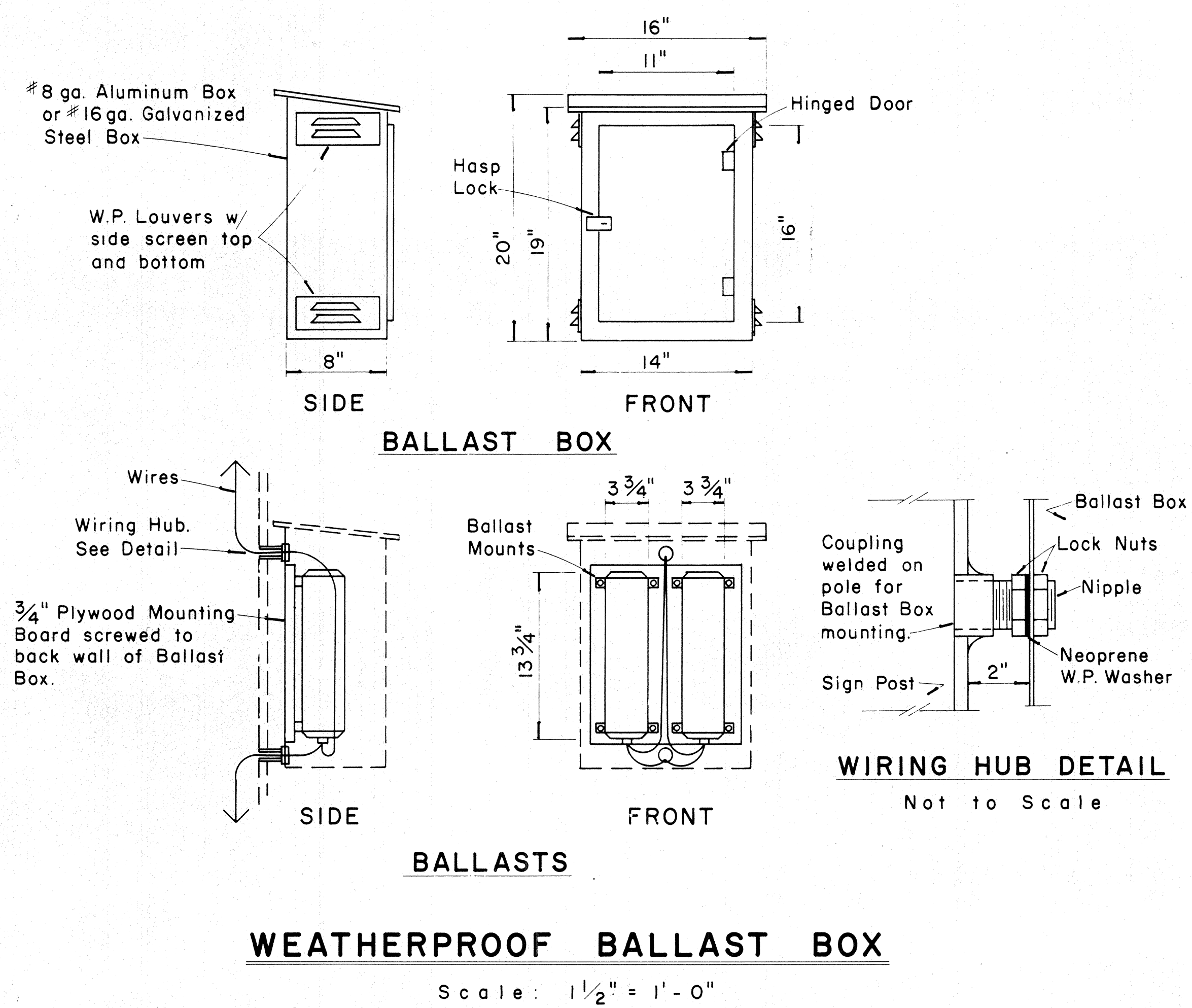
**SECTION "A-A" (Alternate)**  
Scale:  $\frac{3}{8}$ " = 1"



**CLOSURE DETAIL SECTION "B-B"**  
FULL SCALE

REVISIONS  
DATE  
DRAWN BY  
CHECKED BY  
DESIGNED BY  
NOTED BY  
No.

|                     |       |                    |             |           |              |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| HAWAII              | HAW.  | 111-112            | 1973        | 147       | 176          |



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

APPROVED:  
*William S. Sakai* 12-30-69  
 ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

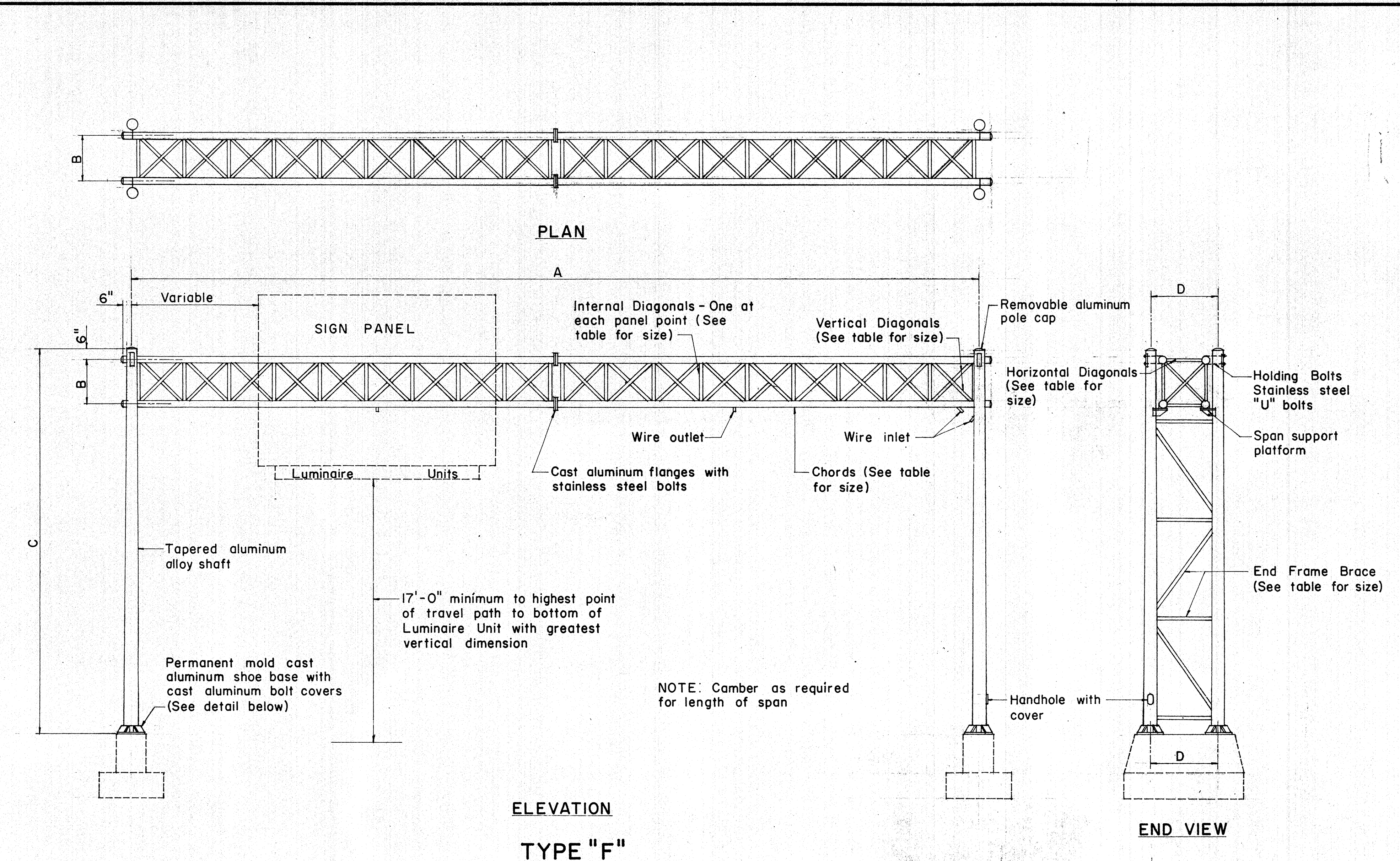
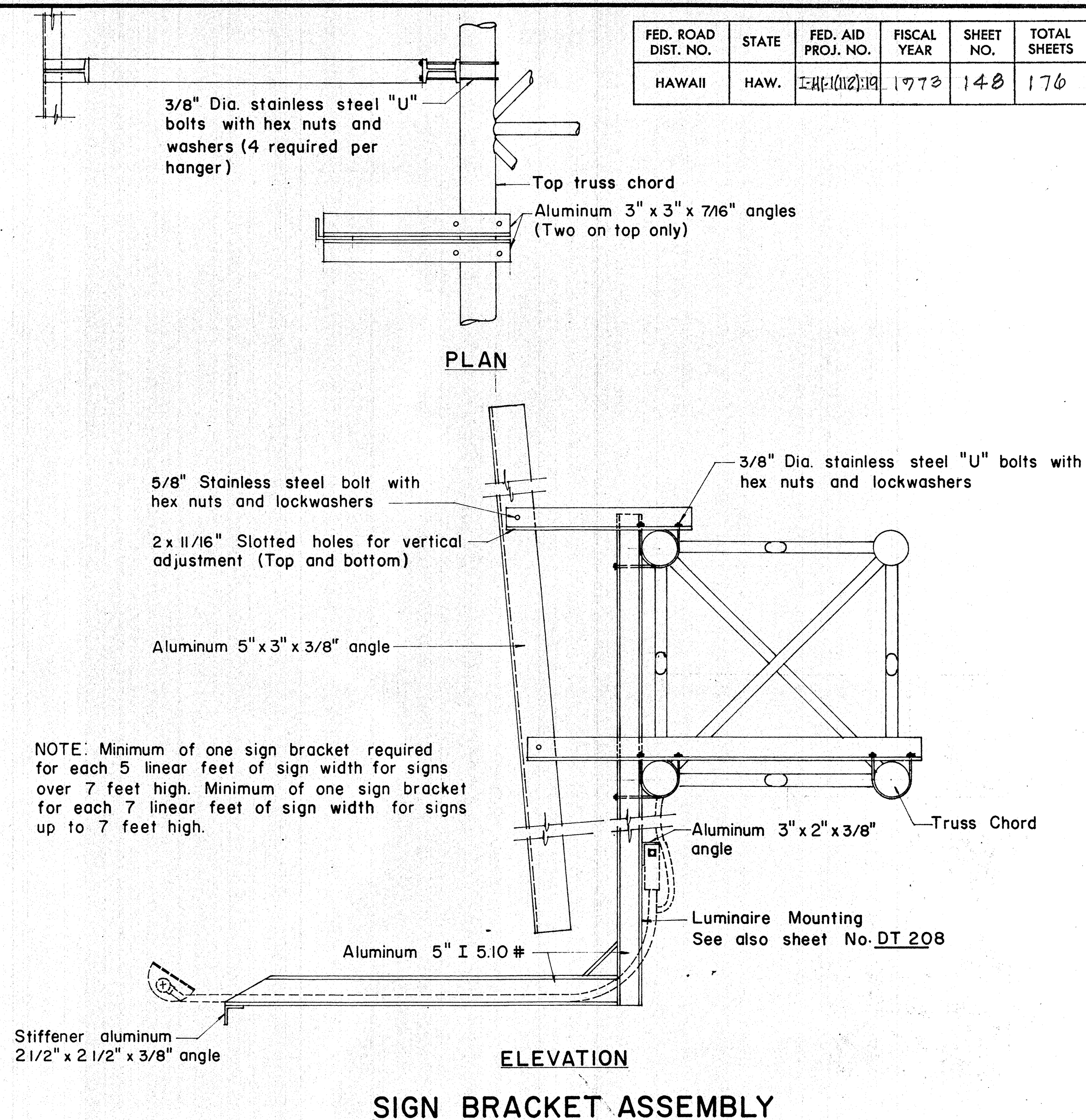
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**OVERHEAD SIGN SUPPORTS**

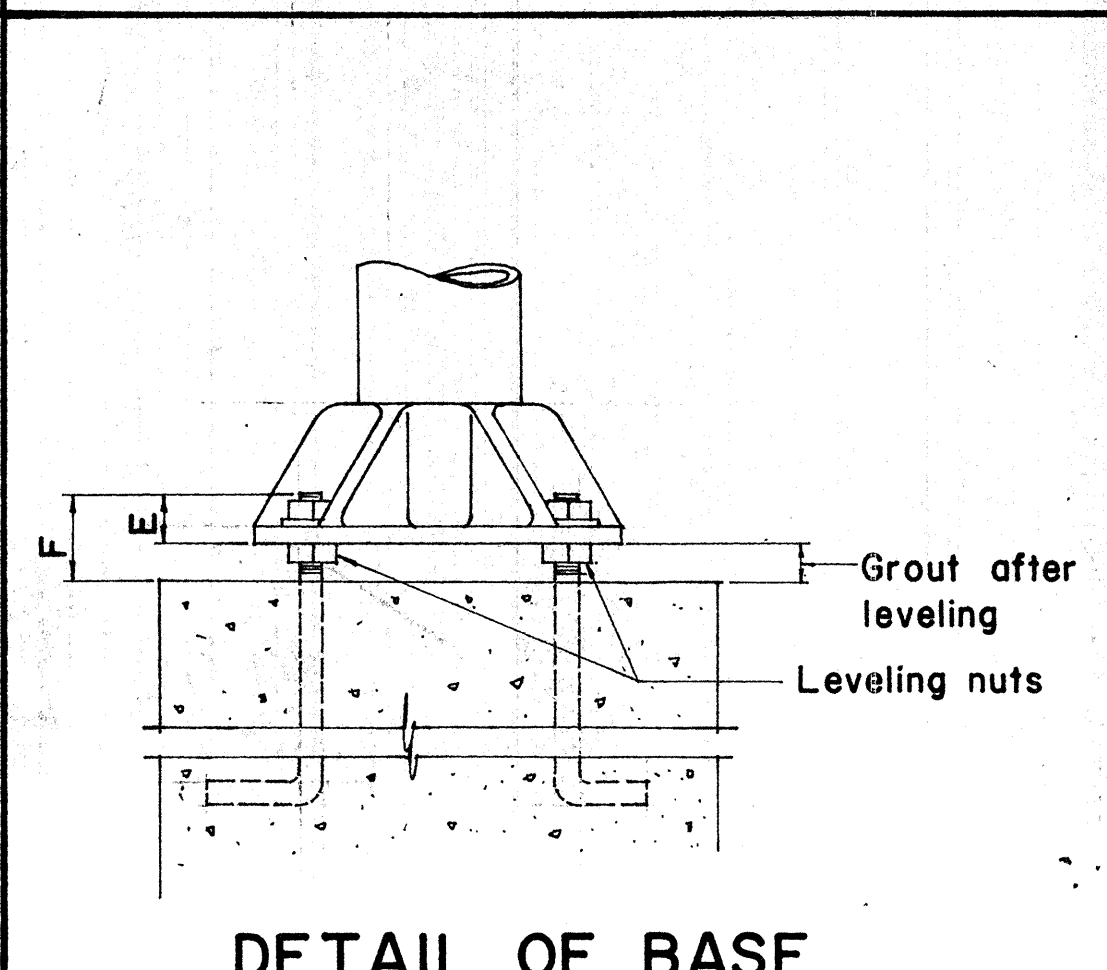
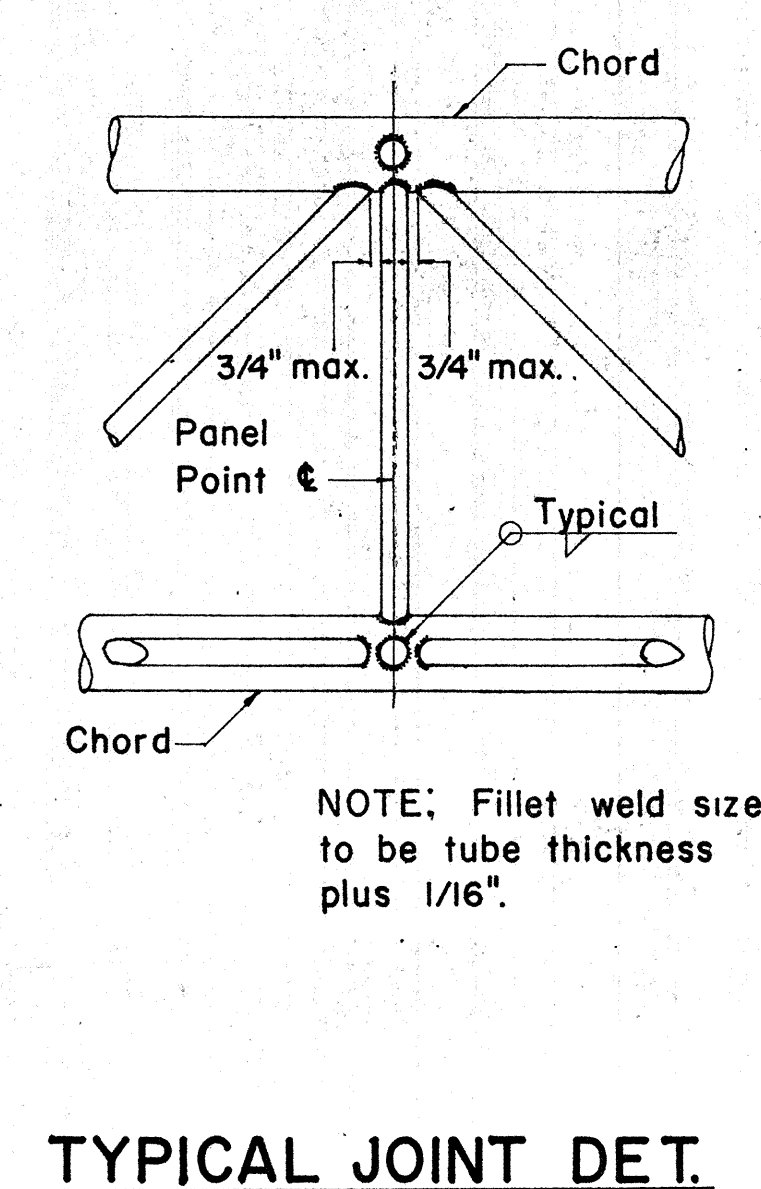
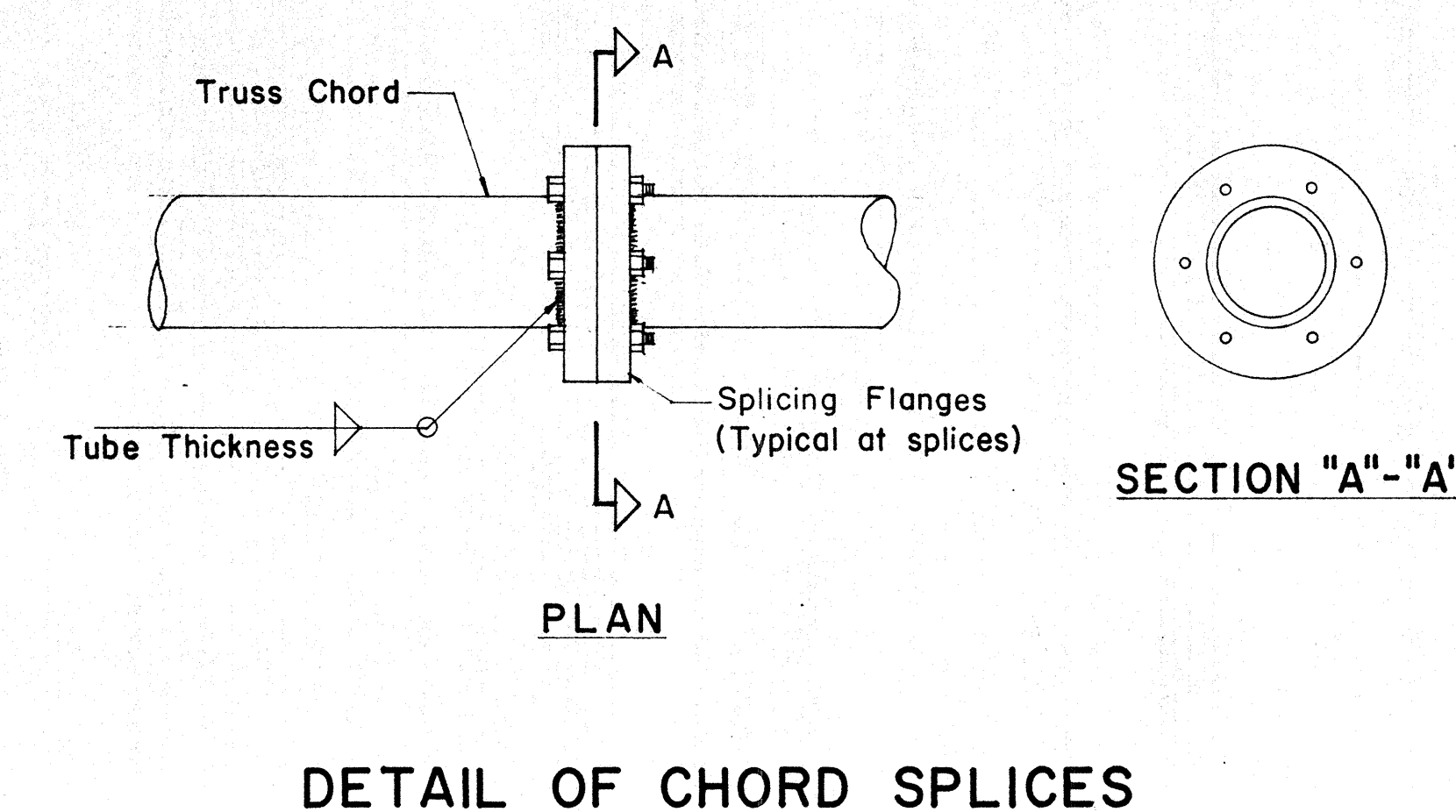
Scale As Shown  
 SHEET No. 147 OF 307 SHEETS DT 200

|                   |  |
|-------------------|--|
| DATE              |  |
| SURVEY PLOTTED BY |  |
| DRAWN 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(112)19        | 1973        | 148       | 176          |



| SIGN NO. | A | B | C | D | E | F | SPAN SECTIONS REQ'D. | CHORD SIZE | END FRAME SHAFT SIZE AND TAPER | VERTICAL DIAGONAL SIZE | HORIZONTAL DIAGONAL SIZE | INTERNAL DIAGONAL SIZE | END FRAME BRACE SIZE | BOLT CIRCLE DIA. | ANCHORAGE |
|----------|---|---|---|---|---|---|----------------------|------------|--------------------------------|------------------------|--------------------------|------------------------|----------------------|------------------|-----------|
|          |   |   |   |   |   |   |                      |            |                                |                        |                          |                        |                      |                  |           |



