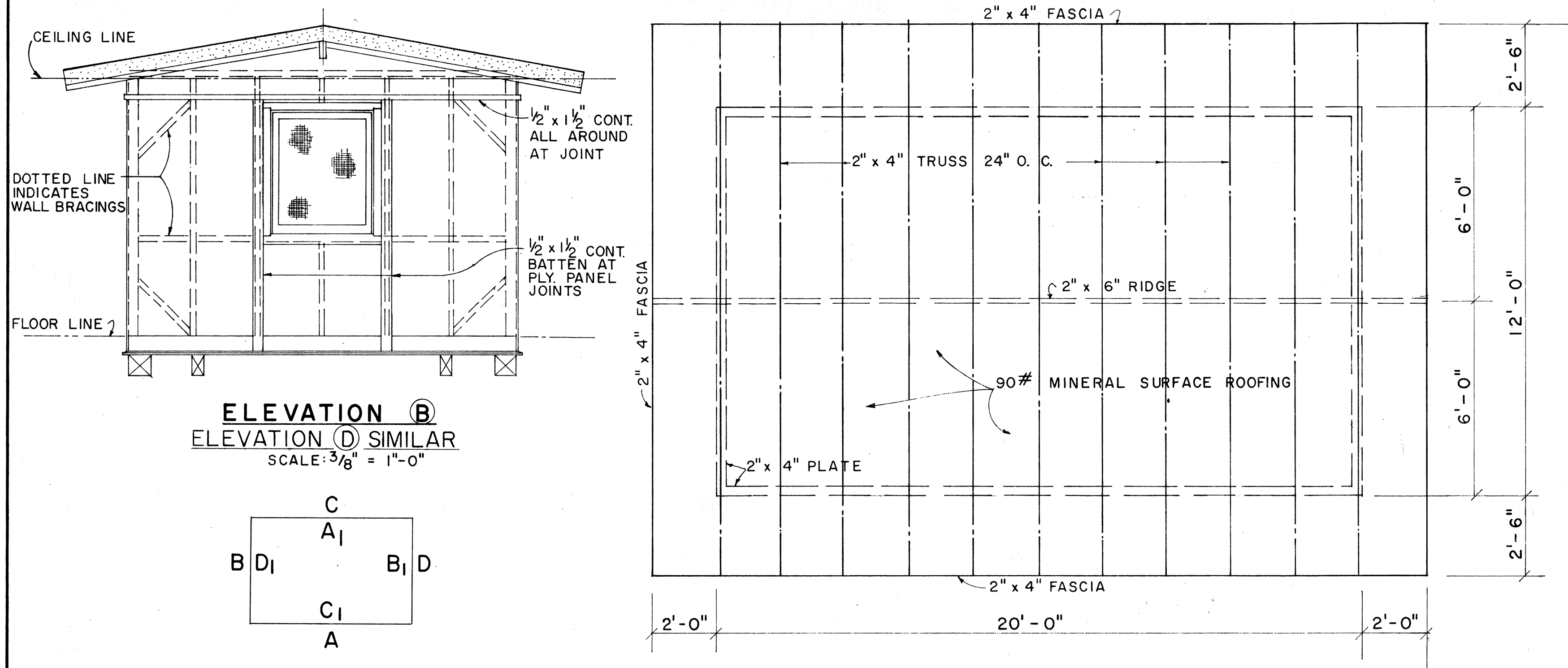
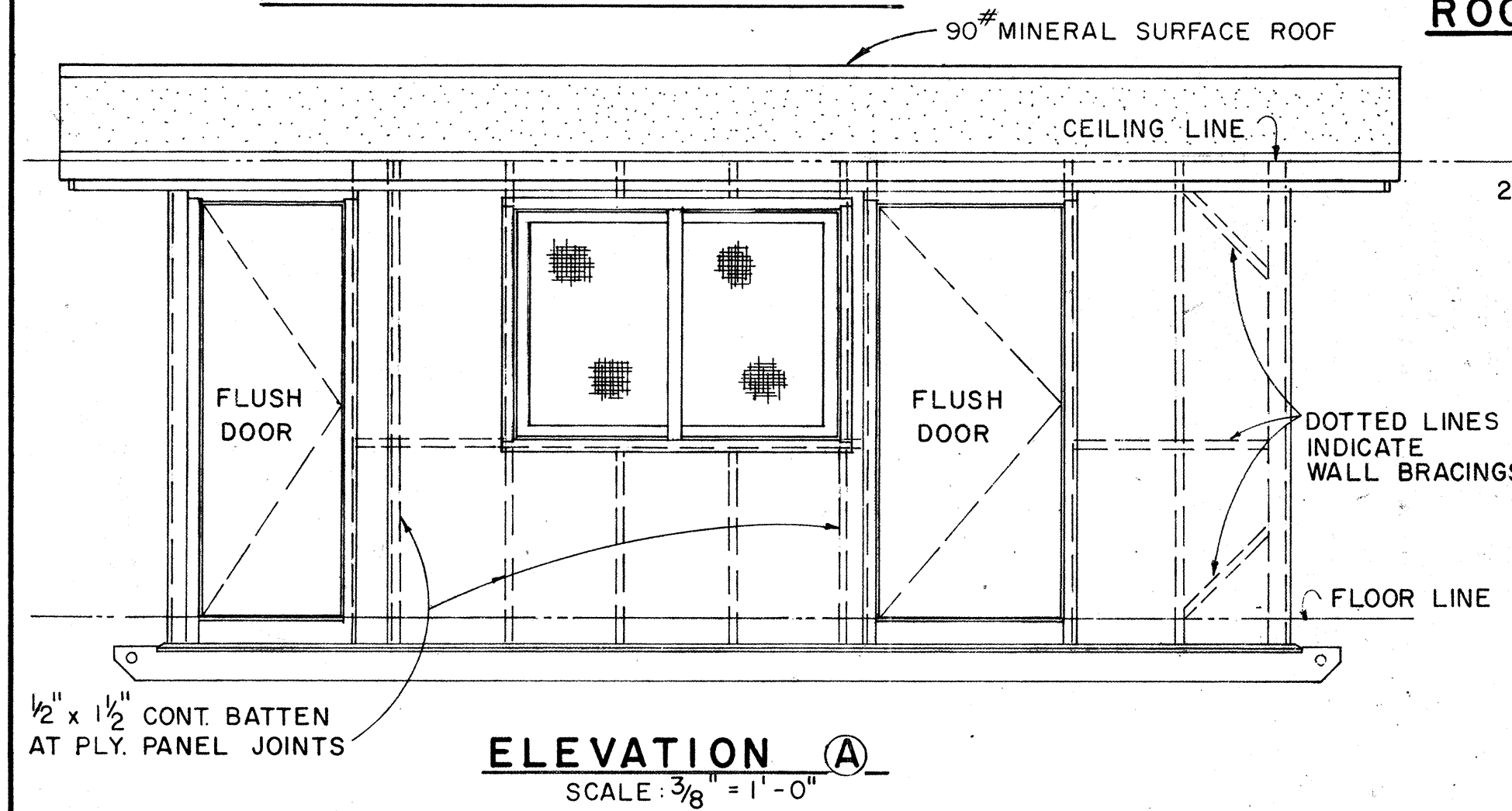


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	RS-0190 (2)	1978	12	35



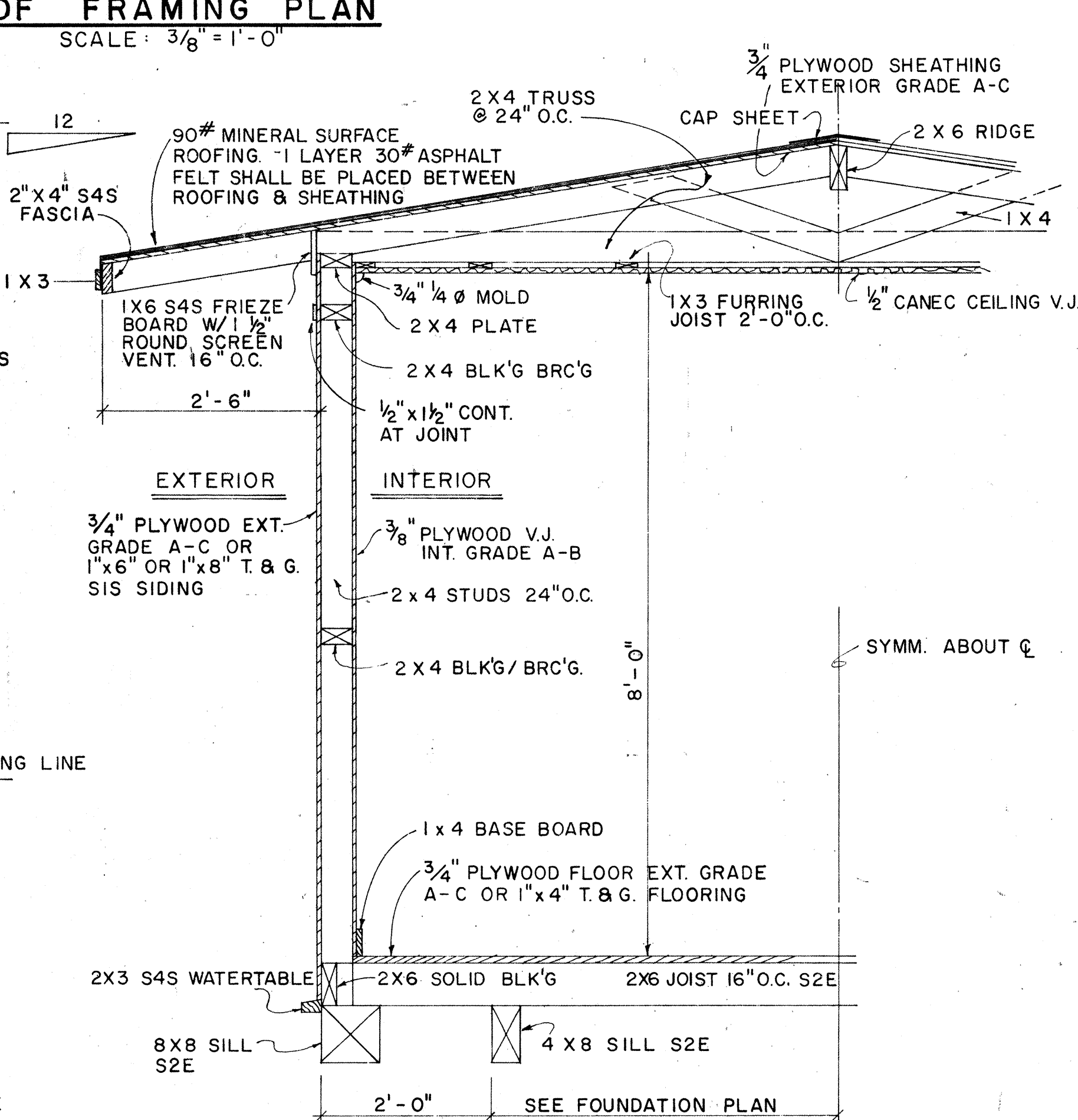
EXTERIOR & INTERIOR KEY

ROOF FRAMING PLAN
SCALE: 3/8" = 1'-0"

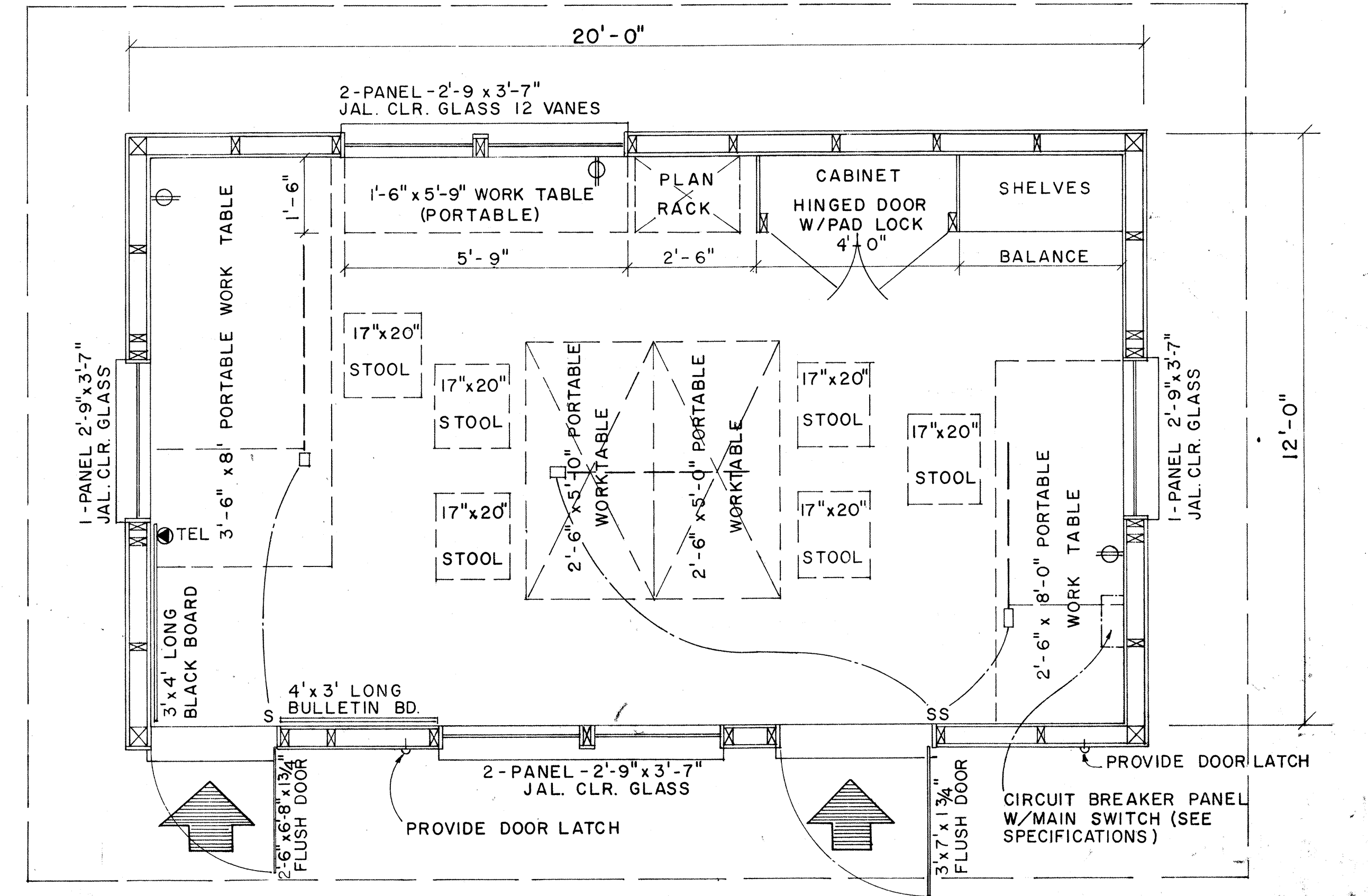


ELEVATION A
SCALE: 3/8" = 1'-0"

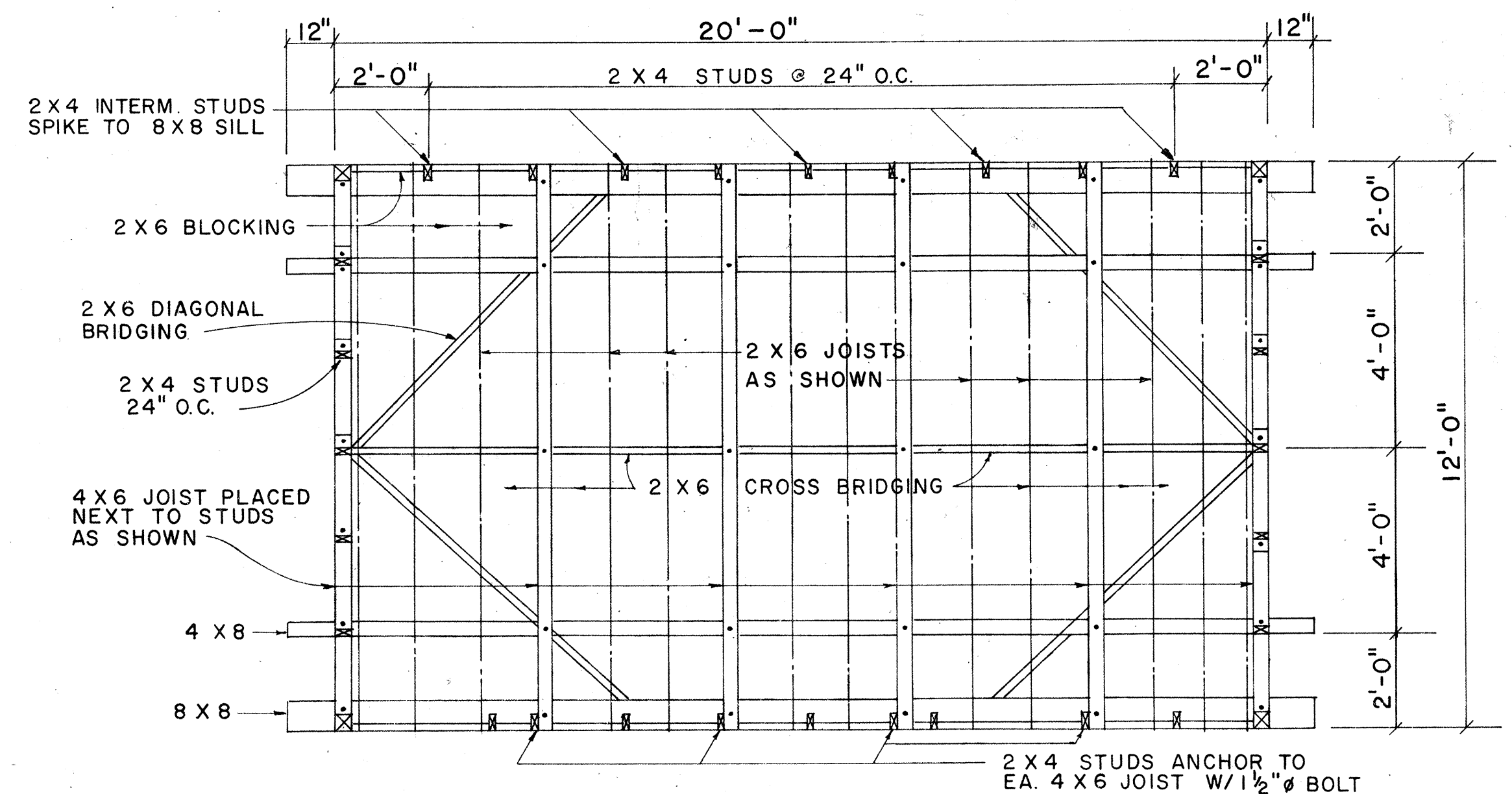
ELEVATION C
SCALE: 3/8" = 1'-0"



TYPICAL WALL SECTION
SCALE: 3/4" = 1'-0"



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



FOUNDATION FRAMING PLAN
SCALE: 3/8" = 1'-0"

