

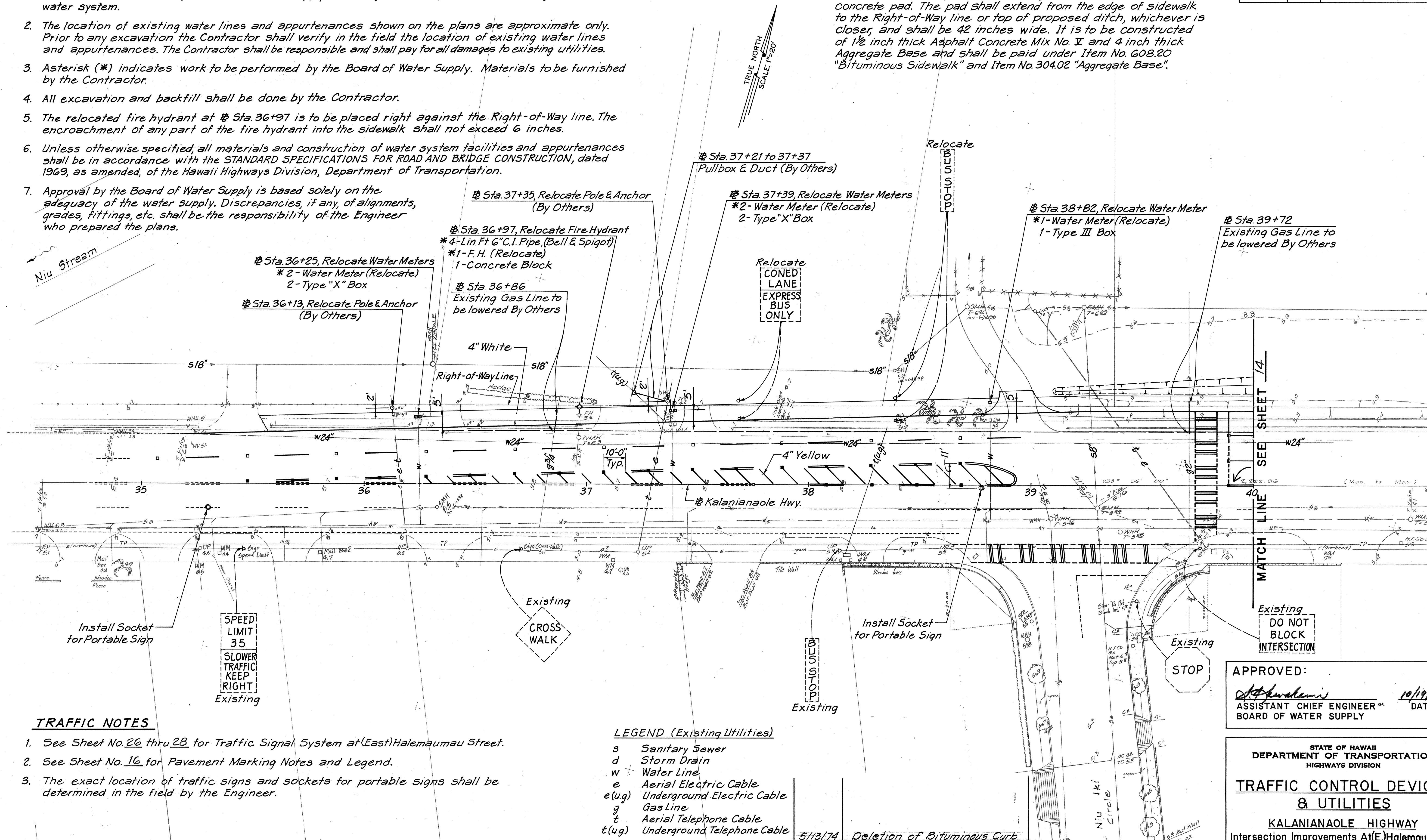
WATER NOTES

1. The Contractor shall notify the Board of Water Supply in writing one week prior to commencing work on the water system.
2. The location of existing water lines and appurtenances shown on the plans are approximate only. Prior to any excavation the Contractor shall verify in the field the location of existing water lines and appurtenances. The Contractor shall be responsible and shall pay for all damages to existing utilities.
3. Asterisk (*) indicates work to be performed by the Board of Water Supply. Materials to be furnished by the Contractor.
4. All excavation and backfill shall be done by the Contractor.
5. The relocated fire hydrant at Sta. 36+97 is to be placed right against the Right-of-Way line. The encroachment of any part of the fire hydrant into the sidewalk shall not exceed 6 inches.
6. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, dated 1969, as amended, of the Hawaii Highways Division, Department of Transportation.
7. Approval by the Board of Water Supply is based solely on the adequacy of the water supply. Discrepancies, if any, of alignments, grades, fittings, etc. shall be the responsibility of the Engineer who prepared the plans.

WATER NOTES (Continued)

8. All relocated Fire Hydrants shall be provided with an asphaltic concrete pad. The pad shall extend from the edge of sidewalk to the Right-of-Way line or top of proposed ditch, whichever is closer, and shall be 42 inches wide. It is to be constructed of 1 1/2 inch thick Asphalt Concrete Mix No. I and 4 inch thick Aggregate Base and shall be paid under Item No. 608.20 "Bituminous Sidewalk" and Item No. 304.02 "Aggregate Base".

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	13	28



TRAFFIC NOTES

1. See Sheet No. 26 thru 28 for Traffic Signal System at (East) Halemaumau Street.
2. See Sheet No. 16 for Pavement Marking Notes and Legend.
3. The exact location of traffic signs and sockets for portable signs shall be determined in the field by the Engineer.

LEGEND (Existing Utilities)

s	Sanitary Sewer
d	Storm Drain
w	Water Line
e	Aerial Electric Cable
e(u.g)	Underground Electric Cable
g	Gas Line
t	Aerial Telephone Cable
t(u.g)	Underground Telephone Cable

5/13/74	Deletion of Bituminous Curb Type G & G" white pav't. striping.
DATE	REVISION

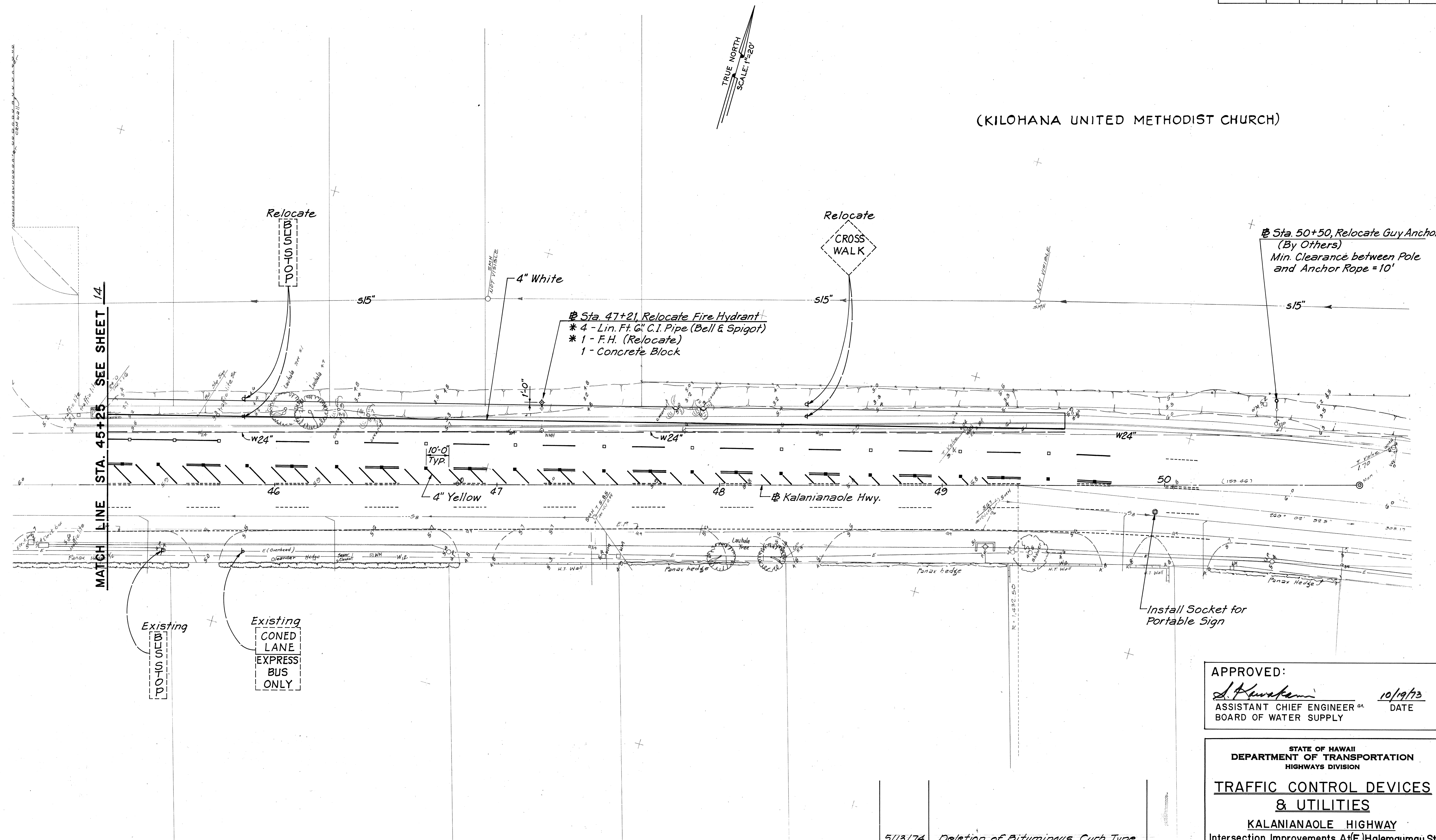
APPROVED:
Stephen A. Lewis
 ASSISTANT CHIEF ENGINEER
 BOARD OF WATER SUPPLY
 10/19/73
 DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TRAFFIC CONTROL DEVICES & UTILITIES
KALANIANA'OLE HIGHWAY
 Intersection Improvements At (E) Halemaumau St.
 Proj. No. 72C-01-74
 Scale: 1" = 20' Oct. 1973
 SHEET No. 1 OF 16 SHEETS

ADD.13

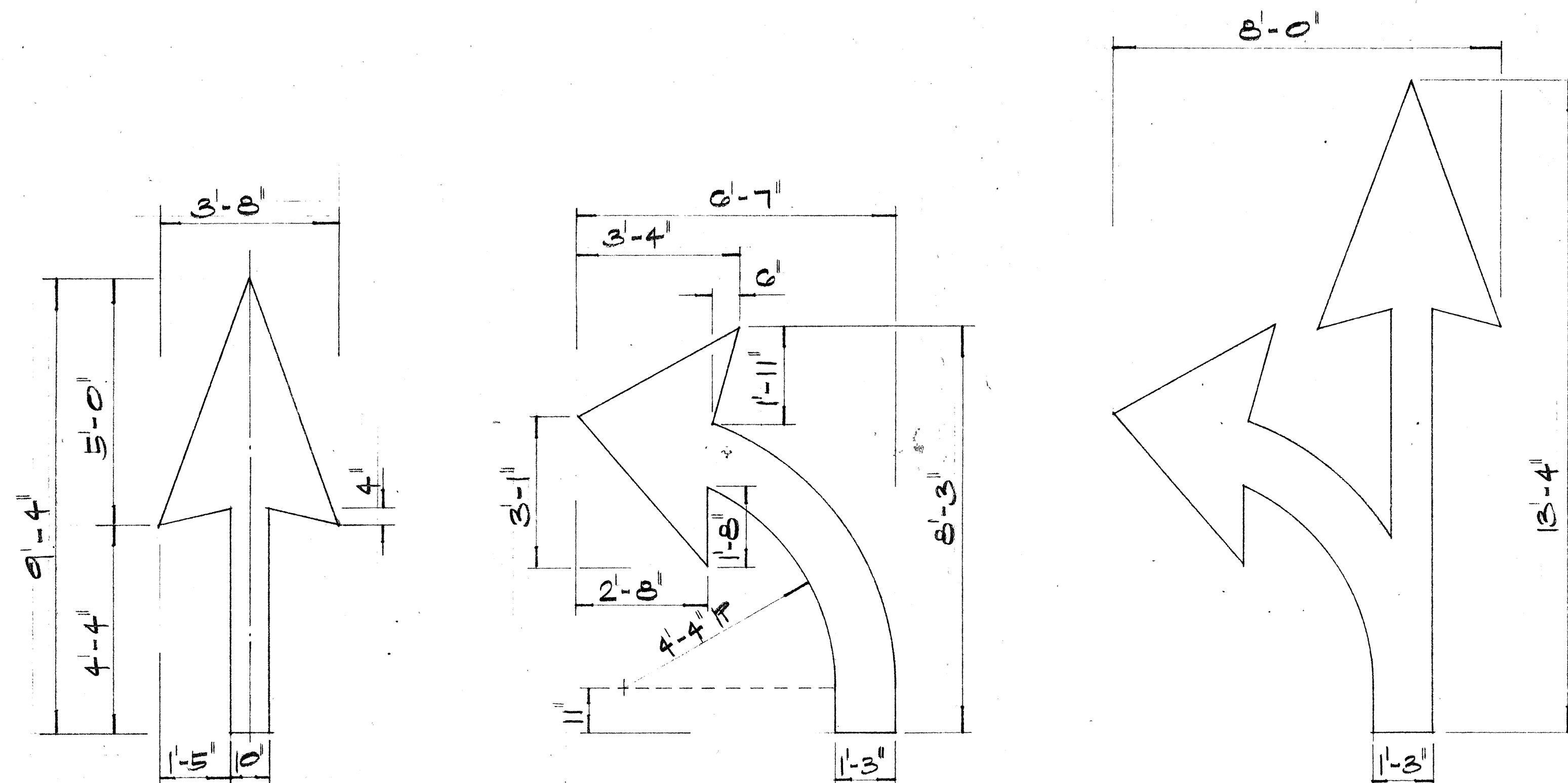
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	15	28

(KILOHANA UNITED METHODIST CHURCH)



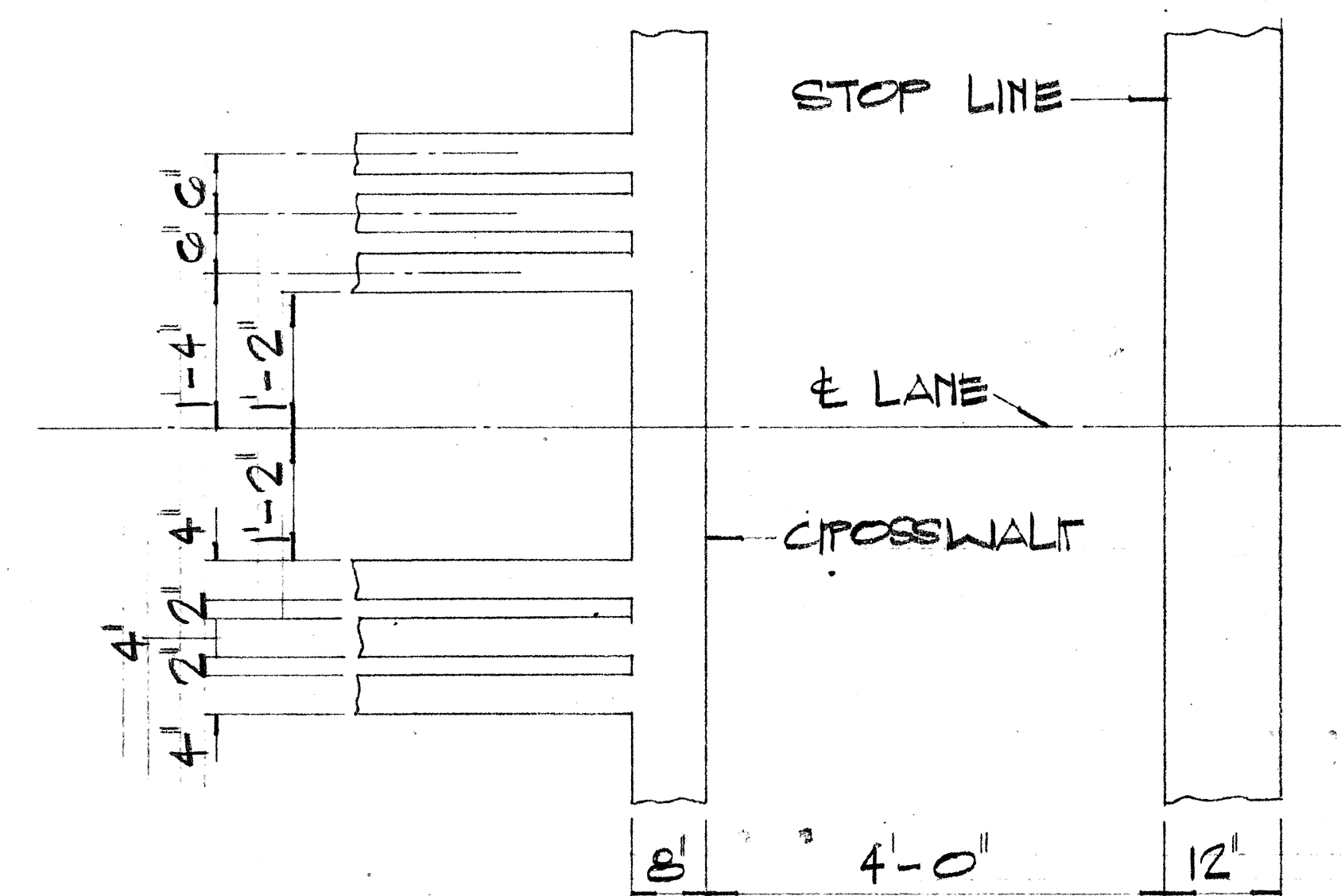
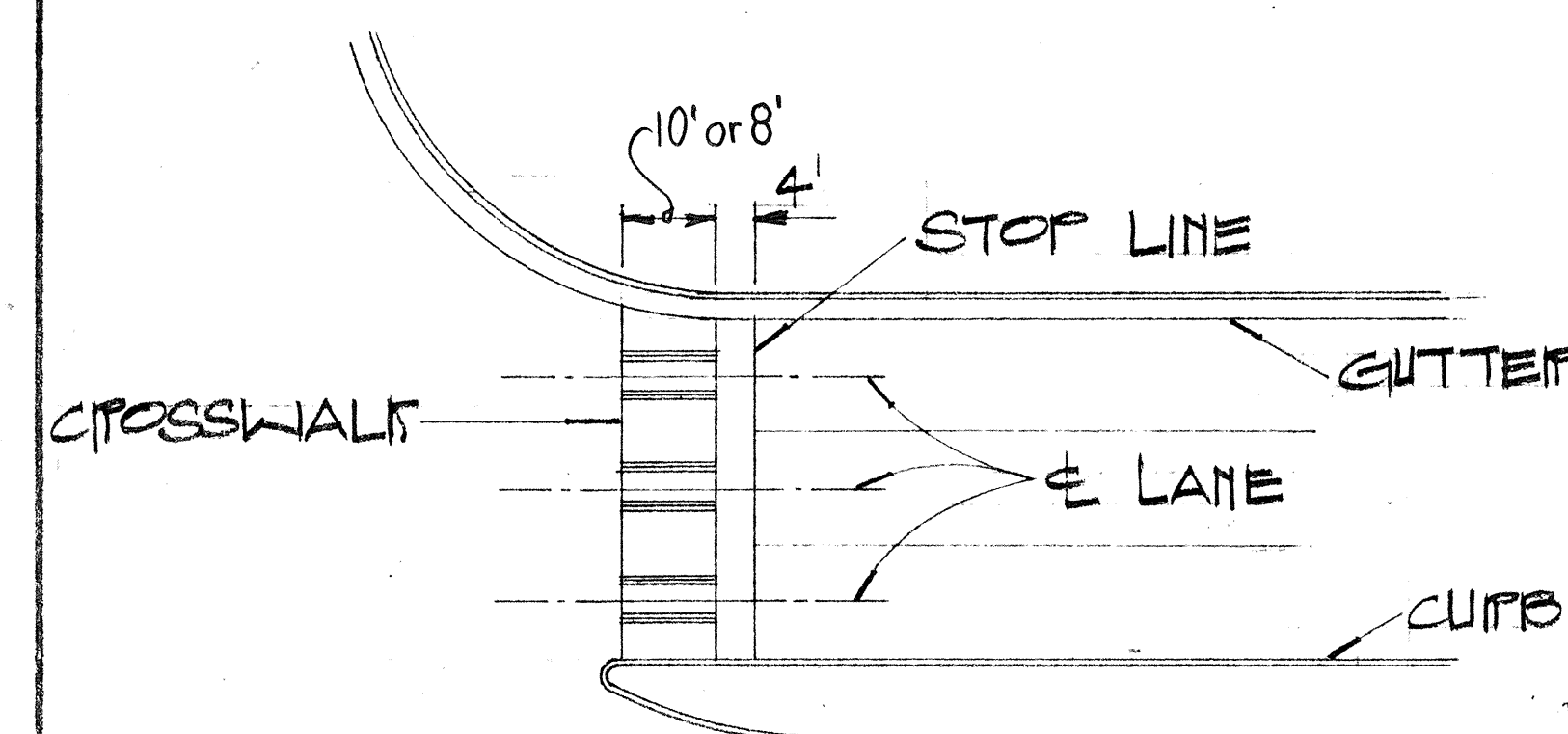
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY	TRACED BY	
NOTE BOOK	QUANTITIES BY	
No.	CHECKED BY	

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	16	28



PAVEMENT ARROWS

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



CROSSWALK & STOP LINE DETAIL

NOT TO SCALE

GENERAL NOTES: PAVEMENT MARKING

- PAVEMENT MARKINGS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS", 1971, AND AS SHOWN ON THE PLANS.
- PAVEMENT MARKINGS SHALL BE DONE BY THE CONTRACTOR. EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER.
- EXISTING PAVEMENT MARKINGS NOT INCORPORATED IN THE FINAL TRAFFIC PATTERN SHALL BE REMOVED BY GRINDING OR SANDBLASTING AS DIRECTED BY THE ENGINEER. ALL COSTS SHALL BE INCIDENTAL TO THE CONTRACT ITEM "PAVEMENT STRIPING."

- 4" BROKEN WHITE LANE LINE W/ TYPE "C" MKRS. 40' O.C.
- TYPE "C" RAISED PAVEMENT MKR.
- TYPE "D" RAISED PAVEMENT MKR.
- 4" SOLID WHITE LANE LINE W/ TYPE "C" MKRS. 20' O.C.
- 4" DOUBLE SOLID OR BROKEN YELLOW LINE W/ TYPE "D" MKRS. 20' O.C.
- 4" DOUBLE SOLID YELLOW CENTER LINE (SEE DETAIL THIS SHT.).
- 4" WHITE GUIDE LINE (SEE DETAIL THIS SHT.).
- 8" WHITE CHANNELIZING LINE
- PAVEMENT ARROW (SEE DETAIL THIS SHT.).
- CROSSWALK & STOP LINE (SEE DETAIL THIS SHT.).
- PAINTED MEDIAN ISLAND (SEE DETAIL THIS SHT.).

LEGEND: PAVEMENT MARKING

- EXISTING PAV'T STRIPING TO REMAIN.
- 4" WHITE 4" SOLID WHITE EDGE OF TRAVELED WAY LINE

NOTE: FOR ADDITIONAL DETAILS ON RAISED PAVEMENT MARKERS & PAINTED STRIPES, SEE PLAN SHT. 17.