APPROVAL RECOMMENDED:

*Eishi Tanaka* 12/29/69  
TRAFFIC ENGINEER DATE

APPROVED:

*John J. ...* 12/30/69  
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPE "F"**  
**OVERHEAD SIGN SUPPORT**  
**BOX TRUSS TYPE**  
**ALUMINUM**

SHEET No. 20 OF 30 SHEETS DT 201

DATE \_\_\_\_\_

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

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

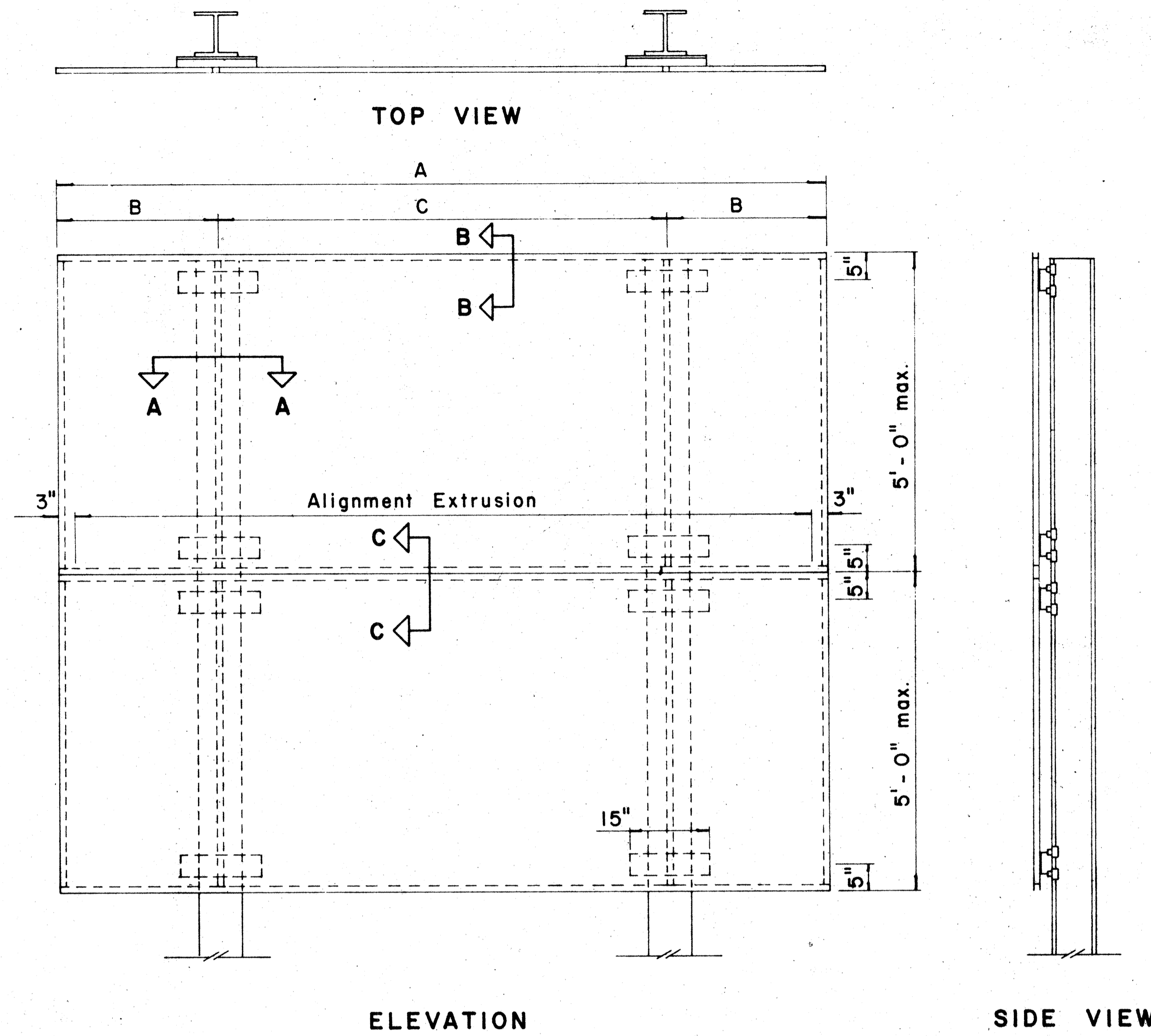
QUANTITIES BY \_\_\_\_\_

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

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 111-1(112)17       | 1978        | 140       | 176          |

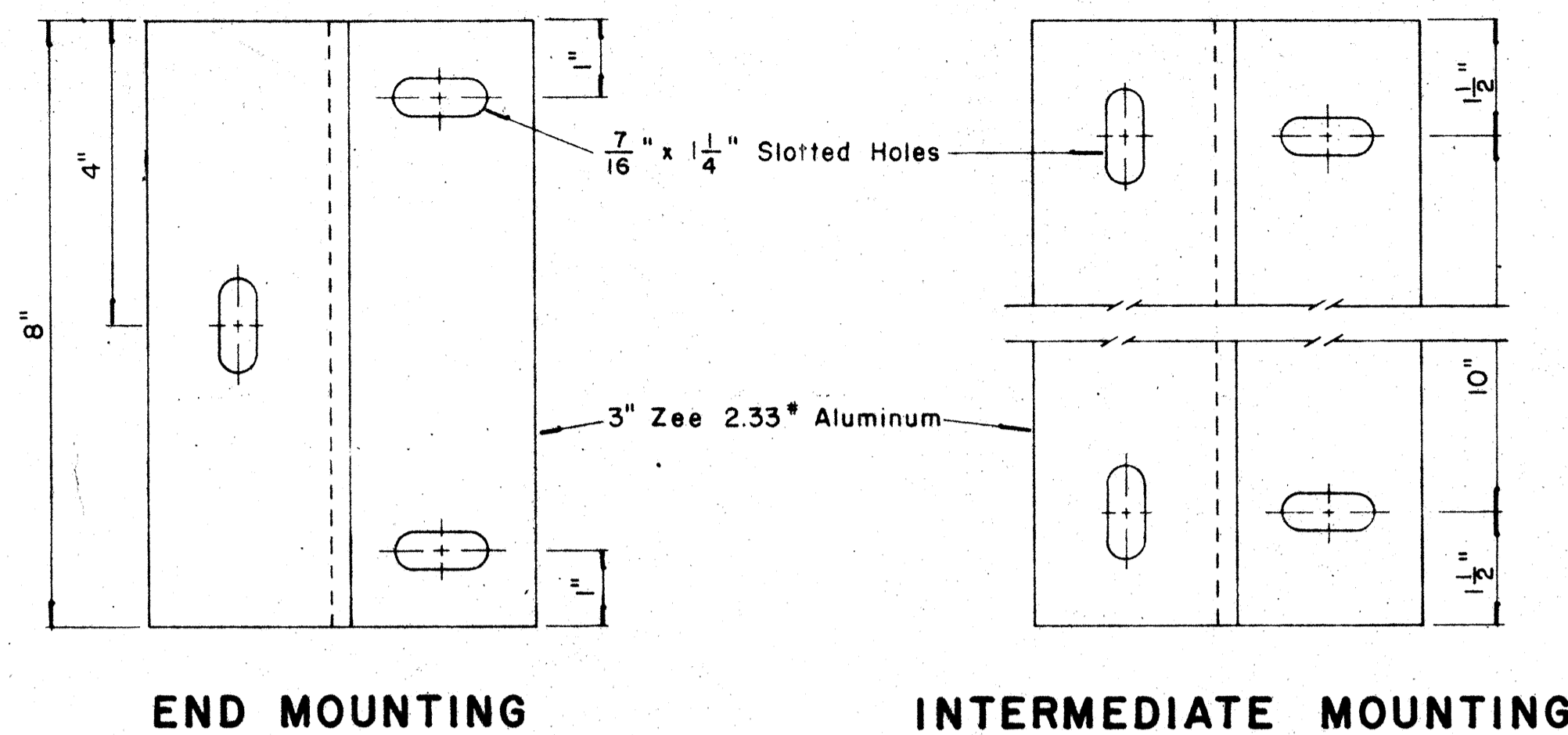
(GROUND MOUNTED SIGNS)  
SUPPORT SPACING TABLE

| 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"            |



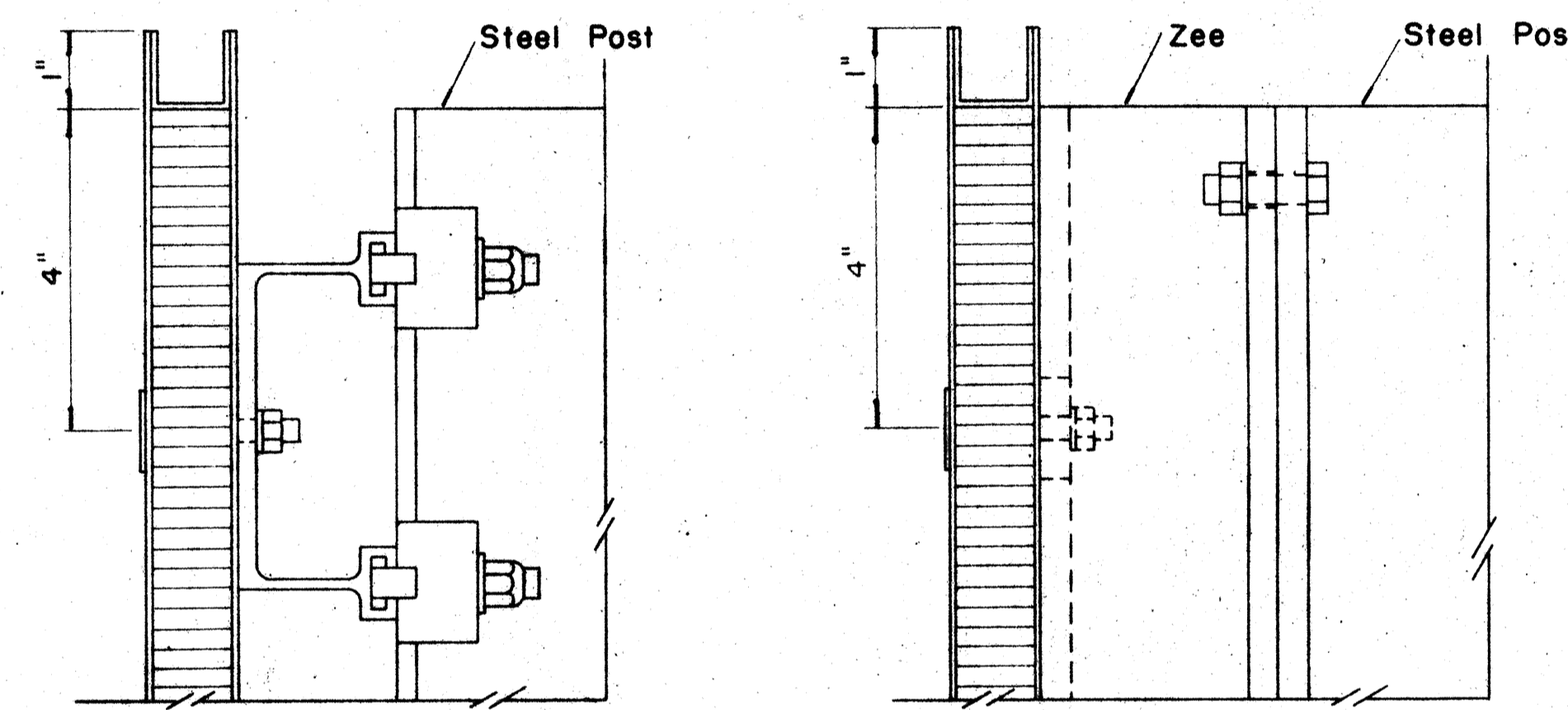
TYPICAL SIGN ASSEMBLY

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



ZEE MOUNTING DETAILS

Scale: 1/2" = 1"

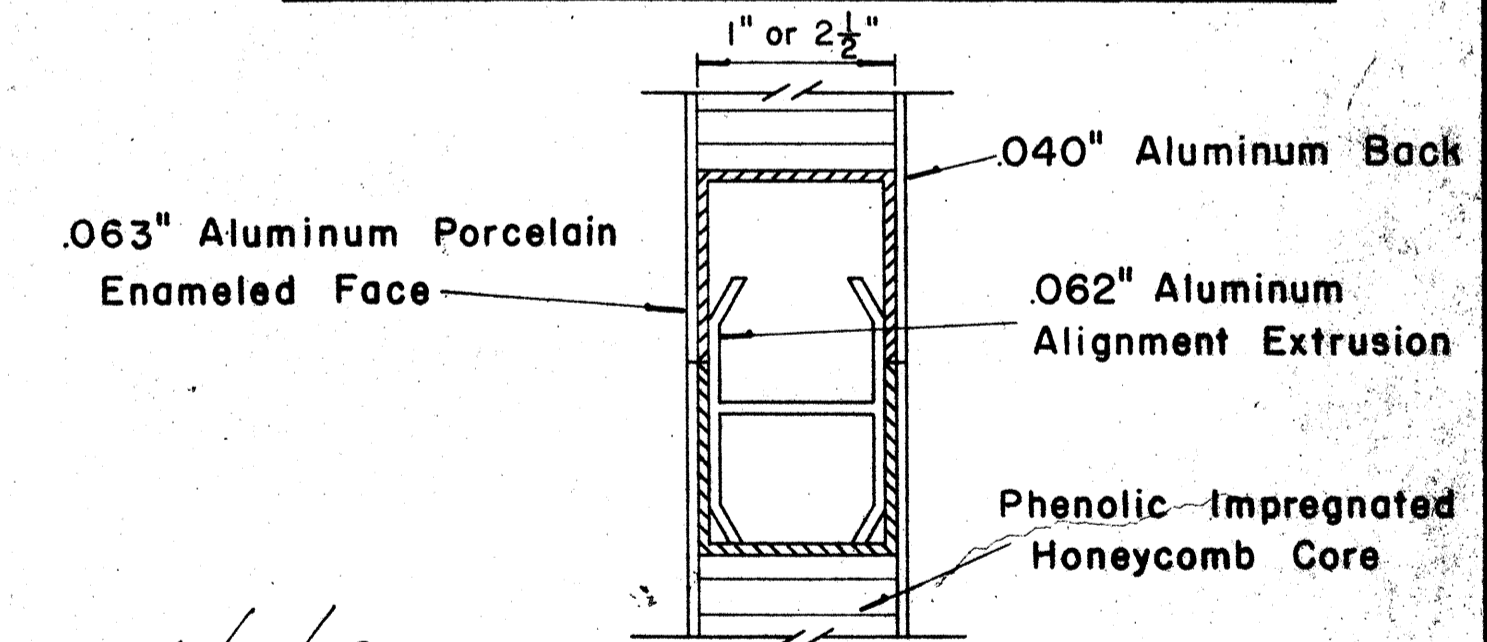


SECTION "B-B"

Scale: 1/2" = 1"

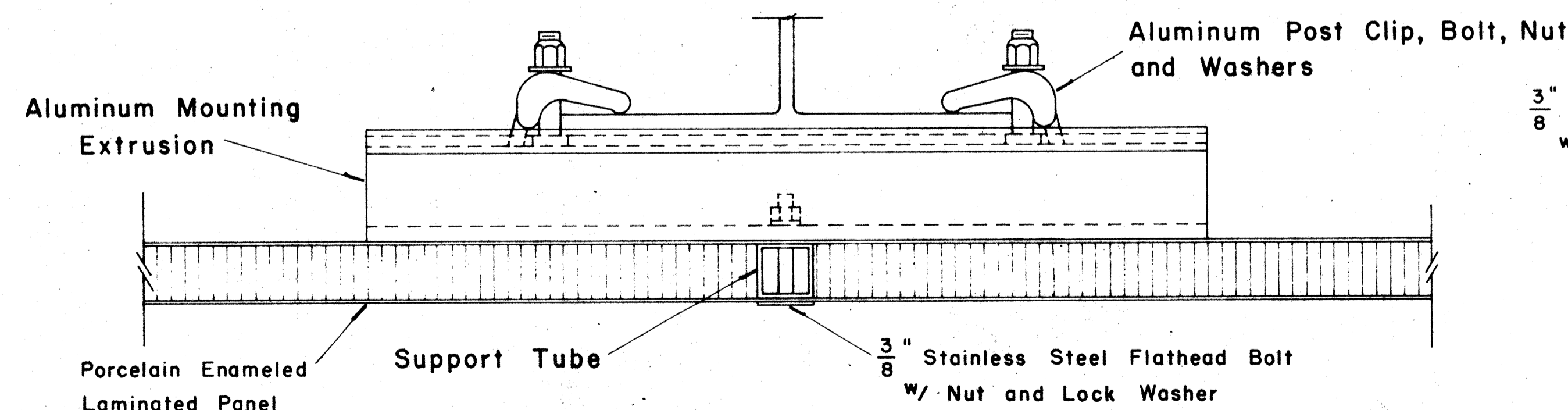
SECTION "B-B" (Alternate)

Scale: 1/2" = 1"



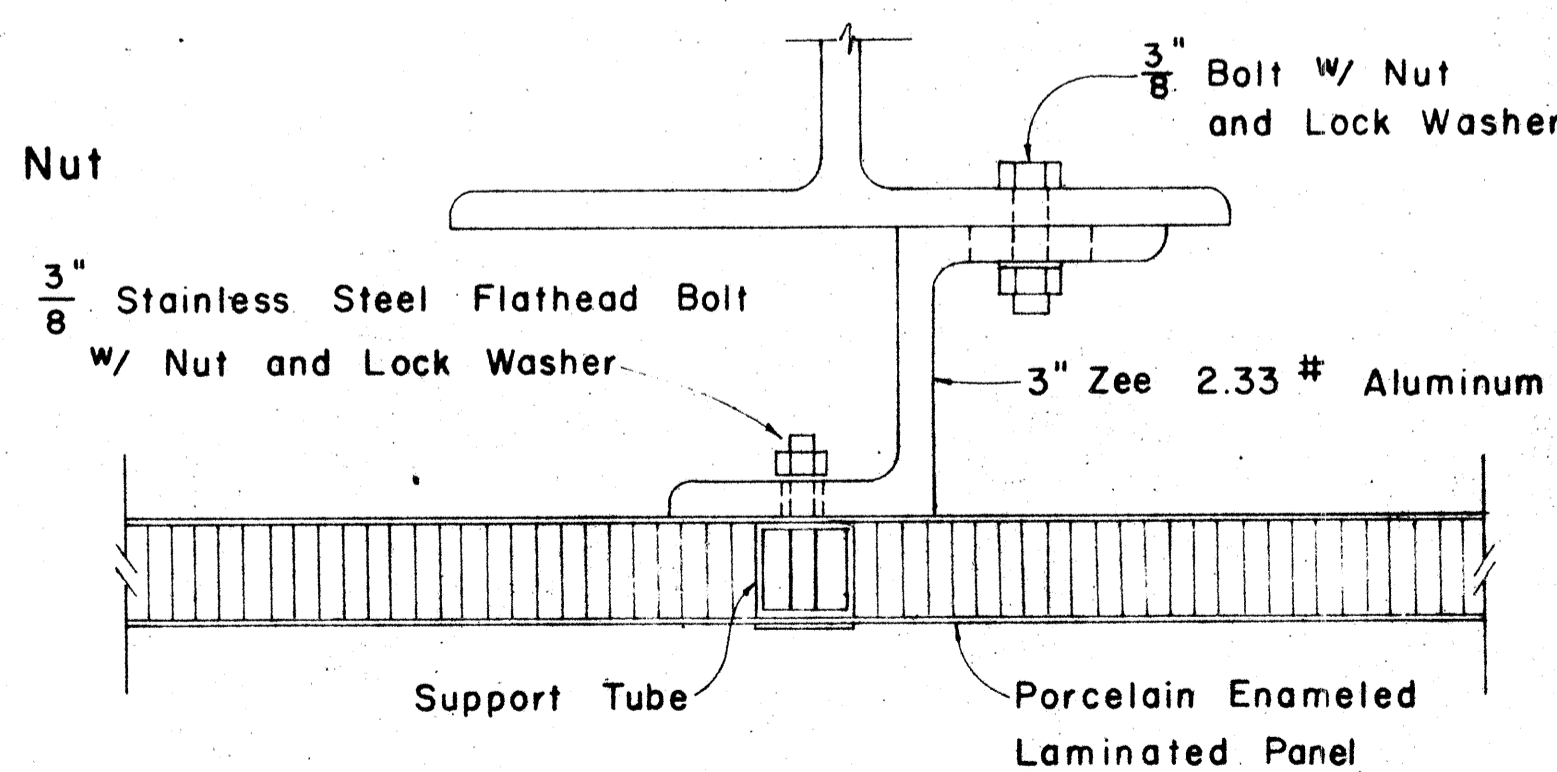
CLOSURE DETAIL SECTION "C-C"

