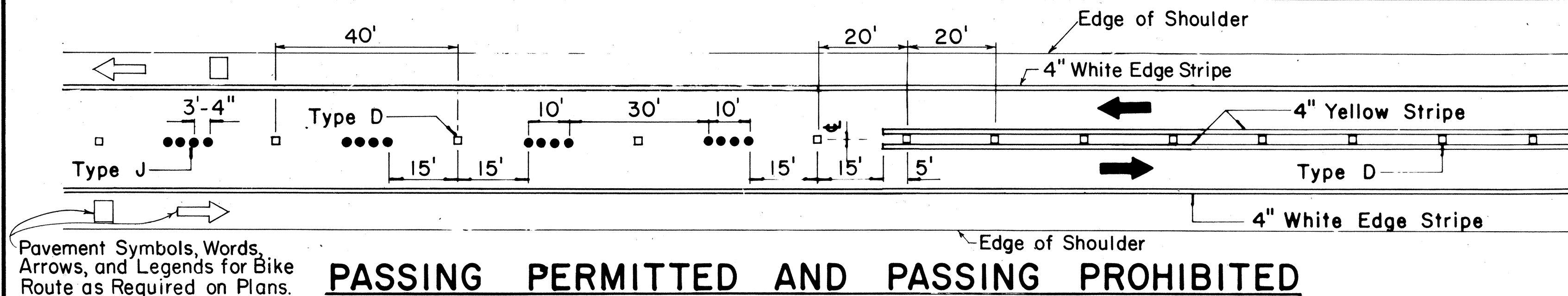


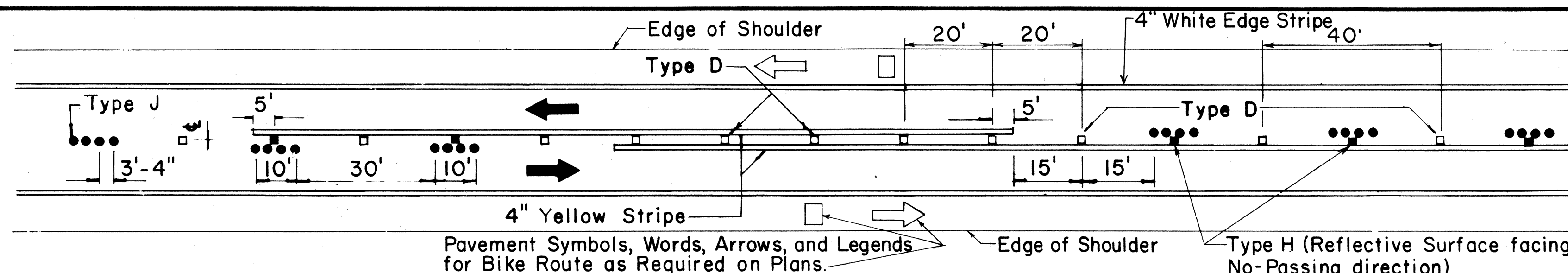
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 78C-01-83 | 1986        | 7         | 14           |



Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

## PASSING PERMITTED AND PASSING PROHIBITED

TWO - LANE



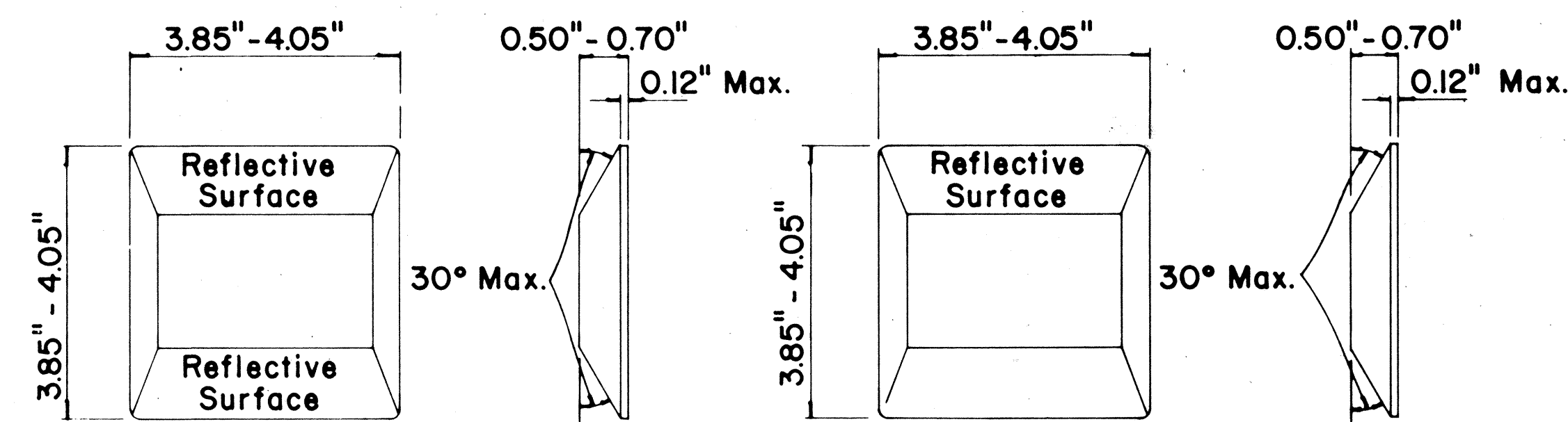
Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

## PASSING PROHIBITED ZONES

**TYPE A**  
NON-REFLECTIVE WHITE MARKER

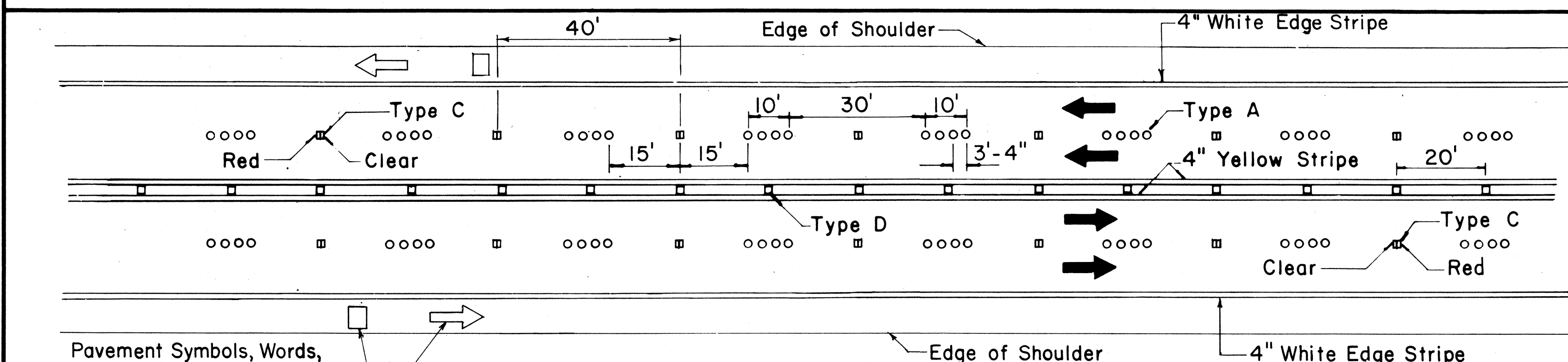
**TYPE J**  
NON-REFLECTIVE YELLOW MARKER

**TYPE C**  
RED-CLEAR REFLECTIVE MARKER



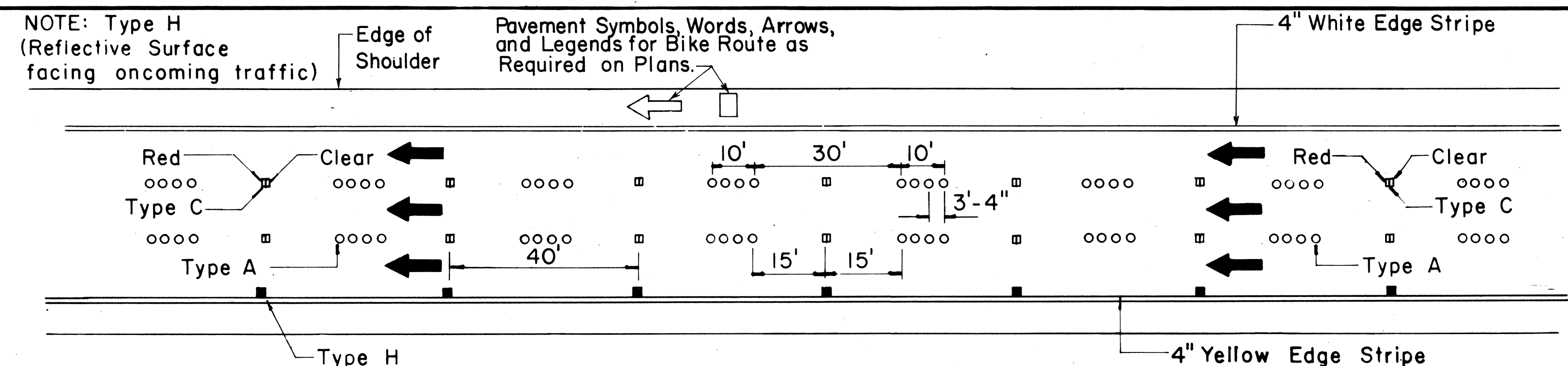
**TYPE D**  
TWO-WAY YELLOW REFLECTIVE MARKER

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



Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

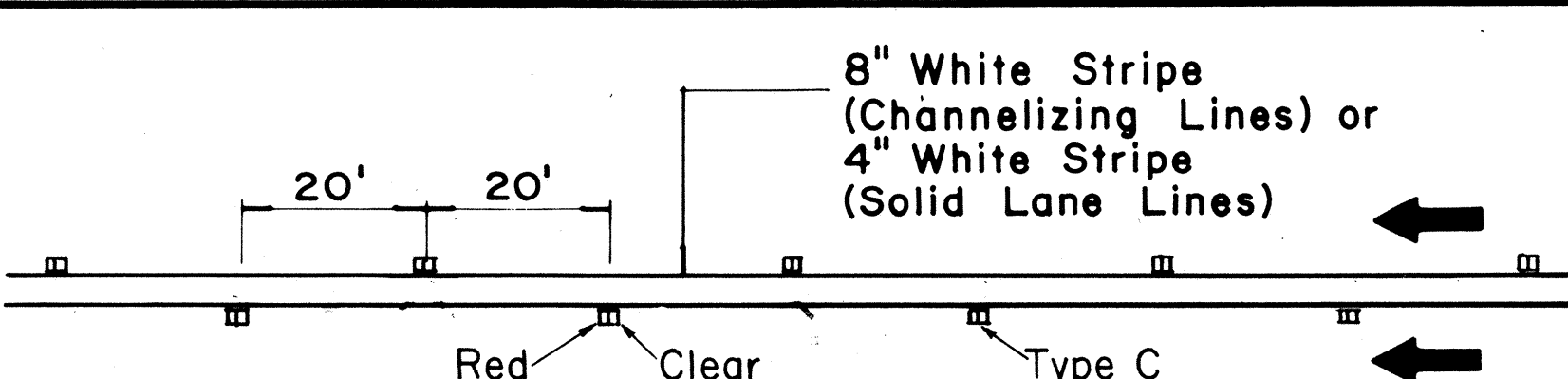
MULTI - LANE



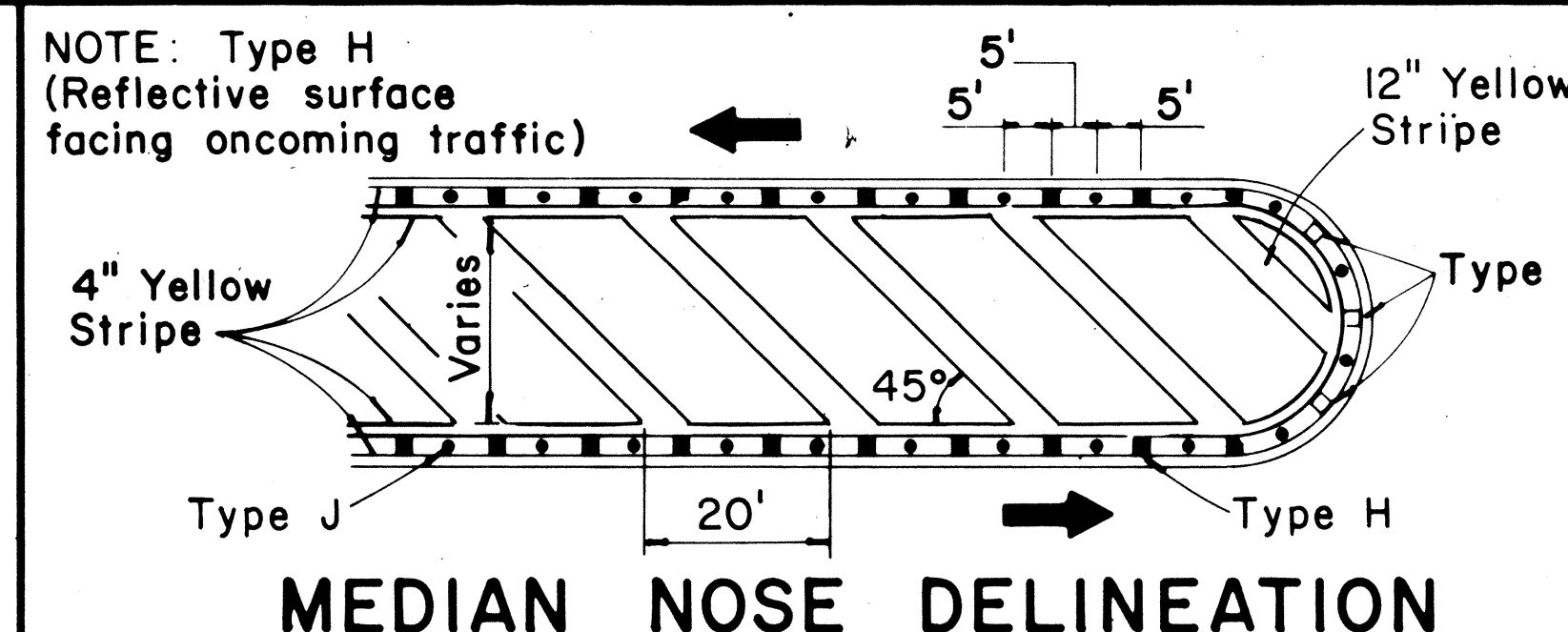
NOTE: Type H (Reflective Surface facing oncoming traffic)

Pavement Symbols, Words, Arrows, and Legends for Bike Route as Required on Plans.

DIVIDED HIGHWAY AND FREEWAY



## CHANNELIZING LINES OR SOLID LANE LINES



NOTE: Type H (Reflective surface facing oncoming traffic)

## MEDIAN NOSE DELINEATION

MISCELLANEOUS

## GENERAL NOTES

- Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.
- Edge lines shall not be continued through intersections and shall not be broken for driveways unless otherwise shown or directed.