APPROVAL RECOMMENDED:
HIGHWAY DESIGN ENGINEER
12-4-69
DATE

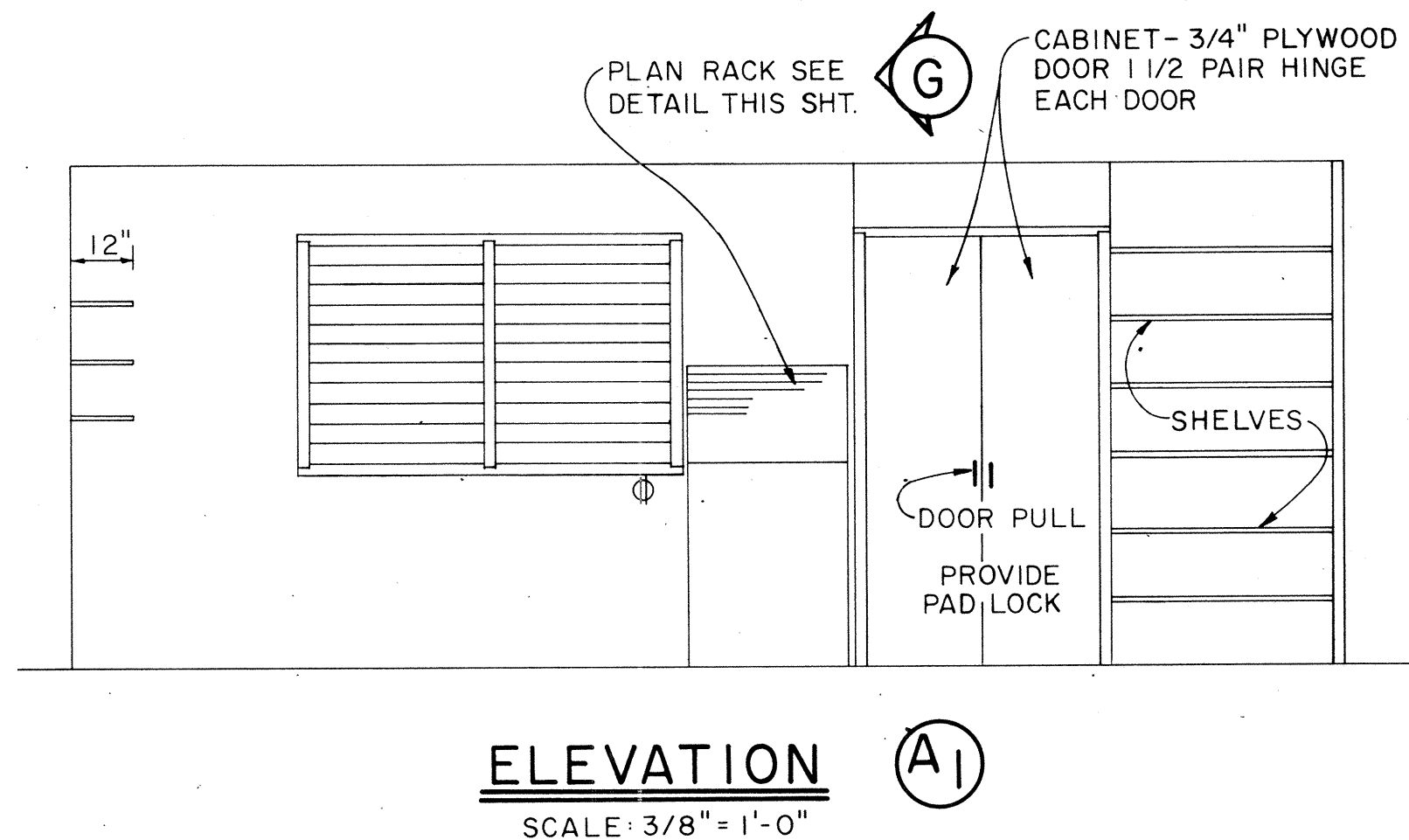
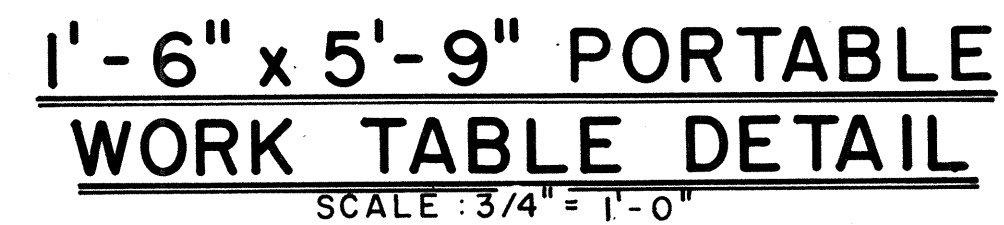
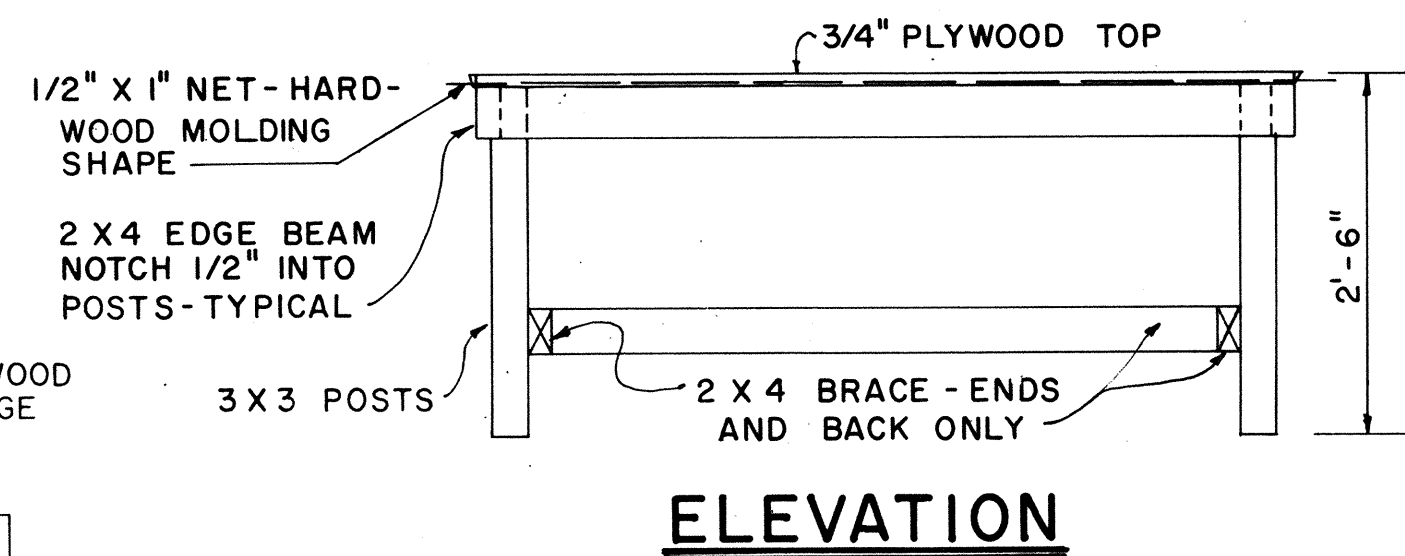
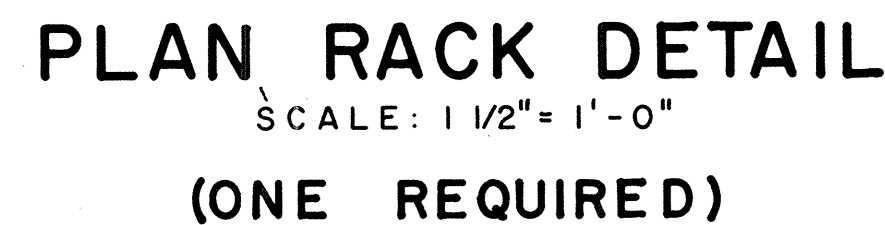
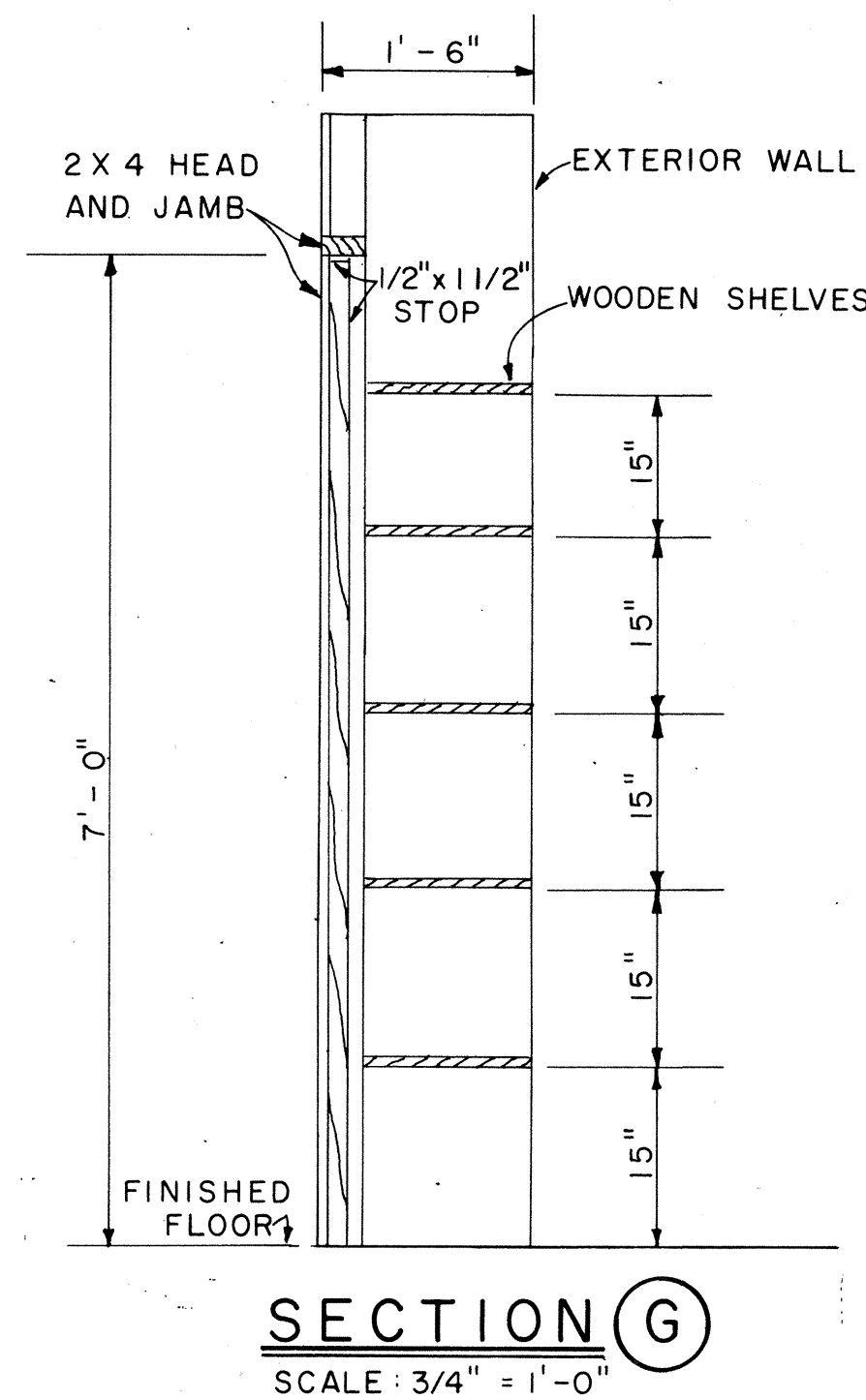
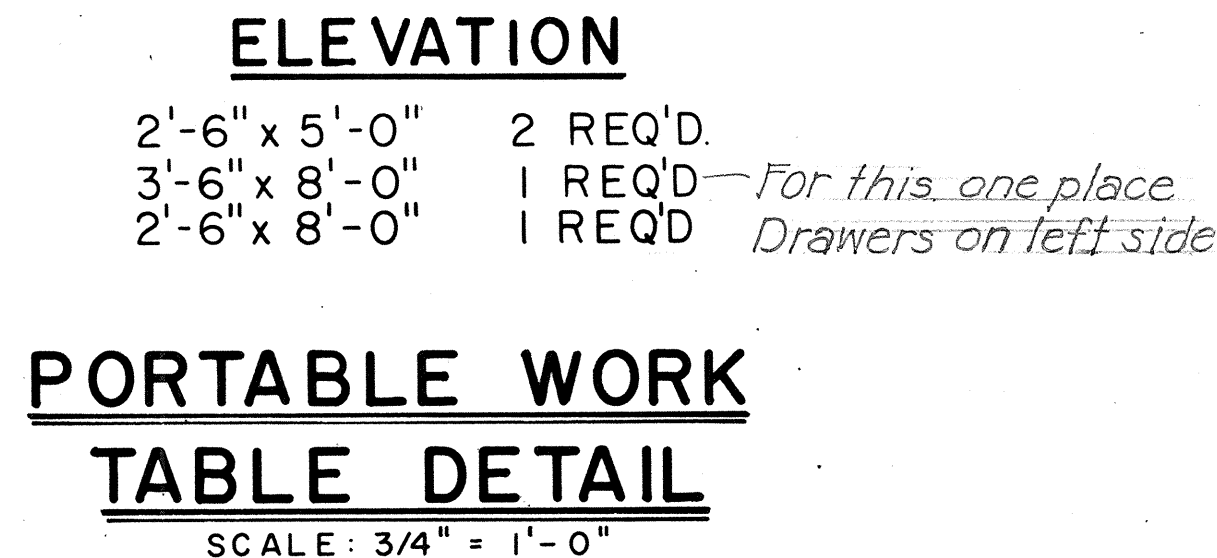
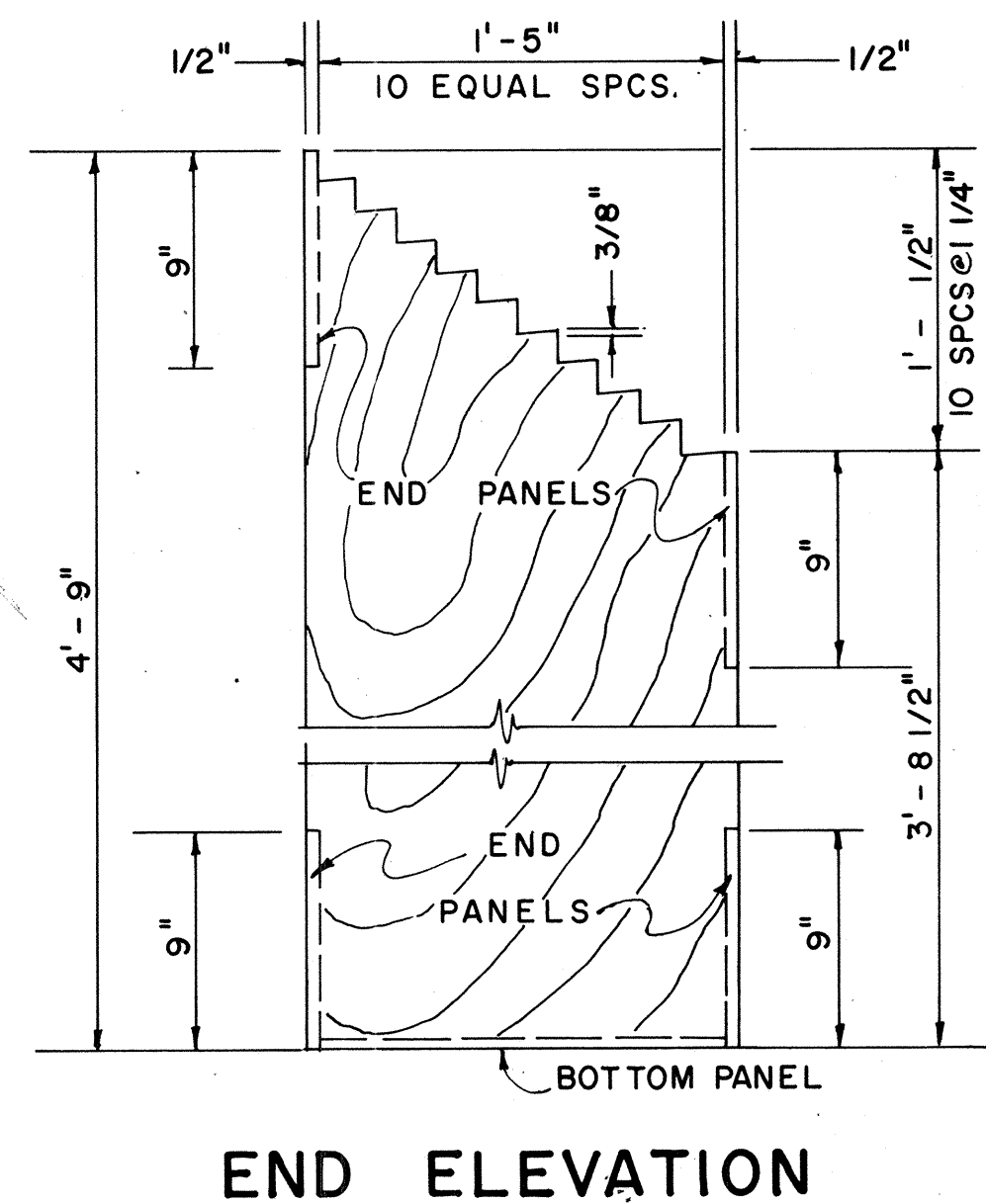
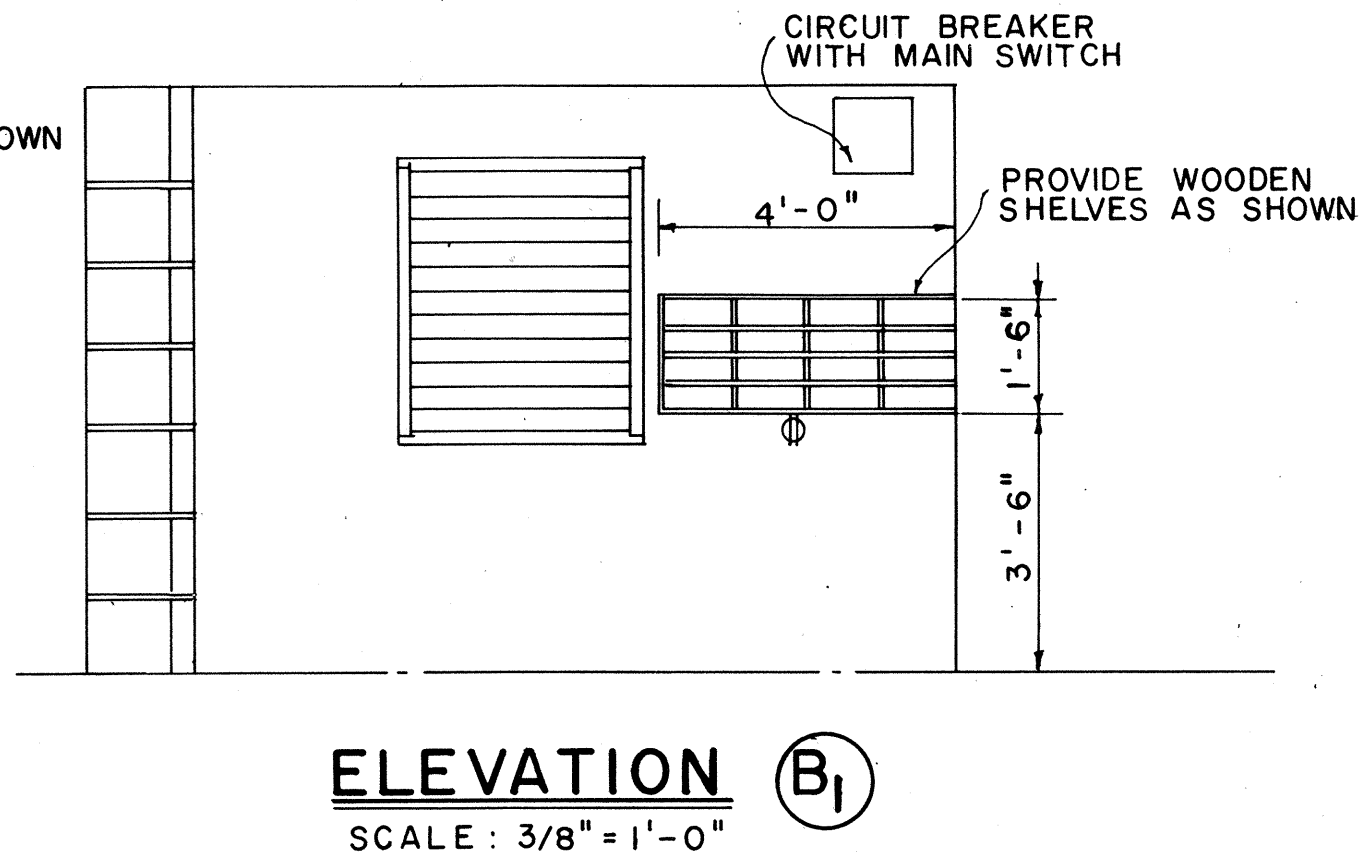
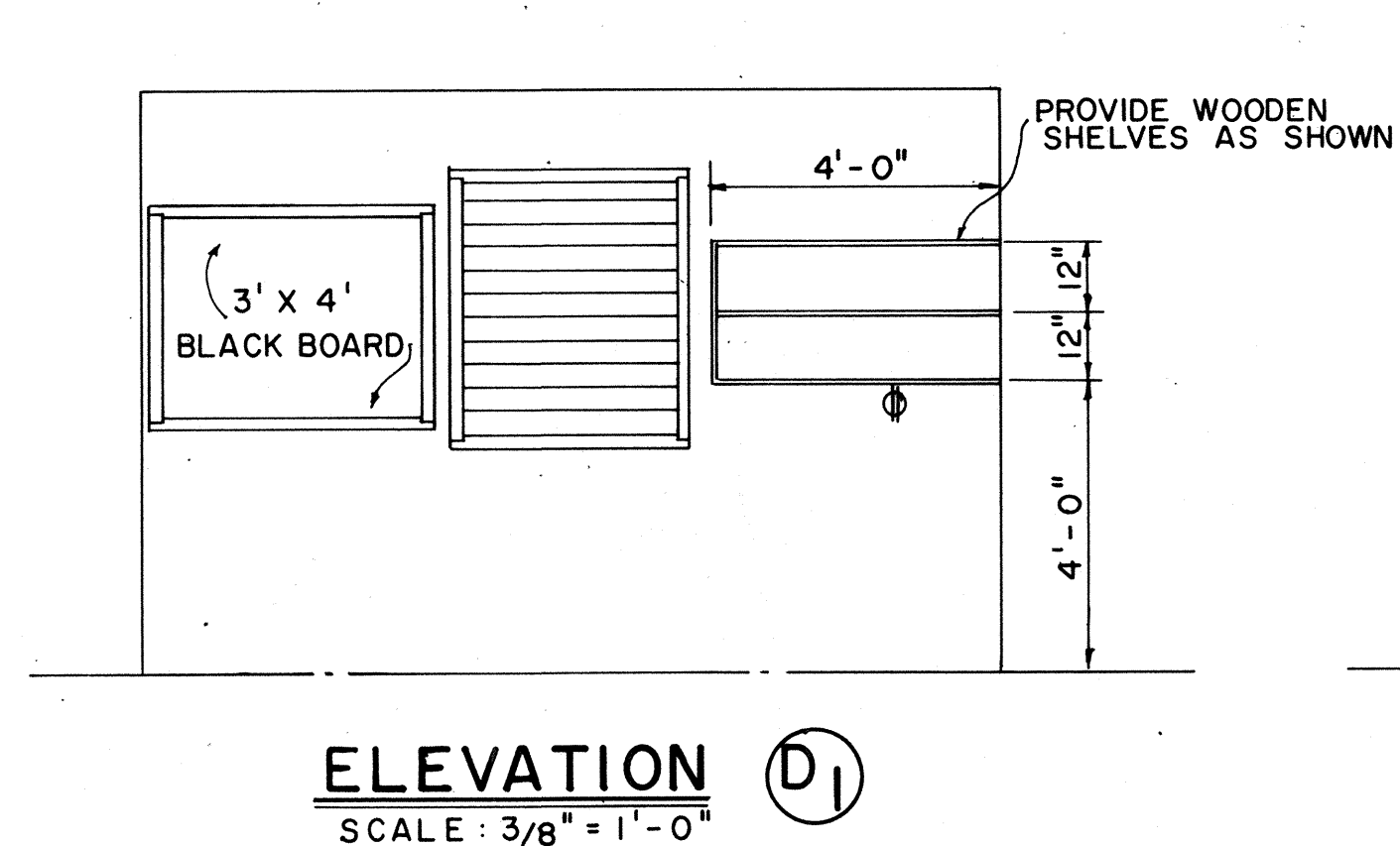
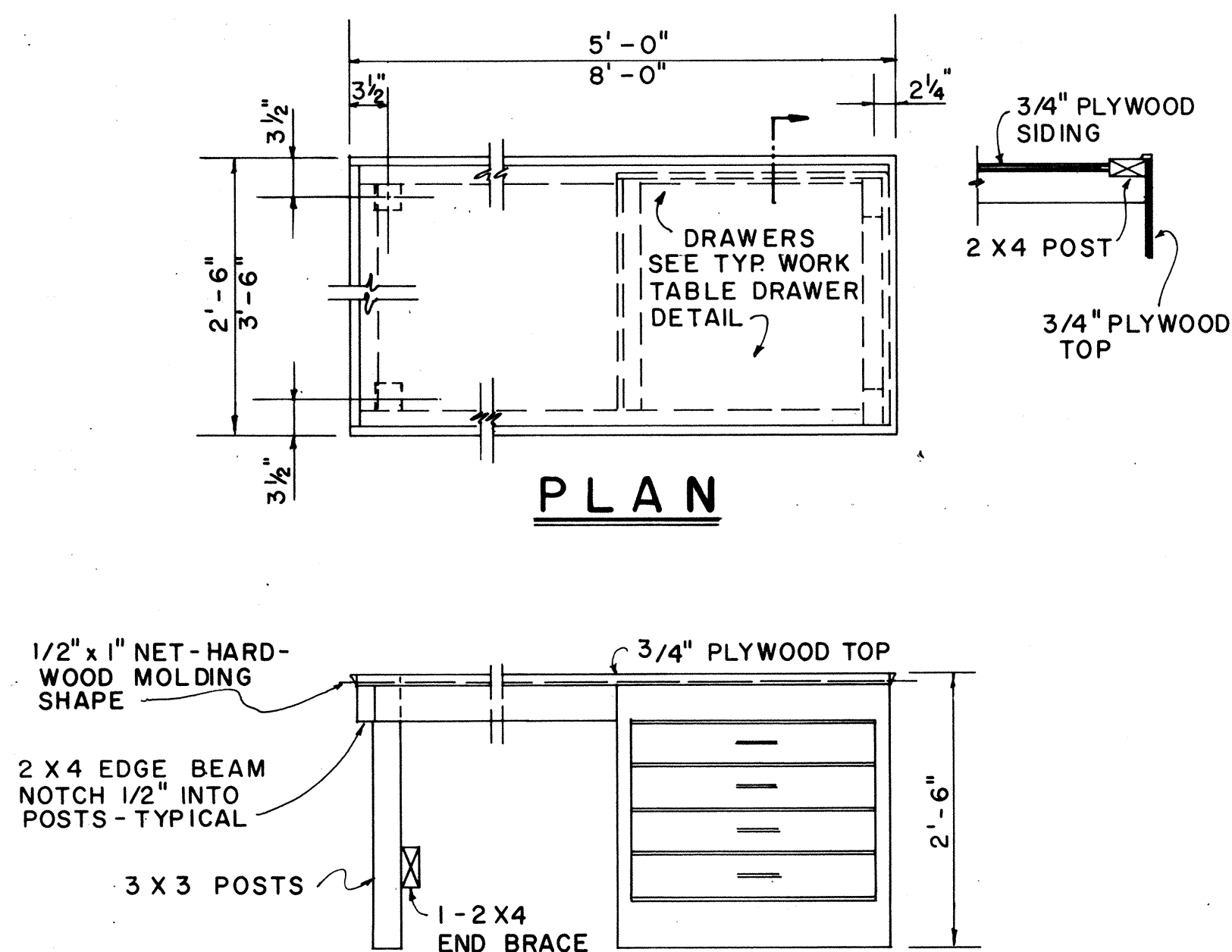
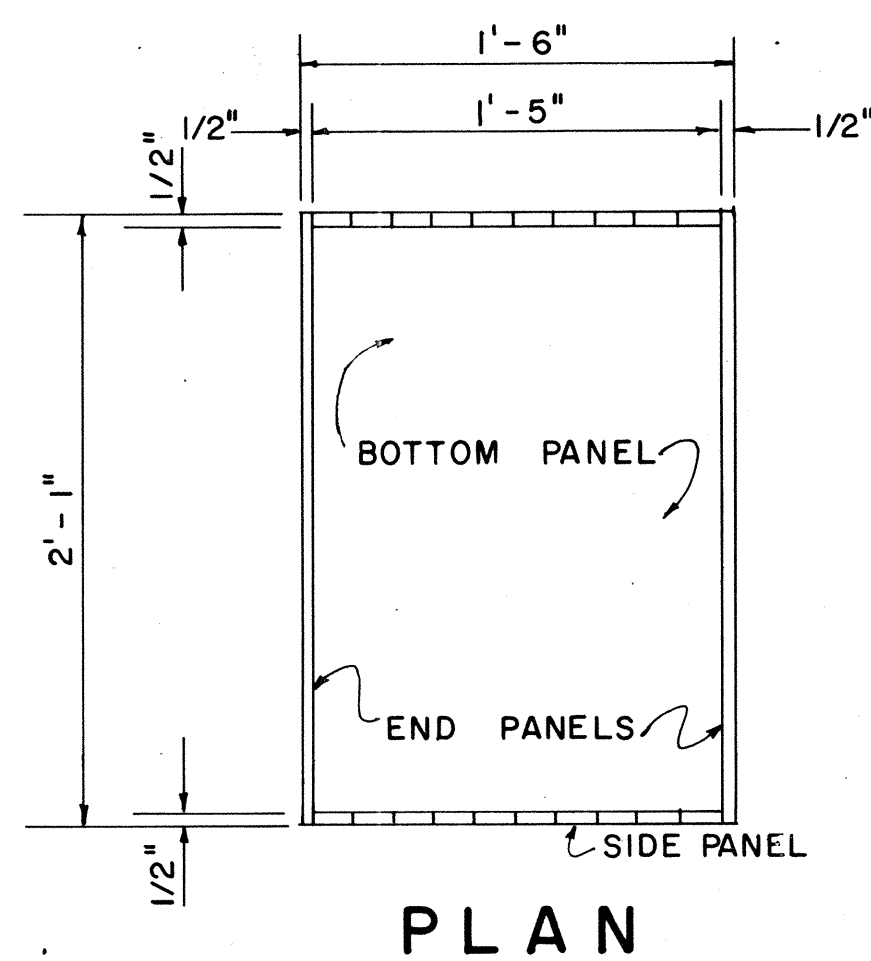
APPROVED:
ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
FIELD OFFICE
Scale: As Noted
SHEET NO. 1 OF 16 SHEETS DD 636.1

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	RS-0190 (2)	1978	13	35



APPROVAL RECOMMENDED:
 HIGHWAY DESIGN ENGINEER
 DATE 12-4-69

APPROVED:
 ASSISTANT CHIEF, ENGINEERING
 DATE 12-10-69

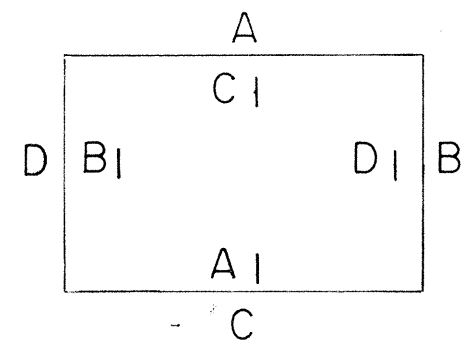
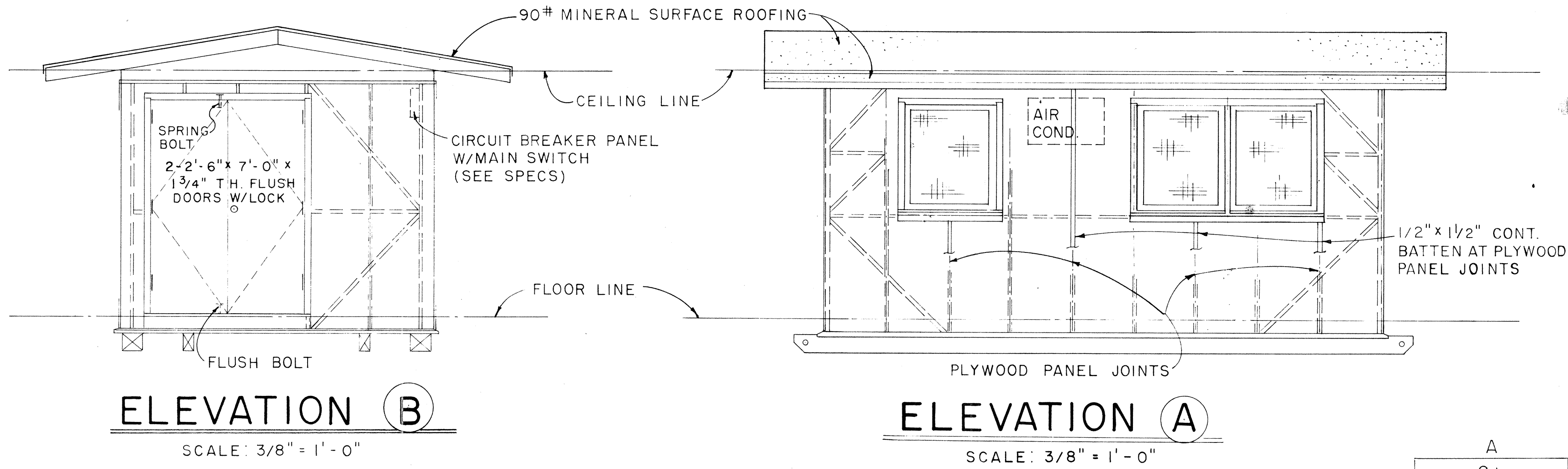
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

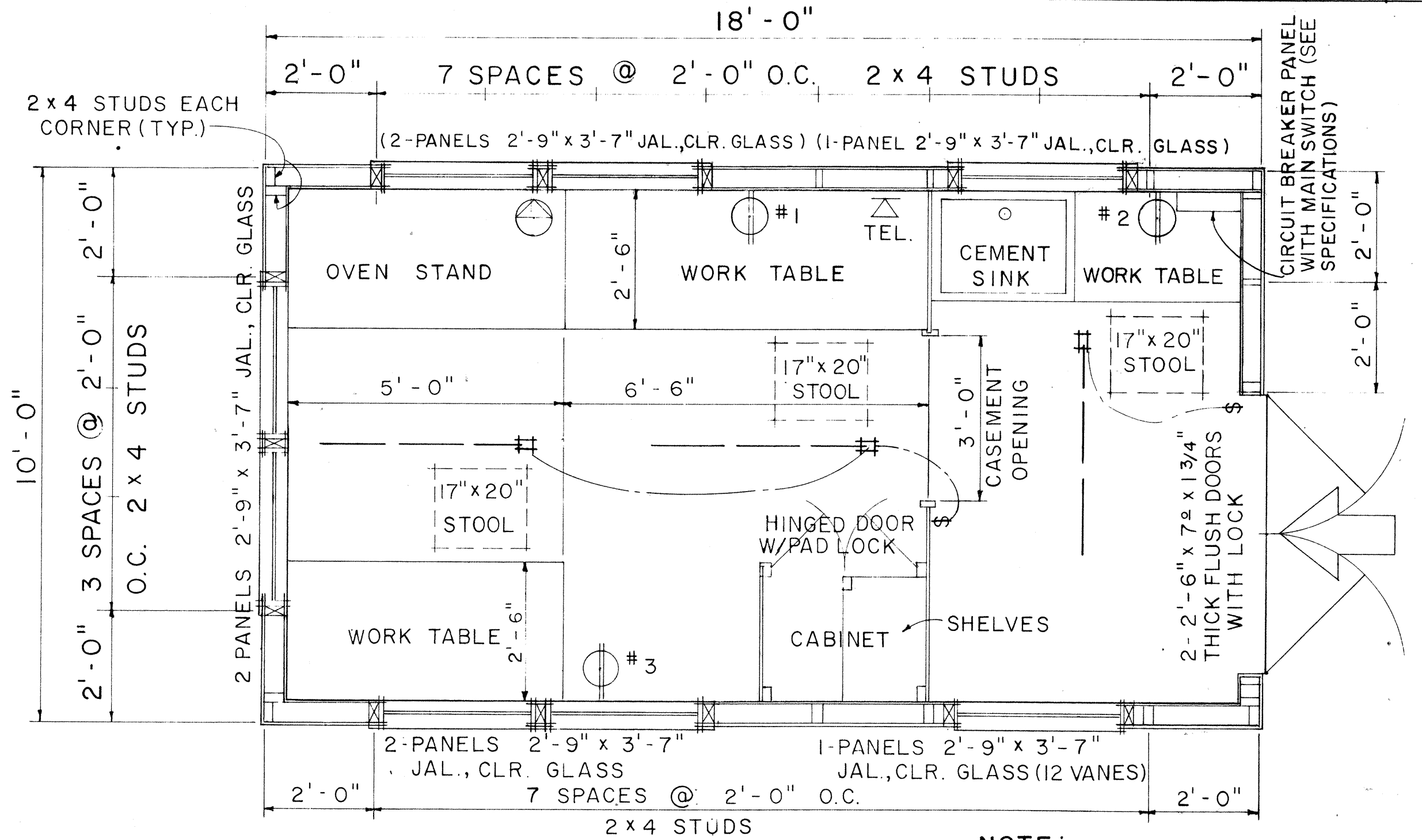
FIELD OFFICE.