FULL SCALE



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:

*Andy S. Stein*  
ASSISTANT CHIEF, ENGINEERING

12-30-69  
DATE

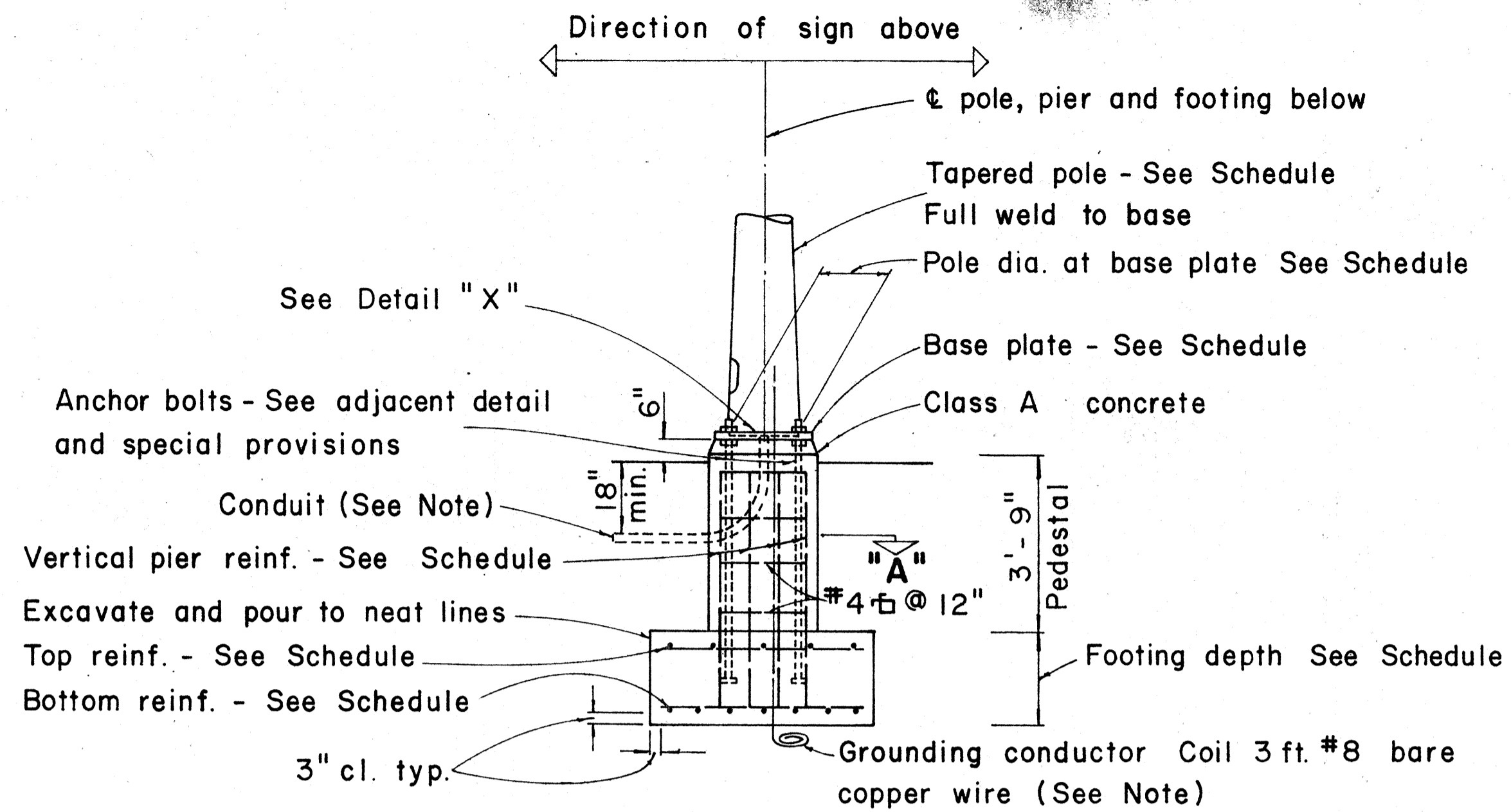
| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

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

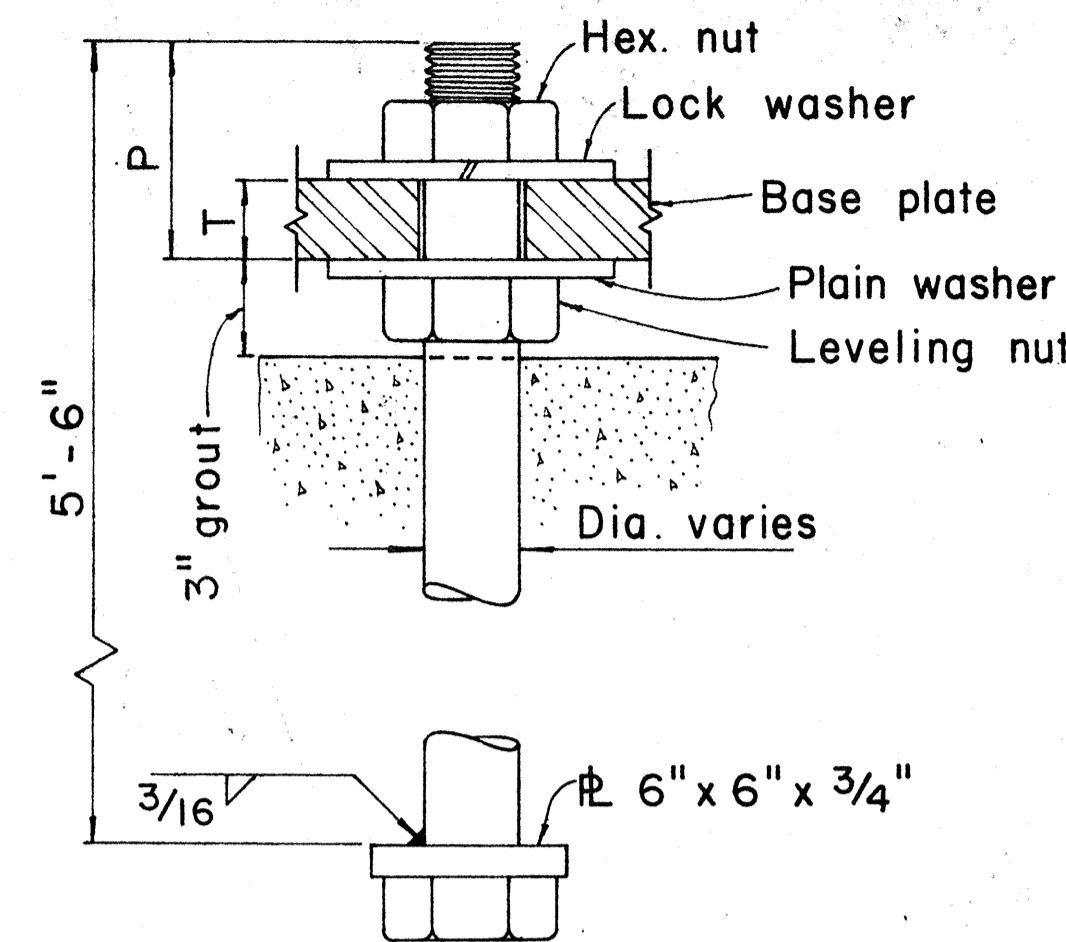
1419

DATE  
SURVEY PLOTTED BY  
DRAWN BY  
CHECKED BY  
NOTE BOOK  
No.

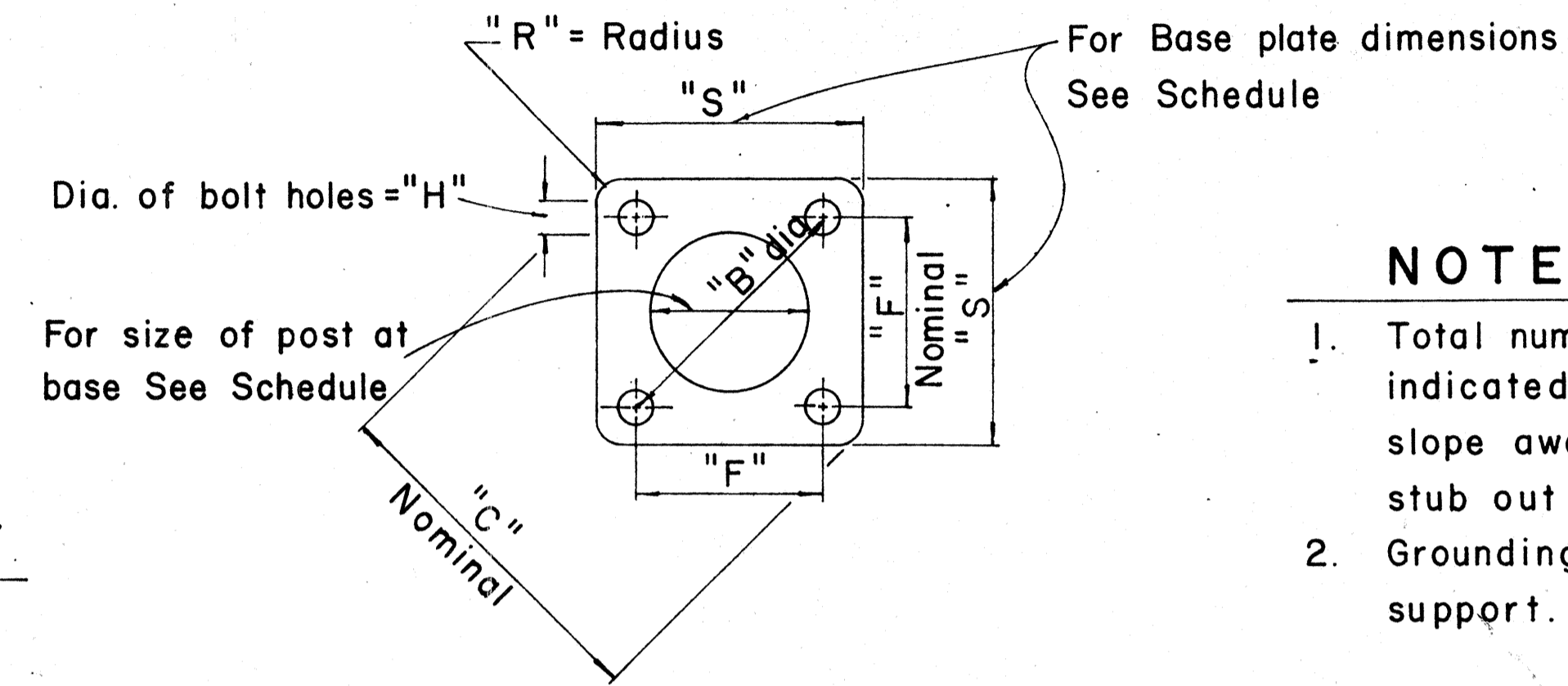
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 141-102-19         | 1979        | 150       | 176          |



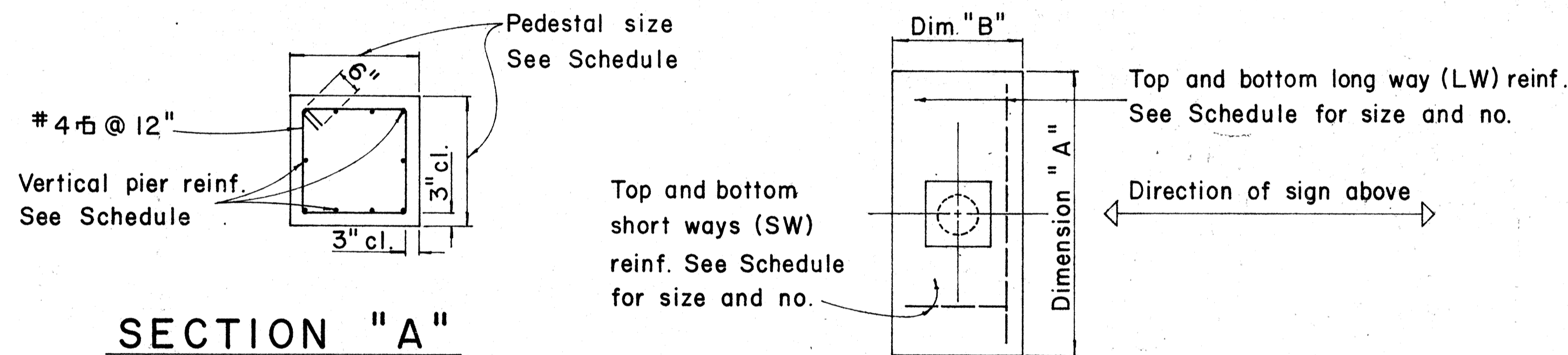
**TYPICAL POLE FOUNDATION DETAIL**



**TYPICAL ANCHOR BOLT 4 REQ'D**

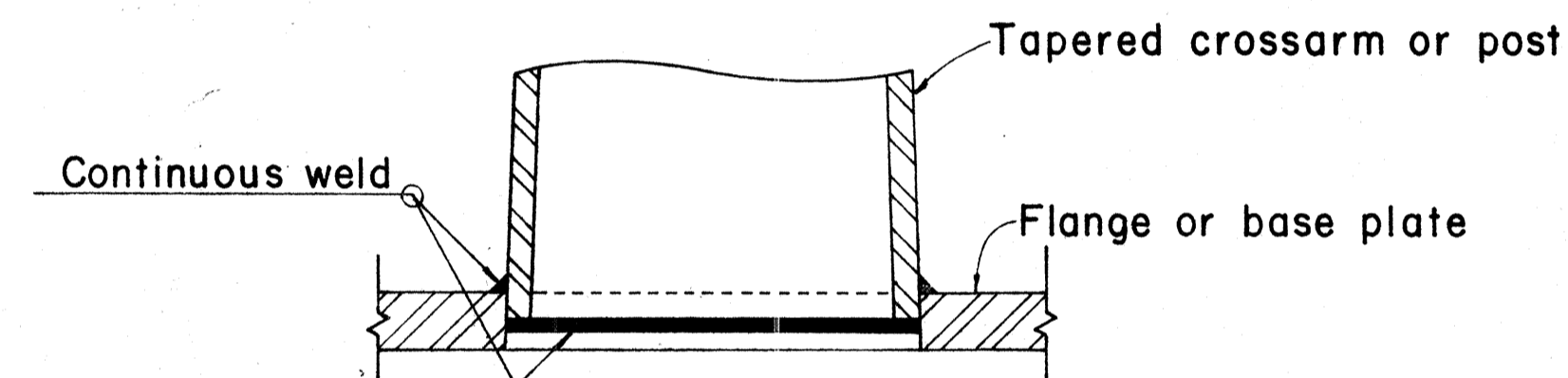


**TYPICAL BASE PLATE**



**SECTION "A"**

**TYPICAL FOOTING DETAIL**



**DETAIL "X"**

- NOTE:**
- Total number of conduits into pole foundation as indicated on Lighting plans. Conduits shall slope away from pole foundation. Conduit shall stub out 5'-0" min. for direct burial entry.
  - Grounding conductor shall be bonded to sign support.

**FOUNDATION SCHEDULE**

| Type | Dimension |       | Depth | Bot Reinf. |       | Top Reinf.       |       | Pedestal |              |
|------|-----------|-------|-------|------------|-------|------------------|-------|----------|--------------|
|      | A         | B     |       | L. W.      | S. W. | L. W.            | S. W. | Size     | Vert. Reinf. |
| I    | 7'-0"     | 3'-0" | 2'-0" | 3-#6       | 8-#4  | #4 @ 12 each way |       | 1'-11"   | 10-#5        |
| II   | 9'-0"     | 4'-6" | 2'-0" | 6-#6       | 10-#4 | Do.              |       | 2'-6"    | 10-#7        |
| III  | 10'-0"    | 5'-0" | 2'-0" | 5-#8       | 11-#4 | Do.              |       | 2'-6"    | 10-#8        |
| IV   | 12'-0"    | 6'-0" | 2'-0" | 7-#9       | 13-#4 | Do.              |       | 2'-9"    | 10-#10       |
| V    | 14'-0"    | 7'-0" | 2'-0" | 8-#11      | 19-#4 | Do.              |       | 2'-9"    | 10-#11       |

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

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

APPROVED:  
*John J. J...* 12-30-69  
 ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION            | APPROVED BY | DATE    |
|-----|---------------------|-------------|---------|
| 1   | Foundation Schedule | H.C.        | 8/14/70 |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

