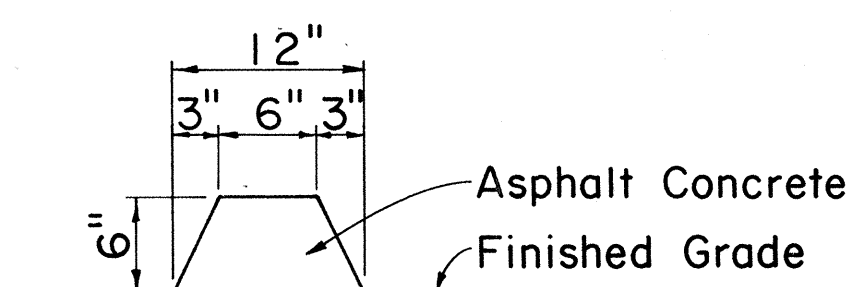


|           |                   |      |
|-----------|-------------------|------|
| ORIGINAL  | SURVEY PLOTTED BY | DATE |
| PLAN      | DRAWN BY          |      |
|           | TRACED BY         |      |
| NOTE BOOK | DESIGNED BY       |      |
|           | QUANTITIES BY     |      |
| No.       |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



3'-0"

6"

1'-6" (See Note)

6"

3 1/4"

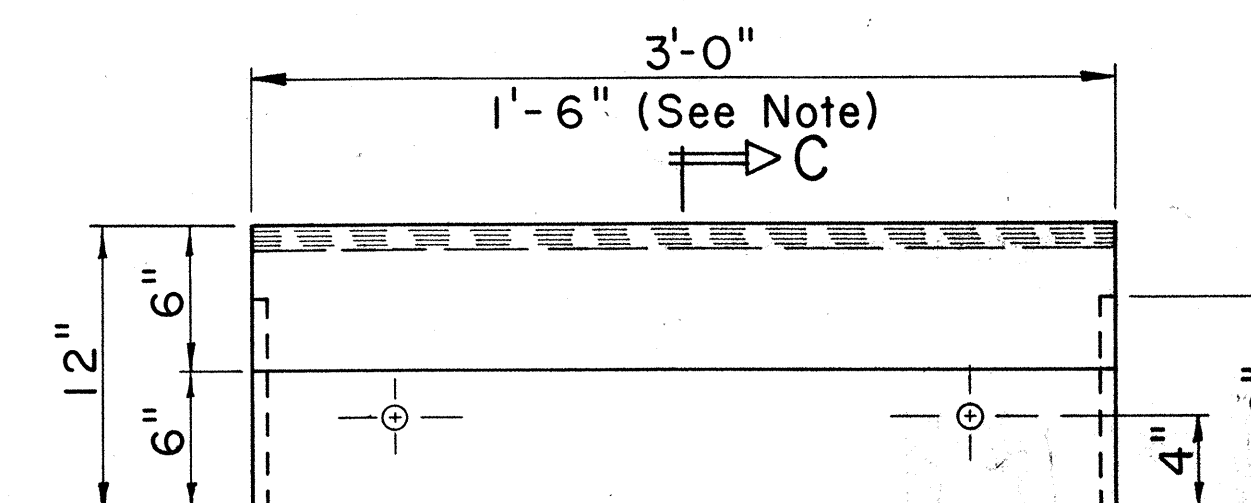
5/8"

1 1/4"

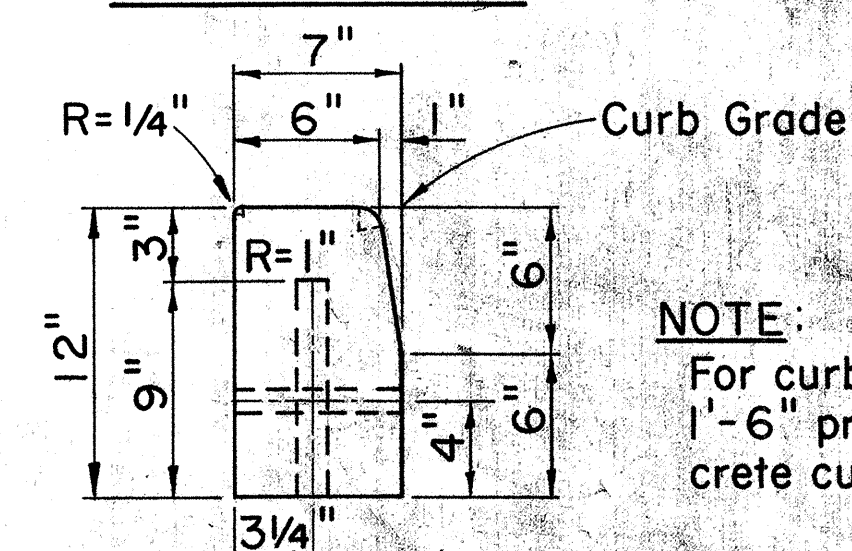
6"

1"

## PLAN



ELEVATION



**NOTE:**  
For curb returns use  
1'-6" pre-cast con-  
crete curbs

SECTION C-C  
CURB, TYPE 3D

PRE-CAST CONC. CURB

Scale:  $1\frac{1}{2}" = 1' - 0"$



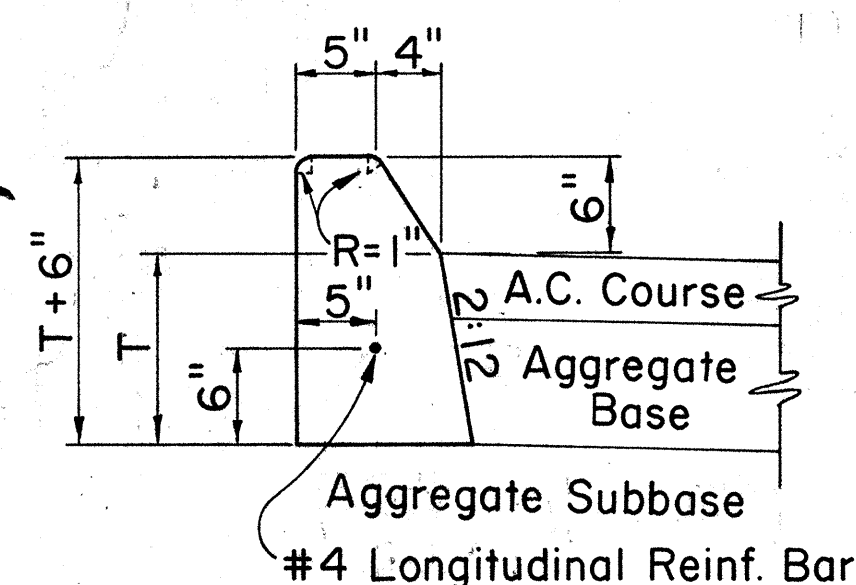
SECTION B-B

## CAST-IN-PLACE CURB & GUTTER

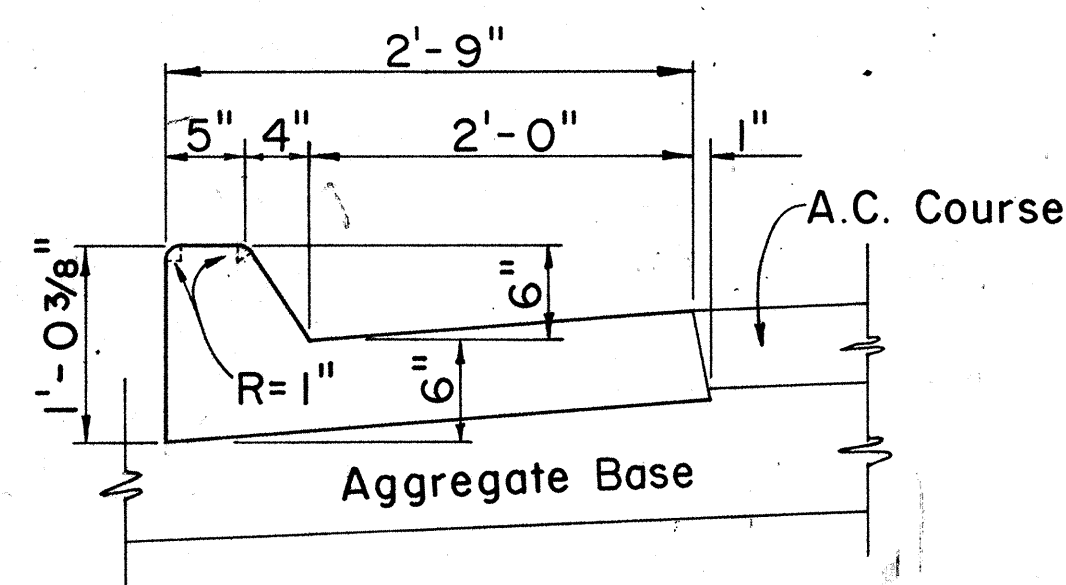
### CAST-IN-PLACE GUTTER

### CONSTRUCTION JOINT DETAIL

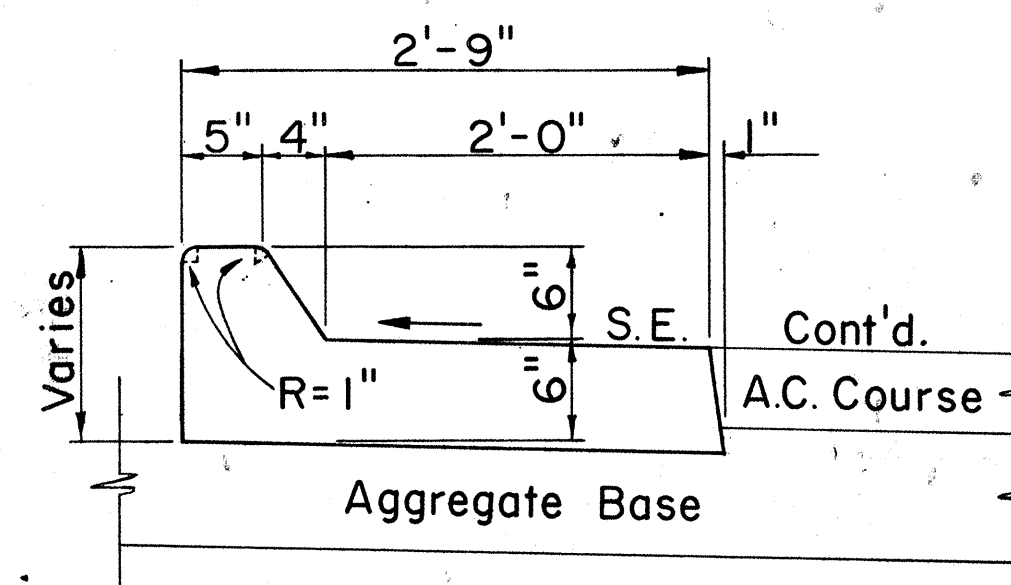
Scale: 1" = 1'-0"



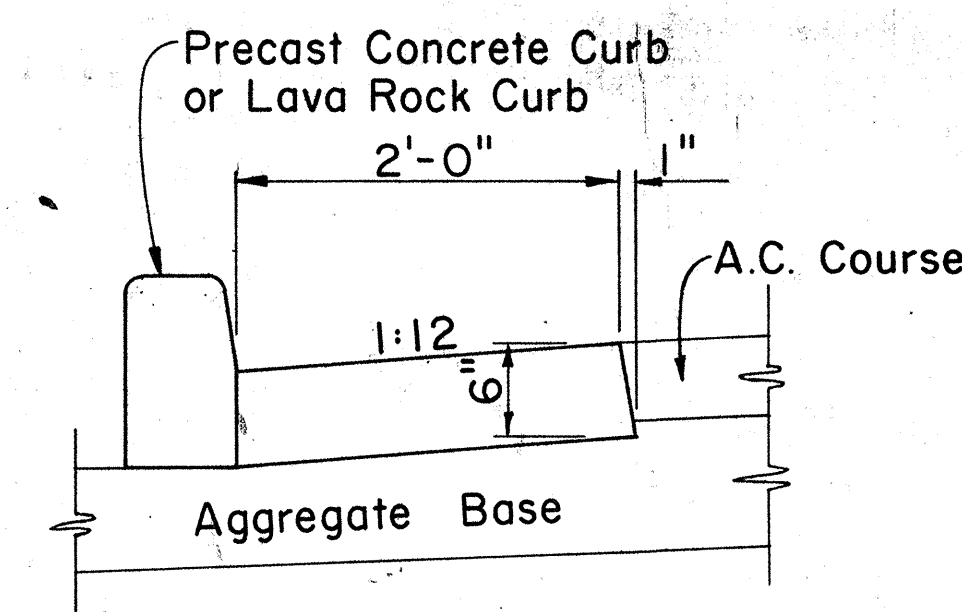
CURB, TYPE 2A



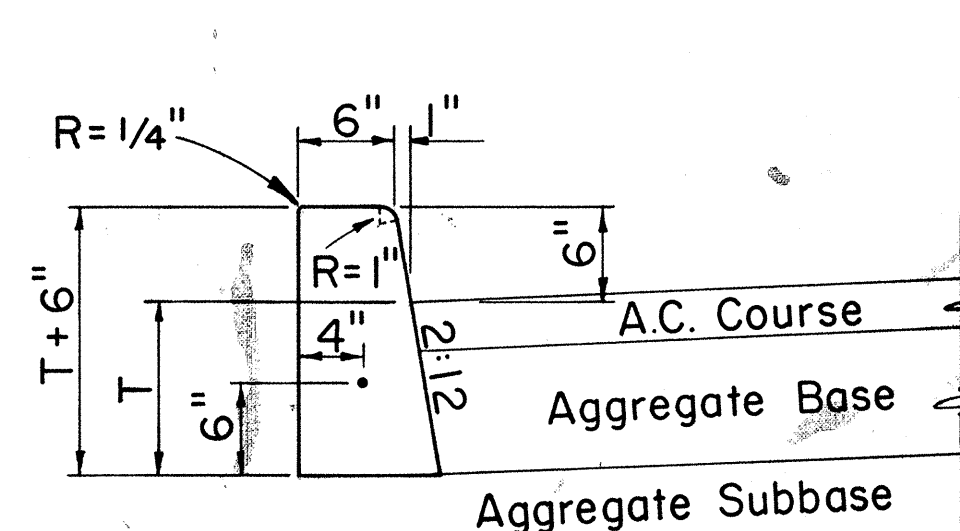
CURB & GUTTER, TYPE 2AG



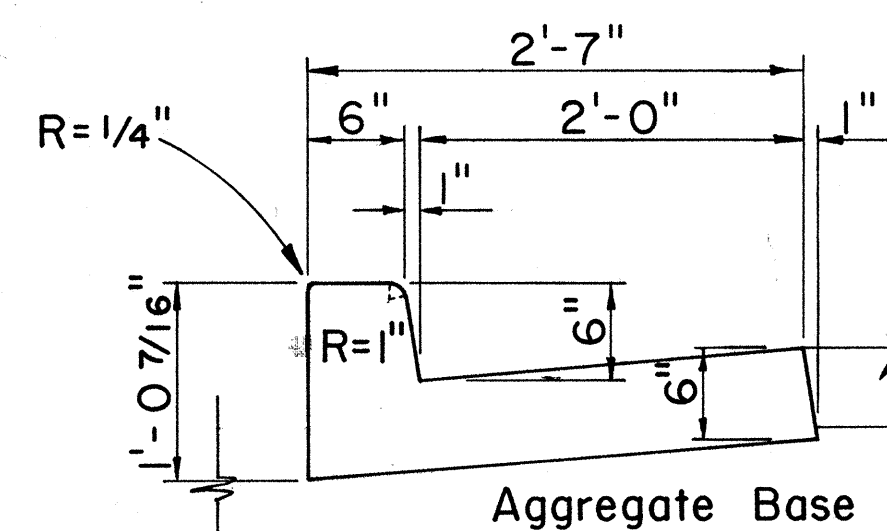
CURB &amp; GUTTER, TYPE 2AGM



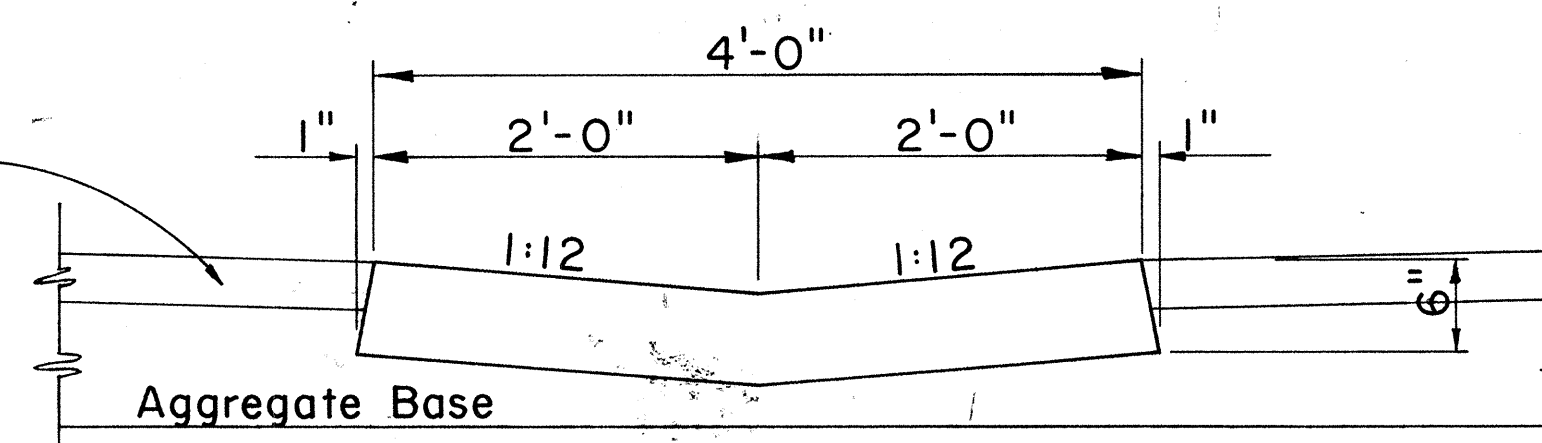
GUTTER, TYPE 2A



CURB, TYPE 2D



CURB & GUTTER, TYPE 2DG



GUTTER, TYPE 2G

## CAST-IN-PLACE CONCRETE CURBS AND/OR GUTTERS

Scale: 1" = 1'-0"

| NO. | REVISION | APPROVED<br>BY | DATE |
|-----|----------|----------------|------|
|     |          |                |      |