Scale: As Noted

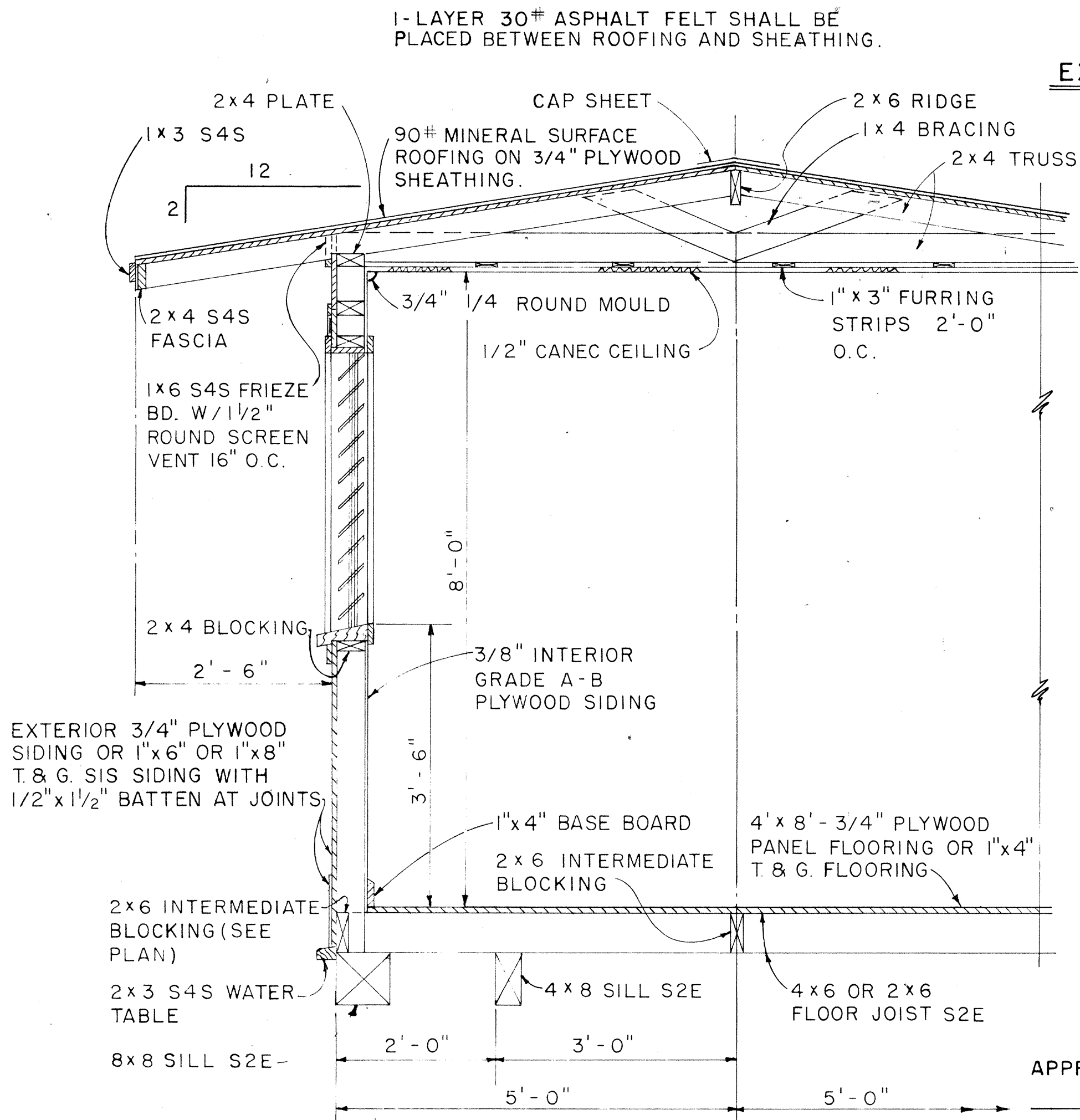
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190 (2)	1978	14	35



EXTERIOR & INTERIOR KEY



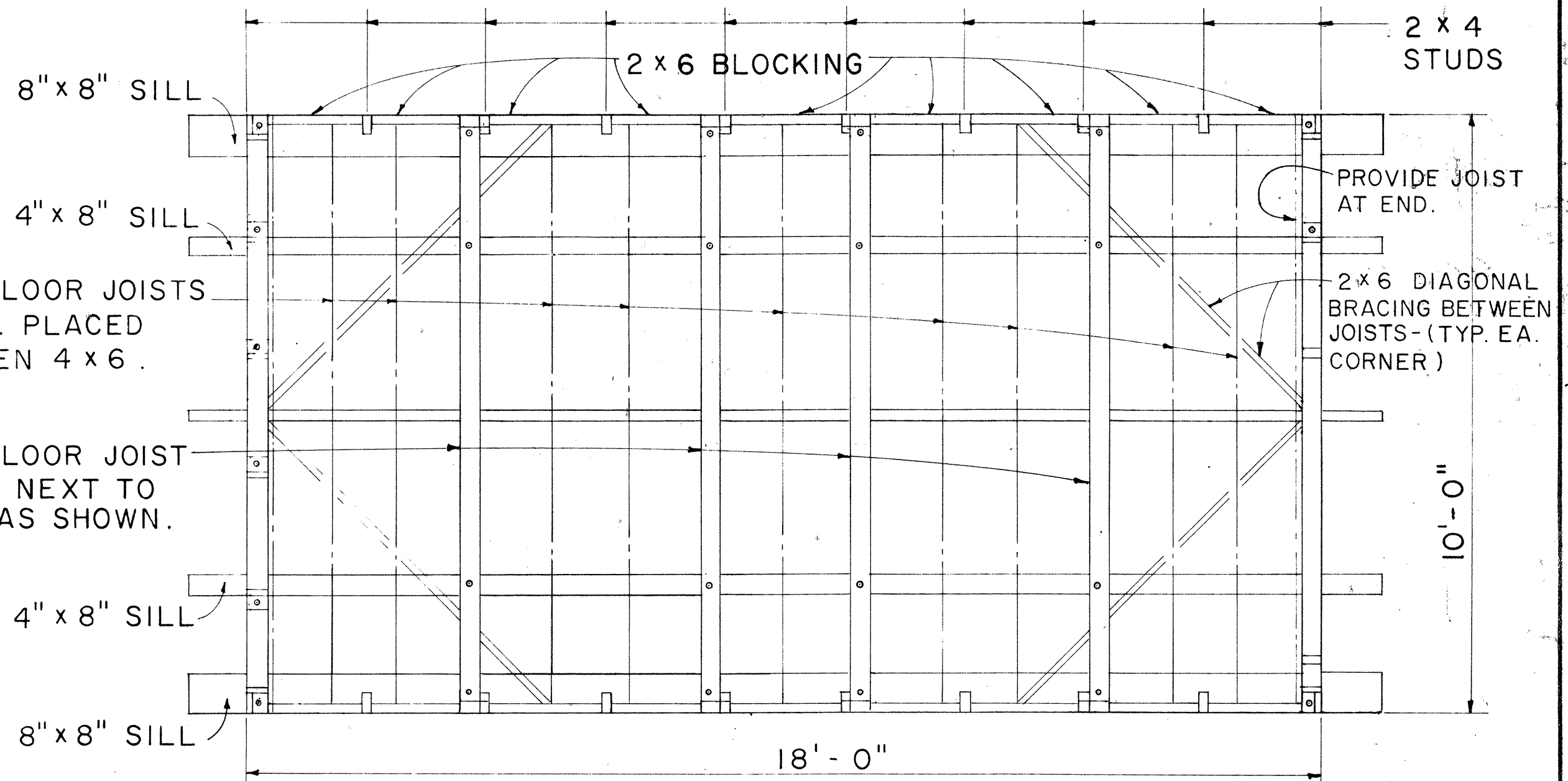
- NOTE:
1. FLUORESCENT FIXTURE SHALL BE 48", 2 LAMP, 40 WATT, RAPID START.
 2. TELEPHONE AND WALL OUTLET 4'-0" ABOVE FLOOR.



NOTE:
ALL 3/4" PLYWOOD SHALL BE EXTERIOR GRADE A-C OR BETTER.

APPROVAL RECOMMENDED:
HIGHWAY DESIGN ENGINEER
12-4-69
DATE

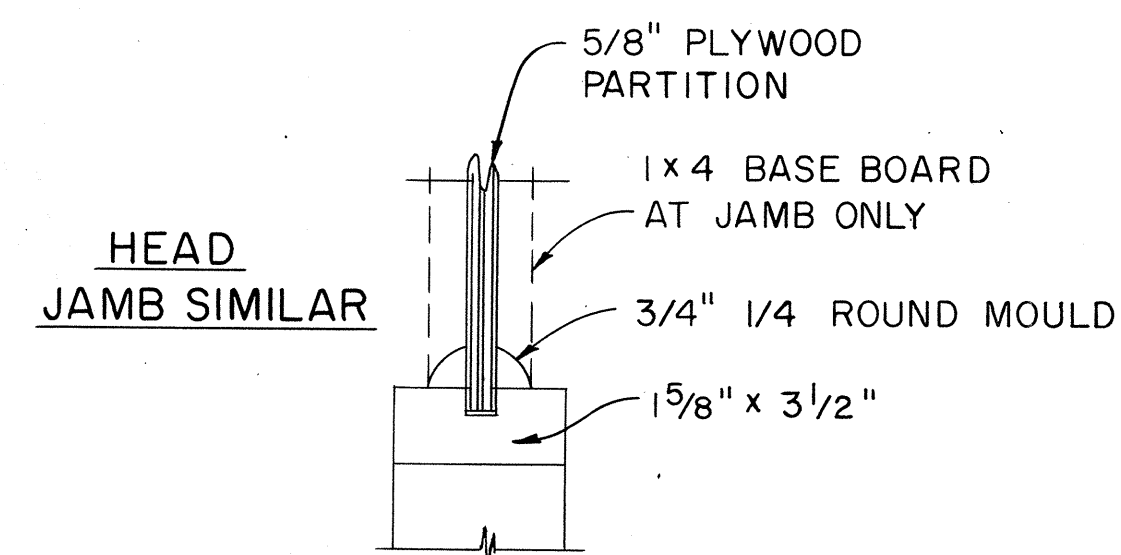
APPROVED:
ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE



NO.	REVISION	APPROVED BY	DATE

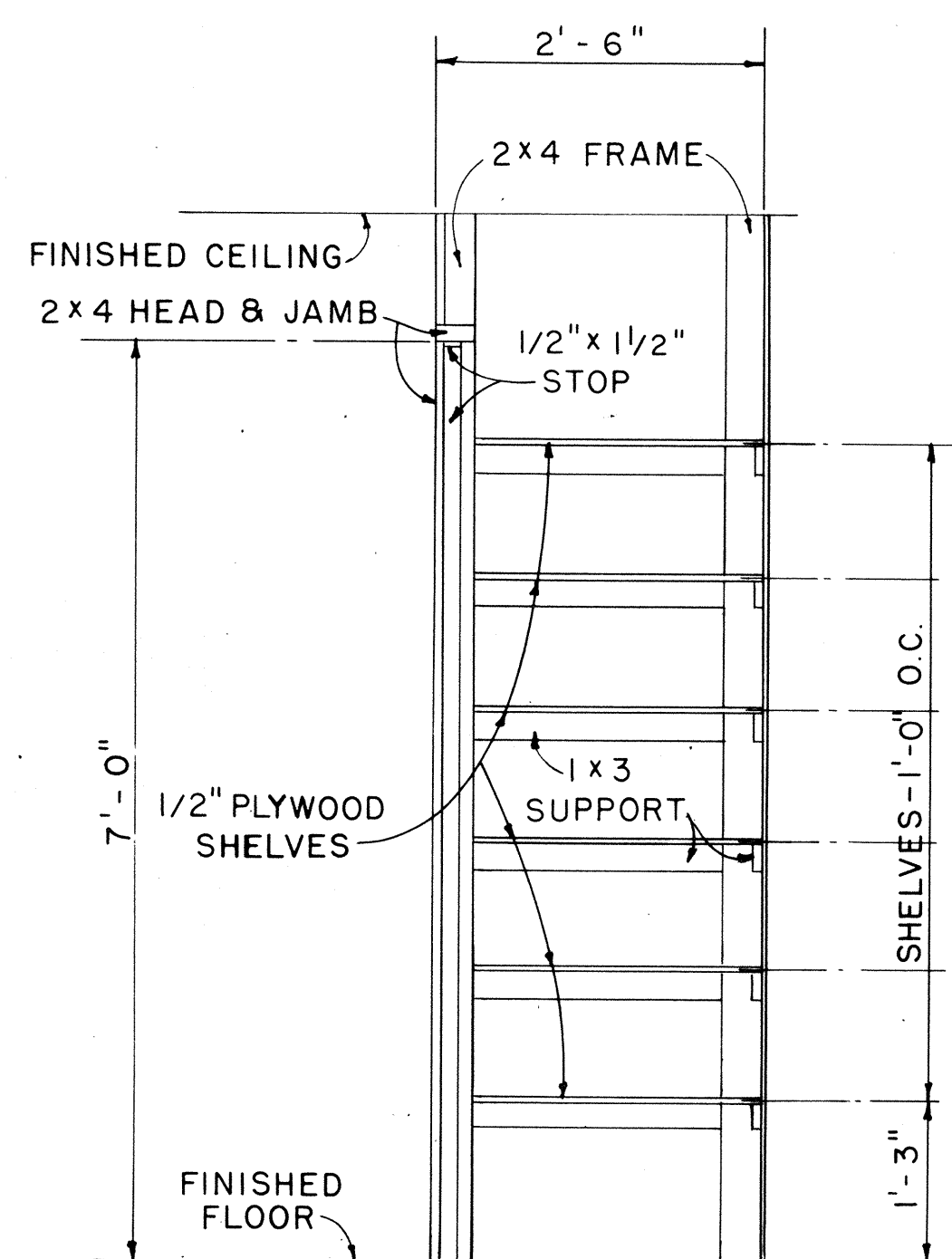
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
PROJECT SITE LABORATORY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	15	35



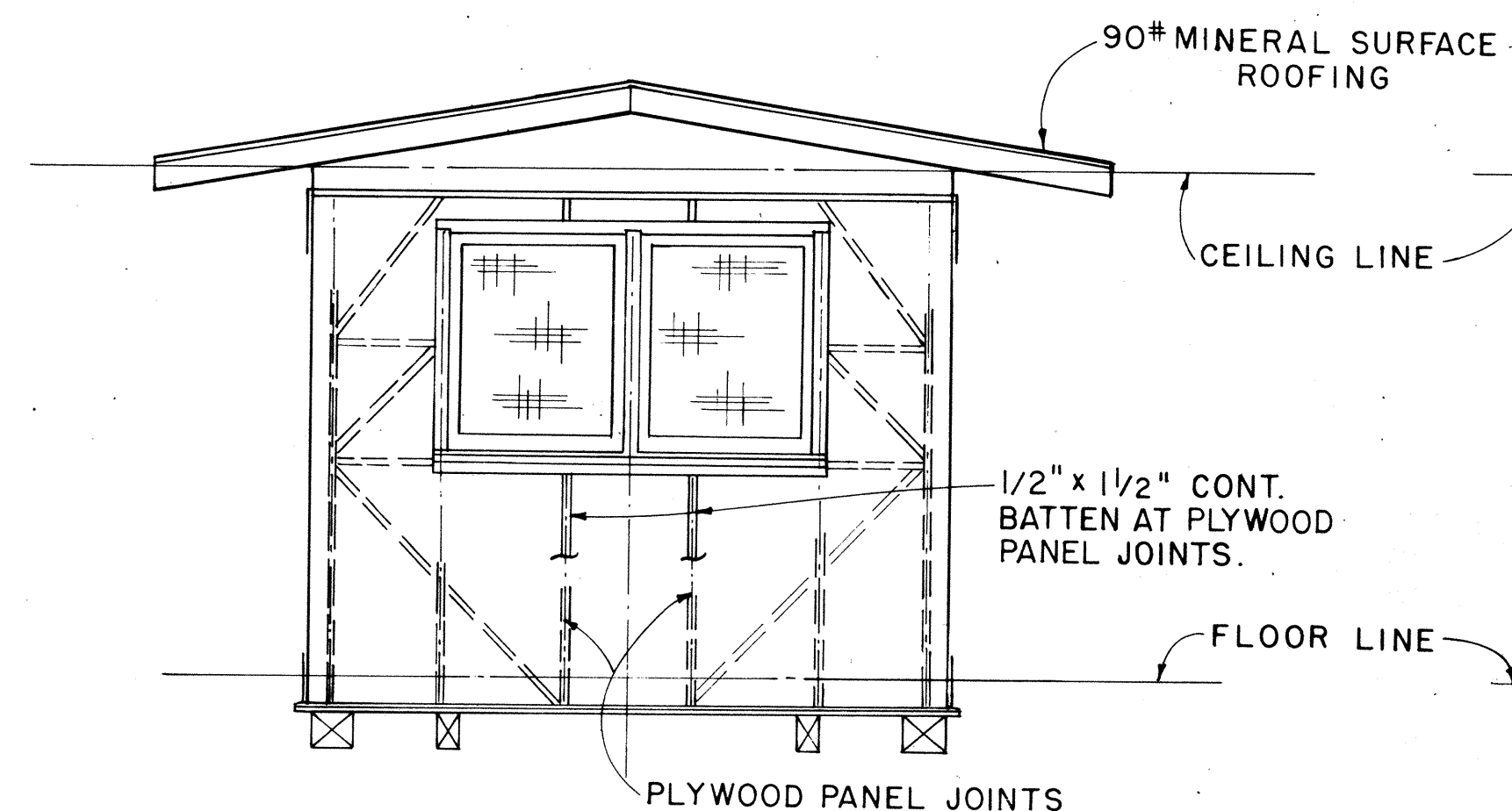
CASEMENT DETAIL

SCALE: 3" = 1'-0"



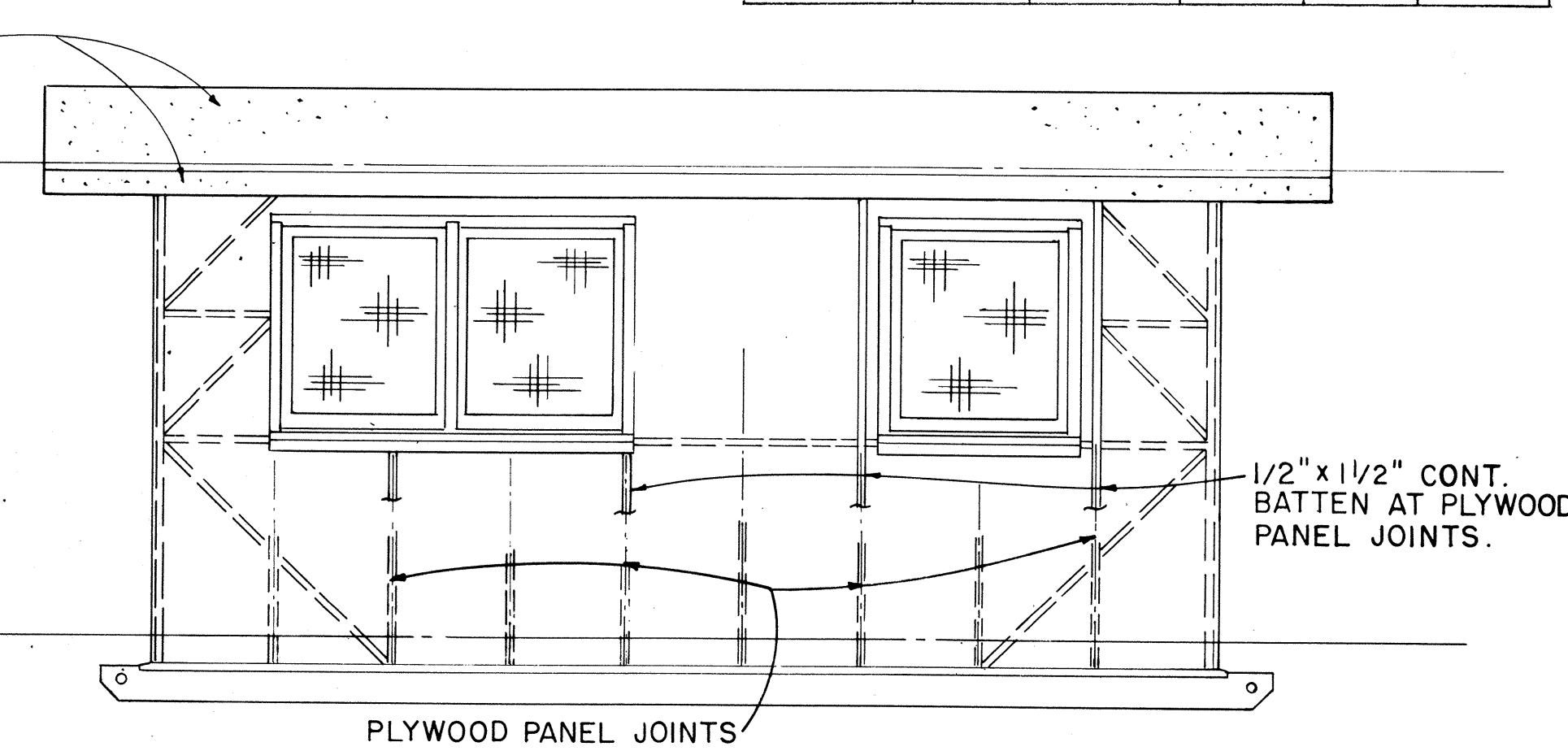
CABINET DETAIL

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



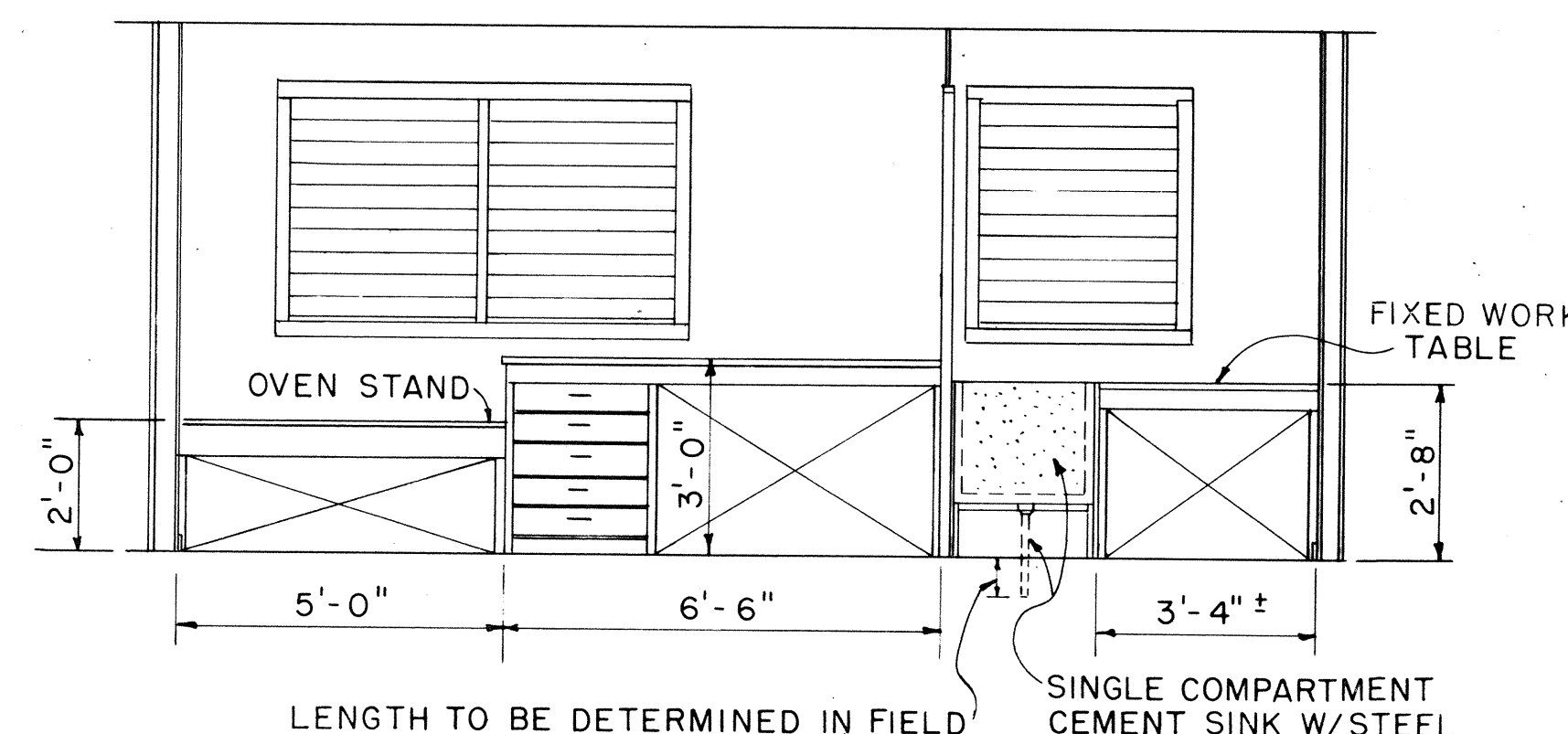
ELEVATION (D)

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



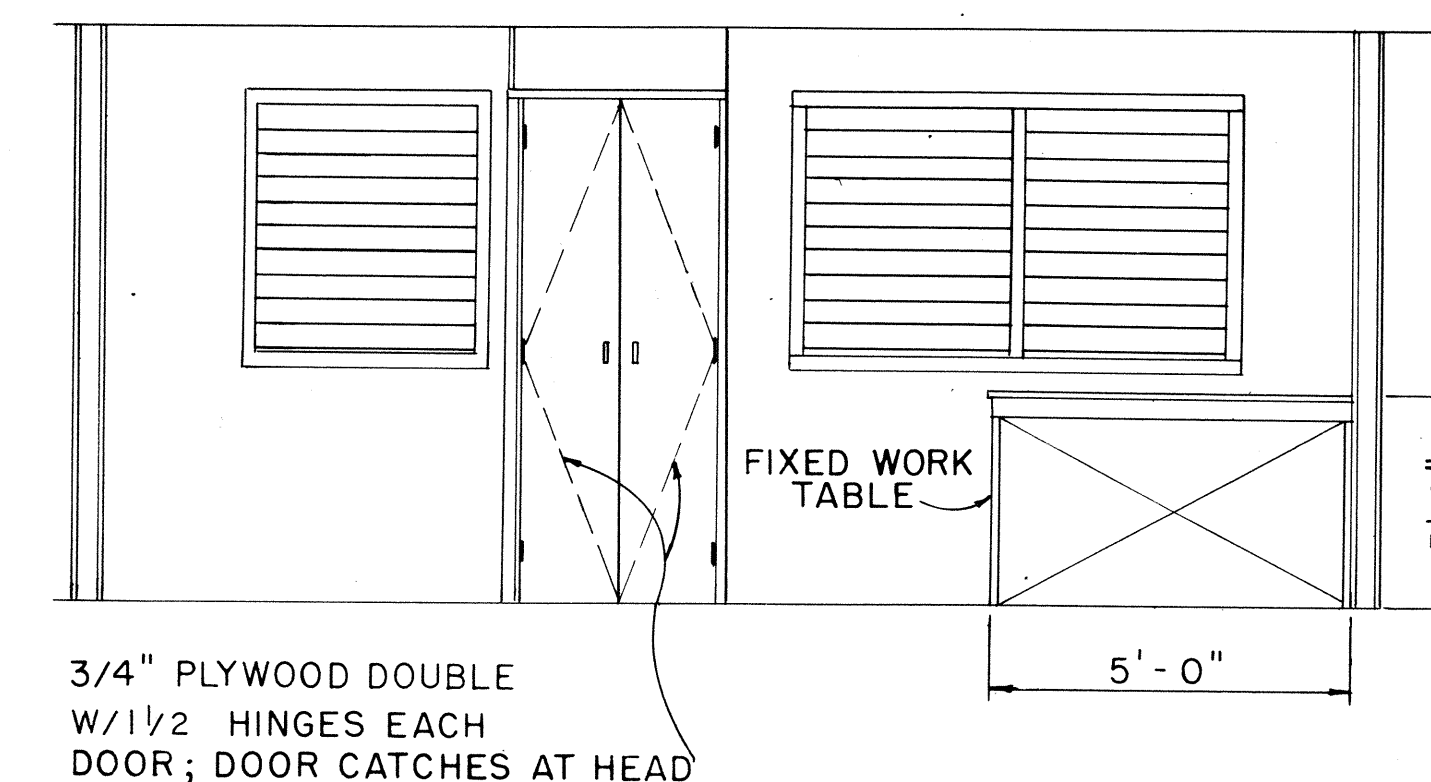
ELEVATION (C)

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



ELEVATION (CI)

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



ELEVATION (AI)

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

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER 12-4-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING 12-10-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
PROJECT SITE LABORATORY