## LEGEND

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

APPROVAL RECOMMENDED:

*Erick Tanaka* 7/21/78  
TRAFFIC ENGINEER DATE

APPROVED:

*Harold J. Zekich* 1/24/78  
ASSISTANT CHIEF, ENGINEERING DATE

| No. | REVISION                                           | APPROVED BY | DATE     |
|-----|----------------------------------------------------|-------------|----------|
| 1   | Supersedes DT 300 approved 11/18/71.               | H.T.        | 1/24/78  |
| 2   | Delete Type A Markers from Bike Route Delineation. | H.T.        | 10/15/79 |
| 3   | Added General Note 3. Revised left edge stripe.    | H.T.        | 9-28-83  |
| 4   | Revised Channelizing Lines or Solid Lane Lines.    | H.T.        | 9/10/85  |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

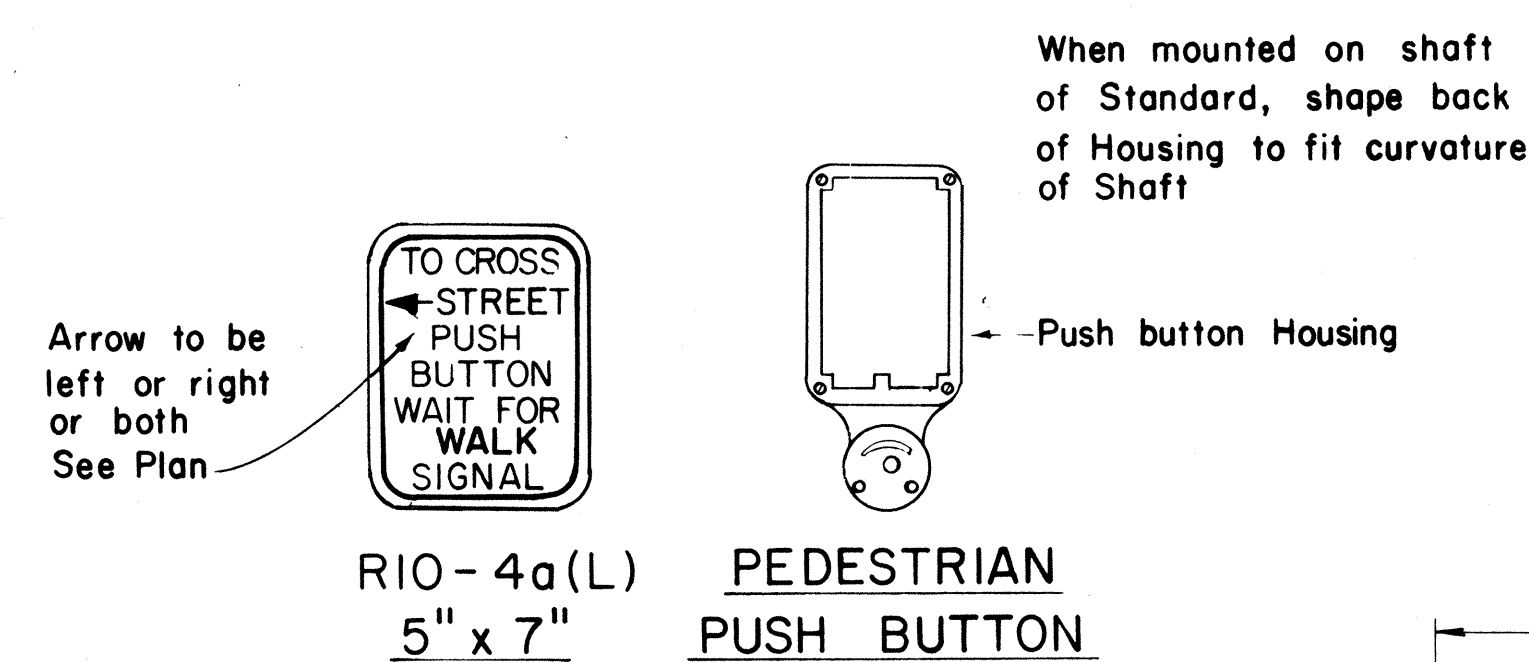
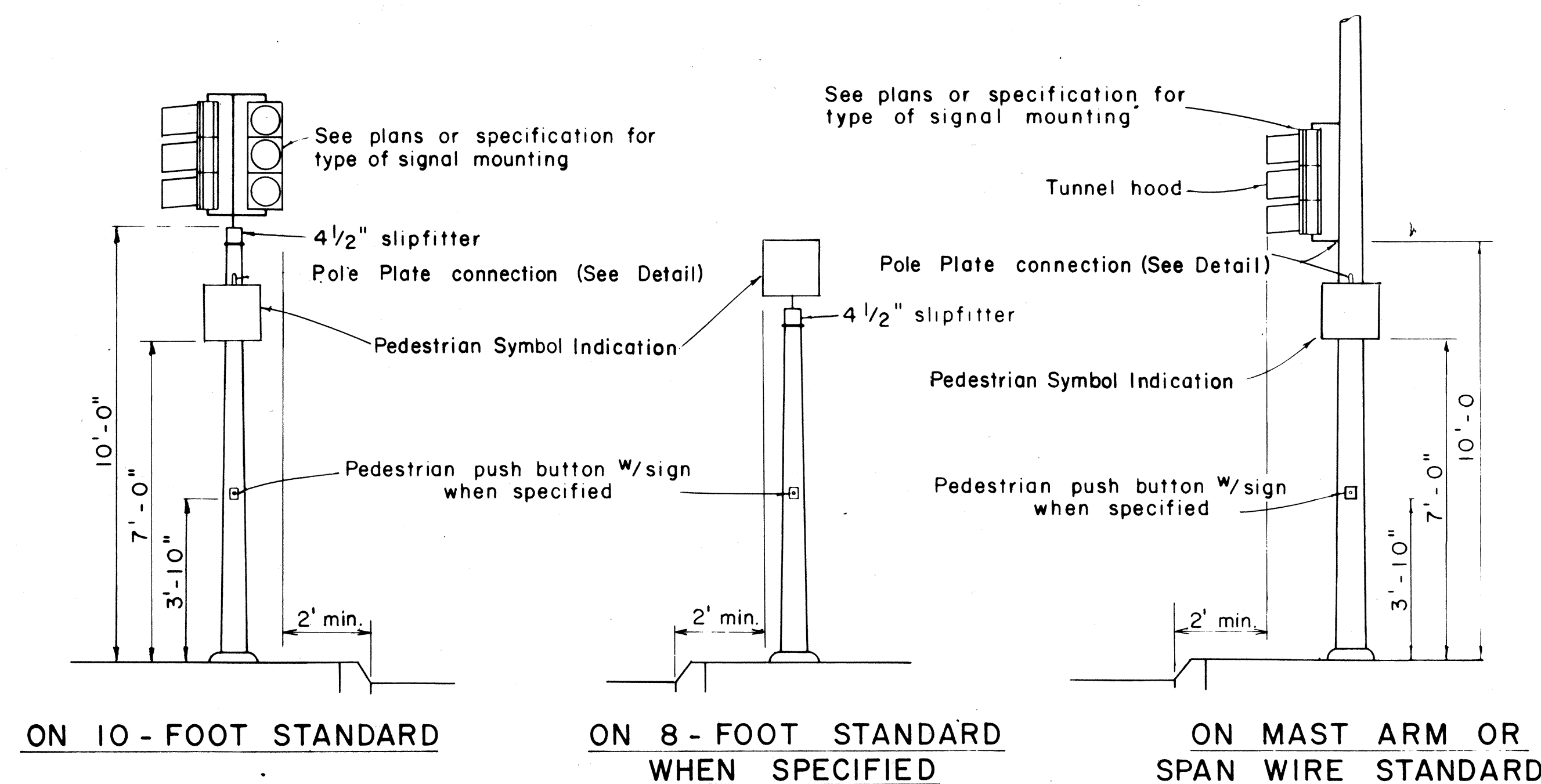
## STANDARD DETAILS RAISED PAVEMENT MARKERS AND STRIPING

Not to Scale July 1978  
SHEET No. 1 OF 7 SHEETS DT 300



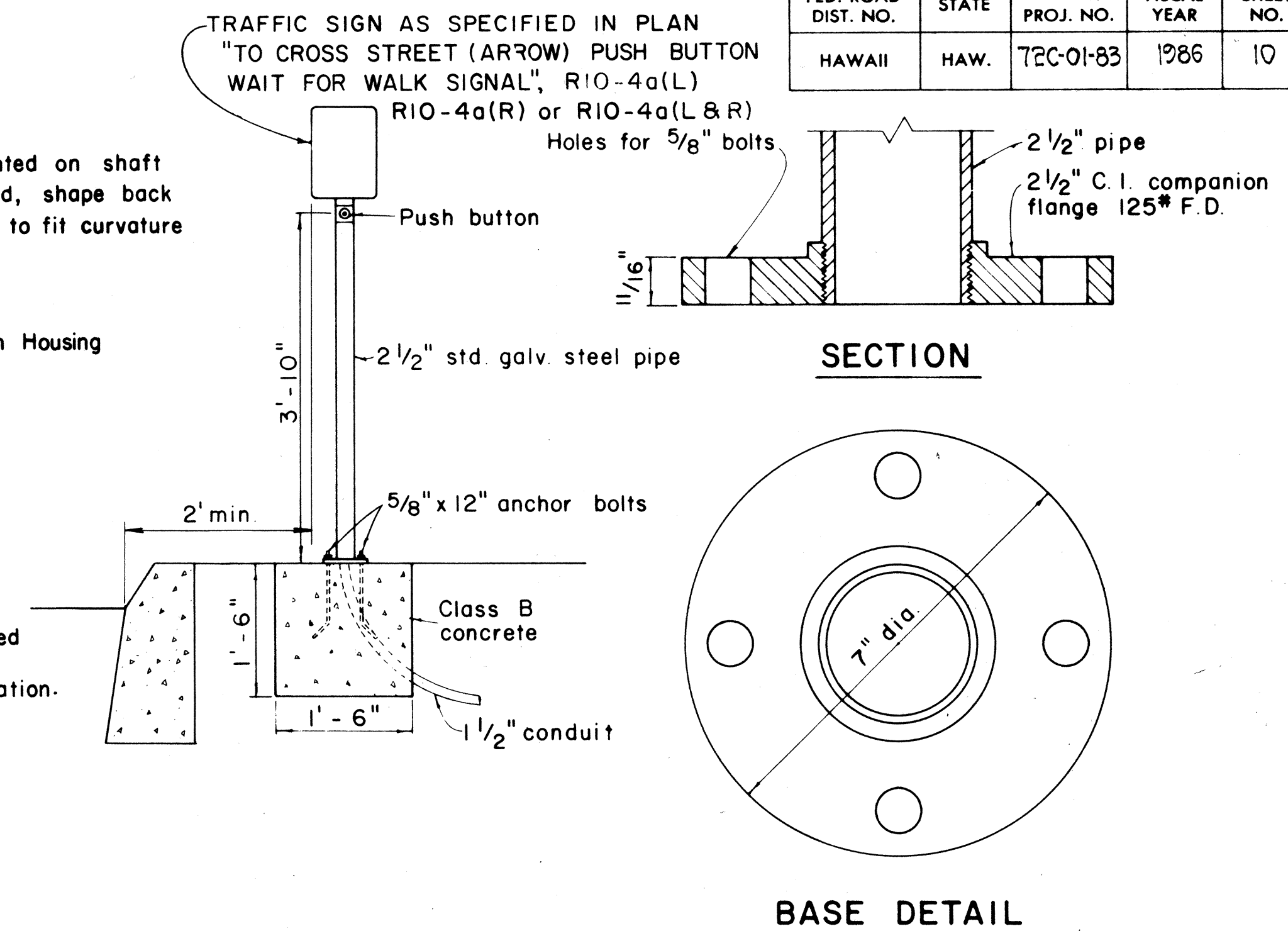


| FED. ROAD<br>DIST. NO. | STATE | PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
|------------------------|-------|-----------|----------------|--------------|-----------------|
| HAWAII                 | HAW.  | 72C-01-83 | 1986           | 10           | 14              |