- 4" WHITE GUIDE LINE
- 4" DOUBLE SOLID YELLOW CENTER LINE
- 4" YELLOW 8" YELLOW PAINTED MEDIAN ISLAND

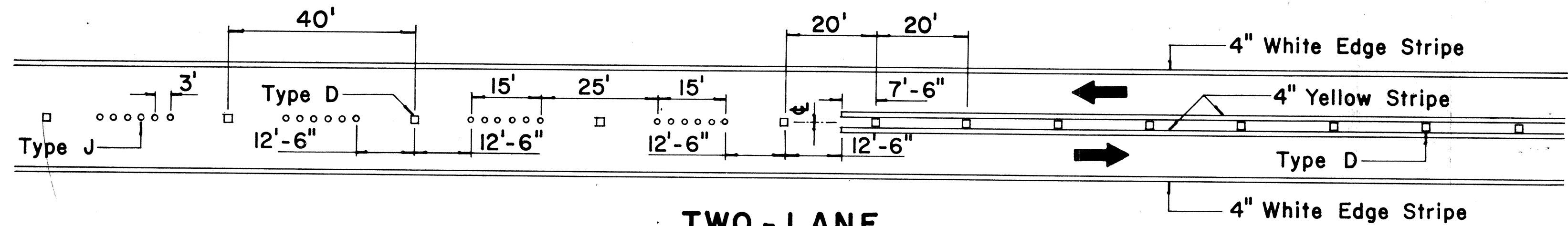
MISCELLANEOUS PAINTED STRIPES

NOT TO SCALE

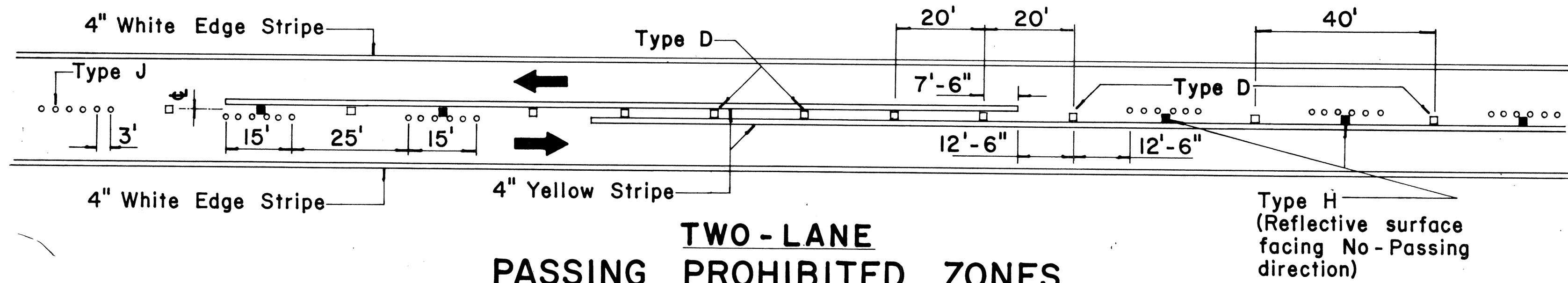
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PAVEMENT MARKINGS
KALANIANA'OLE HIGHWAY
INTERSECTION IMPROVEMENTS AT (E) HALEMAUMAU ST
PROJ. NO. 72C-01-74

Scale: As Shown OCT. 1973
SHEET NO. 4 OF 16 SHEETS

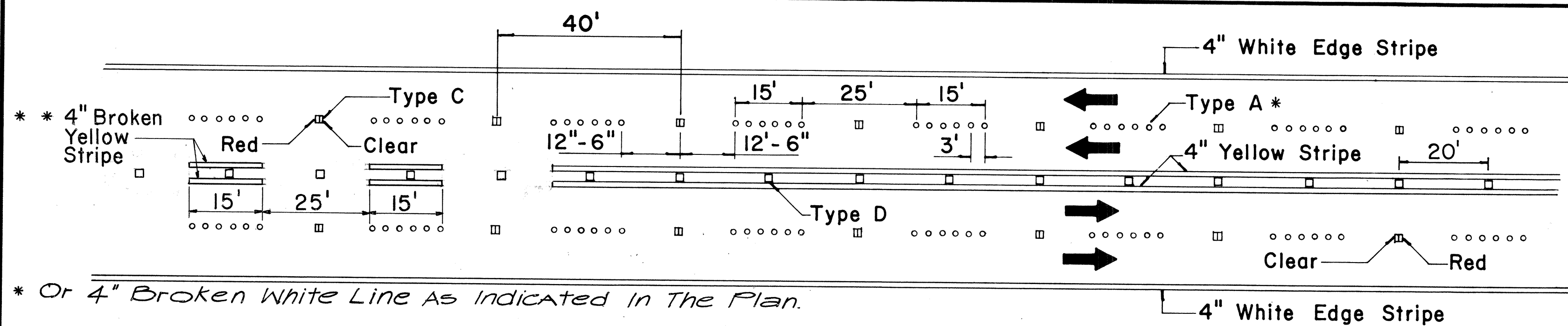
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	17	28



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



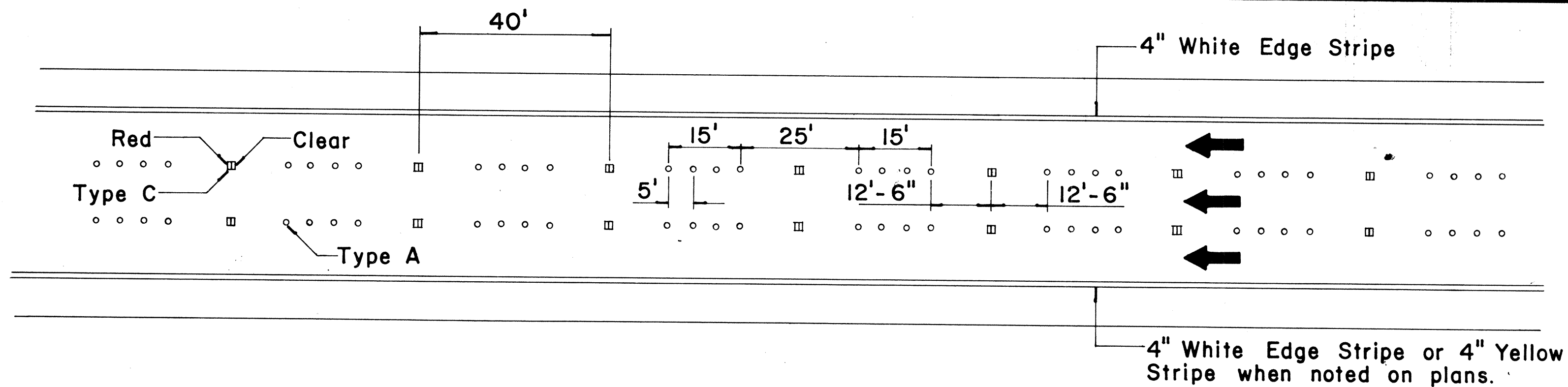
**TWO - LANE
PASSING PROHIBITED ZONES**



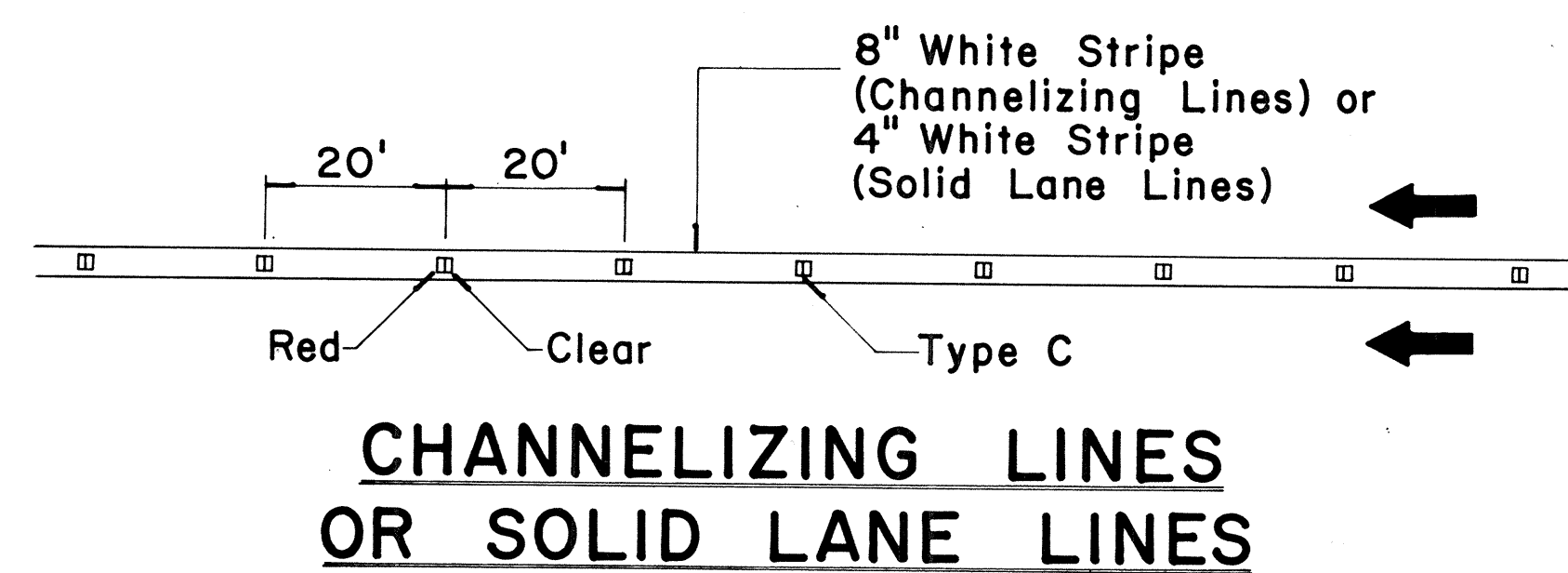
* Or 4" Broken White Line As Indicated In The Plan.

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

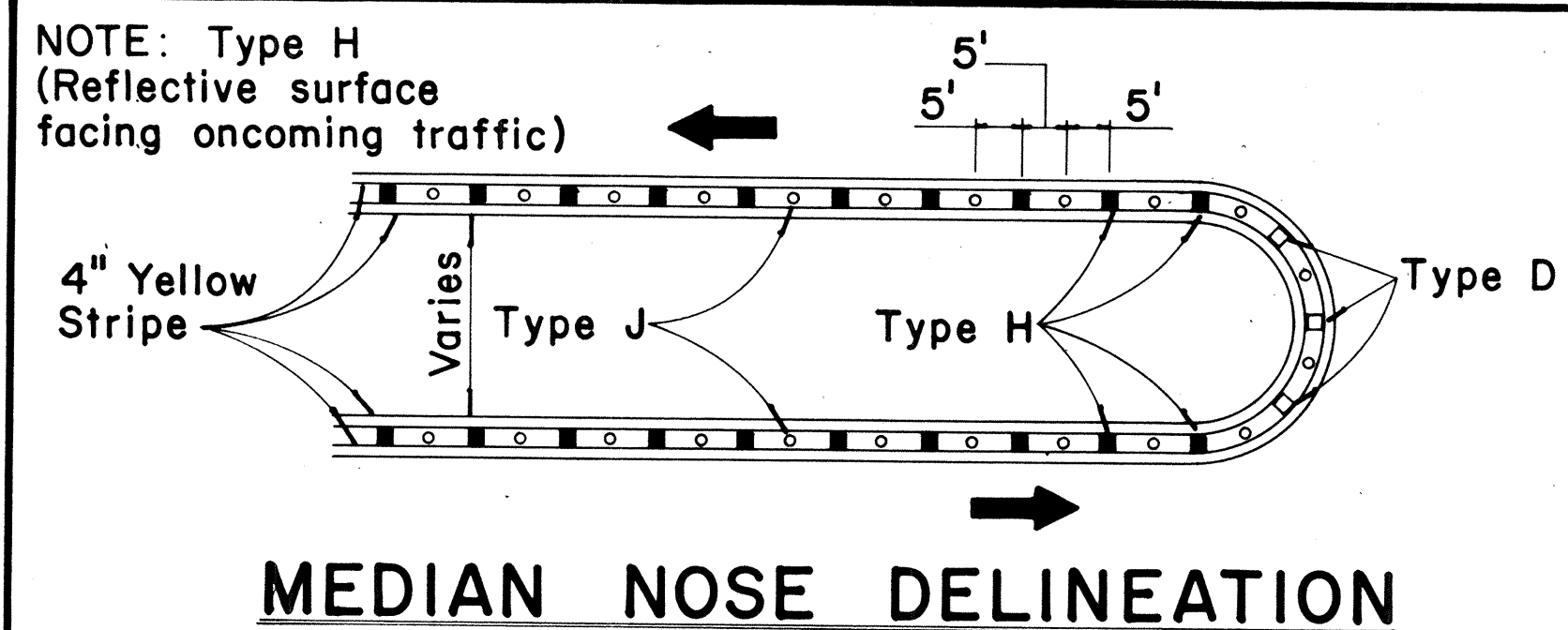
** For A Reversible Center Lane



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



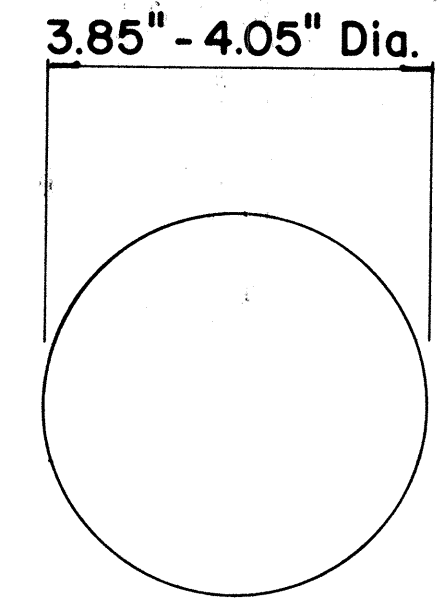
MEDIAN NOSE DELINEATION

TWO - LANE

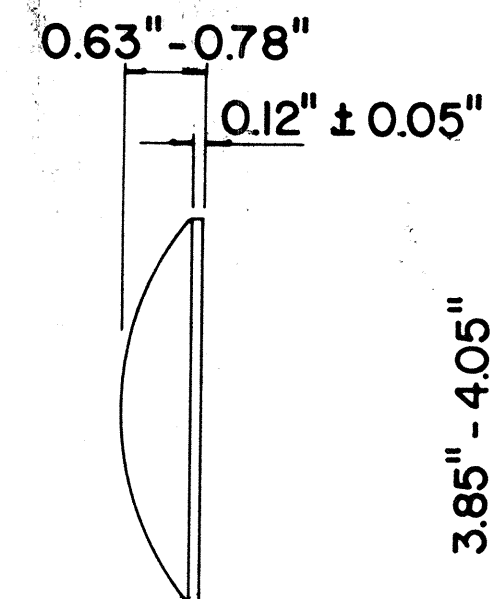
MULTI - LANE

FREEWAY

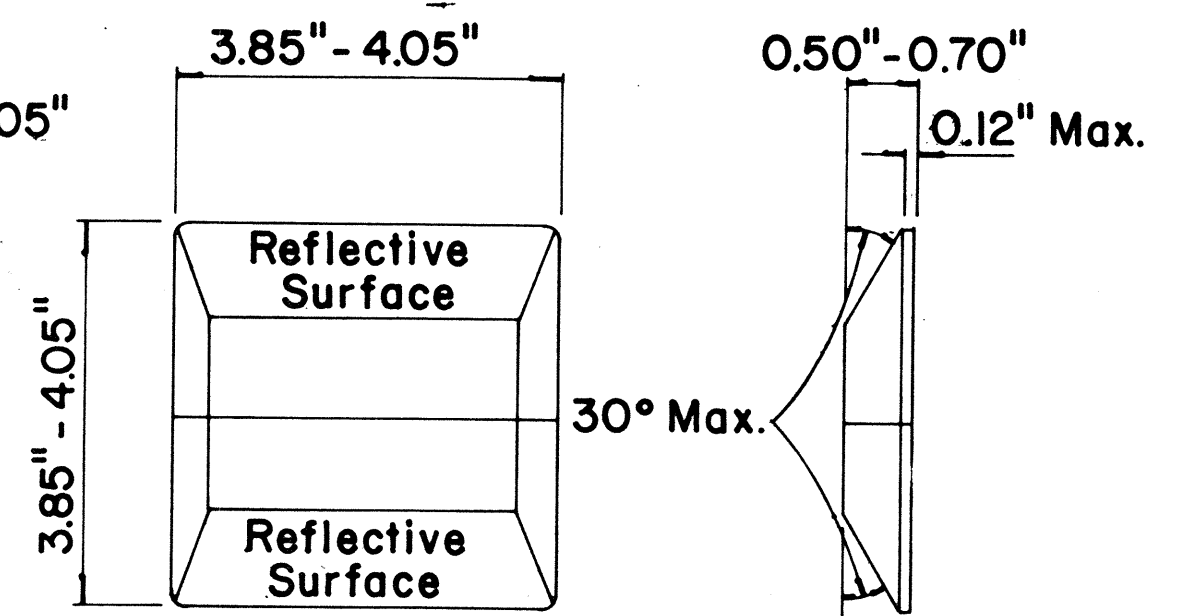
MISCELLANEOUS



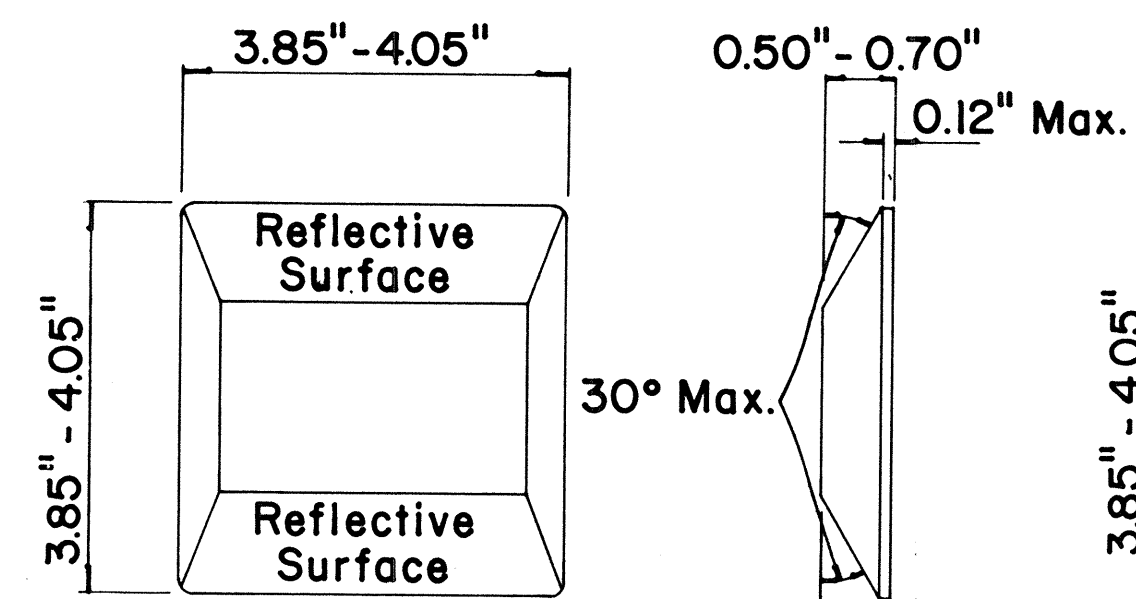
**TYPE A
NON - REFLECTIVE WHITE MARKER**



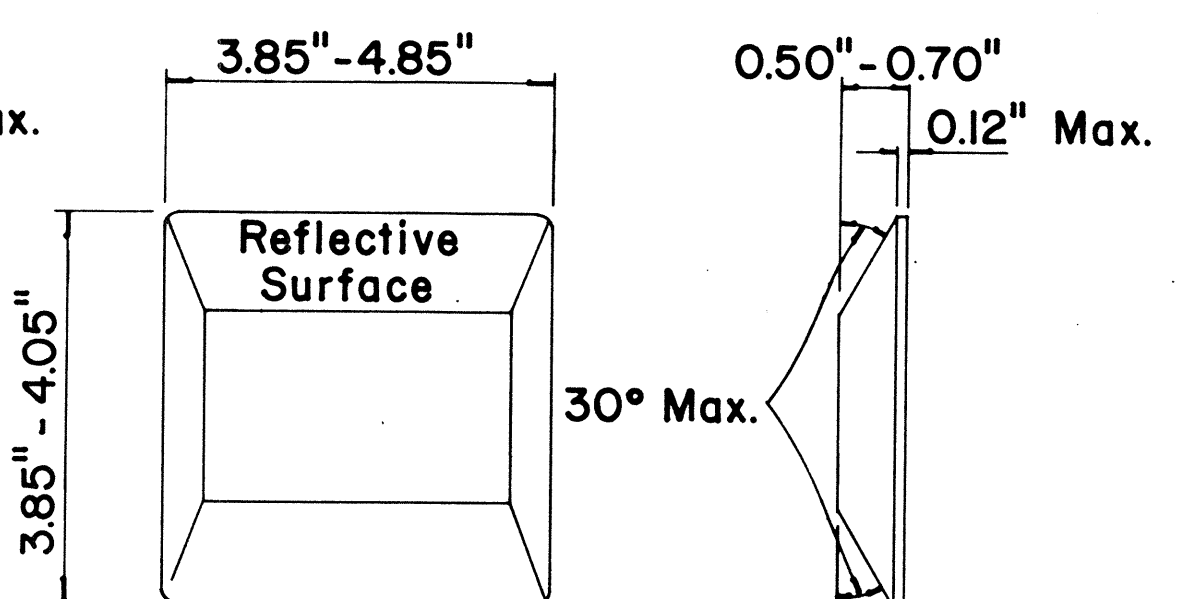
**TYPE J
NON - REFLECTIVE YELLOW MARKER**



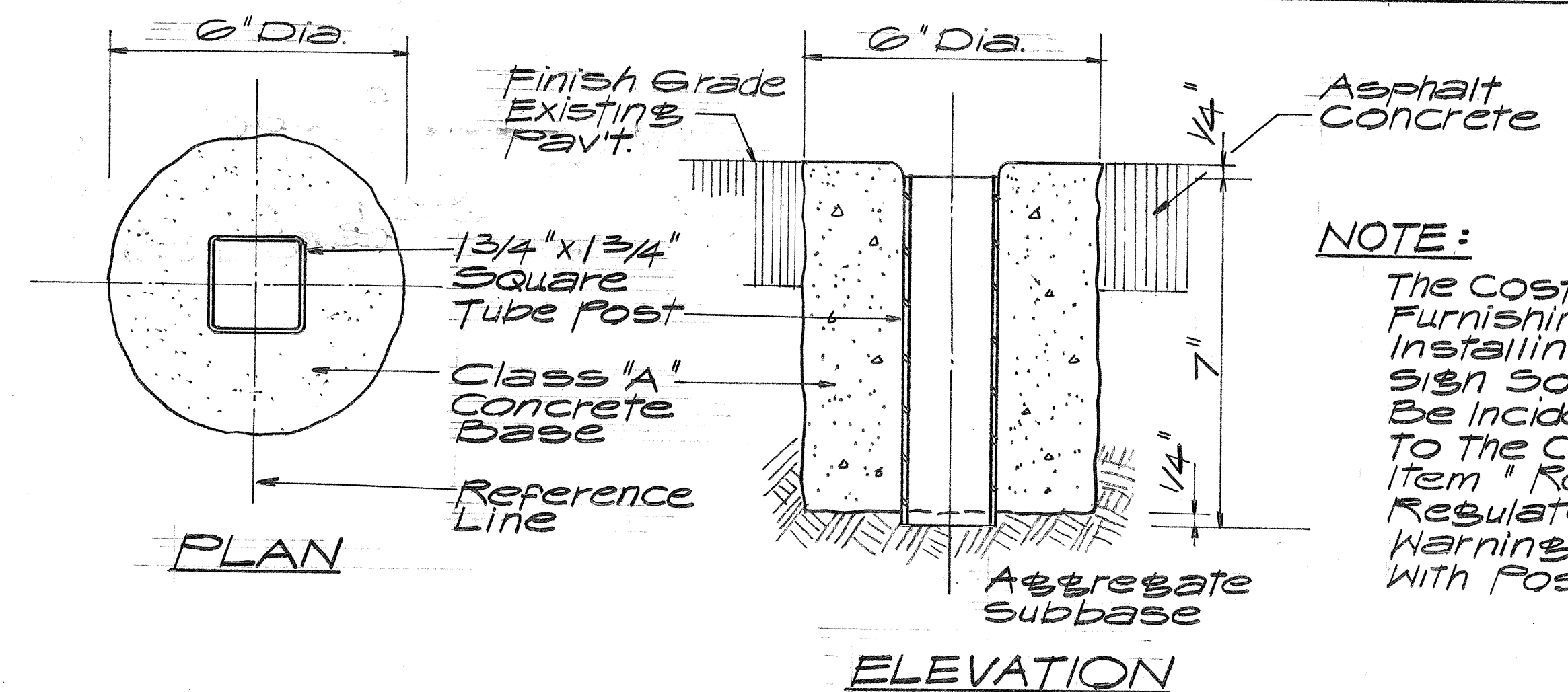
**TYPE C
RED - CLEAR REFLECTIVE MARKER**



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



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



NOTE:

The Cost of Furnishing And Installing Portable Sign Socket Shall Be Incidental To The Contract Item "Reset Regulatory And Warning Sign With Post".

PORTABLE SIGN SOCKET IN PAVEMENT
Scale: 3/8" = 1"

GENERAL NOTE:

Painted Stripes To Be Done By Contractor Unless Otherwise Specified.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**RAISED PAVEMENT MARKERS
AND PORTABLE SIGN SOCKET**

KALANIANA'OLE HIGHWAY
INTERSECTION IMPROVEMENTS AT (E) HALEMAU MAUI ST.