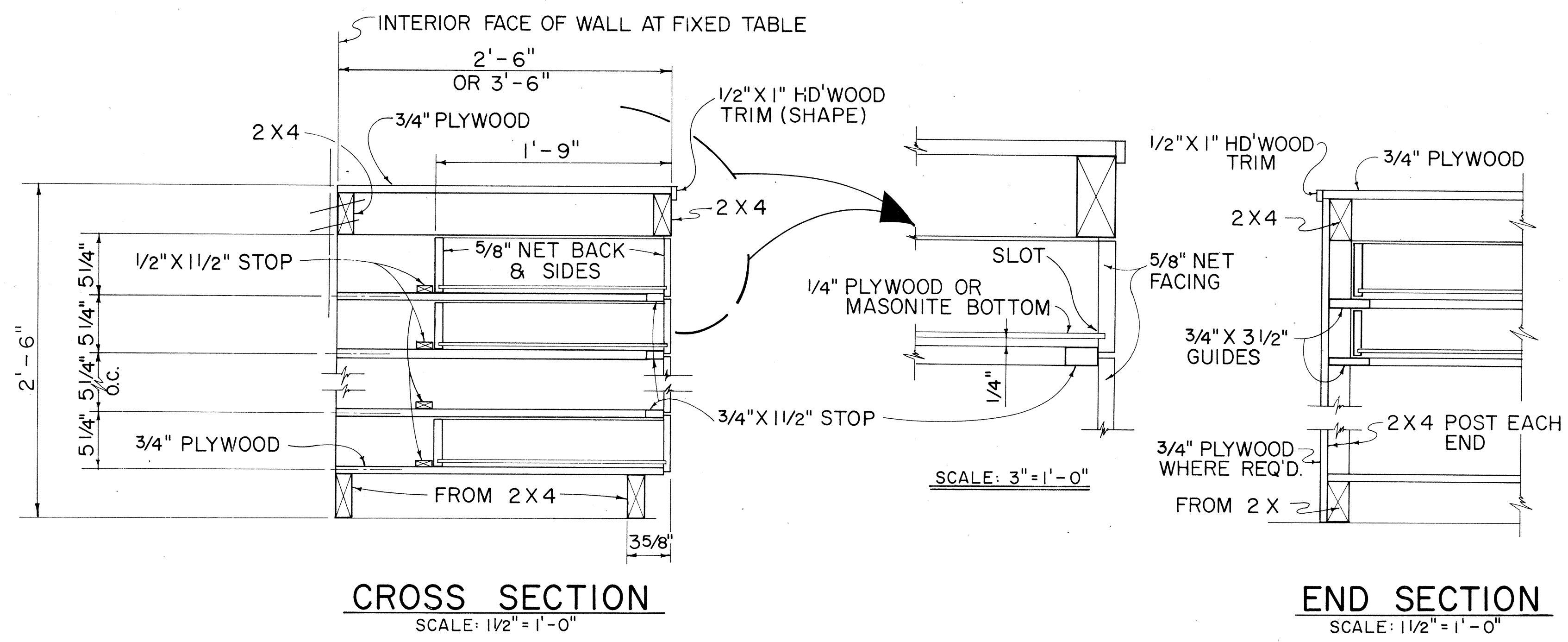
Scale: As Noted

SHEET No. 4 OF 16 SHEETS DD 636.4

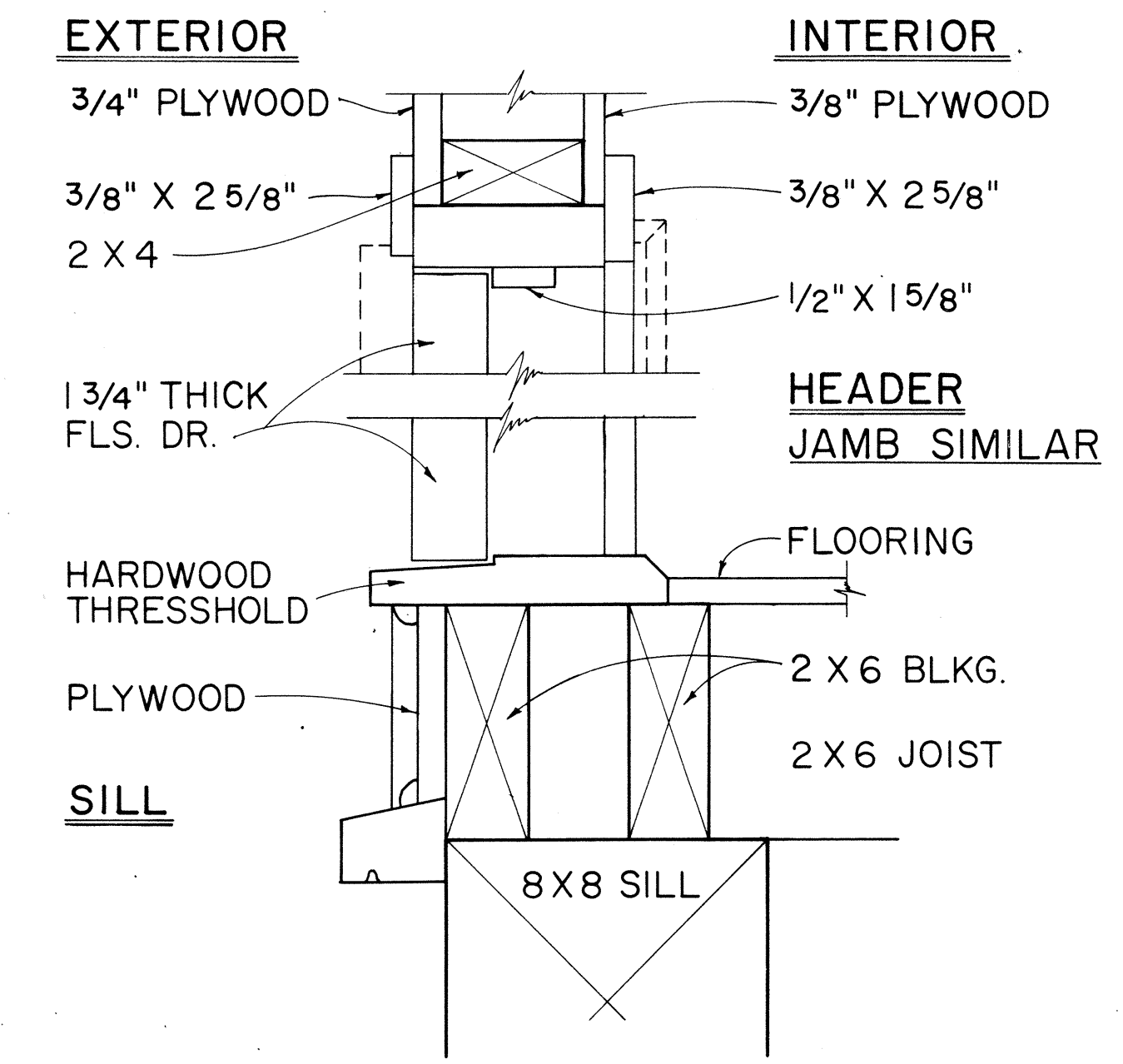
15

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

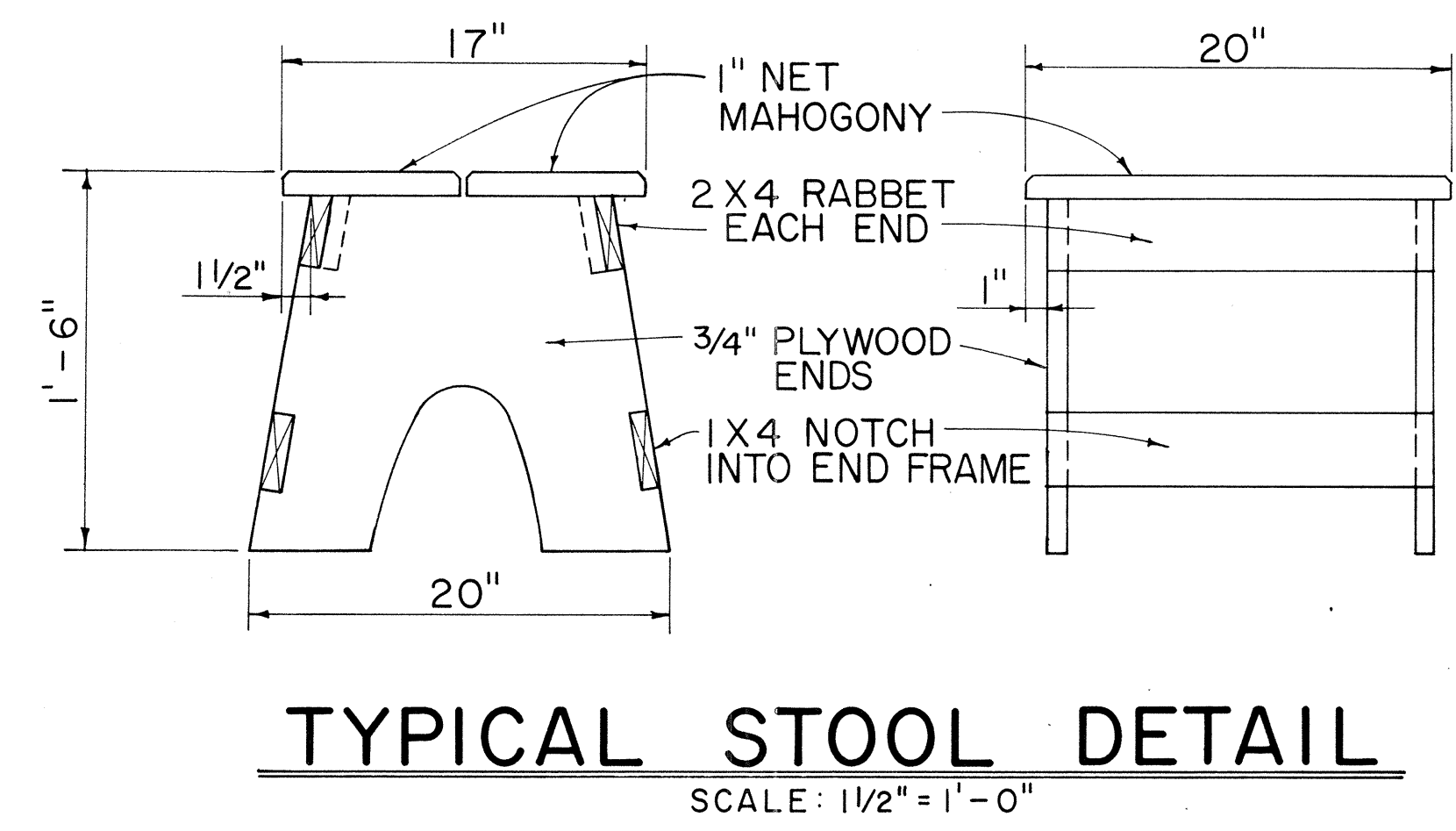
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	RS-0190(2)	1978	16	35



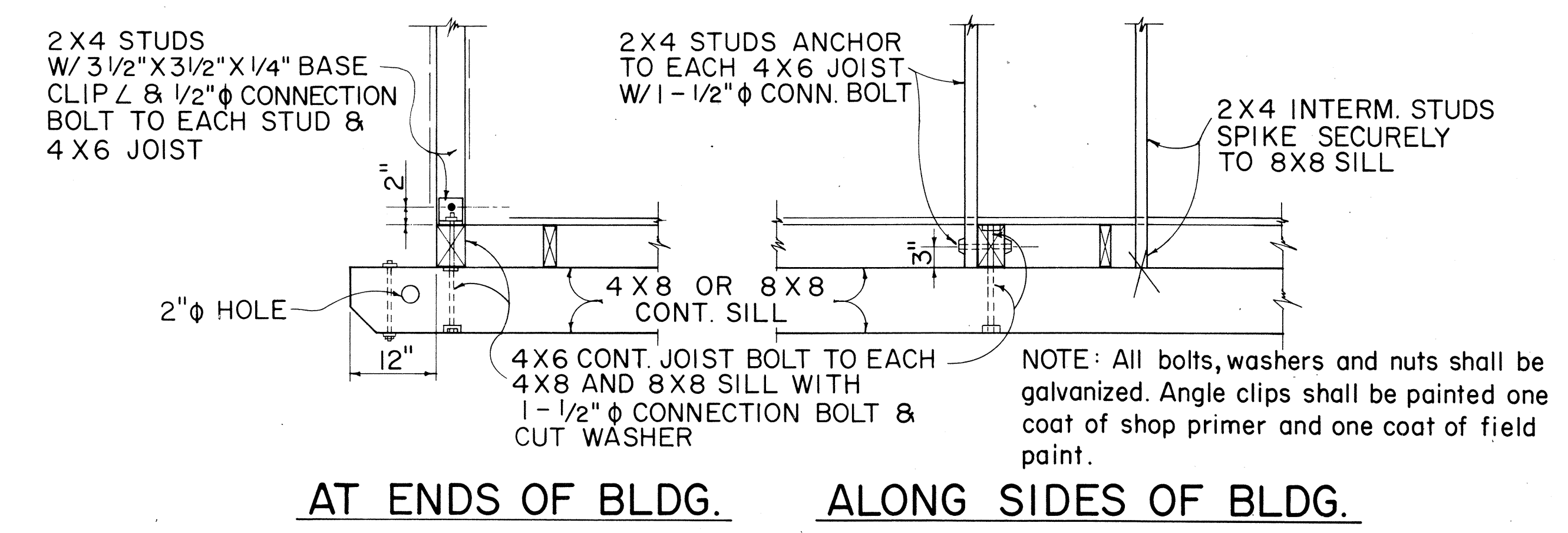
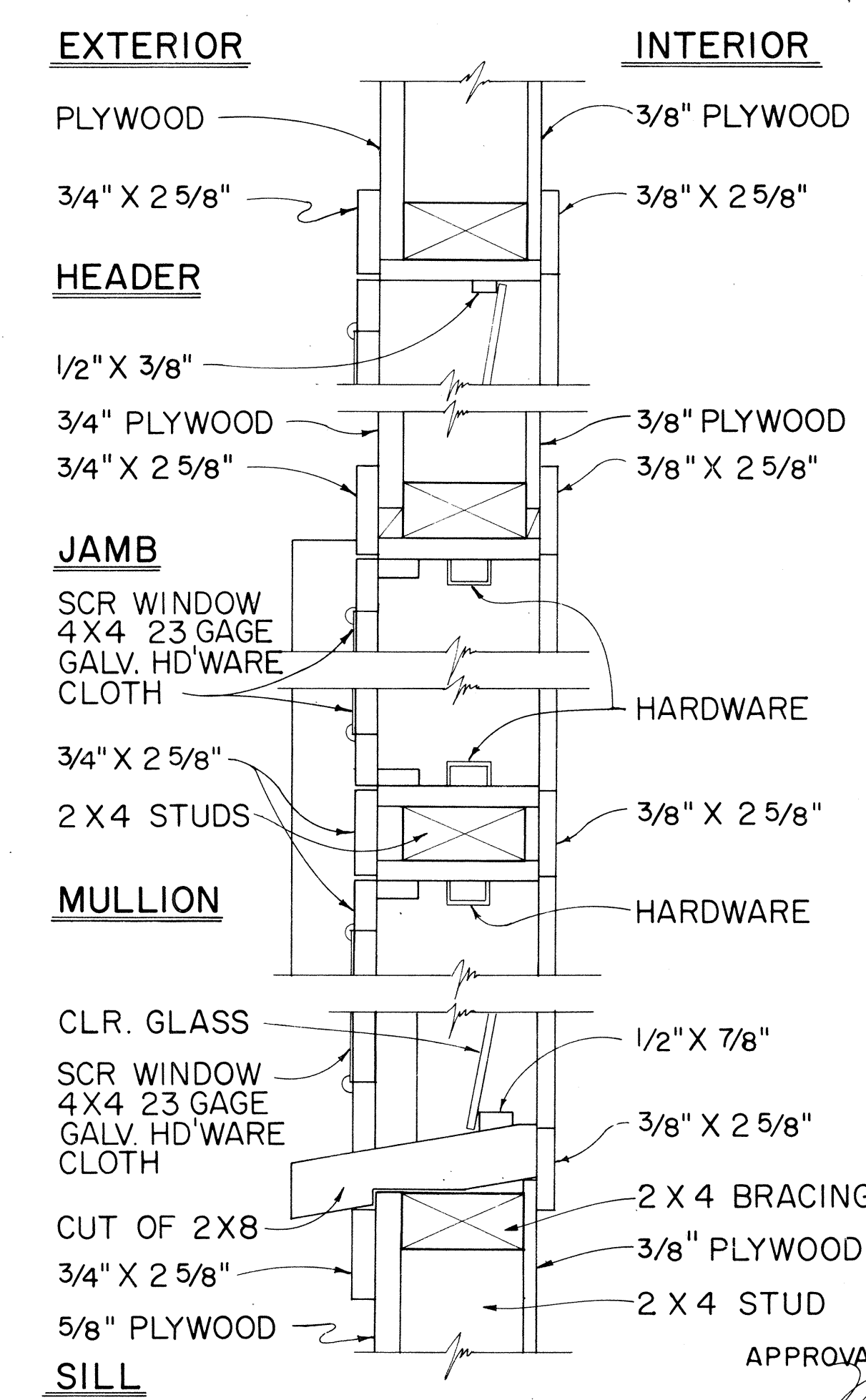
TYPICAL WORK TABLE DRAWER DETAIL



TYPICAL SINGLE OR DOUBLE EXTERIOR DOOR DETAIL



NOTE: CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH THE FIELD OFFICE OR PROJECT SITE LABORATORY WITH STOOLS OTHER THAN THE TYPE SHOWN IN THE DETAIL.



TYPICAL 2X4 STUD & 4X6 FLOOR JOIST BASE CONNECTION DETAILS

APPROVAL RECOMMENDED:
HIGHWAY DESIGN ENGINEER
DATE: 12-4-69

APPROVED:
ASSISTANT CHIEF, ENGINEERING
DATE: 12-10-69

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

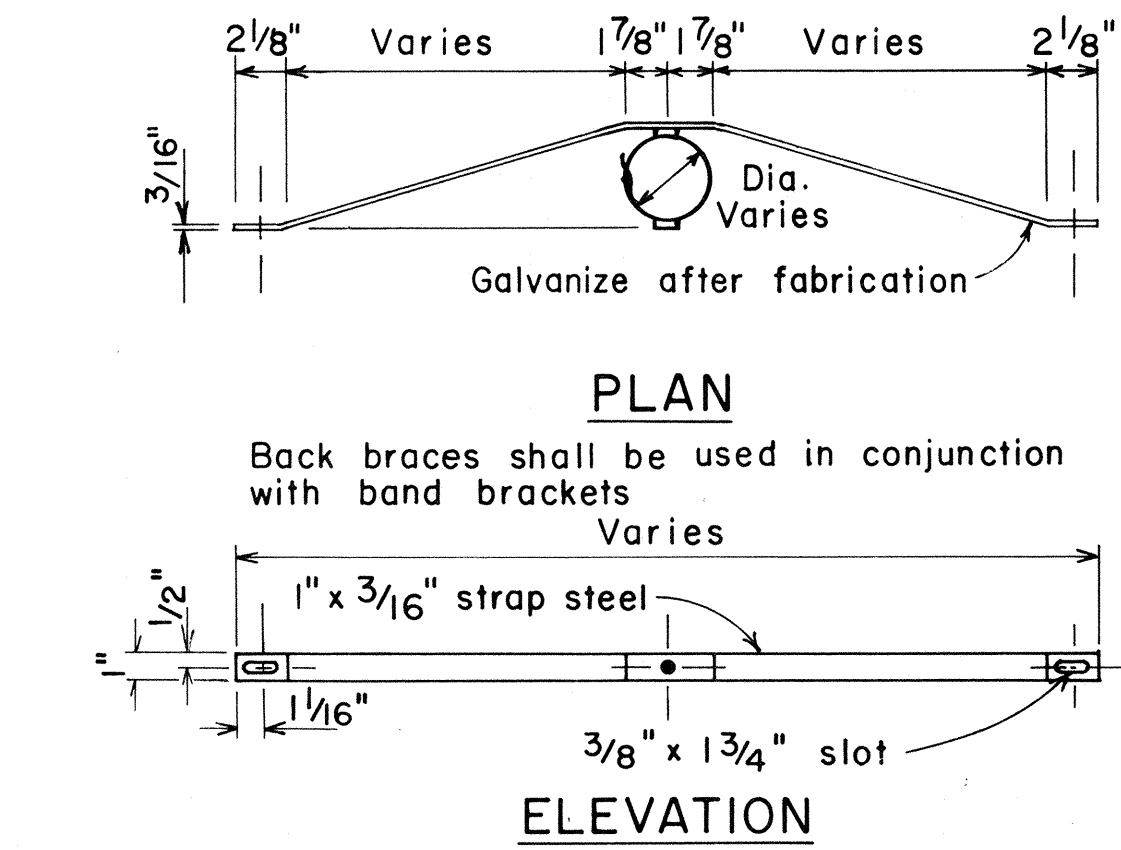
FIELD OFFICE
&
PROJECT SITE LABORATORY

Scale: As Noted

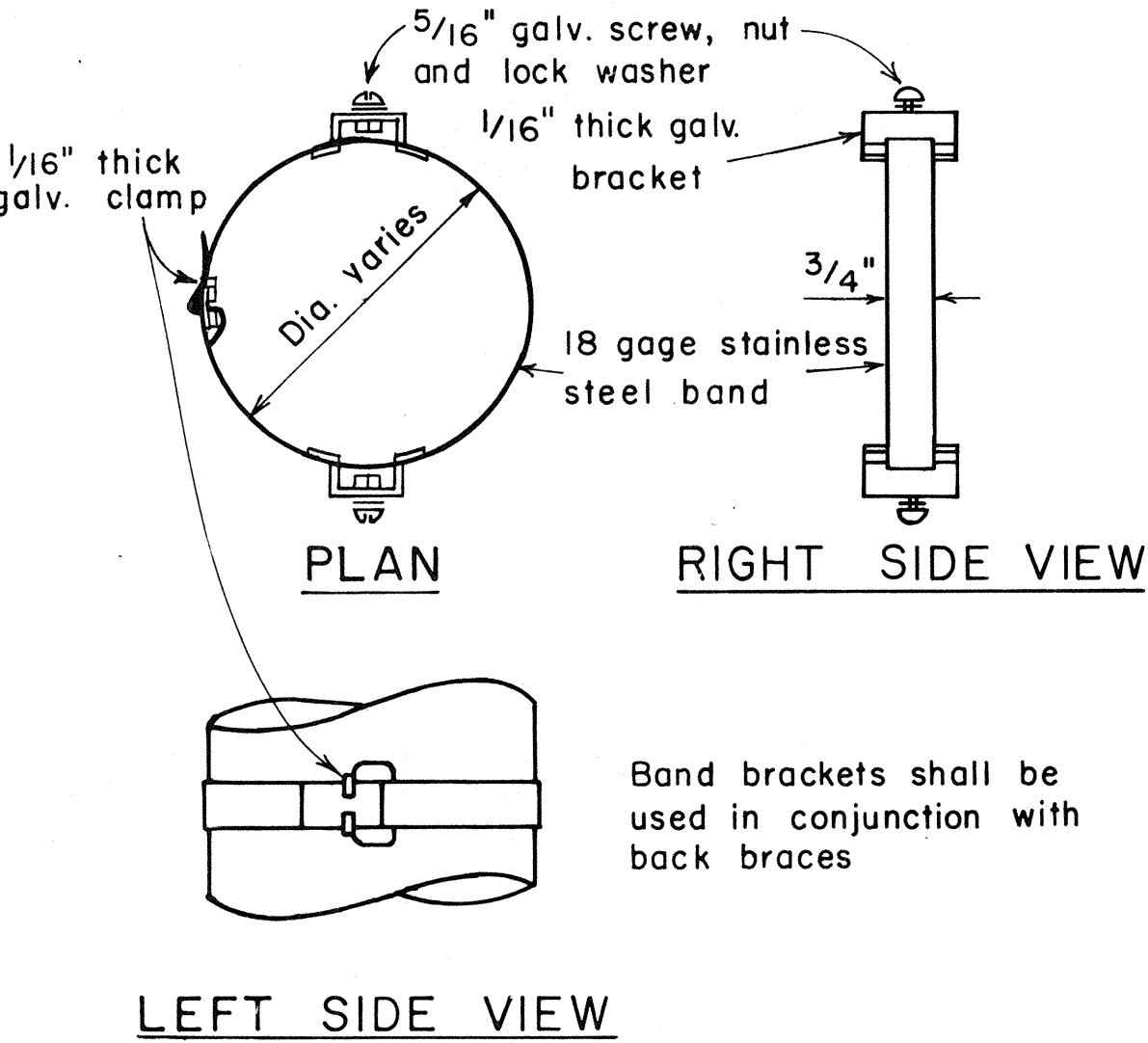
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	17	35

GENERAL NOTES

- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts.
- All signs larger than 10 sq. ft. in area or 48" inches and wider, and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least two sets of band brackets and back braces.
- All signs 28 sq. ft. in area or larger and mounted on other than two posts supports (i.e., on highway lighting poles) shall have at least three sets of band brackets and back braces.
- 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.
- (R) or (L) indicates right or left and shall be as shown on the plans.



BACK BRACE DETAILS
FOR BALANCED SIGN INSTALLATION



TYPICAL BAND BRACKET FOR
MOUNTING TRAFFIC SIGNS

APPROVAL RECOMMENDED:
Erich Tanaka 11/10/77
TRAFFIC ENGINEER DATE

APPROVED:
Herbert S. Sakai 11/15/77
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT-100 approved 12/30/69	H.T.	11/15/77

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

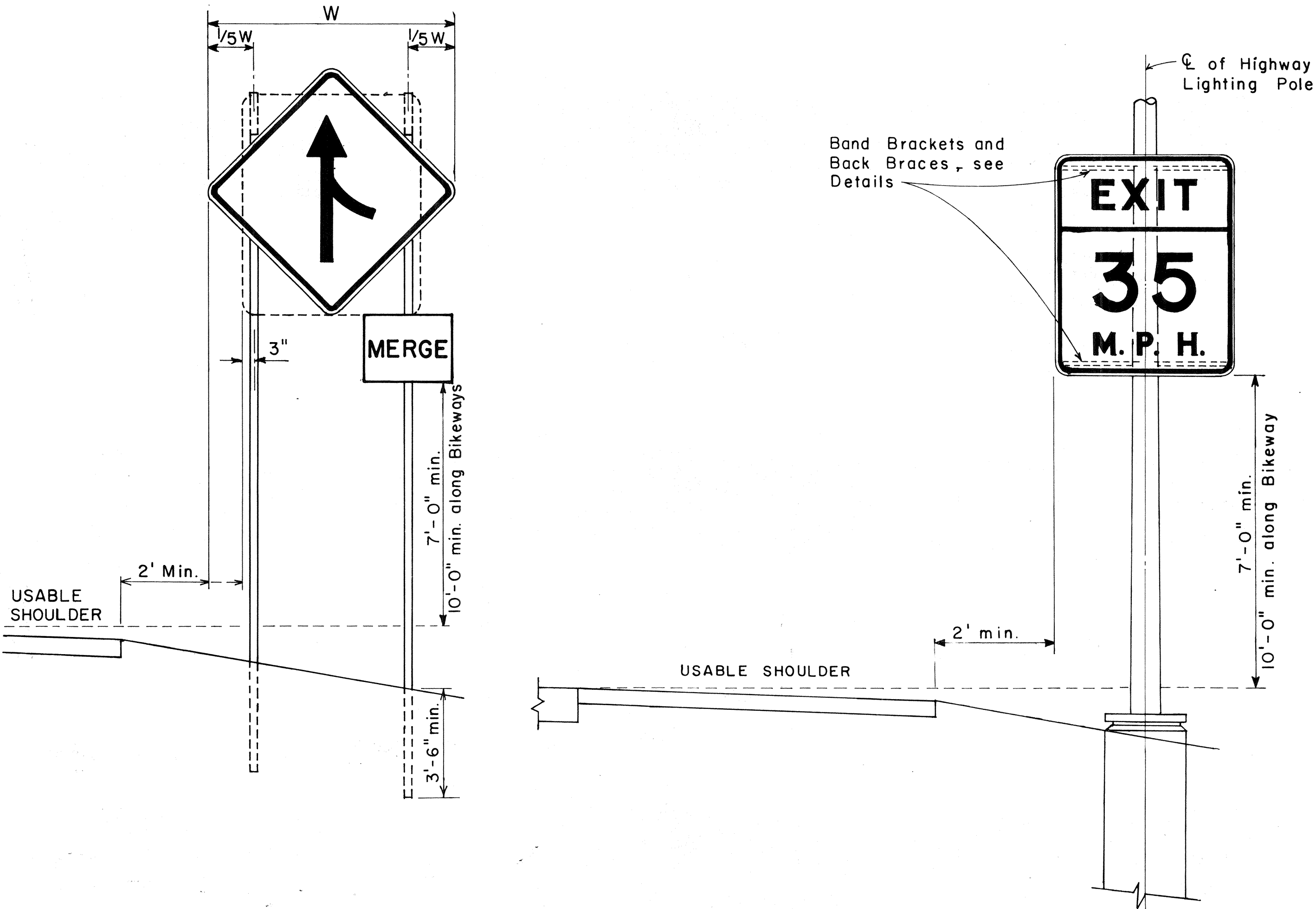
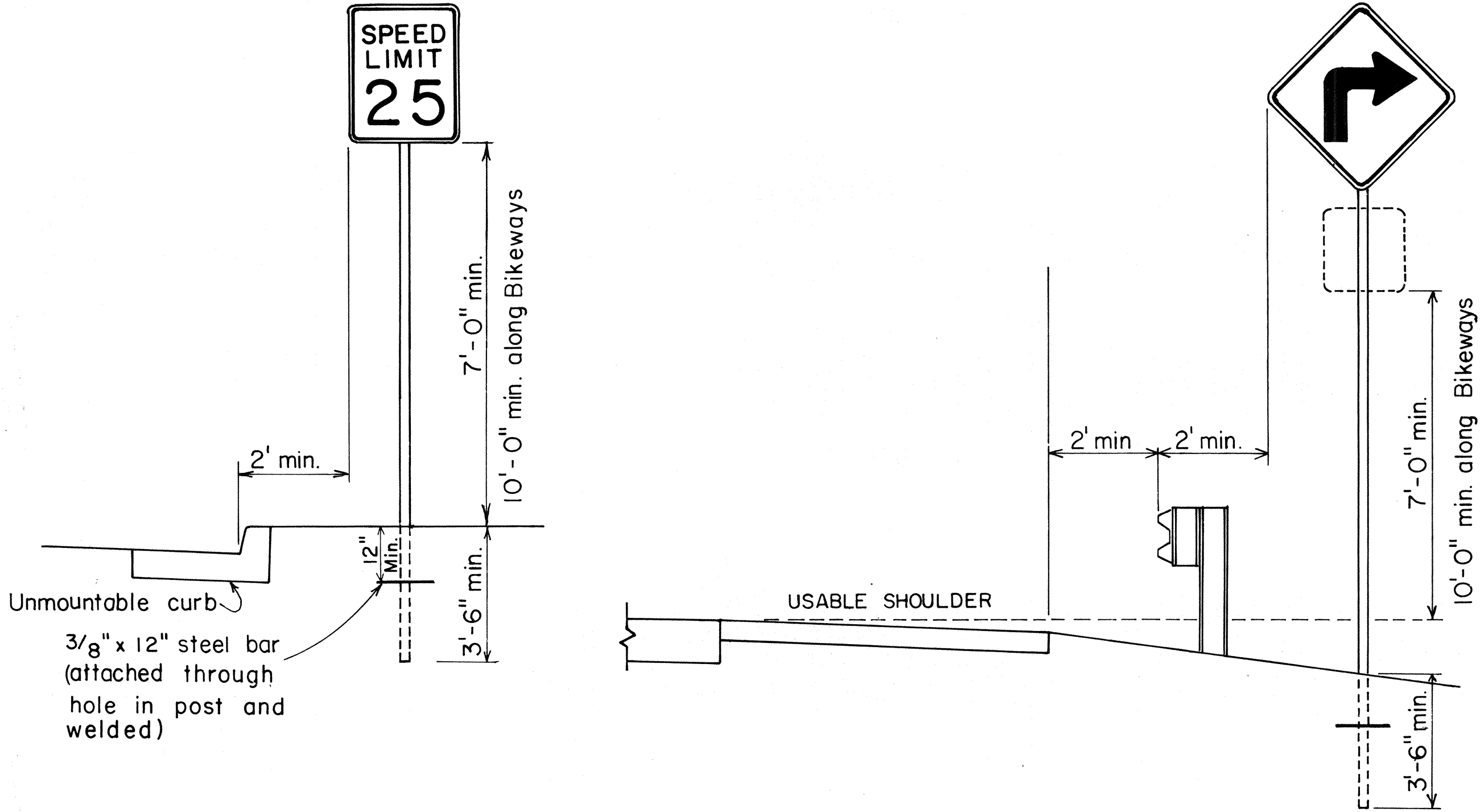
STANDARD DETAILS

MISCELLANEOUS SIGN DETAILS

Not to scale

June, 1977

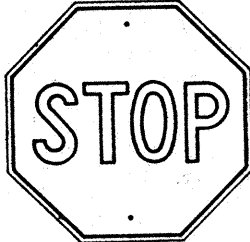
SHEET NO. 6 OF 16 SHEETS DT 100



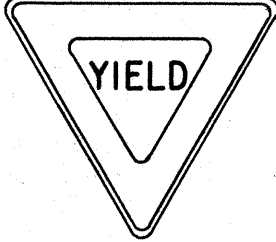
HEIGHT AND LATERAL LOCATION OF SIGNS
TYPICAL INSTALLATION

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY	DRAWN BY	
NOTED BY	TRACED BY	
QUANTITIES BY	CHECKED BY	
NO.		