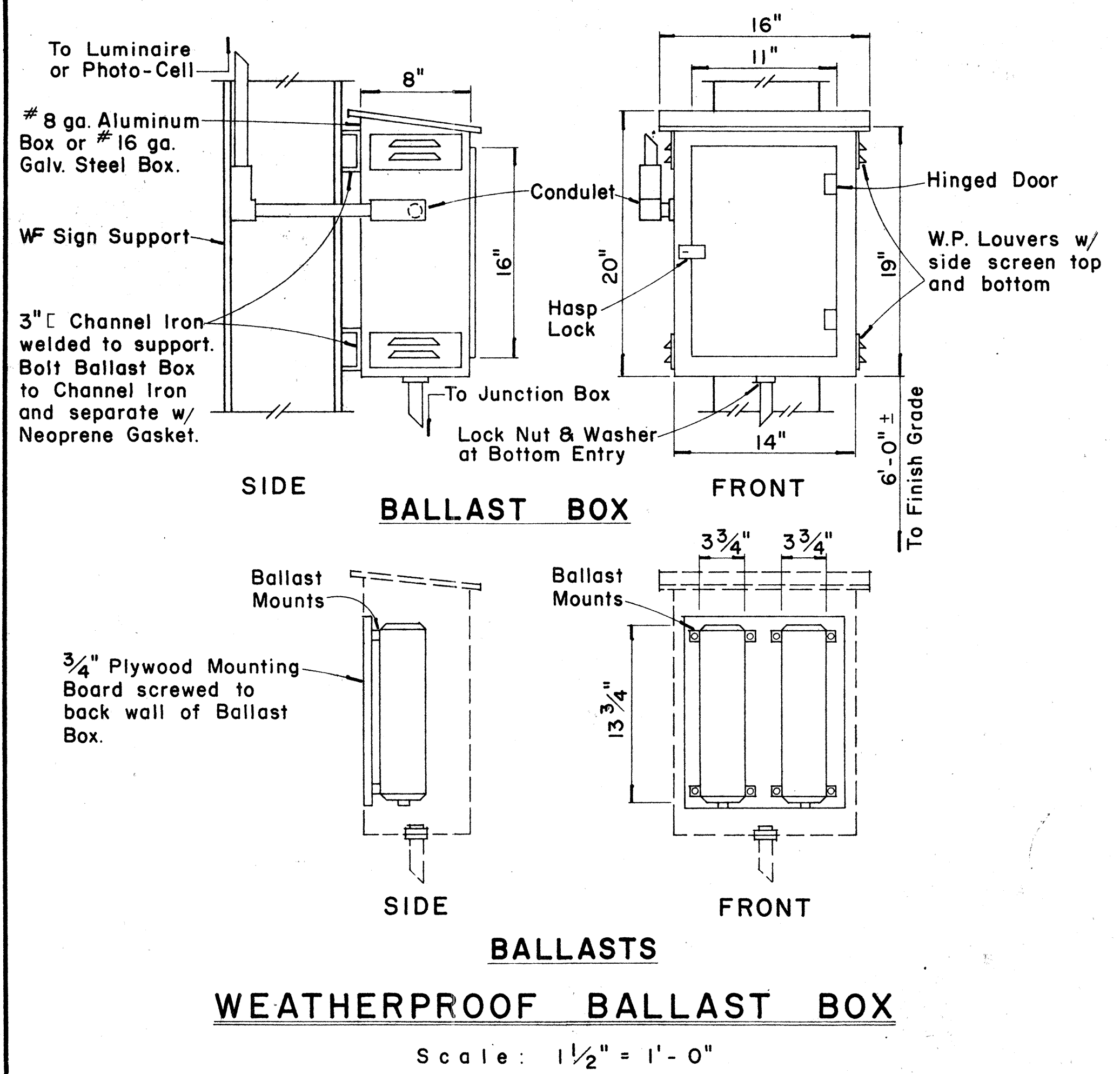
**DETAILS & SCHEDULES**

NOT TO SCALE

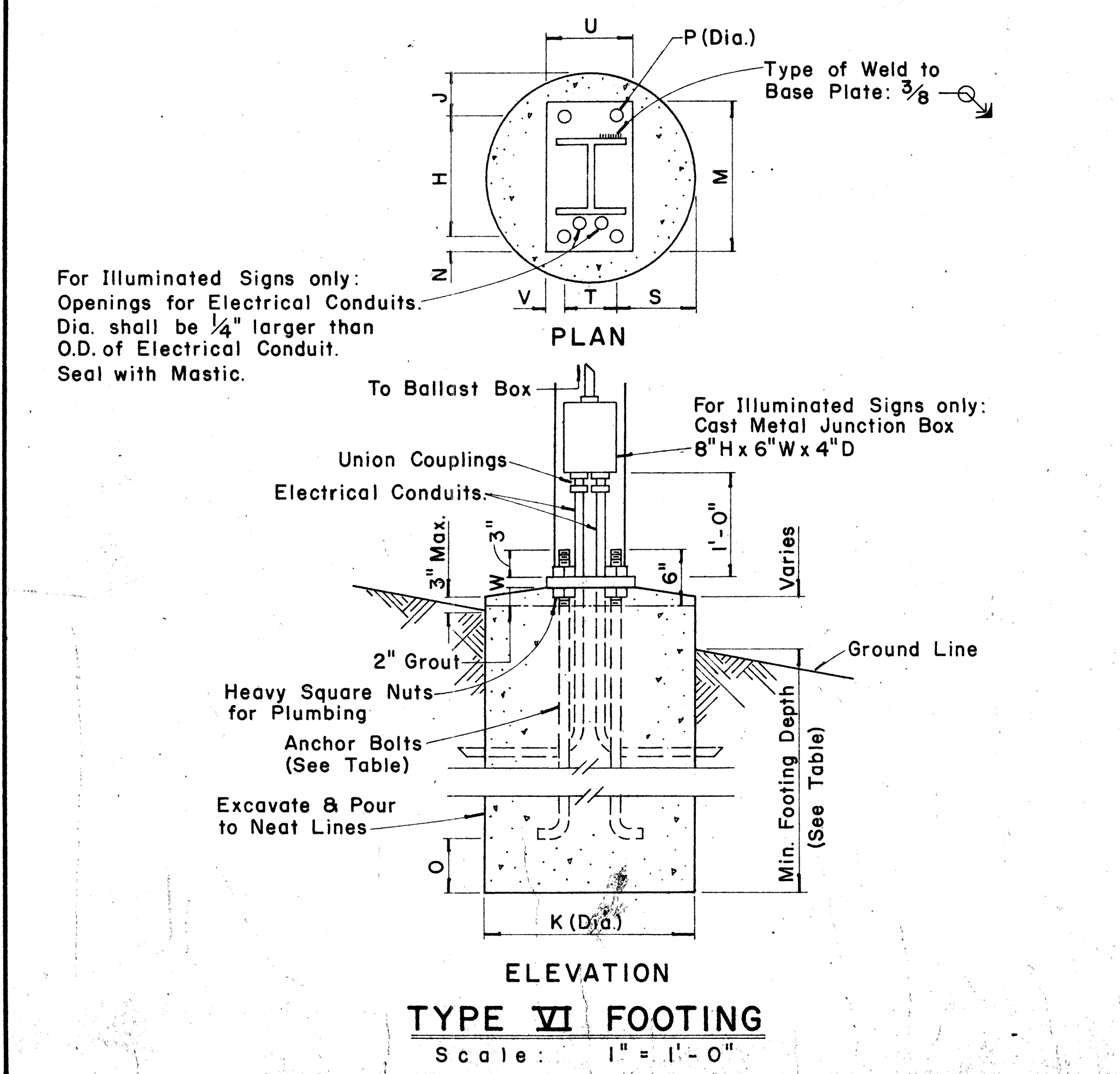
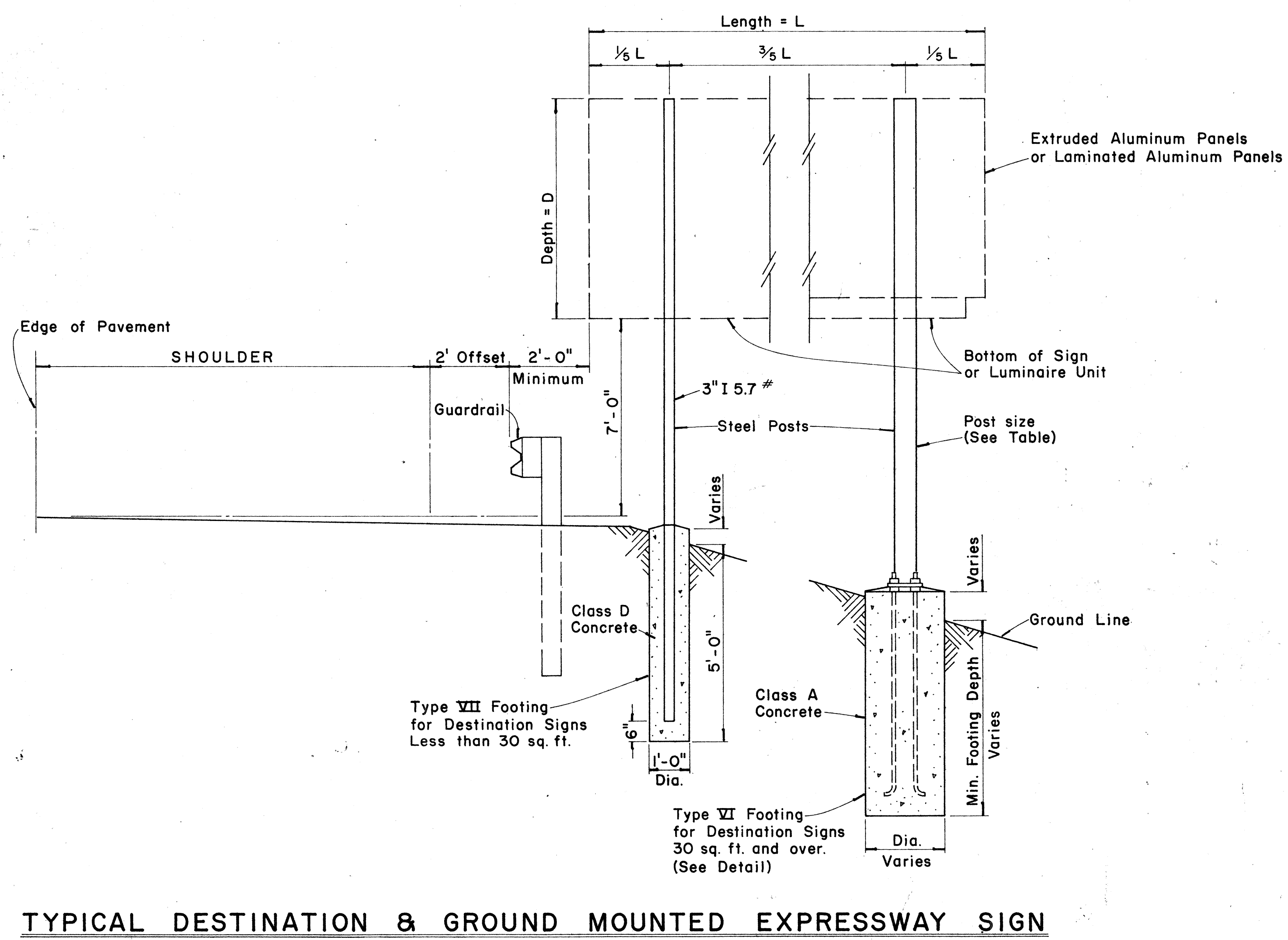
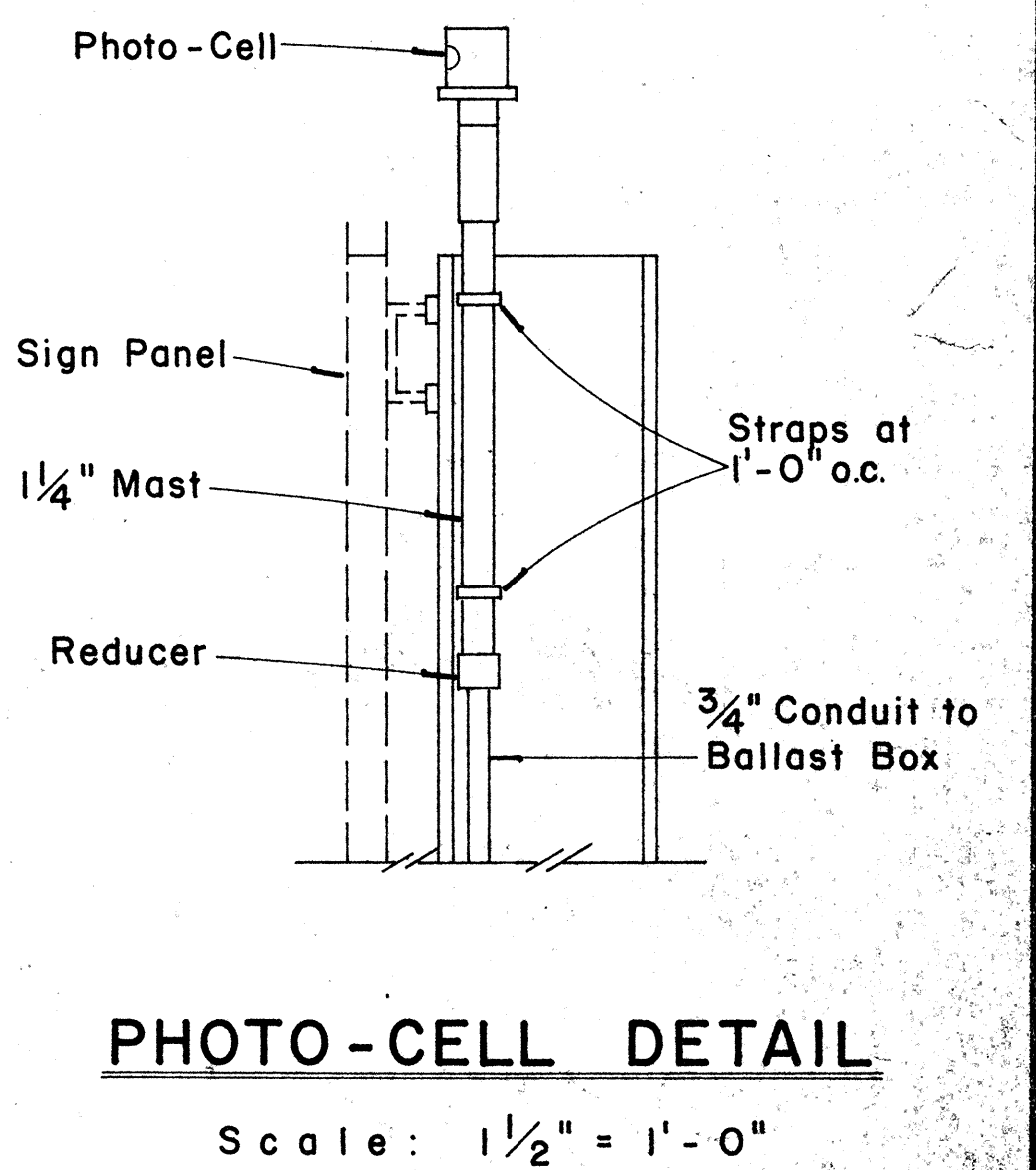
SHEET No. 221 OF 301 SHEETS DT 202

\* 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.  | I-111-1(10)12      | 1973        | 151       | 176          |



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

APPROVED:  
*Andy P. ...* 12-30-69  
 ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

STANDARD DETAILS  
 DESTINATION & GROUND MOUNTED  
 EXPRESSWAY SIGNS

Scale: As Shown  
 SHEET No. 23 OF 30 SHEETS DT 203

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

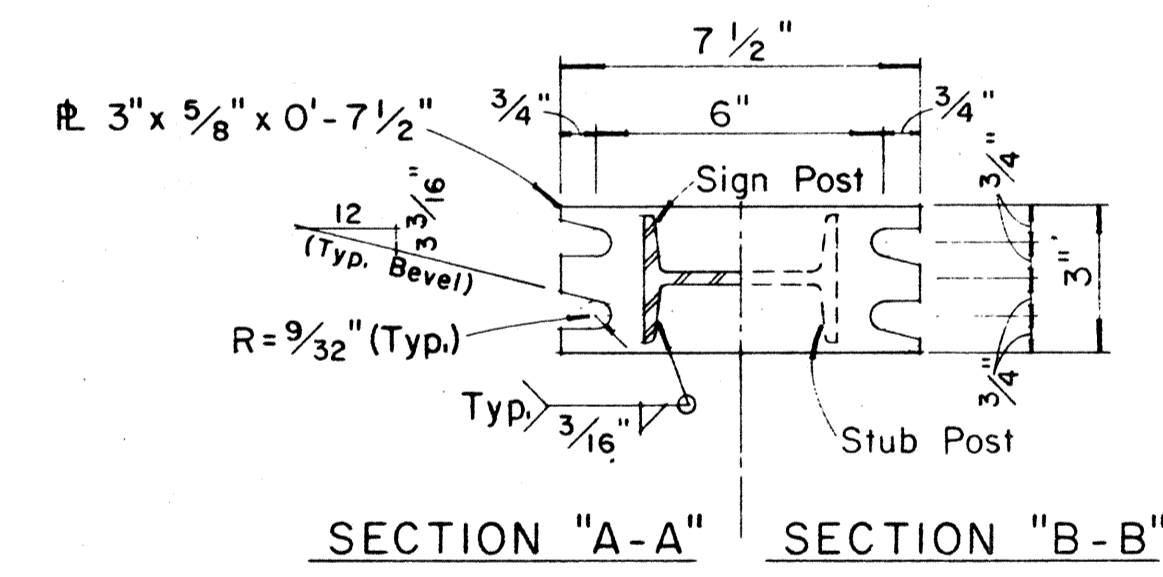
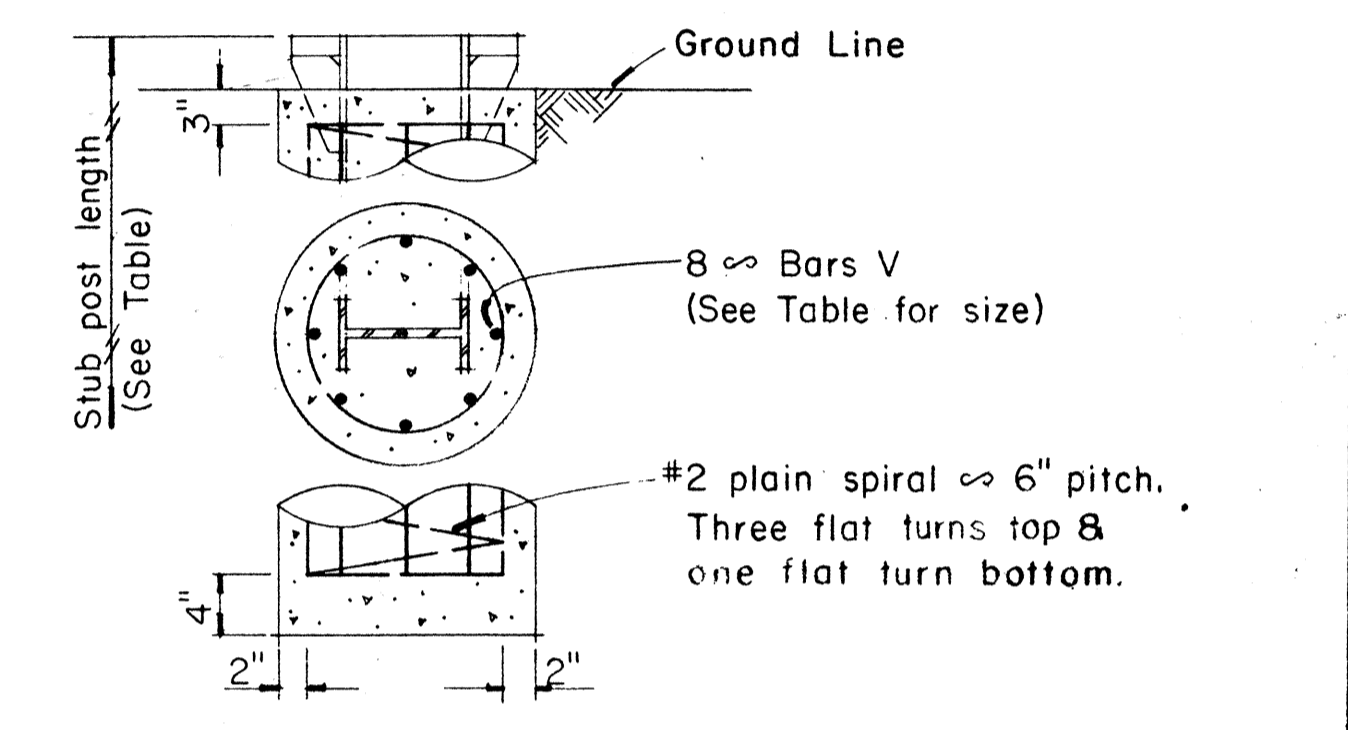
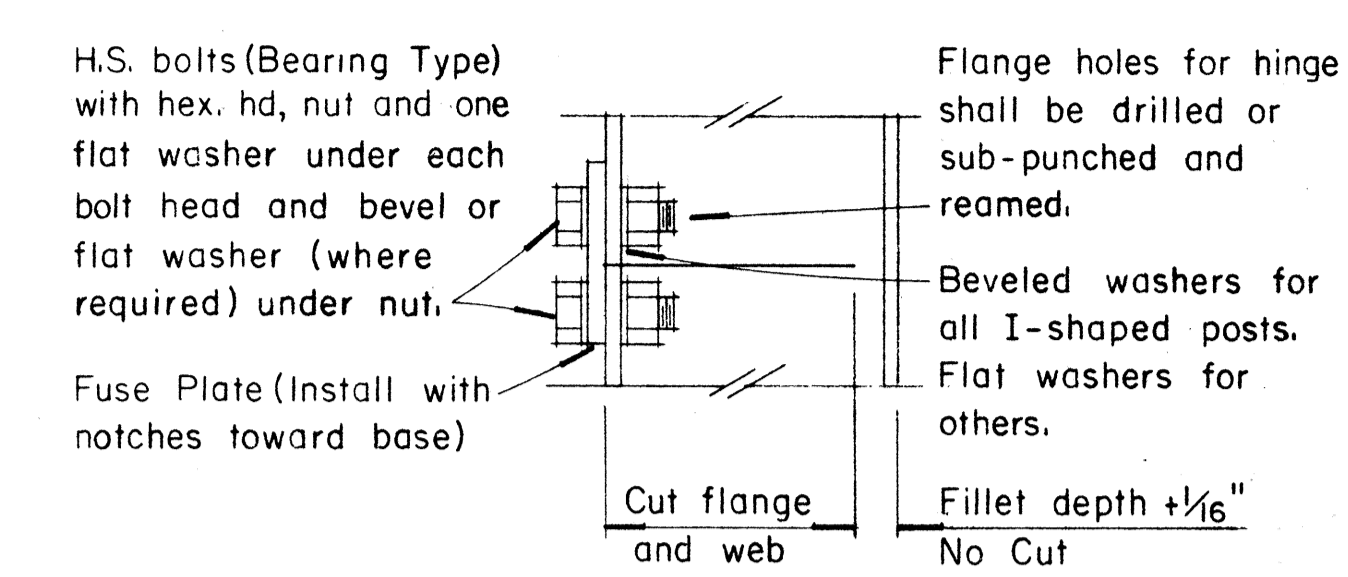
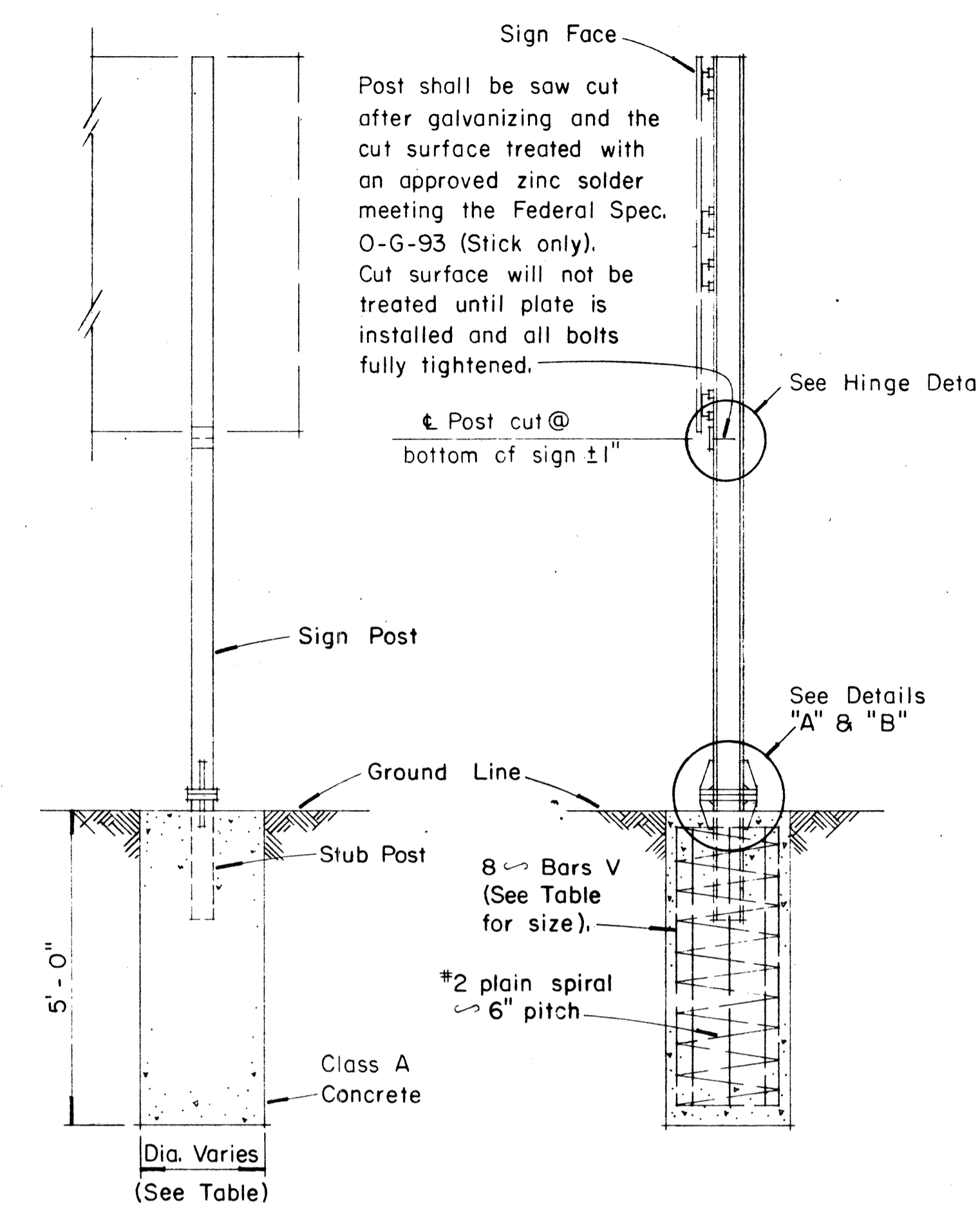
TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale

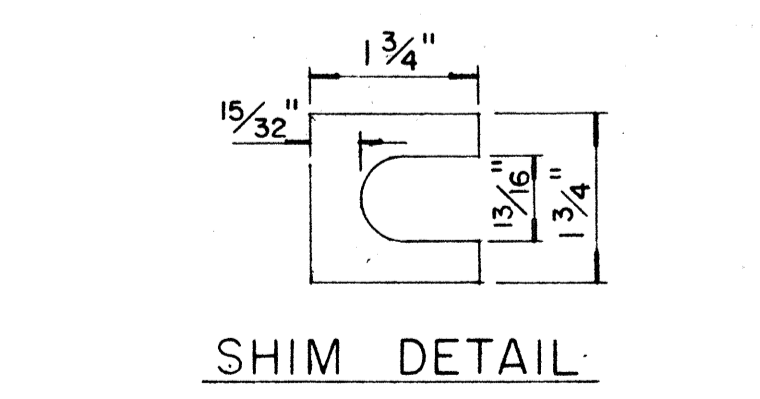
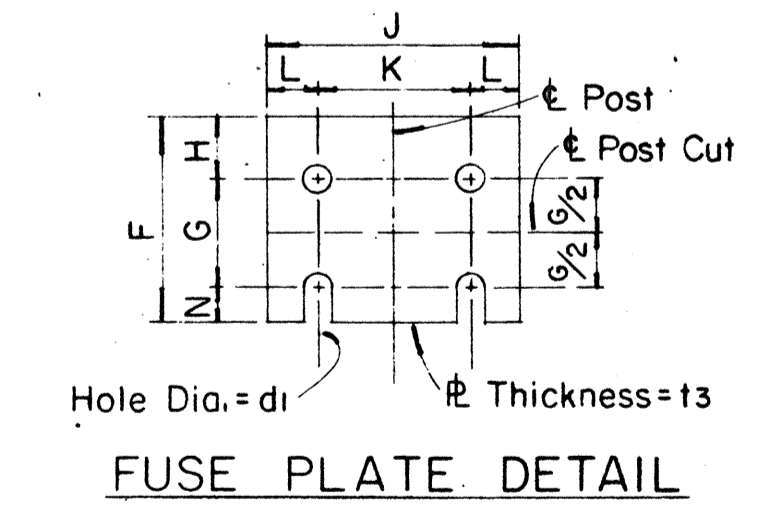
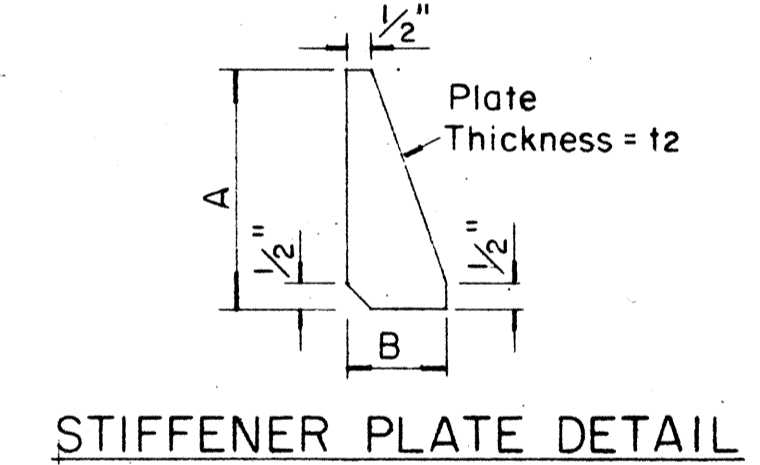
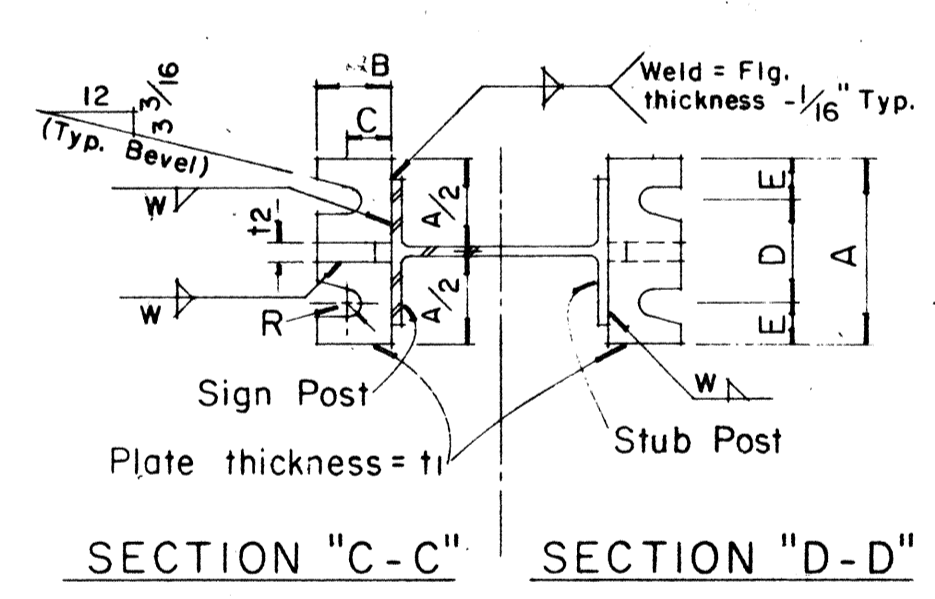
TYPE VI FOOTING  
 Scale: 1" = 1'-0"

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 111-1(112)-17      | 1973        | 152       | 170          |

| Post Size | Bolt Size & Torque                    | BASE CONNECTION DATA TABLE |        |        |        |        |      |      |       |         |        | FUSE PLATE DATA TABLE |        |        |        |        |       |         |       | FOUNDATION DATA |                    |             |                 |                  |             |    |
|-----------|---------------------------------------|----------------------------|--------|--------|--------|--------|------|------|-------|---------|--------|-----------------------|--------|--------|--------|--------|-------|---------|-------|-----------------|--------------------|-------------|-----------------|------------------|-------------|----|
|           |                                       | A                          | B      | C      | D      | E      | t1   | t2   | W     | R       | F      | G                     | H      | J      | K      | L      | N     | d1      | t3    | Bolt Dia.       | Wt. of each Fuse # | Stub Length | Stub Projection | Footing Diameter | Bars V Size |    |
| 6 B 8.5   |                                       |                            |        |        |        |        |      |      |       |         | 3 5/8" | 2"                    | 1 1/8" | 4"     | 2 1/4" | 7/8"   | 1/2"  | 9/16"   | 1/4"  | 1/2"            | 1.09#              | 2'-0"       | 3"              | 2'-0"            | #5          |    |
| 6 B 12    | 5/8" $\phi$ x 2 3/4"<br>Torque = 450# | 5"                         | 2"     | 1 1/4" | 2 3/4" | 1 1/8" | 3/4" | 1/2" | 1/4"  | 1 1/32" | 3 3/4" | 2"                    | 1 1/8" | 4"     | 2 1/4" | 7/8"   | 5/8"  | 1 1/16" | 3/8"  | 5/8"            | 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"            | 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"            | 3.27#              | 2'-6"       | 3"              | 2'-0"            | #7          |    |
| 8 WF 20   |                                       |                            |        |        |        |        |      |      |       |         | 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"            | 3.93#              | 3'-0"       | 2 1/2"          | 2'-0"            | #8          |    |
| 10 WF 21  | 3/4" $\phi$ x 3 1/2"<br>Torque = 750# | 6"                         | 2 1/4" | 1 3/8" | 3 1/2" | 1 1/4" | 1"   | 3/4" | 5/16" | 1 3/32" | 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"            | 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"            | 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"            | 5.42#              | 3'-0"       | 2 1/2"          | 2'-0"            | #11         |    |
| 3 I 5.7   | 1/2" $\phi$ x 2 1/2"<br>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"               | 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"               | 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 AASHO 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" $\phi$ | 12050 Lbs.   | 3/4" $\phi$ | 28400 Lbs.   |
| 5/8" $\phi$ | 19200 Lbs.   | 7/8" $\phi$ | 36050 Lbs.   |

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

APPROVAL RECOMMENDED:  
*Erichi 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  
HIGHWAYS DIVISION

**STANDARD DETAILS**

**BREAK-AWAY SIGN SUPPORTS**

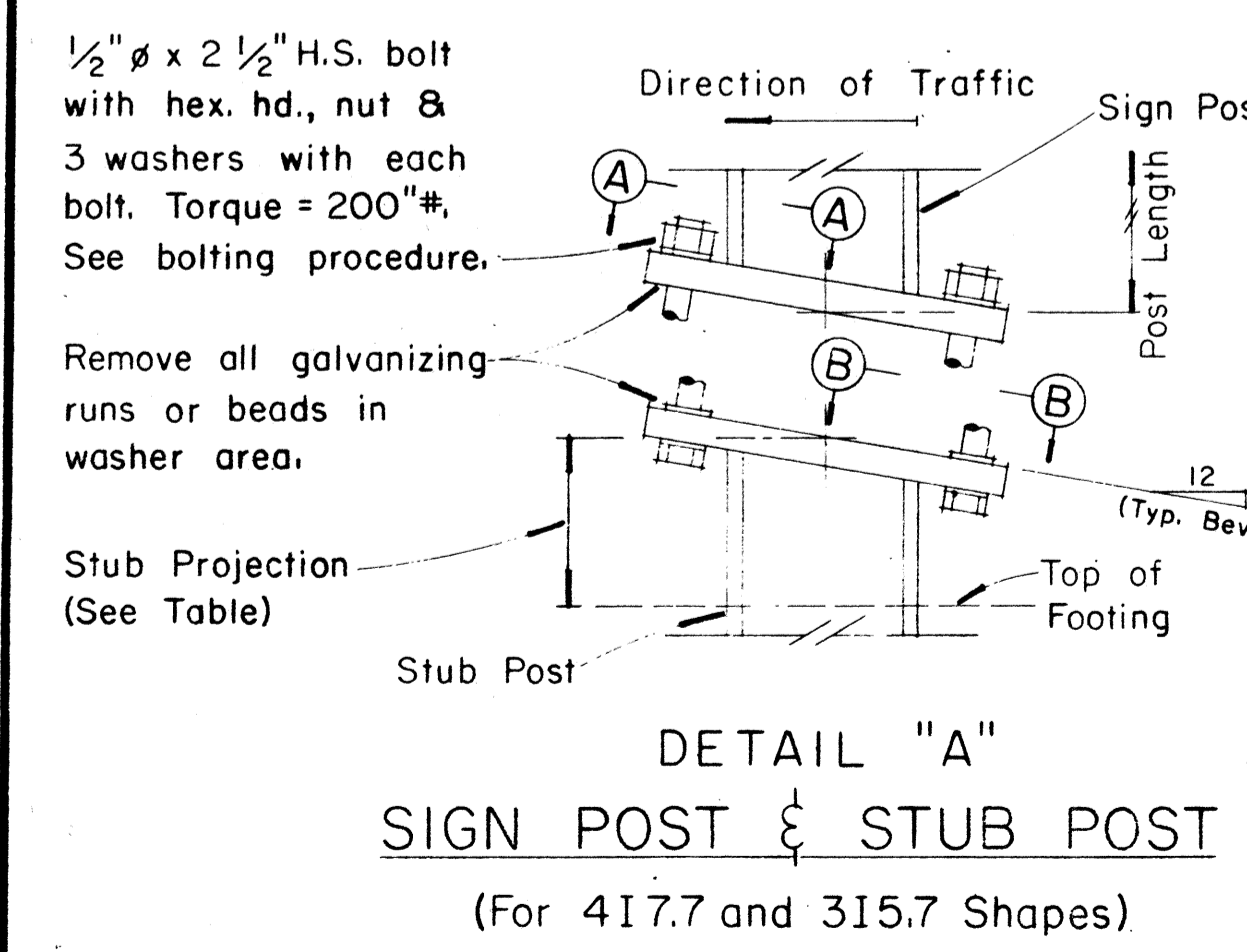
**FOR**

**GROUND MOUNTED GUIDE SIGNS**

Not to Scale

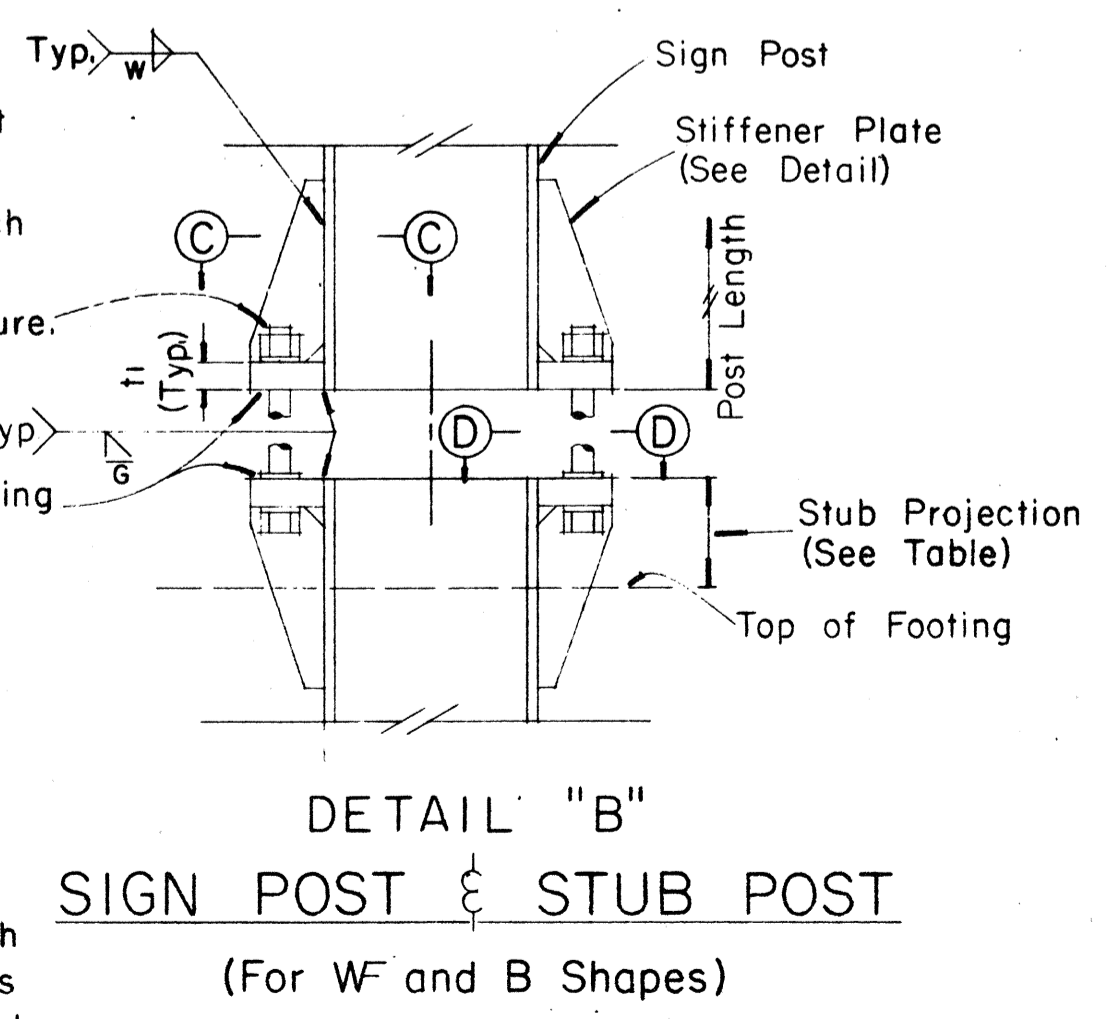
SHEET No. 24 OF 30 SHEETS DT 204

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_

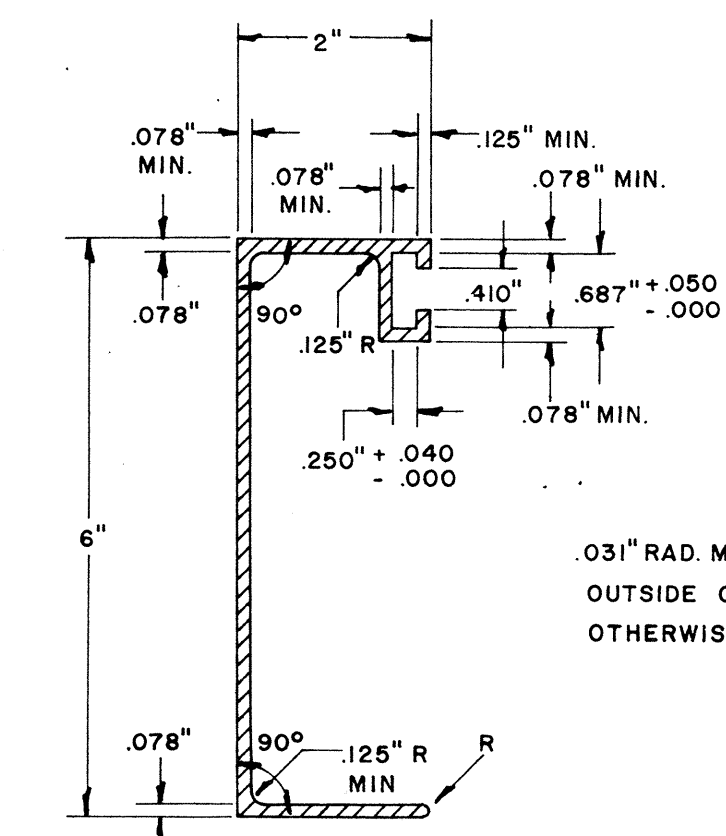
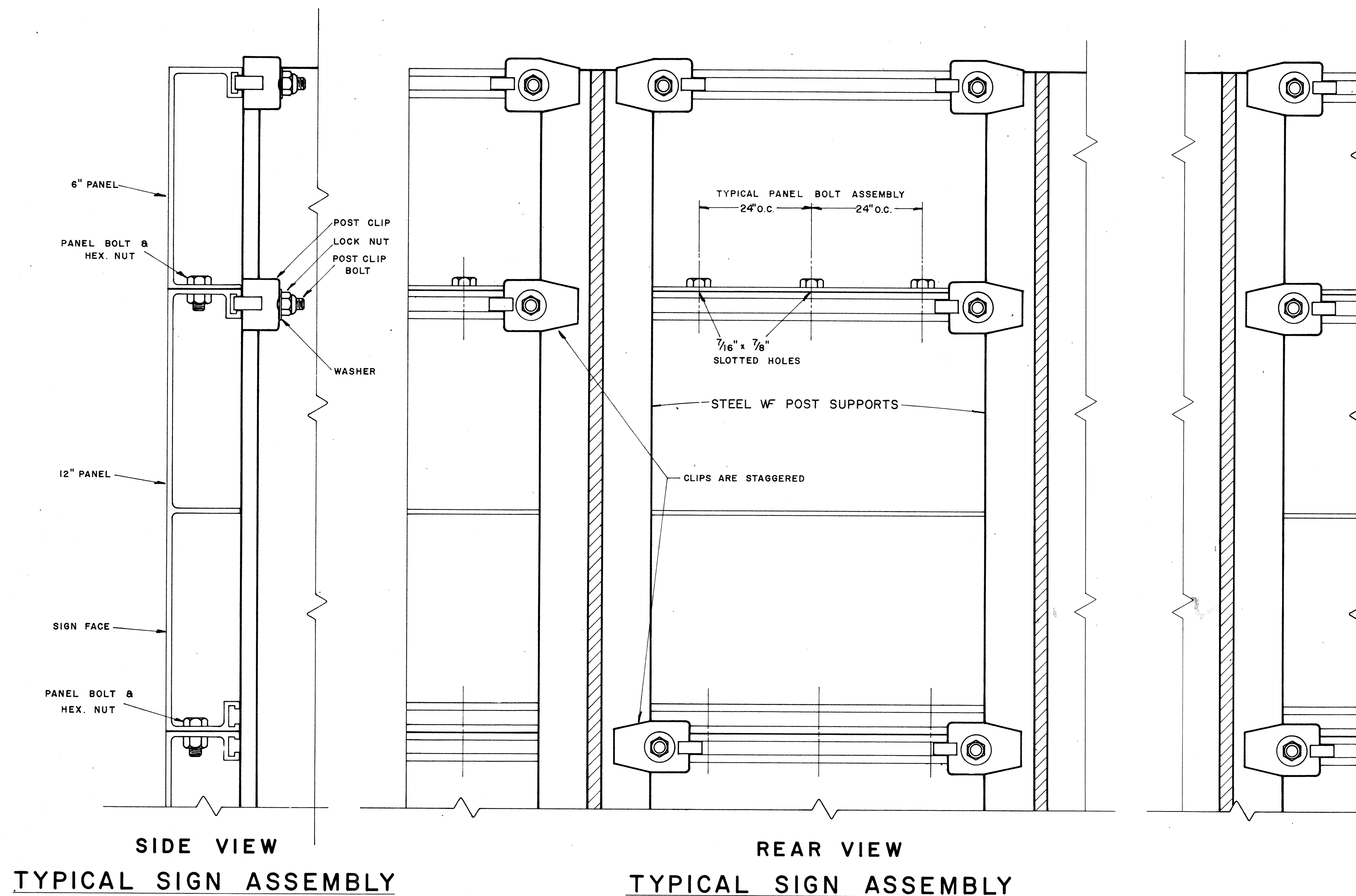


PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

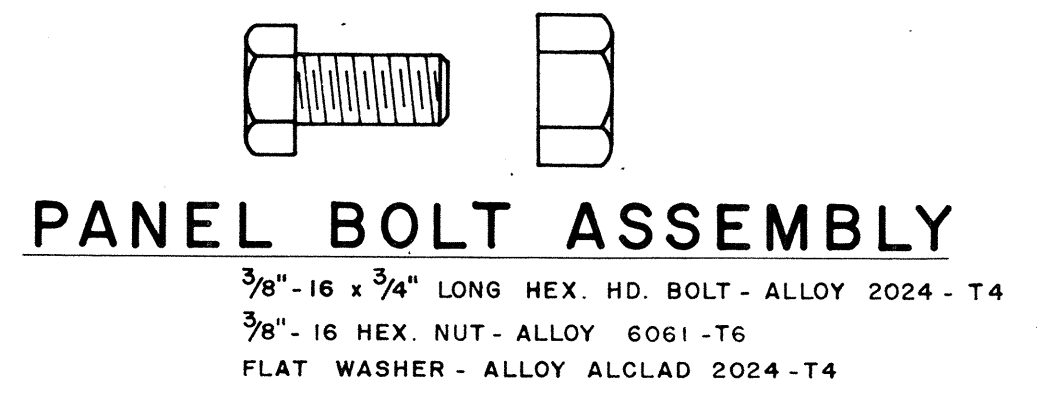
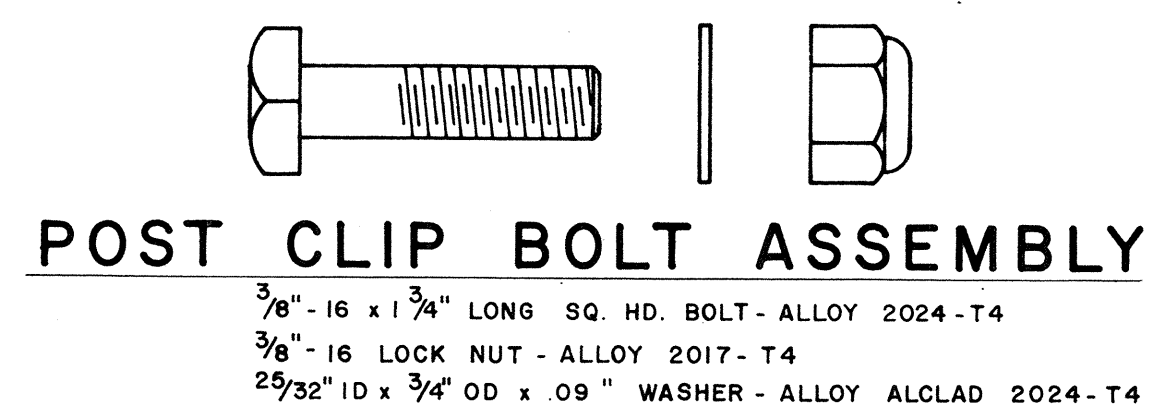
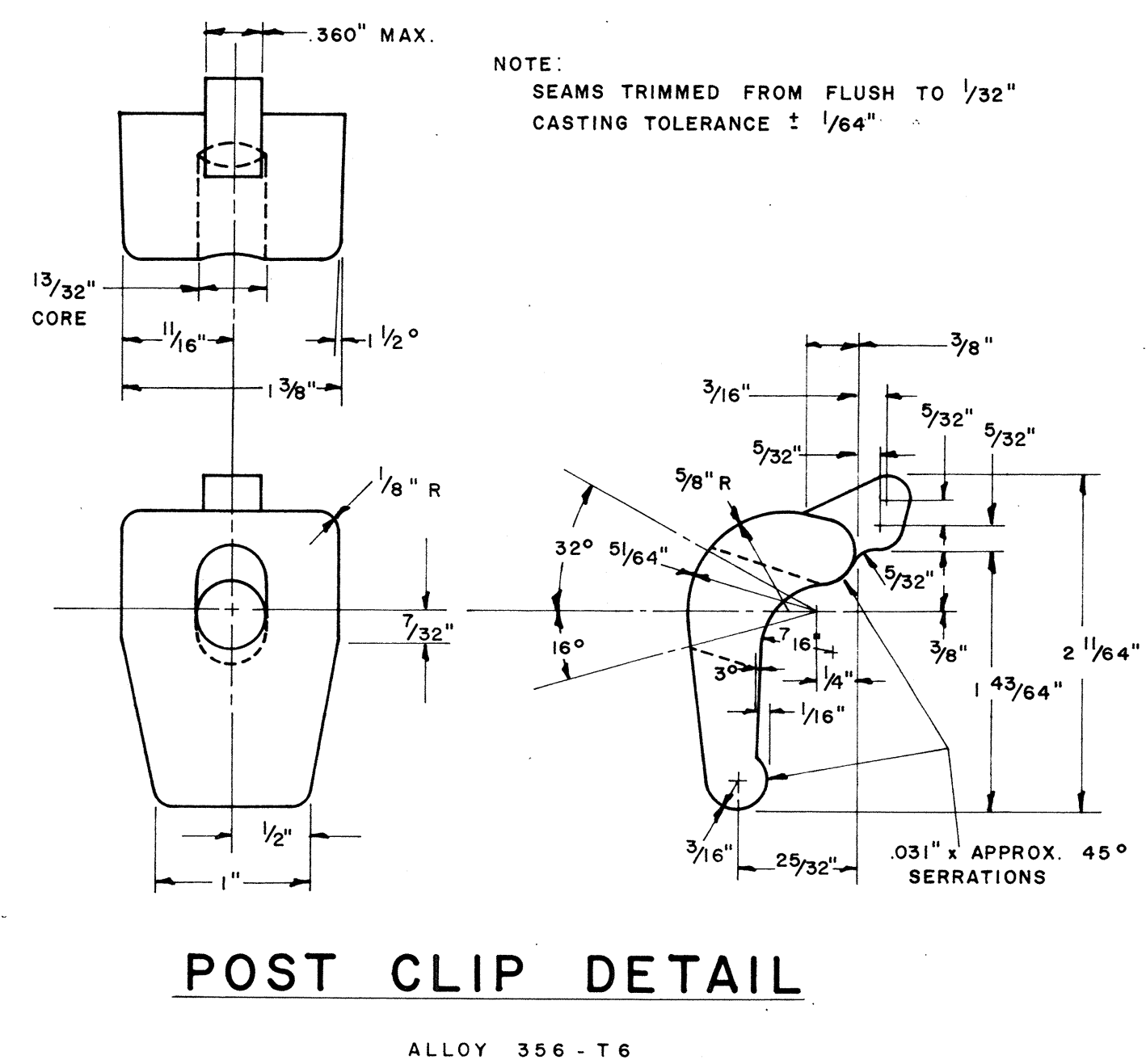
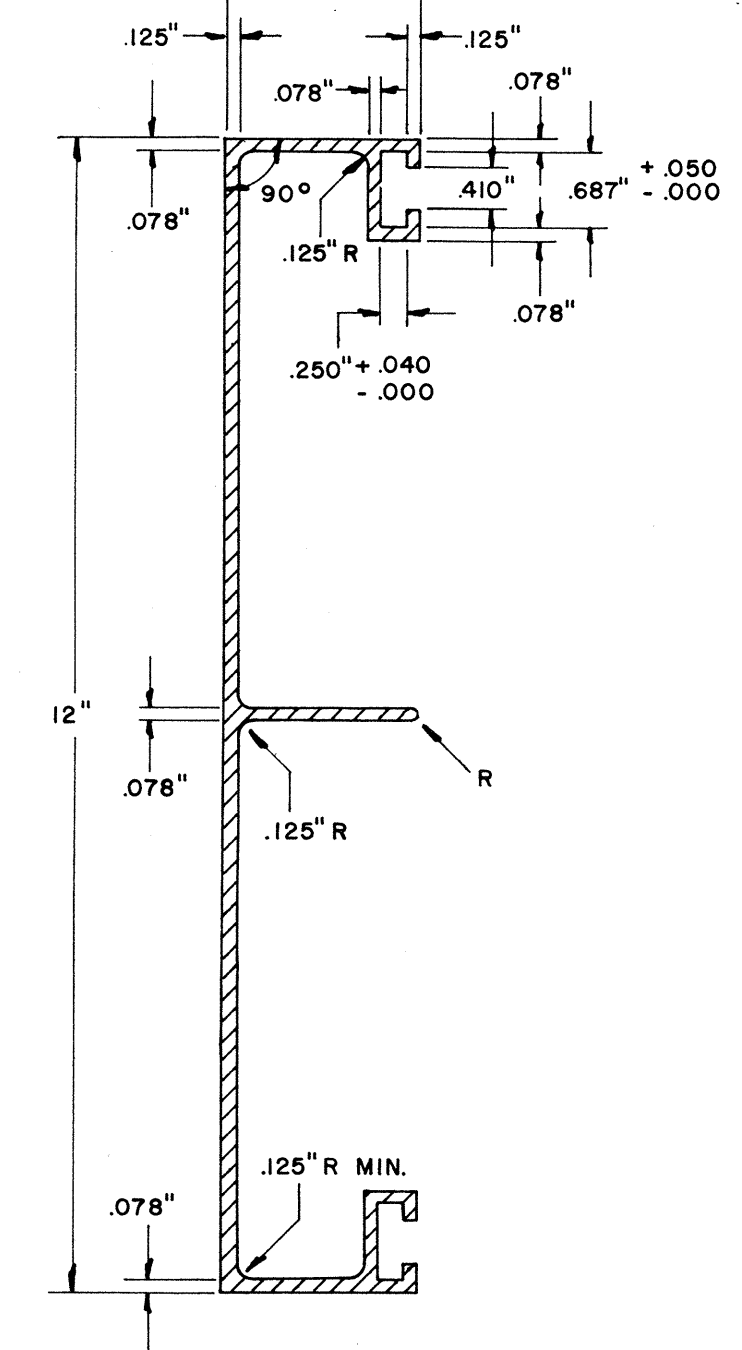
- Assemble post to stub with bolts and with one flat washer on each bolt between plates.
- Shim as required to plumb post.
- Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt in turn & retighten bolts in systematic order 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.  | 1-11-112119        | 1973        | 153       | 176          |



**SOLID EXTRUDED SIGN PANEL DETAILS**



NOTE:  
Extruded Aluminum Panels to be used for  
Destination Signs with Reflective Sheeting Background

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

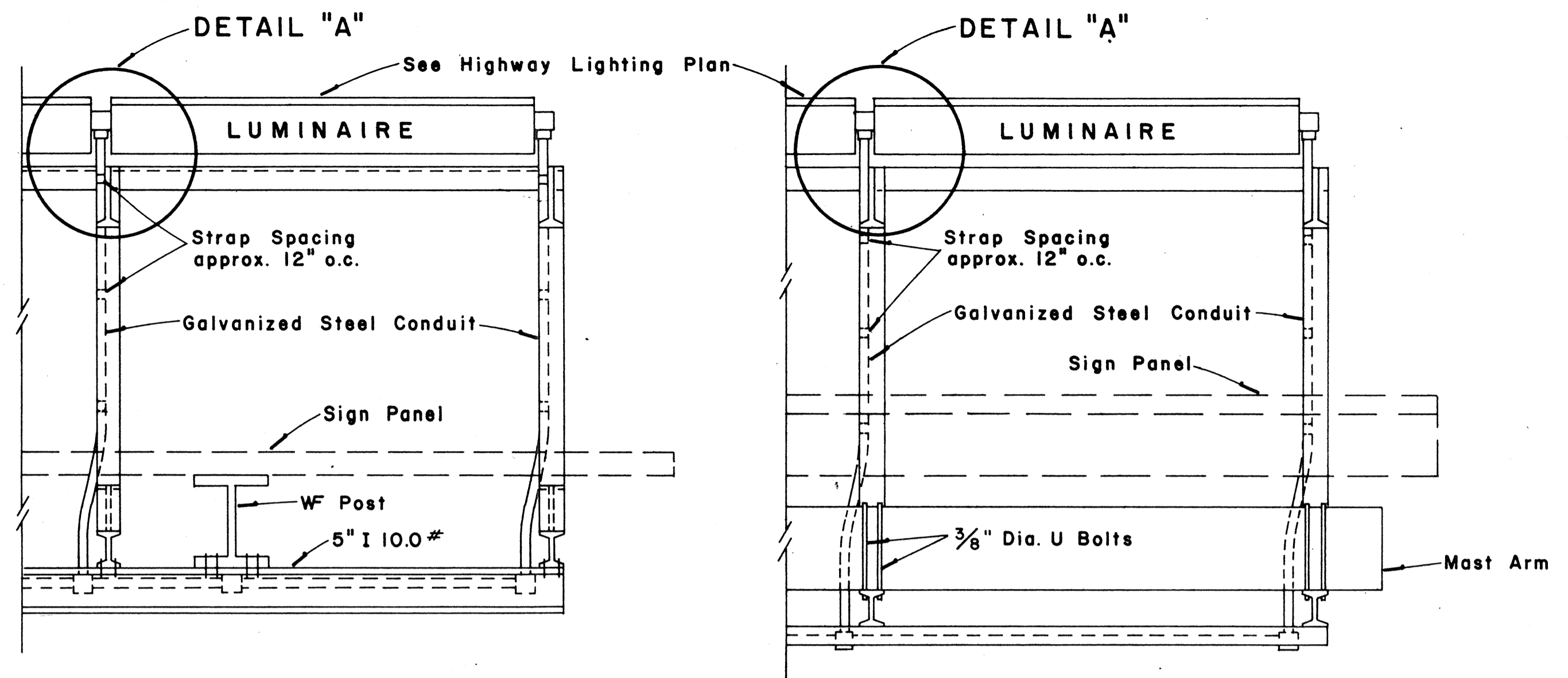
APPROVED:  
*[Signature]* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
SOLID ALUMINUM  
EXTRUDED SIGN PANEL  
AND  
ACCESSORY DETAILS  
SCALE:

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

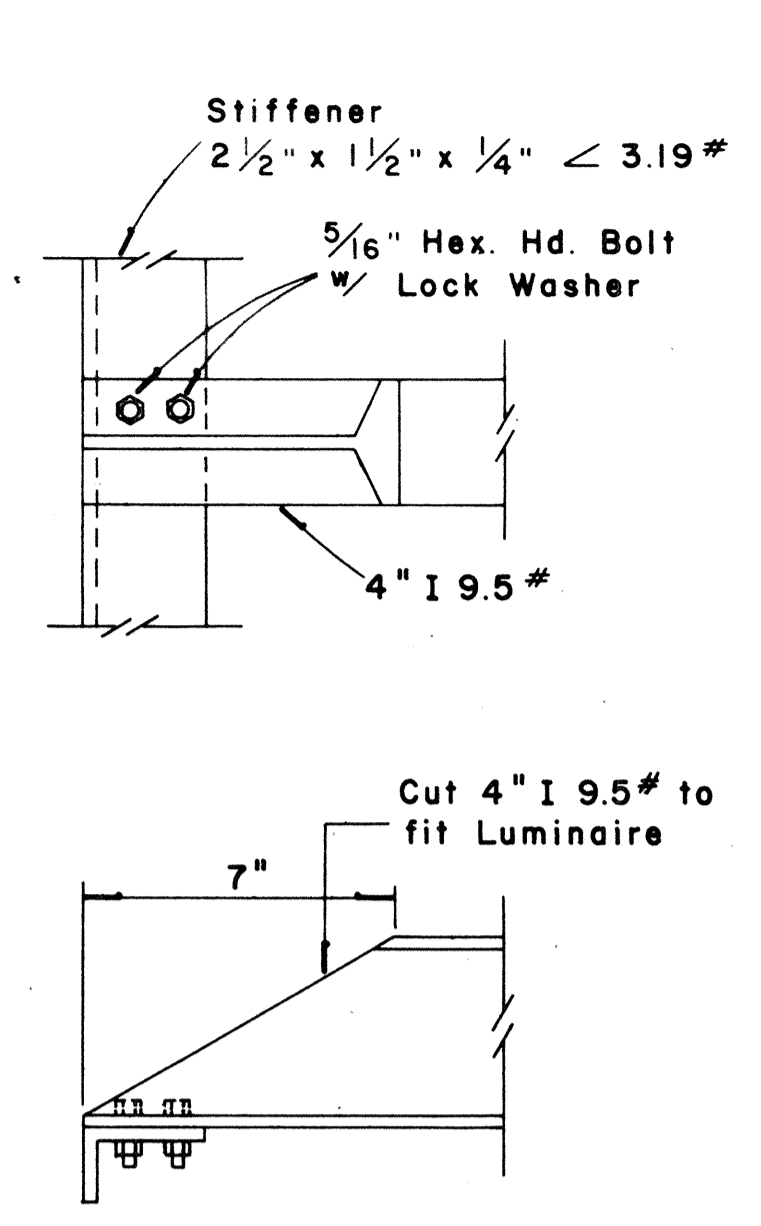
|                     |       |                    |             |           |              |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
| HAWAII              | HAW.  | I-11(112)12        | 1973        | 154       | 176          |



**GROUND MOUNTED**                      **OVERHEAD**

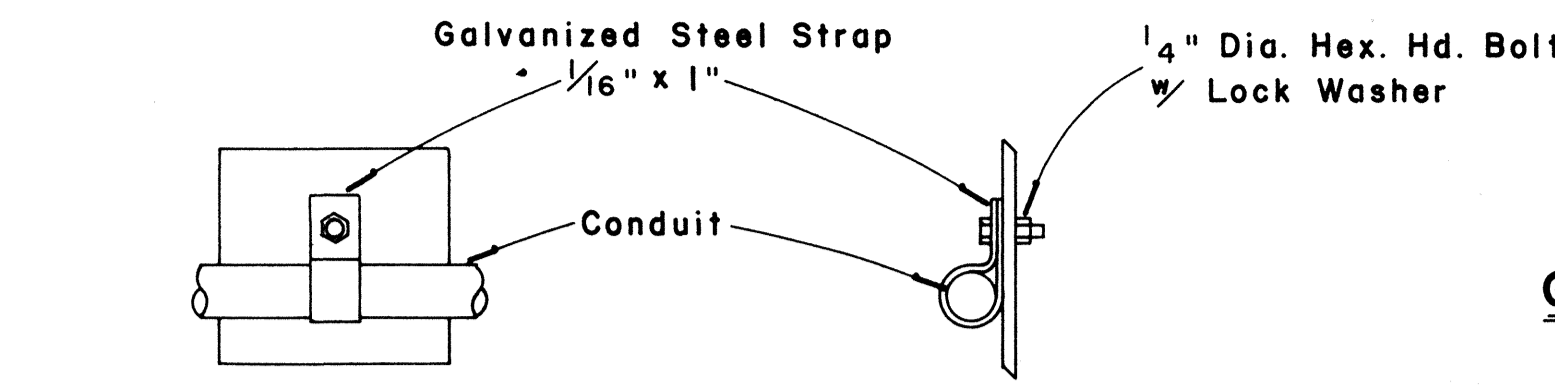
**TOP VIEW**  
**LUMINAIRE MOUNTING**

Scale: 1" = 1'-0"