PROJ. NO. 72C-01-74

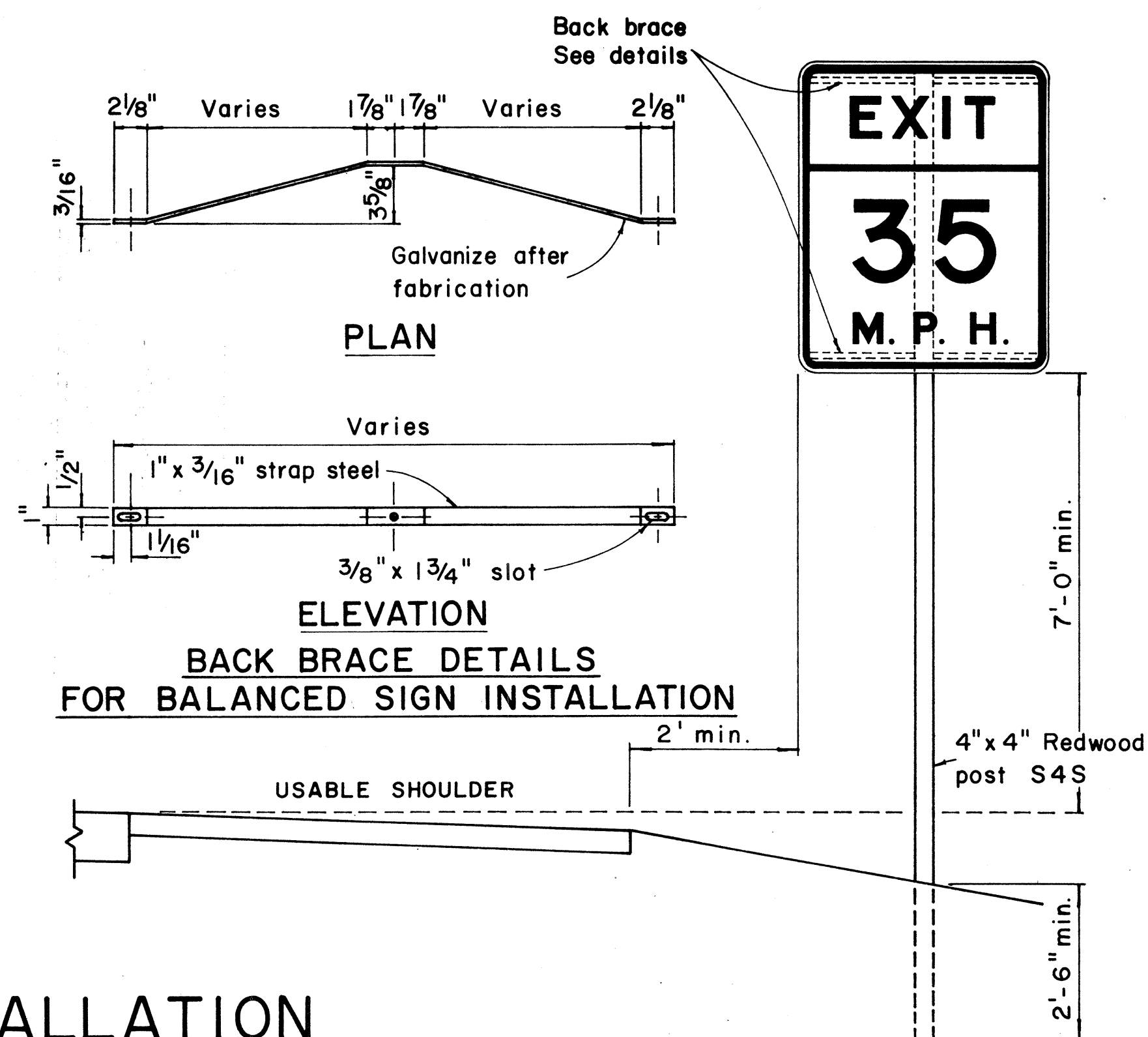
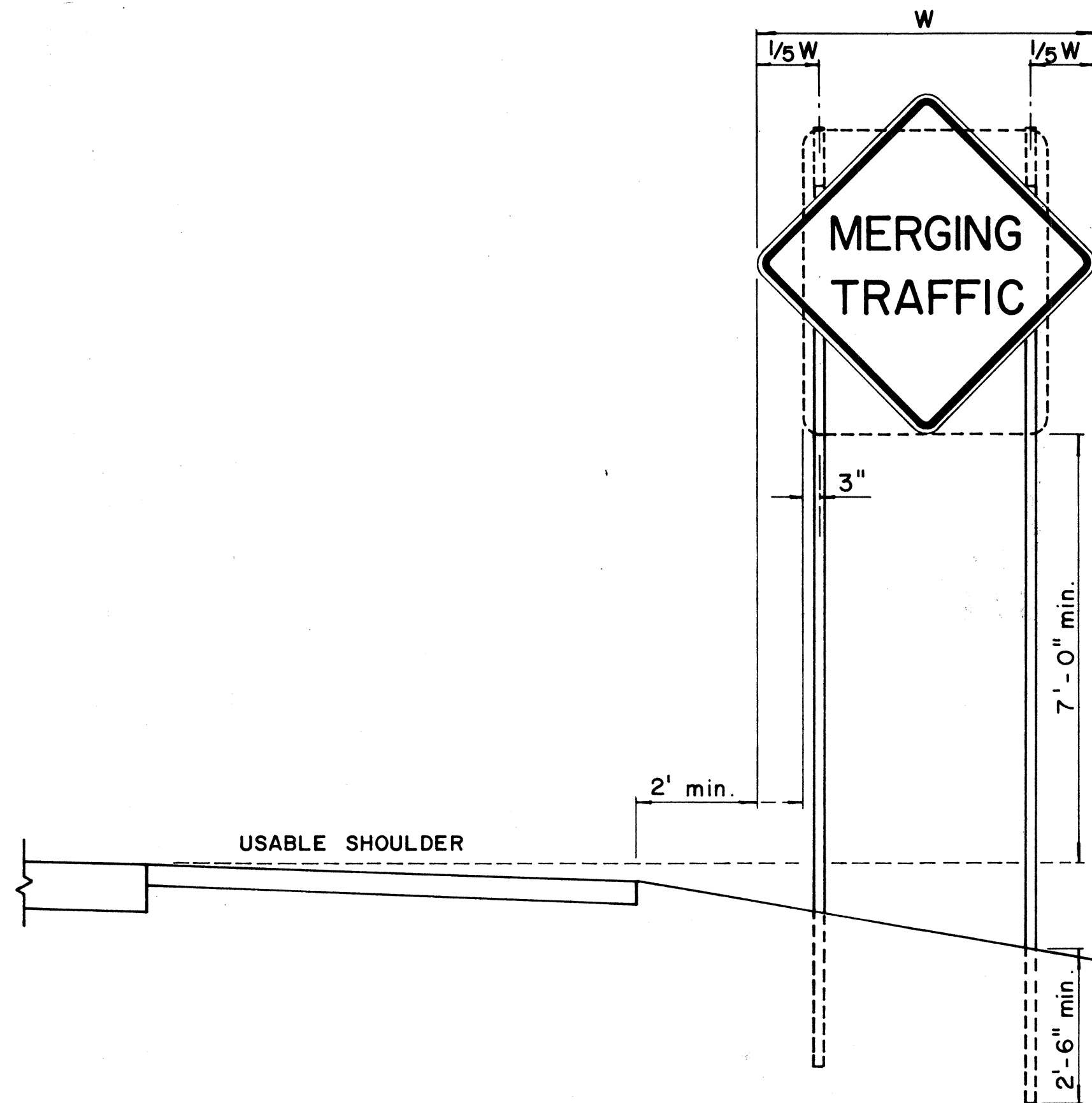
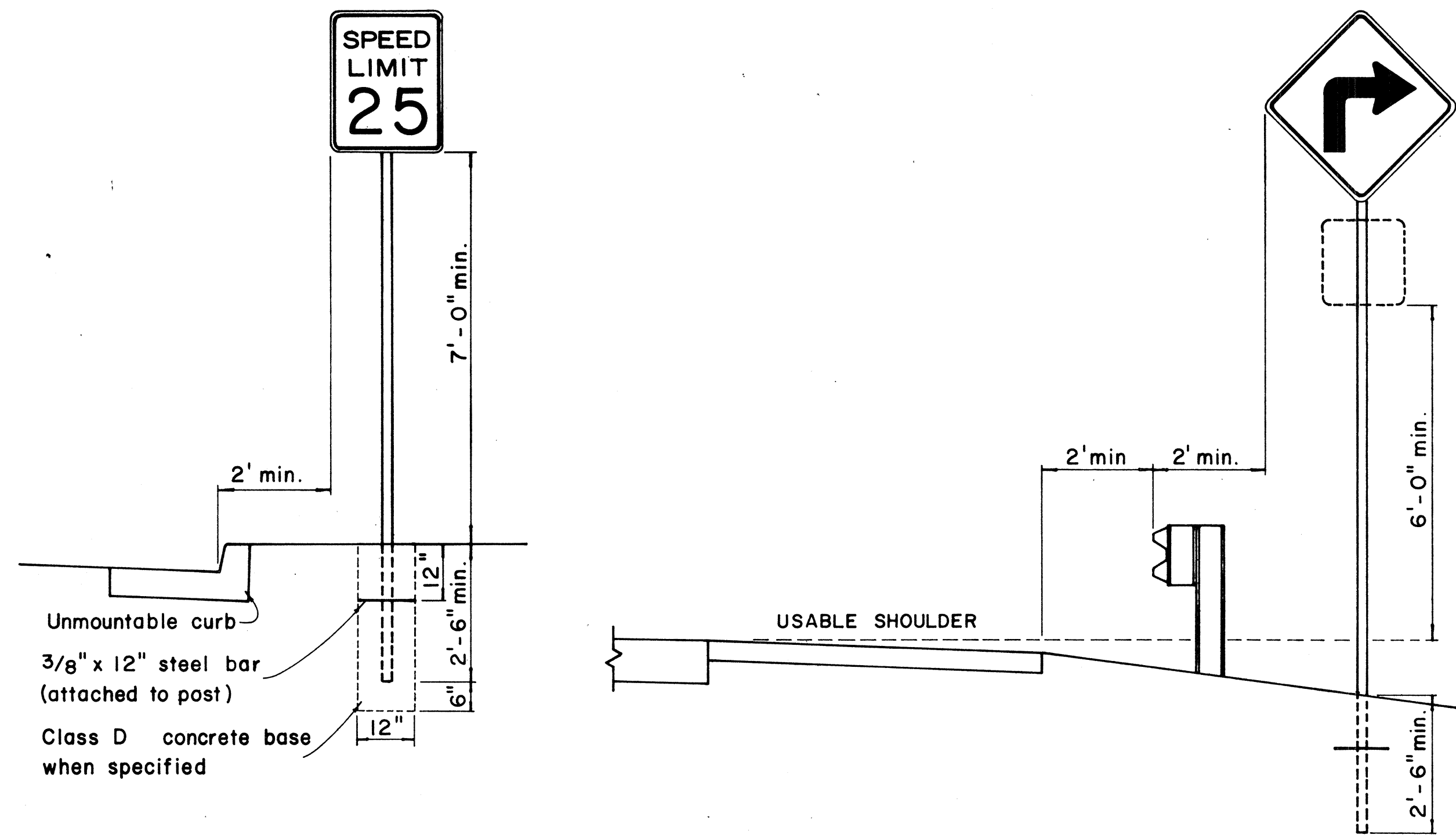
Not to Scale

OCT. 1973

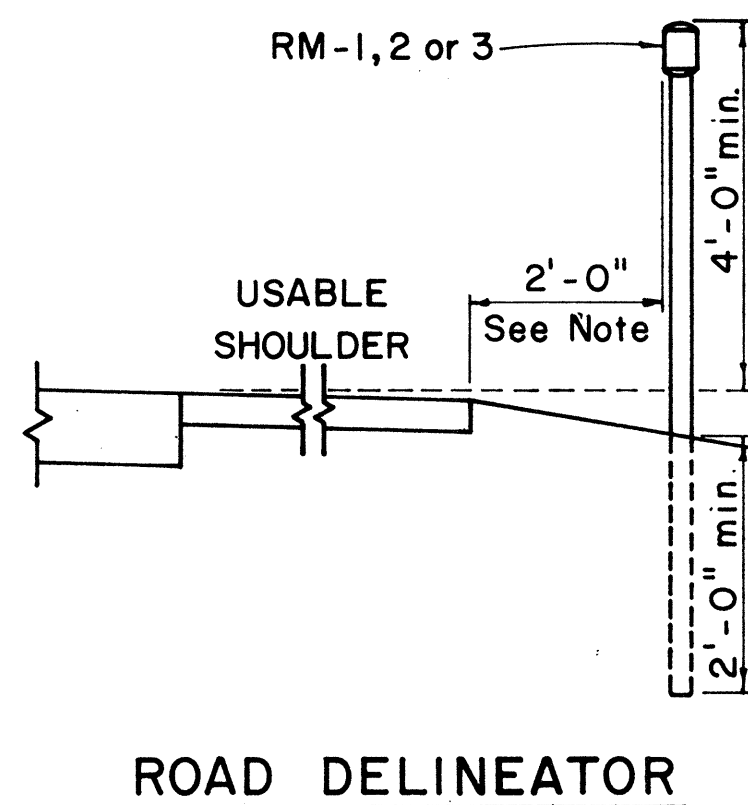
SHEET No. 5 OF 16 SHEETS

DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____
NO.	_____

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-0174	1973	18	28

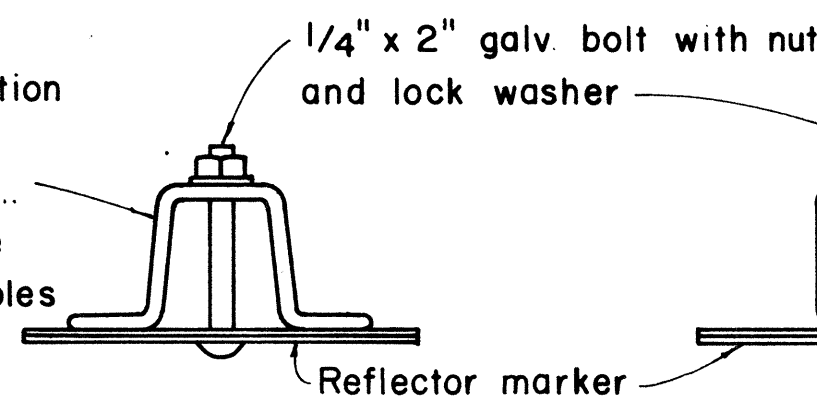


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



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.

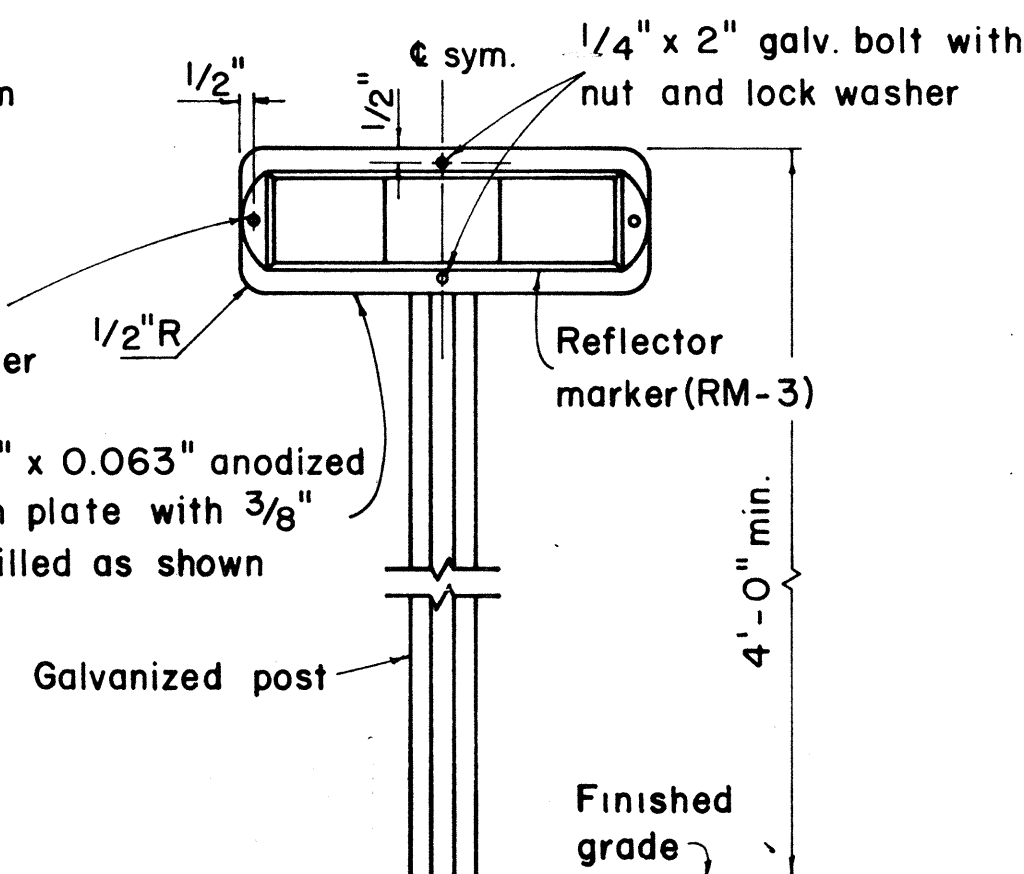
TYPICAL SECTION OF ROAD DELINEATOR



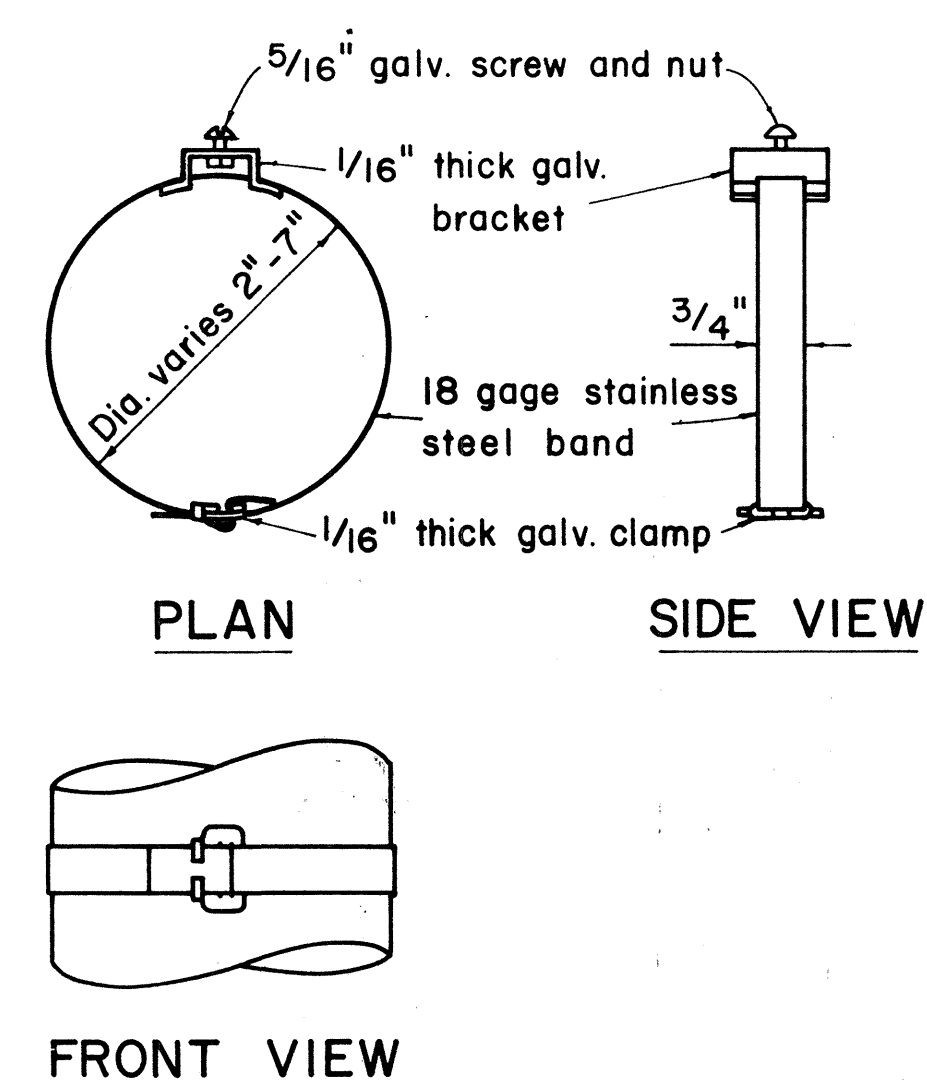
Galv. 1/2" x 1/2" square
tube post with a minimum
weight of 1.7 lbs per ft

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



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:

Erich Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

William J. Delaney 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

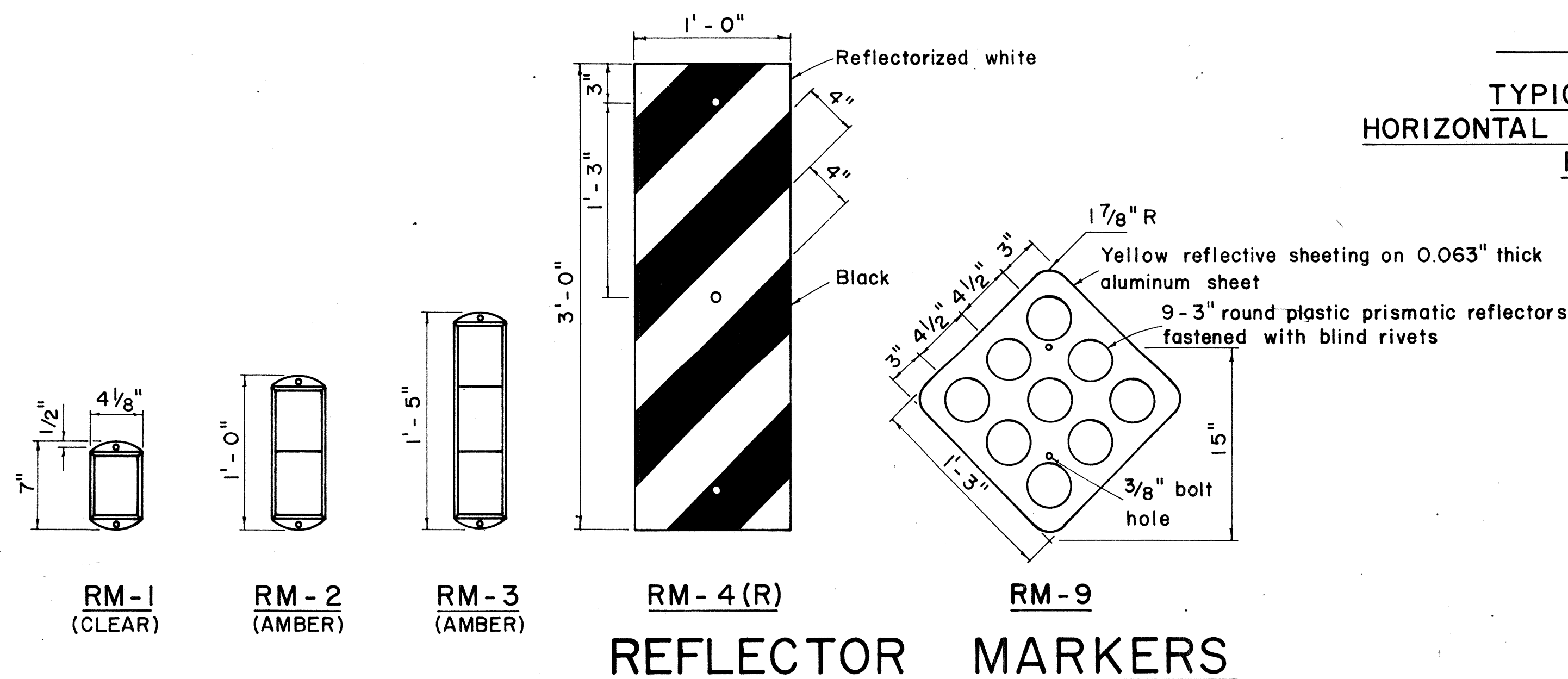
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

SHEET No. 6 OF 16 SHEETS DT 100

ORIGINAL PLAN	DATE
TRACED BY	
DESIGNED BY	
CHECKED BY	
NO.	