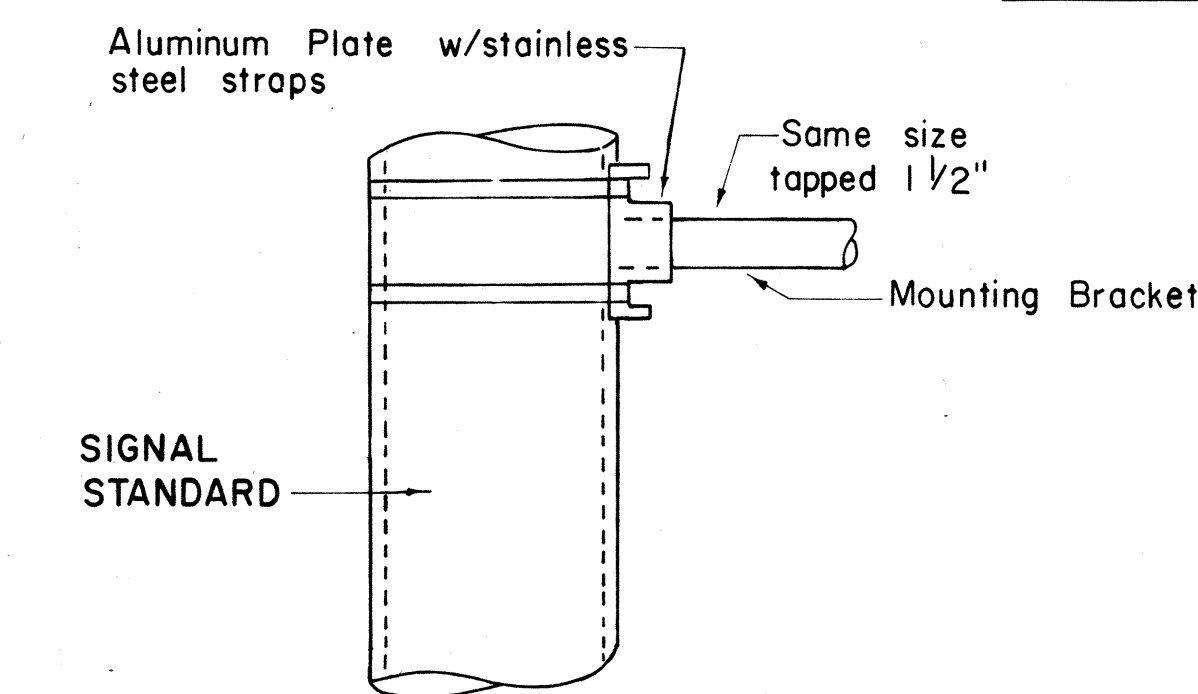


**NOTE:**

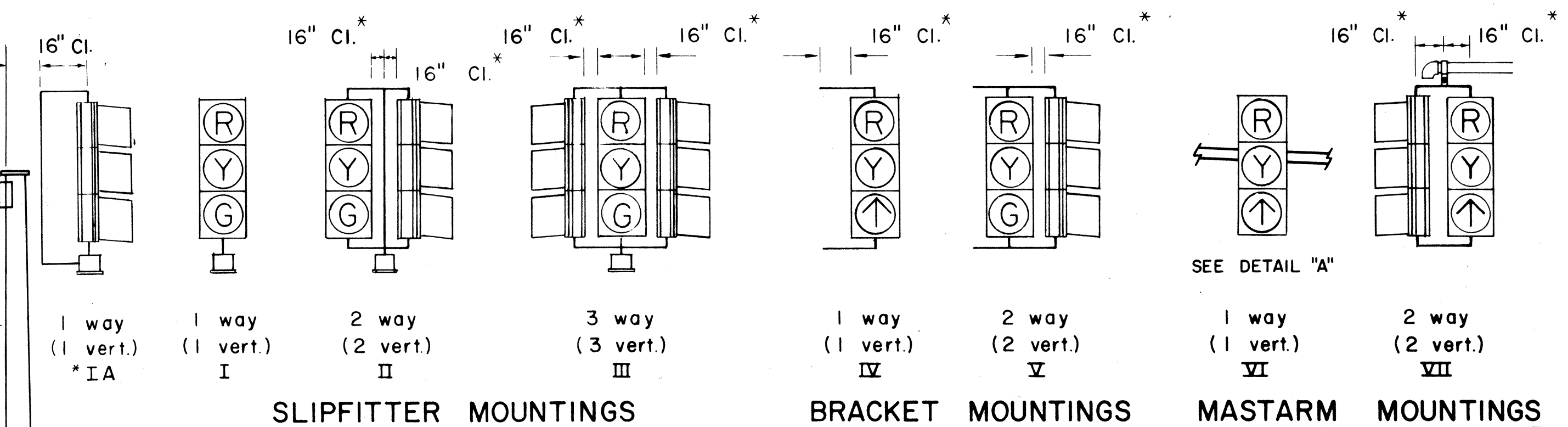
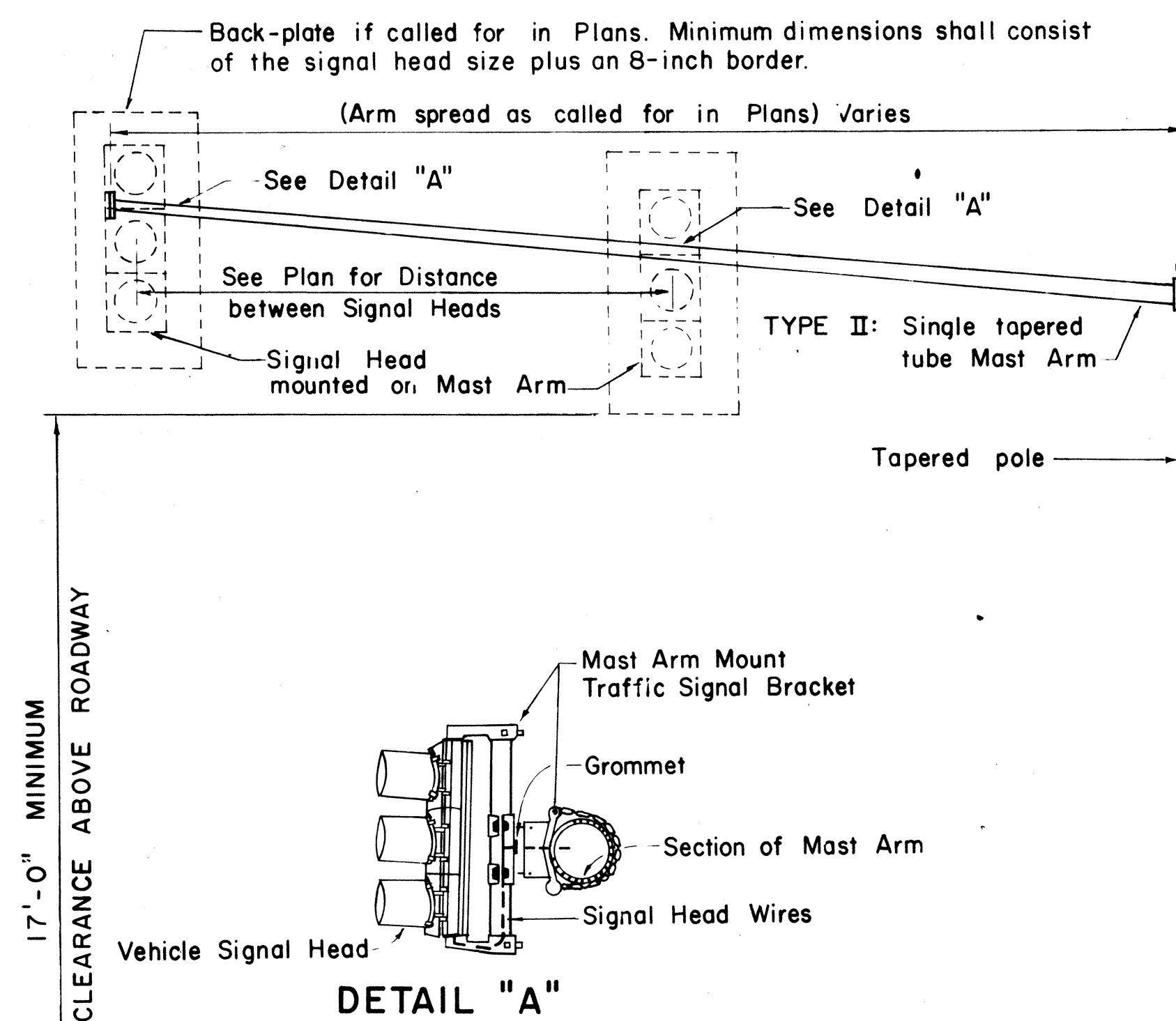
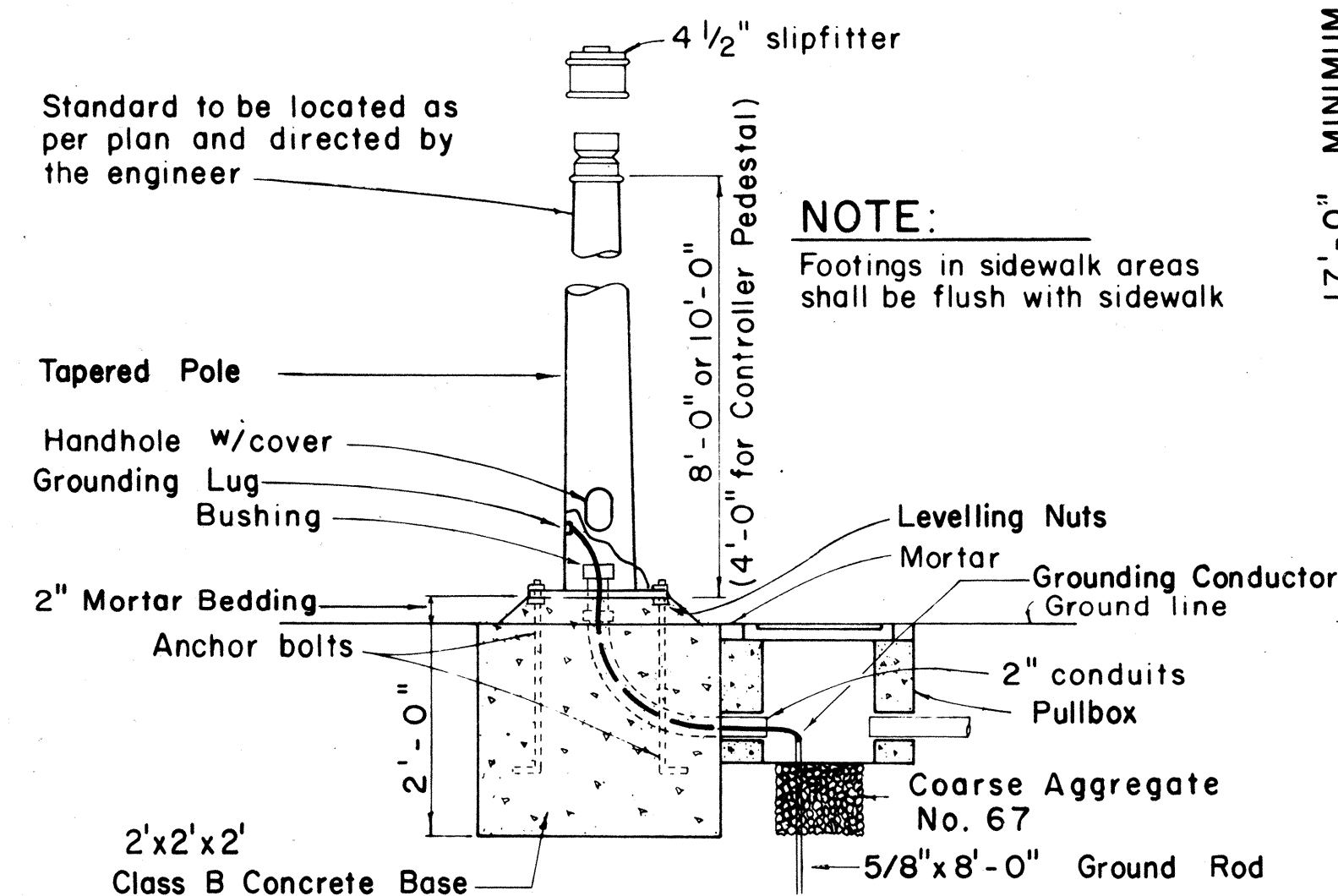
1. Conduits shall protrude 2" max. above finished surface of foundation.
2. Conduits shall slope away from pole foundation.



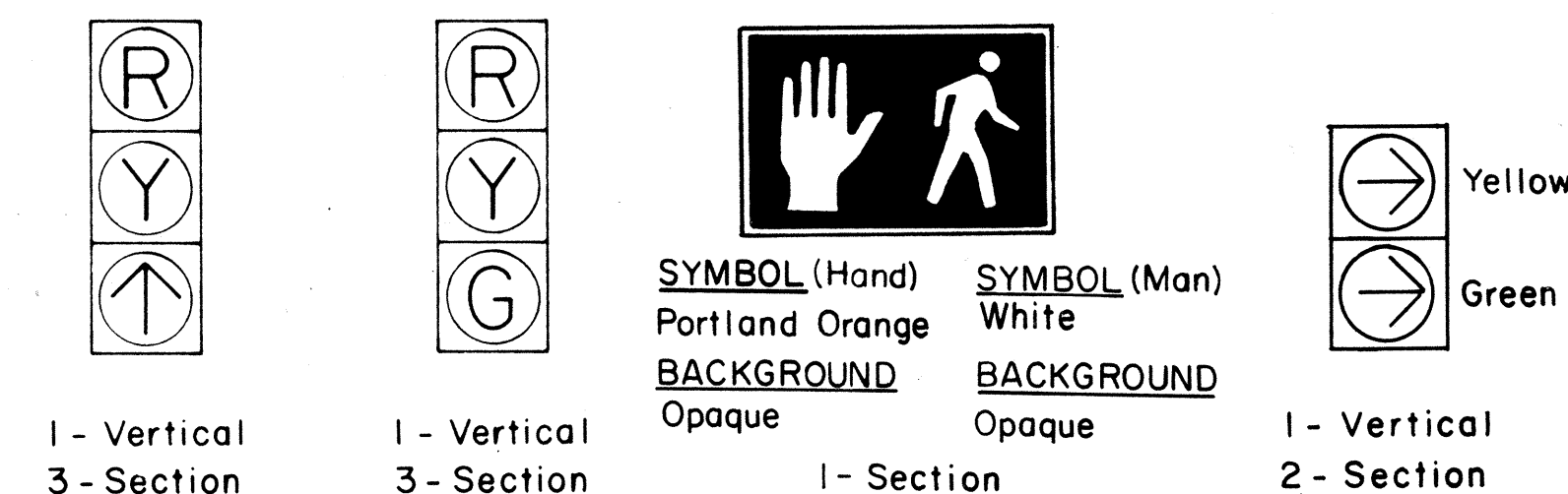
## TYPICAL EQUIPMENT MOUNTINGS



## DETAIL OF POLE PLATE CONNECTIONS



## TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS



## TYPICAL SIGNAL ARRANGEMENTS

| NO. | REVISION                               | APPROVED BY | DATE  |
|-----|----------------------------------------|-------------|-------|
| 7   | Deleted word "Lunar" from Symbol (Man) | E. T.       | 9/2/8 |

| NO | REVISION                                                                                          | APPROVED BY | DATE    |
|----|---------------------------------------------------------------------------------------------------|-------------|---------|
| 1  | Revise code nos. for Pedestrian Push Button signs.                                                | H.T.        | 3/23/12 |
| 2  | Revise Details of Traffic and Pedestrian Signals, Standards and Pedestrian Push Button and Signs. | H.T.        | 3/5/12  |
| 3  | Revise signal indications.                                                                        | H.T.        | 9/22/10 |
| 4  | Remove Note No. 3 & Revise clearance and dimension.                                               | H.T.        | 9/19/11 |
| 5  | Revise Ped. Signal Indication                                                                     | H.T.        | 8/6/10  |
| 6  | Added note for back-plate                                                                         | PJP         | 9-28-12 |

APPROVAL      RECOMMENDED:

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

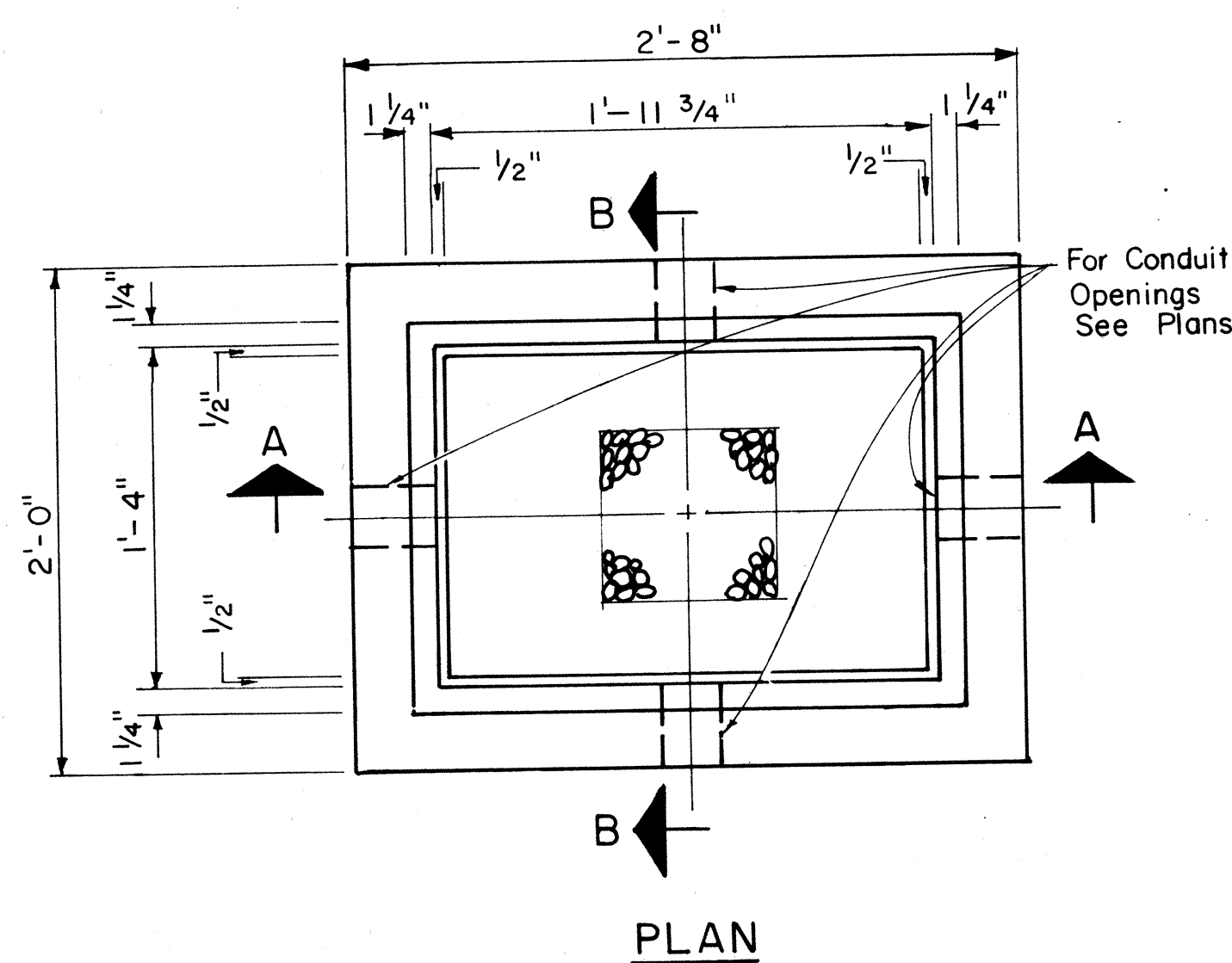
*William B. Salati*      12/29/69  
ASSISTANT CHIEF, ENGINEERING      DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
STANDARD DETAILS  
MISCELLANEOUS DETAILS