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER

12-4-69  
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING

12-10-6  
DATE

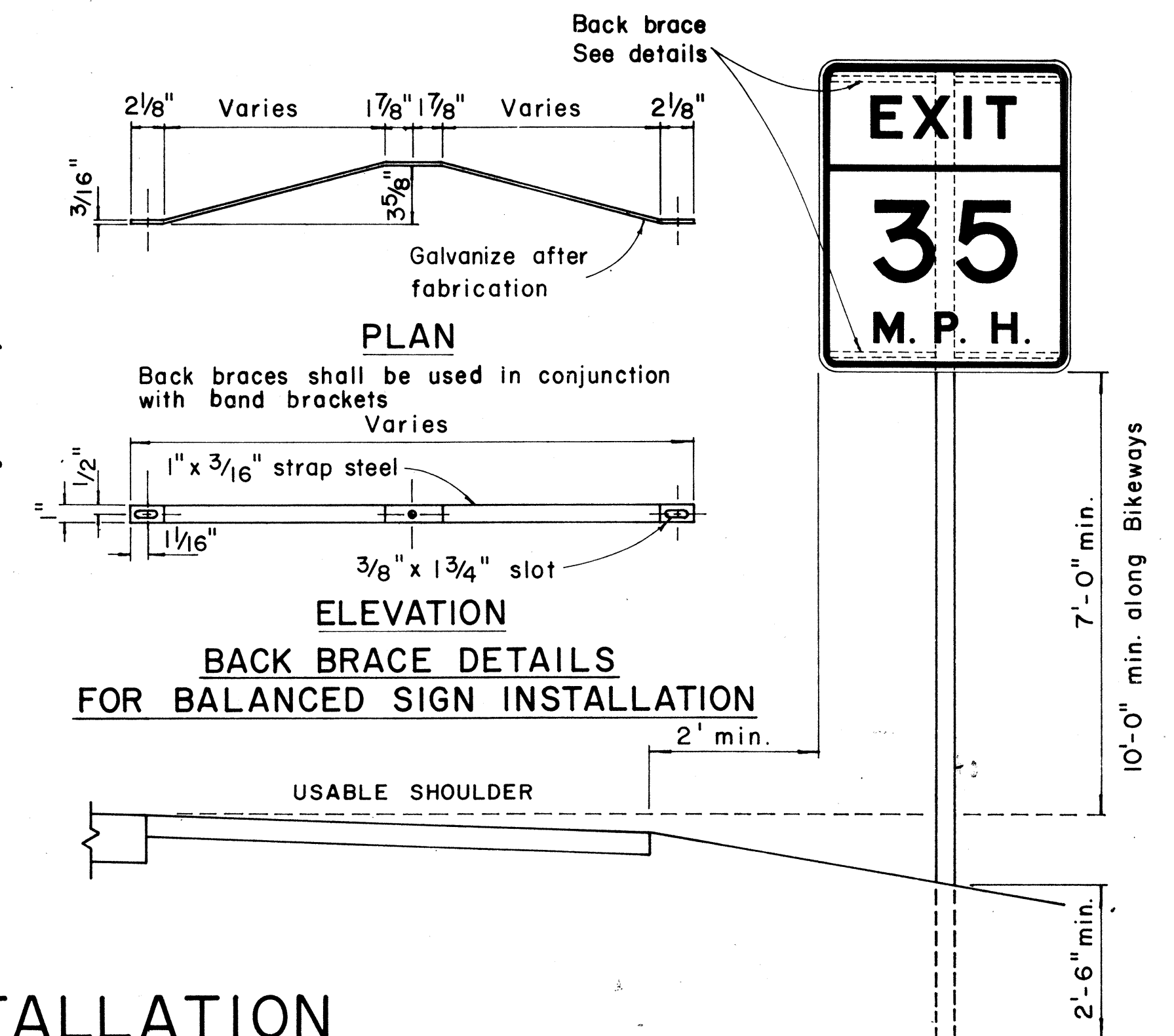
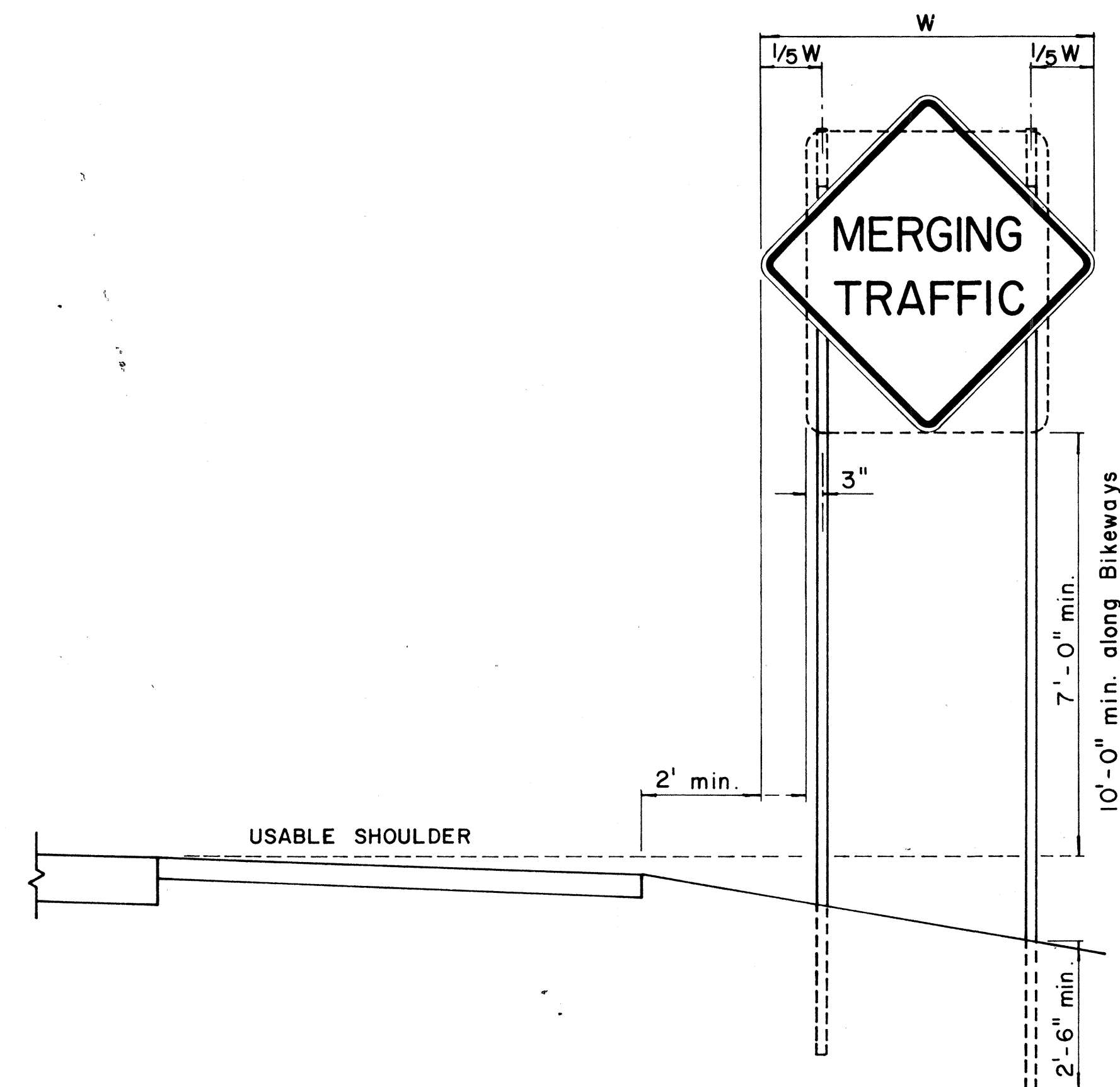
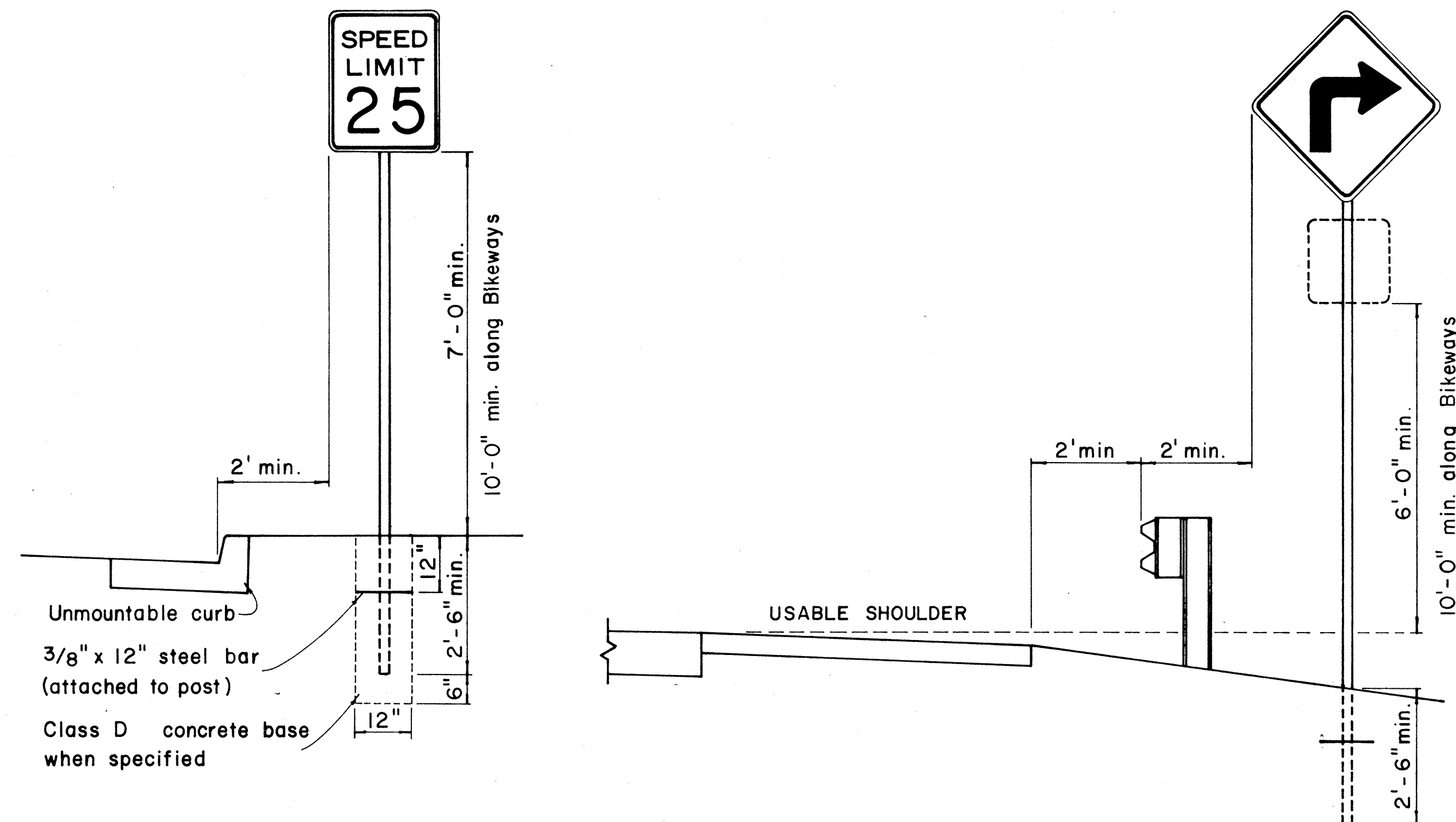
**STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION**

STANDARD DETAILS  
TYPICAL DETAILS OF CURB  
AND/OR GUTTERS

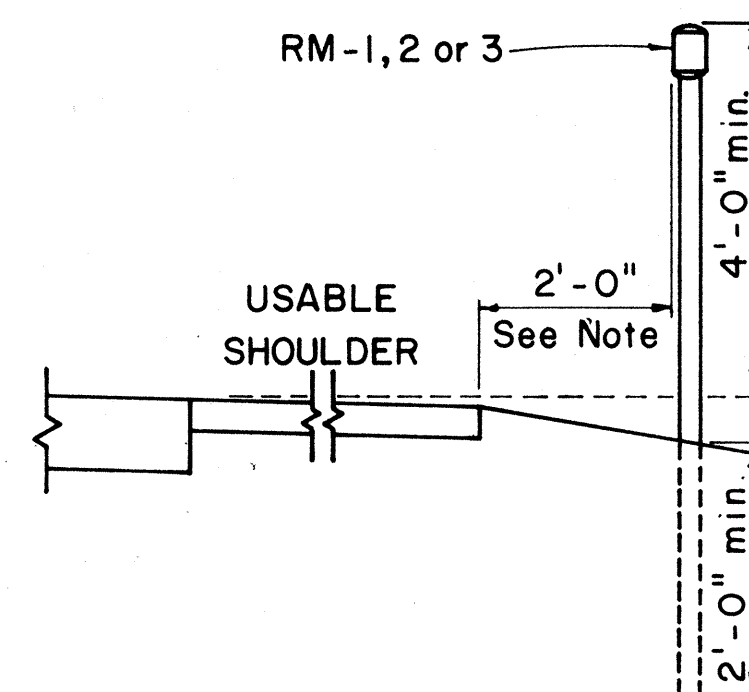
Scale: As Shown

|           |             |          |
|-----------|-------------|----------|
| SHEET No. | OF 8 SHEETS | DD 609.1 |
|-----------|-------------|----------|

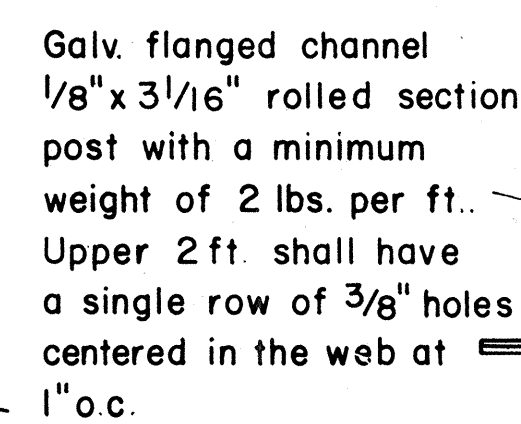
| FED. ROAD<br>DIST. NO. | STATE | PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | DDA-01-76 | 1977           | 6            | 12              |



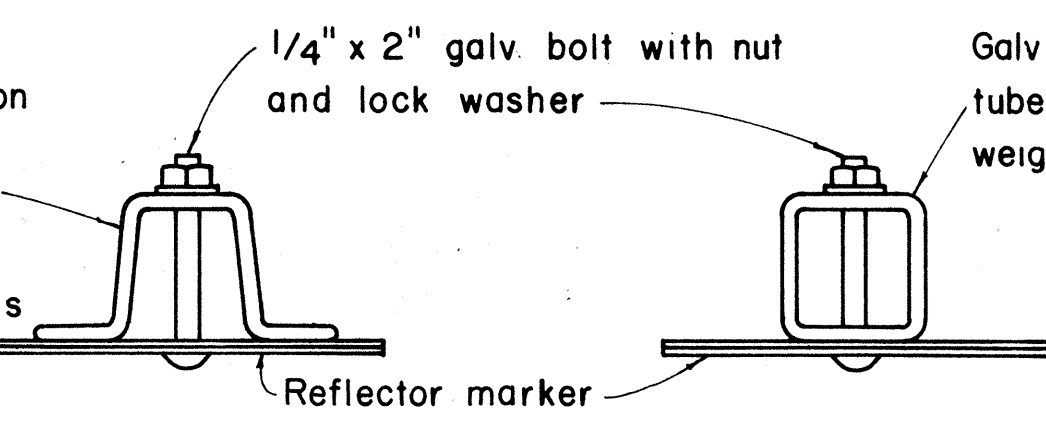
## HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



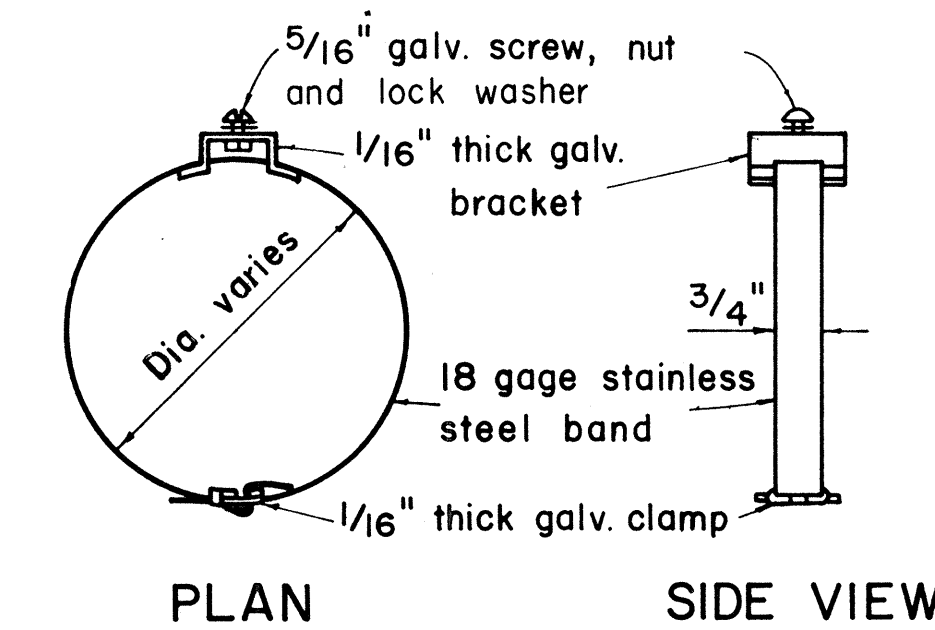
ROAD DELINEATOR



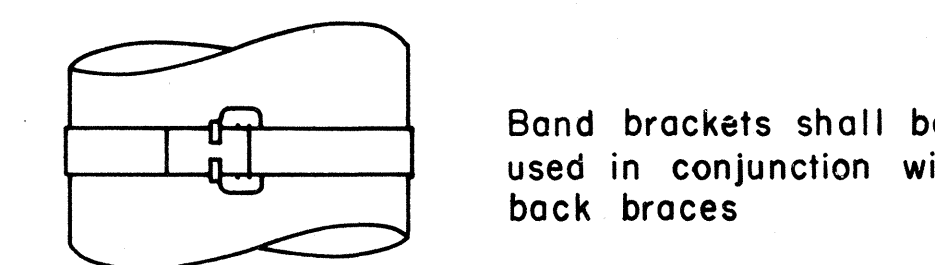
### TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL  
HORIZONTAL REFLECTOR MARKER  
RM - 3H



PLAN                      SIDE VIEW



FRONT VIEW

## TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

| NO | REVISION         | APPROVED<br>BY | DATE |
|----|------------------|----------------|------|
| 1. | Revised Details. | H.C.           | 9-14 |

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

APPROVED: 22 Feb 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

**STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION**

## STANDARD DETAILS

### MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

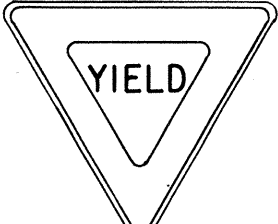
**SHEET No. 2 OF 8 SHEETS** DT 100

|               |                         |            |
|---------------|-------------------------|------------|
| ORIGINAL PLAN | SURVEY PLOTTED BY _____ | DATE _____ |
|               | DRAWN BY _____          | " _____    |
|               | TRACED BY _____         | " _____    |
| NOTE BOOK     | DESIGNED BY _____       | " _____    |
|               | QUANTITIES BY _____     | " _____    |
| No. _____     | CHECKED BY _____        | " _____    |

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 20A-0176  | 1977        | 7         | 12           |



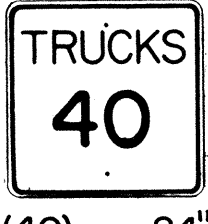
R1-1 30" x 30"  
R1-1-A 36" x 36"  
4-WAY  
R1-3 12" x 6"  
R1-3-A 18" x 9"



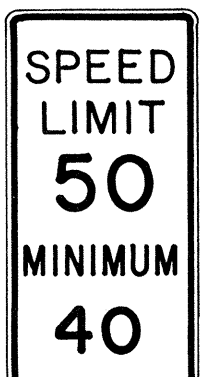
R1-2 36" x 36" x 36"  
R1-2-A 48" x 48" x 48"



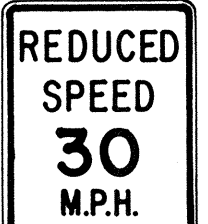
R2-1(50) 24" x 30"  
R2-1(50)-A 48" x 60"



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"



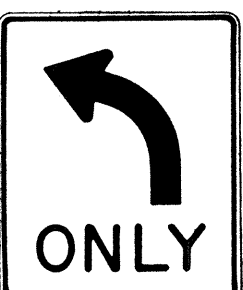
R3-2 24" x 24"  
24" x 18"  
R3-2-A 48" x 48"  
48" x 36"



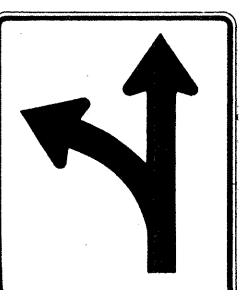
R3-3 24" x 24"  
R3-3-A 48" x 48"



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"



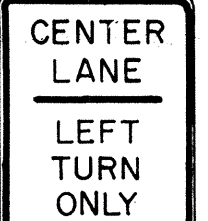
R3-6(L) 30" x 36"  
R3-6(L)-A 48" x 60"



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"



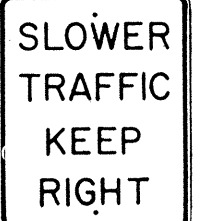
R3-9 24" x 30"



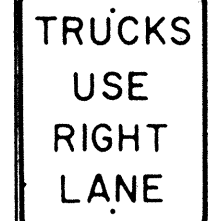
R4-1 24" x 30"



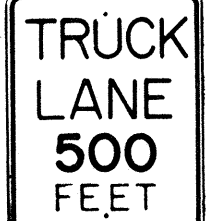
R4-2 24" x 30"



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



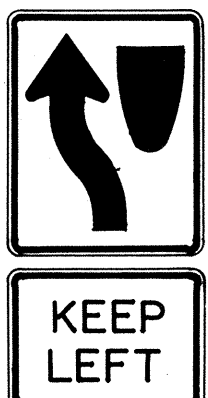
R4-5 24" x 30"



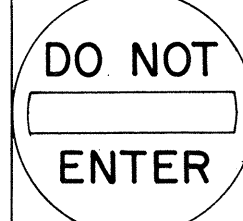
R4-6(500) 24" x 30"



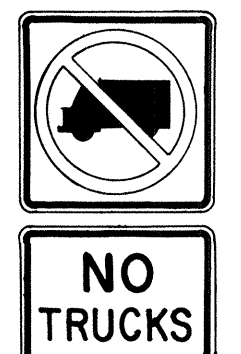
R4-7 24" x 30"  
24" x 18"



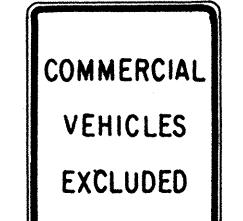
R4-8 24" x 30"  
24" x 18"



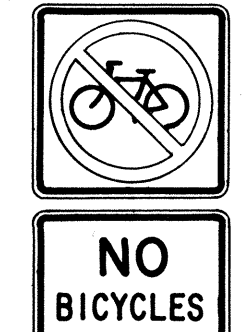
R5-1 30" x 30"  
R5-1-A 48" x 48"