RM-1
(CLEAR)

RM-2
(AMBER)

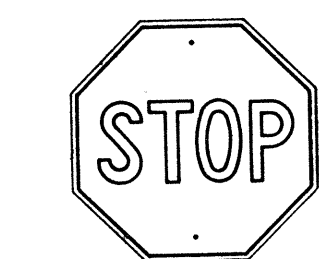
RM-3
(AMBER)

RM-4 (R)

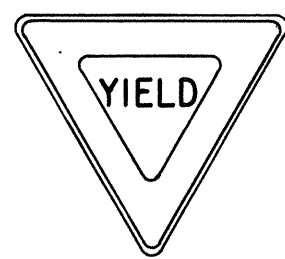
RM-9

REFLECTOR MARKERS

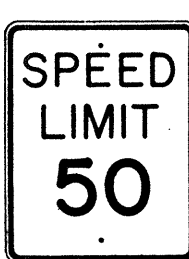
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-0174	1973	19	28



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



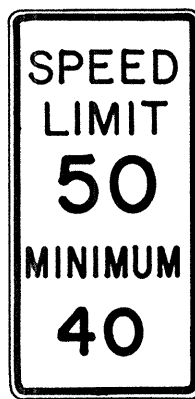
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



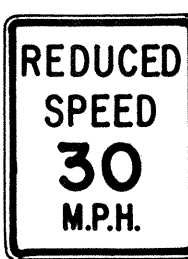
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



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"



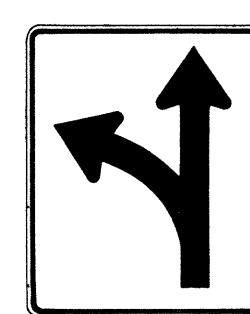
R3-3 24" x 24"
R3-3-A 48" x 48"



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"



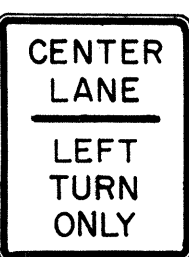
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



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"



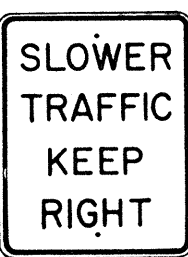
R3-9 24" x 30"



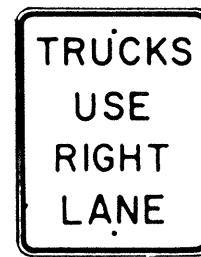
R4-1 24" x 30"



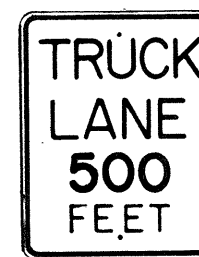
R4-2 24" x 30"



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



R4-5 24" x 30"



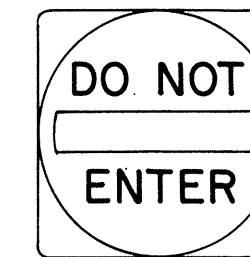
R4-6(500) 24" x 30"



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



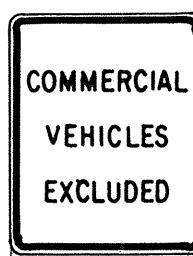
R4-8 24" x 30"
24" x 18"



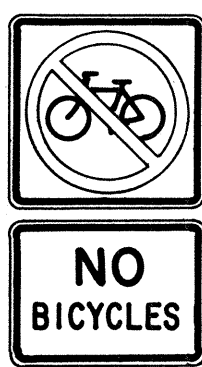
R5-1 30" x 30"
R5-1-A 48" x 48"



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



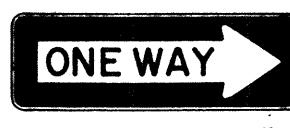
R5-4 24" x 30"



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



R5-9 36" x 24"



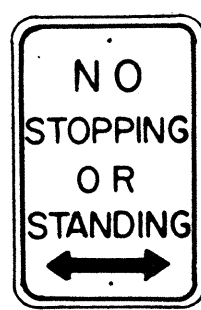
R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



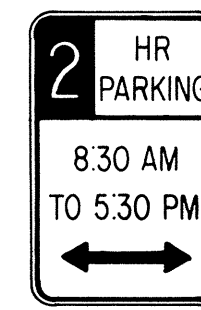
R7-1 12" x 18"
R7-1-A 24" x 30"



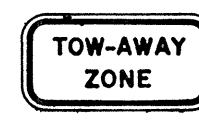
R7-4 12" x 18"
R7-4-A 24" x 30"



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"



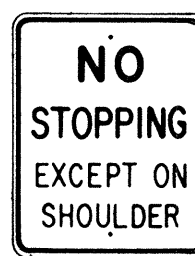
R8-3 24" x 30"



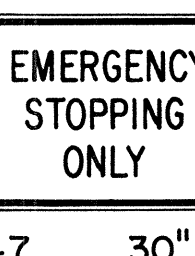
R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



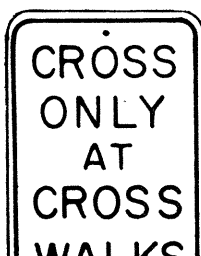
R8-6 24" x 30"



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



R9-1 18" x 24"



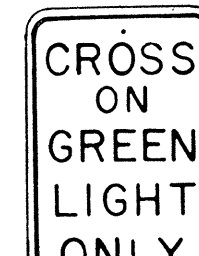
R9-2 12" x 18"



R9-3 12" x 18"



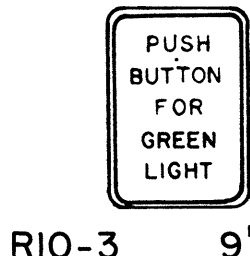
R9-4 18" x 24"



R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



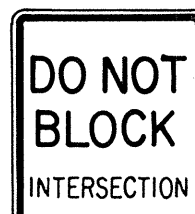
R10-4 9" x 12"



R10-5 24" x 30"



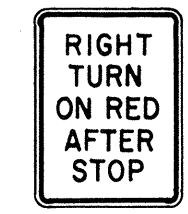
R10-6 24" x 36"



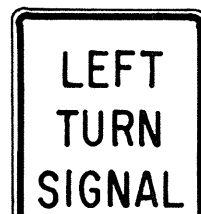
R10-7 24" x 30"



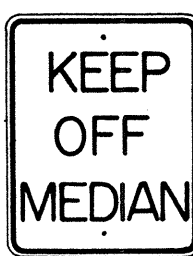
R10-8 24" x 30"



R10-9 24" x 30"



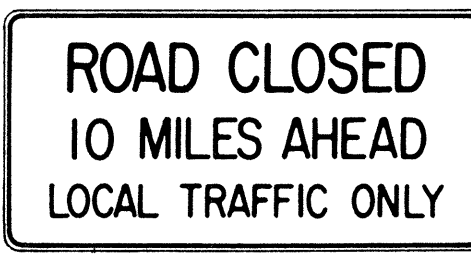
R10-10 24" x 30"



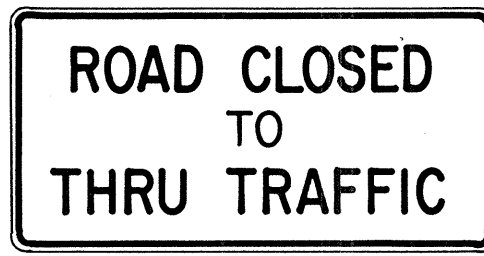
R11-1 24" x 30"



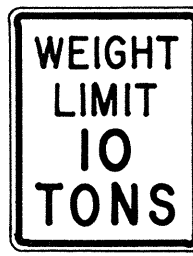
R11-2 48" x 30"



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."
- 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
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:

Robert Zoltan
ASSISTANT CHIEF, ENGINEERING

3-20-72
DATE

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

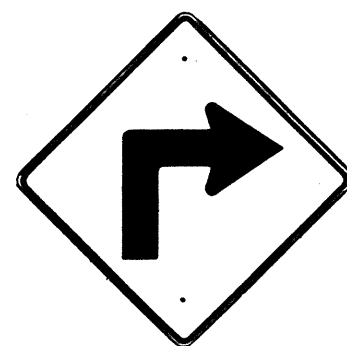
STANDARD DETAILS REGULATORY SIGNS

NOT TO SCALE

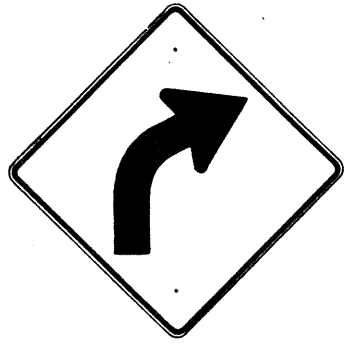
SHEET No. 7 OF 16 SHEETS DT 101

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

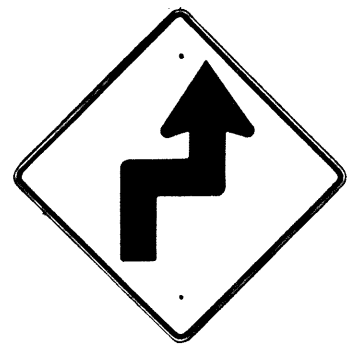
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	20	28



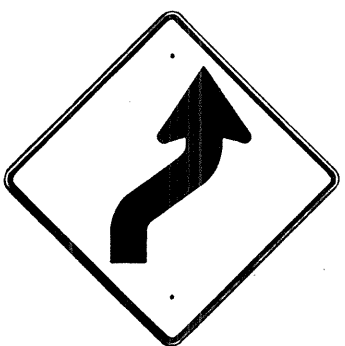
W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



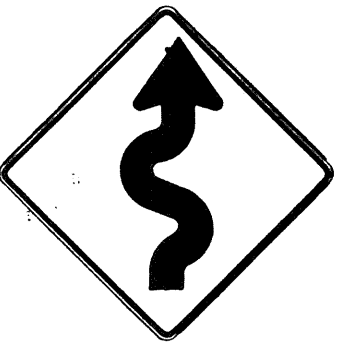
W1-2(R) 30"x30"
W1-2(R)-A 48"x48"



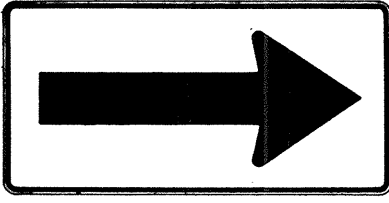
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



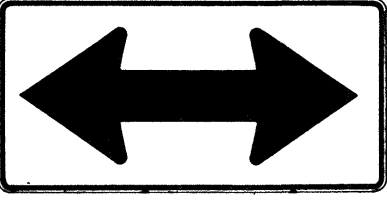
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



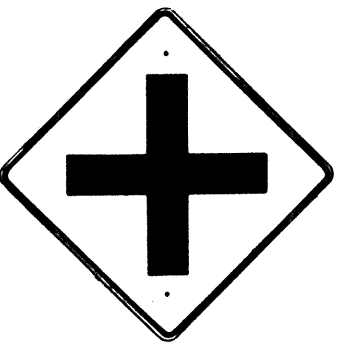
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



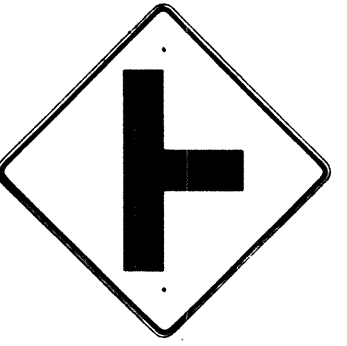
W1-6 48"x24"



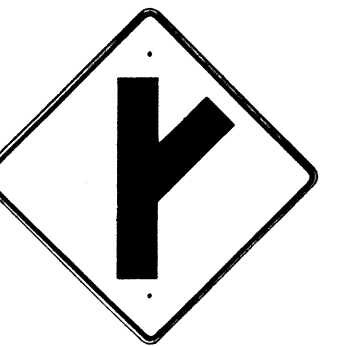
W1-7 48"x24"



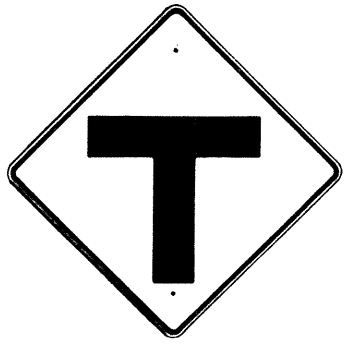
W2-1 30"x30"
W2-1-A 48"x48"



W2-2 30"x30"
W2-2-A 48"x48"



W2-3(R) 30"x30"
W2-3(R)-A 48"x48"



W2-4 30"x30"
W2-4-A 48"x48"



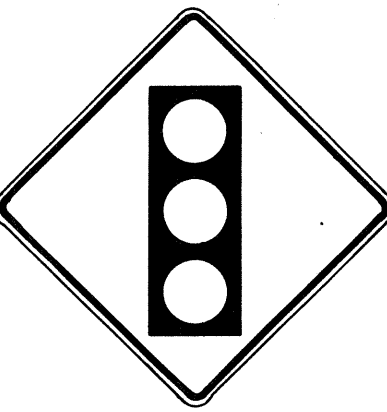
W2-5 30"x30"
W2-5-A 48"x48"



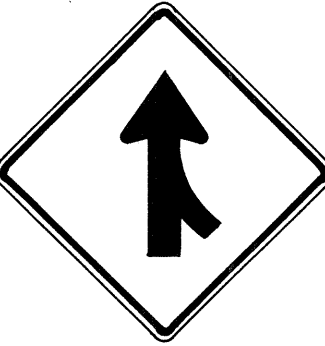
W3-1 30"x30"
W3-1-A 36"x36"



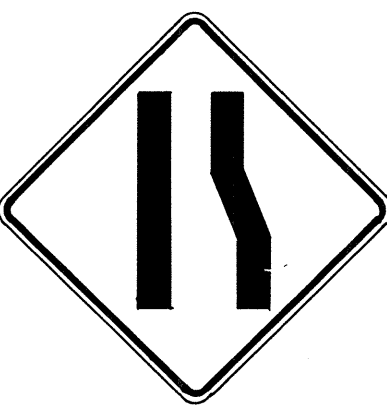
W3-2 30"x30"
W3-2-A 36"x36"



W3-3 36"x36"
24"x18"



W4-1(R) 30"x30"
24"x18"
W4-1(R)-A 48"x48"
24"x18"



W4-2(R) 36"x36"
W4-2(R)-A 48"x48"



W5-1 36"x36"



W5-2 30"x30"
W5-2-A 36"x36"



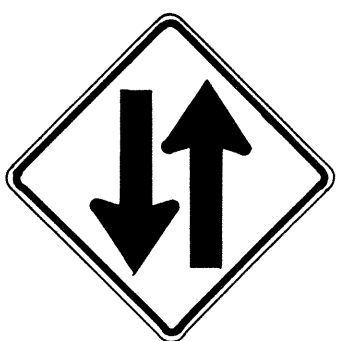
W5-3 36"x36"



W6-1 36"x36"
24"x18"



W6-2 36"x36"
24"x18"



W6-3 30"x30"
24"x18"
W6-3-A 36"x36"
24"x18"
W6-3-B 48"x48"
24"x18"



W7-1 30"x30"
24"x18"
W7-1-A 36"x36"
24"x18"



W7-2 24"x18"



W8-1 30"x30"
W8-1-A 36"x36"



W8-2 30"x30"
W8-2-A 36"x36"



W8-3 30"x30"
W8-3-A 36"x36"



W8-4 30"x30"
W8-4-A 36"x36"



W8-5 30"x30"
24"x18"
W8-5-A 36"x36"
24"x18"



W9-1(R) 30"x30"
W9-1(R)-A 36"x36"
W9-1(R)-B 48"x48"



W9-2(L) 36"x36"
W9-2(L)-A 48"x48"



W10-1 36" Diameter



W11-1 30"x30"
24"x18"
W11-1-A 36"x36"
24"x18"



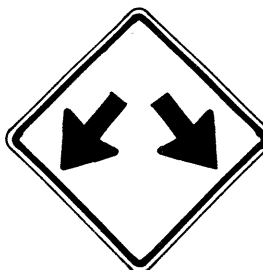
W11-2 30"x30"
24"x18"
W11-2-A 36"x36"
24"x18"



W11-4 30"x30"
24"x18"
W11-4-A 36"x36"
24"x18"



W11-5 30"x30"
24"x18"
W11-5-A 36"x36"
24"x18"



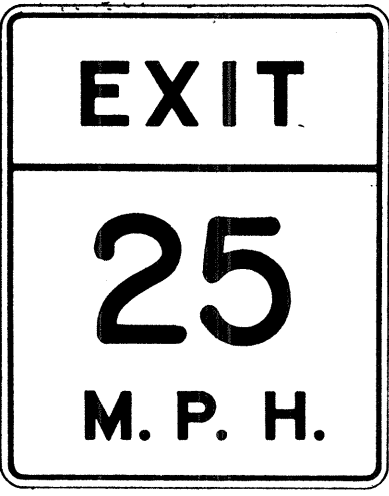
W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"



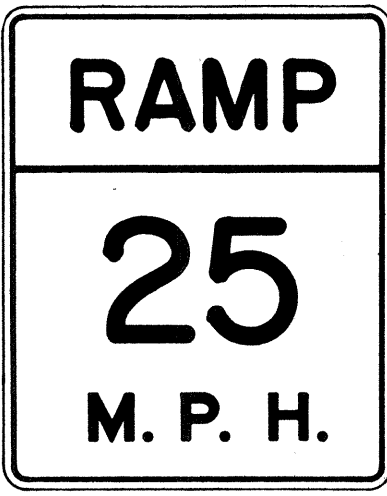
W12-2 (12'-6") 36"x36"
24"x18"



W13-1(25) 18"x18"
W13-1(25)-A 24"x24"



W13-2(25) 48"x60"



W13-3(25) 48"x60"



W14-1 30"x30"



W14-3 36"x48" 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 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:
E. Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:
D. S. S.
ASSISTANT CHIEF, ENGINEERING

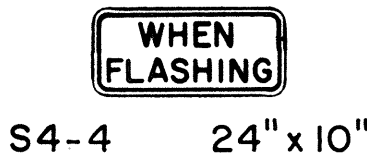
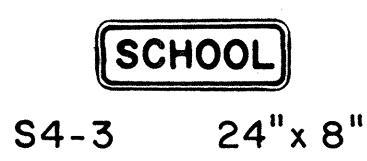
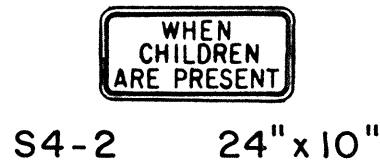
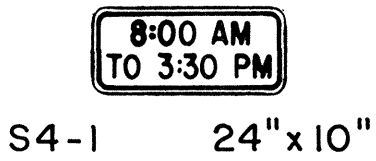
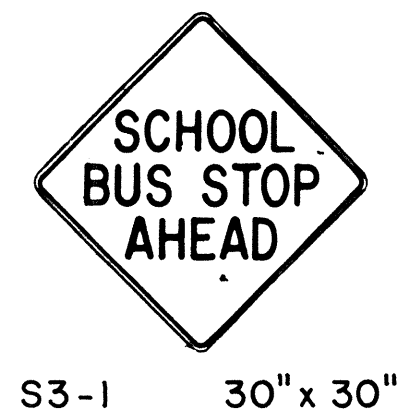
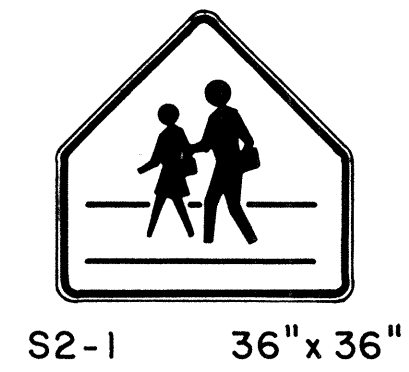
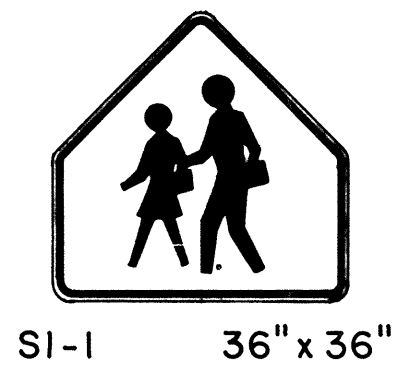
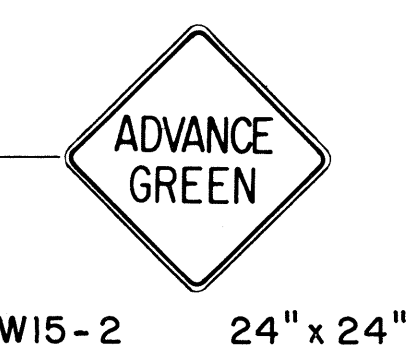
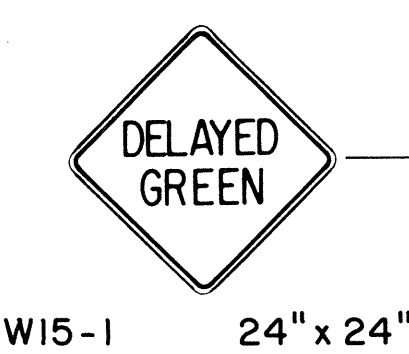
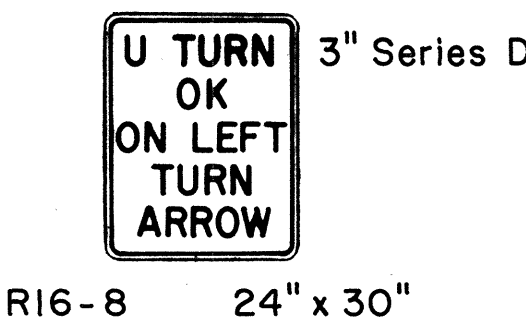
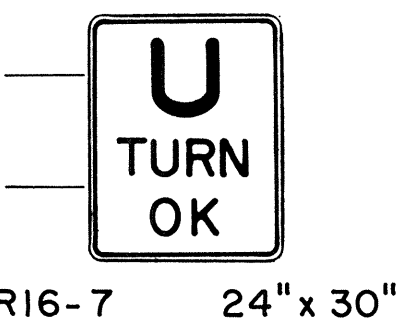
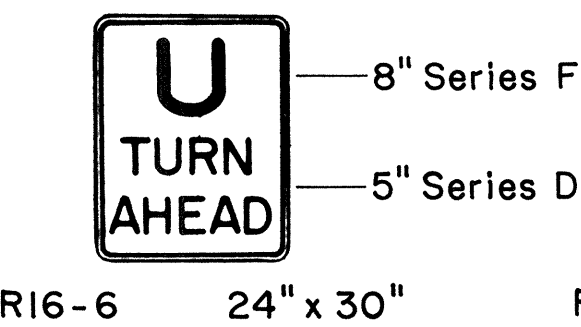
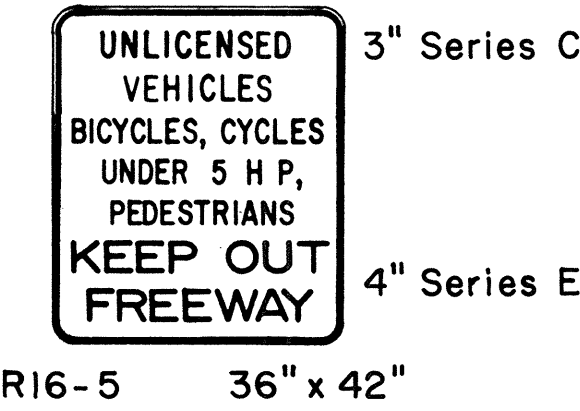
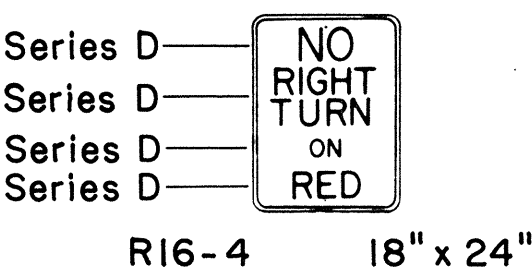
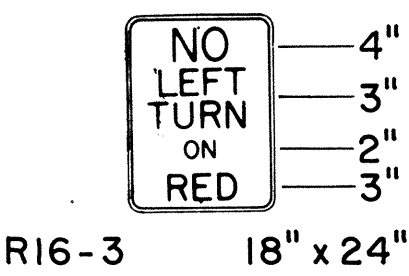
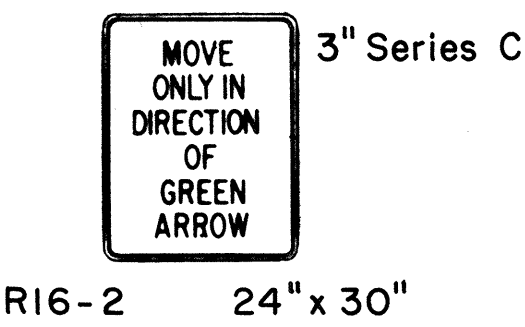
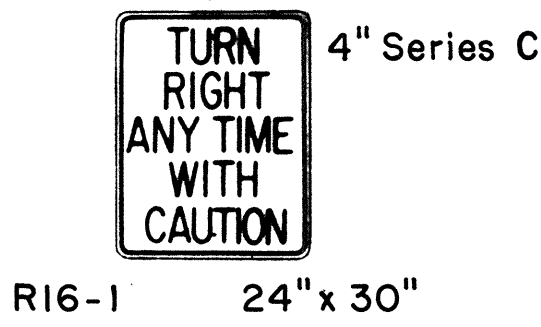
3-20-72
DATE

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. 8 OF 16 SHEETS DT 102	

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	No.

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	21	28



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

APPROVAL RECOMMENDED:
E. J. Tanaka
TRAFFIC ENGINEER
3/17/72
DATE

APPROVED:
Harold Z. Sisk
ASSISTANT CHIEF, ENGINEERING
2-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 Approved 12-30-69	H.C.	3/20/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS

REGULATORY & WARNING SIGNS

NOT TO SCALE

SHEET No. 21 OF 16 SHEETS DT 103

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

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	22	28



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"



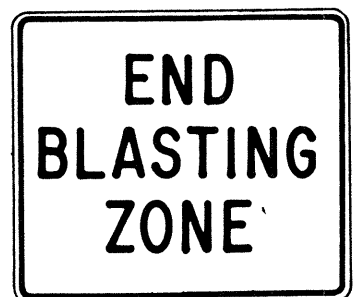
CW21-6 30"x 30"



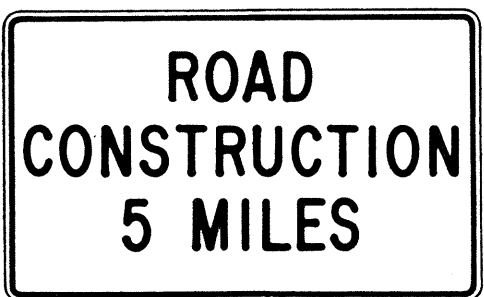
CW22-1b 48"x 48"



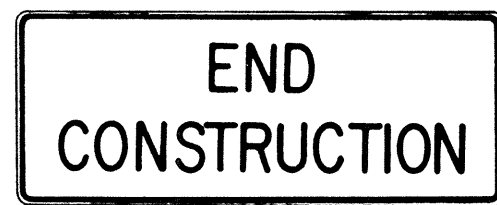
CW22-2 42"x 36"



CW22-3 42"x 36"



CG20-1(5) 60"x 36"



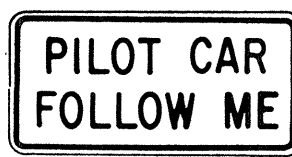
CG20-2 60"x 24"



CM4-9(R) 30"x 24"



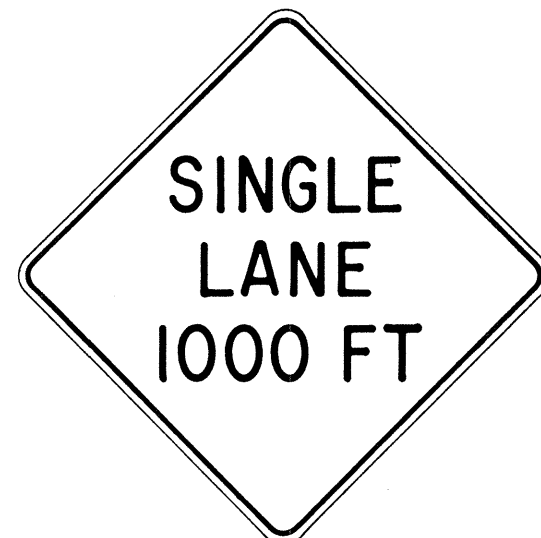
CM4-10(R) 48"x 18"



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.