Not to Scale

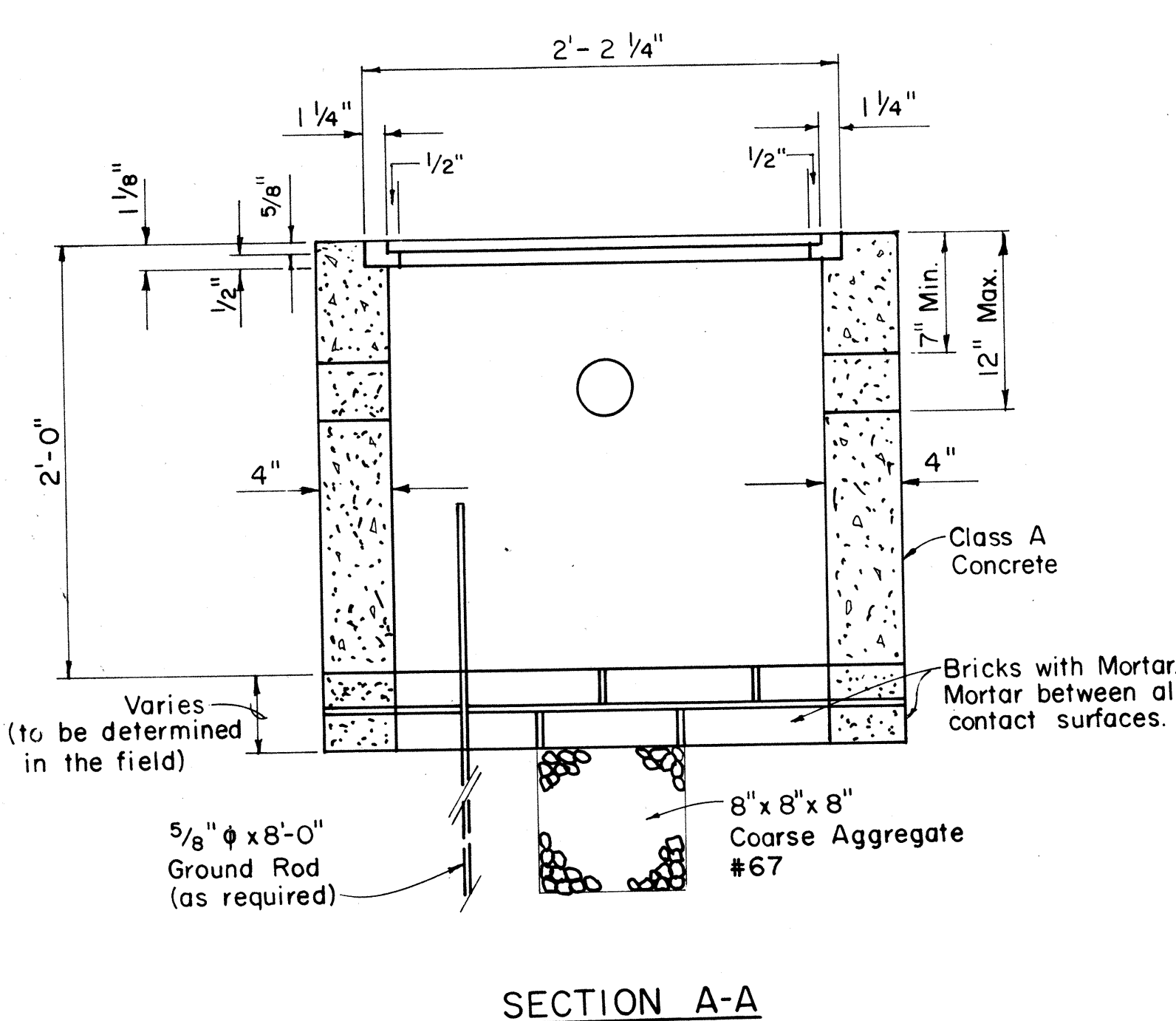
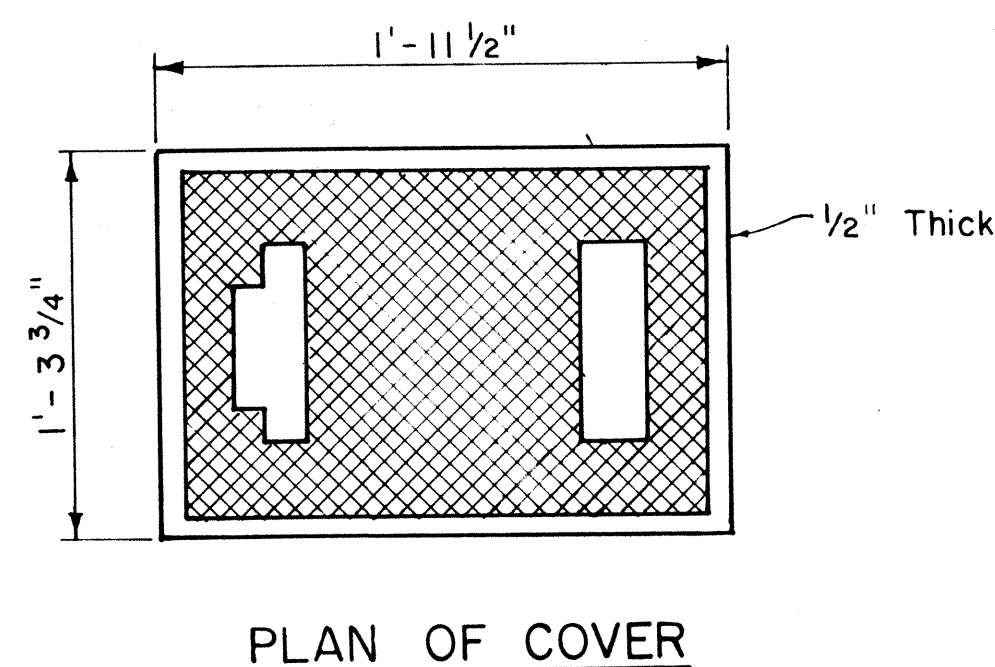
**SHEET No. 4 OF 7 SHEETS DT 400**

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 72C-01-83 | 1986        | 11        | 14           |

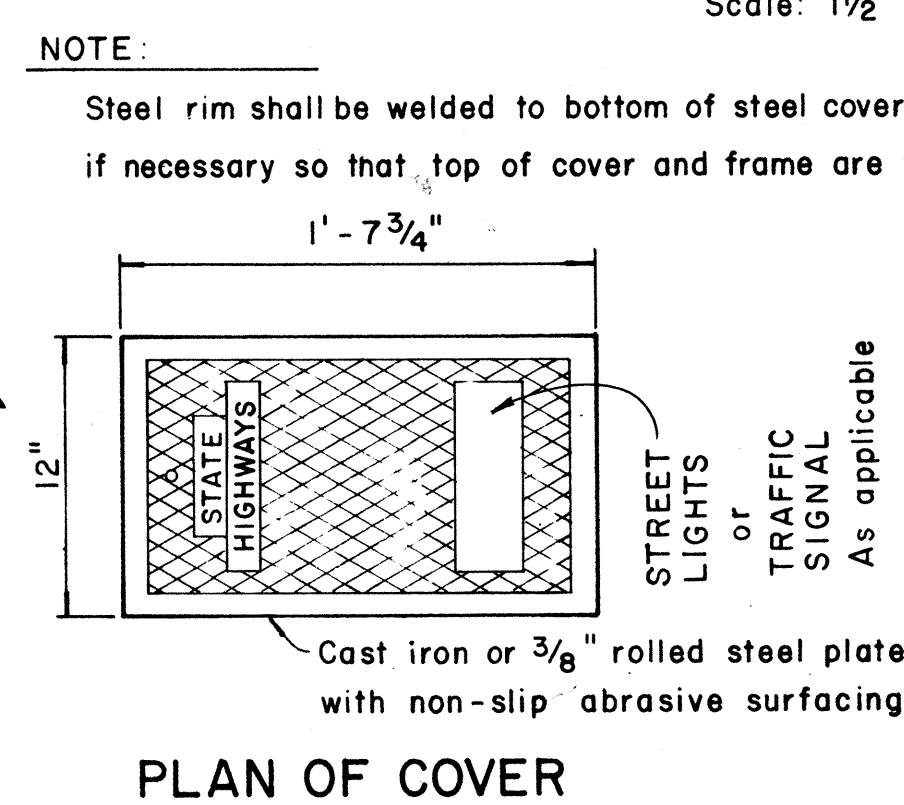
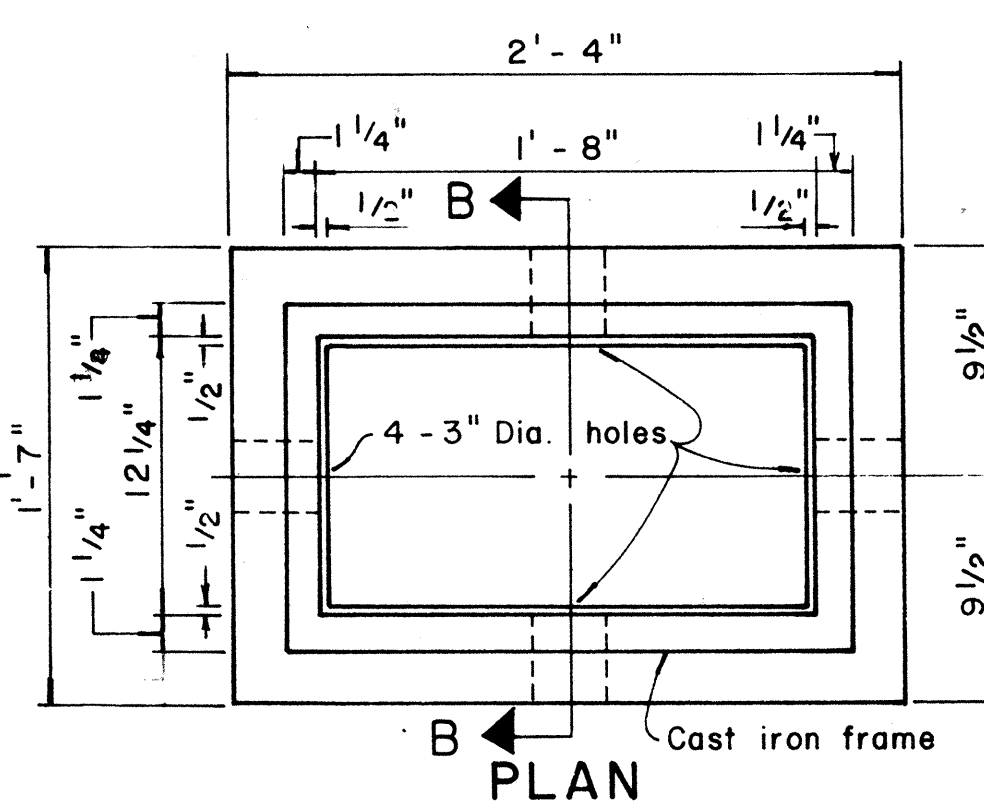
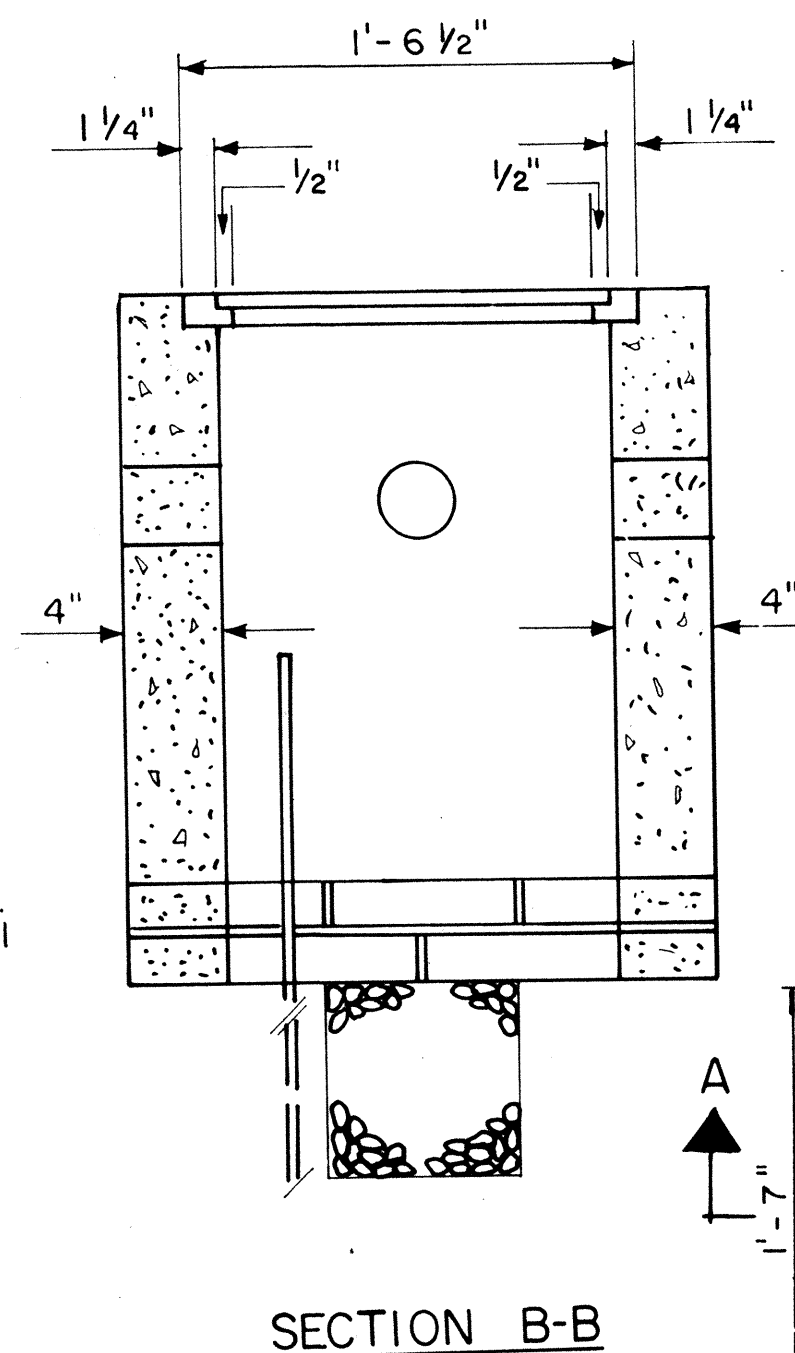


NOTE:

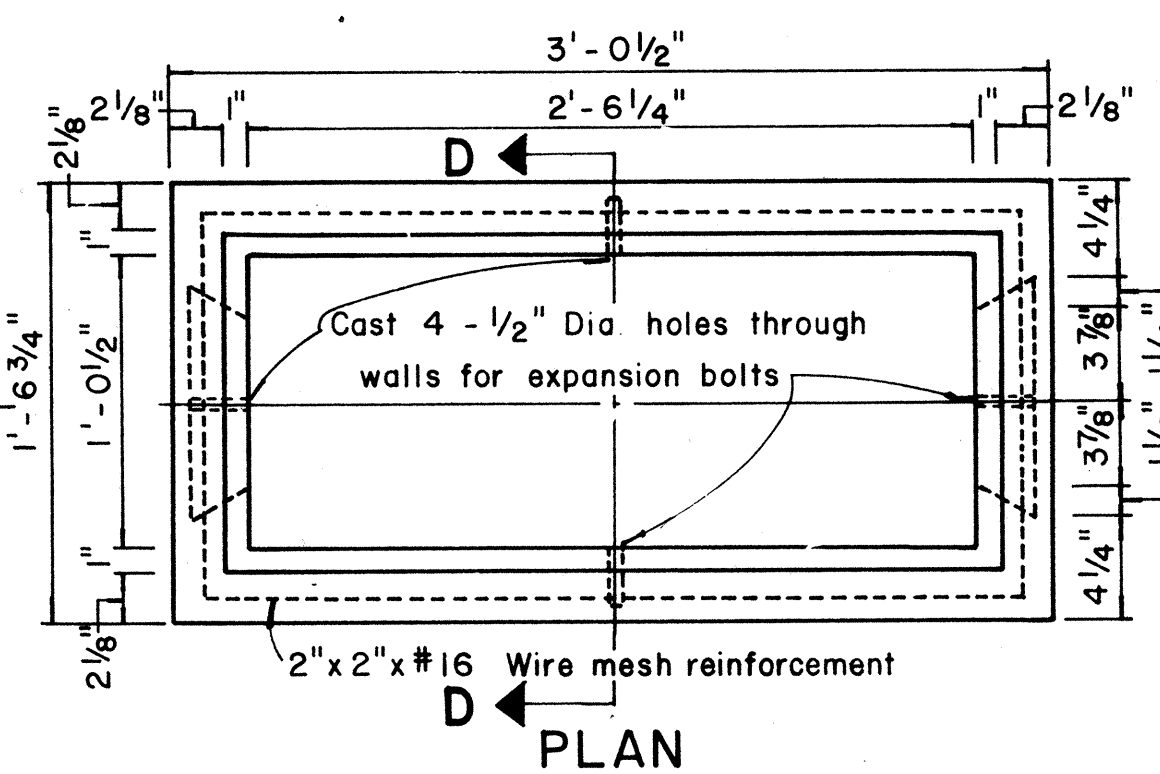
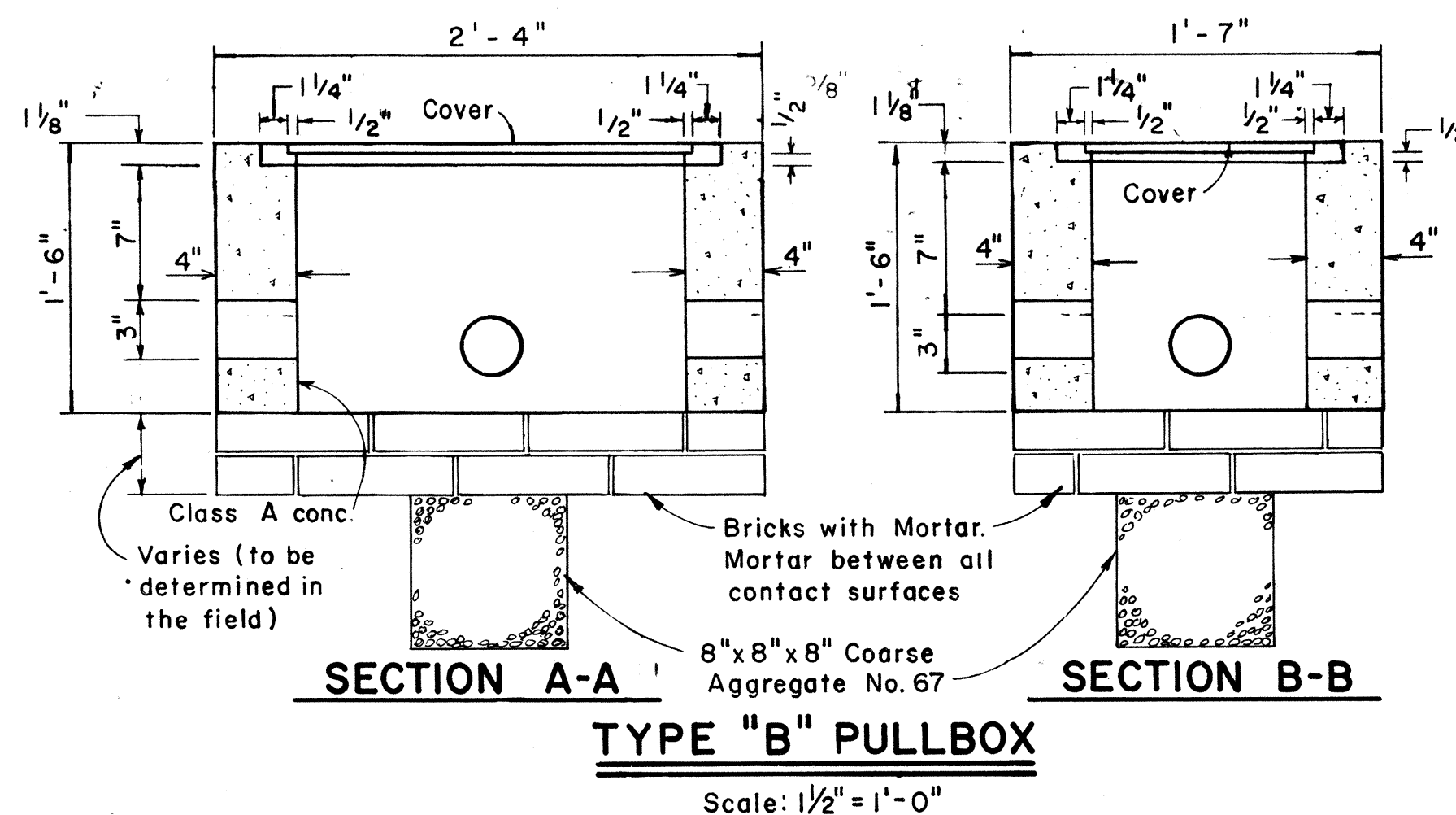
Except as noted, Cover Details shall conform to Type "B" Pullbox Cover.