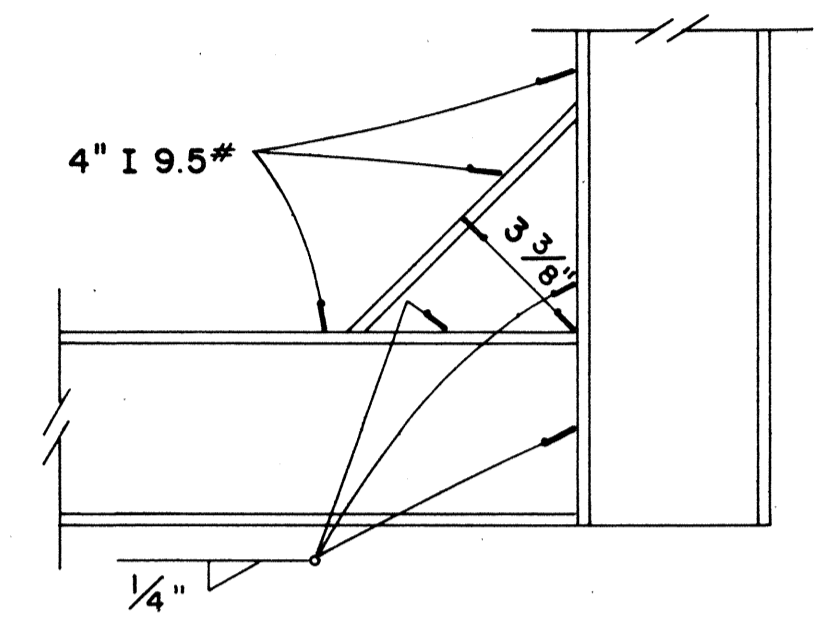
**DETAIL "A"**

Scale: 3" = 1'-0"



**CONDUIT STRAP DETAIL**

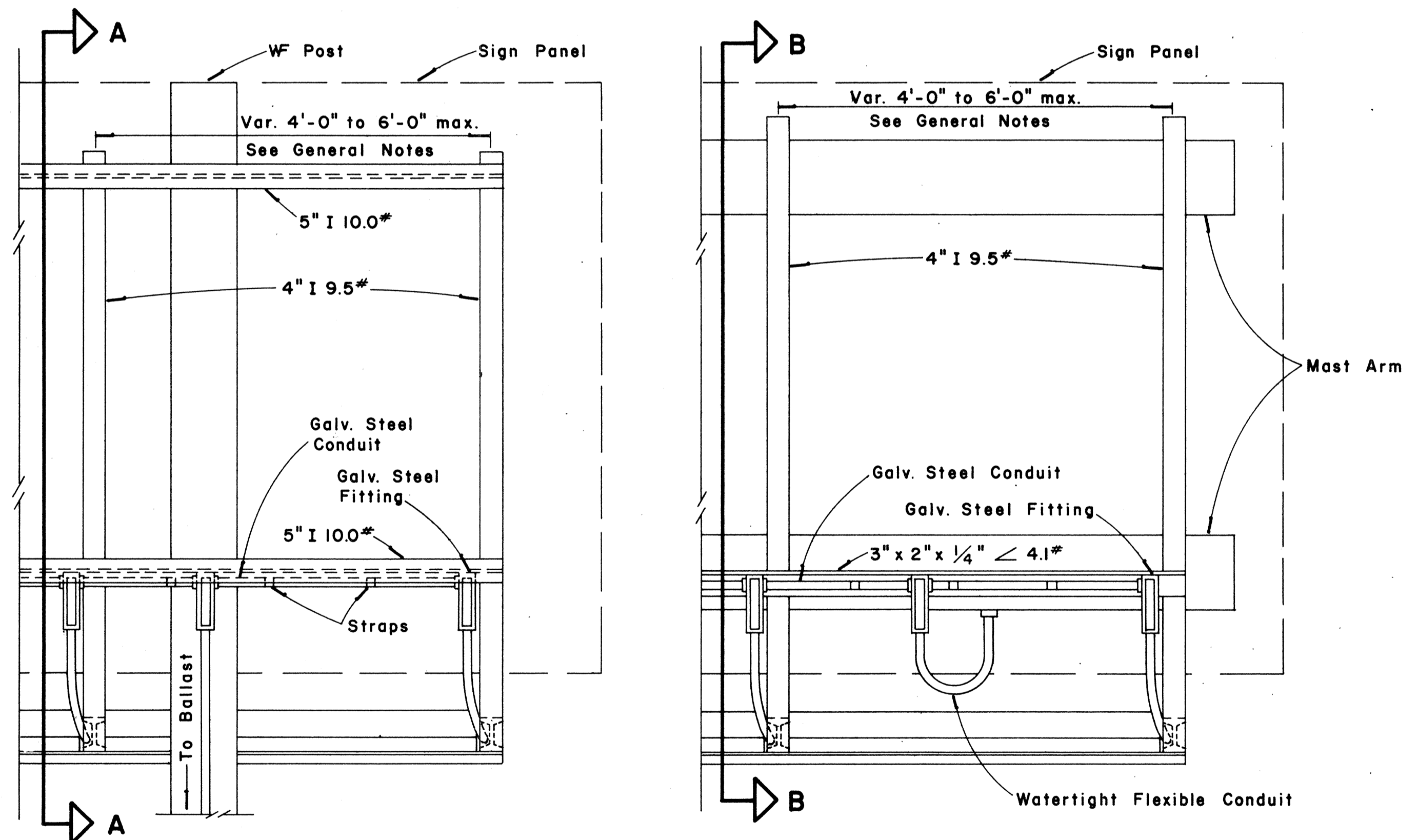
Scale: 3" = 1'-0"



**DETAIL "B"**

Scale: 3" = 1'-0"

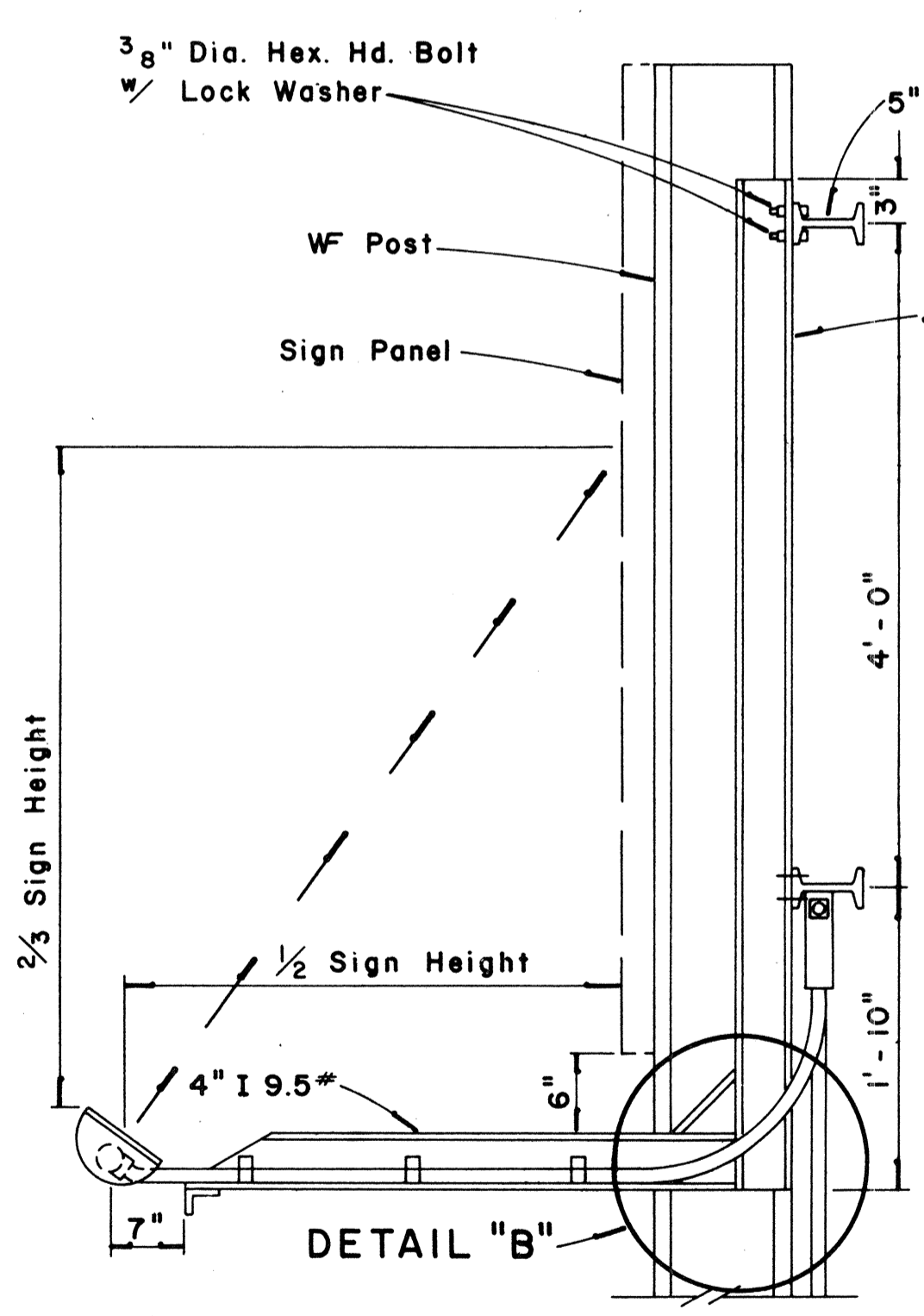
- GENERAL NOTES**
1. Conduit sizes: 3/4" diameter for one or two Luminaire Units, 1" diameter for three or more Luminaire Units.
  2. Fluorescent Fixtures shall be installed as recommended by the manufacturer.
  3. Luminaire brackets shall be spaced to fit 4'-0" to 6'-0" luminaires with fittings. Eight feet (8'-0") luminaires shall have an additional bracket at midpoint.
  4. All parts of the bracket shall be hot-dip galvanized, prime coated with a suitable primer and painted with three coats of dark green enamel.



**GROUND MOUNTED**                      **OVERHEAD**

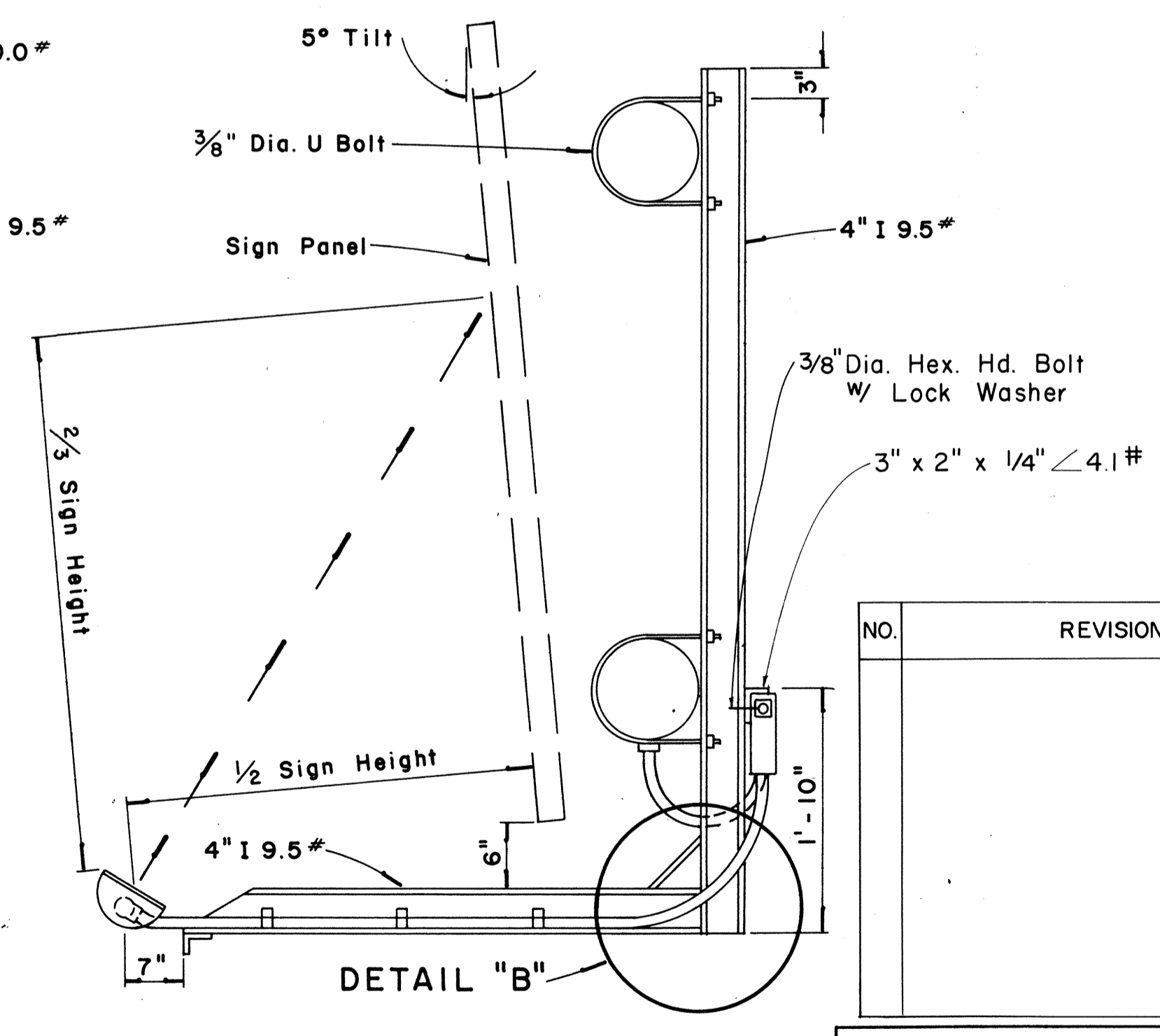
**REAR VIEW**  
**LUMINAIRE MOUNTING**

Scale: 1" = 1'-0"



**SECTION "A-A"**

Scale: 1" = 1'-0"



**SECTION "B-B"**

Scale: 1" = 1'-0"

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

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

| NO. | REVISION | APPROVED BY | DATE |
|-----|----------|-------------|------|
|     |          |             |      |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**EXPRESSWAY SIGNS**  
**LUMINAIRE MOUNTINGS**

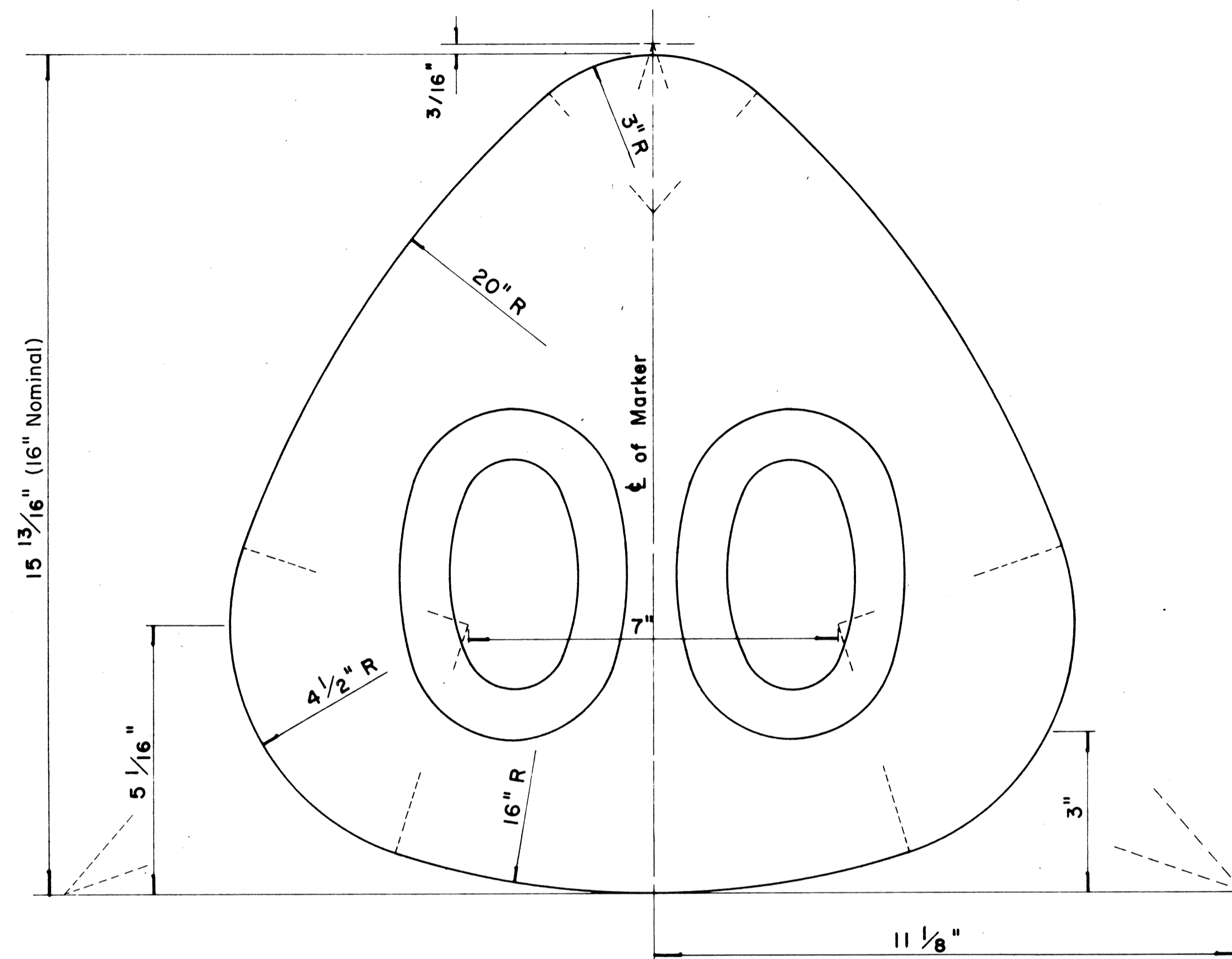
Scale: As Shown

SHEET No. 26 OF 30 SHEETS DT 208

REVISIONS  
DATE  
BY  
REASON  
DATE  
BY  
REASON

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 111-1(12)19        | 1972        | 155       | 176          |

| MARKER SIZE | MULTIPLY DIMENSIONS BY | NUMERAL SIZE |
|-------------|------------------------|--------------|
| 16"         | 1                      | 6"           |
| 21"         | 1.3                    | 8"           |
| 32"         | 2.0                    | 12"          |
| 42"         | 2.63                   | 16"          |



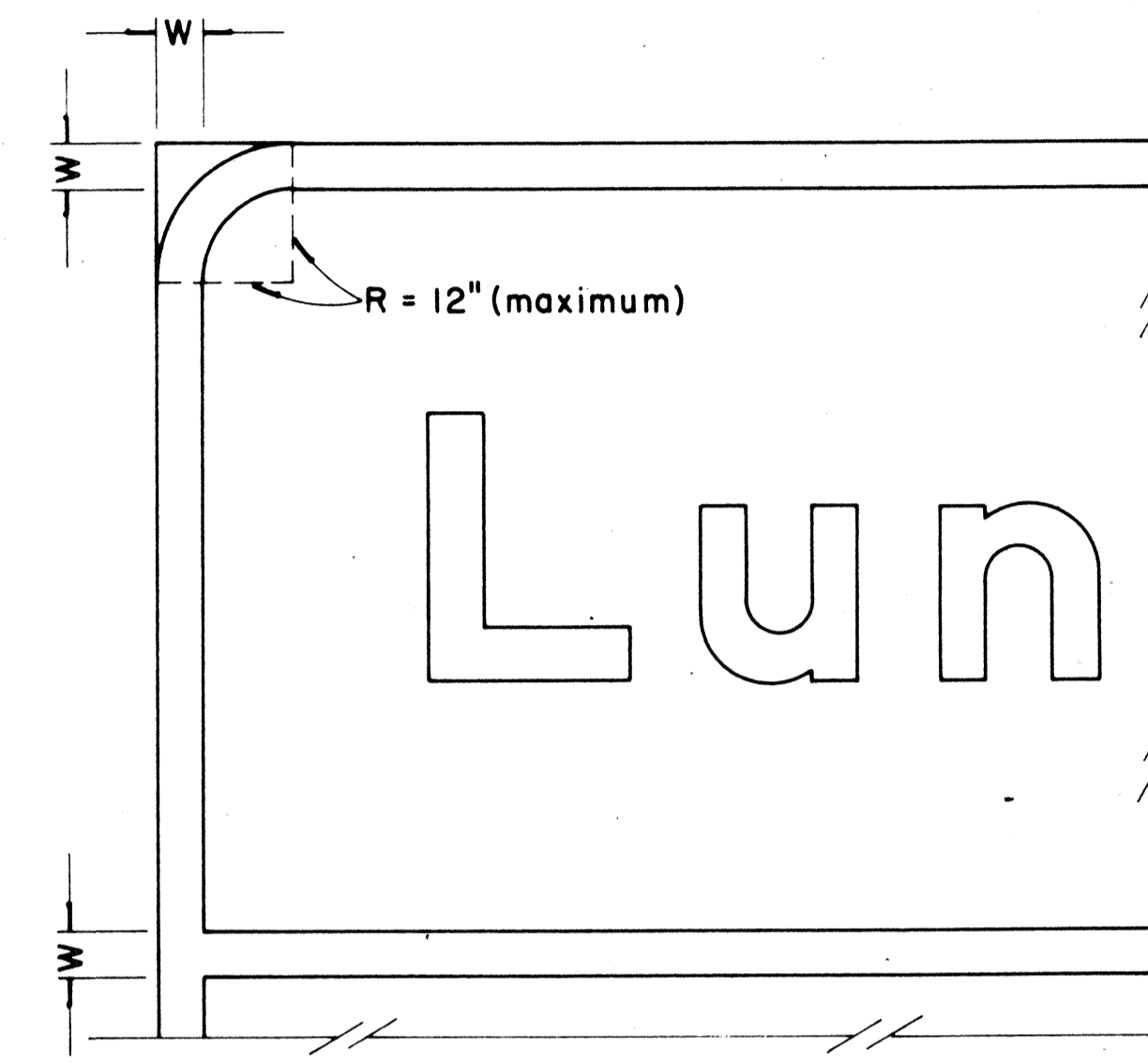
**STATE ROUTE MARKER  
FOR GUIDE SIGNS**

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.
- \* 4. The 16" State Route Marker shall be used only with the Construction Identification sign.

| 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 embossed cut-outs, white and reflectorized.
3. All Guide signs shall have borders.