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

APPROVAL RECOMMENDED:
Erich Tanaka 3/21/72
TRAFFIC ENGINEER DATE

APPROVED:
Walter S. Smith 3/23/72
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

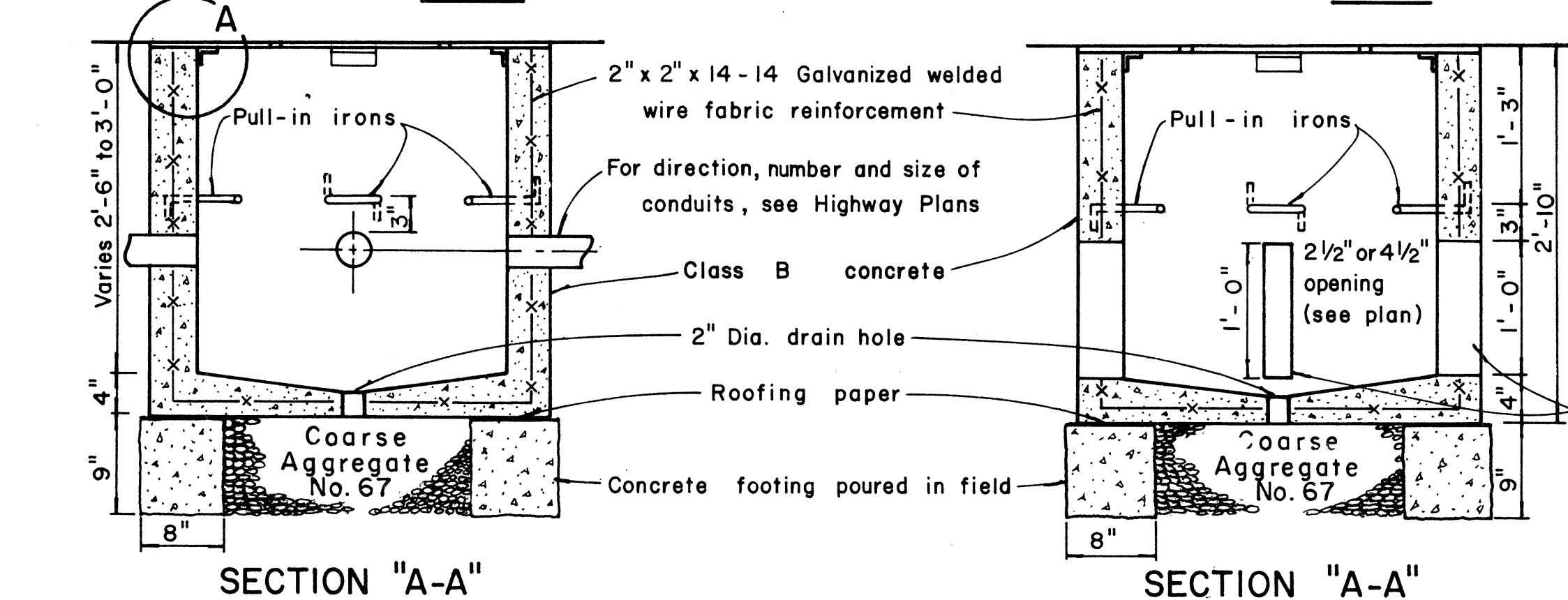
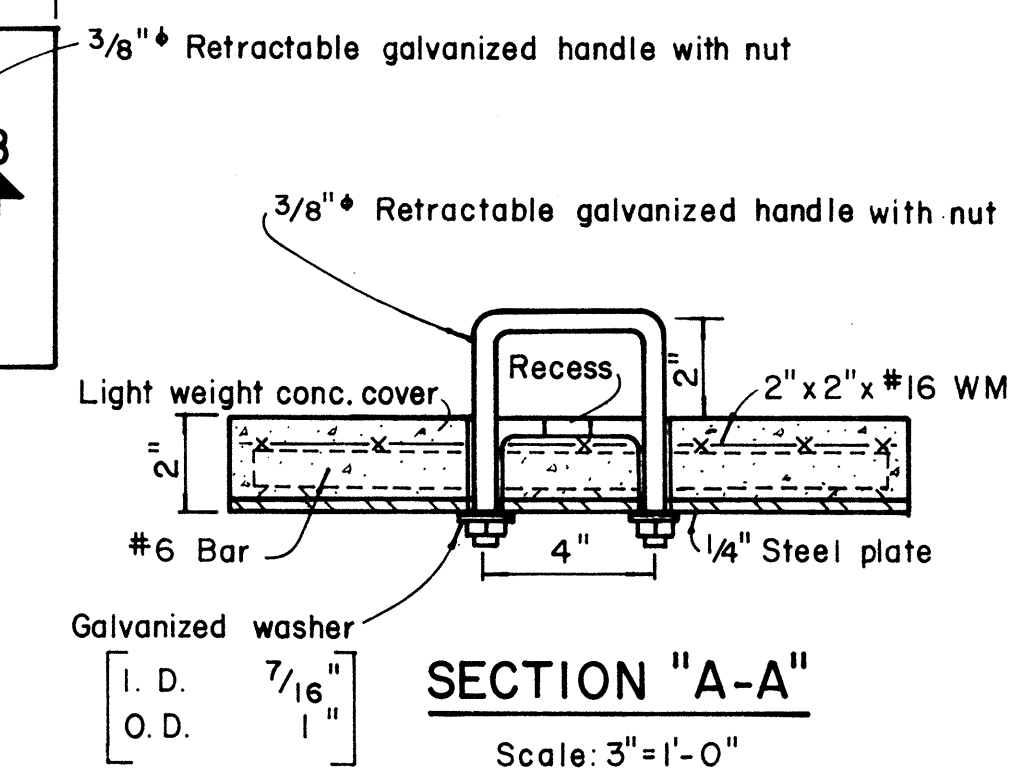
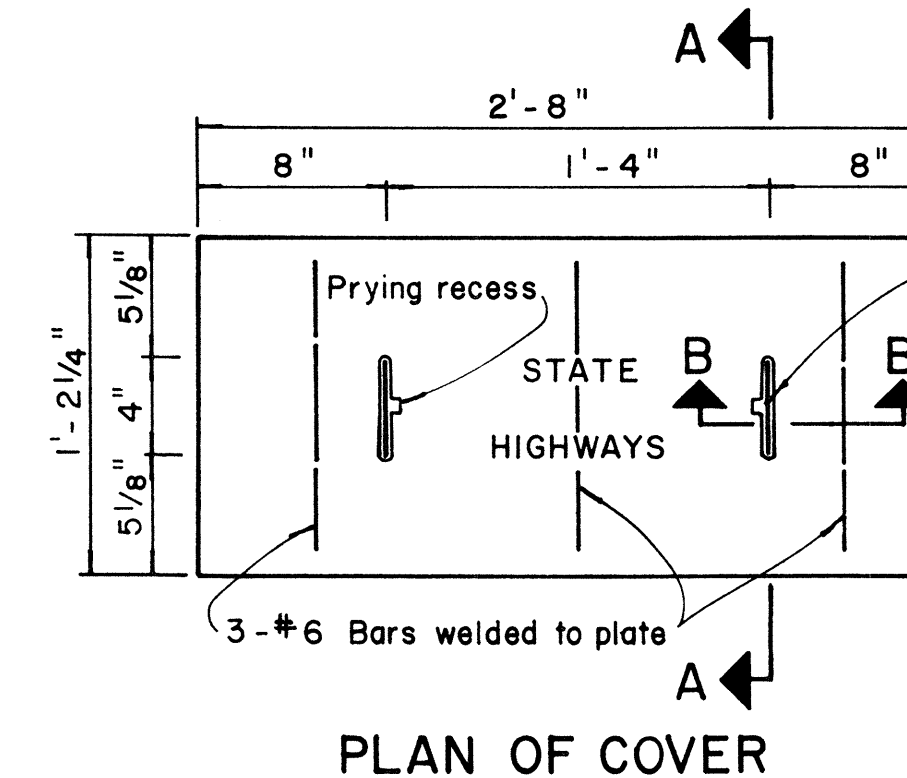
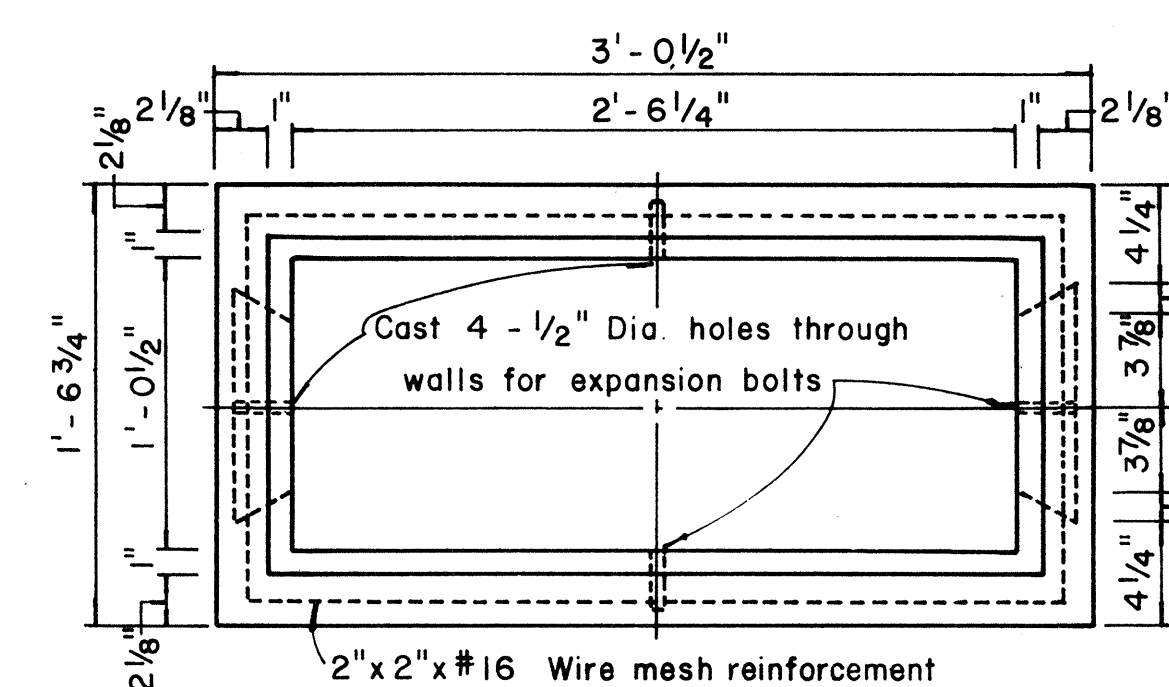
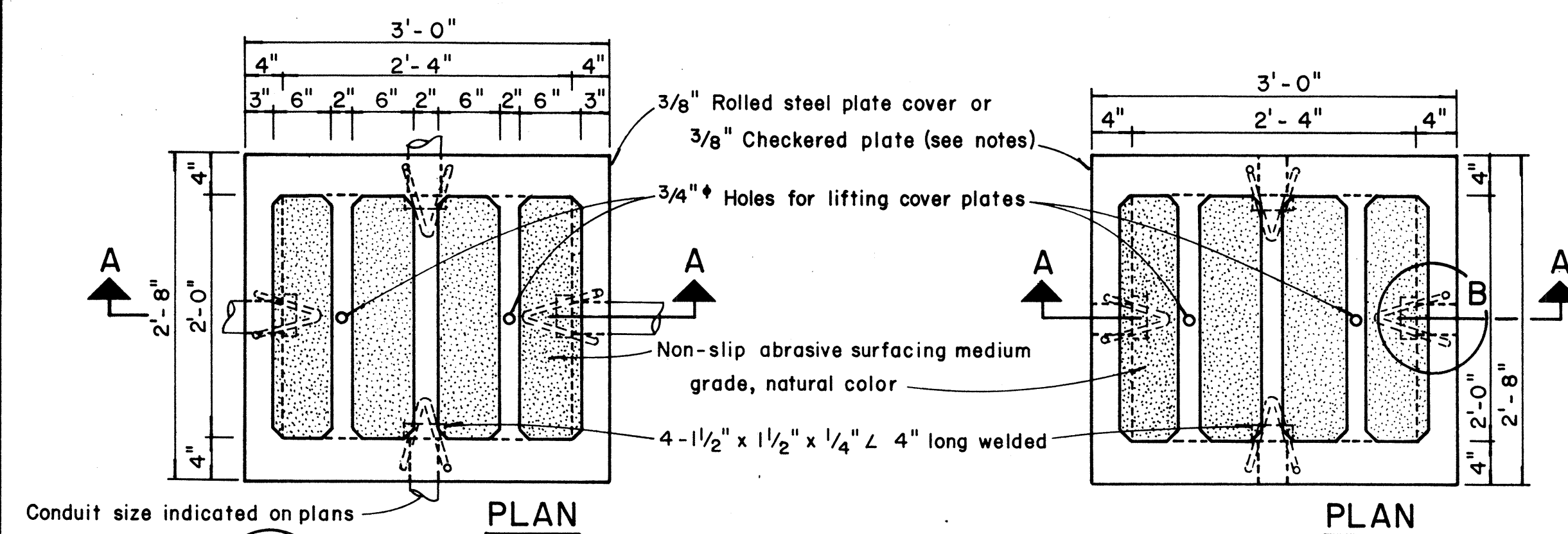
STANDARD DETAILS CONSTRUCTION SIGNS

NOT TO SCALE

SHEET No. 10 OF 16 SHEETS DT 104

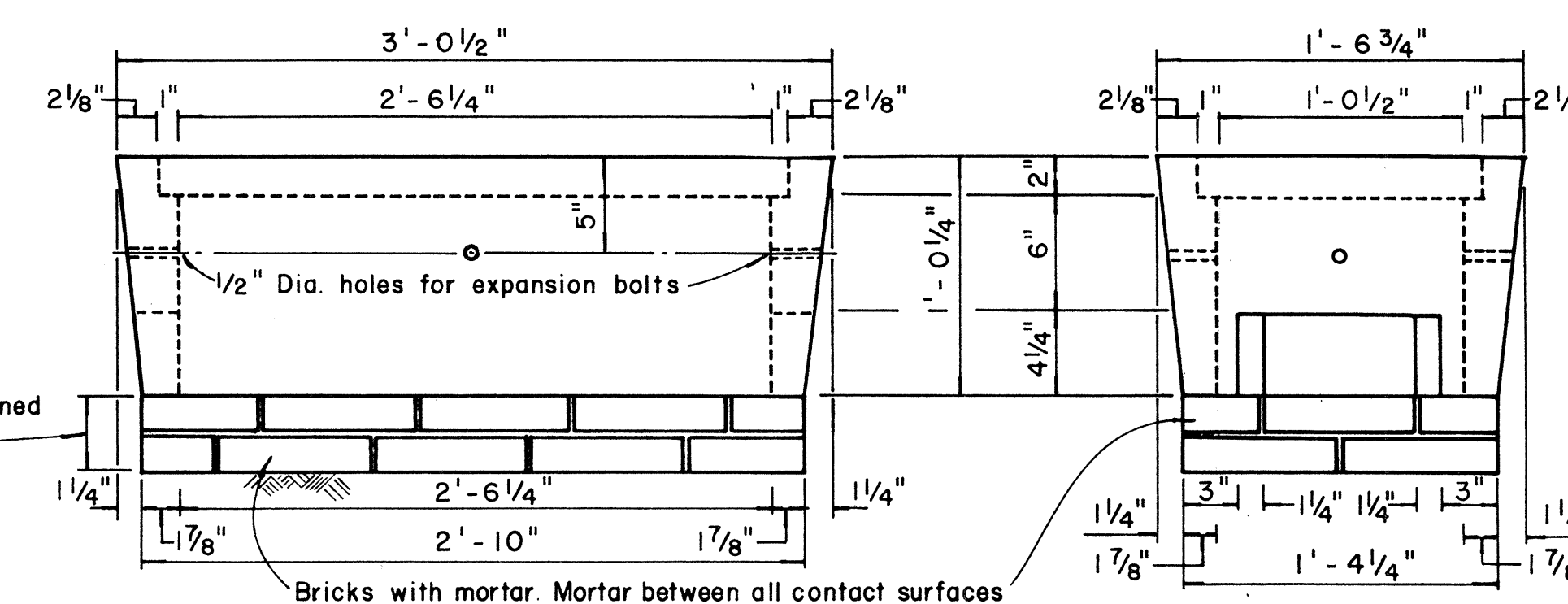
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	CHECKED BY	
No.		

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	72C-01-74	1973	23	28



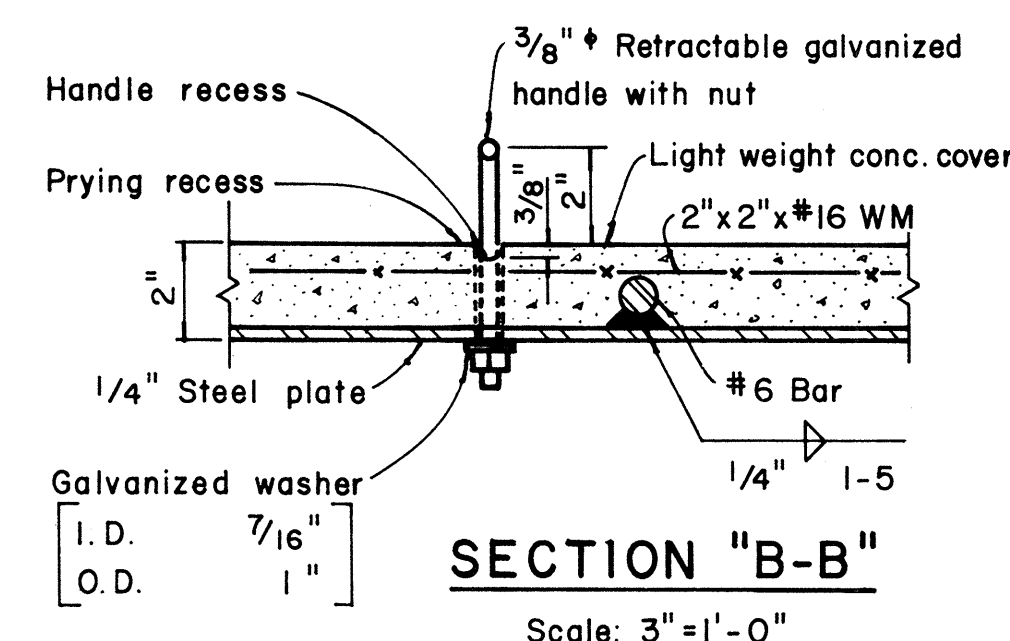
TYPE "A" PULLBOX CAST-IN-PLACE

TYPE "A" PULLBOX PRECAST



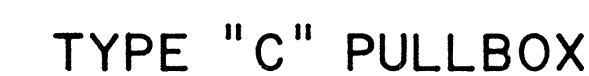
SIDE ELEVATION

END ELEVATION

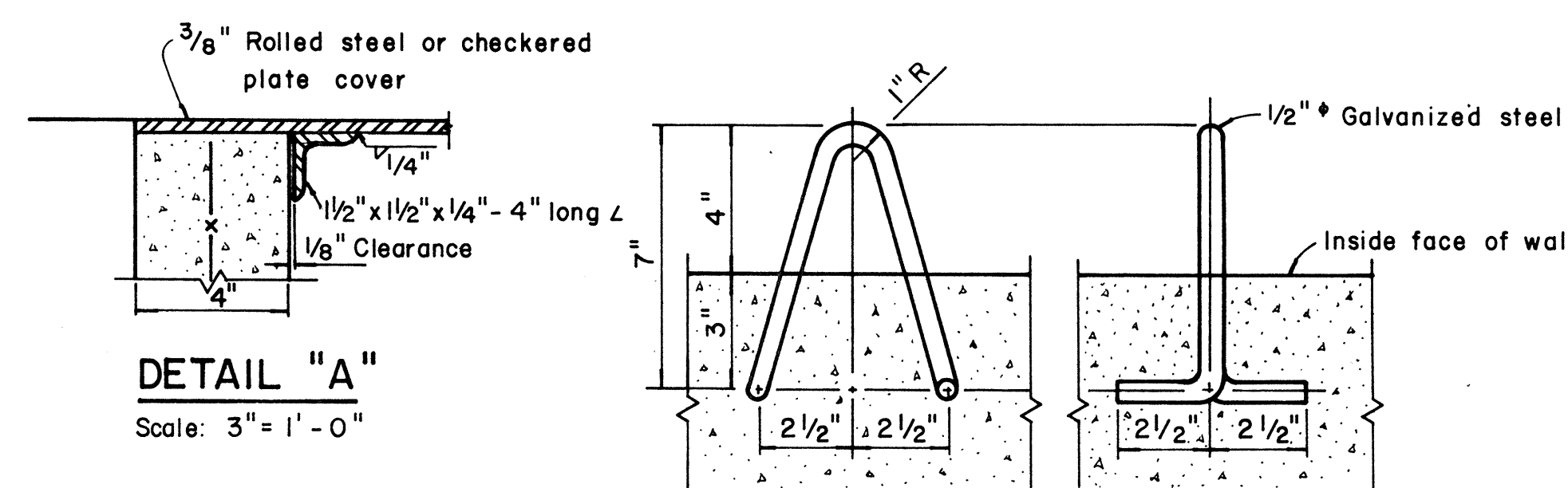


SECTION "B-B"

Scale: 3" = 1' - 0"

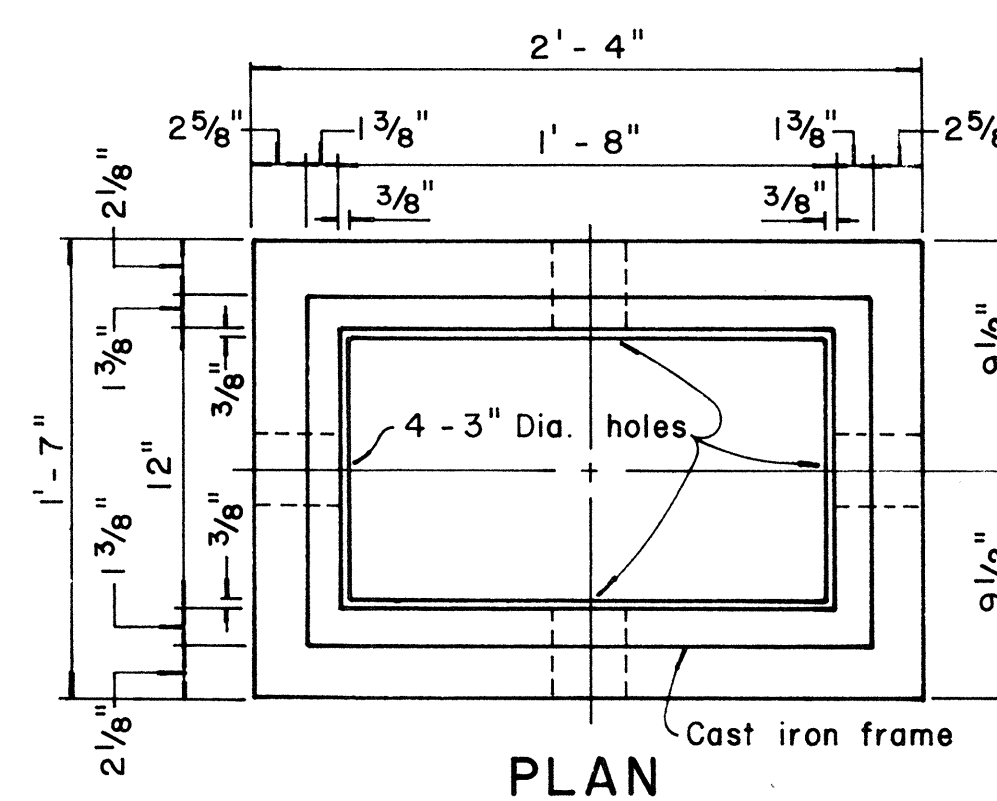


Scale: $1\frac{1}{2}" = 1' - 0"$

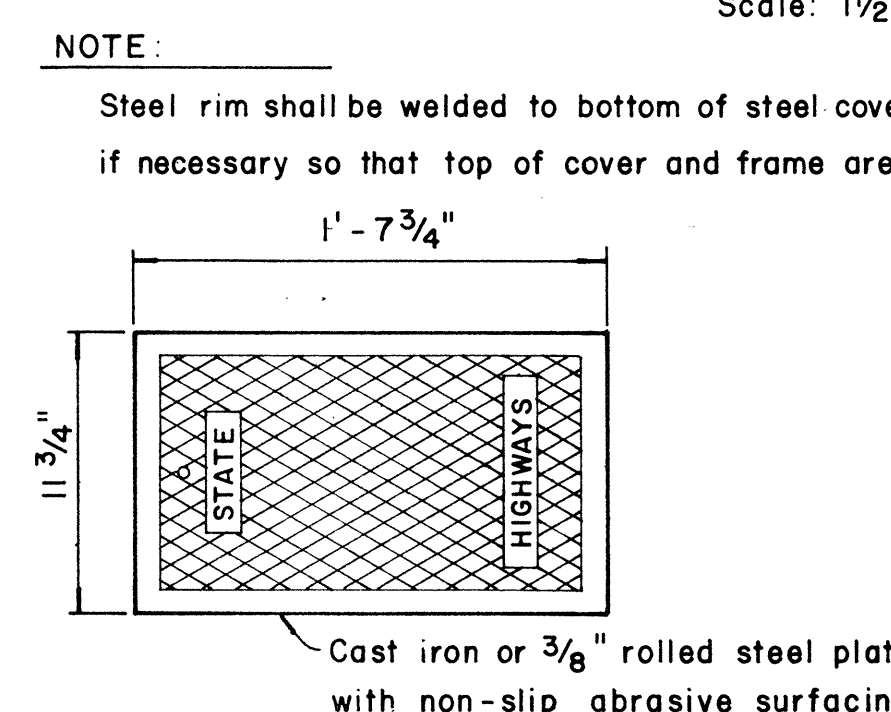


PULL-IN IRON DETAIL "B"