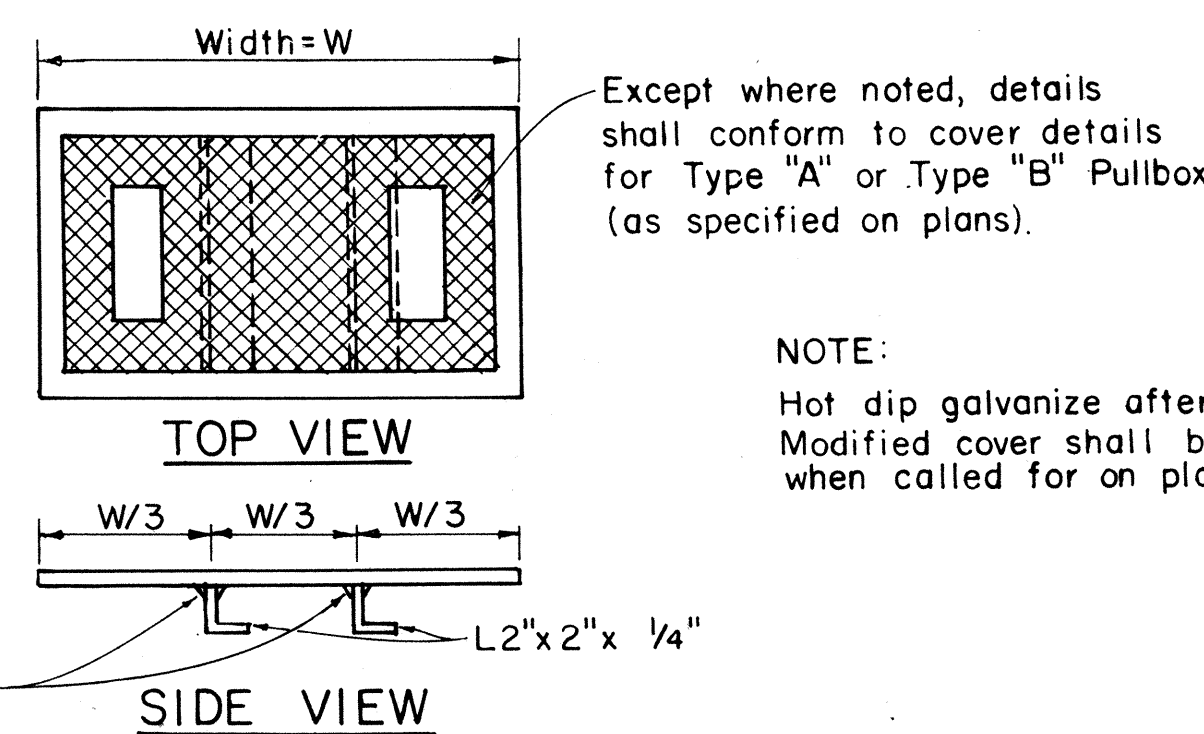
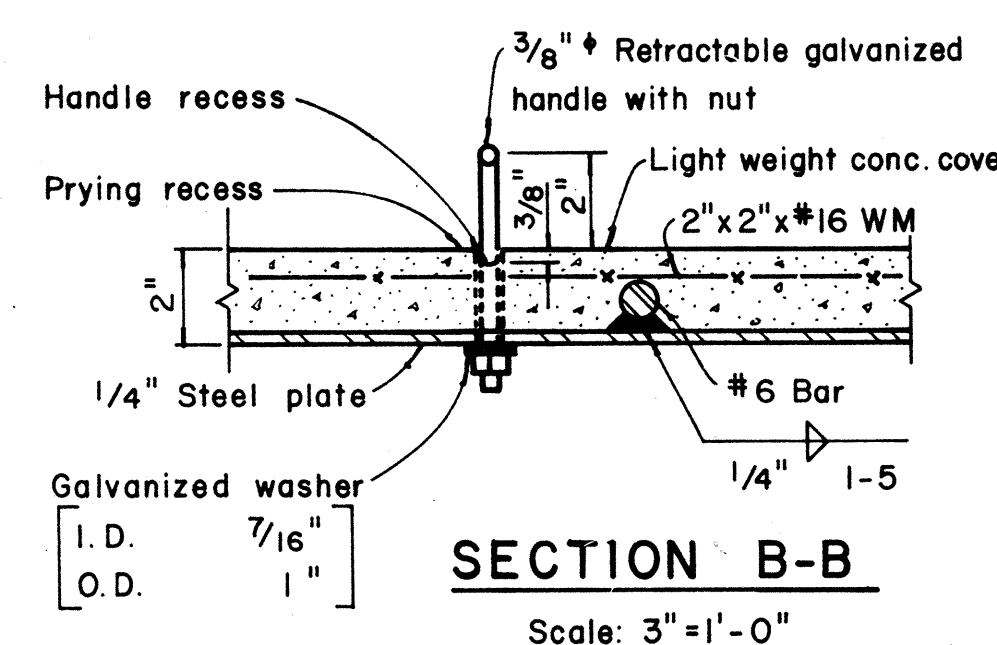
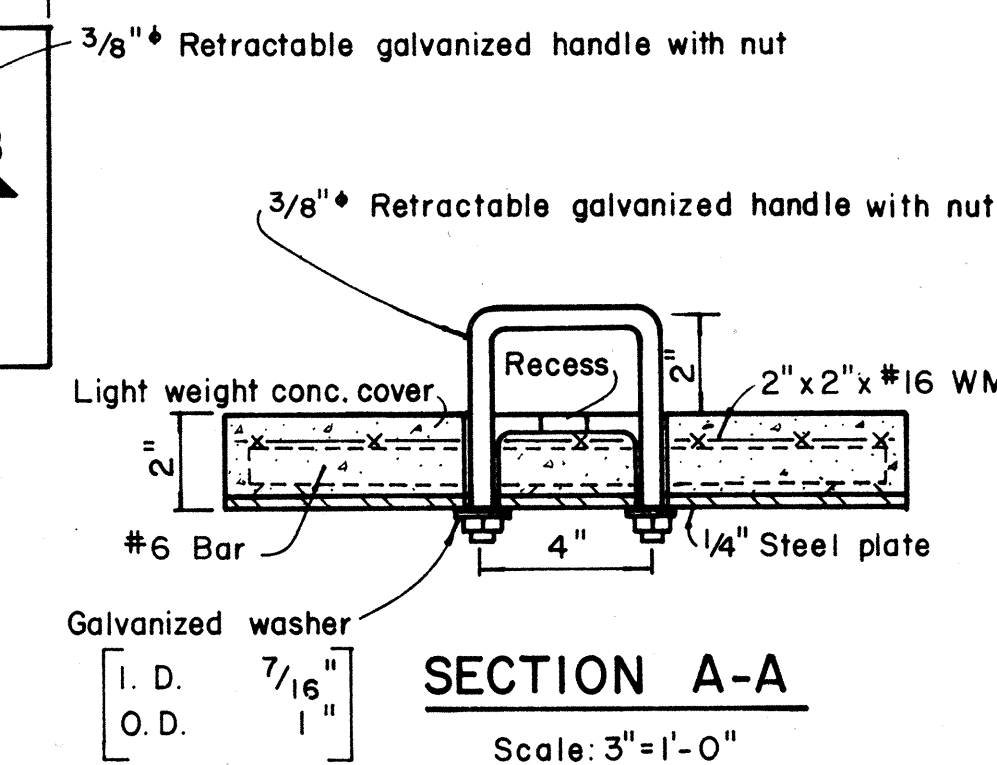
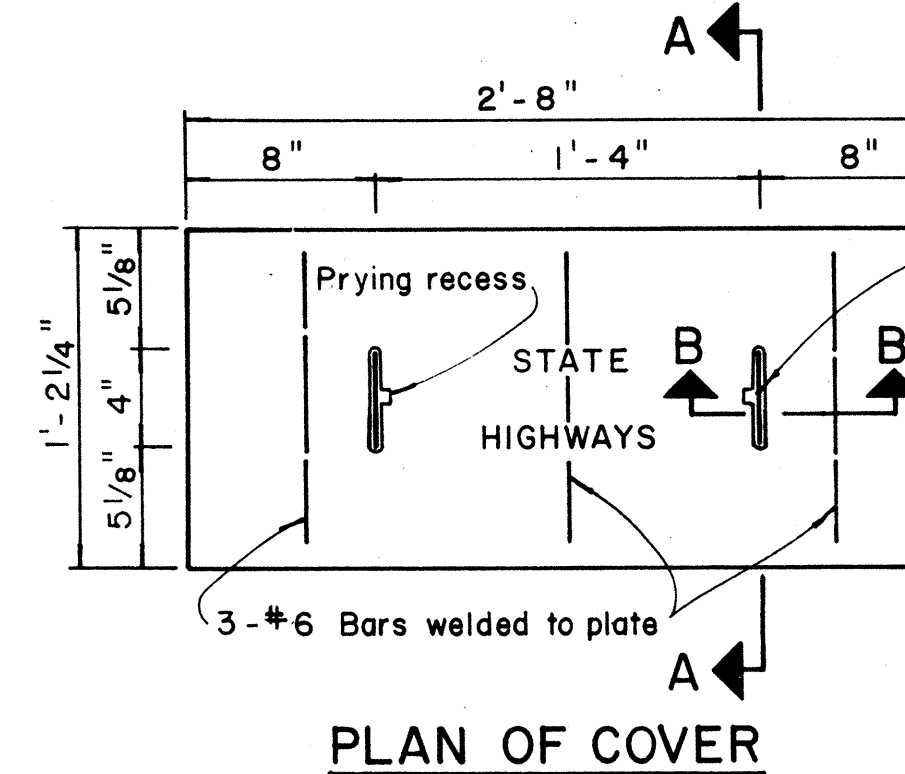
TYPE "A" PULLBOX  
Scale: 1/2" = 1'-0"



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



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



MODIFIED COVER DETAIL  
Not to Scale

NOTE:

Hot dip galvanize after fabrication. Modified cover shall be furnished when called for on plans.

| NO. | REVISION                                         | APPROVED BY | DATE    |
|-----|--------------------------------------------------|-------------|---------|
| 1   | Revised Type B & C Pullbox details               | H.T.        | 8-5-76  |
| 2   | Revised Type "A" Pullbox & Added Modified Cover. | H.T.        | 1-31-80 |
| 3   | Revised Type B & C Pullbox details.              | H.T.        | 2-1-83  |

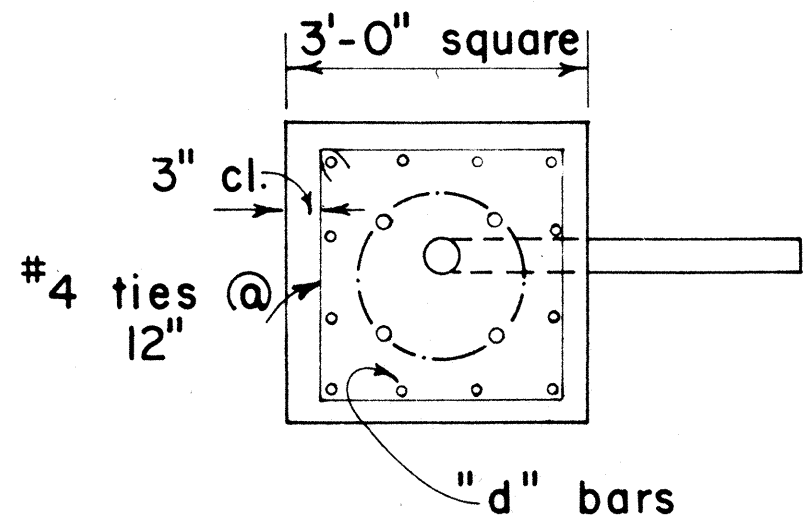
APPROVAL RECOMMENDED:  
TRAFFIC ENGINEER  
12/29/69  
DATE