APPROVAL RECOMMENDED:

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

APPROVED:

*Hubert S. Salehi* 4/12/72  
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION                                    | APPROVED BY | DATE    |
|-----|---|-------------|---------|
| 1   | Supersedes Sht. DT 209<br>Approved 12-30-69 | H.T.        | 4/12/72 |

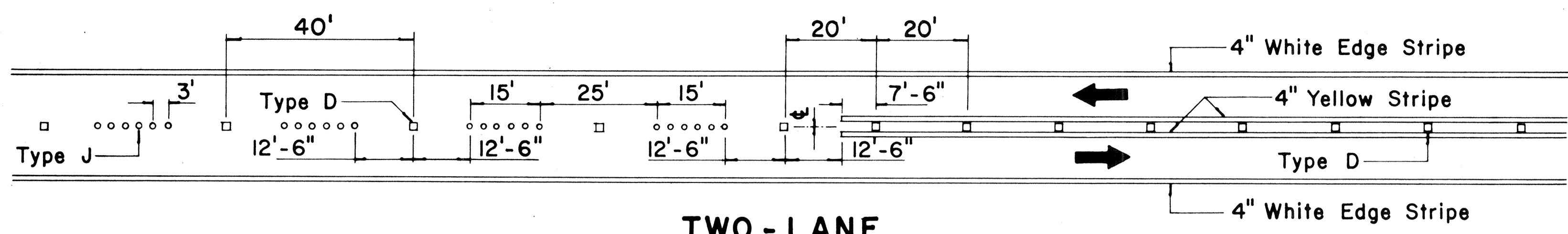
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
STANDARD DETAILS  
**STATE ROUTE MARKER  
AND BORDER DETAIL  
FOR GUIDE SIGNS**

Scale: As Shown

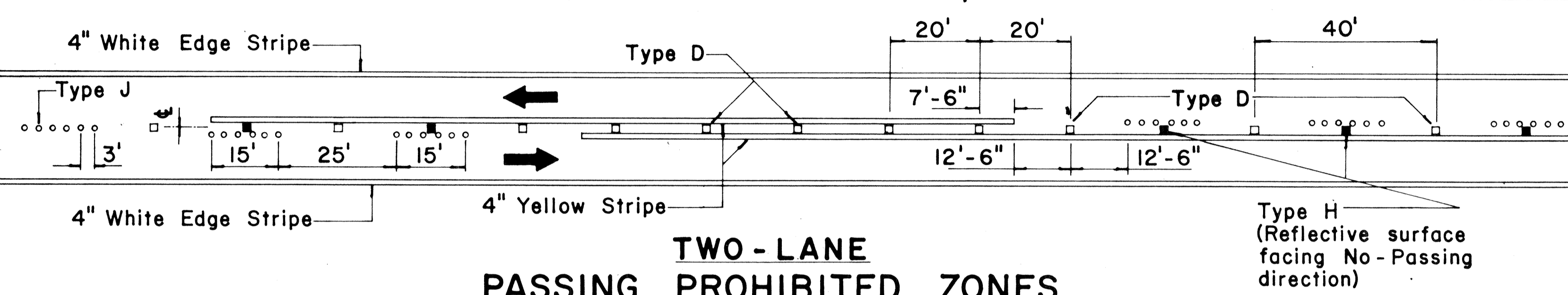
SHEET No. 277 OF 307 SHEETS DT 209

|               |  |
|---------------|--|
| DATE          |  |
| DESIGNED BY   |  |
| CHECKED BY    |  |
| QUANTITIES BY |  |
| DESIGNED BY   |  |
| TRACED BY     |  |
| PLANNED BY    |  |
| ORIGINAL PLAN |  |

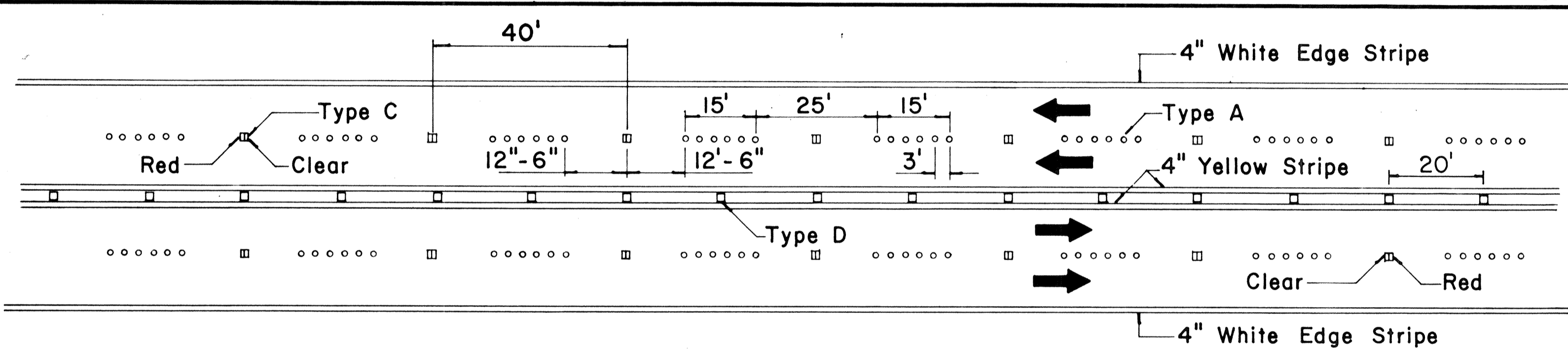
| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | HI-1(112):19       | 1973        | 156       | 176          |



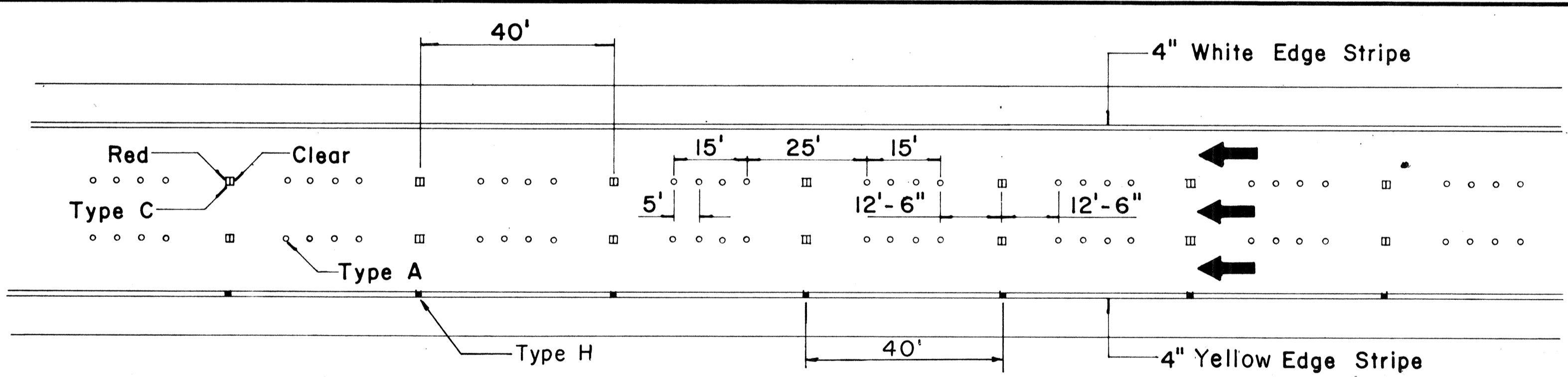
**TWO-LANE  
PASSING PERMITTED AND PASSING PROHIBITED**



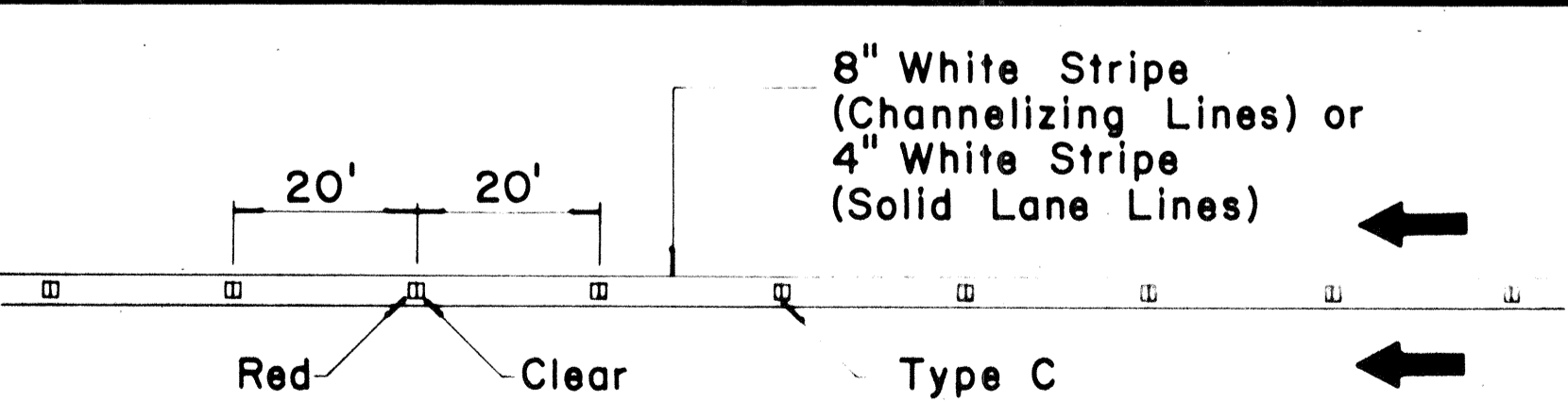
**TWO-LANE  
PASSING PROHIBITED ZONES**



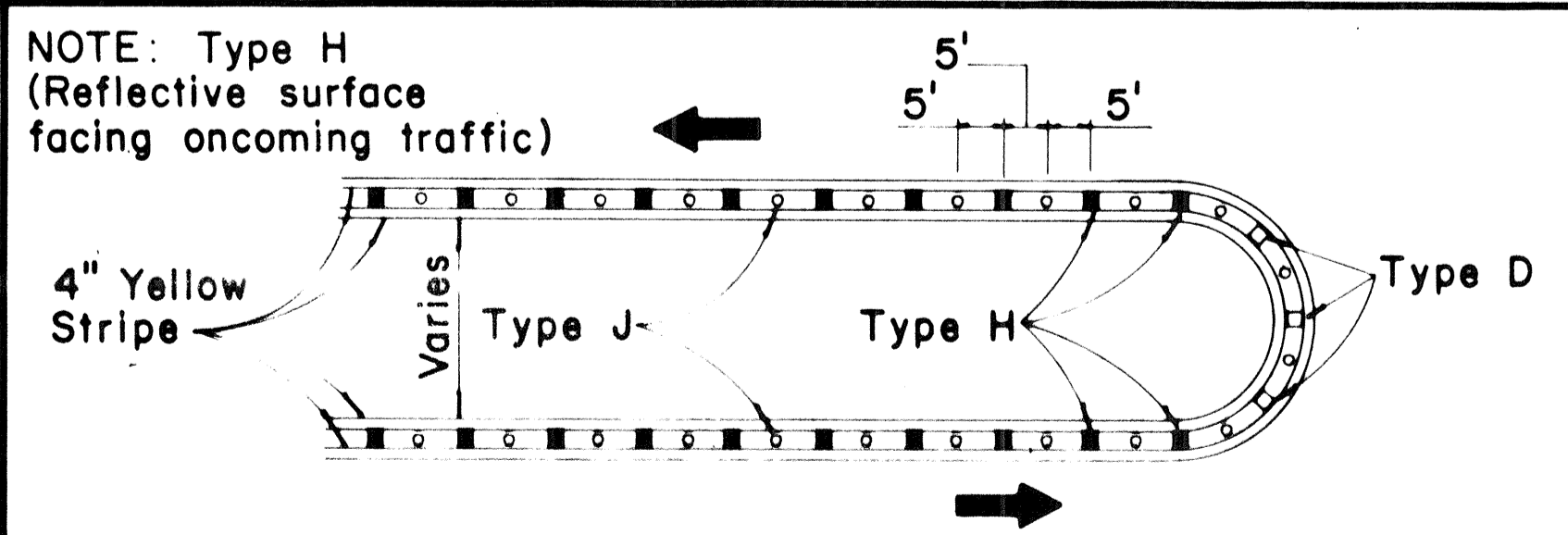
**MULTI-LANE  
LANE LINES AND CENTER LINE**



**FREEWAY LANE LINES**



**CHANNELIZING LINES  
OR SOLID LANE LINES**



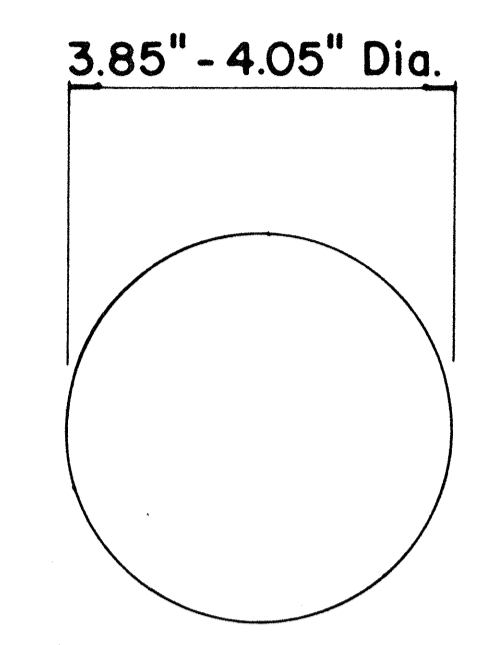
**MEDIAN NOSE DELINEATION**

TWO - LANE

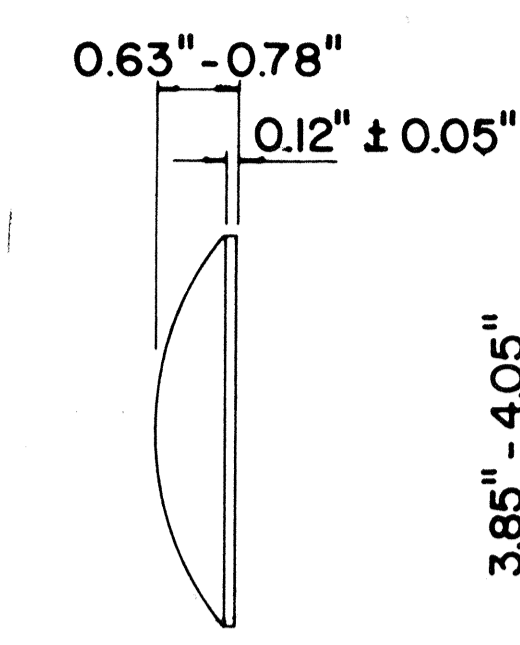
MULTI - LANE

FREEWAY

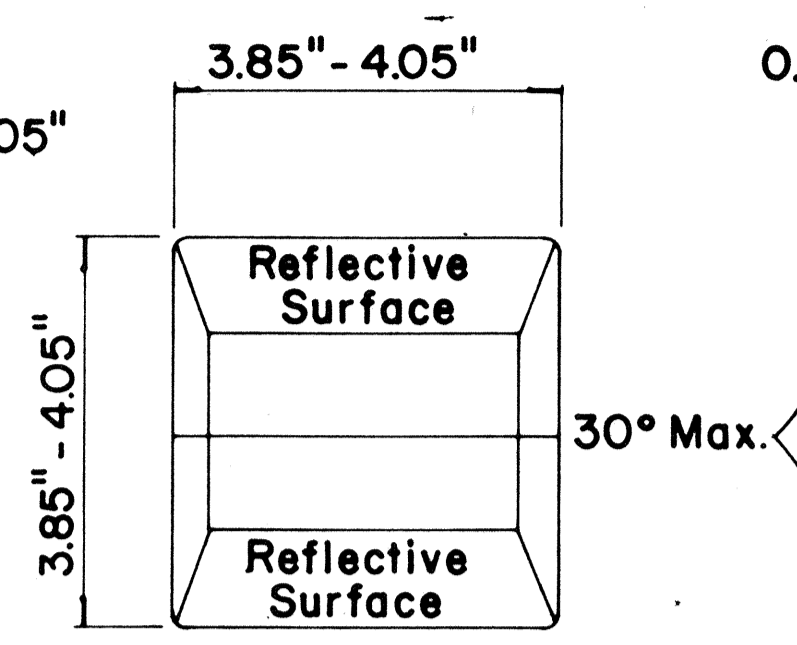
MISCELLANEOUS



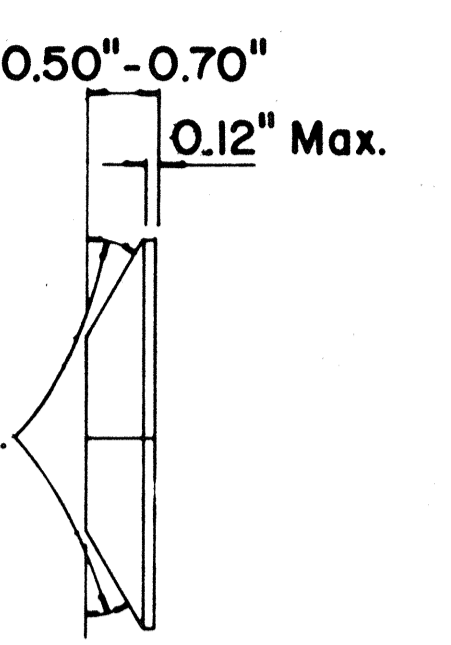
**TYPE A  
NON-REFLECTIVE WHITE MARKER**



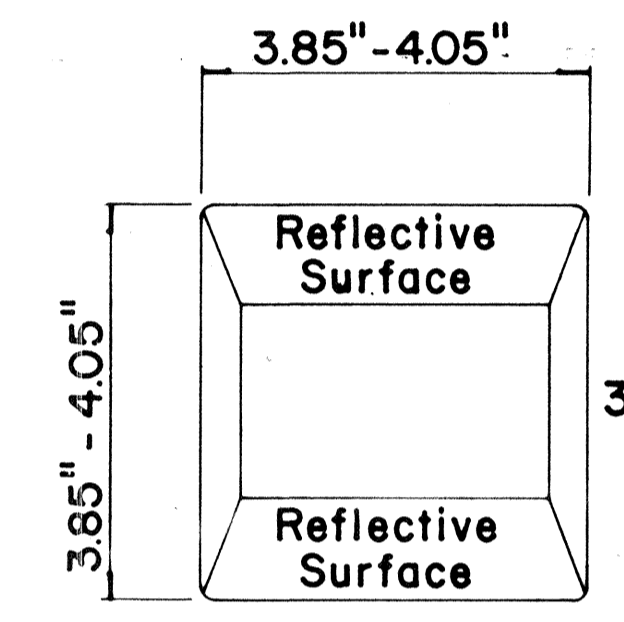
**TYPE J  
NON-REFLECTIVE YELLOW MARKER**



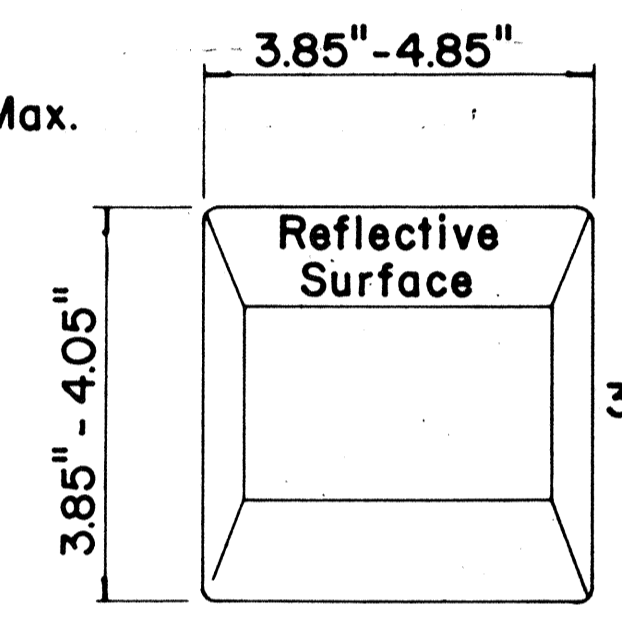
**TYPE C  
RED-CLEAR REFLECTIVE MARKER**



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



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



**GENERAL NOTES**

1. Painted stripes to be done by Contractor unless otherwise specified.

|             |  |
|-------------|--|
| DATE        |  |
| DESIGNED BY |  |
| CHECKED BY  |  |
| DATE        |  |
| DESIGNED BY |  |
| CHECKED BY  |  |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS  
RAISED PAVEMENT MARKERS**

F.A.I. Proj. No. I-HI-1(112):19

Not to Scale October 1971

SHEET No. 28 OF 30 SHEETS