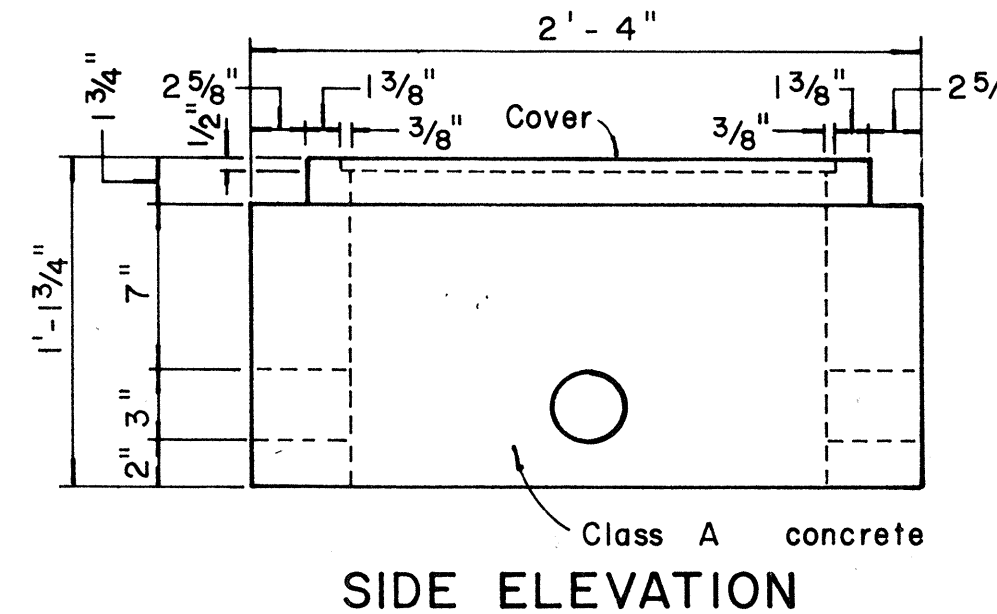
Scale: 3" = 1'-0"



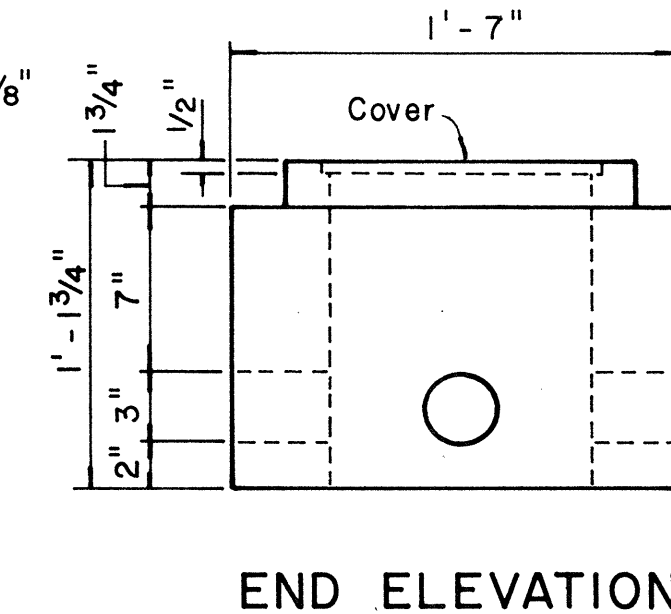
PLAN



PLAN OF COVER



SIDE ELEVATION



END ELEVATION

TYPE "B" PULLBOX

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

- NOTES: (FOR TYPE "A" PULLBOX)

1. 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. 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

12/29/69
DATE

APPROVED

Amir 22 Jish
ASSISTANT CHIEF, ENGINEERING

12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

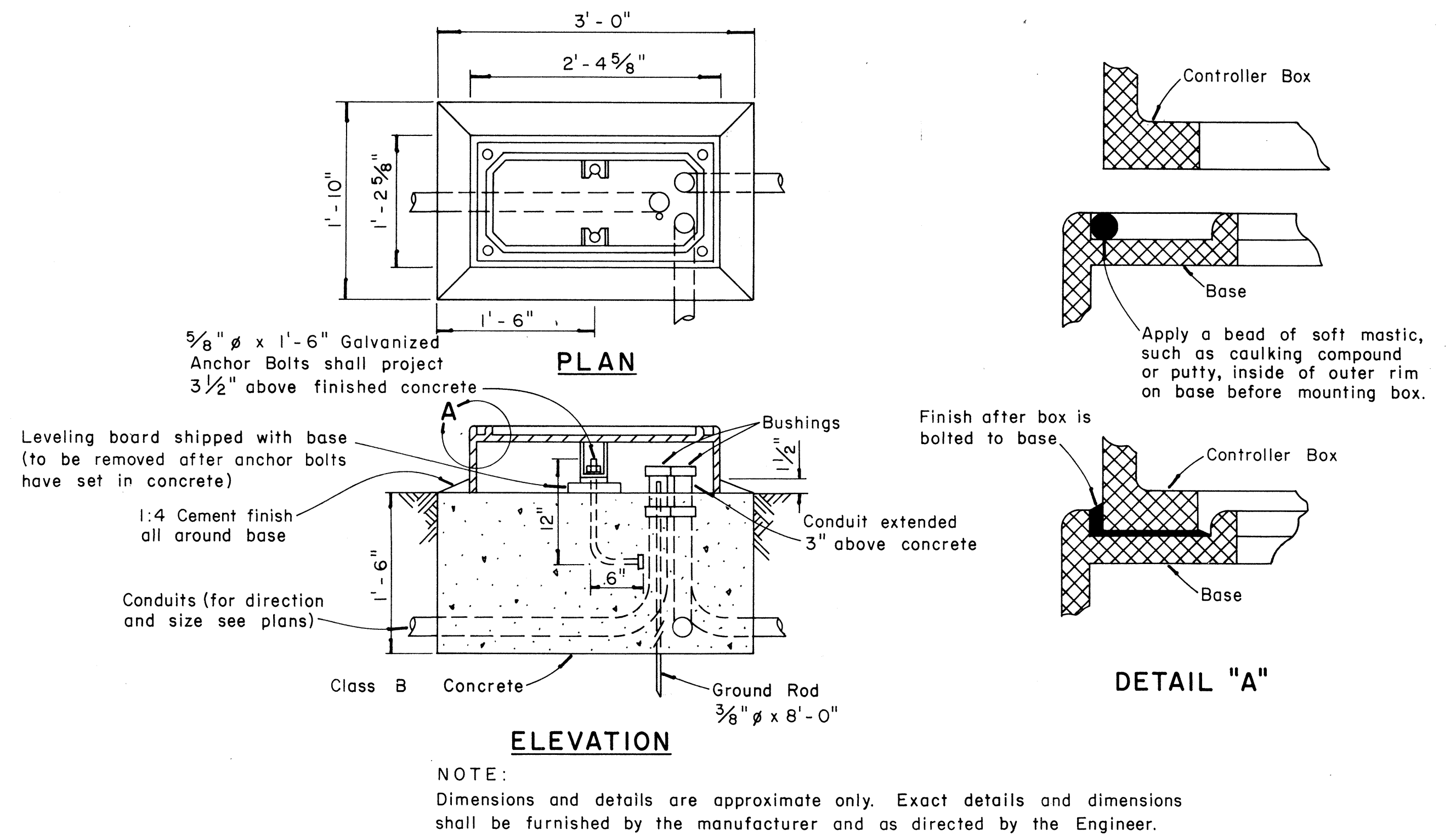
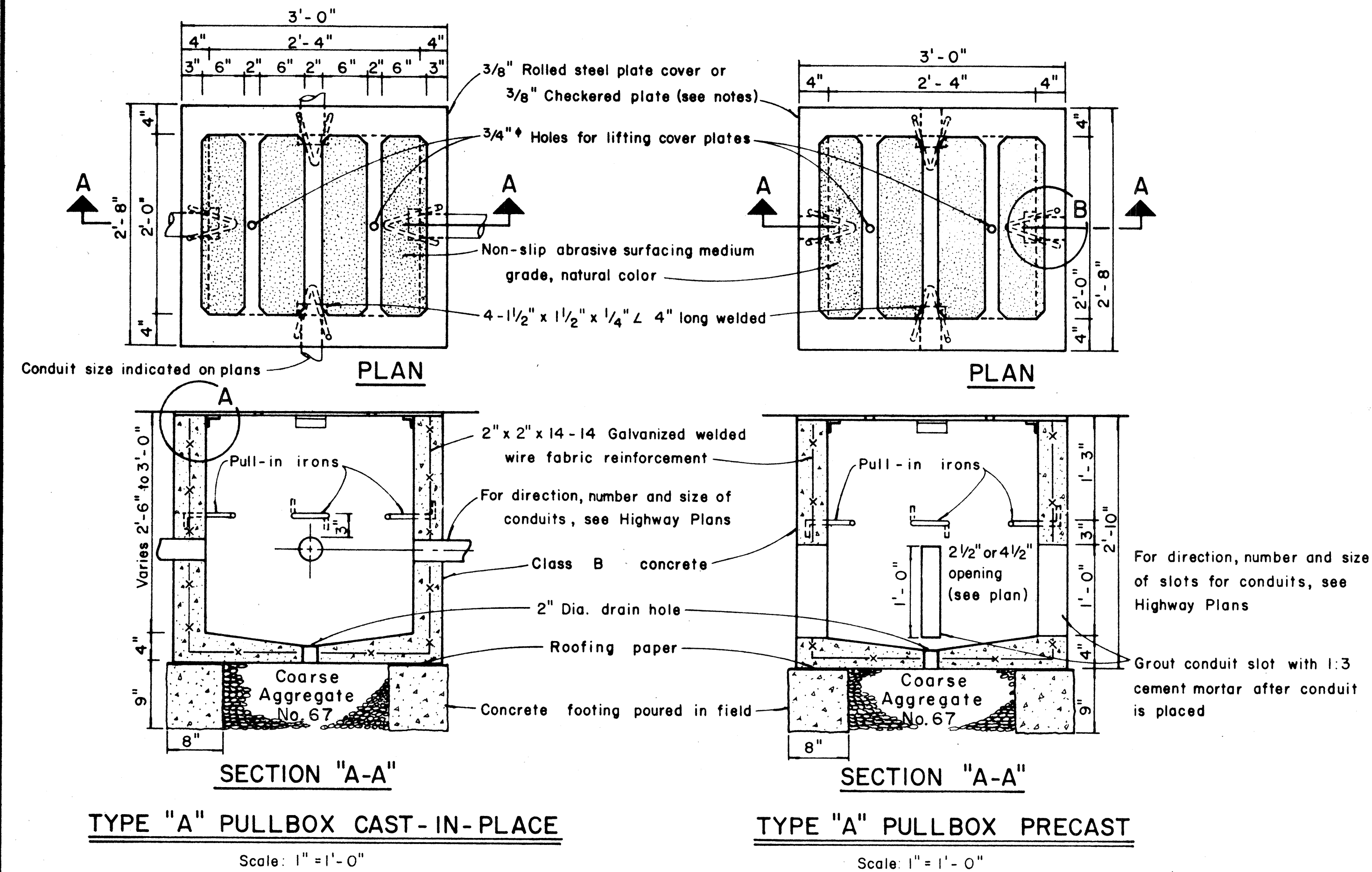
STANDARD DETAILS

PULLBOXES

Scale as noted Date

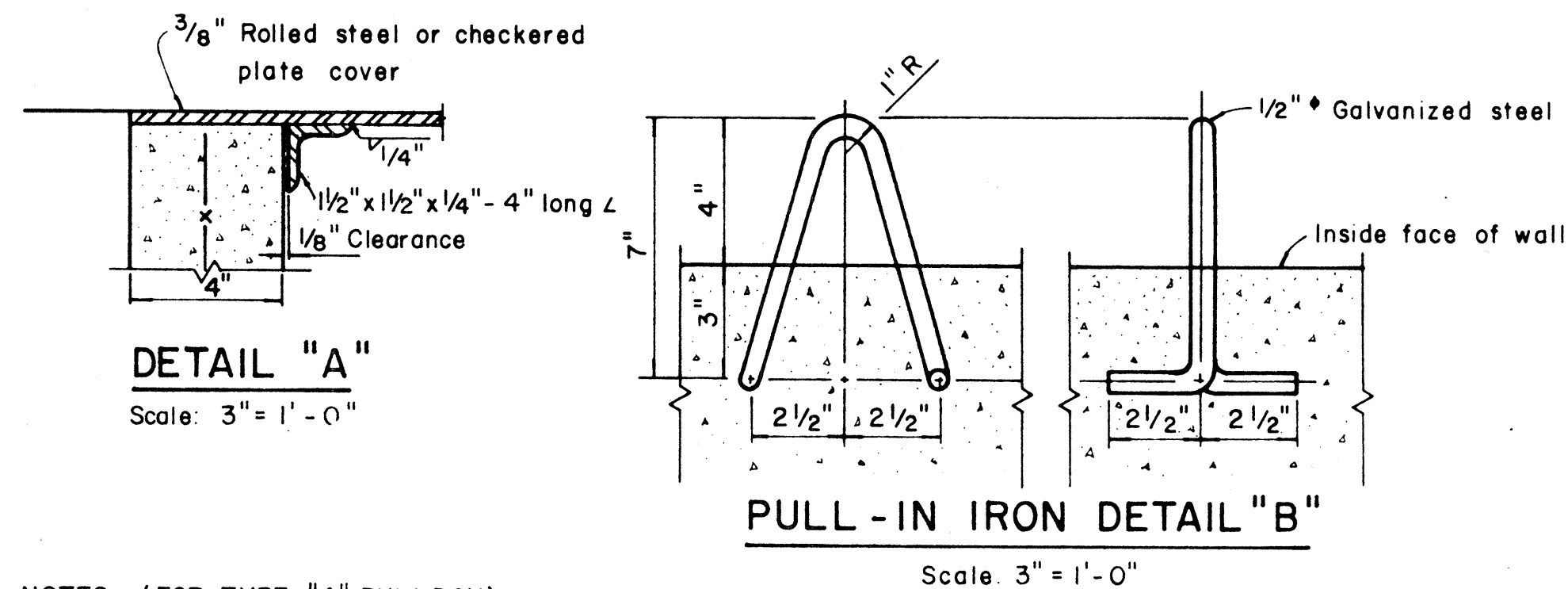
SHEET No. 11 OF 16 SHEETS DT 401

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	24	28

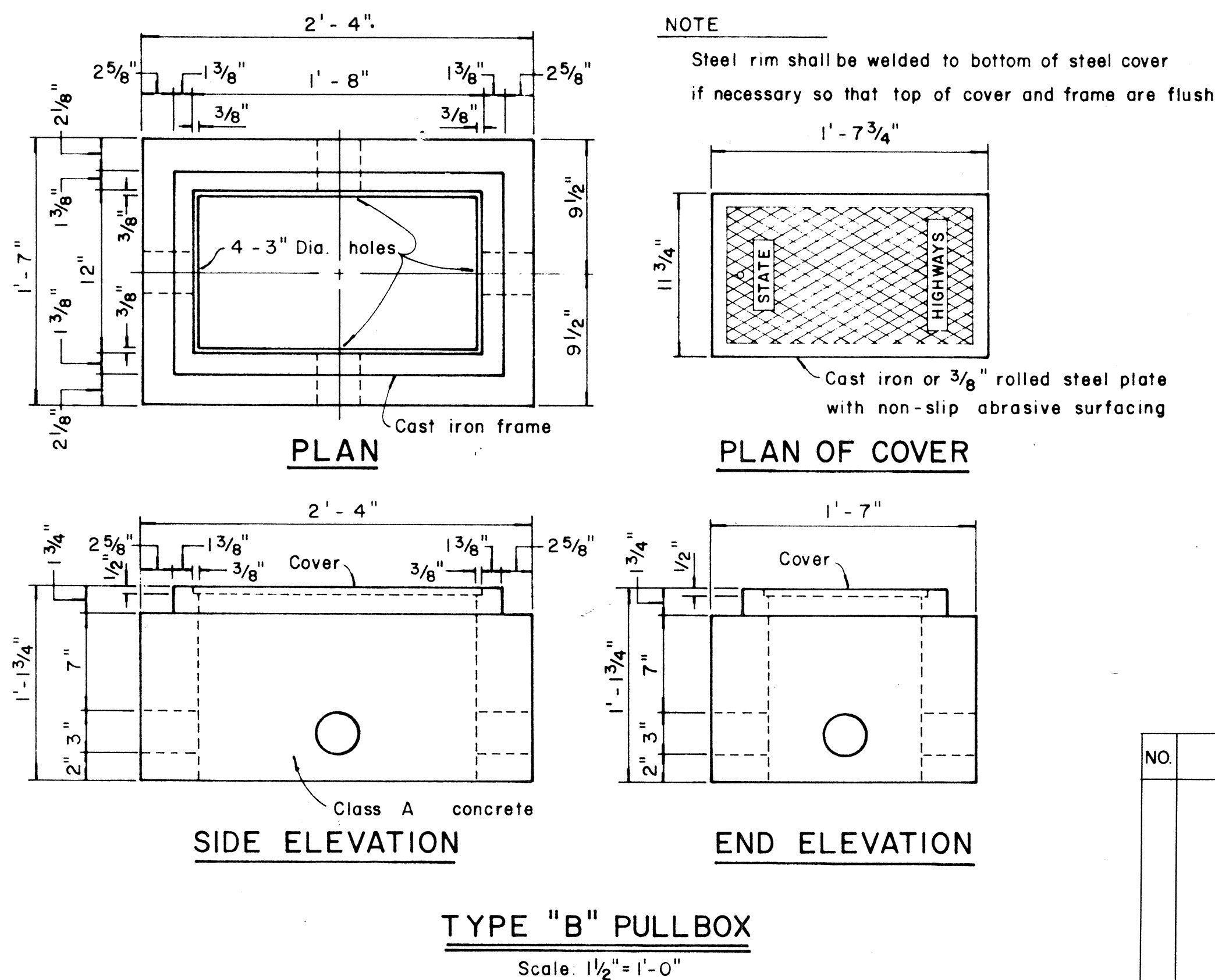


INSTALLATION DETAILS FOR TYPE "M" CONTROLLER BOX

Scale: 1" = 1'-0"



- NOTES: (FOR TYPE "A" PULLBOX)
- 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.
 - 3/8" Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
 - Pull irons shall be placed opposite each conduit slot.
 - Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
 - 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 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

[Signature] 12-29-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

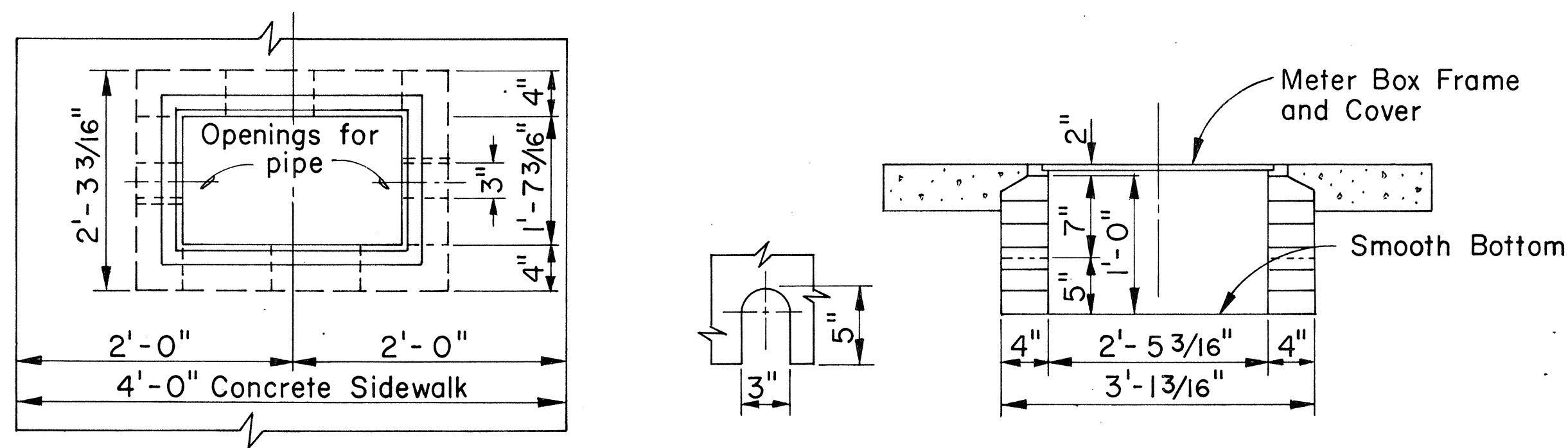
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
PULLBOXES
AND
TYPE "M" CONTROLLER BOX

Scale as noted Date:

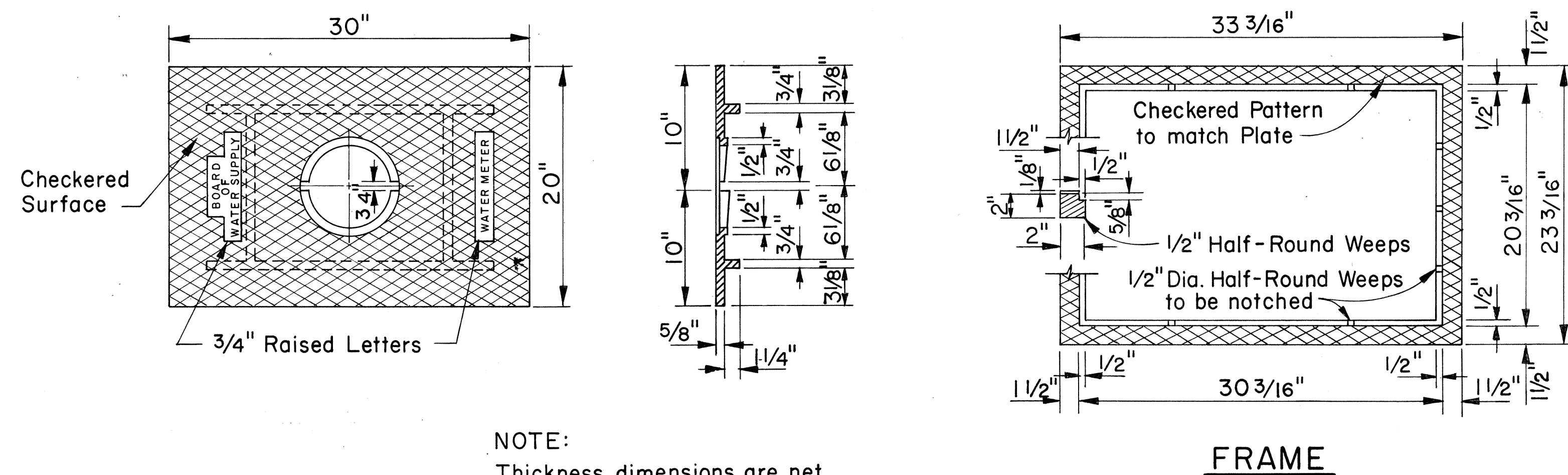
SHEET No. 12 OF 16 SHEETS DT 402

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



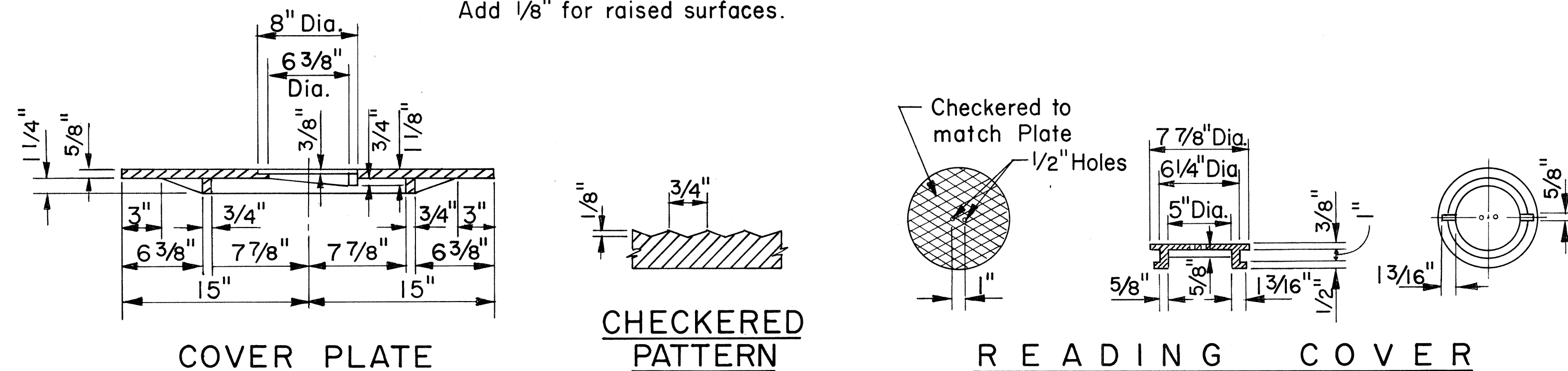
TYPE III METER BOX

FIGURE 29



FRAME

NOTE:
Thickness dimensions are net.
Add 1/8" for raised surfaces.