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

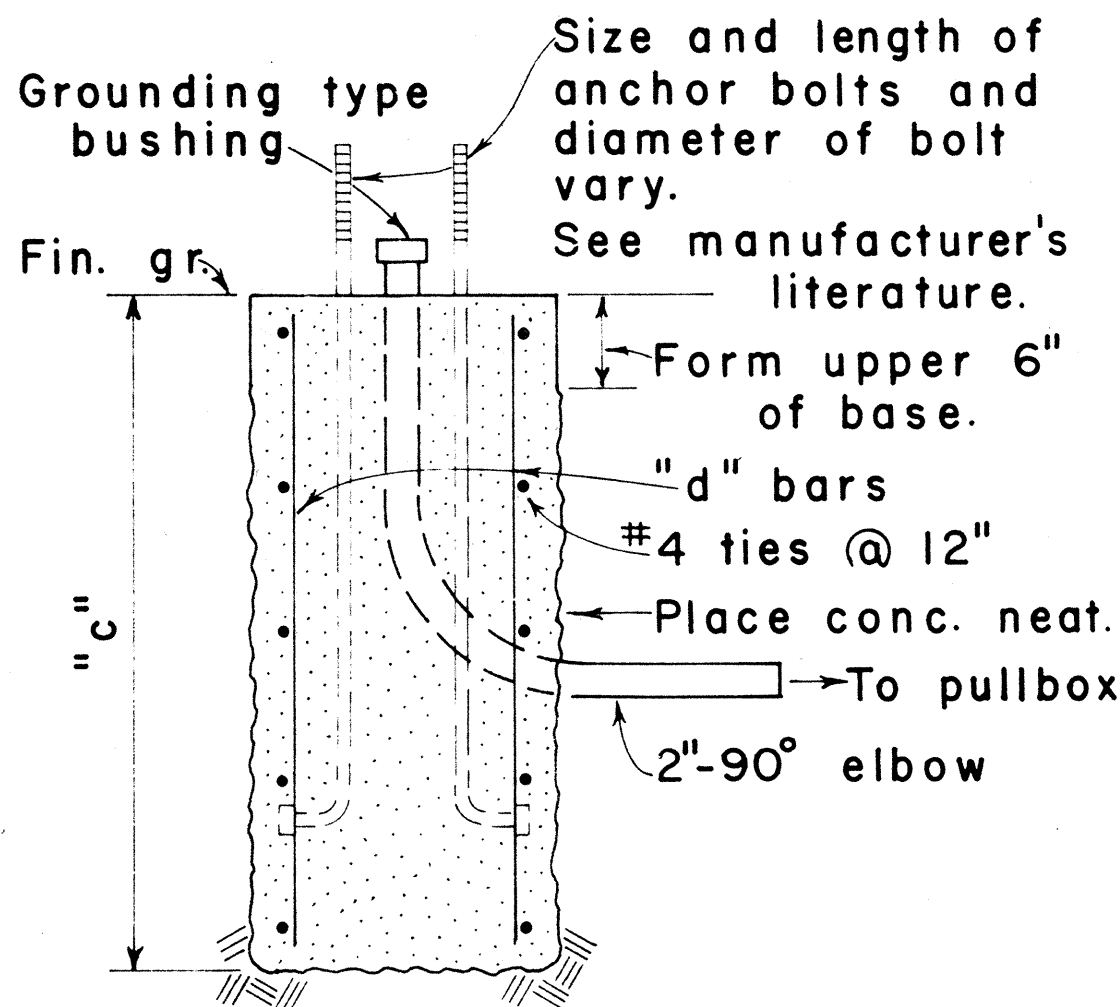
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**PULLBOXES**  
Scale as noted Date  
SHEET No. 5 OF 7 SHEETS DT 401

|               |      |
|---------------|------|
| DESIGNED BY   | DATE |
| DRAWN BY      |      |
| CHECKED BY    |      |
| NOTED BY      |      |
| ORIGINAL PLAN |      |
| NOTE BOOK     |      |
| NO.           |      |

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 72C-01-83 | 1986        | 12        | 14           |



PLAN - SECTION

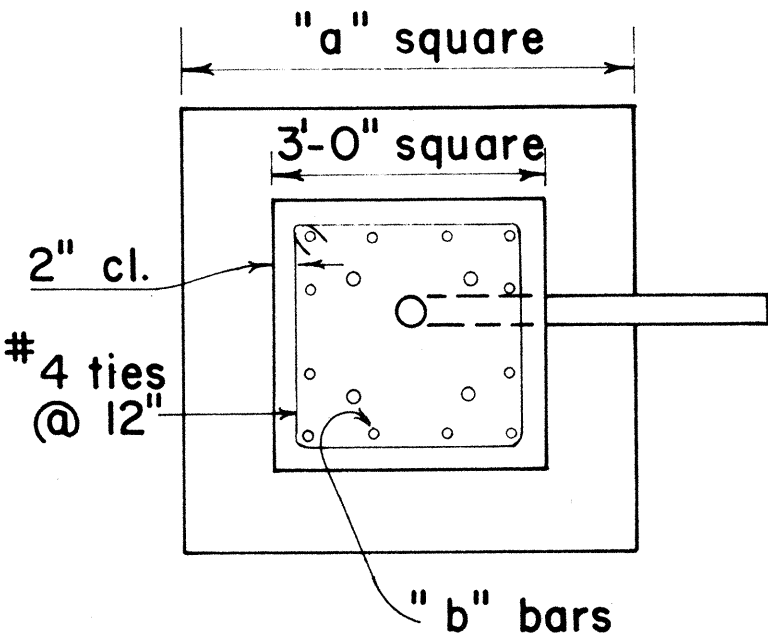


NOTE:  
Concrete shall be Class B.

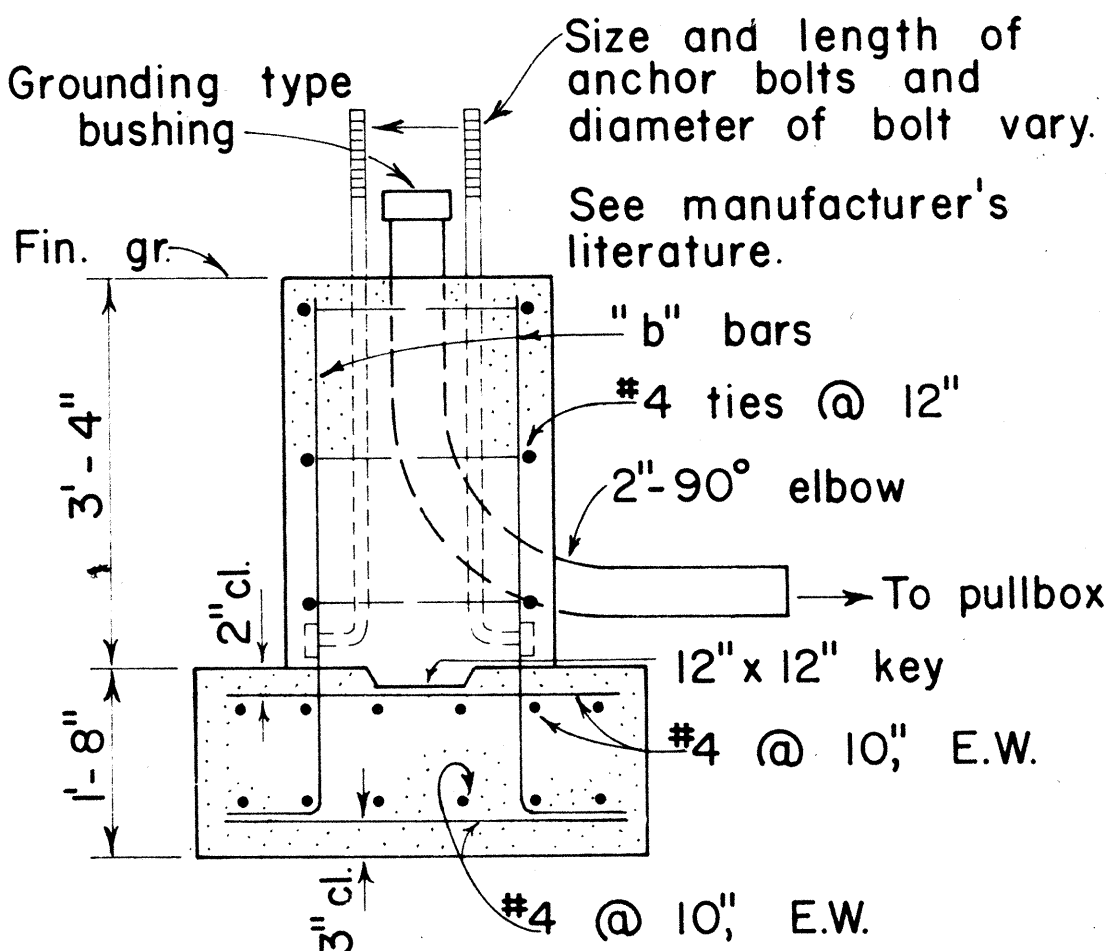
SECTION

| 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



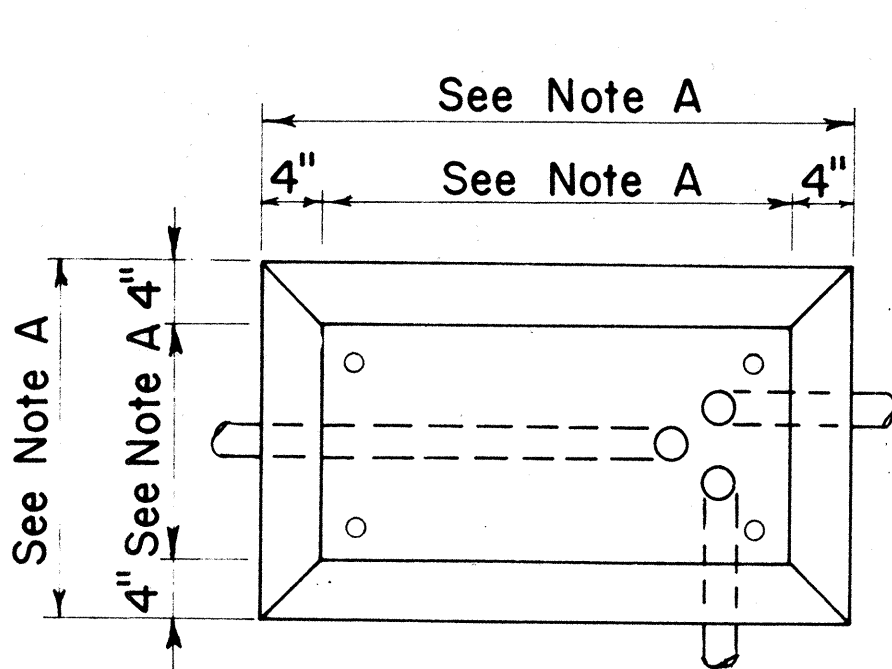
NOTE:  
Concrete shall be Class B.

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

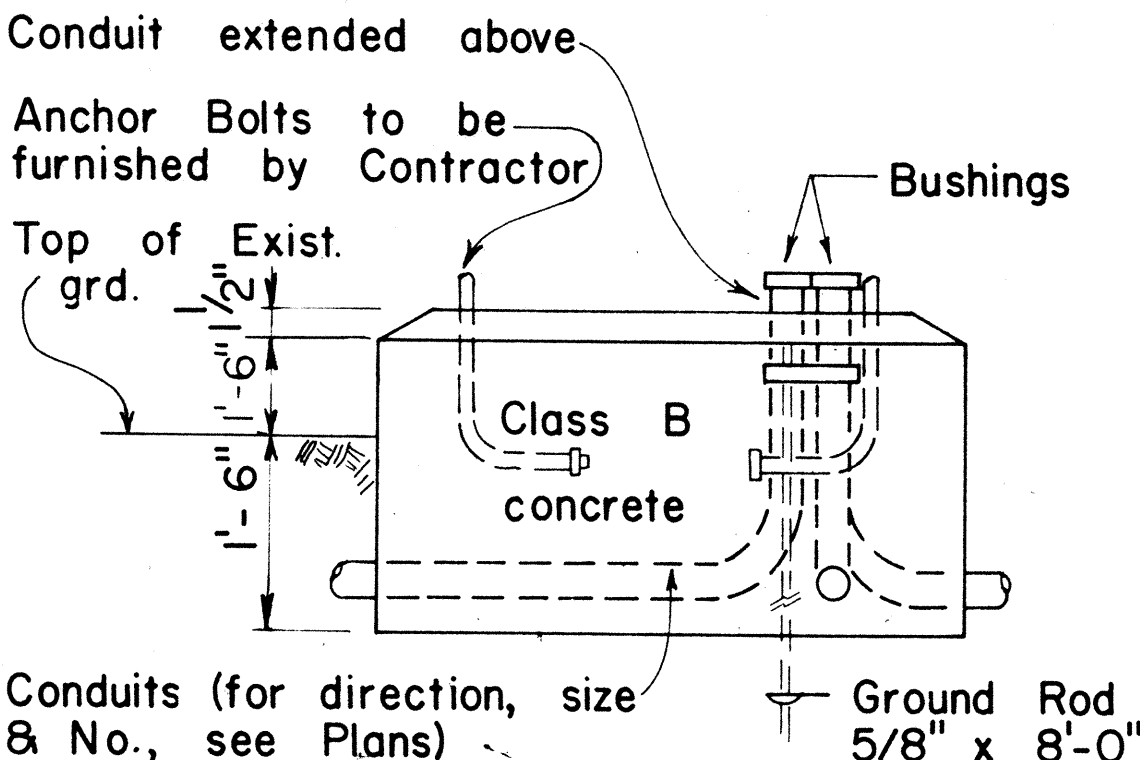
FOOTING FOR MAST ARM STANDARD



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

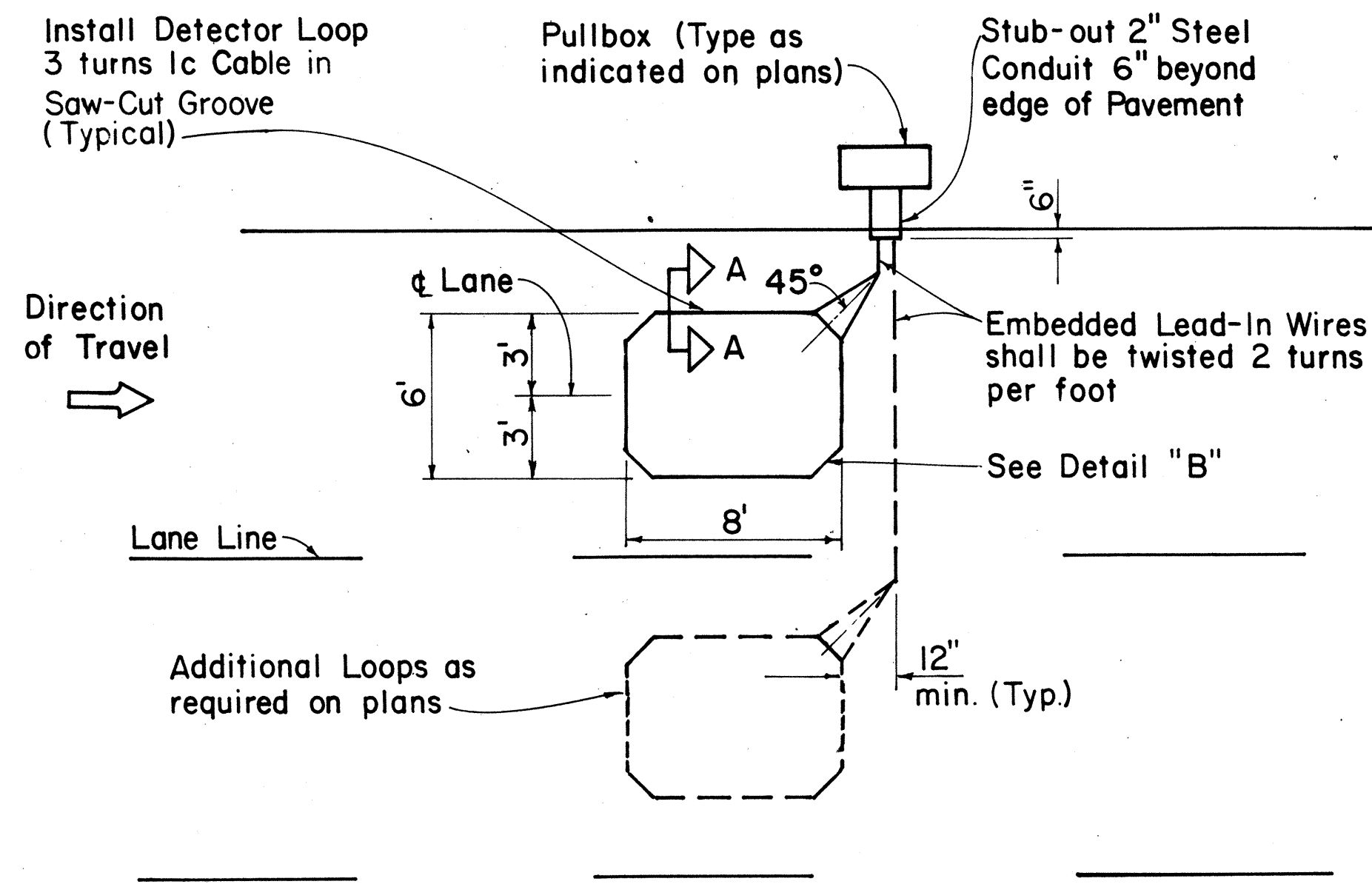
APPROVAL RECOMMENDED:  
*E. A. Tanaka* 3/4/76  
TRAFFIC ENGINEER DATE