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"



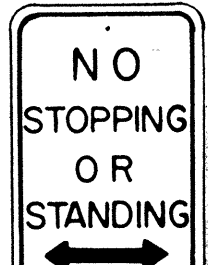
R6-1(R) 36" x 12"



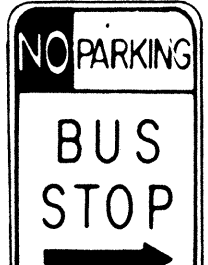
R6-2(R) 18" x 24"



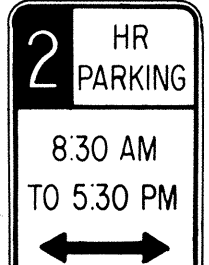
R7-1 12" x 18"  
R7-1-A 24" x 30"



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"



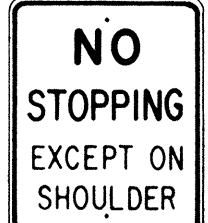
R8-3 24" x 30"



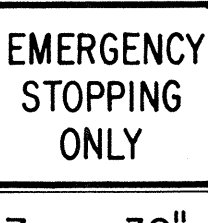
R8-4 30" x 24"  
R8-4-A 48" x 36"



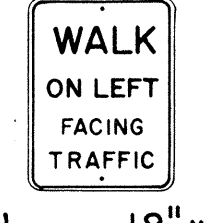
R8-5 24" x 30"



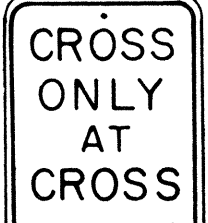
R8-6 24" x 30"



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



R9-1 18" x 24"



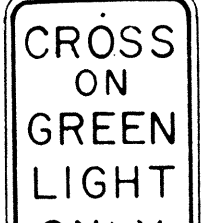
R9-2 12" x 18"



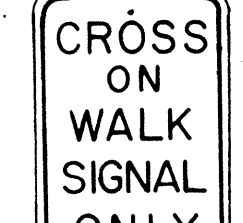
R9-3 12" x 18"



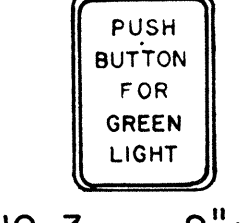
R9-4 18" x 24"



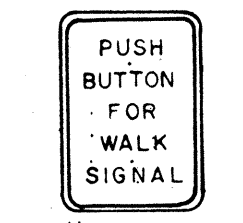
R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



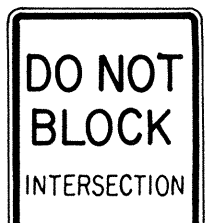
R10-4 9" x 12"



R10-5 24" x 30"



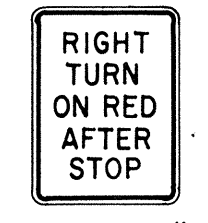
R10-6 24" x 36"



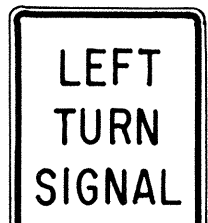
R10-7 24" x 30"



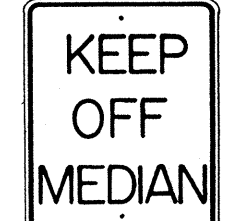
R10-8 24" x 30"



R10-9 24" x 30"



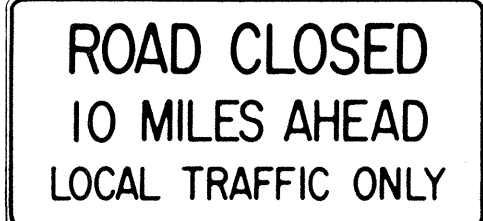
R10-10 24" x 30"



R11-1 24" x 30"



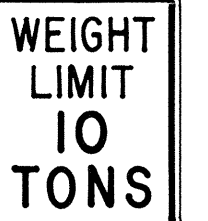
R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory 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.

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

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

| NO. | REVISION                                 | APPROVED BY | DATE     |
|-----|------------------------------------------|-------------|----------|
| 1   | Supersedes Sht. DT 101 Approved 12-30-69 | H.L.        | 3/20/72  |
| 2   | Revised General Note 1.                  | H.L.        | 10/14/74 |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAILS  
REGULATORY SIGNS

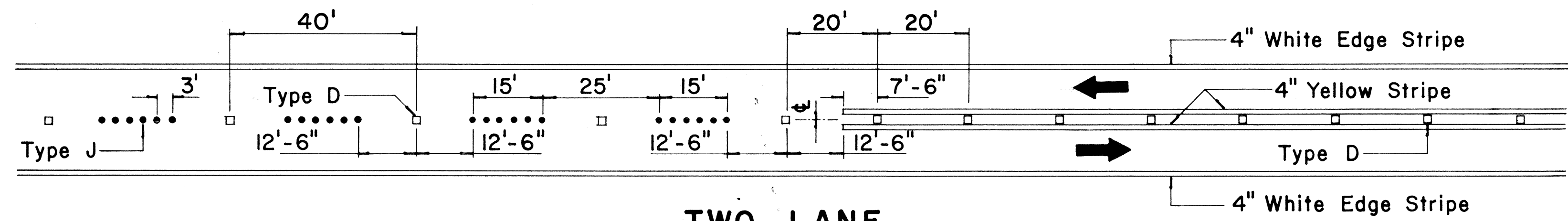
NOT TO SCALE

SHEET No. 3 OF 8 SHEETS DT 101

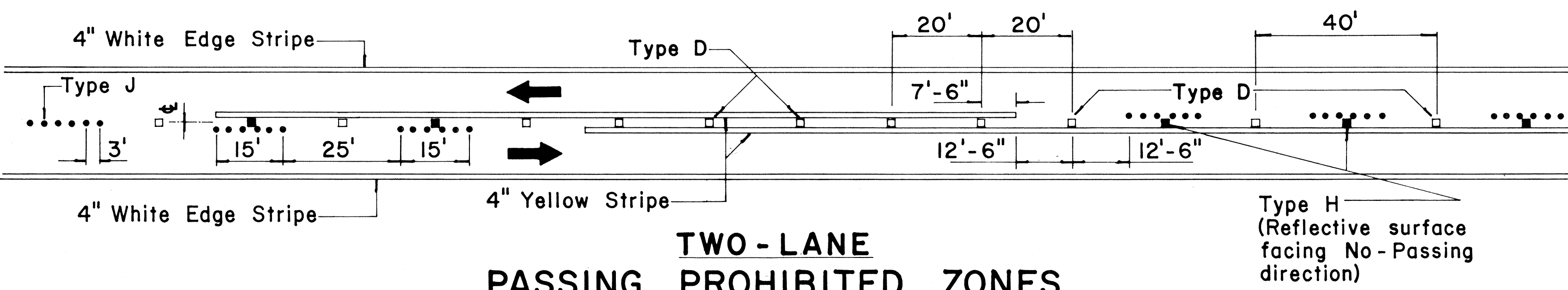
|                   |      |
|-------------------|------|
| DATE              | ____ |
| SURVEY PLOTTED BY | ____ |
| ORIGINAL PLAN     | ____ |
| DRAWN BY          | ____ |
| TRACED BY         | ____ |
| DESIGNED BY       | ____ |
| CHECKED BY        | ____ |
| NOTE BOOK         | ____ |
| No.               | ____ |

K&E IMPRESSION LA 3207

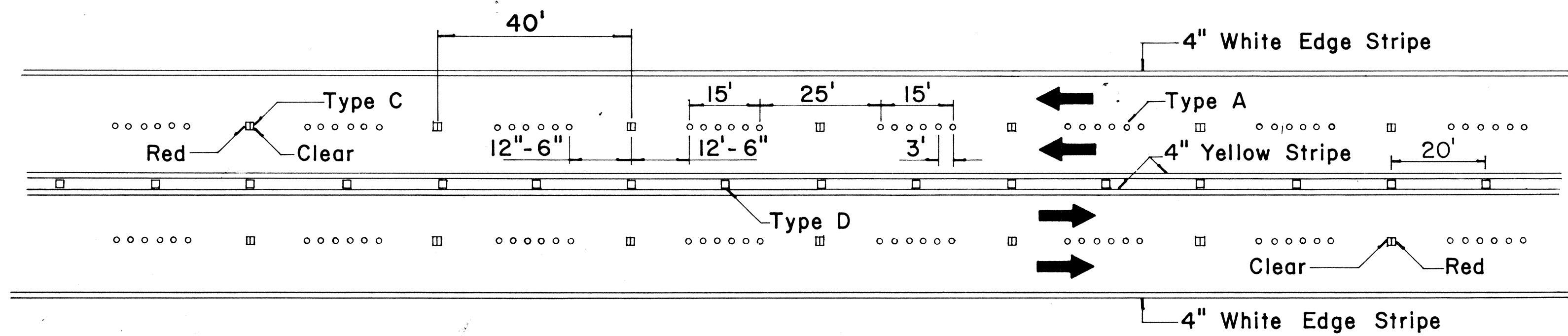
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 20A-01-76 | 1977        | 8         | 12           |



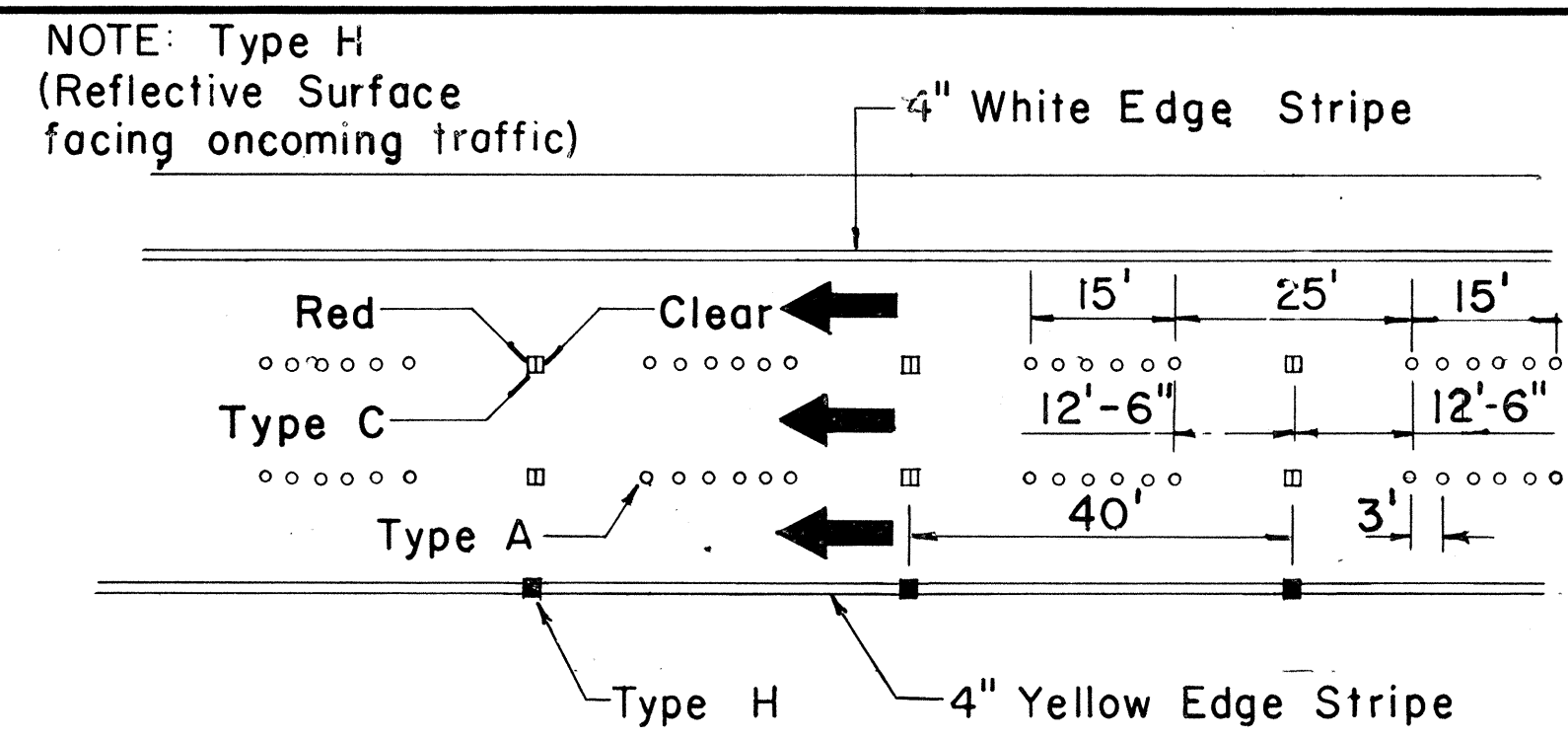
**TWO-LANE  
PASSING PERMITTED AND PASSING PROHIBITED**



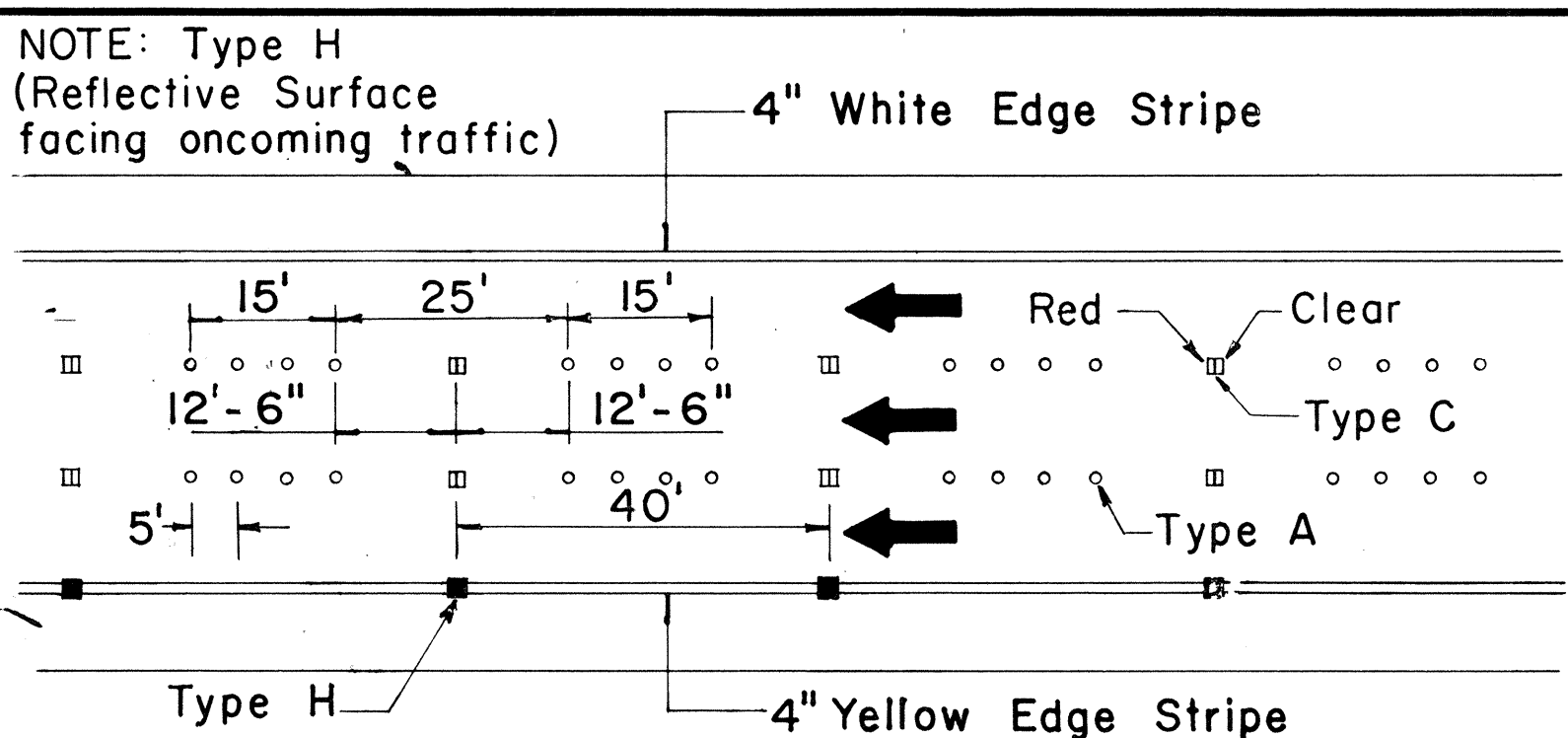
**TWO-LANE  
PASSING PROHIBITED ZONES**



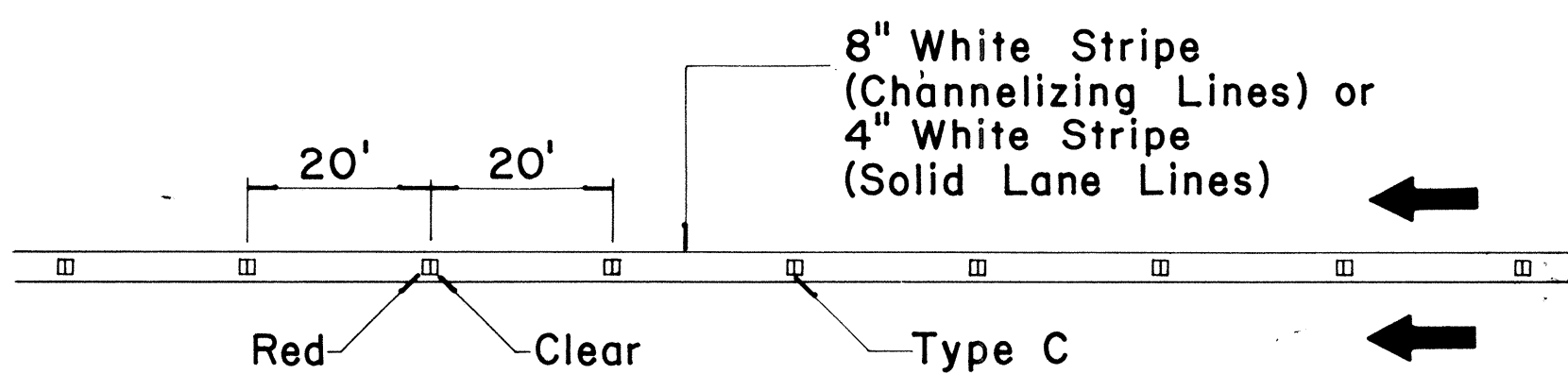
**MULTI-LANE  
LANE LINES AND CENTER LINE**