COVER PLATE

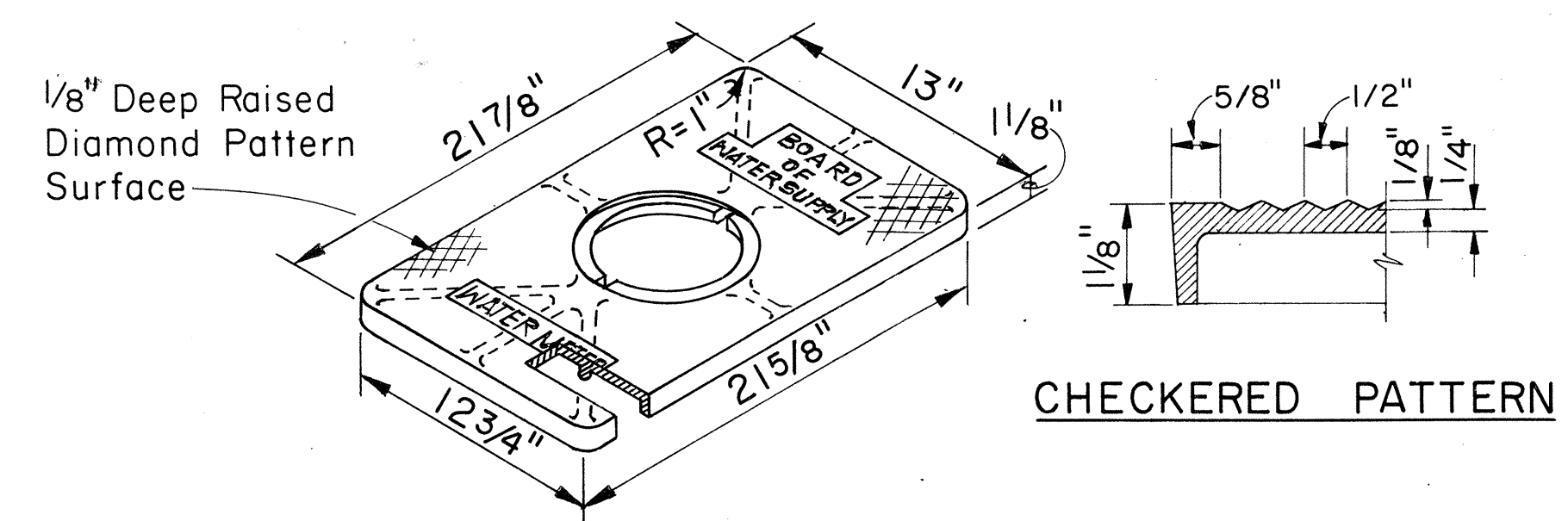
CHECKERED PATTERN

READING COVER

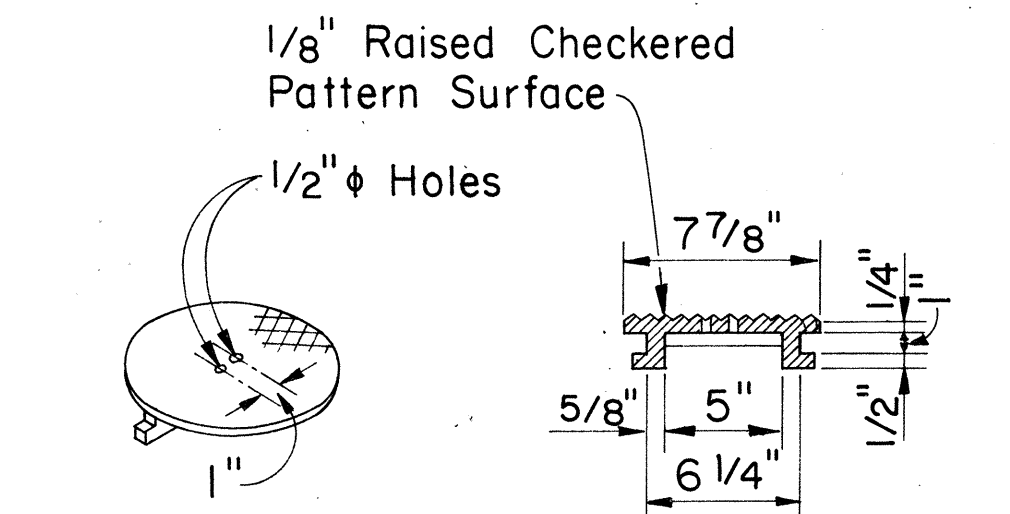
CAST IRON FRAME, PLATE AND COVER
TYPE III

FIGURE 28

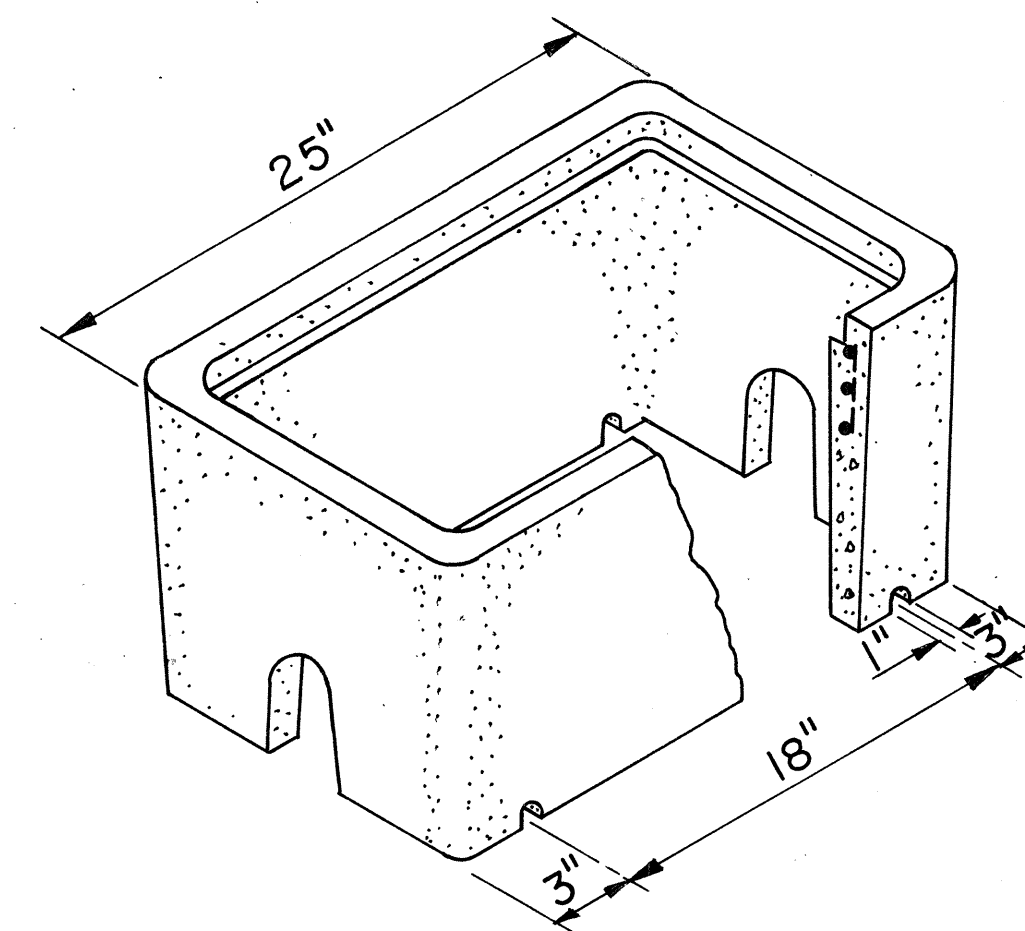
NOTE:
Thickness dimensions are net.
Add 1/8" for raised surfaces.



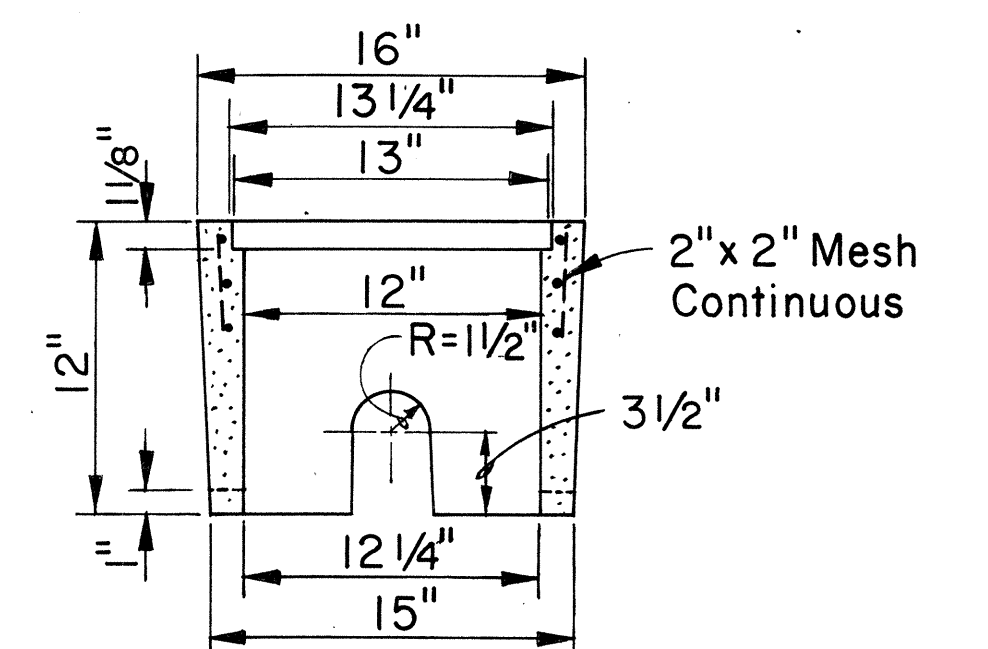
CAST IRON COVER
WT. = 36 LBS.



CAST IRON READING COVER



CONCRETE BOX
WT. = 107 LBS.



METER BOX AND COVER
TYPE "X"

FIGURE 30

APPROVED:
[Signature]
ASSISTANT CHIEF ENGINEER
BOARD OF WATER SUPPLY
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
BOARD OF WATER SUPPLY

SHEET No. 13 OF 16 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-0174	1973	26	28

Legend: Traffic Signals

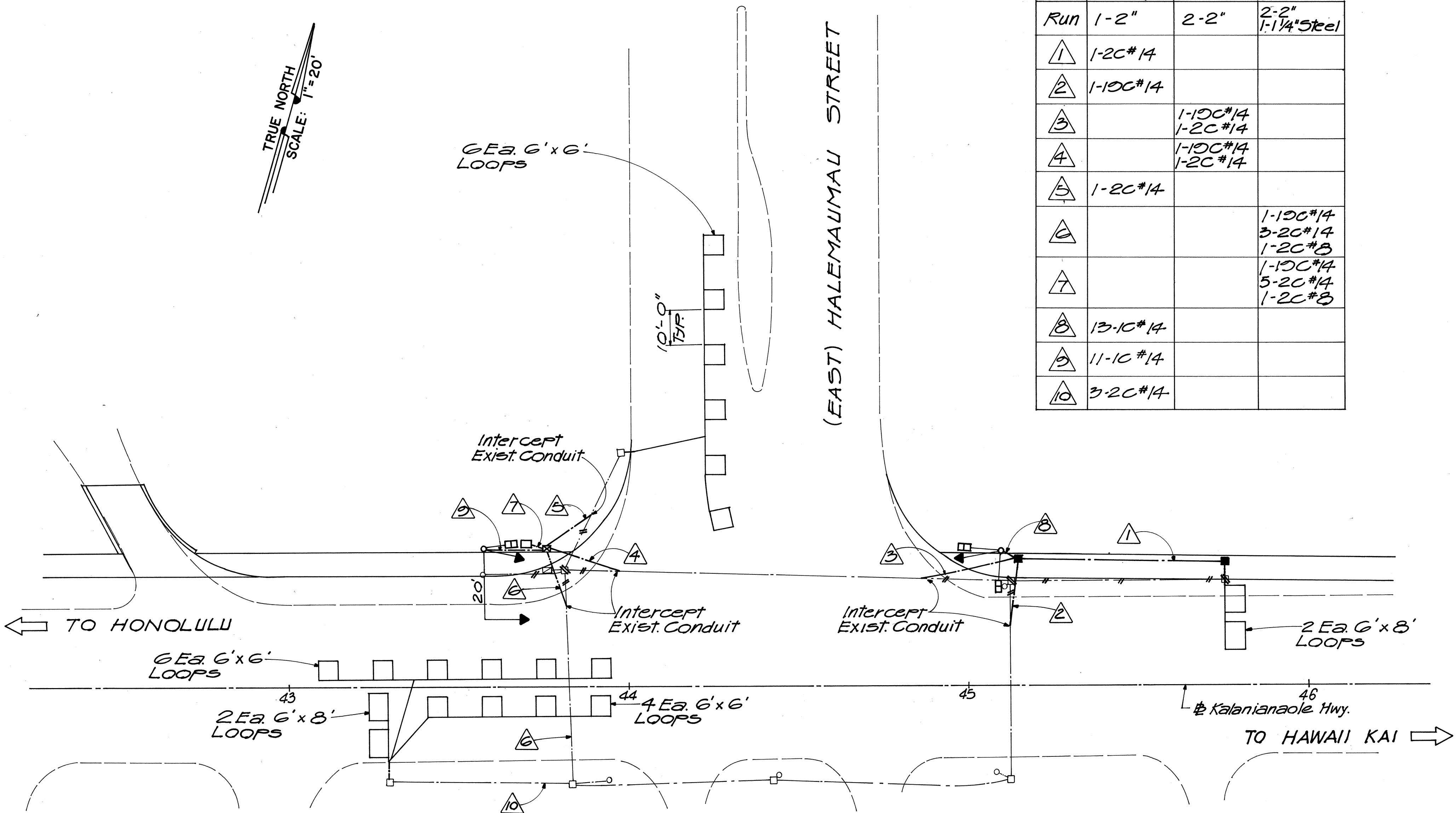
- → Relocated Traffic Signal Standard w/12" Lens Assembly.
- Relocated Mastarm Standard w/12" Lens Assembly. Mastarm Length As Indicated.
- □ Relocated Pedestrian DW-W Signal Standard.
- □ New Vehicle Loop Detectors.
- ☒ New Type "A" Pullbox
- New Type "B" Pullbox
- Relocated Controller in Type "M" Cabinet.
- ☒ Existing Controller in Type "M" Cabinet to be relocated by others.
- △ Existing Conduit To Be Used. See Conduit & Cable Schedule For No. & Size.
- △ Existing Conduit To Be Abandoned.
- Existing Pullbox To Be Used.
- ☒ Existing Pullbox To Be Removed.
- Existing Signal Standard.

General Notes: Traffic Signals

- The Exact Location Of Traffic Signal Standards, Mastarms, Pullboxes, Controller Bases & Conduits Shall Be Determined In The Field By The Engineer.
- Existing Cables, Conduits, Pullboxes & Loop Detectors Not Incorporated In The Final Signal System Shall Be Abandoned Or Removed As Directed By The Engineer. All Costs Incidental To Traffic Signal System On Kalanianaʻole Highway At East Halemaumau Street.
- The Contractor Shall Verify Location & Condition Of Existing Traffic Signal Equipment To Be Reused.
- Location Of Existing Underground Utilities Are Shown On Plan Shts. No.3 Thru5.
- New 2" Conduits Under Roadway (Including Driveways) Shall Be Steel. Contractor Shall Have The Option Of Using PVC For New 2" Conduits Not Under Roadway.
- Contractor Shall Notify "CARL HAGIHARA" Of The City And County Of Honolulu, Dept. Of Transportation Services (Phone 5467030) 3 Working Days Prior To Doing Any Work On The Traffic Signal System.

Traffic Signals Conduit & Cable Schedule

Run	1-2"	2-2"	2-2" 1-1/4" Steel
1	1-2C#14		
2	1-10C#14		
3		1-10C#14 1-2C#14	
4		1-10C#14 1-2C#14	
5	1-2C#14		
6			1-10C#14 3-2C#14 1-2C#5
7			1-10C#14 5-2C#14 1-2C#5
8	13-10C#14		
9	11-10C#14		
10	3-2C#14		



TRAFFIC SIGNAL SYSTEM AT (EAST) HALEMAUMAU ST.
Scale: 1" = 20'

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	
NO.	

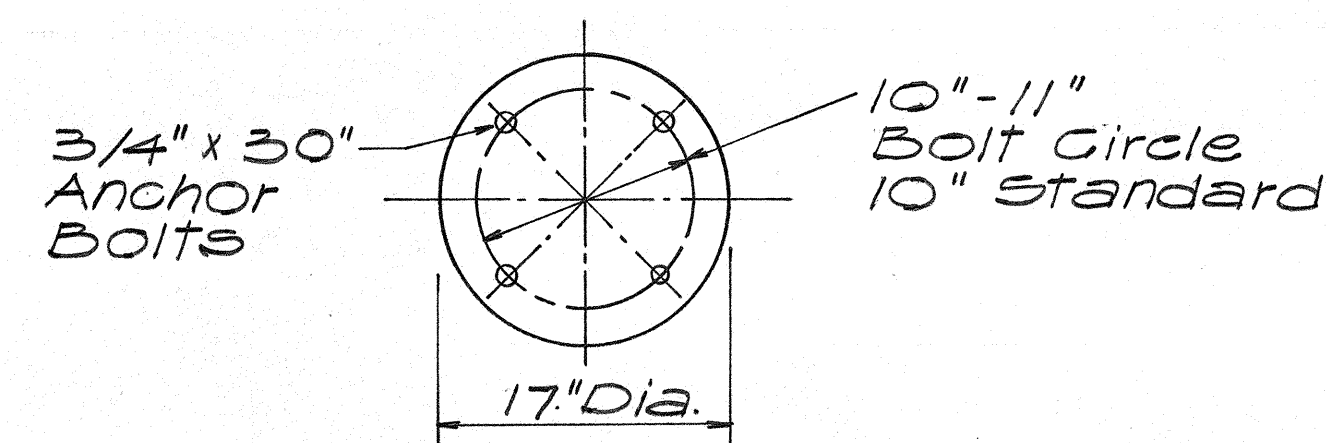
5/13/74	Deletion of Bituminous Curb Type 6 and 6" white pavement striping.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

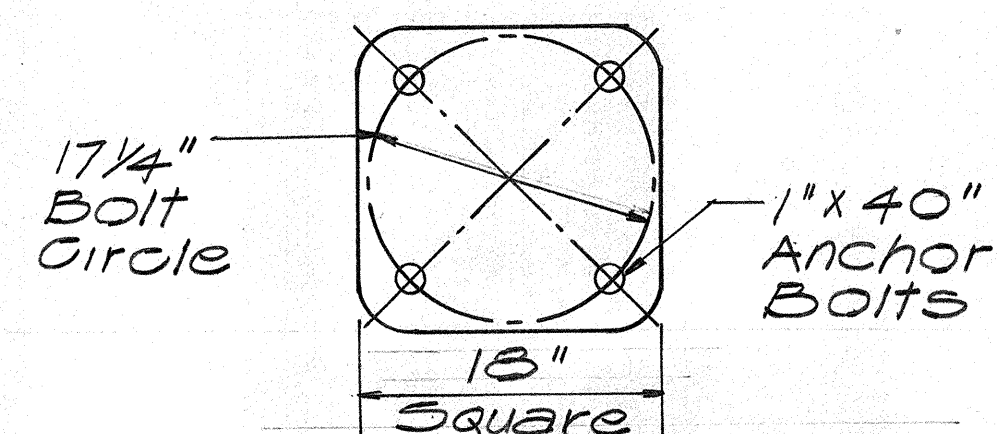
TRAFFIC SIGNAL SYSTEM
KALANIANAʻOLE HIGHWAY
Intersection Improvements At (E.) Halemaumau St.
Proj. No. 72C-01-74
Scale: As Shown
Oct. 1973

SHEET No. 14 OF 16 SHEETS

DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74/1973	27	28	



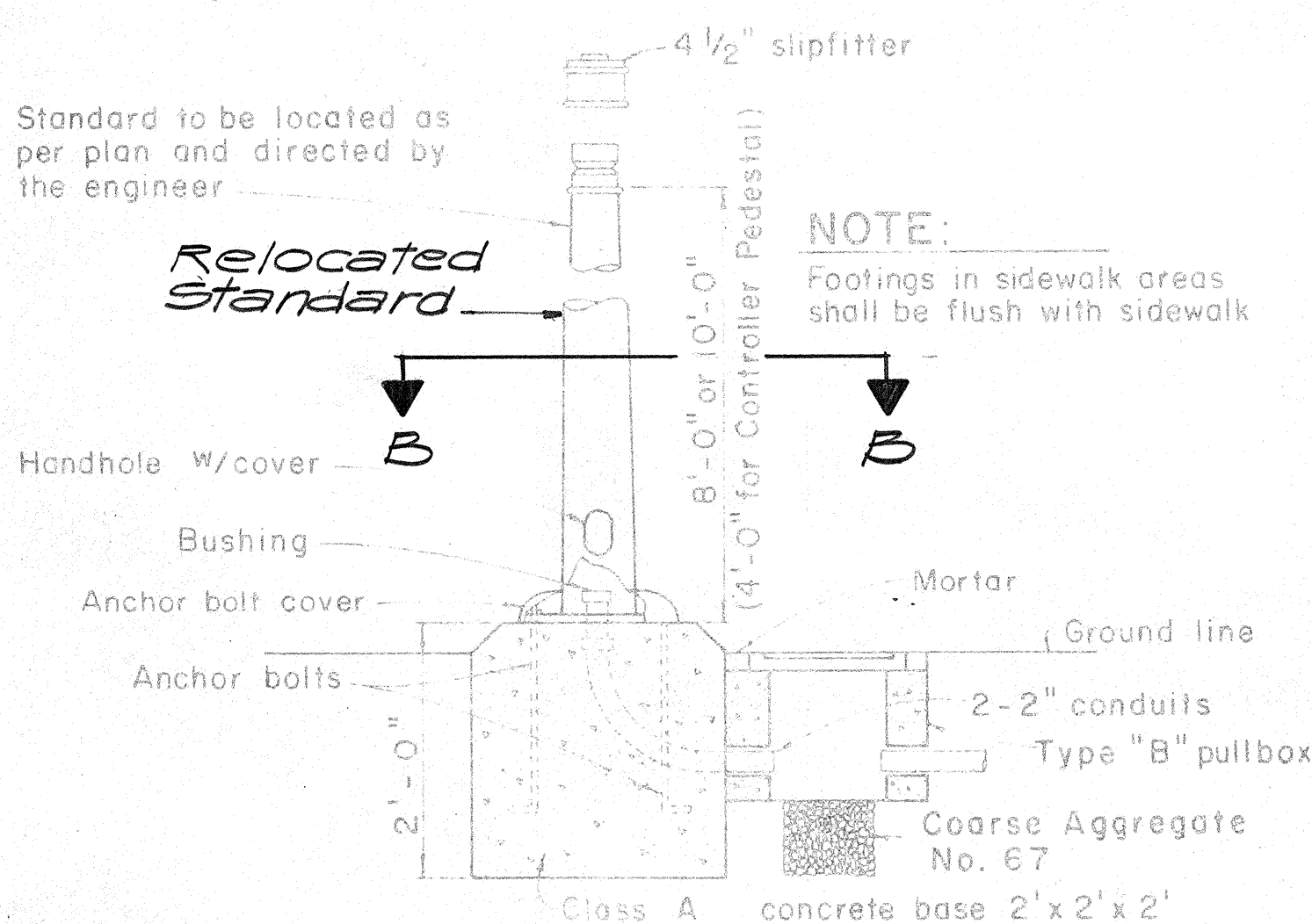
SECTION "B-B"



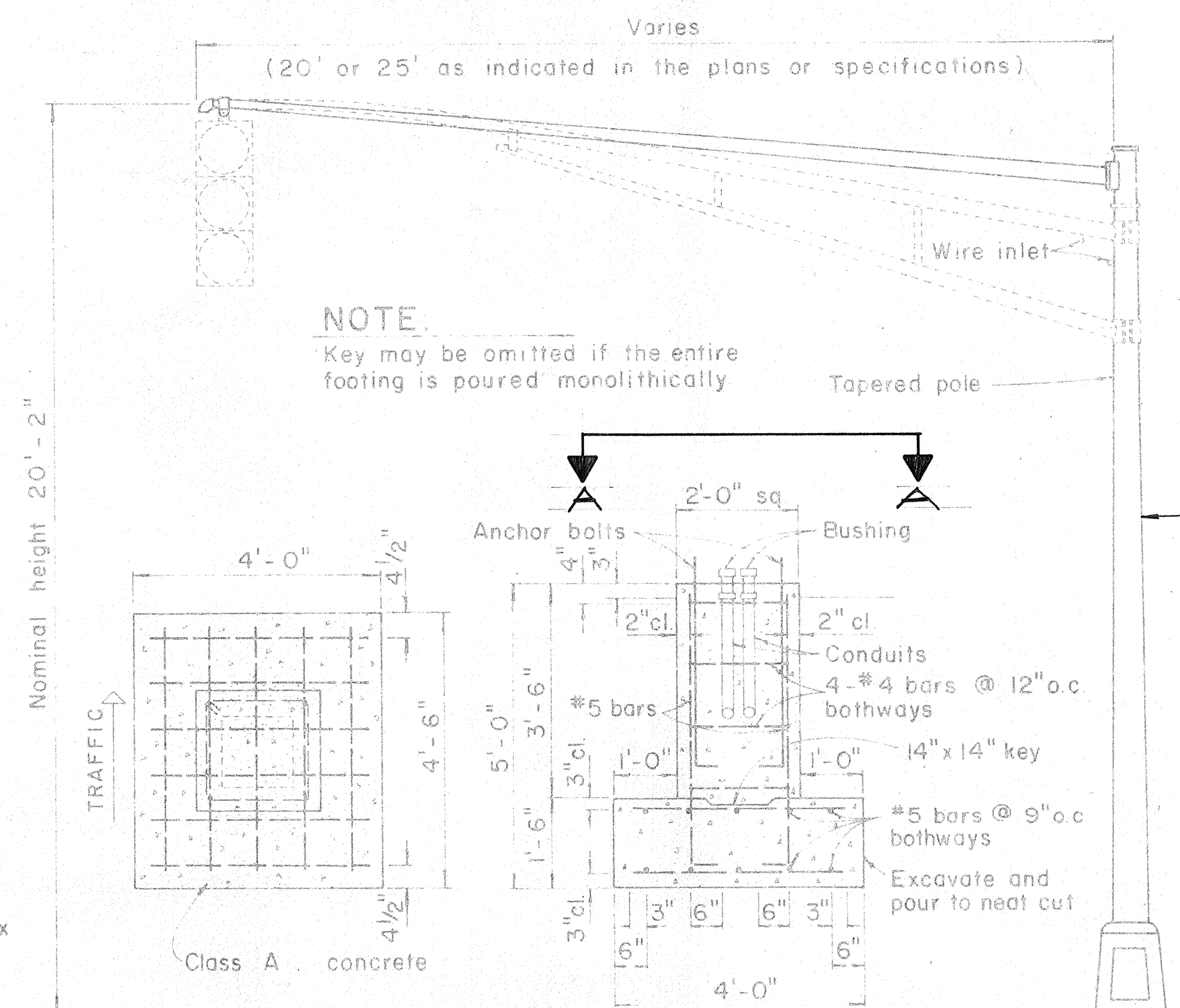
SECTION "A-A"

NOTE:
Contractor To Verify
All Dimensions In The
Field.