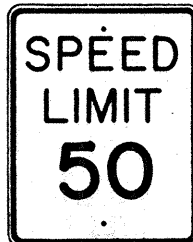
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	18	35



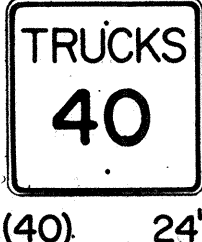
R1-1 30"x 30"
R1-1-A 36"x 36"
4-WAY
R1-3 12"x 6"
R1-3-A 18"x 9"



R1-2 36"x36"x36"
R1-2-A 48"x48"x48"



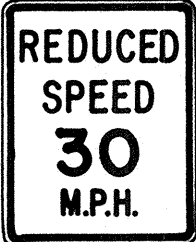
R2-1(50) 24"x 30"
R2-1(50)-A 48"x 60"



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"x24"
24"x 18"
R3-1-A 48"x 48"
48"x 36"



R3-2 24"x24"
24"x 18"
R3-2-A 48"x 48"
48"x 36"



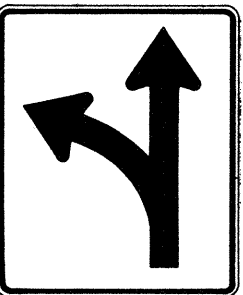
R3-3 24"x 24"
R3-3-A 48"x 48"



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"



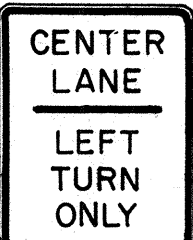
R3-6(L) 30"x 36"
R3-6(L)-A 48"x 60"



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"



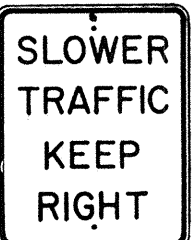
R3-9 24"x 30"



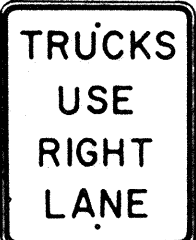
R4-1 24"x 30"



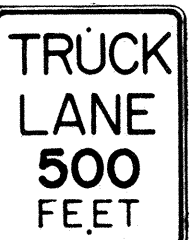
R4-2 24"x 30"



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



R4-5 24"x 30"



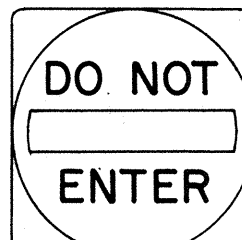
R4-6(500) 24"x 30"



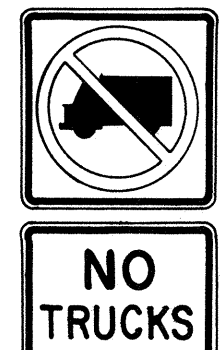
R4-7 24"x30"
24"x 18"



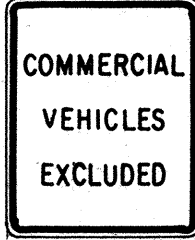
R4-8 24"x30"
24"x 18"



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"x24"
24"x18"



R5-9 36"x 24"



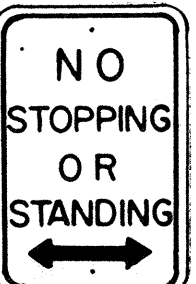
R6-1 (R) 36"x 12"



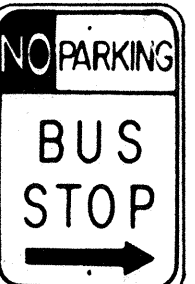
R6-2(R) 18"x 24"



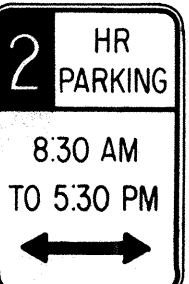
R7-1 12"x 18"
R7-1-A 24"x 30"



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"



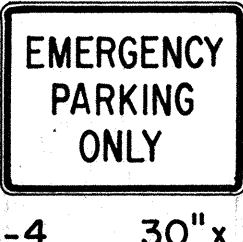
R8-1 24"x 30"



R8-2 24"x 30"



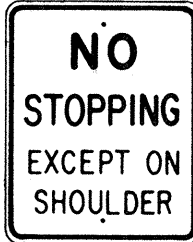
R8-3 24"x 30"



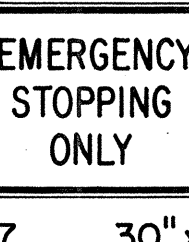
R8-4 30"x 24"
R8-4-A 48"x 36"



R8-5 24"x 30"



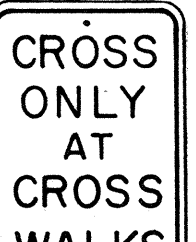
R8-6 24"x 30"



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



R9-1 18"x 24"



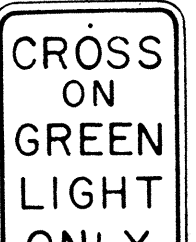
R9-2 12"x 18"



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"



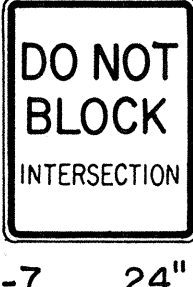
R10-4 9"x 12"



R10-5 24"x 30"



R10-6 24"x 36"



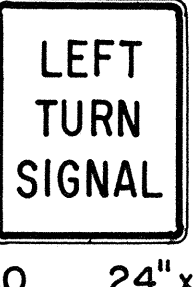
R10-7 24"x 30"



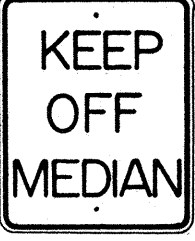
R10-8 24"x 30"



R10-9 24"x 30"



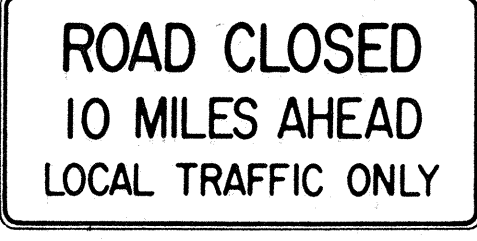
R10-10 24"x 30"



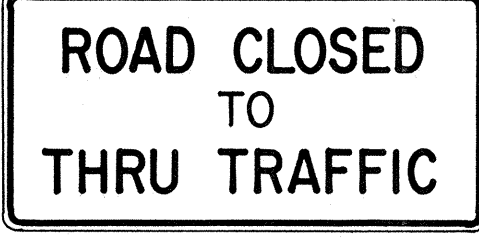
R11-1 24"x 30"



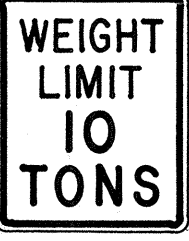
R11-2 48"x 30"



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:

Enishi Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:

Robert Datsis 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.C.	3/20/72
2	Revised General Note 1.	H.C.	10/16/74

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

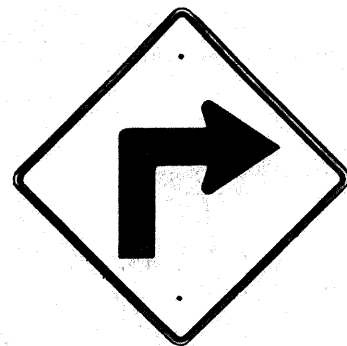
STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE

SHEET No. 7 OF 18 SHEETS DT 101

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

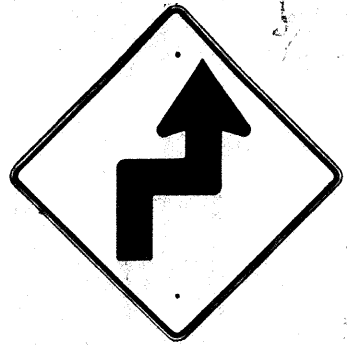
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII*	HAW.	RS-0190(2)	1978	19	35



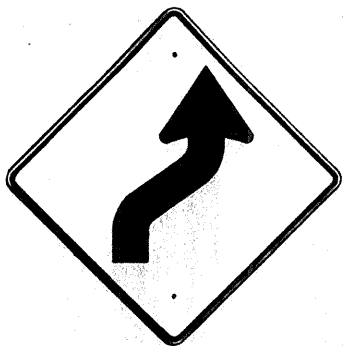
W1-1(R) 30"x 30"
W1-1(R)-A 48"x 48"



W1-2(R) 30"x 30"
W1-2(R)-A 48"x 48"



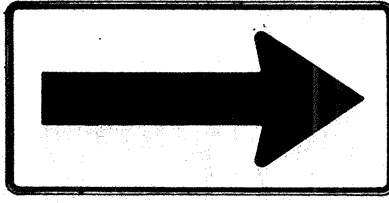
W1-3(R) 30"x 30"
W1-3(R)-A 48"x 48"



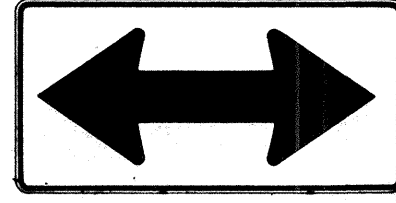
W1-4(R) 30"x 30"
W1-4(R)-A 48"x 48"



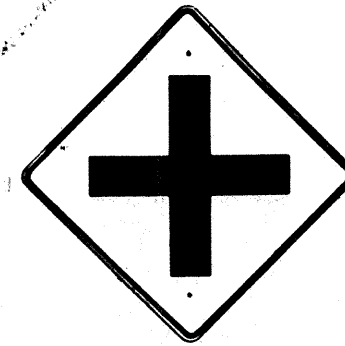
W1-5(R) 30"x 30"
W1-5(R)-A 48"x 48"



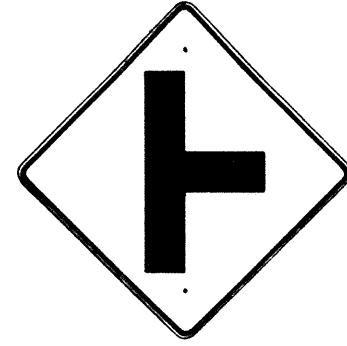
W1-6 48"x 24"



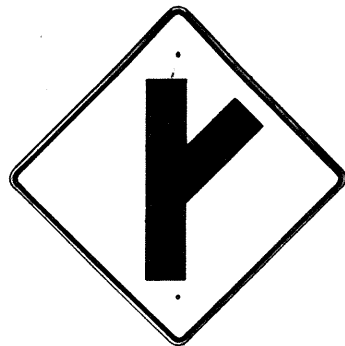
W1-7 48"x 24"



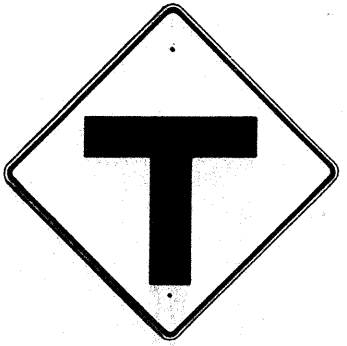
W2-1 30"x 30"
W2-1-A 48"x 48"



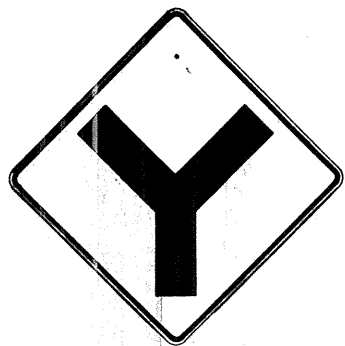
W2-2 30"x 30"
W2-2-A 48"x 48"



W2-3(R) 30"x 30"
W2-3(R)-A 48"x 48"



W2-4 30"x 30"
W2-4-A 48"x 48"



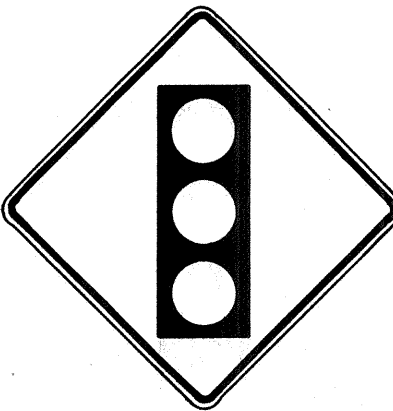
W2-5 30"x 30"
W2-5-A 48"x 48"



W3-1 30"x 30"
W3-1-A 36"x 36"

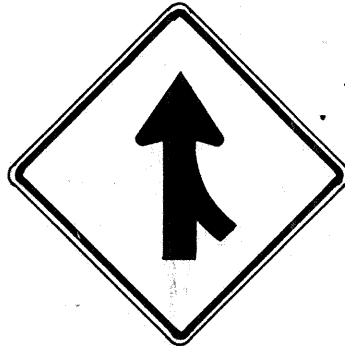


W3-2 30"x 30"
W3-2-A 36"x 36"



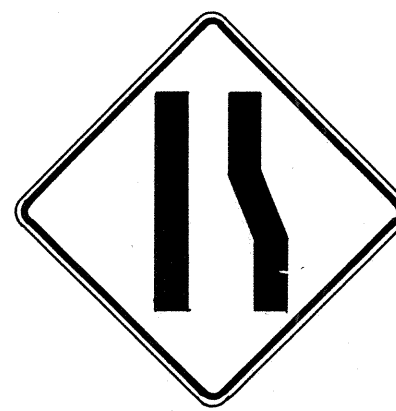
SIGNAL
AHEAD

W3-3 36"x 36"
24"x 18"



MERGE

W4-1(R) 30"x 30"
24"x 18"
W4-1(R)-A 48"x 48"
24"x 18"



W4-2(R) 36"x 36"
W4-2(R)-A 48"x 48"



W5-1 36"x 36"



W5-2 30"x 30"
W5-2-A 36"x 36"



W5-3 36"x 36"



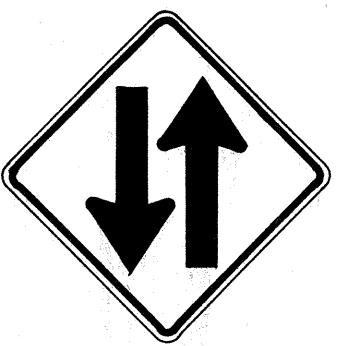
DIVIDED
HIGHWAY

W6-1 36"x 36"
24"x 18"



DIVIDED
HIGHWAY
ENDS

W6-2 36"x 36"
24"x 18"



TWO WAY
TRAFFIC

W6-3 30"x 30"
24"x 18"

W6-3-A 36"x 36"
24"x 18"

W6-3-B 48"x 48"
24"x 18"



HILL

W7-1 30"x 30"
24"x 18"

W7-1-A 36"x 36"
24"x 18"



W7-2 24"x 18"



W8-1 30"x 30"
W8-1-A 36"x 36"



W8-2 30"x 30"
W8-2-A 36"x 36"



W8-3 30"x 30"
W8-3-A 36"x 36"



W8-4 30"x 30"
W8-4-A 36"x 36"



SLIPPERY
WHEN WET

W8-5 30"x 30"
24"x 18"

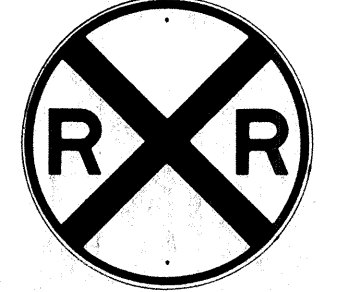
W8-5-A 36"x 36"
24"x 18"



W9-1(R) 30"x 30"
W9-1(R)-A 36"x 36"
W9-1(R)-B 48"x 48"



W9-2(L) 36"x 36"
W9-2(L)-A 48"x 48"



W10-1 36" Diameter



BIKE
XING

W11-1 30"x 30"
24"x 18"

W11-1-A 36"x 36"
24"x 18"



PED
XING

W11-2 30"x 30"
24"x 18"

W11-2-A 36"x 36"
24"x 18"



CATTLE
XING

W11-4 30"x 30"
24"x 18"

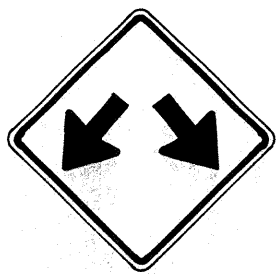
W11-4-A 36"x 36"
24"x 18"



FARM
MACHINERY

W11-5 30"x 30"
24"x 18"

W11-5-A 36"x 36"
24"x 18"



W12-1 24"x 24"
W12-1-A 36"x 36"
W12-1-B 48"x 48"

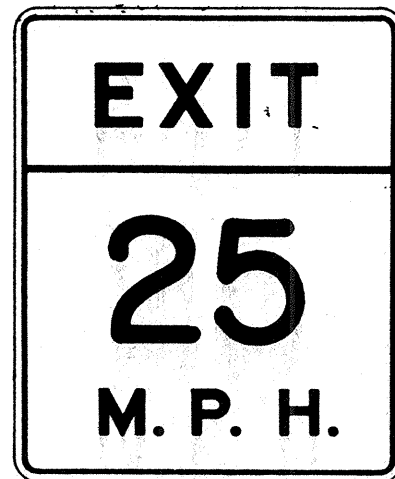


LOW
CLEARANCE

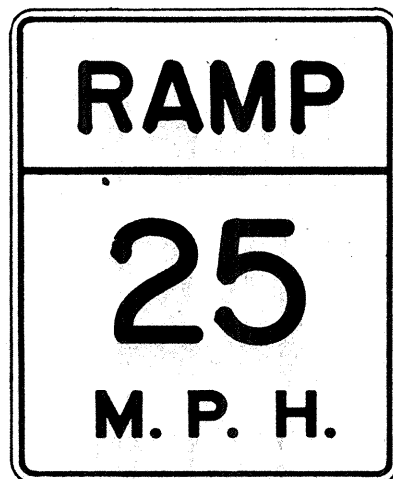
W12-2 (12'-6") 36"x 36"
24"x 18"



W13-1(25) 18"x 18"
W13-1(25)-A 24"x 24"



W13-2(25) 48"x 60"



W13-3(25) 48"x 60"



W14-1 30"x 30"



W14-3 36"x 48" x 48"

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," 1972, and as amended.

2. All warning signs shall be reflectorized unless otherwise specified.

3. All 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.

5. Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER

3/17/78
DATE

APPROVED:
Walter Belsin
ASSISTANT CHIEF, ENGINEERING

3-20-78
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/72
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 5	M.T.	9-16-75
4	Revised General Note 5	H.T.	9-14-76

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS WARNING SIGNS

NOT TO SCALE

SHEET No. 8 OF 16 SHEETS DT 102

DESIGNED BY	DATE
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	20	35



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"



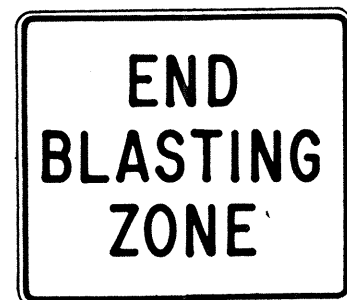
CW21-6 30" x 30"



CW22-1b 48" x 48"



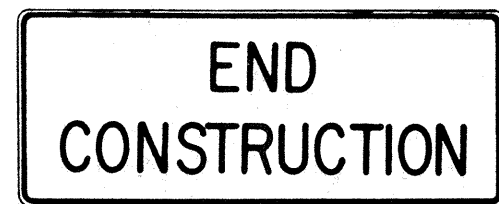
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



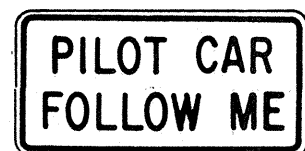
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



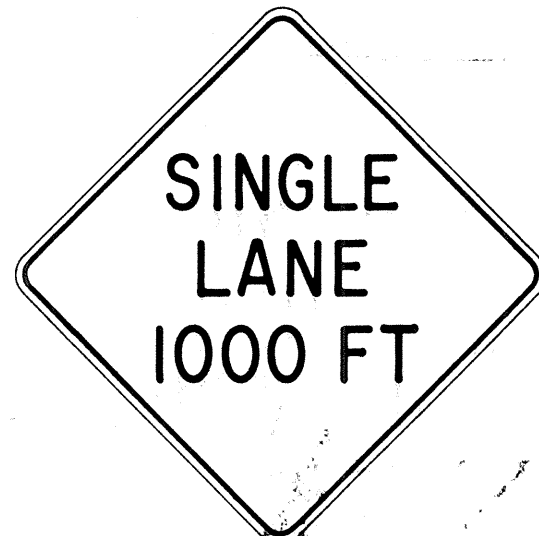
CM4-10(R) 48" x 18"



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," 1972, and as amended.
- All construction signs shall be reflectorized.
- 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
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 2	M.H.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76

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

APPROVED:
Shirley Salsich 2/23/72
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

NOT TO SCALE

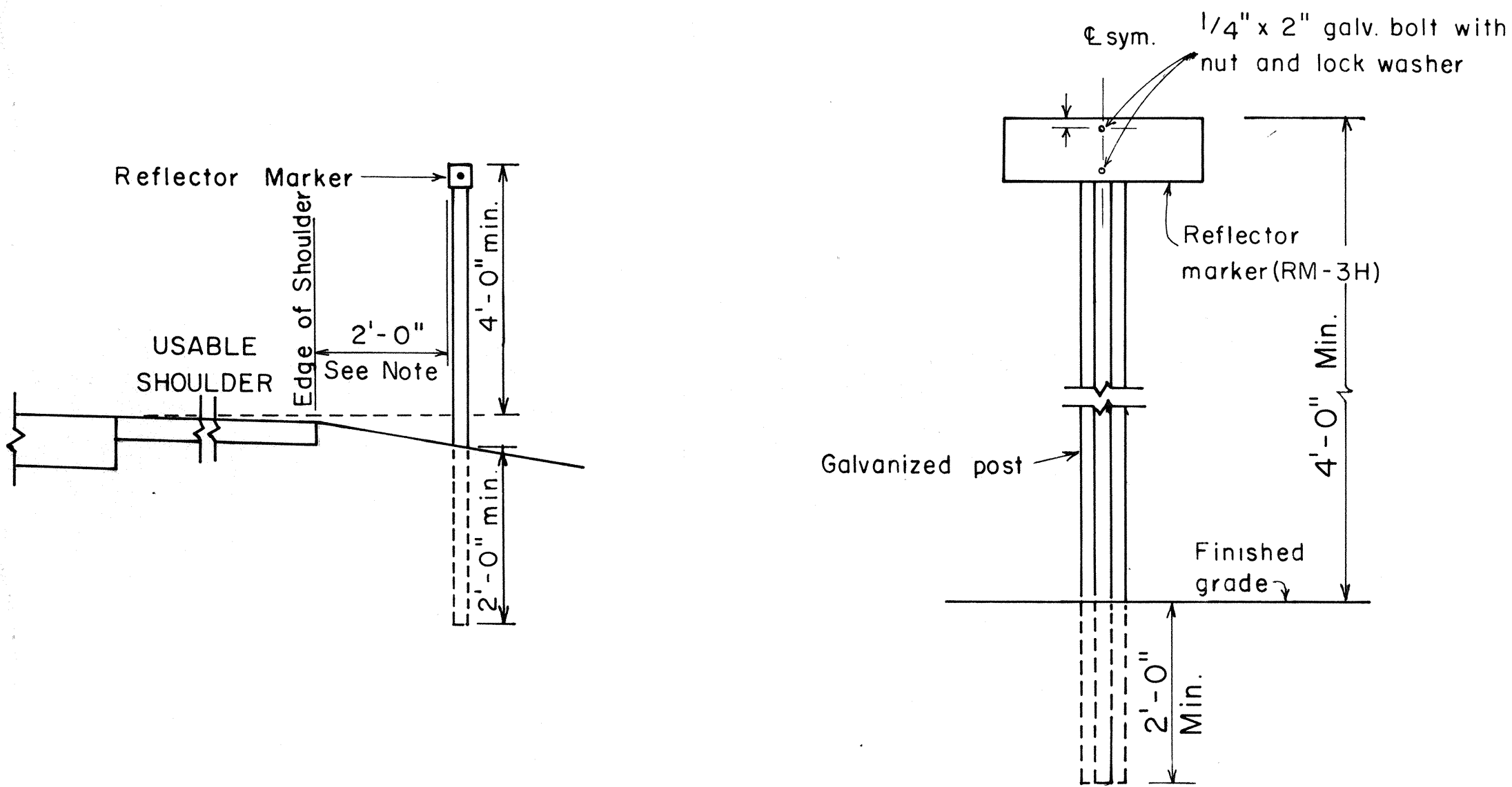
SHEET No. 20 OF 16 SHEETS DT 104

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

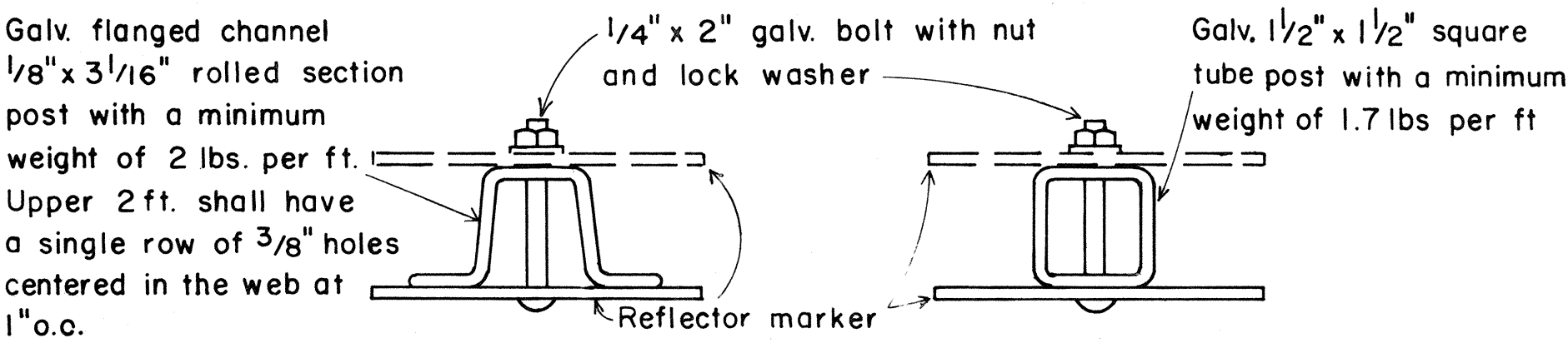
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	21	35

GENERAL NOTES:

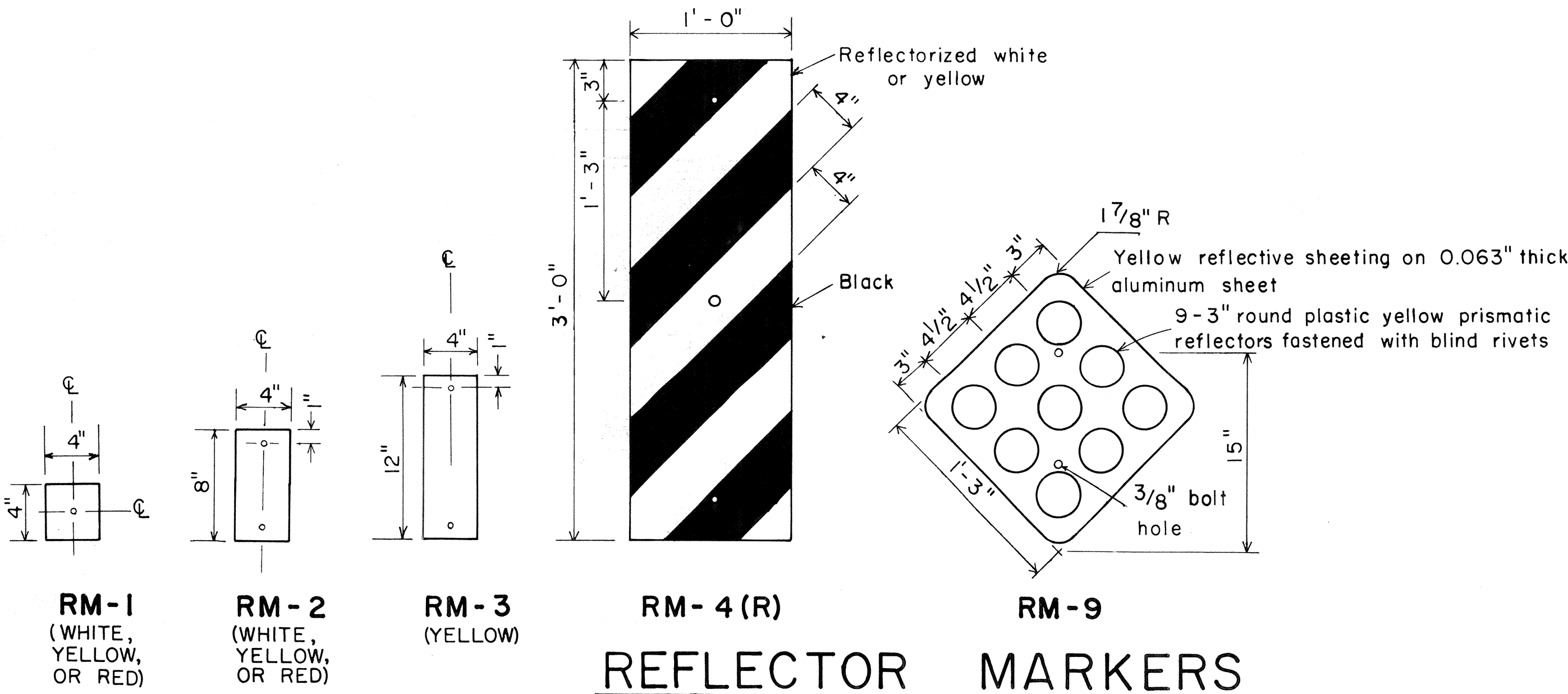
1. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
2. (R) or (L) indicates right or left and shall be as shown on the plans.
3. Reflector markers RM-1 and RM-2 shall be:
 - a) Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
 - b) White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
4. For reflector marker RM-9, reflective sheeting material may be used as an alternate.
5. For RM-4, the stripes shall slope downward at an angle of 45° in the direction of traffic.