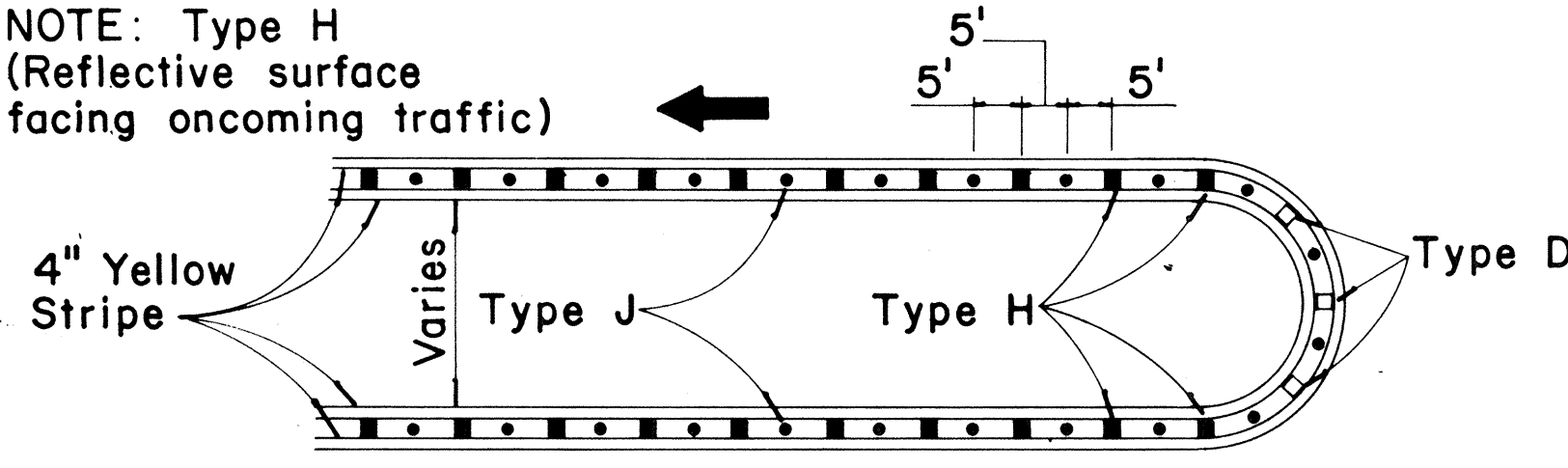
**DIVIDED HIGHWAY LANE LINES**



**FREEWAY LANE LINES**



**CHANNELIZING LINES  
OR SOLID LANE LINES**



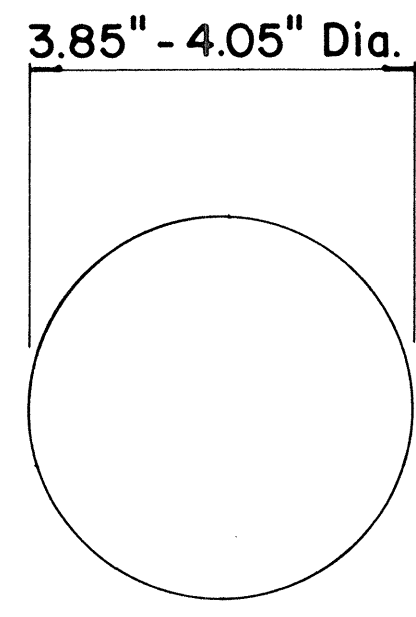
**MEDIAN NOSE DELINEATION**

**TWO - LANE**

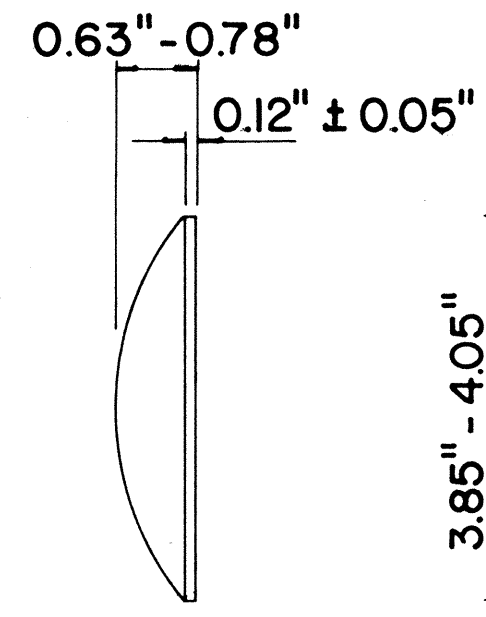
**MULTI - LANE**

**DIVIDED HIGHWAY  
AND  
FREEWAY**

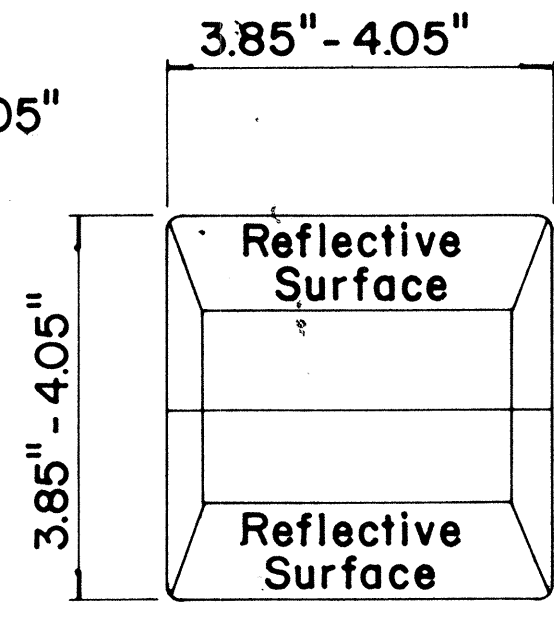
**MISCELLANEOUS**



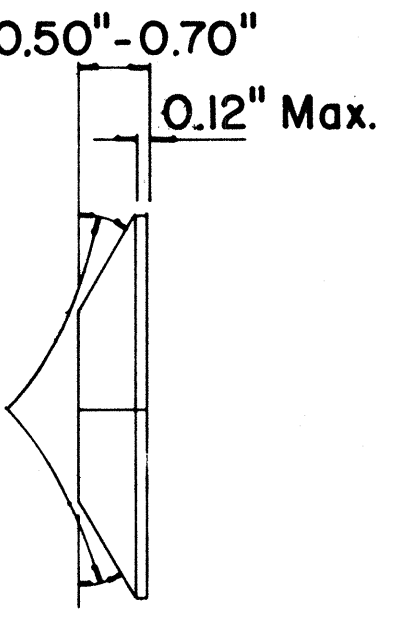
**TYPE A  
NON-REFLECTIVE WHITE MARKER**



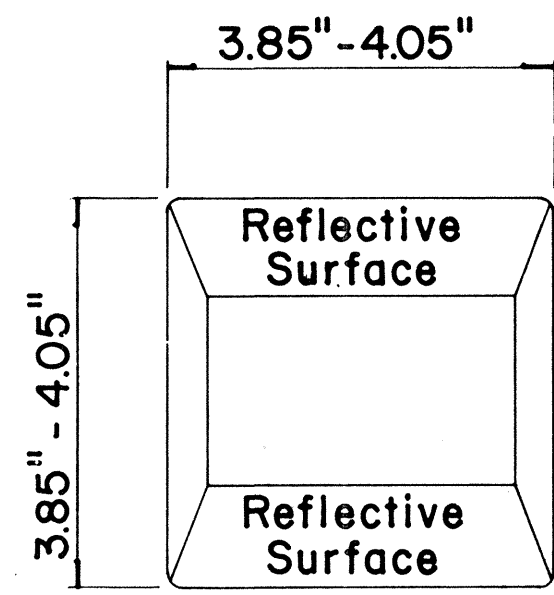
**TYPE J  
NON-REFLECTIVE YELLOW MARKER**



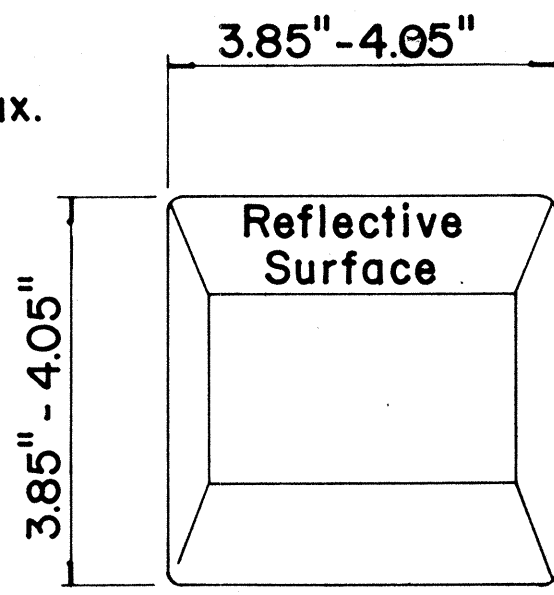
**TYPE C  
RED-CLEAR REFLECTIVE MARKER**



**TYPE 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.

**LEGEND**

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

APPROVAL RECOMMENDED:  
*Erich Tanaka* 11/18/71  
TRAFFIC ENGINEER DATE

APPROVED:  
*Shirley Z. Ketchum* 11/18/71  
ASSISTANT CHIEF, ENGINEERING DATE

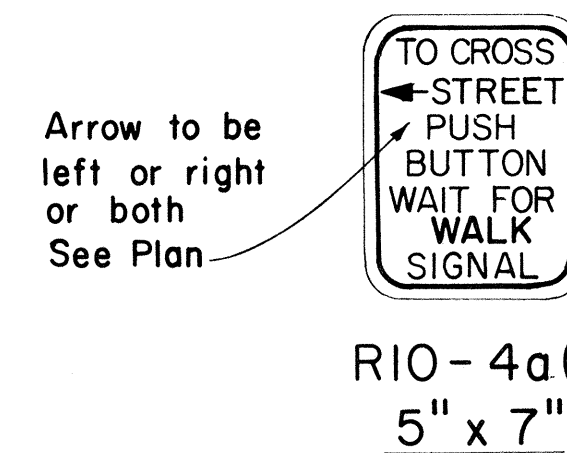
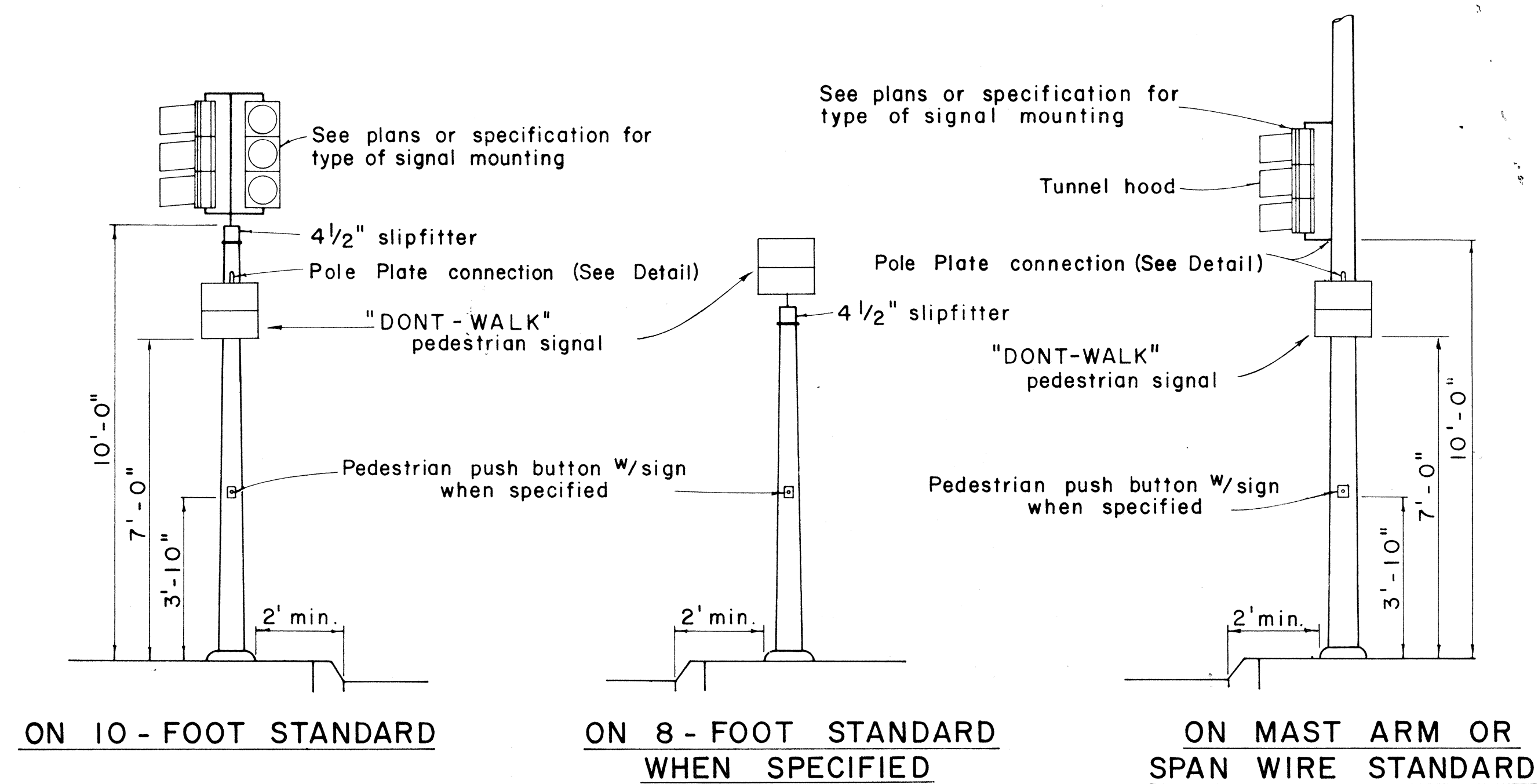
| No. | REVISION                                                                                                               | APPROVED BY | DATE     |
|-----|------------------------------------------------------------------------------------------------------------------------|-------------|----------|
| 1   | Add reflector marker in each line gap.                                                                                 | H.T.        | 10-21-72 |
| 2   | Revised General Notes.                                                                                                 | H.T.        | 10-21-72 |
| 3   | Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of travel path and Add Type H Reflector Marker | H.T.        | 8-22-74  |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**RAISED PAVEMENT MARKERS**

Not to Scale October 1971  
SHEET No. 4 OF 8 SHEETS DT 300

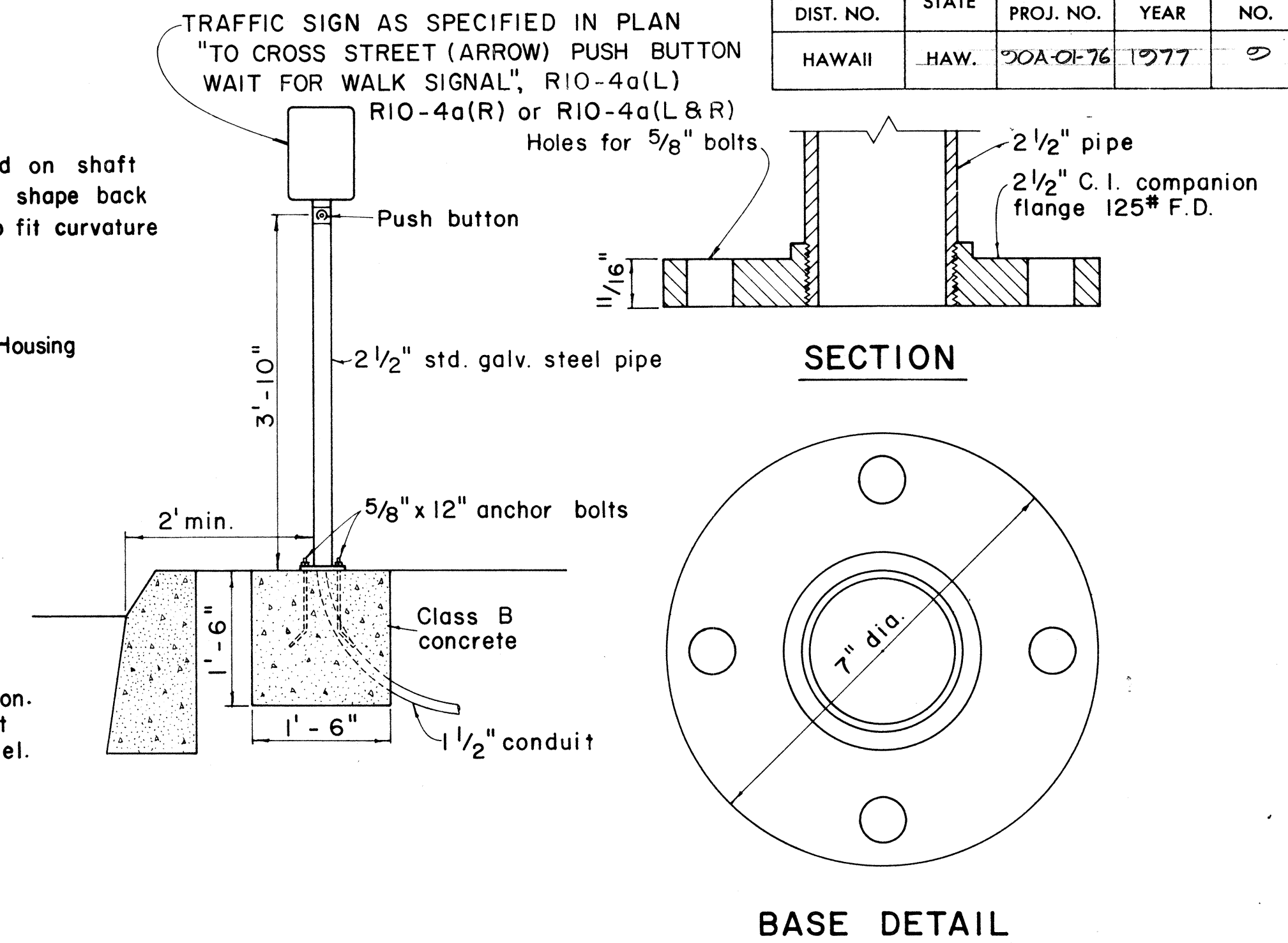
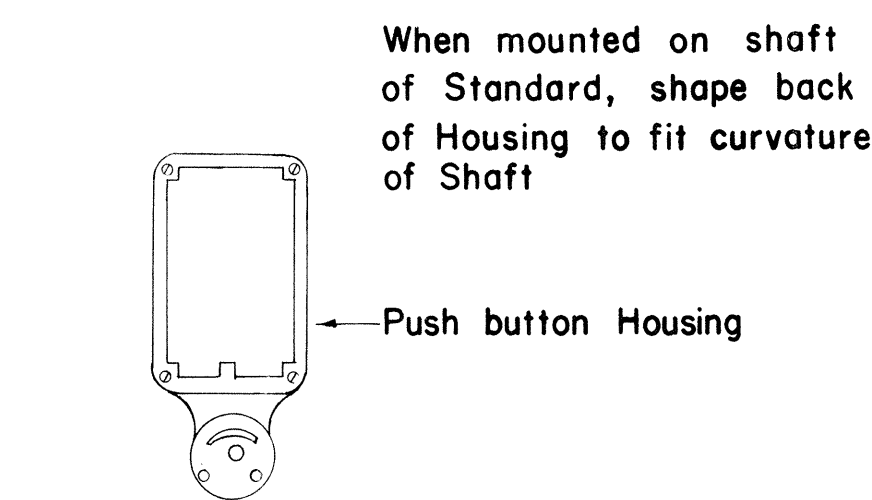
|                   |  |
|-------------------|--|
| DATE              |  |
| SURVEY PLOTTED BY |  |
| DRAWN BY          |  |
| DESIGNED BY       |  |
| NOTED BY          |  |
| CHECKED BY        |  |
| ORIGINAL PLAN     |  |
| NOTE BOOK         |  |
| No.               |  |

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 30A-01-76 | 1977        | 9         | 12           |

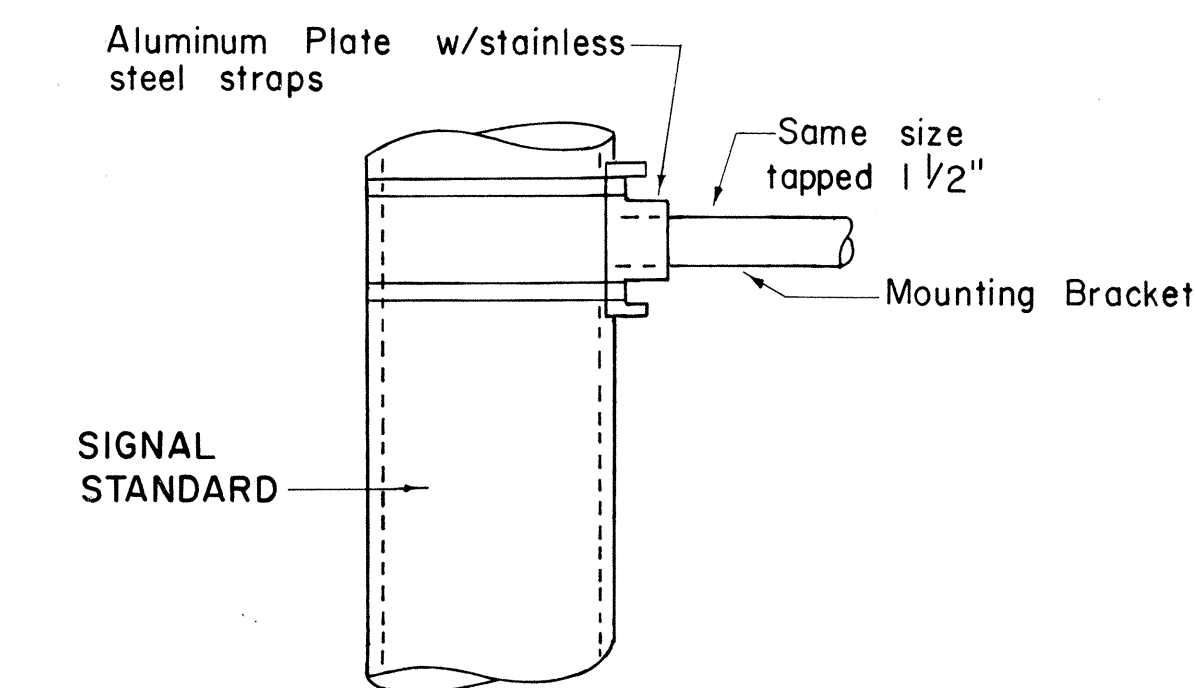


NOTE:

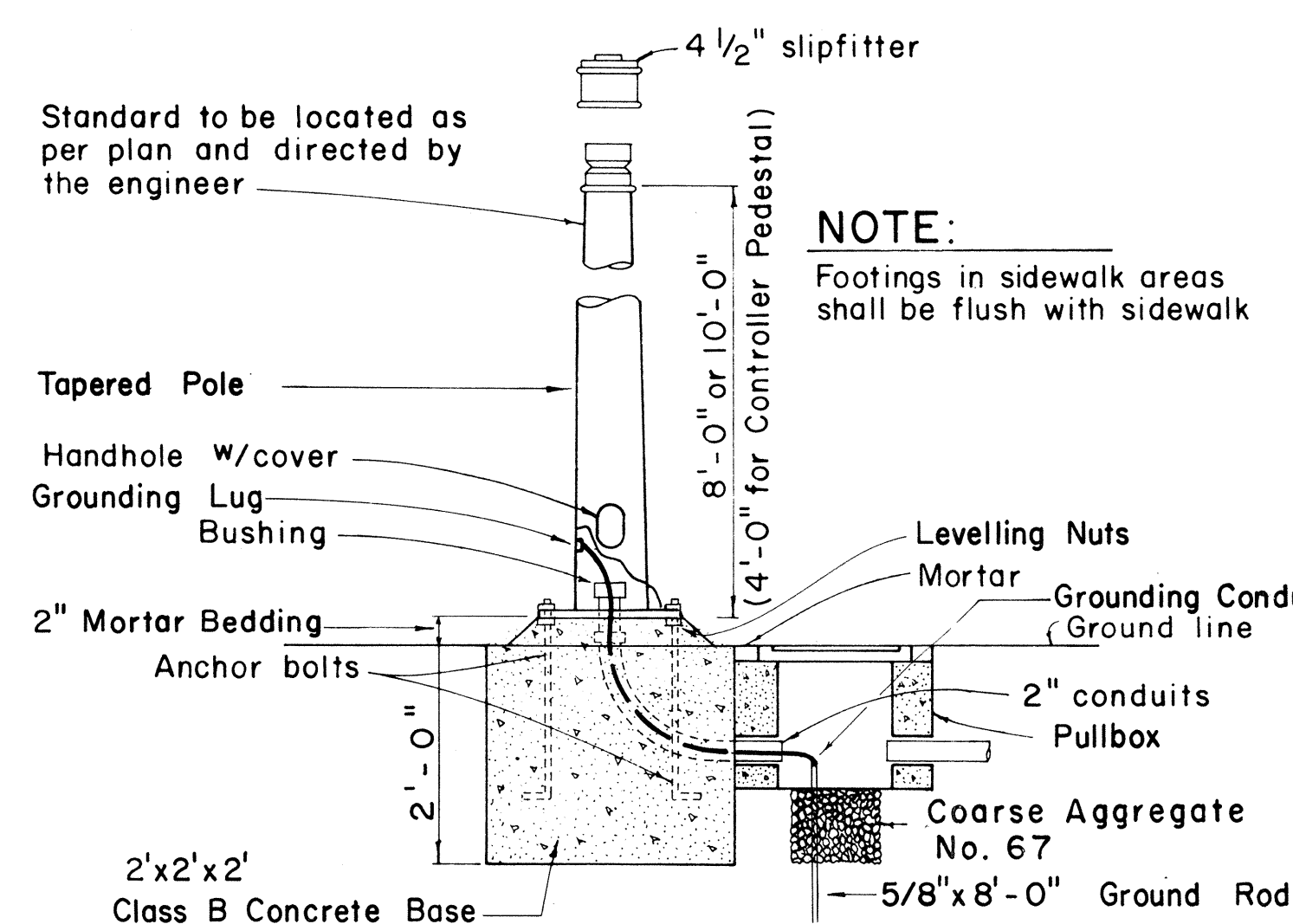
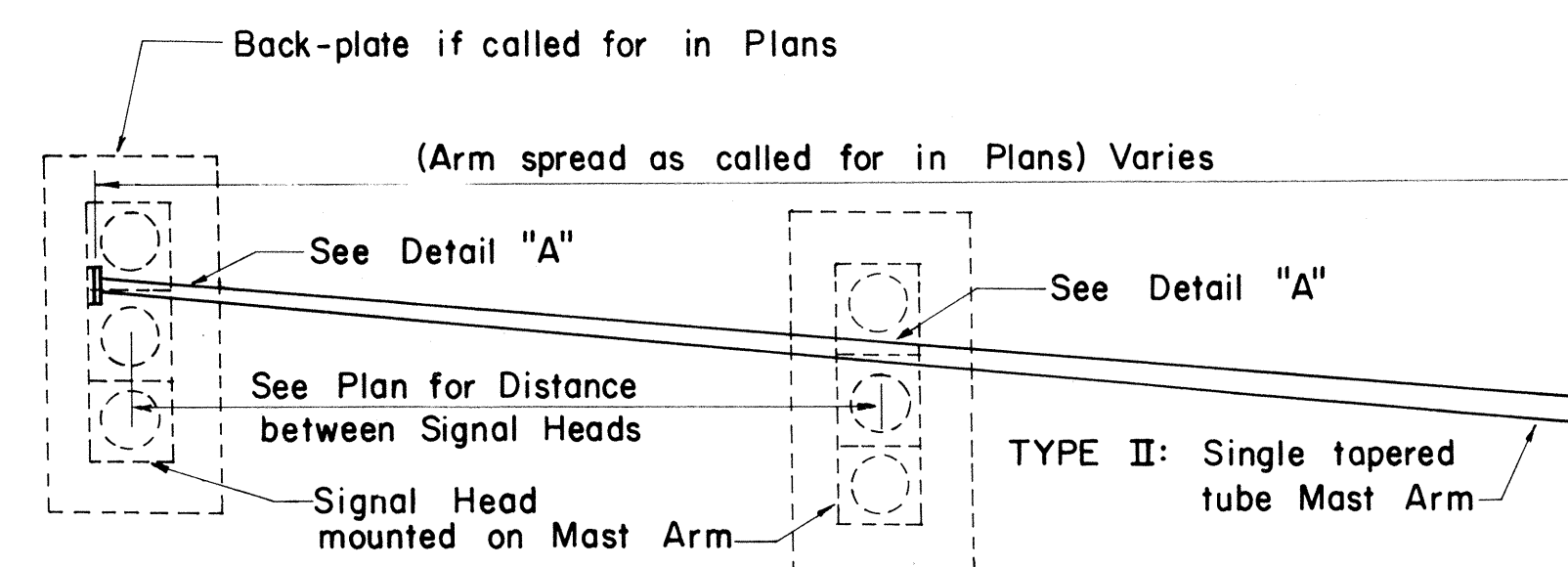
1. Conduits shall protrude 2" max. above finished surface of foundation.
2. Conduits shall slope away from pole foundation.
3. Post and base shall be painted with one coat of approved weather proof dark green enamel.



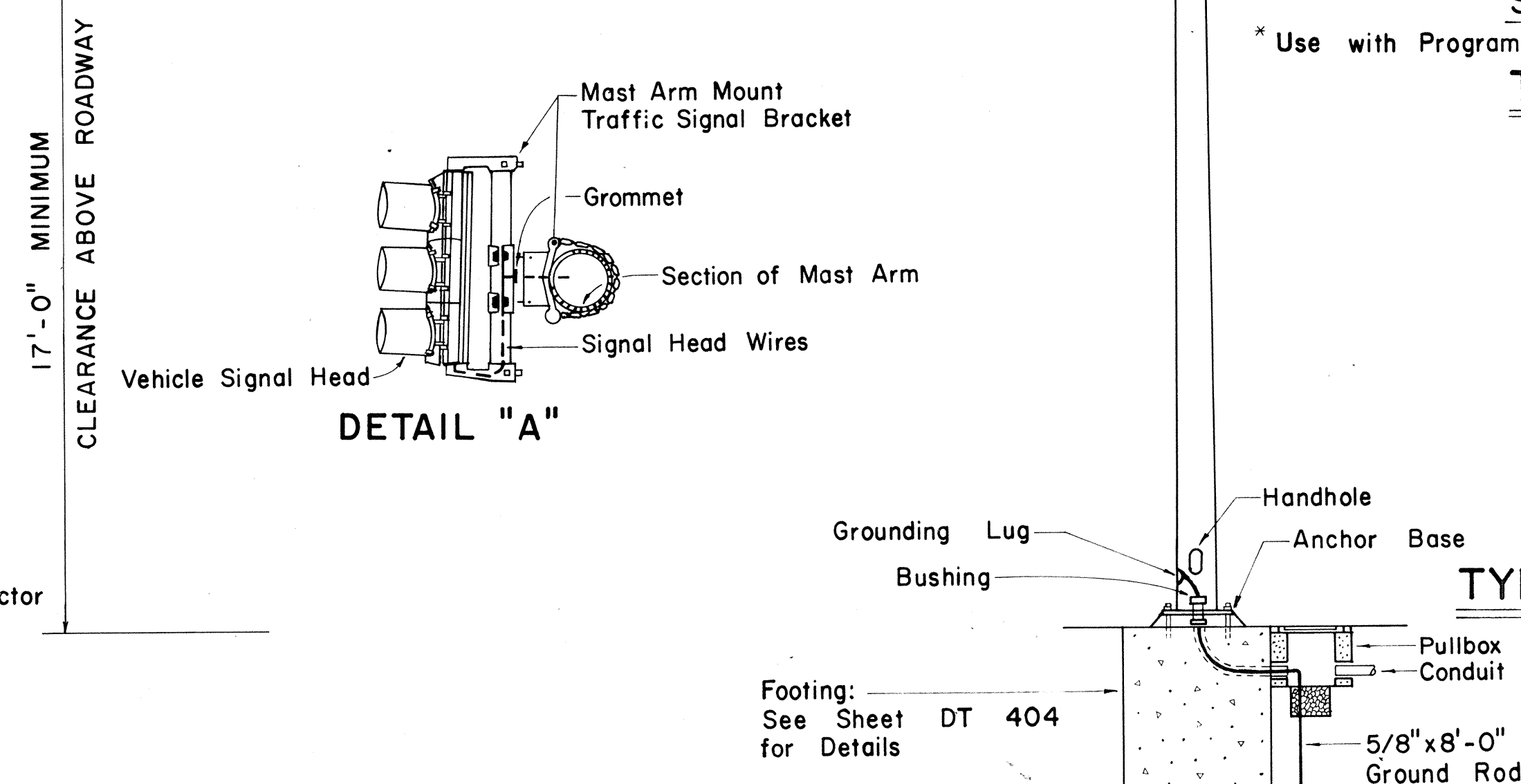
## TYPICAL EQUIPMENT MOUNTINGS



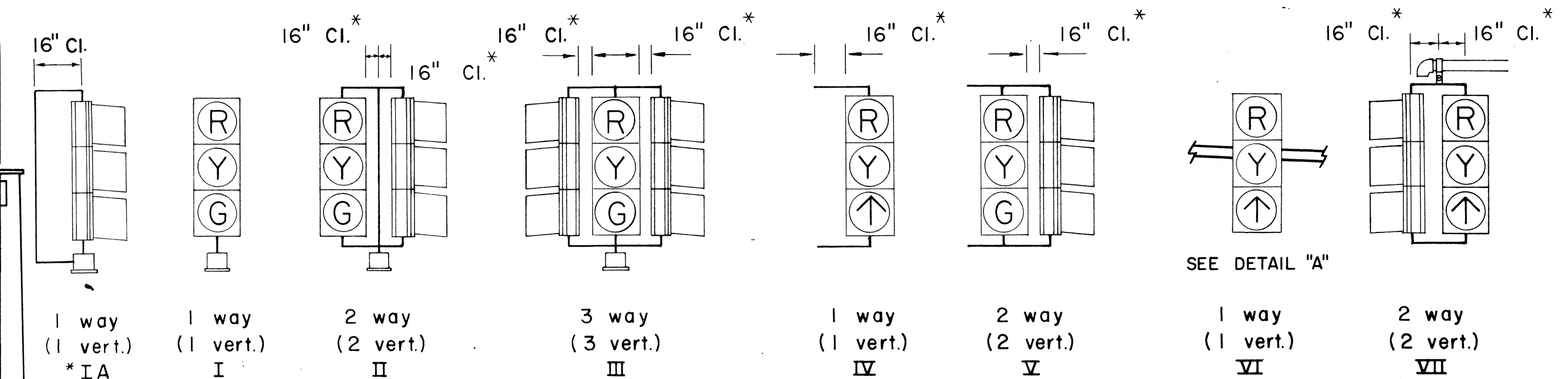
## DETAIL OF POLE PLATE CONNECTIONS



# TYPE I SIGNAL STANDARD OR CONTROLLER PEDESTAL AND FOOTING



## TYPE II MAST ARM AND STANDARD

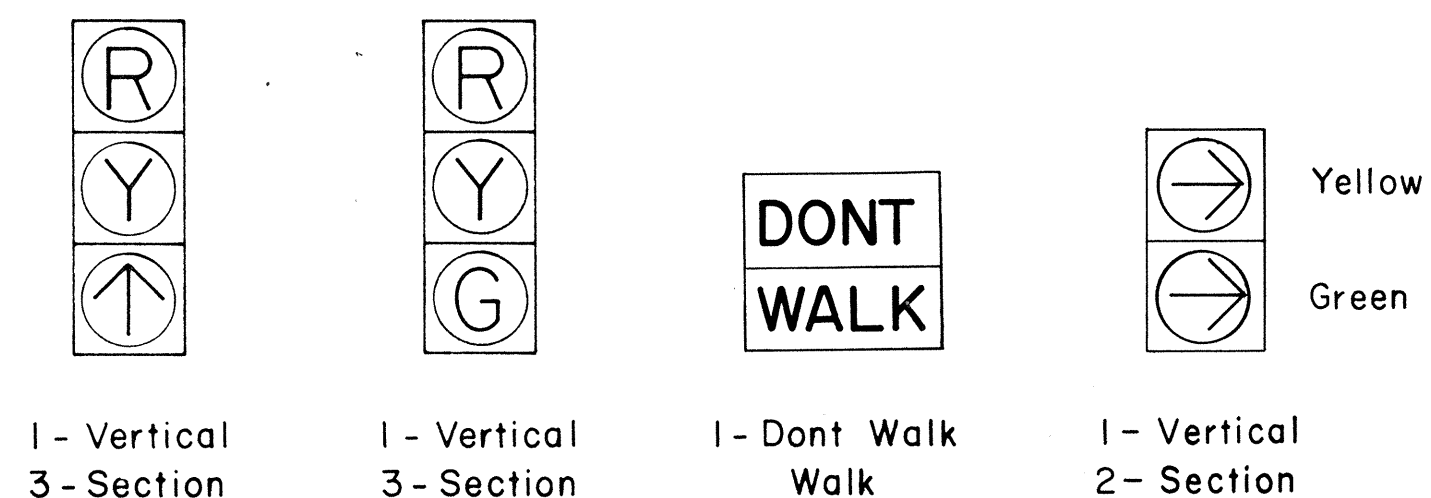


## SLIPFITTER MOUNTINGS

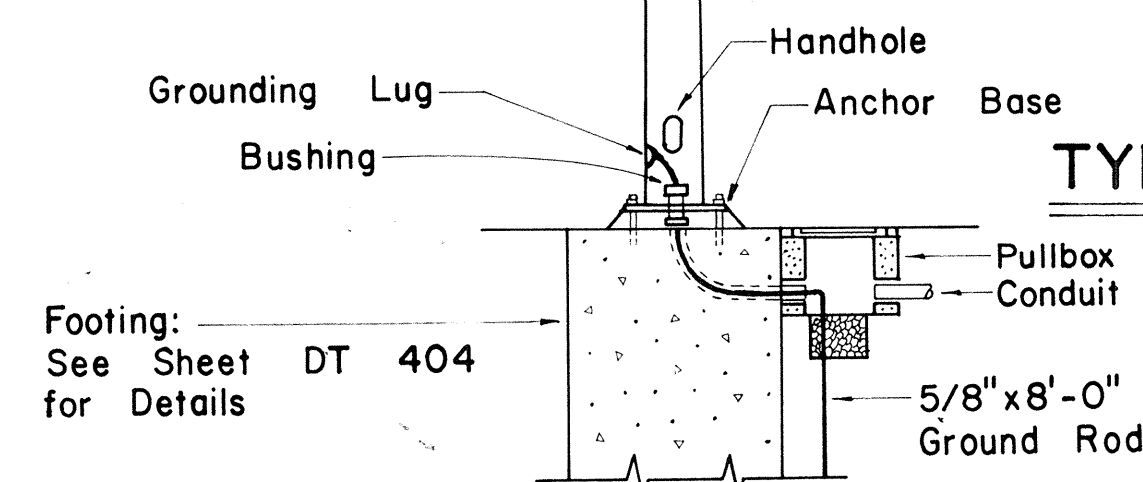
## BRACKET MOUNTINGS

## MASTARM MOUNTINGS

## TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS



## TYPICAL SIGNAL ARRANGEMENTS



| NO | REVISION                                                                                          | APPROVED BY | DATE   |
|----|---------------------------------------------------------------------------------------------------|-------------|--------|
| 1  | Revise code nos. for Pedestrian Push Button signs.                                                | H.T.        | 3/23/7 |
| 2  | Revise Details of Traffic and Pedestrian Signals, Standards and Pedestrian Push Button and Signs. | H.T.        | 3/5/7  |
| 3  | Revise signal indications.                                                                        | H.T.        | 3/22/7 |

APPROVAL RECOMMENDED:

Enchi Tanaka  
TRAFFIC ENGINEER

2/29/69  
DATE

Shulm 2 Sahin  
ASSISTANT CHIEF, ENGINEERING

2/30/69  
DATE

**STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION**

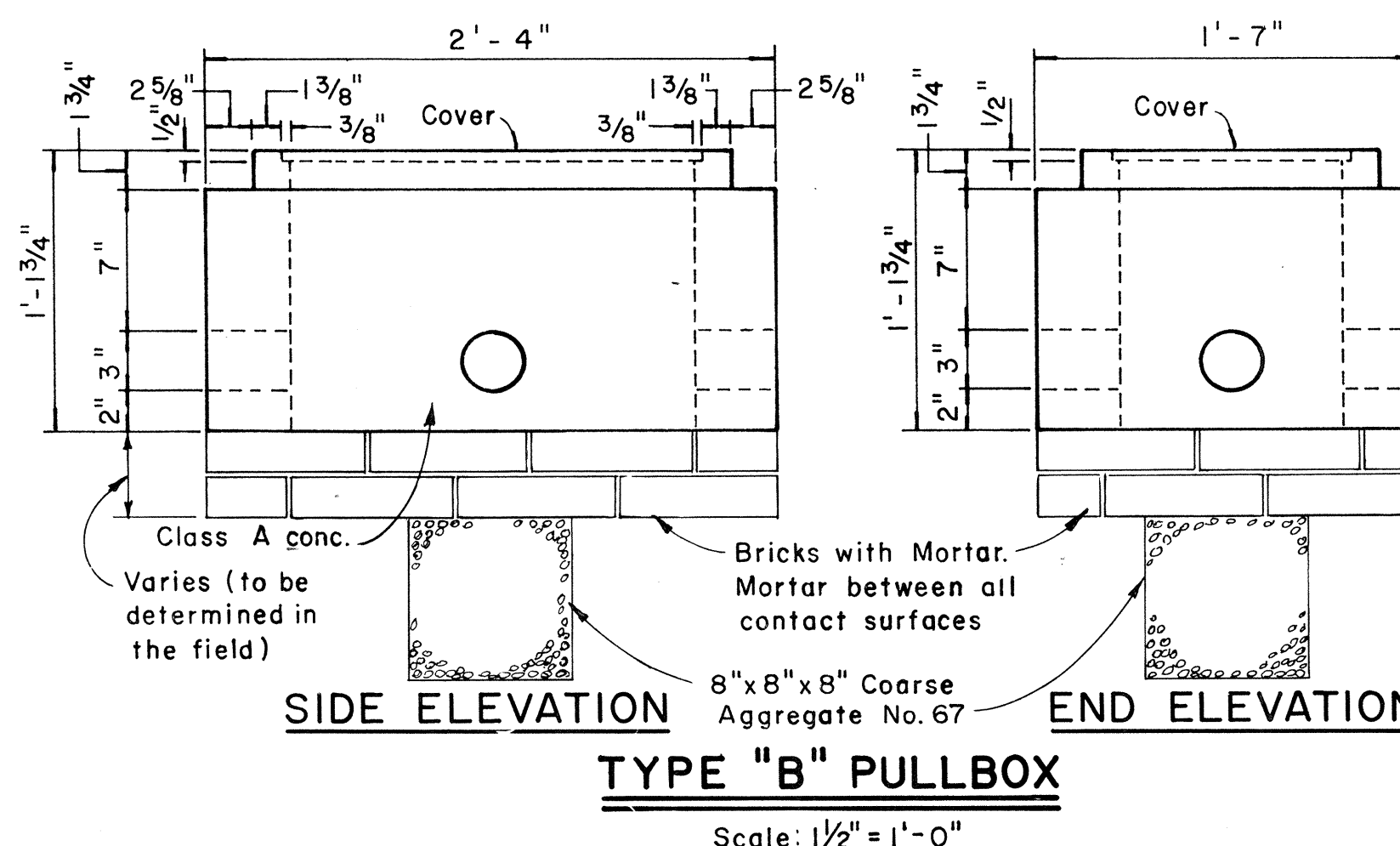
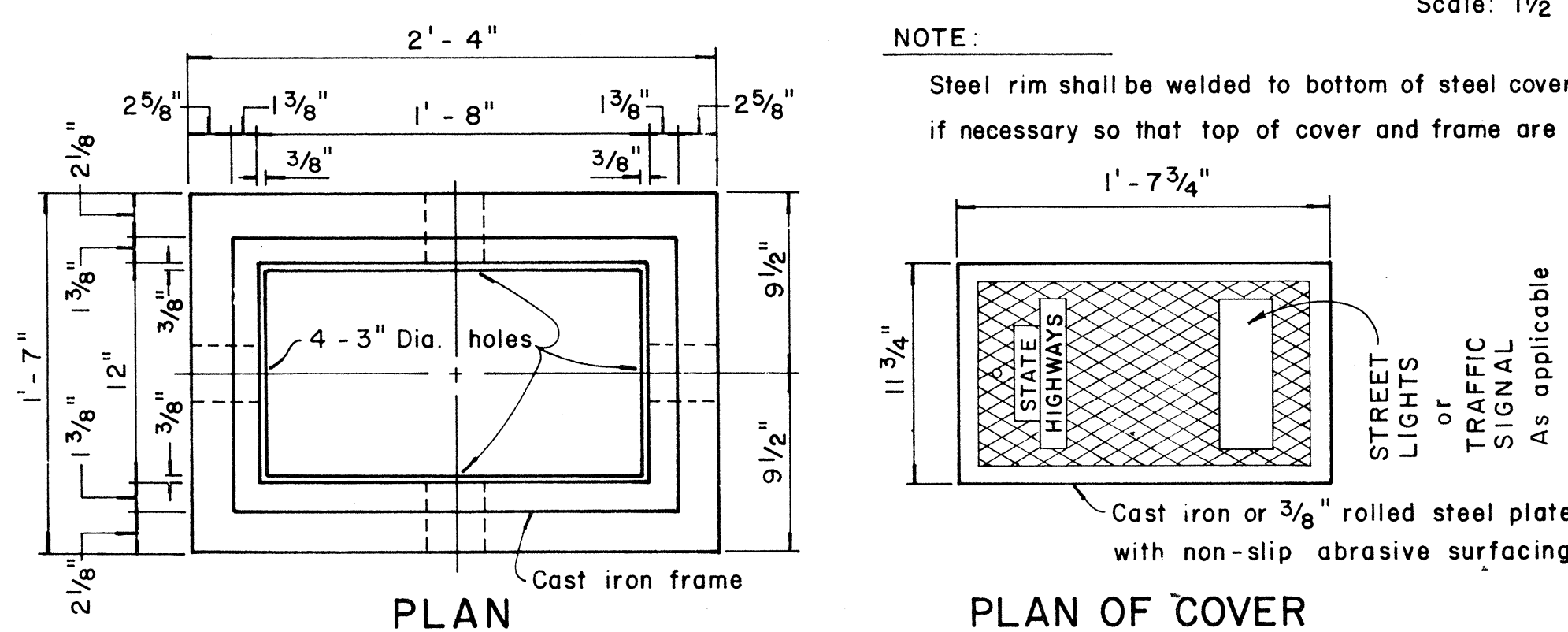
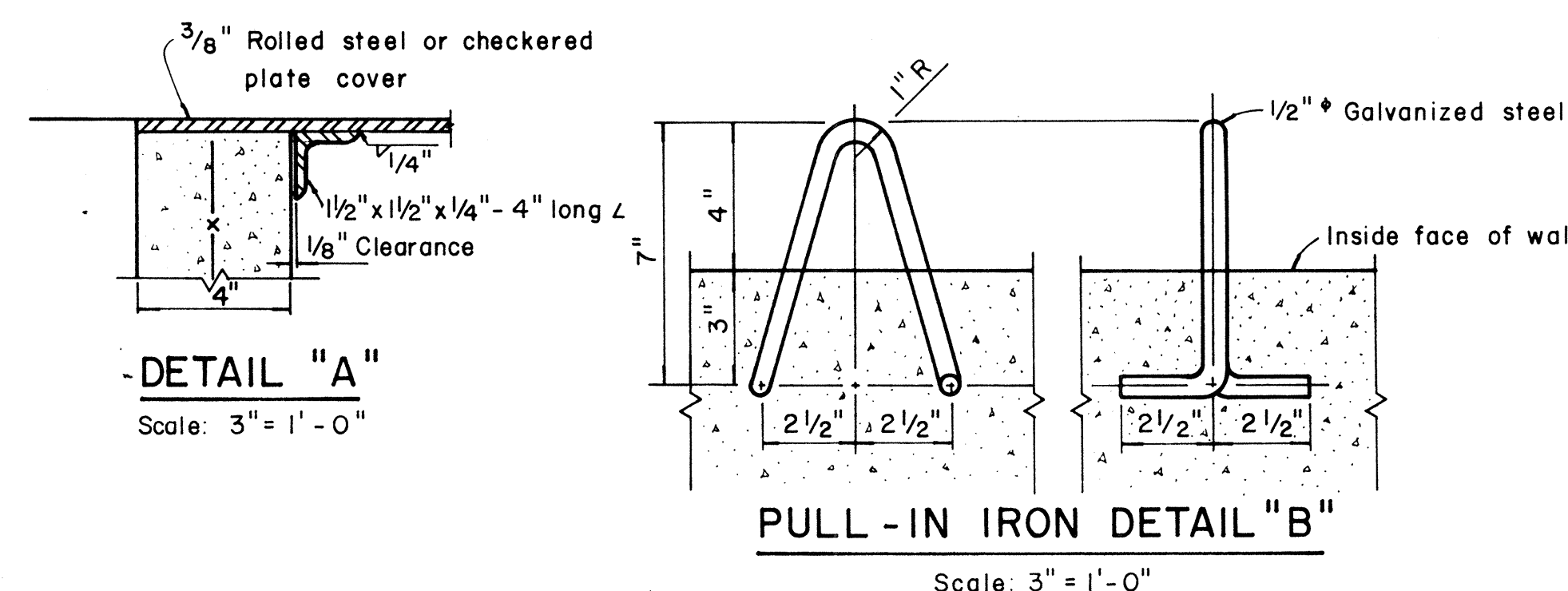
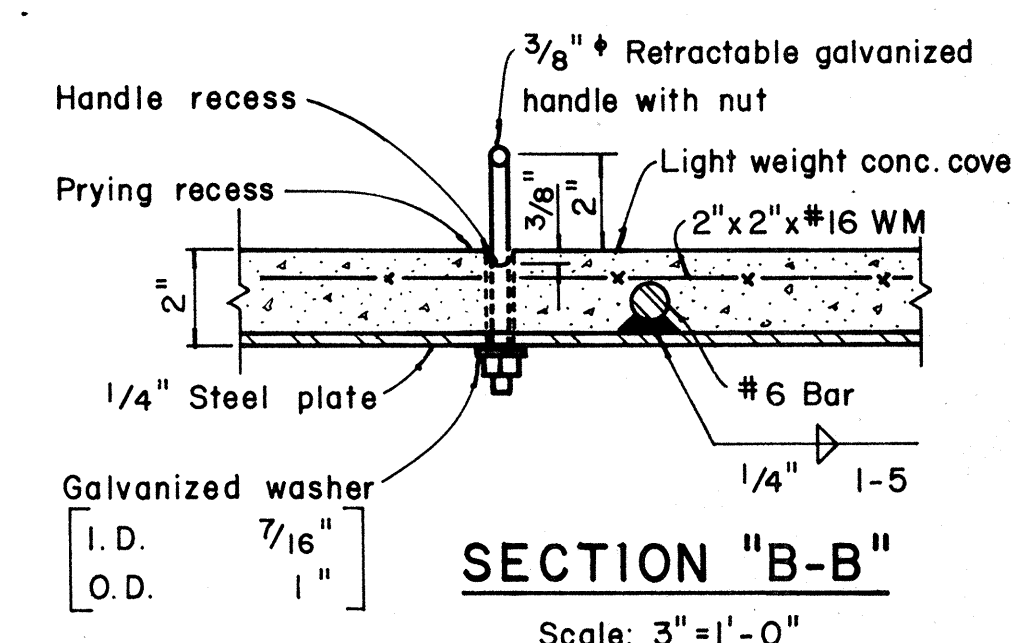
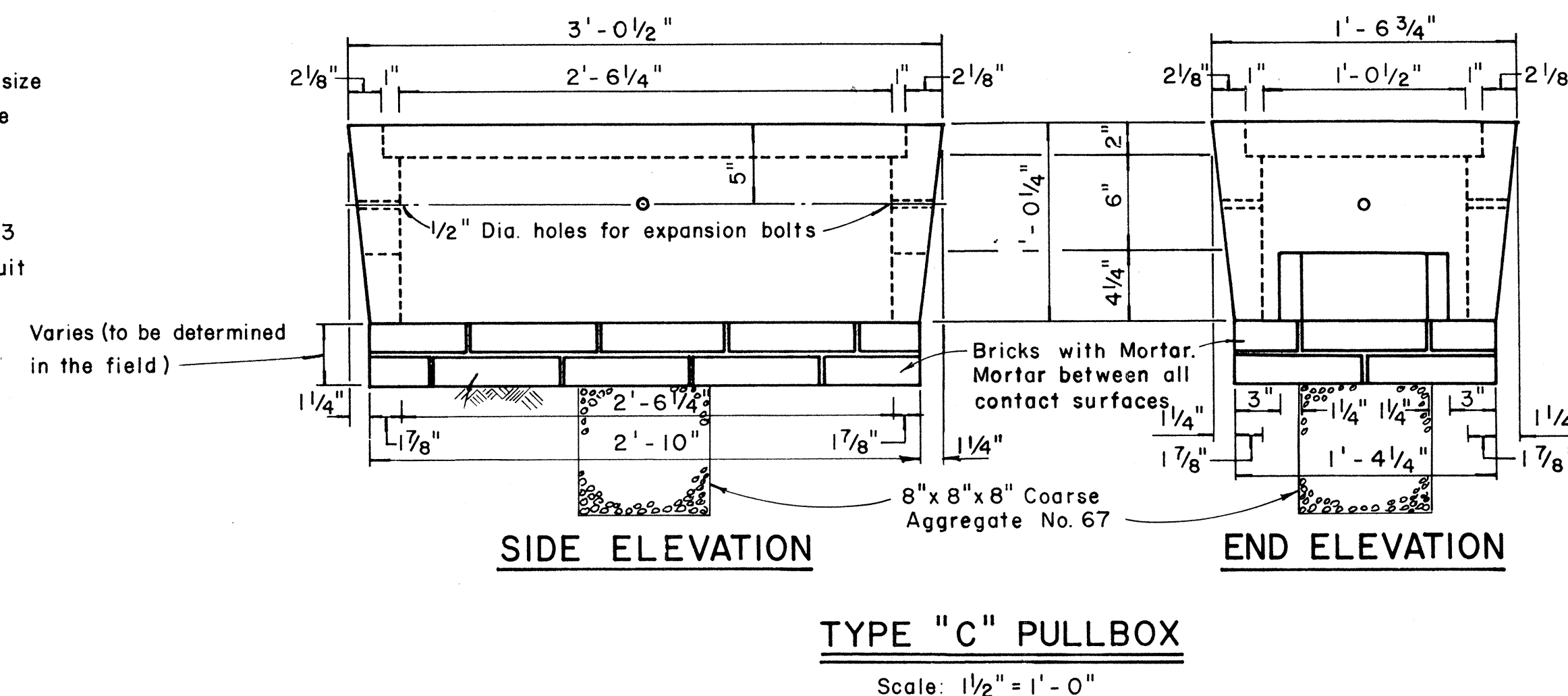
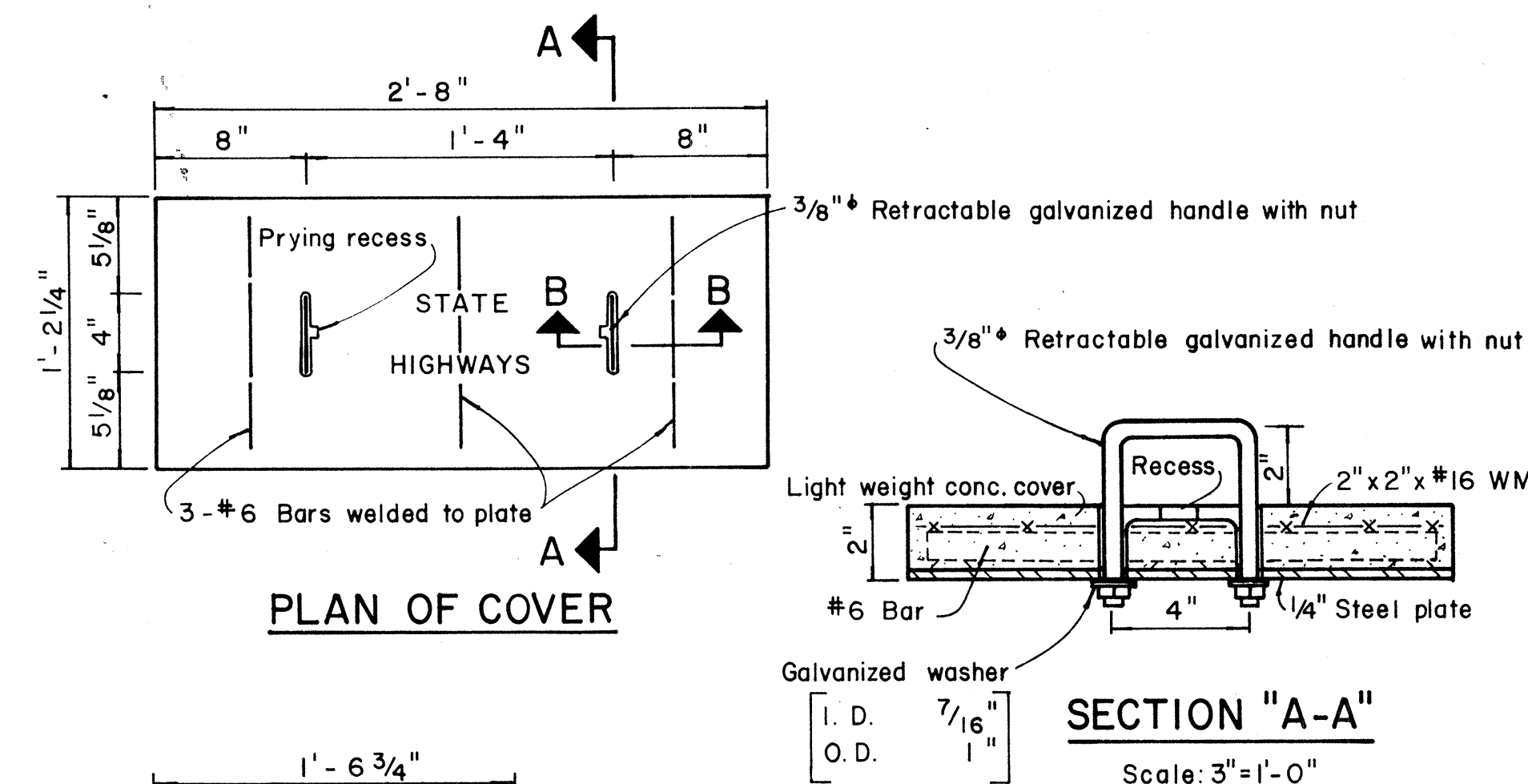
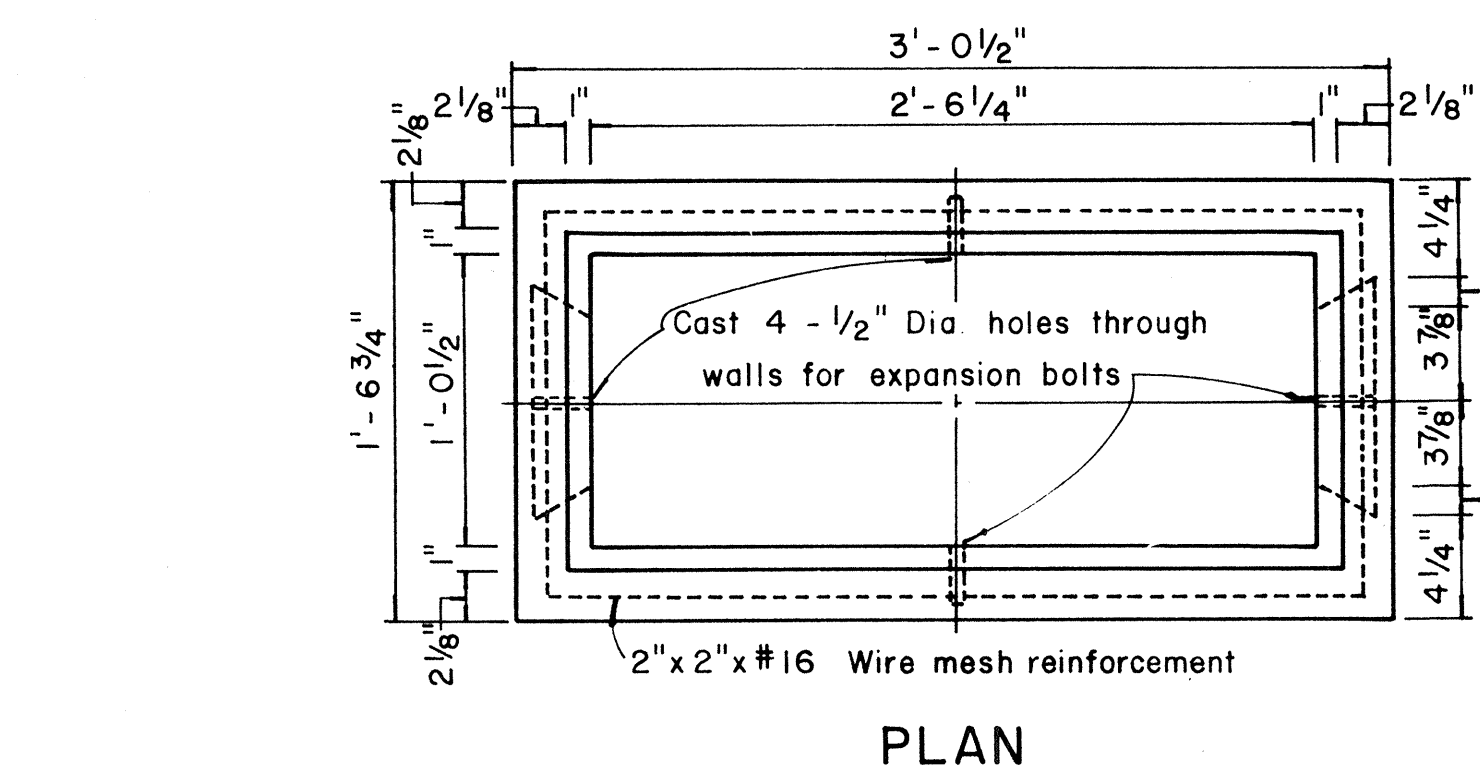
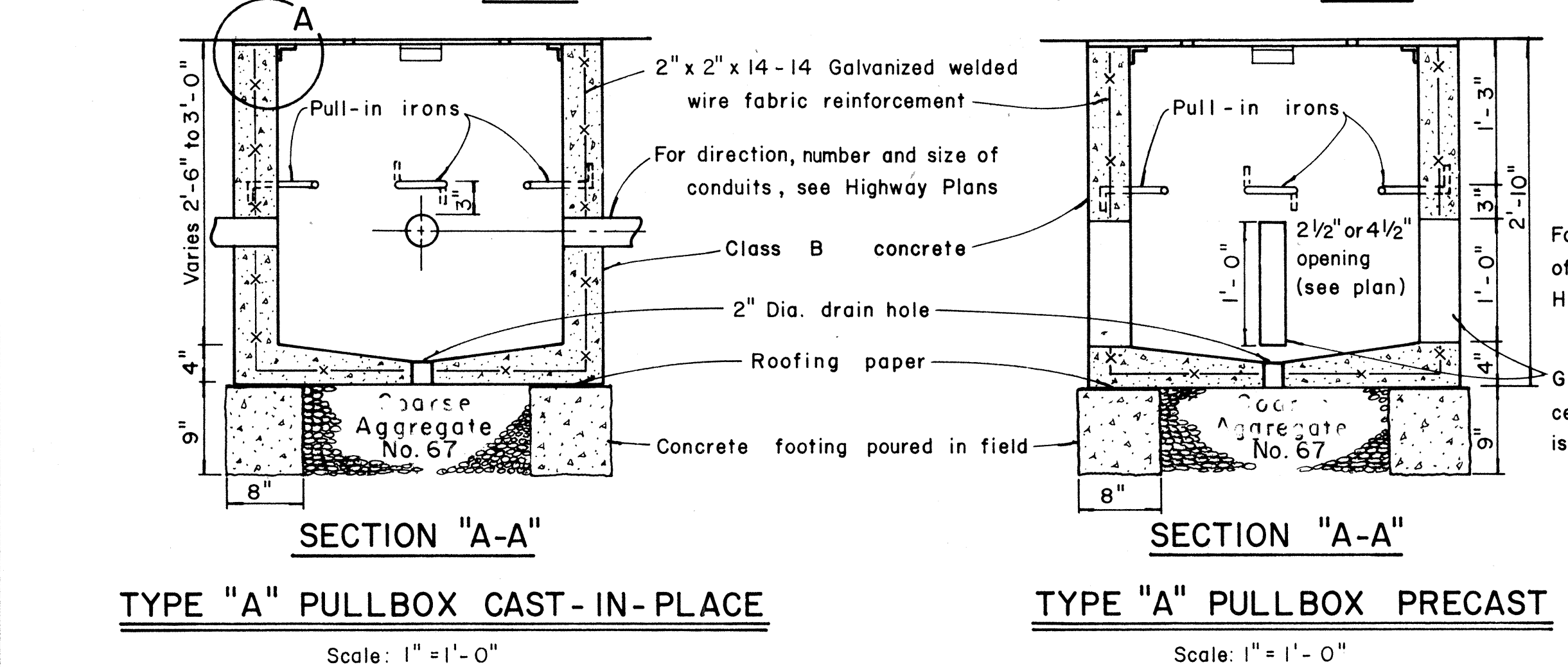
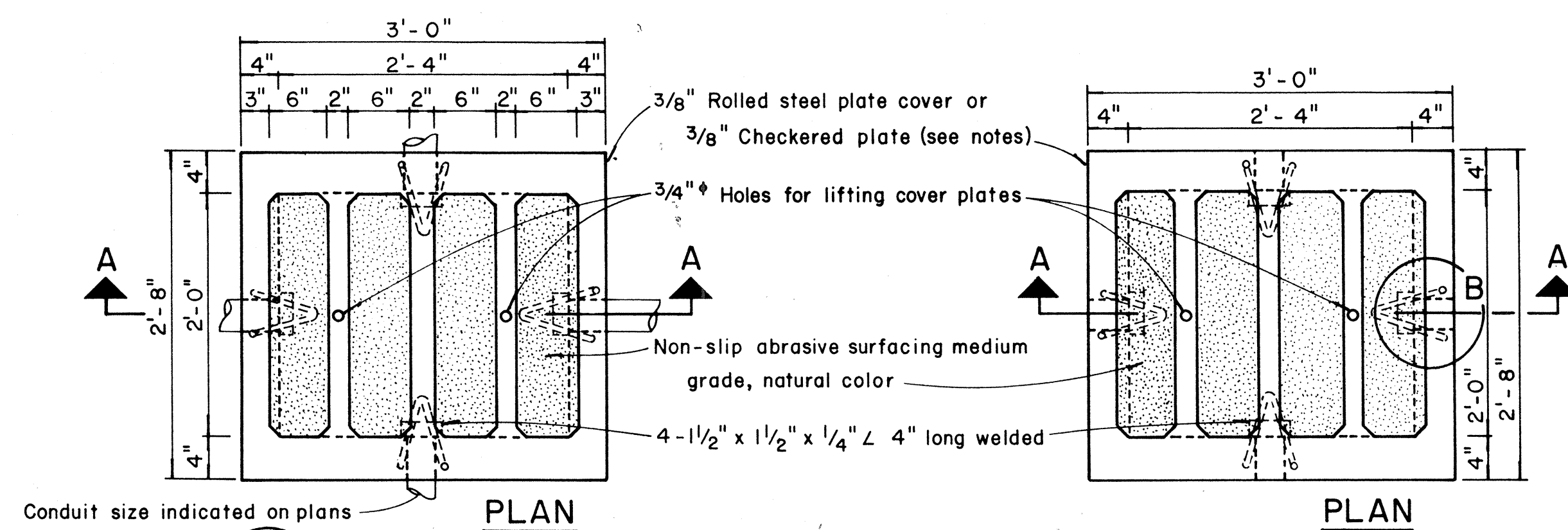
## TRAFFIC SIGNAL SYSTEM