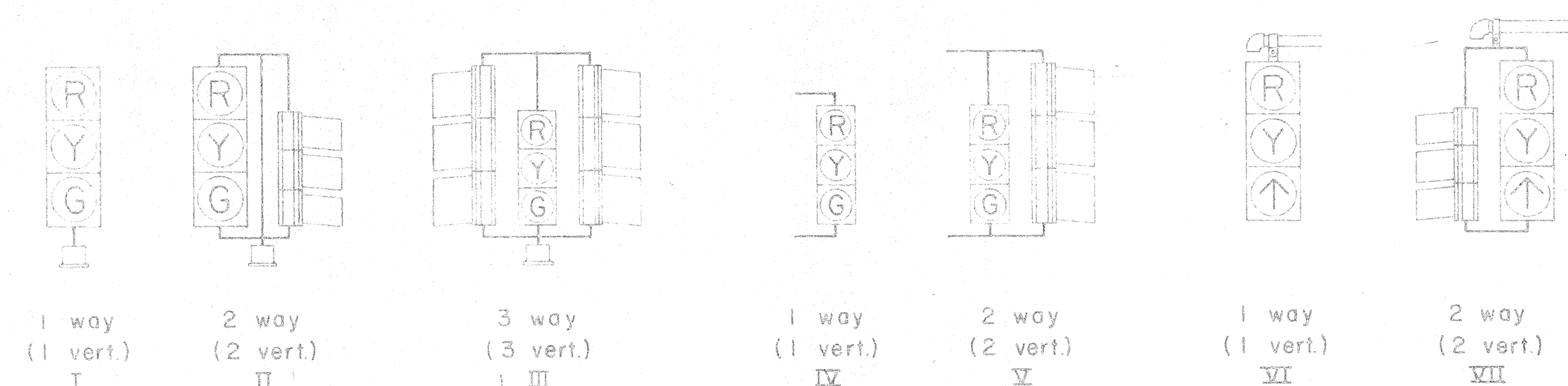
ANCHOR BOLT DATA AND PLAN



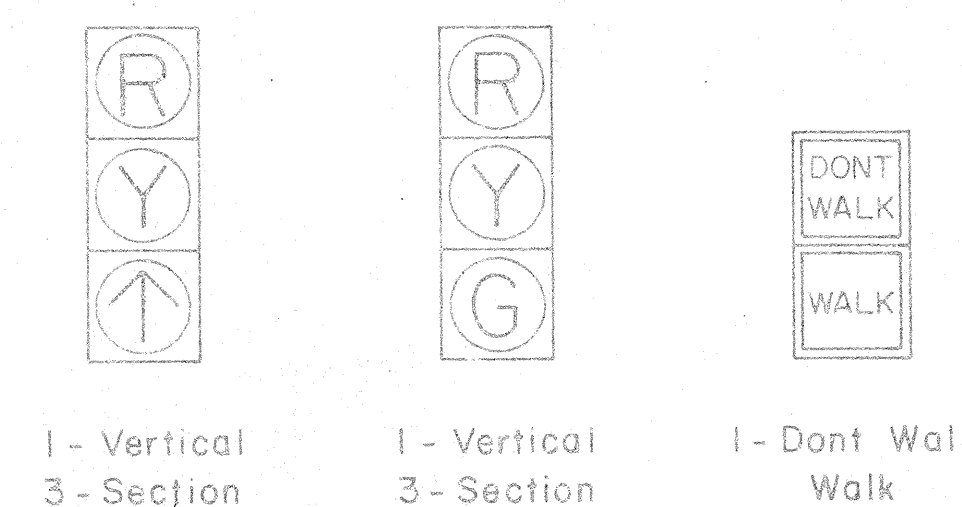
FOOTING FOR SIGNAL STANDARD



MAST ARM FOOTING
AND STANDARD



TYPICAL VEHICULAR AND PEDESTRIAN SIGNAL MOUNTINGS

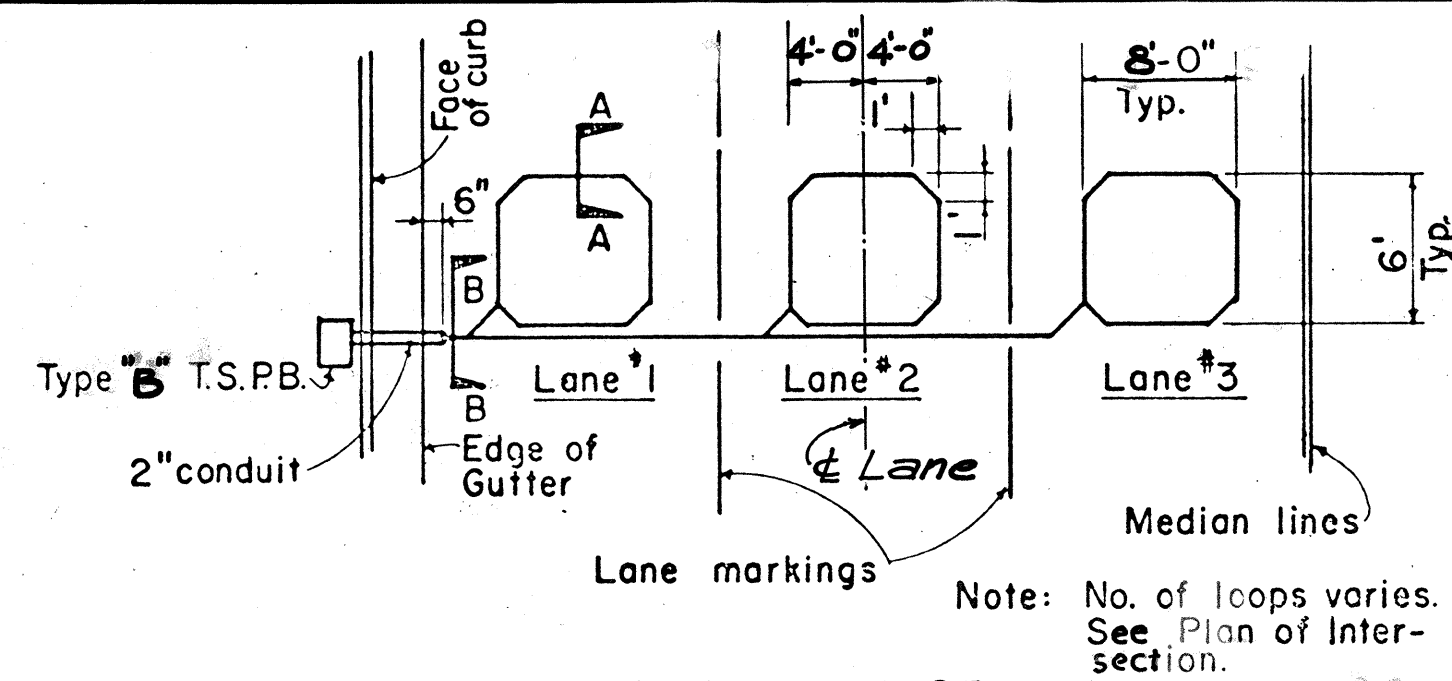


TYPICAL SIGNAL ARRANGEMENTS

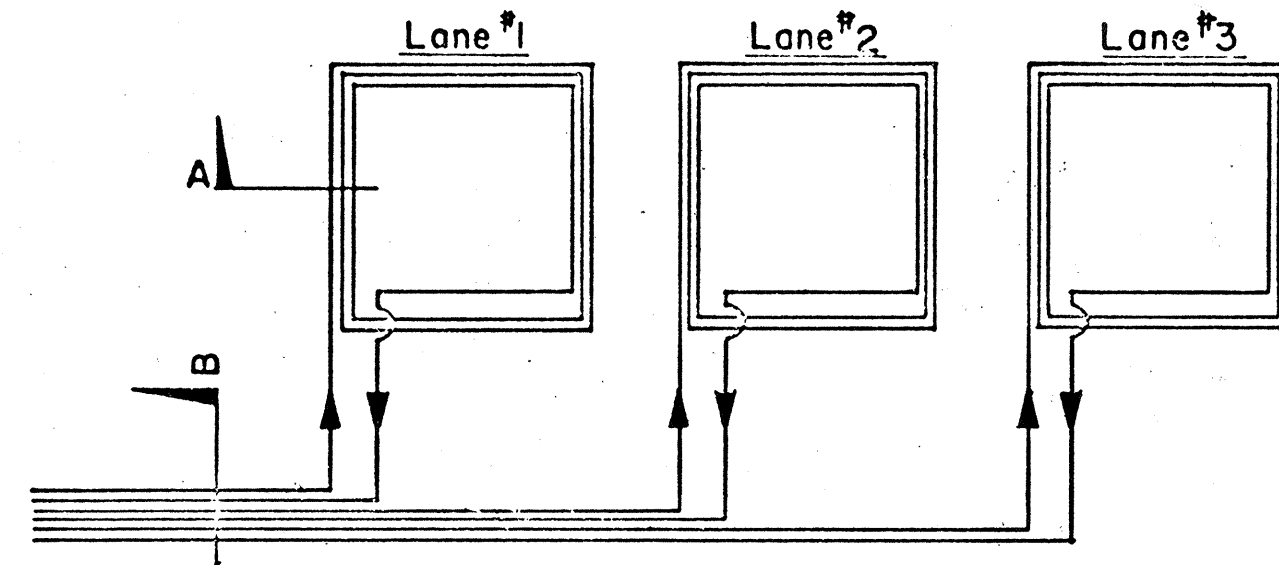
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS OF
TRAFFIC SIGNAL SYSTEM
KALANIANA'OLE HIGHWAY
INTERSECTION IMPROVEMENTS AT (E) HALEMAUIMAU ST.
PROJ. NO. 72C-01-74
Not to Scale
OCT. 1973

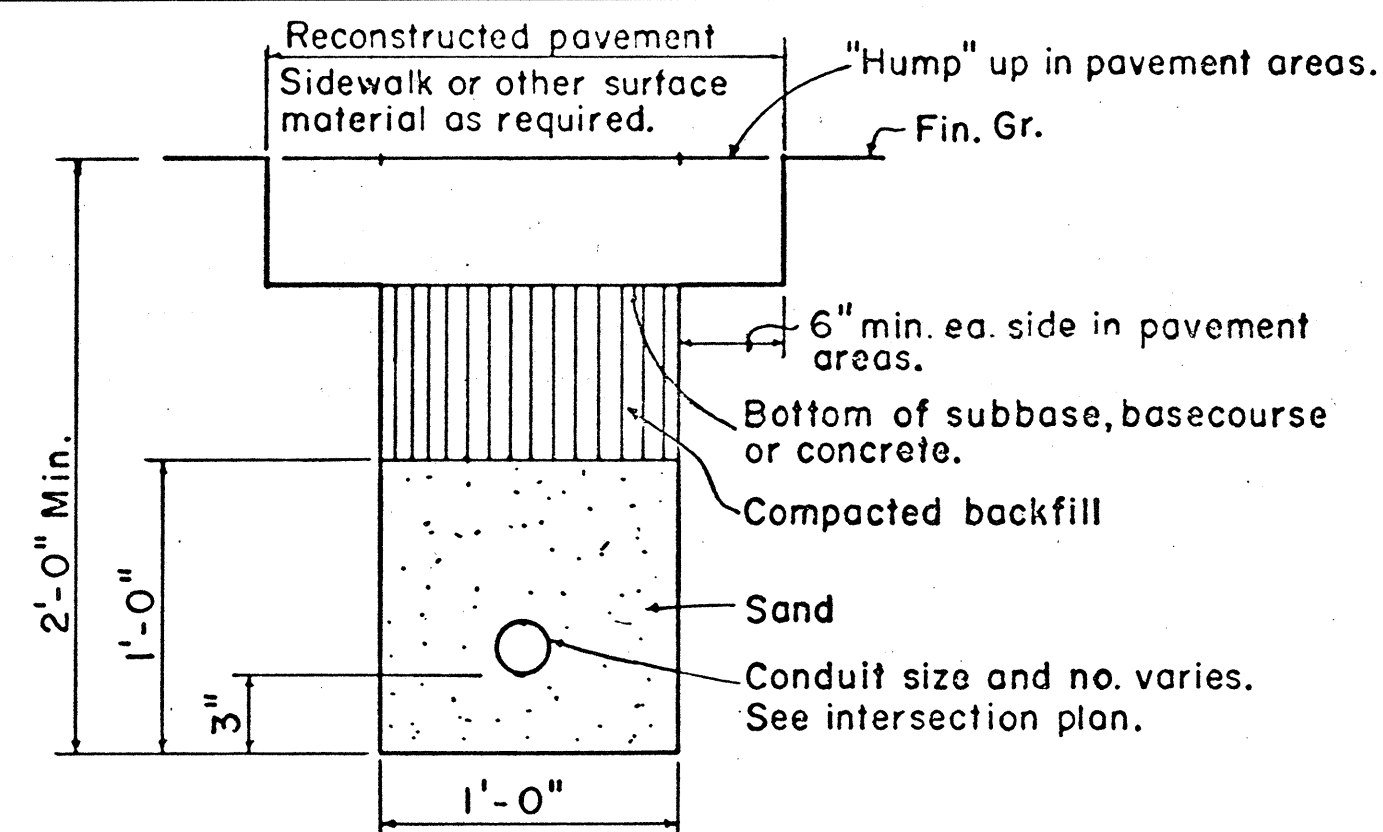
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72C-01-74	1973	28	28



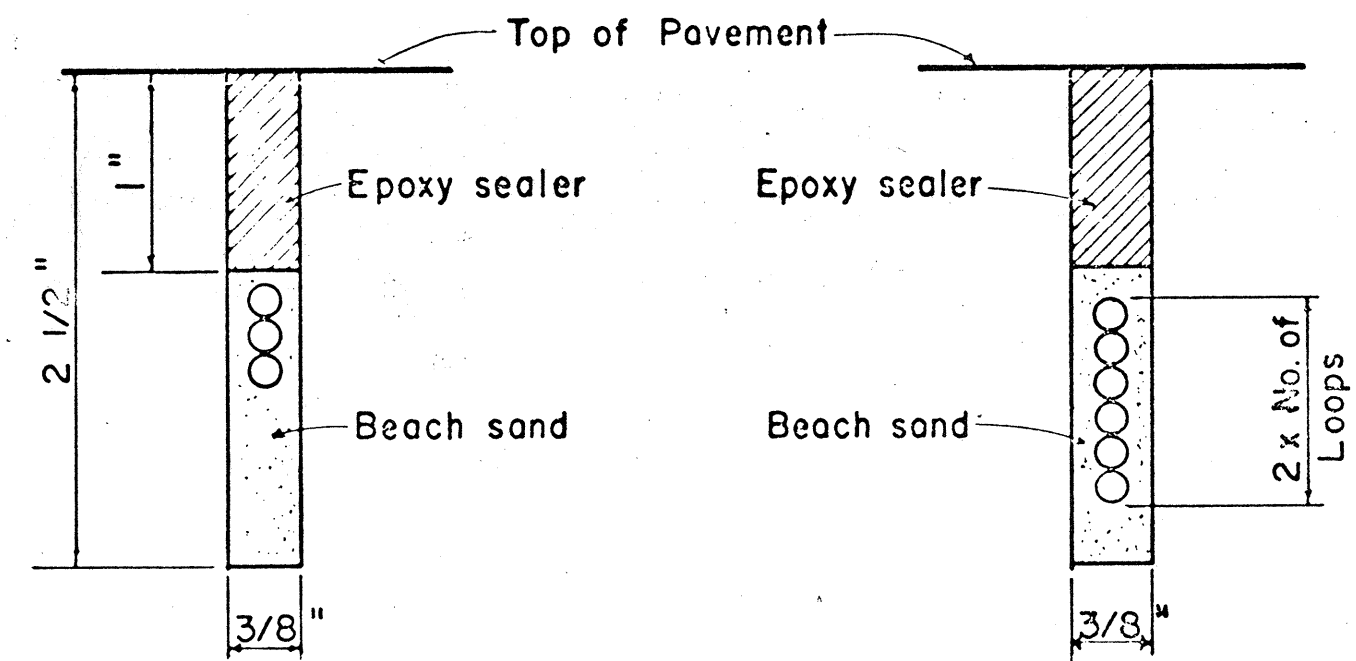
**TYPICAL LAYOUT OF
INDUCTION LOOP DETECTORS**



**DETECTOR LOOP
WIRING DIAGRAM**



TYPICAL TRENCH DETAIL



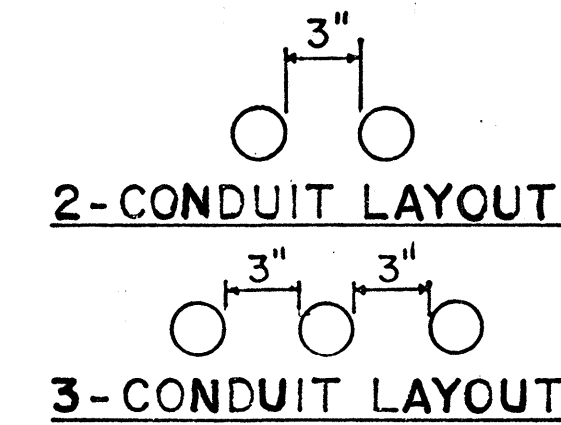
SECTION A-A

SECTION B-B

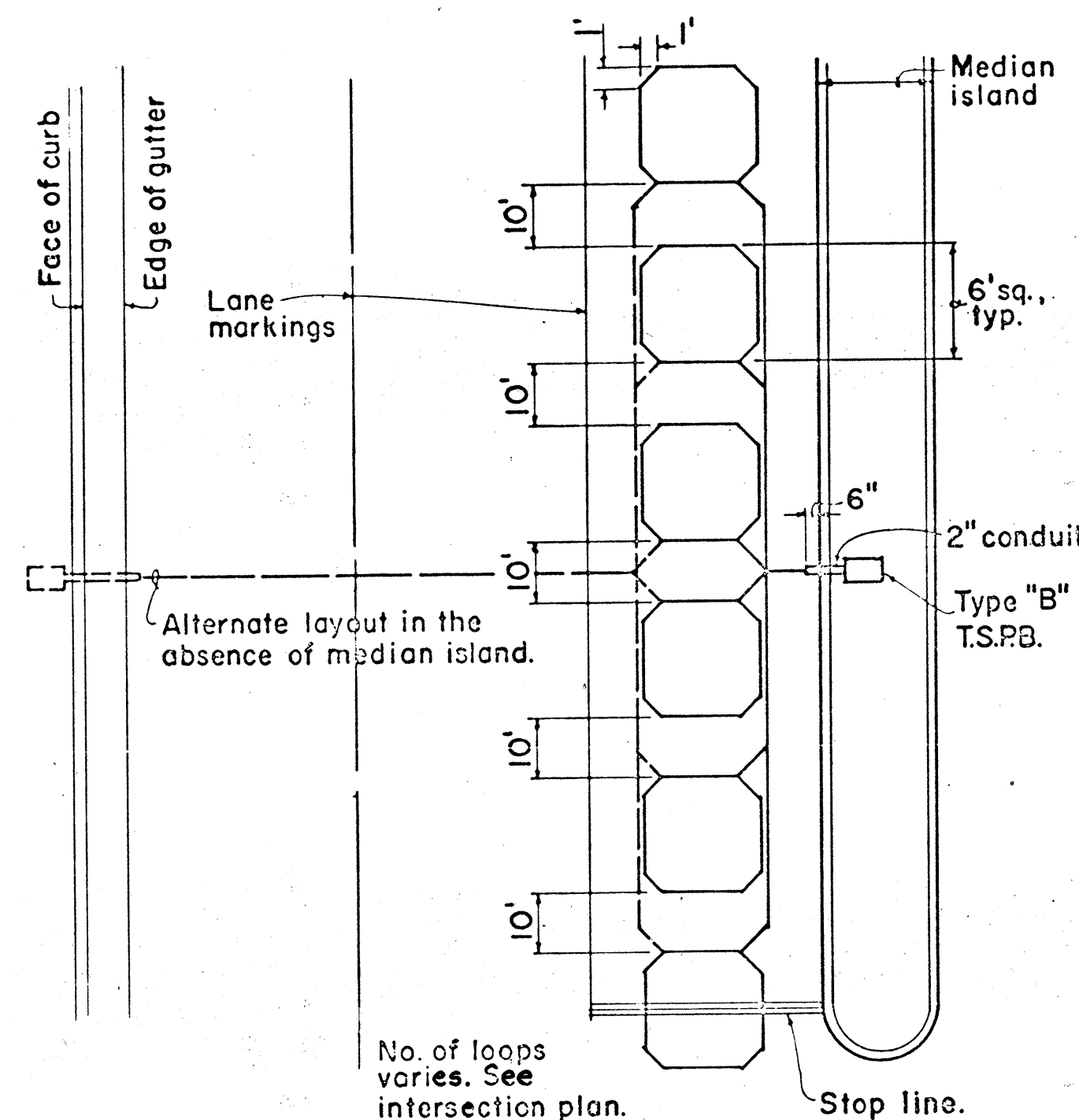
INDUCTION LOOP DETECTORS

INDUCTION LOOP DETECTORS

NOTE: Detail for multiple conduit, trenches shall be similar. Provide 3" clear spacing between conduits.

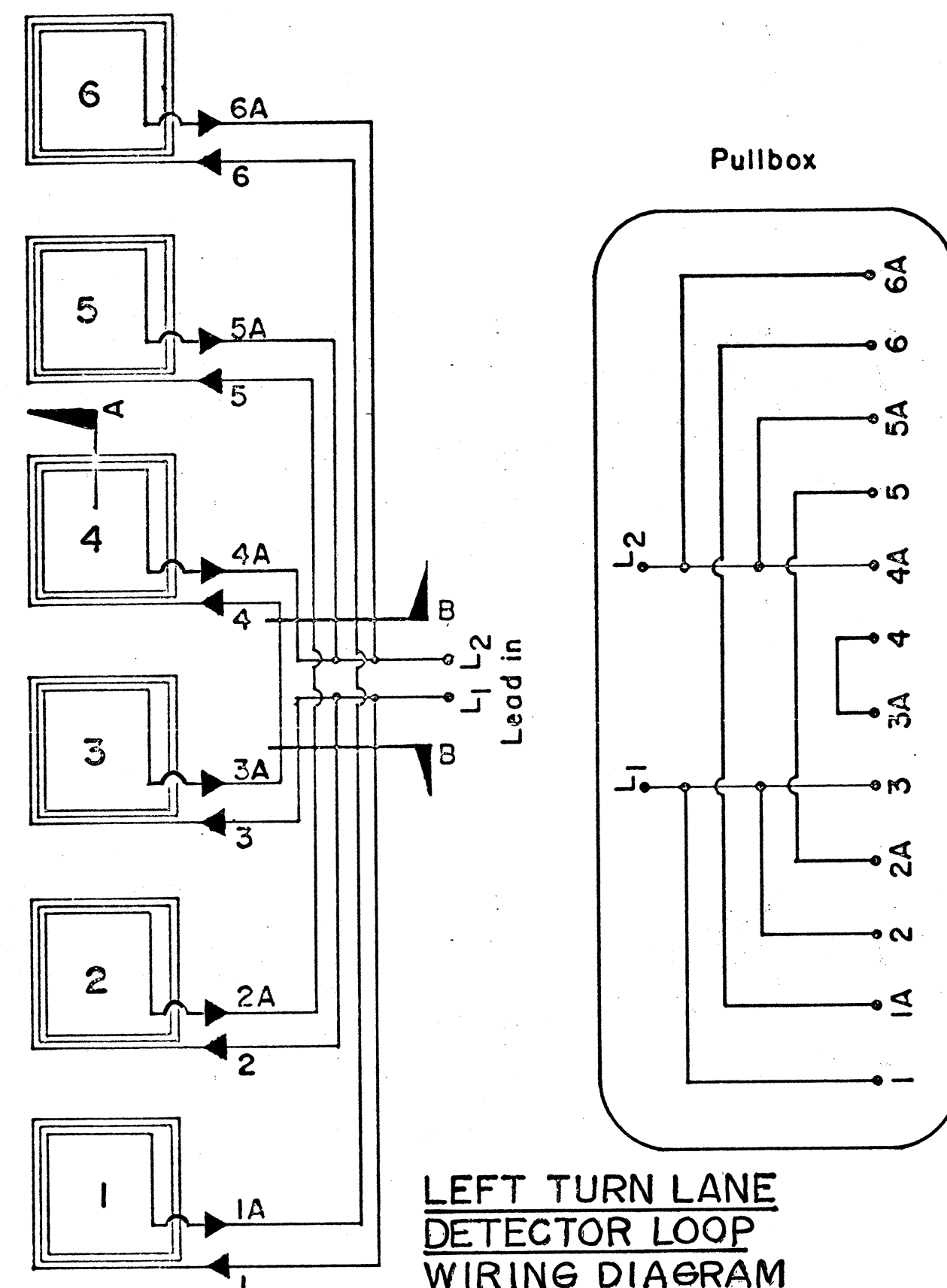


CONDUIT TRENCH DETAIL



**TYPICAL LAYOUT OF INDUCTION LOOP DETECTOR
FOR LEFT TURN LANES**

INDUCTION LOOP DETECTORS



**LEFT TURN LANE
DETECTOR LOOP
WIRING DIAGRAM**

ORIGINAL PLAN	DATE
NOTED BY	DESIGNED BY
QUANTITIES BY	CHECKED BY
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL SYSTEM
KALANIANA'OLE HIGHWAY
Intersection Improvements At (E.) Halemauau St.
Proj. No. 72C-01-74

Not To Scale Oct. 1973
SHEET No. 16 OF 16 SHEETS