REFLECTOR MARKER MOUNTING DETAIL



TYPICAL SECTION OF ROAD DELINEATOR

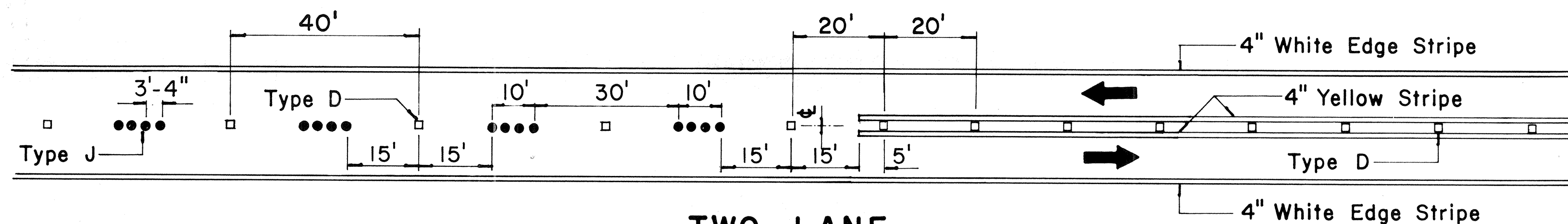


APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
APPROVED:
ASSISTANT CHIEF, ENGINEERING

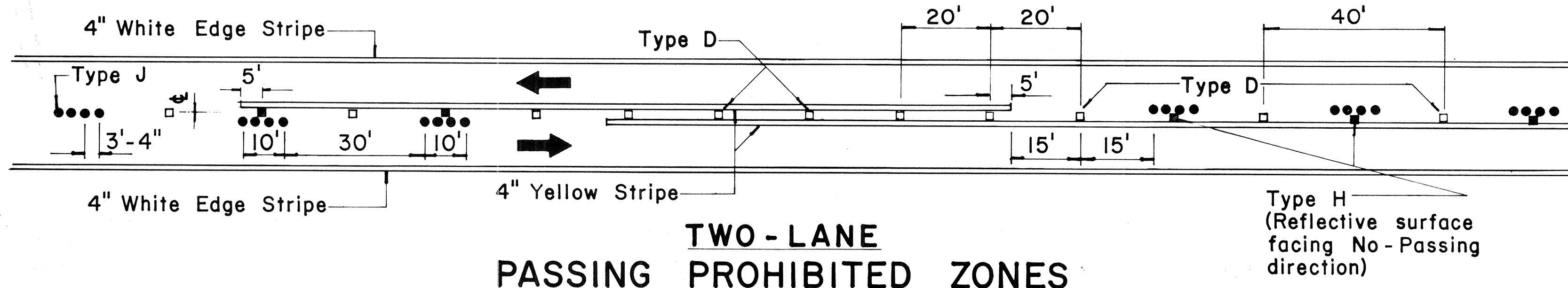
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
MISCELLANEOUS REFLECTOR MARKERS
Not to scale
June, 1977
SHEET No. 10 OF 16 SHEETS DT 110

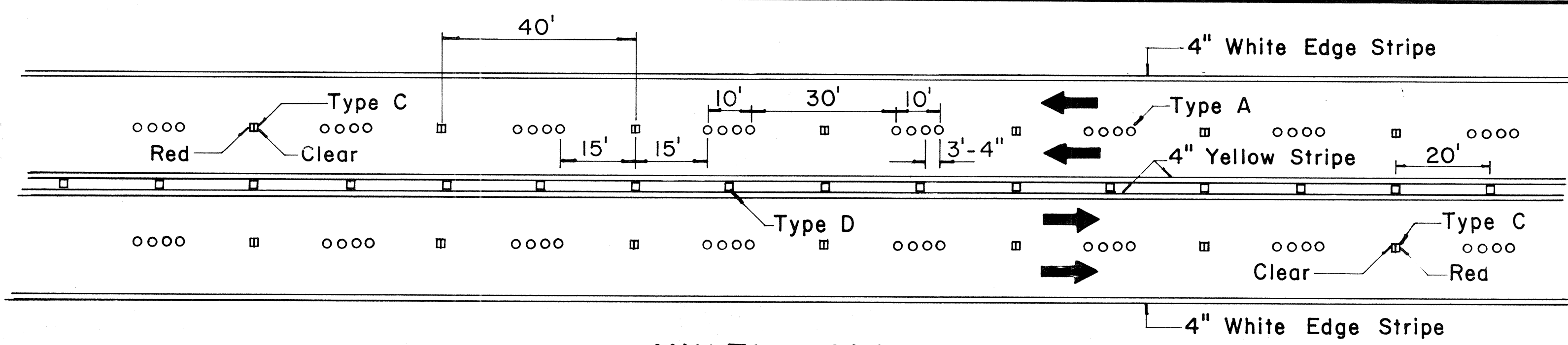
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	22	35



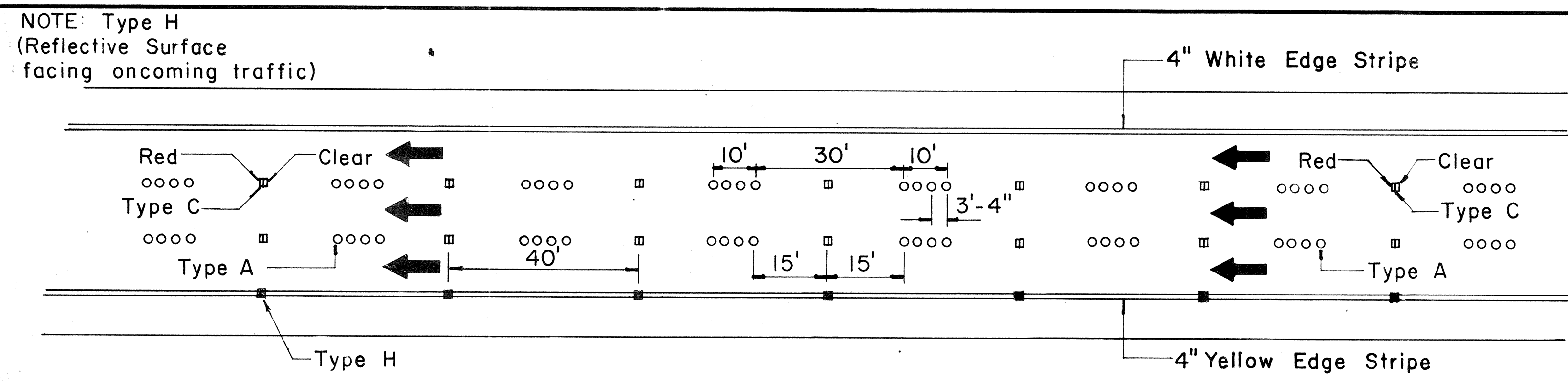
**TWO - LANE
PASSING PERMITTED AND PASSING PROHIBITED**



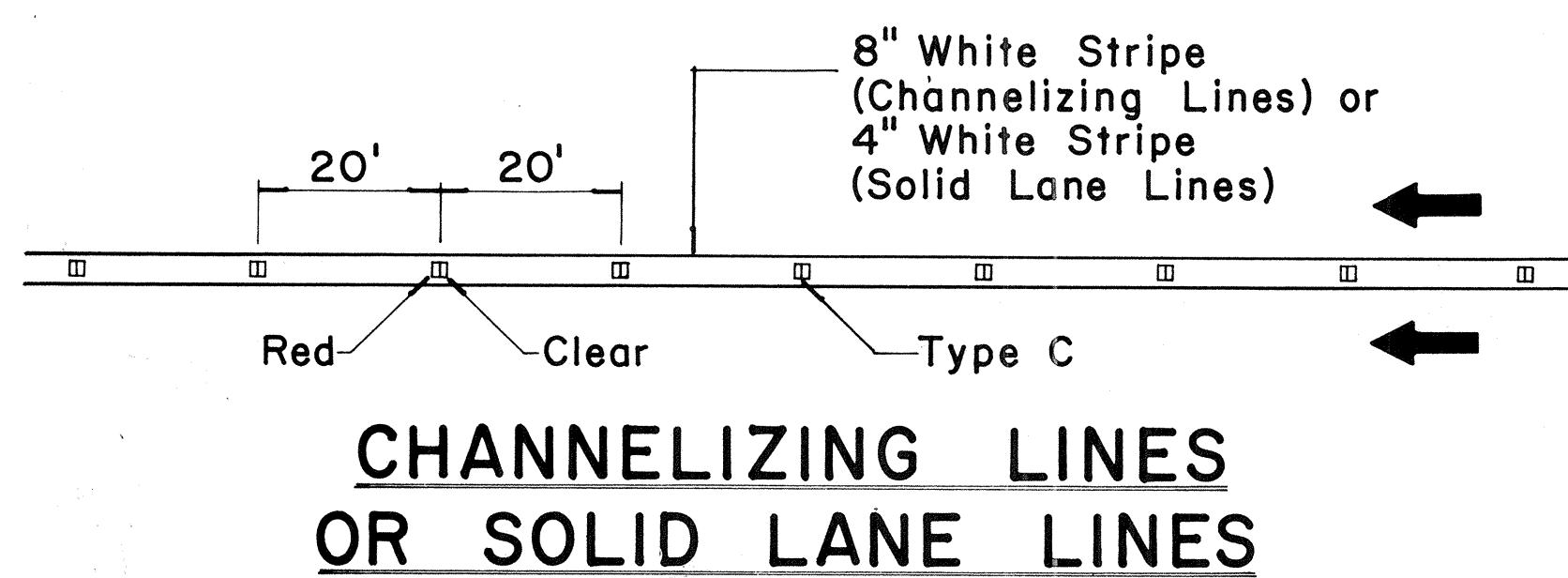
**TWO - LANE
PASSING PROHIBITED ZONES**



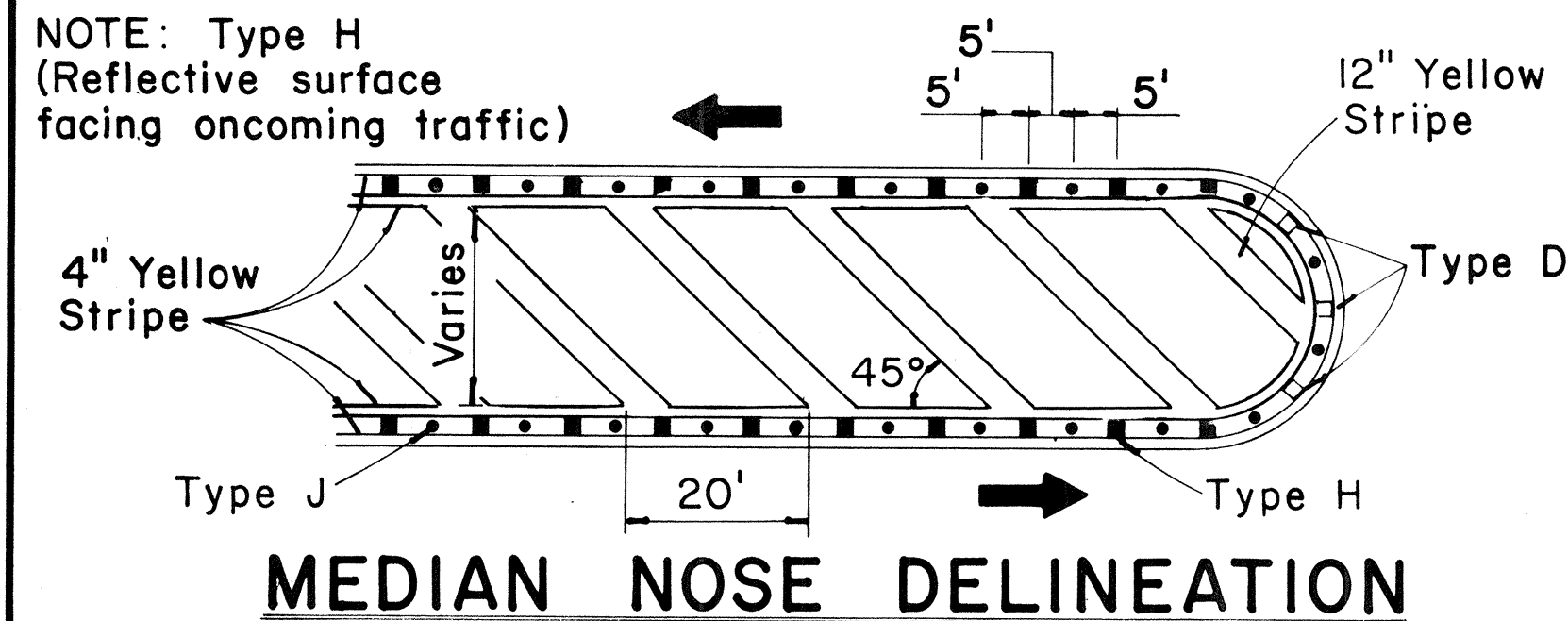
**MULTI - LANE
LANE LINES AND CENTER LINE**



**DIVIDED HIGHWAY
AND
FREEWAY**



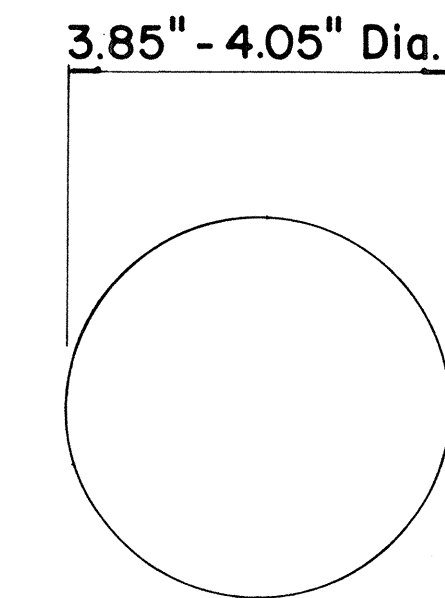
**CHANNELIZING LINES
OR SOLID LANE LINES**



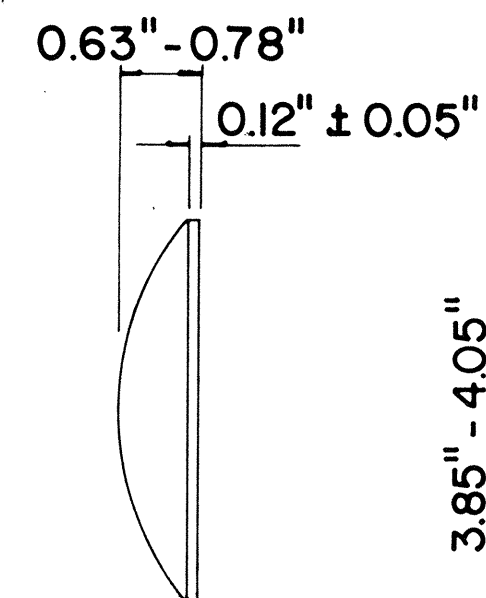
MEDIAN NOSE DELINEATION

MISCELLANEOUS

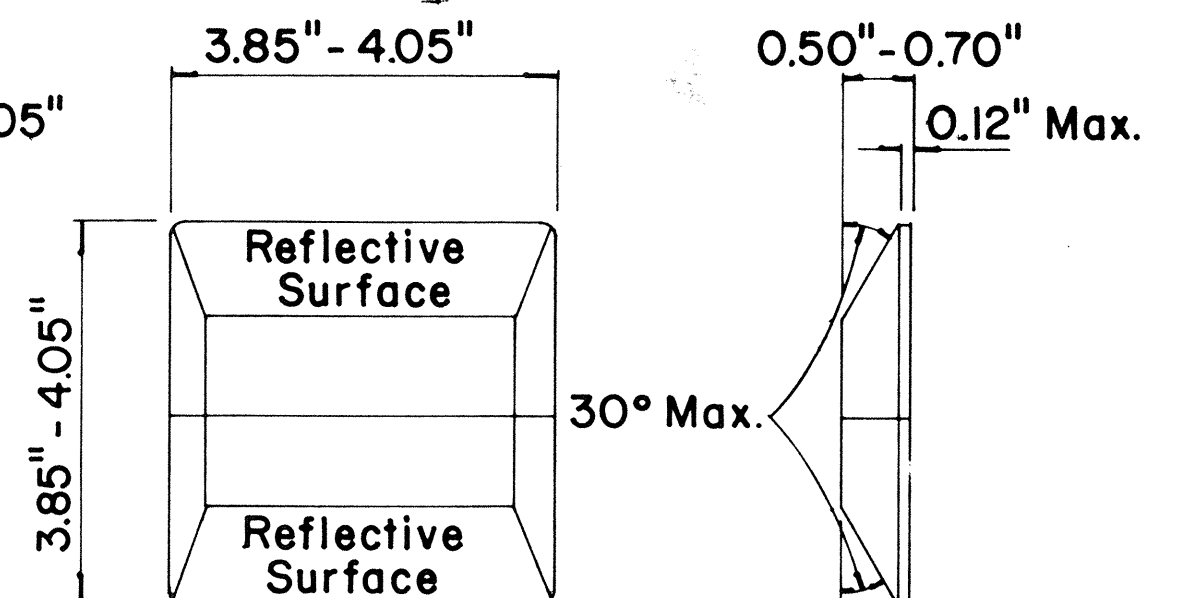
TWO - LANE



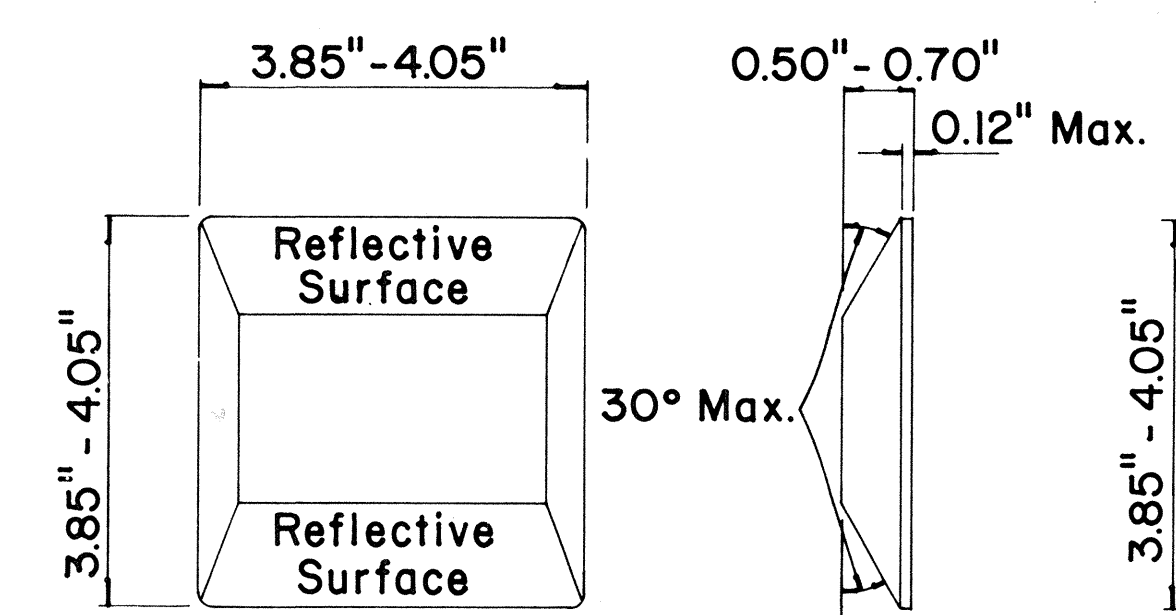
**TYPE A
NON - REFLECTIVE WHITE MARKER**



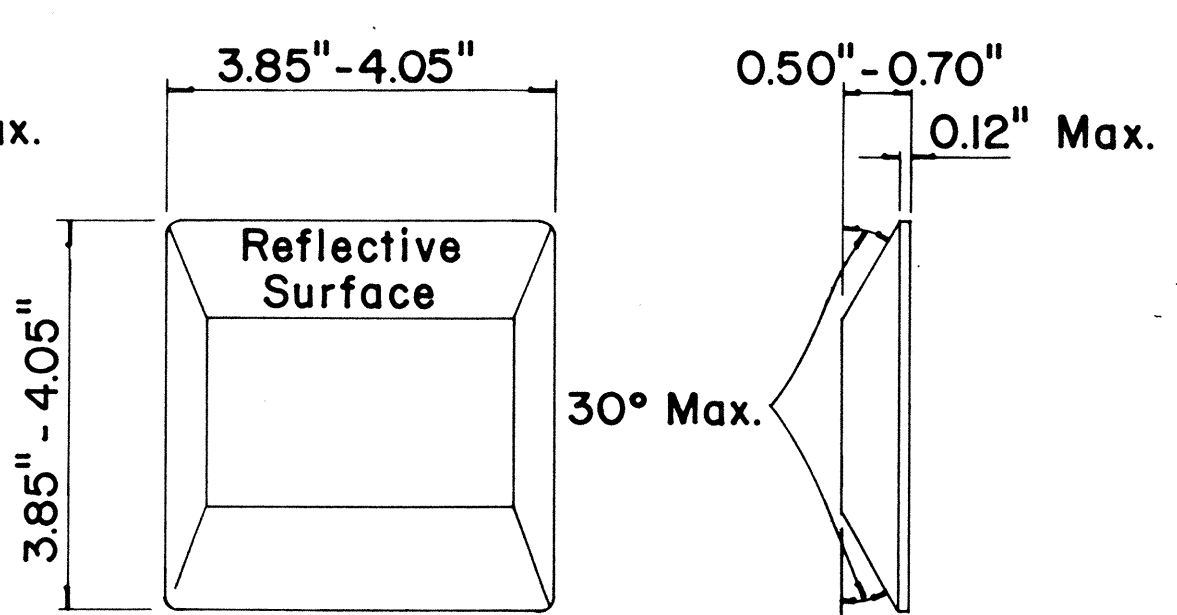
**TYPE J
NON - REFLECTIVE YELLOW MARKER**



**TYPE C
RED - CLEAR REFLECTIVE MARKER**



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



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

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.

LEGEND

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

APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER
DATE: 11/10/71

APPROVED:
Shirley Zakeish
ASSISTANT CHIEF, ENGINEERING
DATE: 11/18/71

No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72
3	Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of a travel path and Add Type H Reflector Marker.	H.C.	5-22-74
4	Revised details, General Notes & Title Box.	H.C.	1-13-77

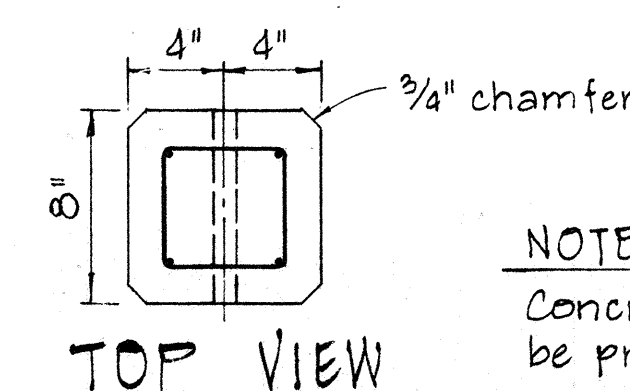
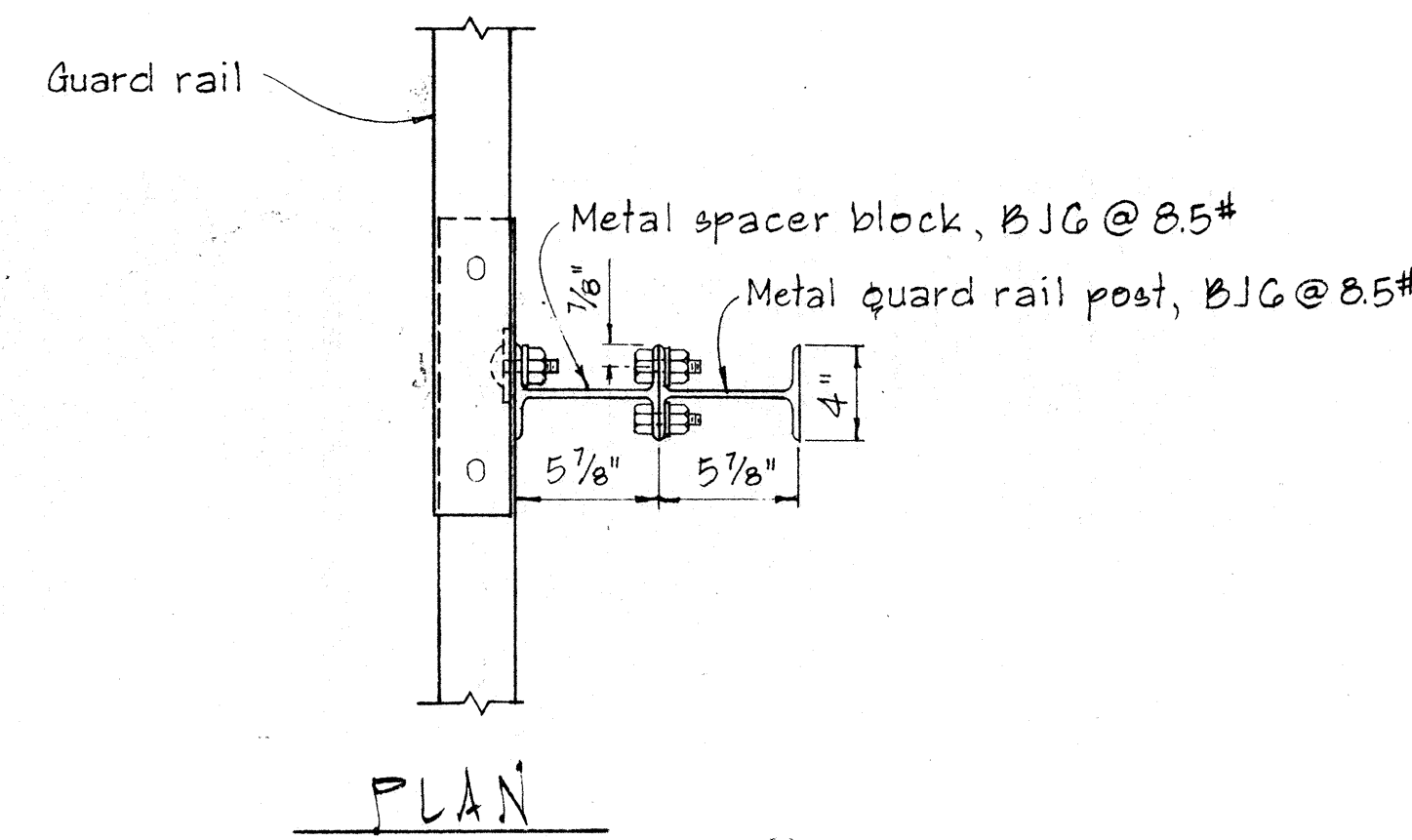
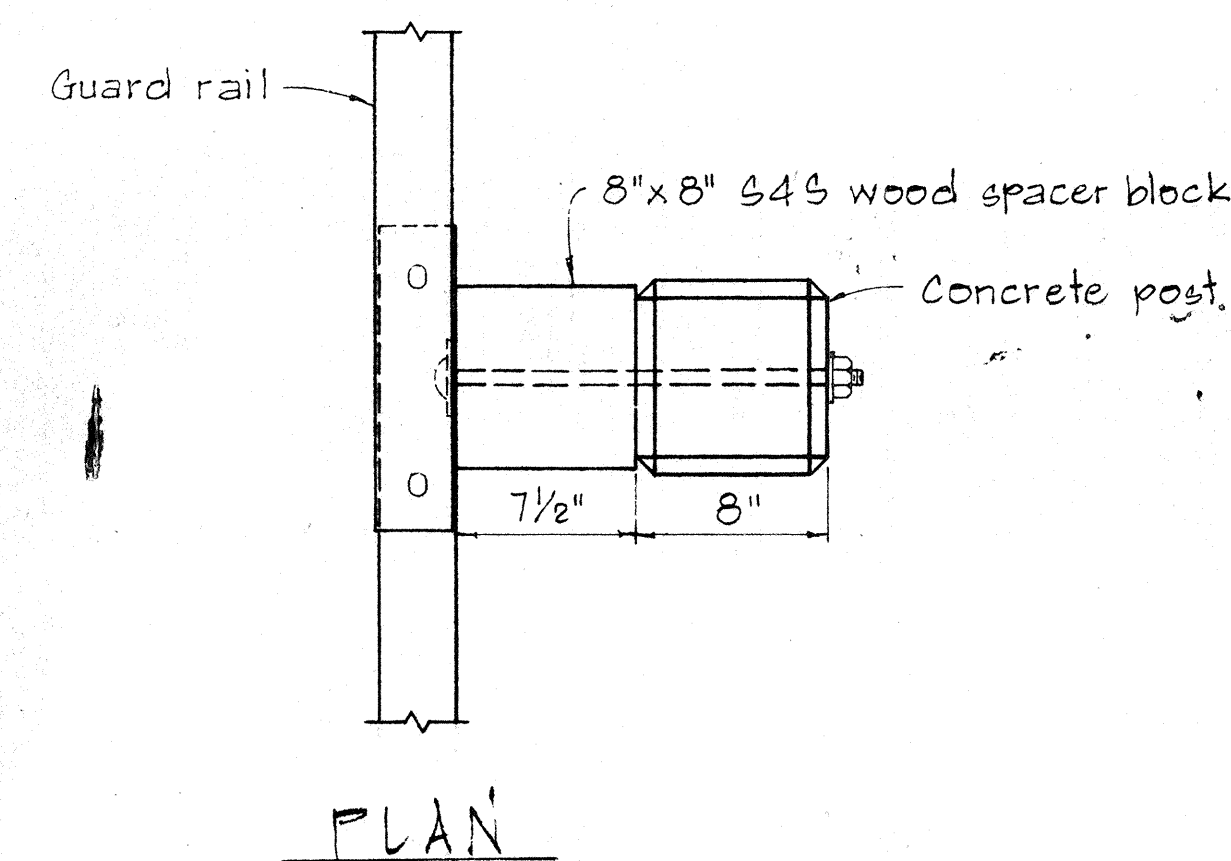
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
**STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING**