### MISCELLANEOUS DETAILS

Not to Scale

**SHEET No. 5 OF 8 SHEETS DT 400**

| FED. ROAD<br>DIST. NO. | STATE | PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | 20A-01-76 | 1977           | 10           | 12              |



NOTES: (FOR TYPE "A" PULLBOX

1.  $\frac{3}{8}$ " Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
2.  $\frac{3}{8}$ " Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
3. Pull irons shall be placed opposite each conduit slot.
4. Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
5. Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.

NOTE

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

APPROVAL RECOMMENDED:  
Erich Tanaka  
 TRAFFIC ENGINEER

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

| NO. | REVISION                           | APPROVED BY | DATE   |
|-----|------------------------------------|-------------|--------|
| 1   | Revised Type B & C Pullbox details | H.T.        | 3-5-78 |

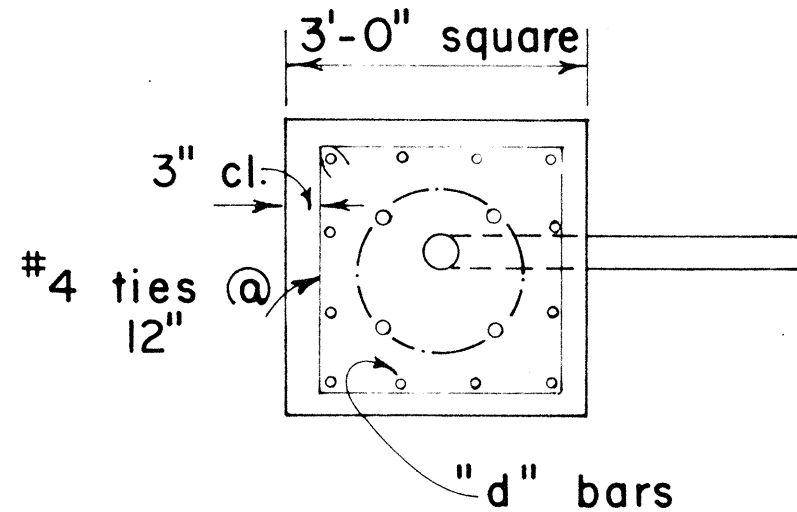
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAILS  
PULLBOXES

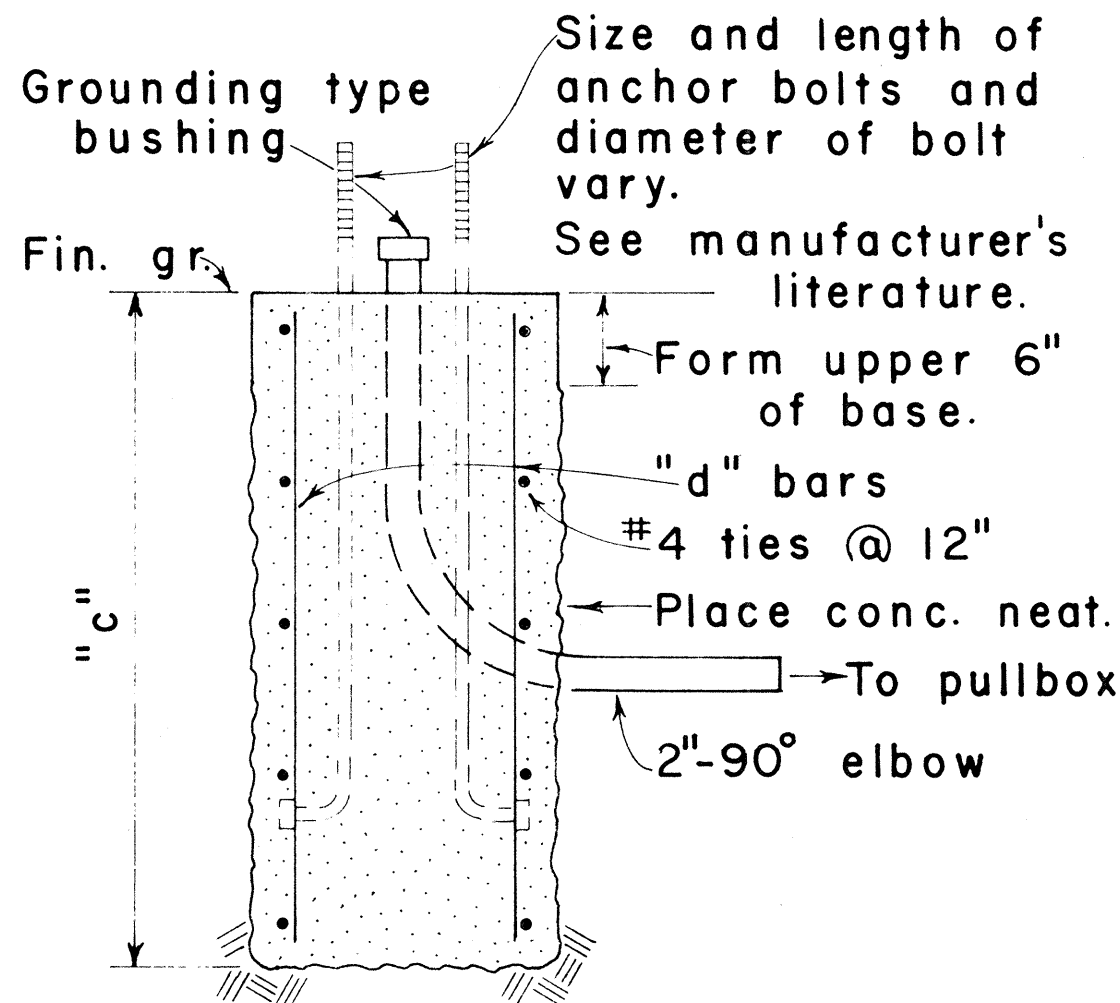
Scale as noted Date

**SHEET No. 6 OF 8 SHEETS** DT 401

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 20A-01-7  | 1977        | 11        | 12           |



PLAN - SECTION

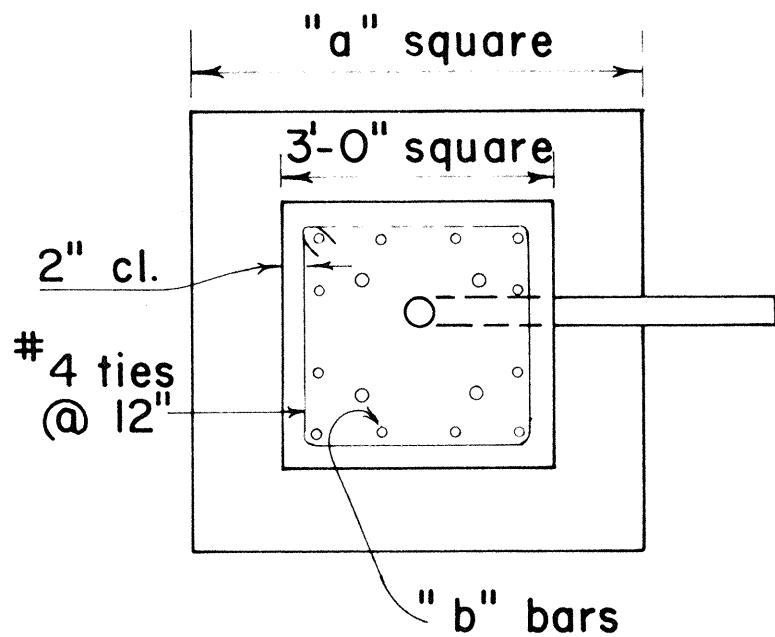


NOTE:  
Concrete shall be Class B.

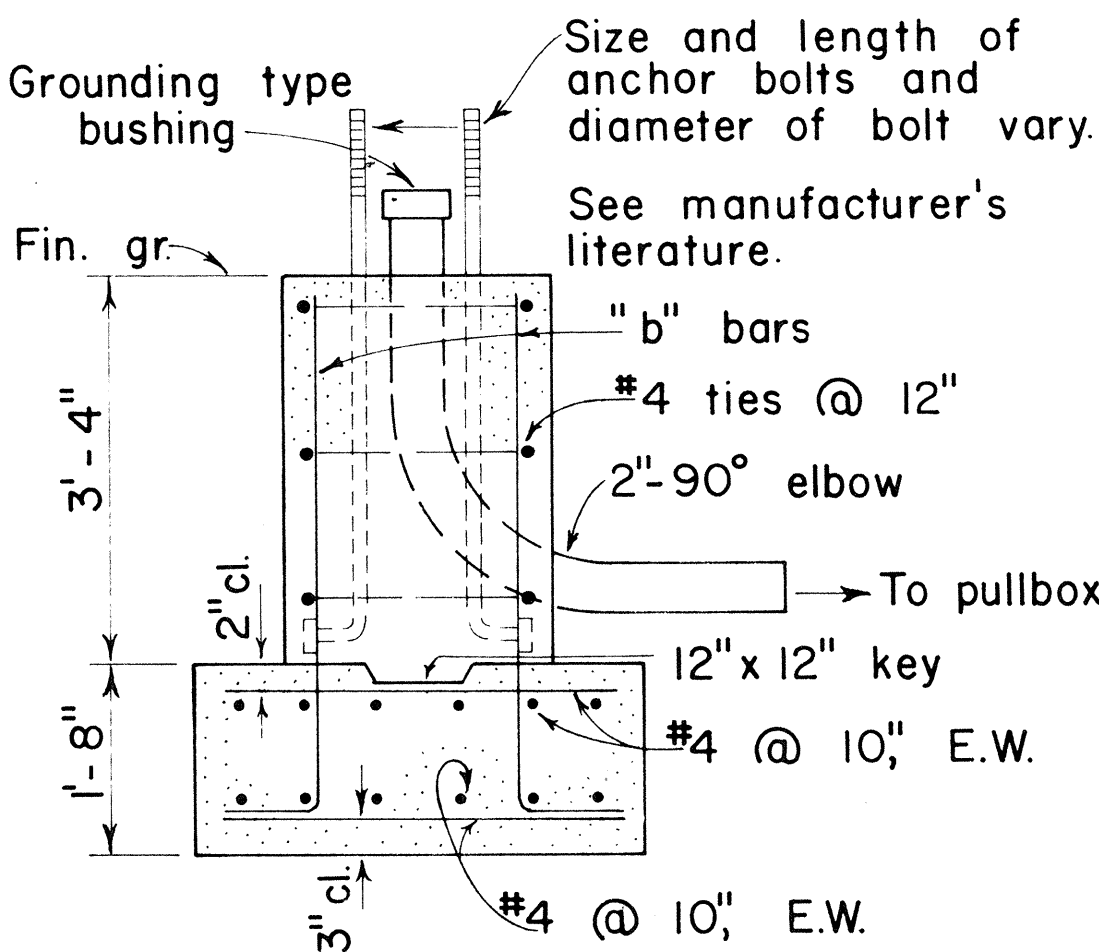
SECTION

| MAST ARM LENGTH | "c"     | "d" BARS |
|-----------------|---------|----------|
| 16' - 18'       | 5' - 0" | 12 - #6  |
| 20'             | 5' - 6" | 12 - #6  |
| 25'             | 6' - 0" | 12 - #6  |
| 30'             | 6' - 6" | 12 - #6  |
| 35'             | 7' - 0" | 12 - #8  |
| 40'             | 8' - 0" | 12 - #8  |

TYPE II



PLAN - SECTION



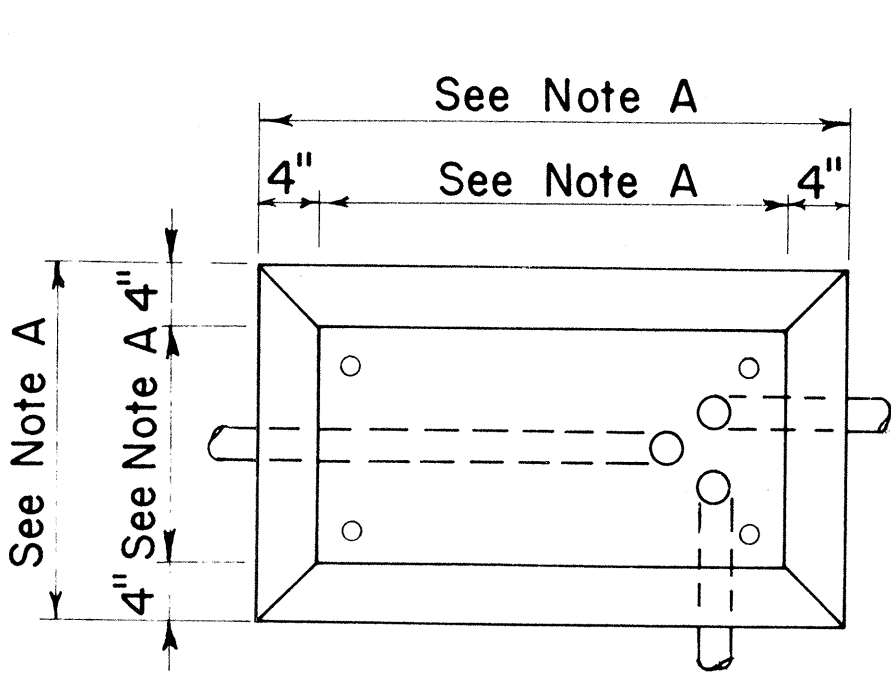
NOTE:  
Concrete shall be Class B.

SECTION

| MAST ARM LENGTH | "a"     | "b" BARS |
|-----------------|---------|----------|
| 16' - 18'       | 5' - 0" | 12 - #6  |
| 20'             | 5' - 6" | 12 - #6  |
| 25'             | 6' - 0" | 12 - #6  |
| 30'             | 6' - 6" | 12 - #8  |
| 35'             | 6' - 6" | 12 - #8  |
| 40'             | 7' - 0" | 12 - #8  |

TYPE IIA

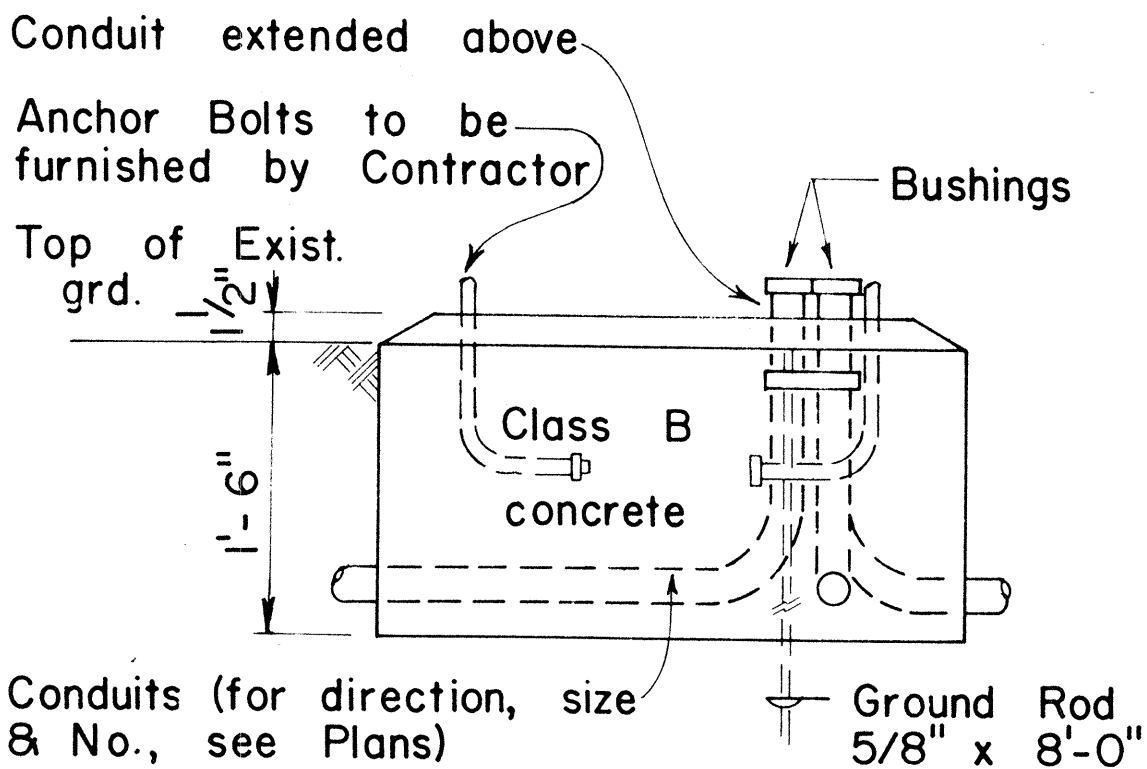
FOOTING FOR MAST ARM STANDARD



PLAN

CONCRETE BASE FOR CONTROLLER CABINET

- NOTES:
- Dimensions to be determined by the size of the Controller Cabinet to be furnished under this Contract.
  - Details of Conduits, Anchor Bolts, etc., are approximate only. Exact details shall be secured by the Contractor from Manufacturer.