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

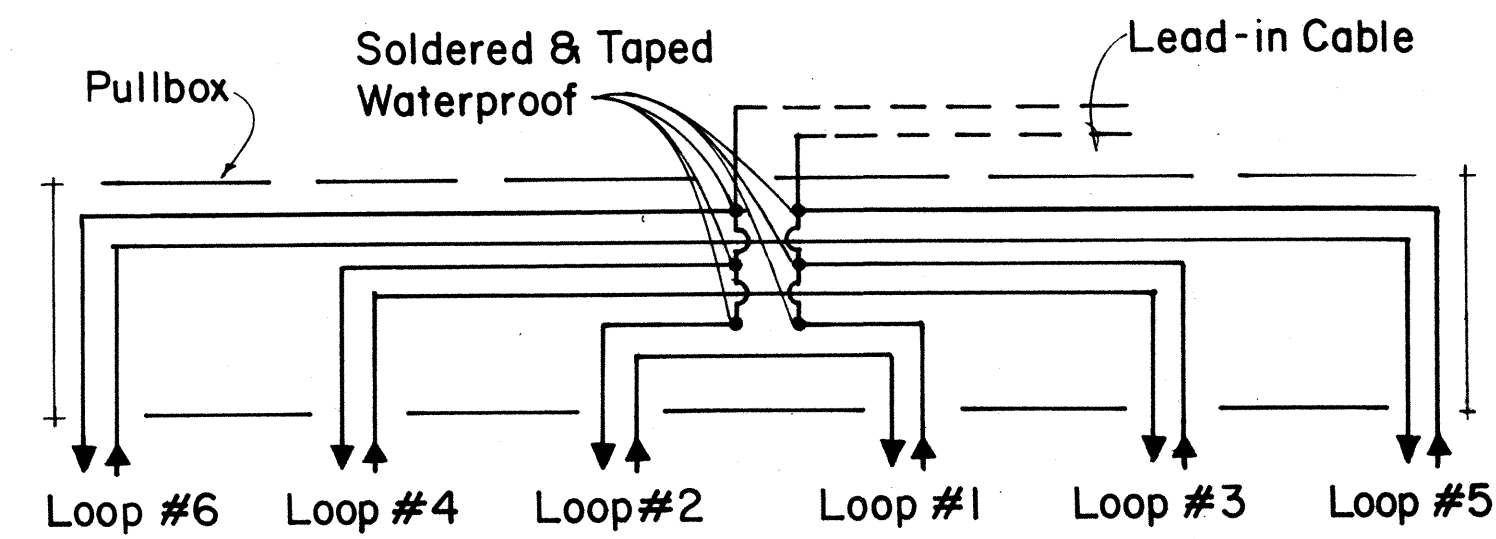
| NO. | REVISION                    | APPROVED BY        | DATE    |
|-----|-----------------------------|--------------------|---------|
| 1   | Revised Cabinet Base Design | <i>[Signature]</i> | 1-31-85 |

|                                                                                            |
|--------------------------------------------------------------------------------------------|
| STATE OF HAWAII<br>DEPARTMENT OF TRANSPORTATION<br>LAND TRANSPORTATION FACILITIES DIVISION |
| TRAFFIC SIGNAL SYSTEM<br>MISCELLANEOUS DETAILS                                             |
| Not to Scale                                                                               |

| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 72C-01-83 | 1986        | 13        | 14           |

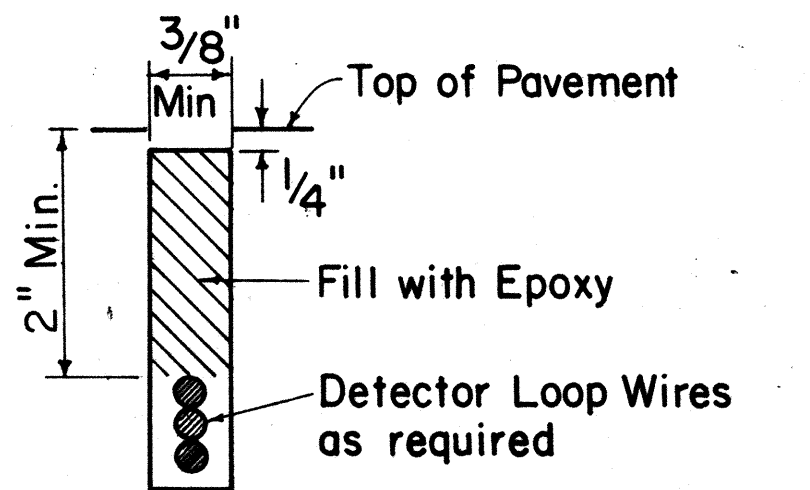


**SINGLE LOOP LAYOUT**



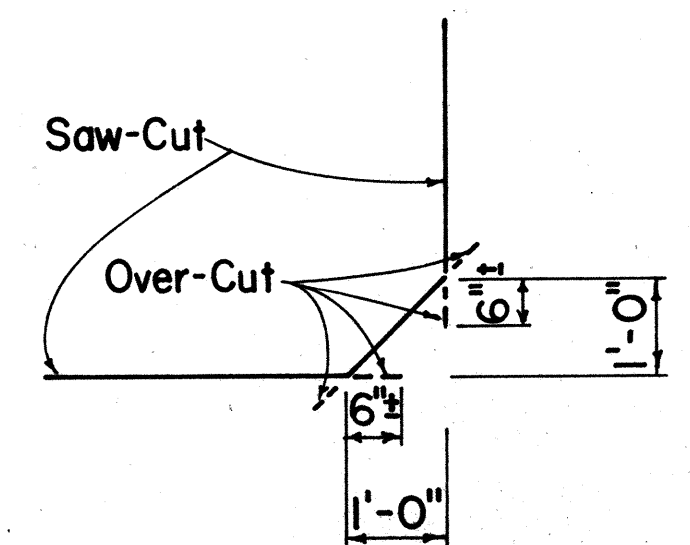
**DETAIL "A"**

**TYPICAL SERIES-PARALLEL LOOP CONNECTION**



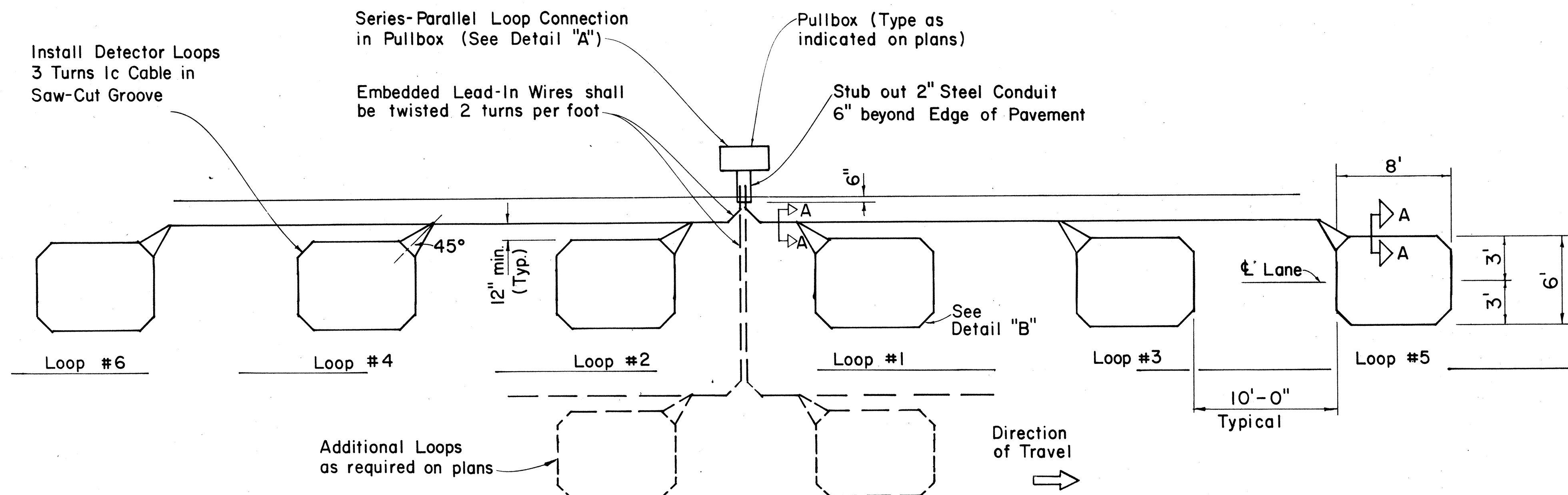
**DETECTOR LOOP SAW-CUT SECTION A-A (TYPICAL)**

Note: Back-Fill Over-Cuts with Epoxy

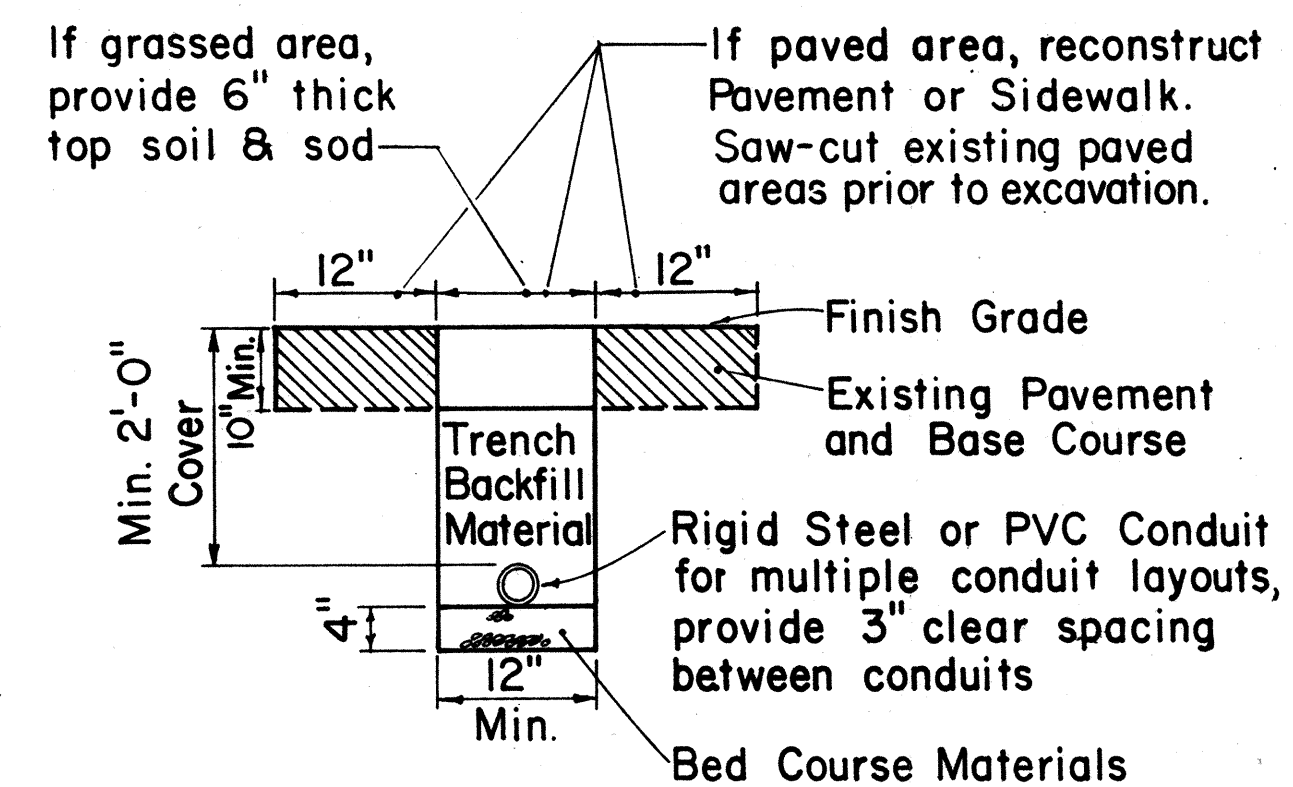


**DETAIL "B"**

**SAW-CUT AT CORNERS**



**MULTIPLE LOOP LAYOUT**



**TYPICAL TRENCH SECTION FOR CONDUIT**

NOTE:

- All conduits under roadways shall be steel or PVC schedule 80.

APPROVAL RECOMMENDED:

*Erich Tanaka* 9/26/80  
TRAFFIC ENGINEER DATE

APPROVED:

*Shabur Zafar* 9/30/80  
ASSISTANT CHIEF, ENGINEERING DATE

| NO. | REVISION                                                                  | APPROVED BY | DATE    |
|-----|---------------------------------------------------------------------------|-------------|---------|
| 1   | Replaces Sht. DT 405 dated 3/5/76                                         | H.T.        | 9/30/80 |
| 2   | Revised Section A-A                                                       | H.T.        | 5/15/81 |
| 3   | Revised Loop Design & Deleted Wiring Diagram                              | B.T.        | 2-4-85  |
| 4   | Revised Typical Section for conduit and note Deleted #14 from Loop Layout | E.T.        | 9/18/85 |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

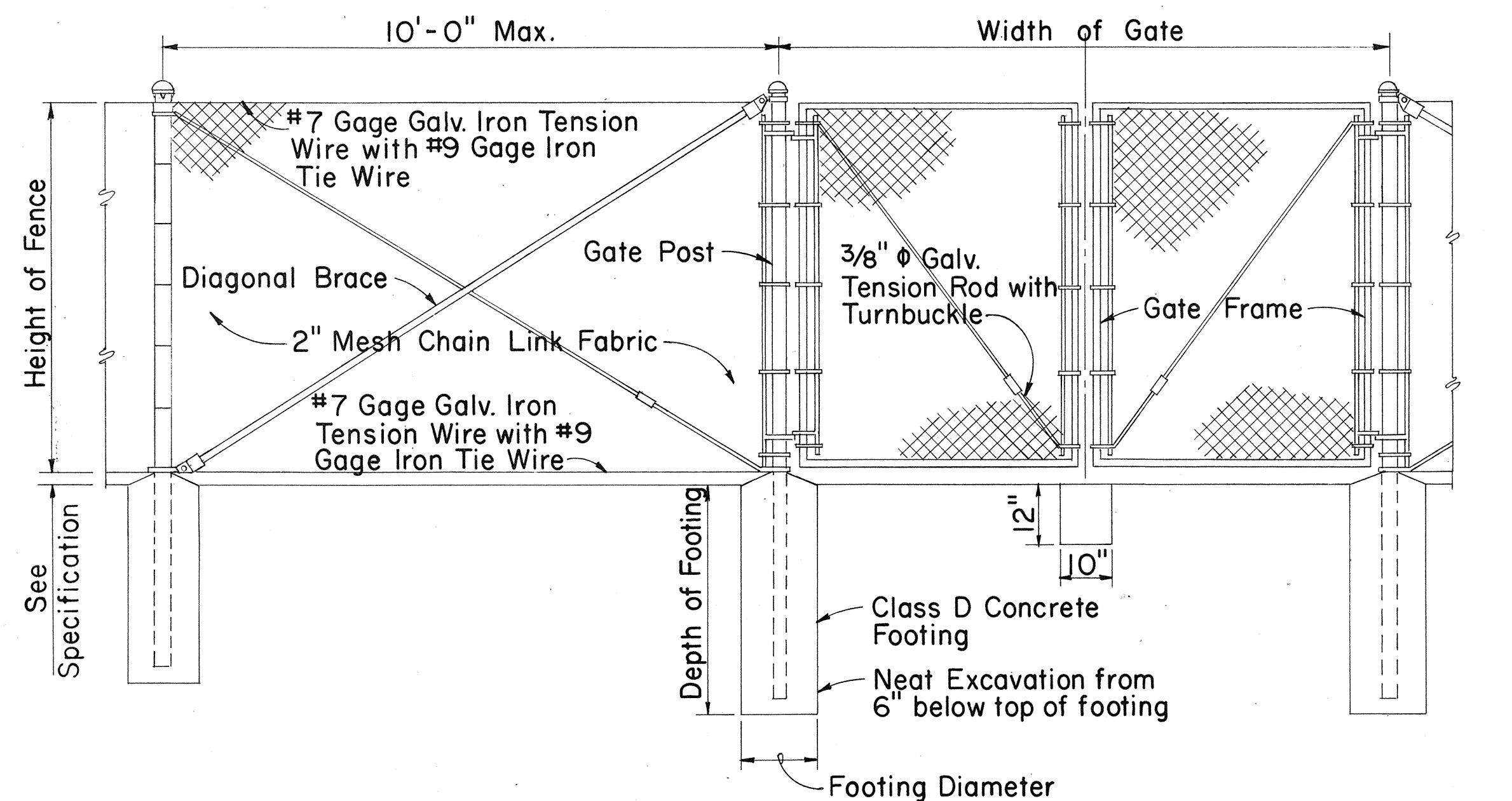
**LOOP DETECTORS**

Not to Scale

SHEET No. 7 OF 7 SHEETS DT 405

|               |                   |      |
|---------------|-------------------|------|
| ORIGINAL PLAN | SURVEY PLOTTED BY | DATE |
| NOTE BOOK     | DRAWN BY          |      |
|               | TRACED BY         |      |
|               | DESIGNED BY       |      |
|               | QUANTITIES BY     |      |
|               | CHECKED BY        |      |