Not to Scale
October 1971

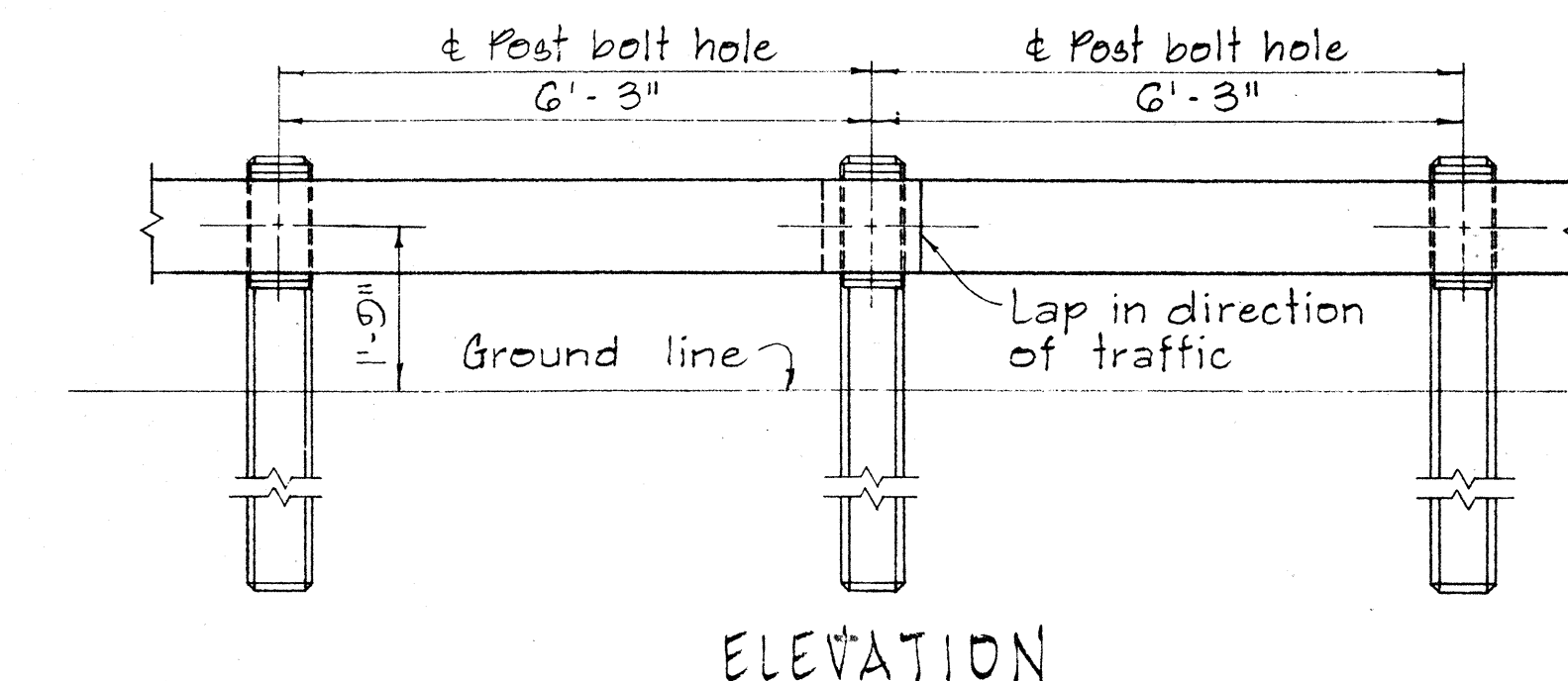
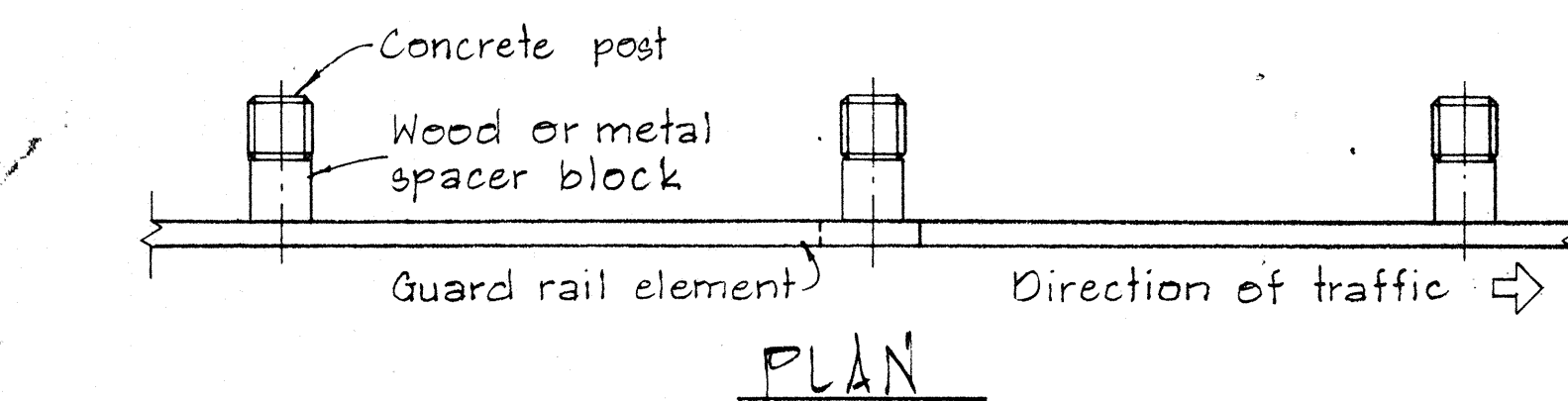
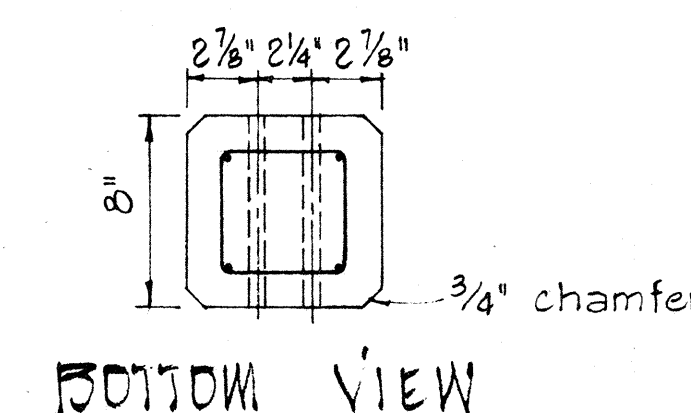
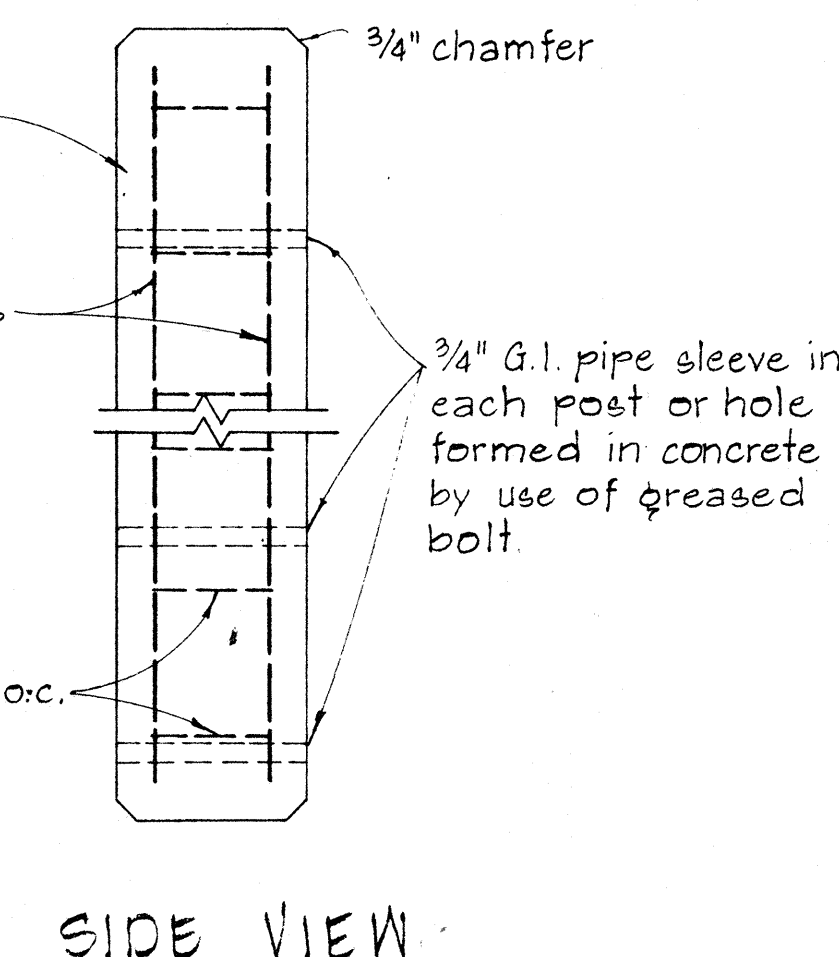
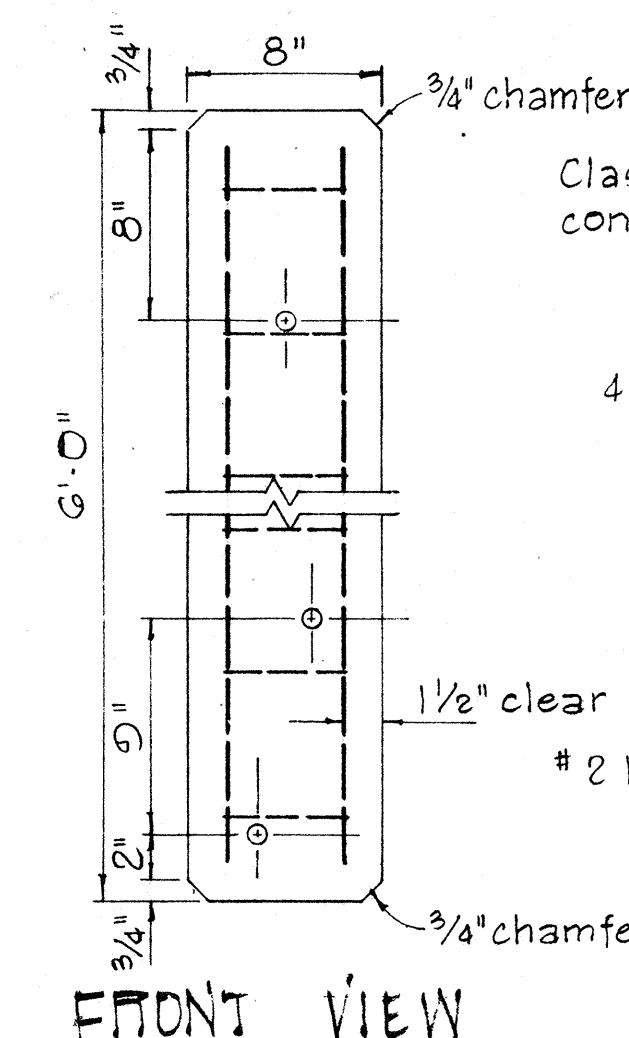
SHEET No. 11 OF 16 SHEETS DT 300

DATE: _____
DRAWN BY: _____
CHECKED BY: _____
DESIGNED BY: _____
NOTED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	23	35

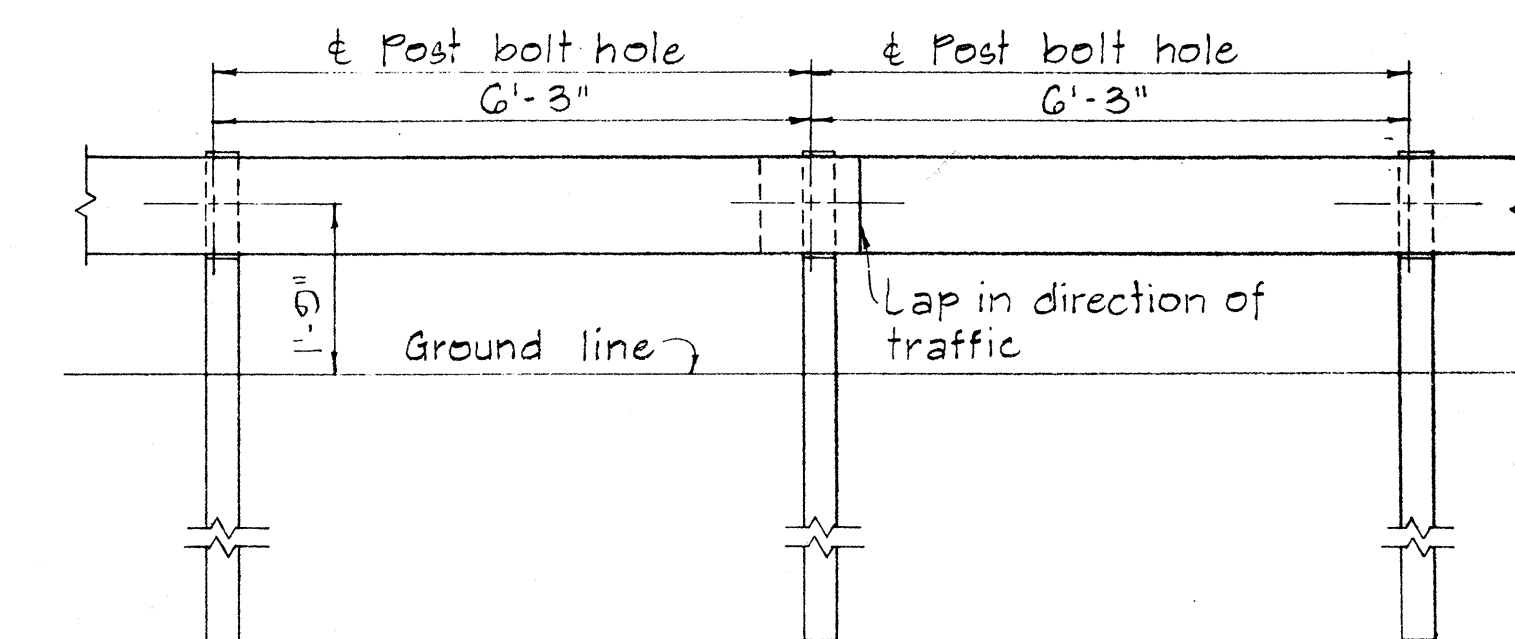
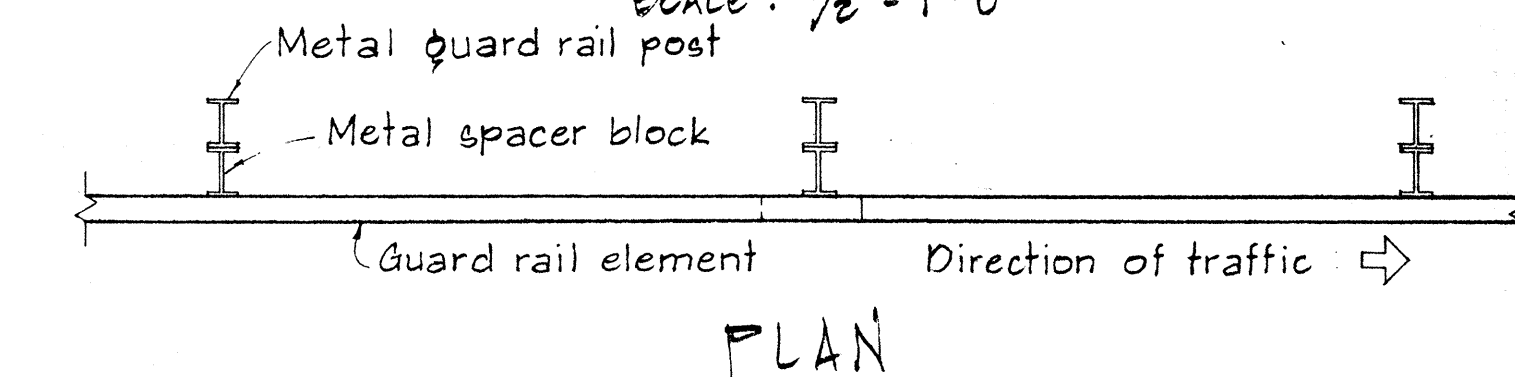


NOTE:
Concrete post shall be precast



METAL GUARD RAIL ON CONCRETE POST WITH WOOD OR METAL SPACER BLOCK.

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

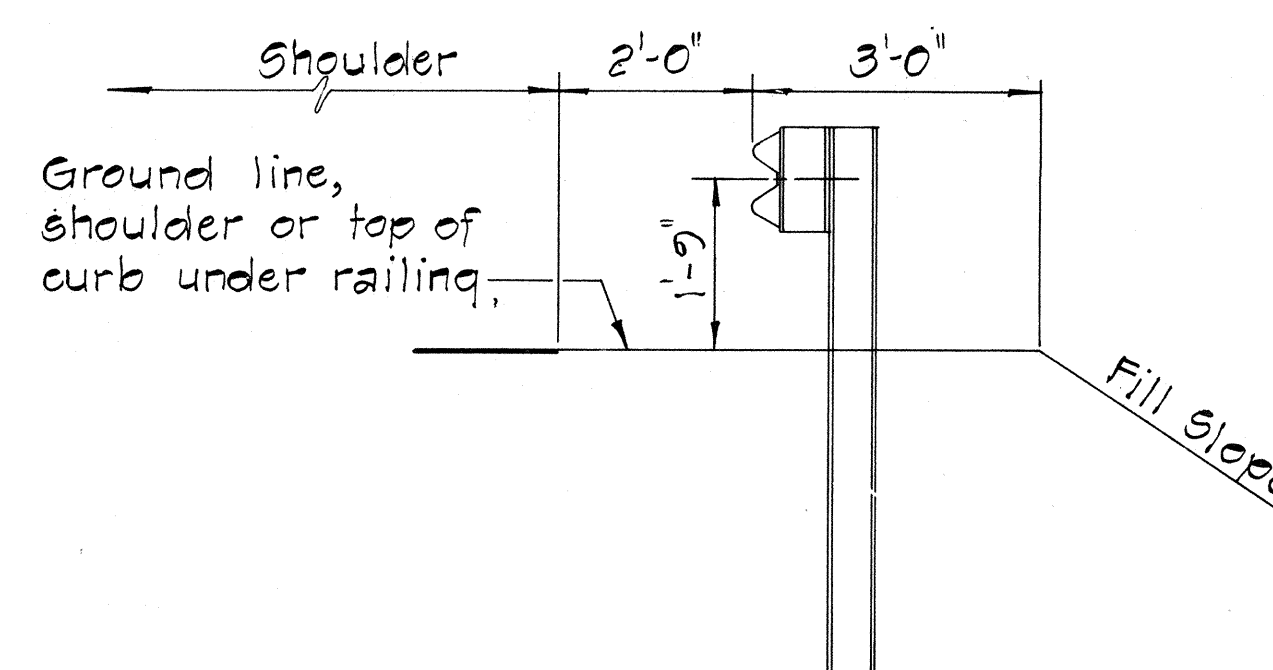


METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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

SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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



TYPICAL METAL GUARD RAIL DETAIL

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

APPROVAL RECOMMENDED:
Traffic Engineer

12/29/62
DATE

APPROVED:
Assistant Chief, Engineering

12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN NOV. 1968

SHEET No. 12 OF 16 SHEETS DT 500

SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

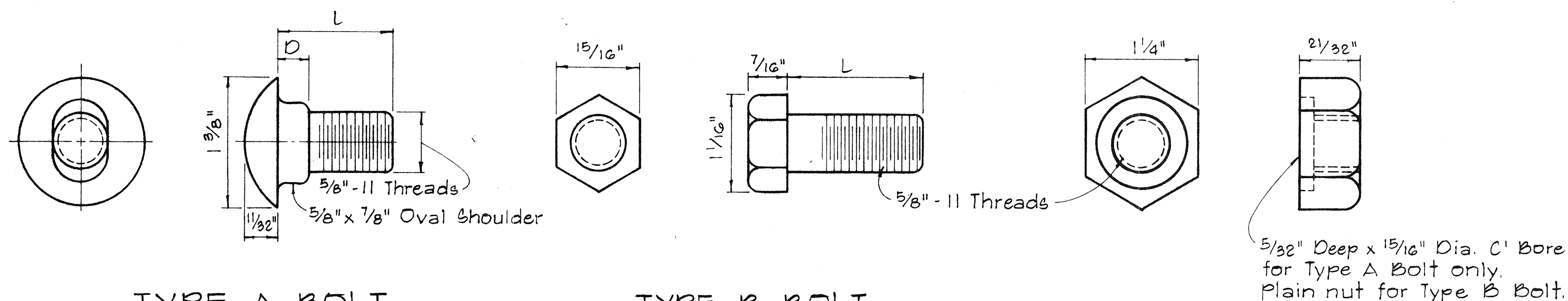
SCALE: 1 1/2" = 1'-0"

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	24	35

BOLT DIMENSIONS		
TYPE A BOLT		
Splice Bolt	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Double Wood Blocks	3/32"	24"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	18"
Rail Bolt for Metal Block	3/32"	2"

BOLT DIMENSIONS		
TYPE B BOLT		
Post Bolt for Conc. Post w/ Metal Blocks		5 1/2"
Post Bolt for Metal Post w/ Metal Block		1 3/4"



TYPE A BOLT

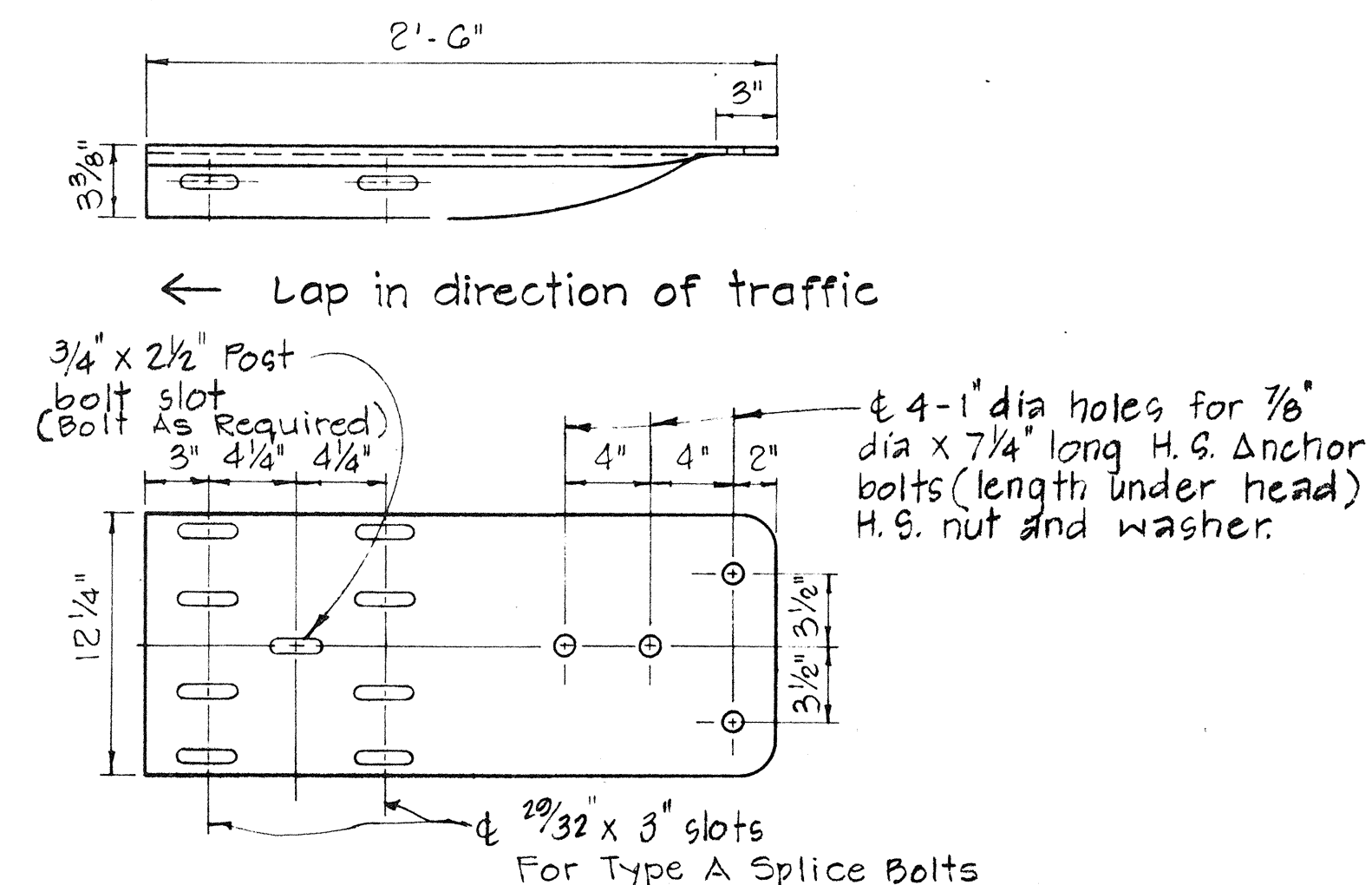
TYPE B BOLT

SPUCE RAIL AND POST BOLTS

Scale: Full Size

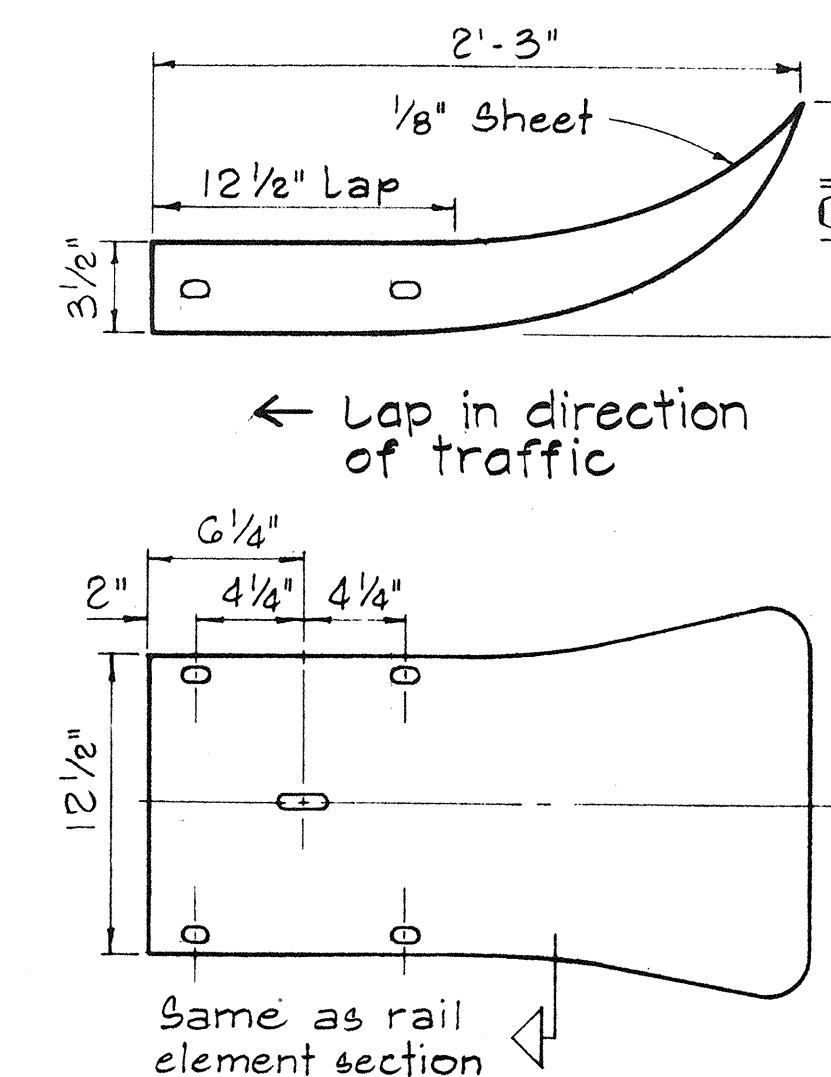
HEXAGON NUT

Scale: Full Size



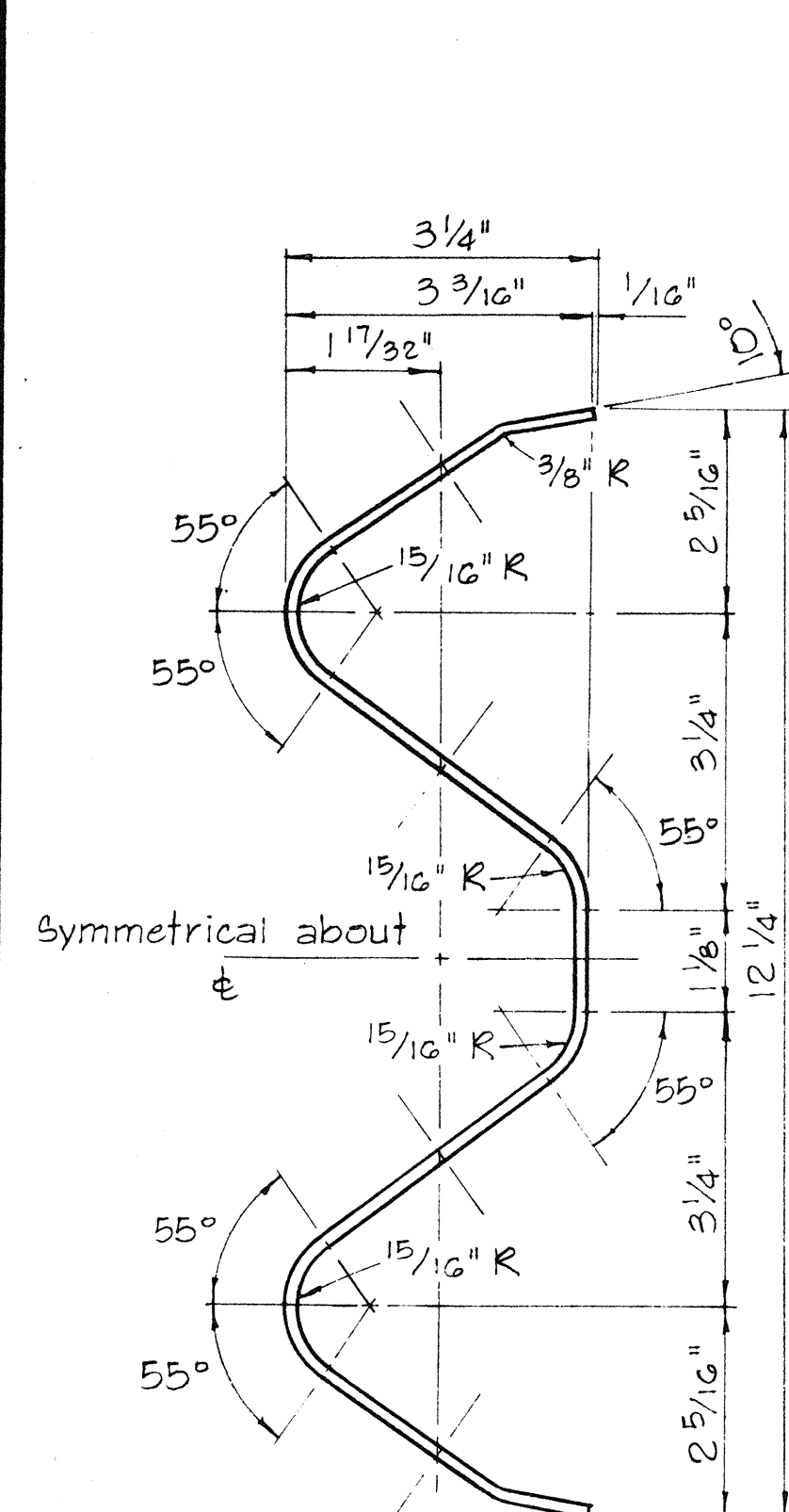
SPECIAL END SHOE

Scale: 1 1/2\"=1'-0"