ELEVATION

APPROVAL RECOMMENDED:  
*Erich Tanaka* 3/4/76  
TRAFFIC ENGINEER DATE

APPROVED:  
*Robert R. R. R.* 2-5-76  
ASSISTANT CHIEF, ENGINEERING DATE

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

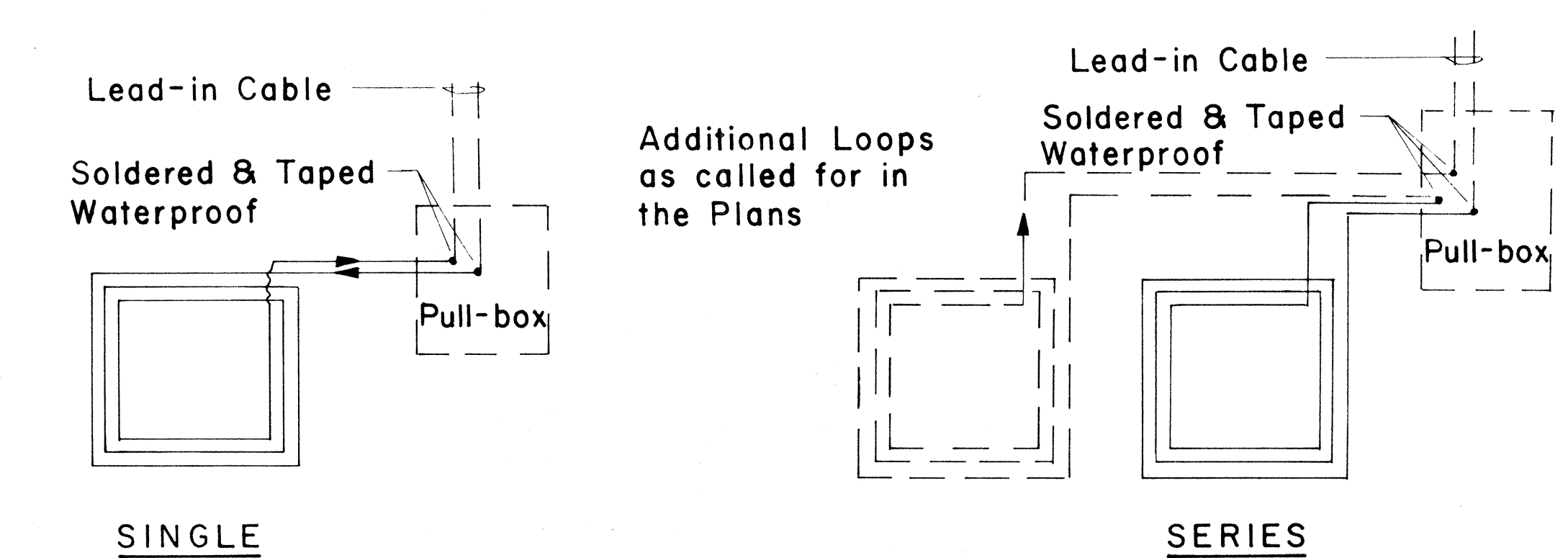
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM  
MISCELLANEOUS DETAILS

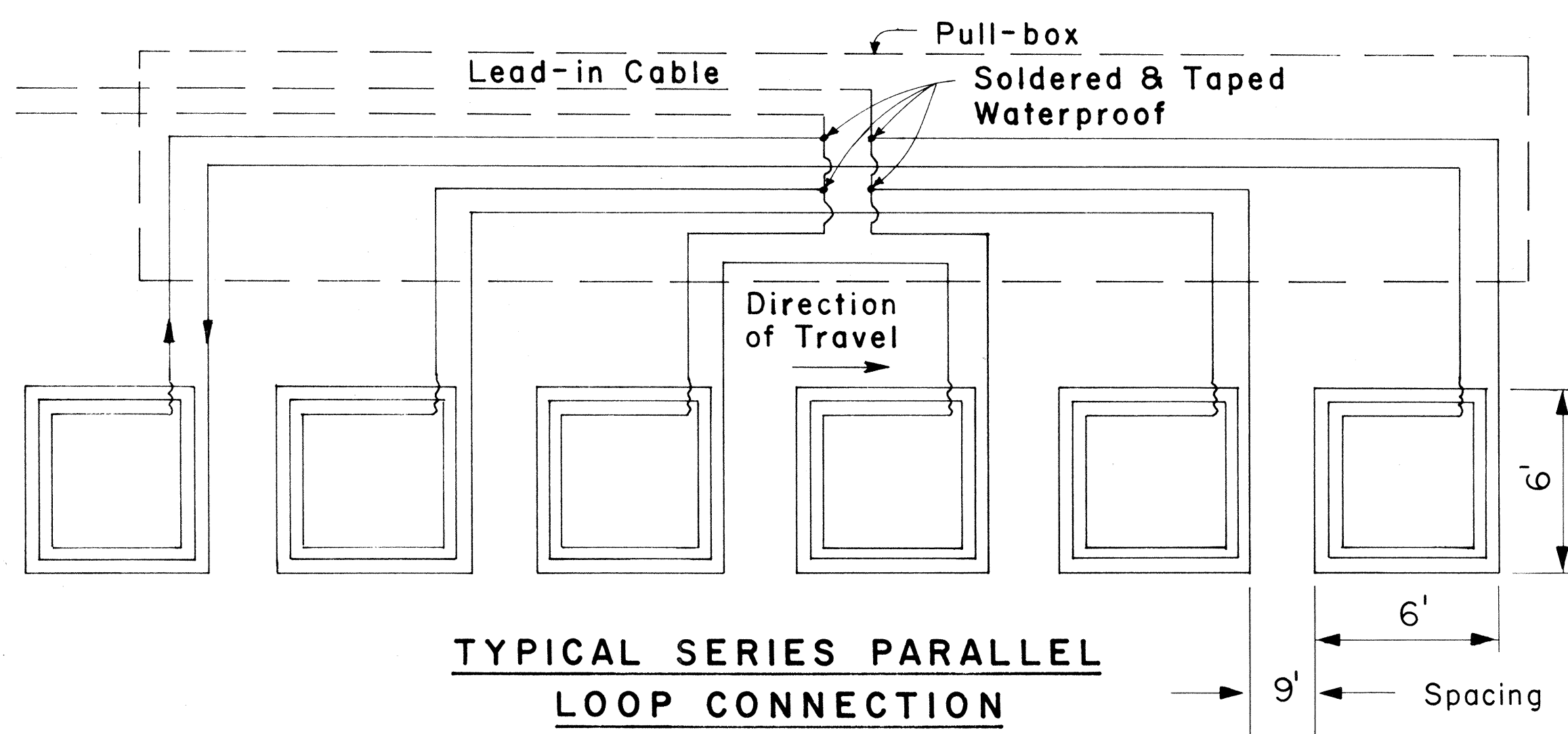
Not to Scale

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

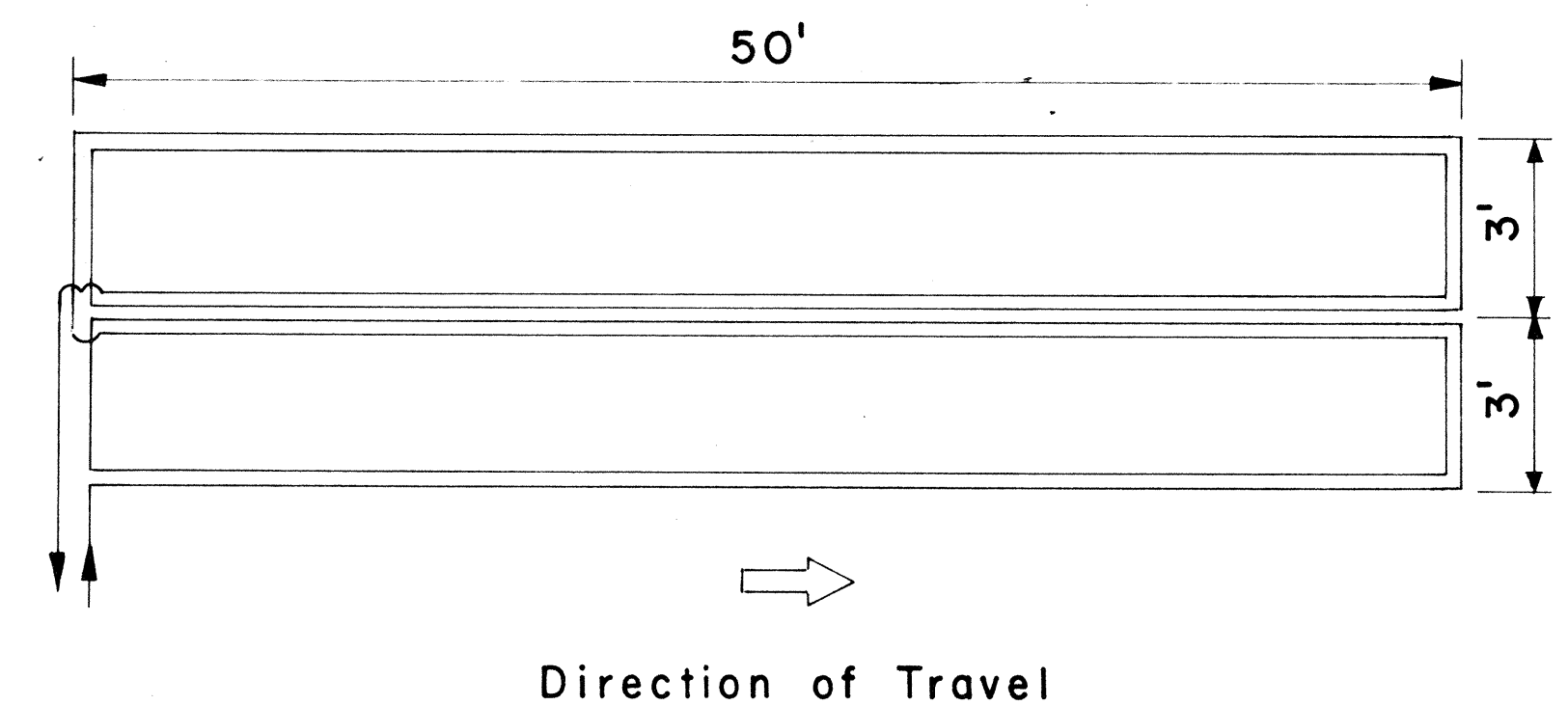
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 20A-01-76 | 1977        | 12        | 12           |



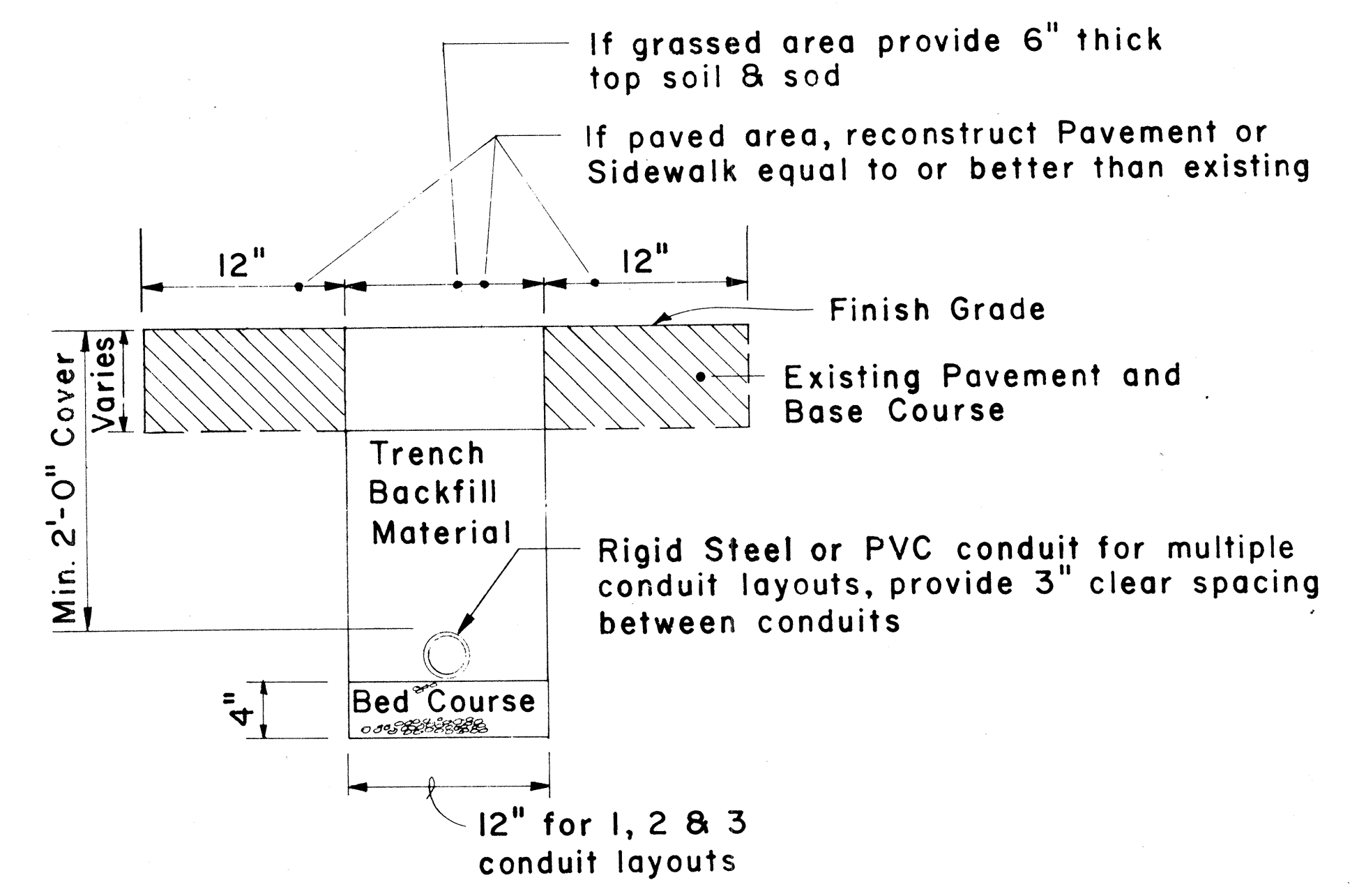
**TYPICAL LOOP CONFIGURATIONS**  
No Scale



**TYPICAL SERIES PARALLEL LOOP CONNECTION**  
No Scale

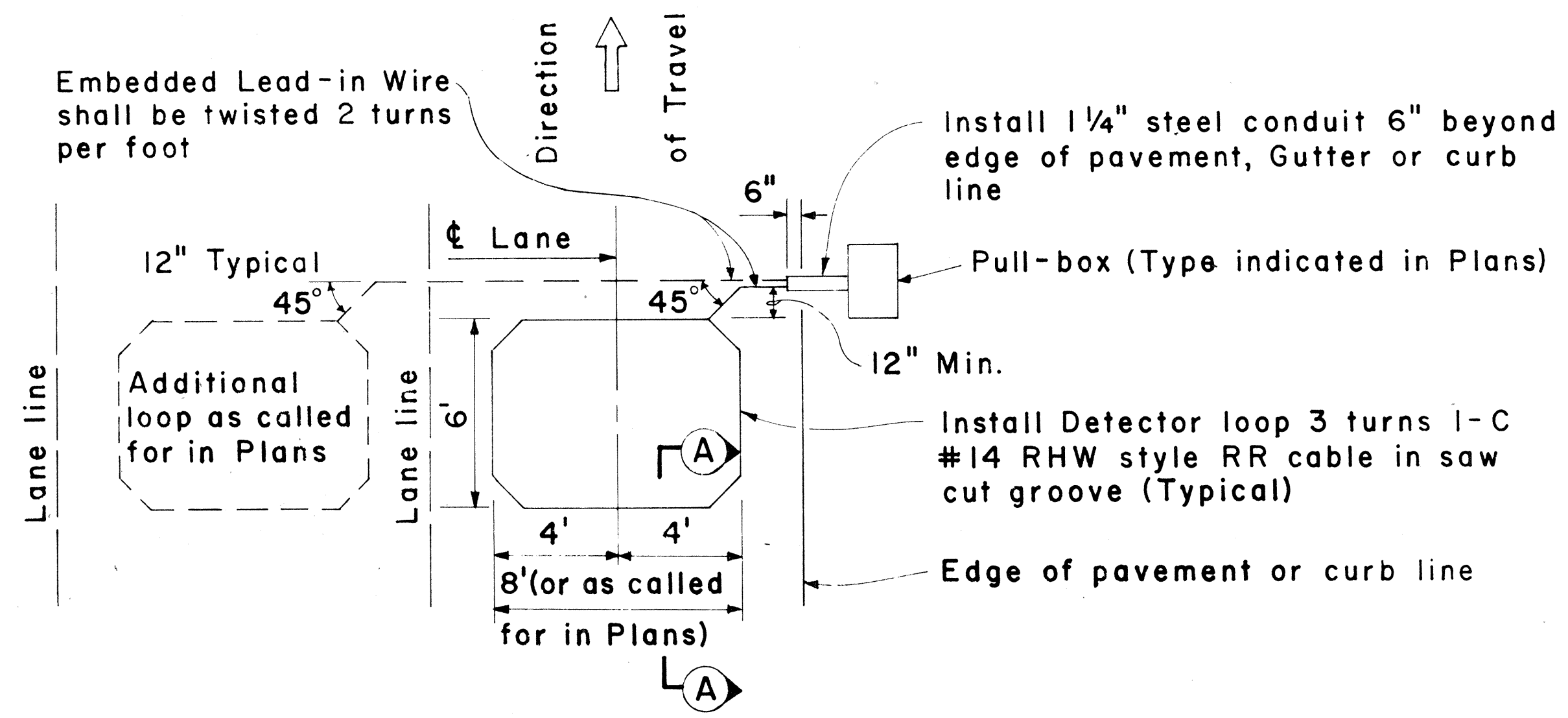


**WIRING FOR 6' x 50' LOOP DETECTOR**  
No Scale

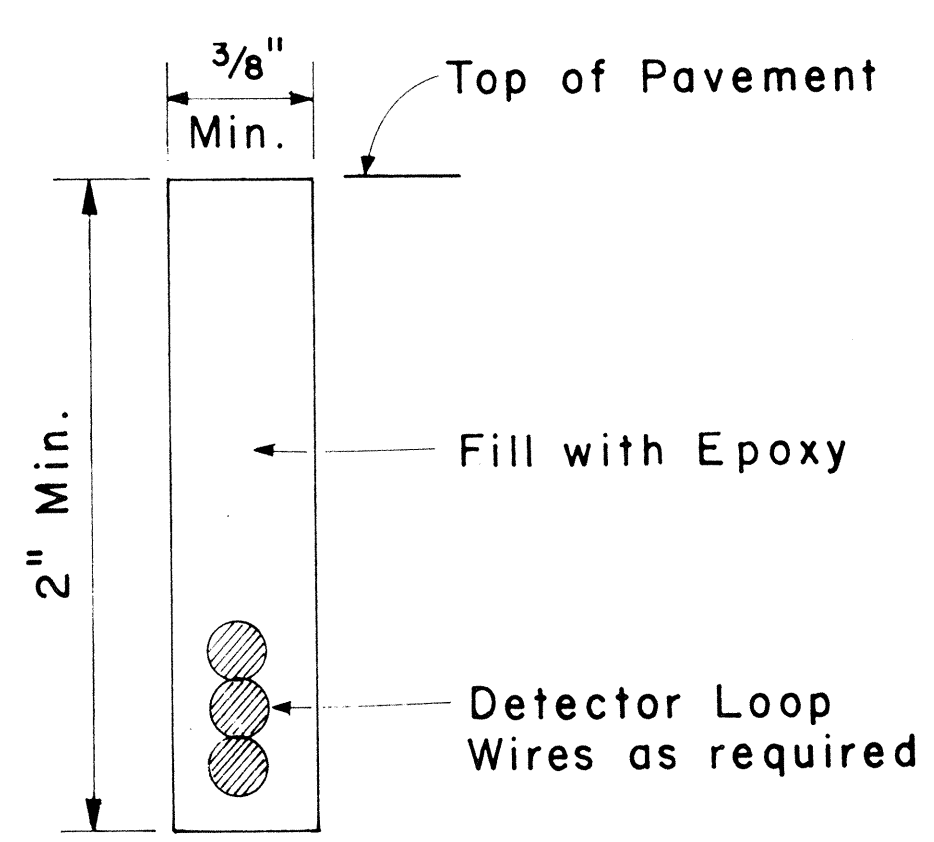


**TYPICAL TRENCH SECTION FOR CONDUIT**  
Scale : 1 1/2" = 1' - 0"

**NOTE :**  
1. All conduits under roadways shall be steel or PVC schedule 80. All other conduits shall be steel or PVC schedule 40.



**PLAN - MULTIPLE LOOP LAYOUT**  
Scale : 1/4" = 1' - 0"



**Detector Loop Saw-Cut SECTION A-A (TYPICAL)**  
No Scale

APPROVAL RECOMMENDED:  
*Erich Tanaka* 3/4/76  
TRAFFIC ENGINEER DATE

APPROVED :  
*Hubert B. Rabe* 3-5-76  
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION                              | APPROVED BY | DATE    |
|-----|---------------------------------------|-------------|---------|
| 1   | Add dimensions to Loop Configurations | H.T.        | 3-22-76 |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TRAFFIC SIGNAL SYSTEM  
MISCELLANEOUS DETAILS**

Scale: As Noted  
SHEET NO. 8 OF 8 SHEETS DT 405

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