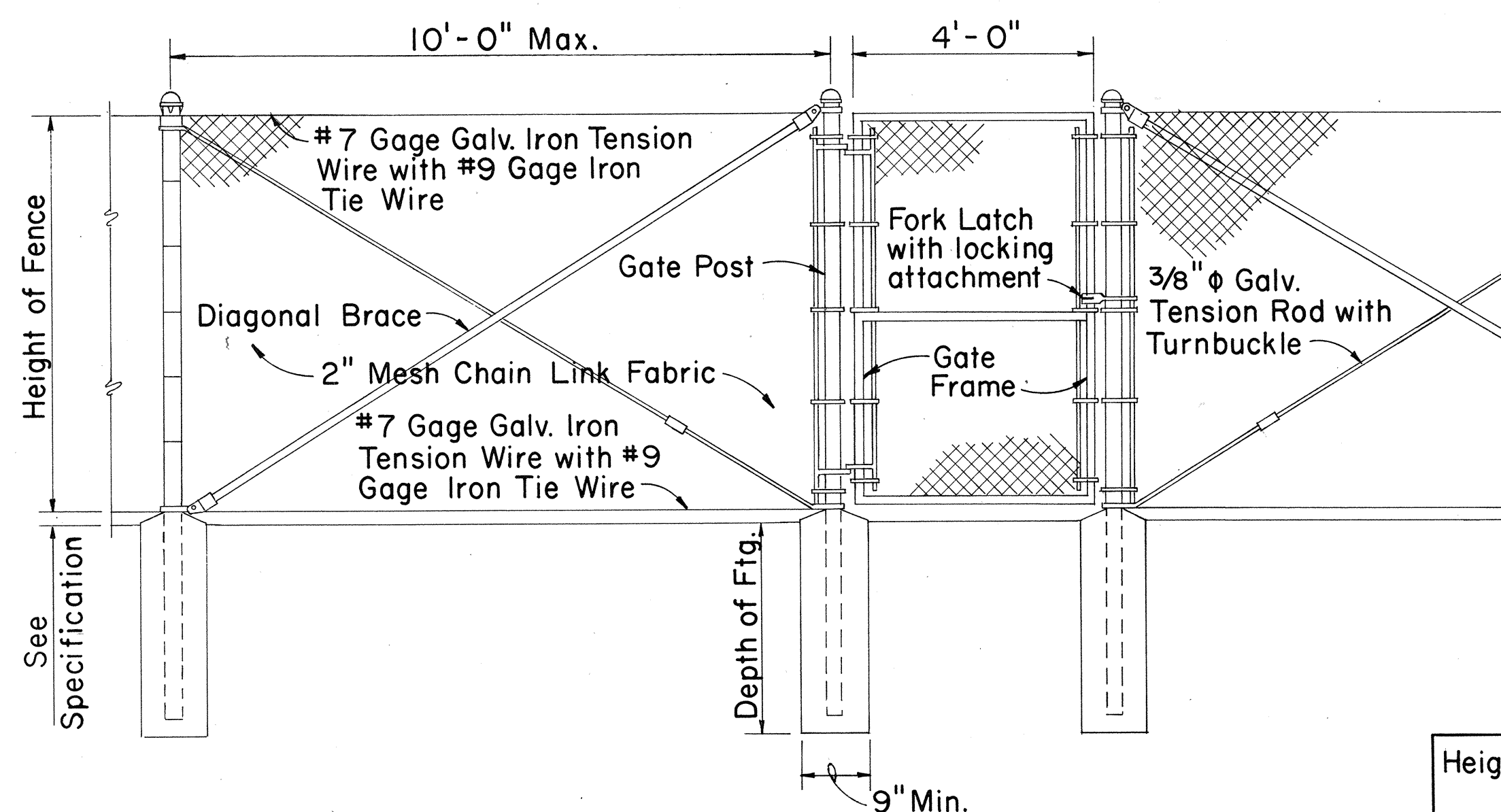
| FED. ROAD DIST. NO. | STATE | PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|-----------|-------------|-----------|--------------|
| HAWAII              | HAW.  | 72C-01-83 | 1986        | 14        | 14           |



LINE POST      GATE POST      GATE POST

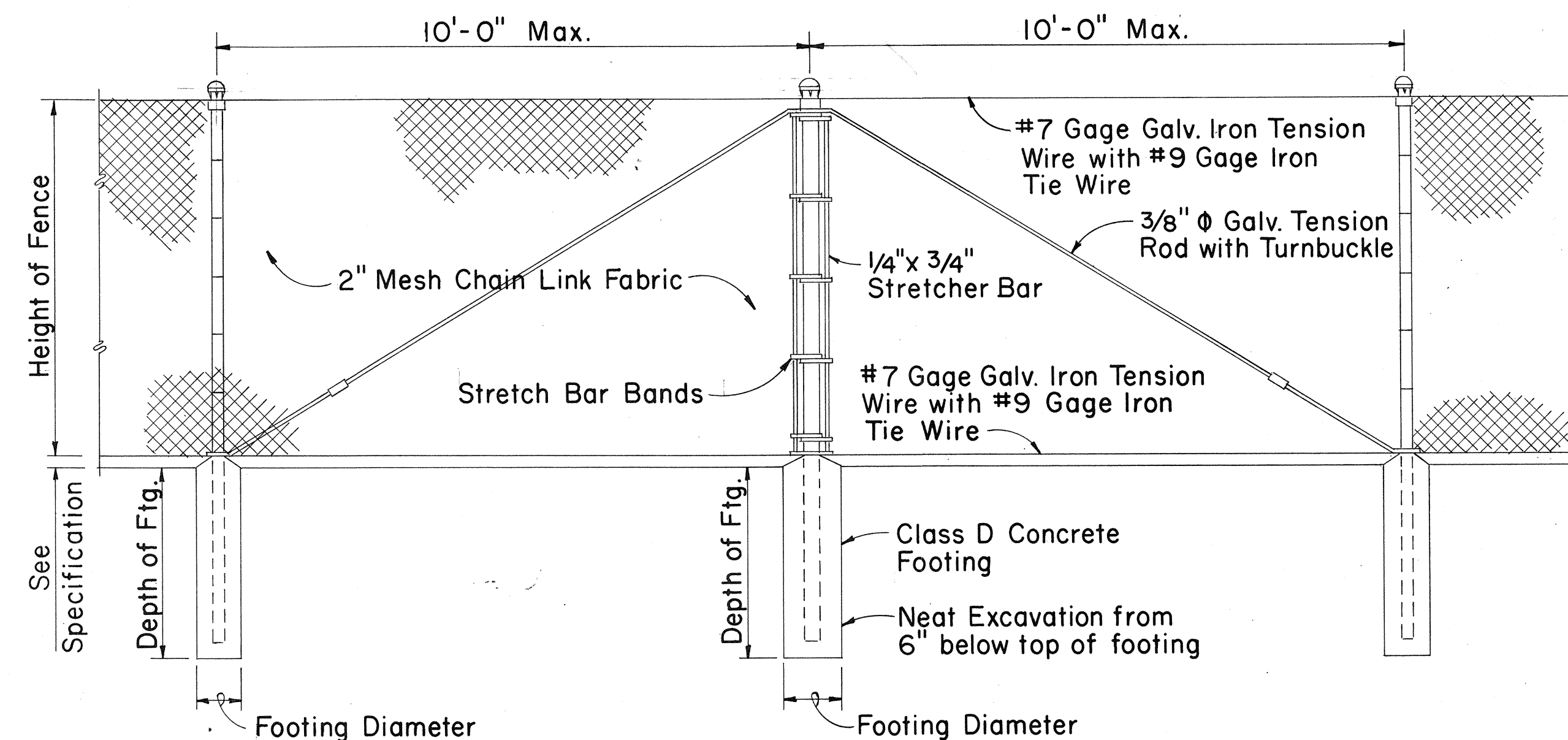
### DETAIL OF CHAIN LINK GATE

- NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall be considered as incidental to Chain Link Fence Gate.  
2. Gate frames shall be mitered and welded at corners.  
3. Fence detail not shown shall be in accordance with the Standard Specifications.

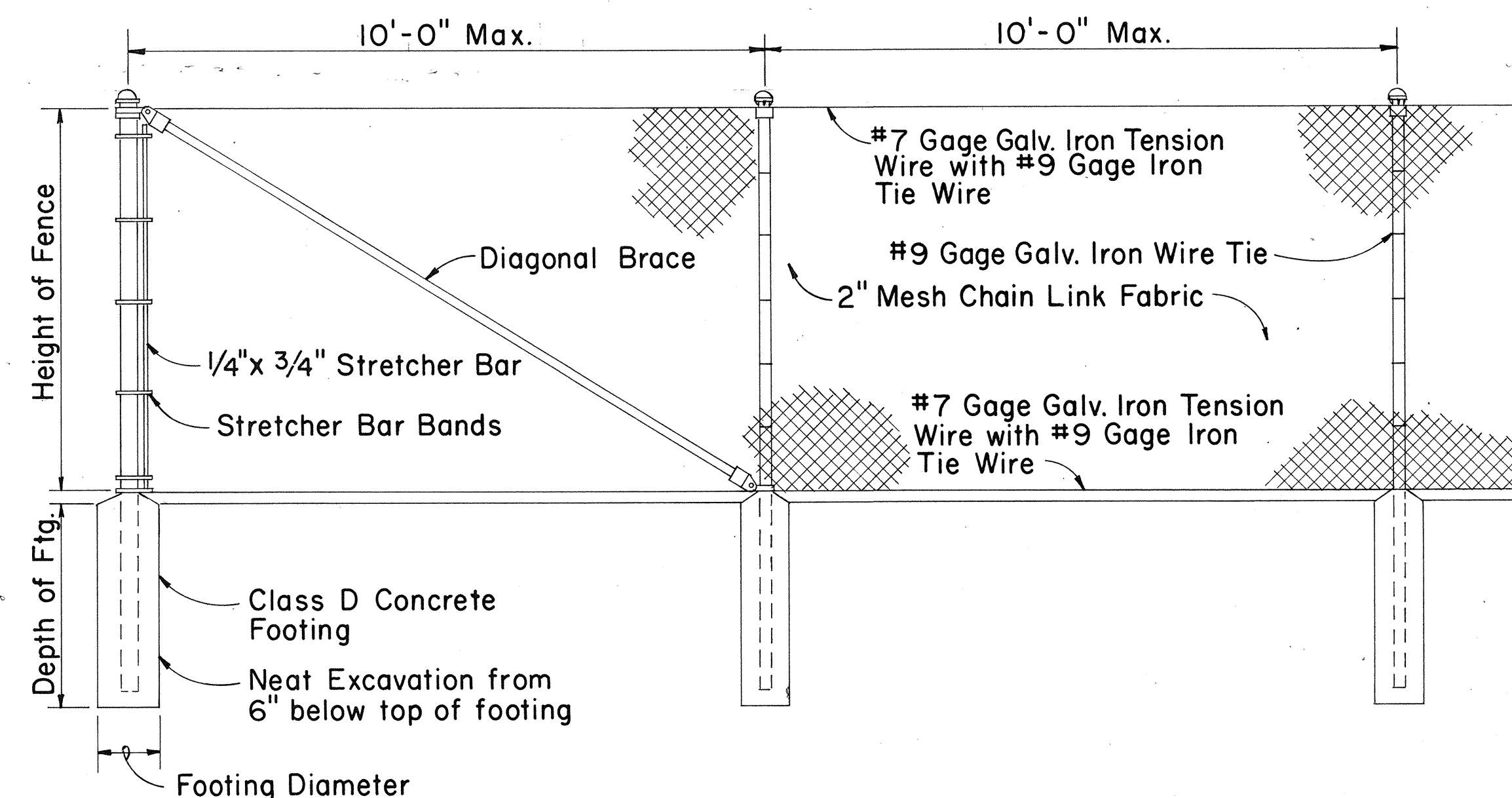


LINE POST      GATE POST      GATE POST

### DETAIL OF 4 FT. CHAIN LINK GATE



LINE POST      PULL POST      LINE POST

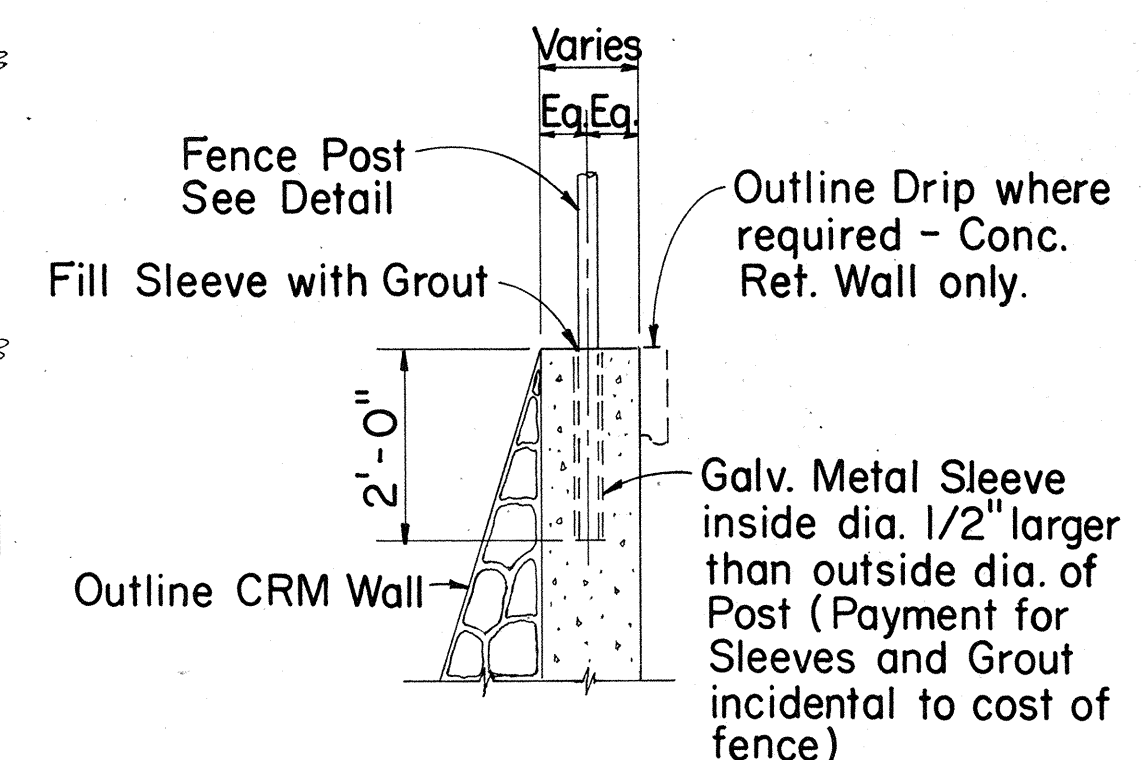


END POST      LINE POST      LINE POST

### CHAIN LINK FENCE DETAILS

| Height of Fence | Minimum Depth of Footing |                                  | Minimum Footing Diameter |                            |
|-----------------|--------------------------|----------------------------------|--------------------------|----------------------------|
|                 | Line Post                | Corner, Pull, End and Gate Posts | Line Post                | Corner, Pull and End Posts |
| 3'              | 2'-0"                    | 2'-6"                            | 8"                       | 8"                         |
| 4'              | 2'-6"                    | 2'-6"                            | 8"                       | 8"                         |
| 5'              | 3'-0"                    | 3'-0"                            | 8"                       | 8"                         |
| 6'              | 3'-0"                    | 3'-0"                            | 8"                       | 9"                         |

### TYPICAL SECTION (WITH CONCRETE FOOTING)



### TYPICAL SECTION (ON CRM & CONC. RET. WALL)

APPROVAL RECOMMENDED: *M. Hironaka* 12-4-69  
HIGHWAY DESIGN ENGINEER DATE  
APPROVED: *S. S. S. S.* 12-10-69  
ASSISTANT CHIEF, ENGINEERING DATE

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAILS

CHAIN LINK FENCE  
(WITHOUT TOPRAIL)

Scale: 1/2" = 1'-0"      Date:     

SHEET No.      OF      SHEETS DD 607.2