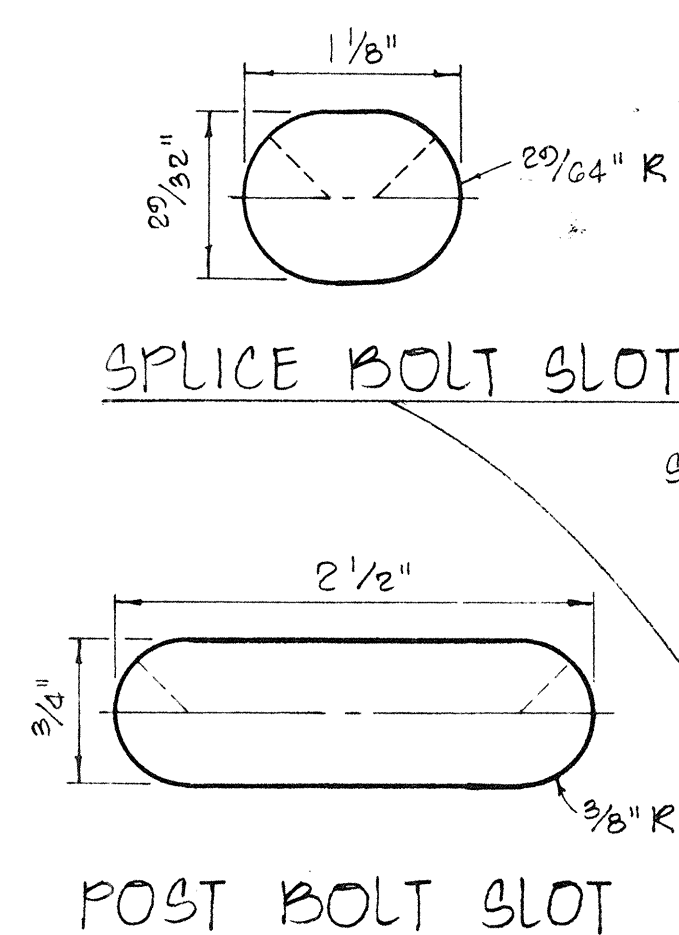
FLARED END

Scale: 1 1/2\"=1'-0"



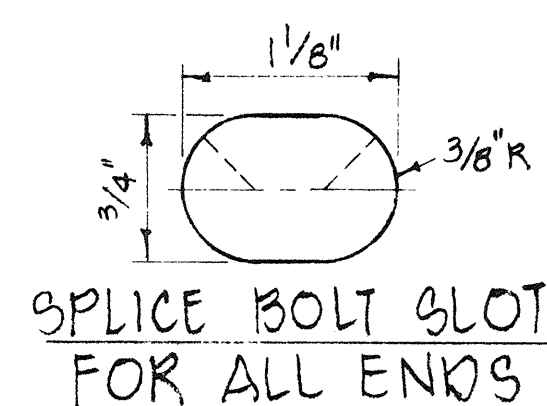
RAIL ELEMENT SECTION

Scale: 6\"=1'-0"

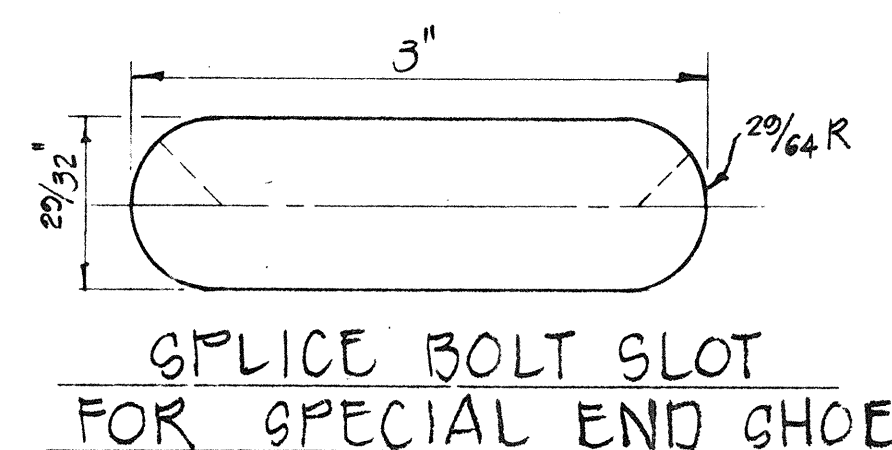


SPUCE BOLT SLOT

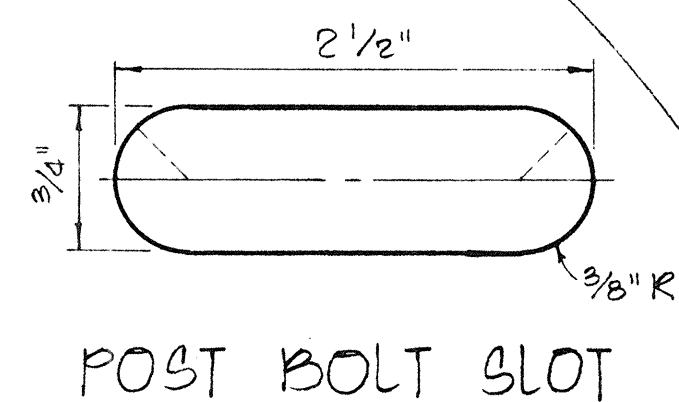
Scale: Full Size



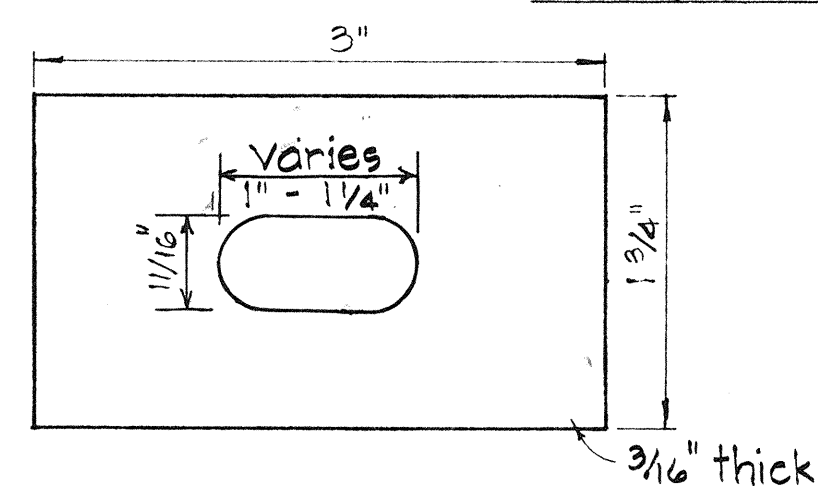
SPUCE BOLT SLOT FOR ALL ENDS



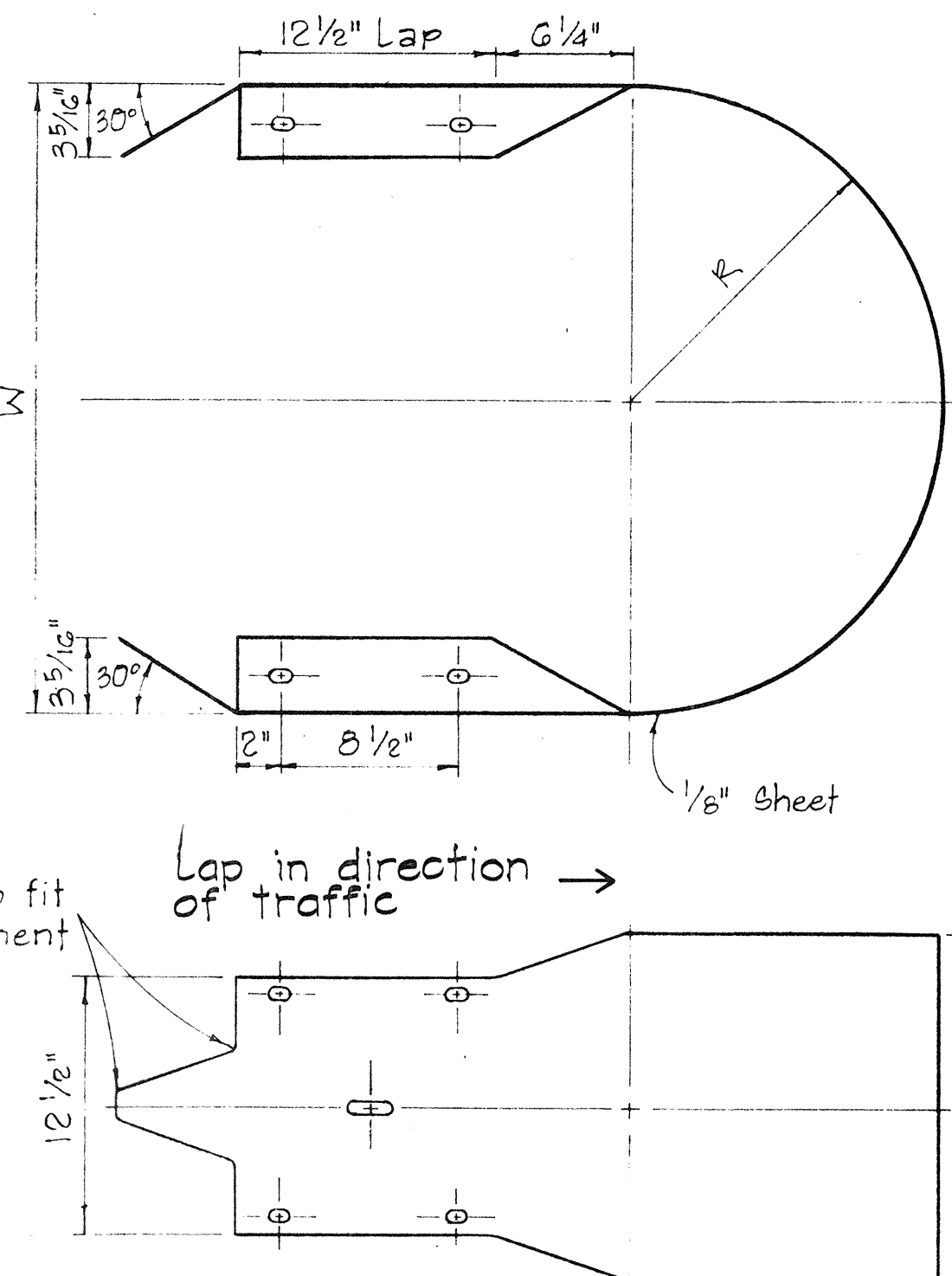
SPUCE BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT

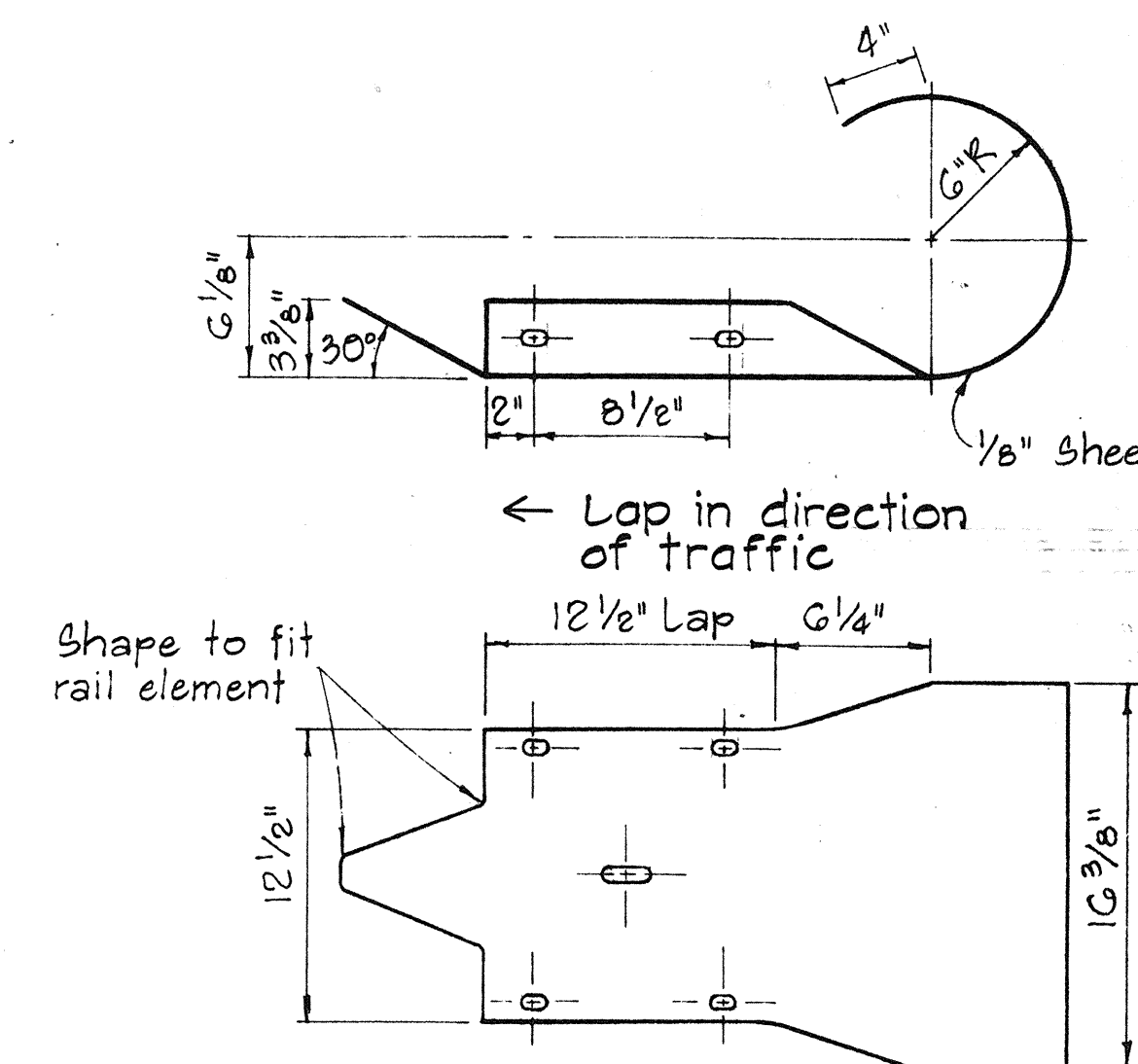


RAIL WASHER



MEDIAN END

Scale: 1 1/2\"=1'-0"



CURVED END

Scale: 1 1/2\"=1'-0"

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
APPROVED:
ASSISTANT CHIEF, ENGINEERING

12/29/69
DATE

12-20-69
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS METAL GUARD RAIL

Scale: As Noted August, 1968

SHEET No. 13 OF 16 SHEETS DT 501

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS- 0190(2)	1978	25	35

GENERAL NOTES

1. Grates and Frames shall be hot dip galvanized after fabrication, see specifications.
2. All welds $\frac{3}{8}$ " unless otherwise noted.
3. Refer to "Spacing Table" for Types 6IG4 & 6IG6 Drop Intake and Frame & Grates dimensions.
4. The Frame & Grate materials shall conform to the specifications of ASTM Designation Structural Steel A283, Grade D and the Standard Specifications.
5. Culvert shall leave Drop Intake from any position and any direction indicated by plans or ordered by the Engineer. Culverts may both enter and leave Drop Intake so that Drop Intake will act as manhole.
6. Manhole Rungs (12" o.c.) are required when "H" is greater than 4 feet 6 inches. Only one rung (16 inches from the bottom) is required if "H" is 4 feet 6 inches or less. Manhole Rungs may be placed at any location as ordered by the Engineer.

TYPE	NO. BARS	A	B	C	D
61614	11	2'-0"	1'-11½"	1¼"	1'-6"
61616	17	3'-0"	2'-11¾"	1⅝"	2'-0"

NO.	REVISION	APPROVED BY	DATE
1	Curb for Top of Fill Gutters	H.P.	6-5-11
2	Spacing on manhole rungs to conform to OSHA.	H.P.	1-21-15

APPROVAL RECOMMENDED:

HYDRAULIC DESIGN ENGINEER

52-17-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING

2-17-69
DATE

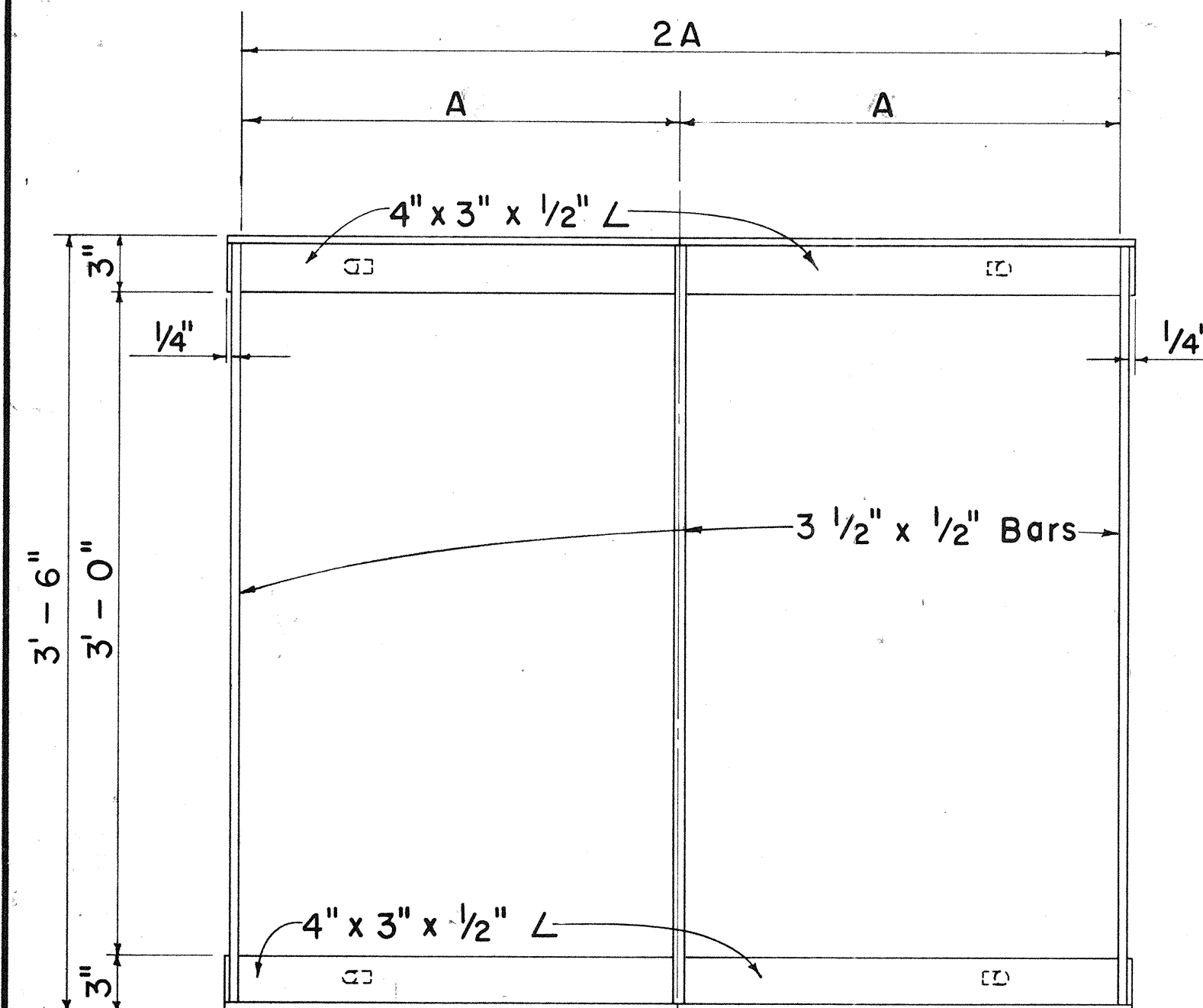
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TYPE 61614 & 61616
GRATED DROP INTAKES

Scales: As Noted

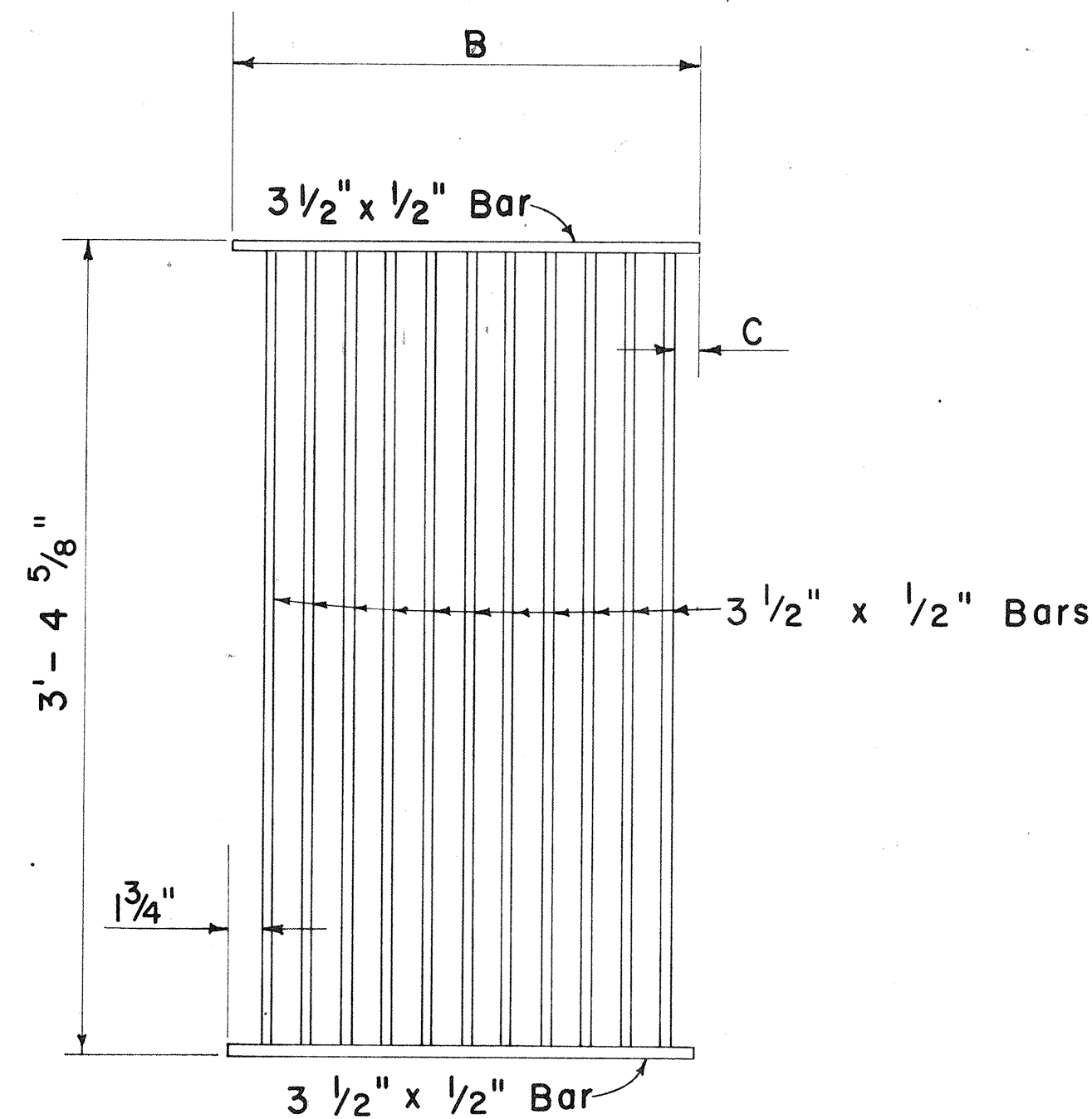
Date: Feb. 1969

SHEET No. 14 OF 16 SHEETS **DH 8**



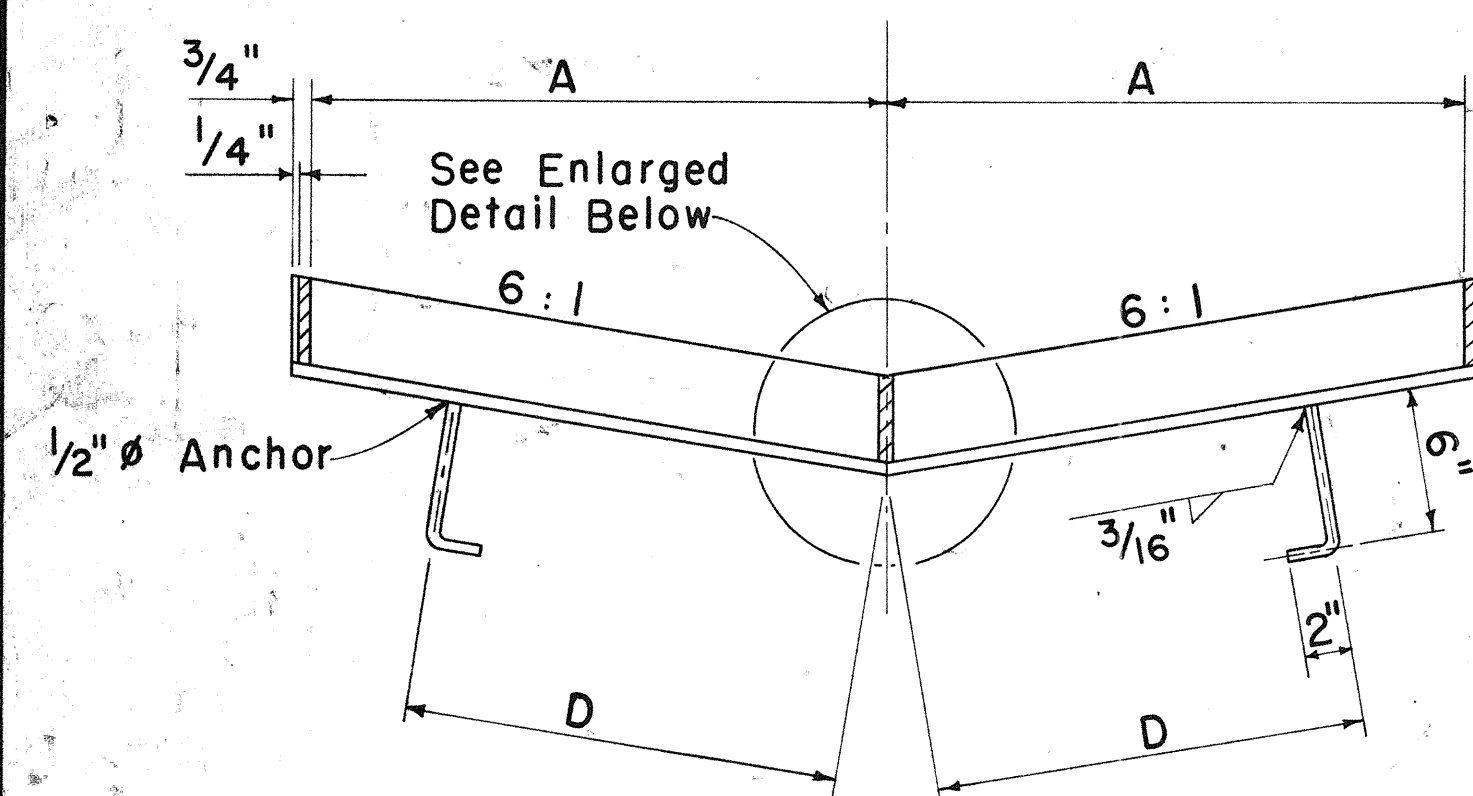
PLAN

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



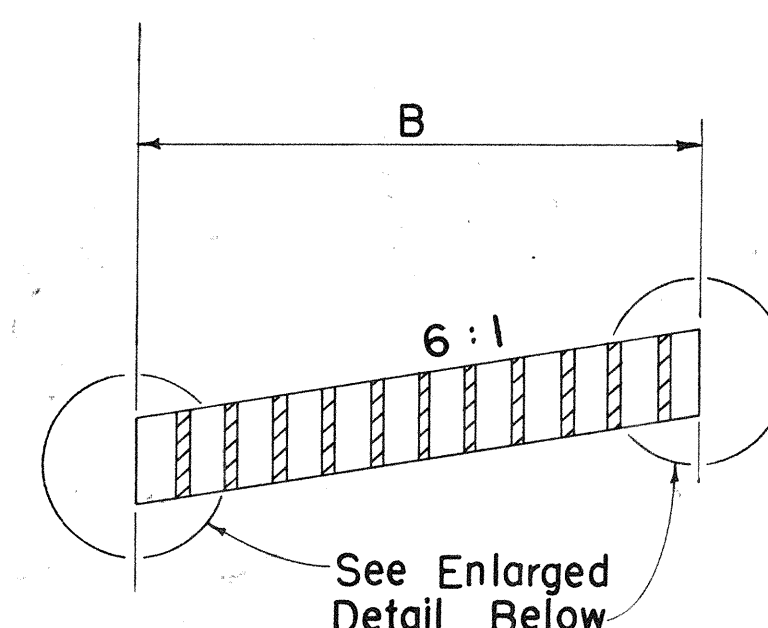
PLAN

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



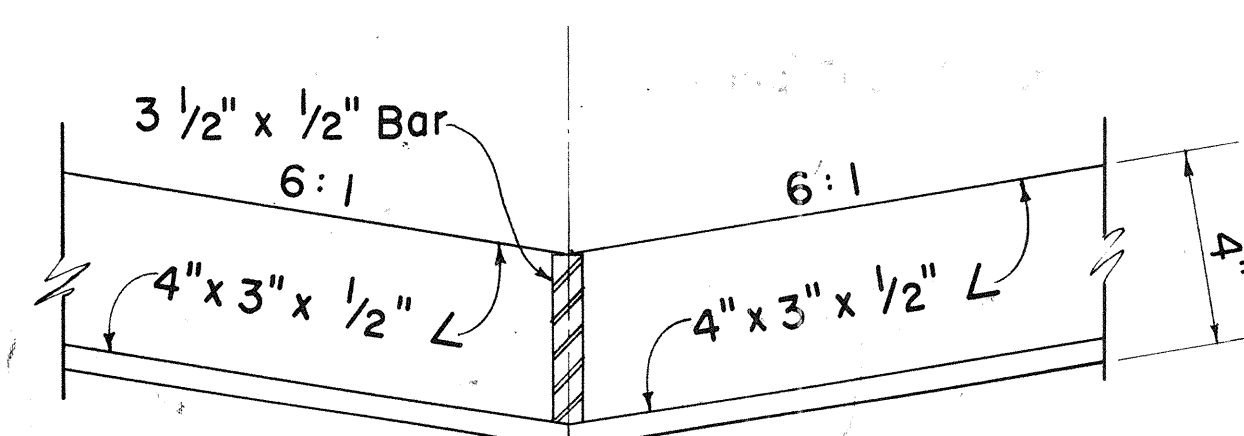
SECTION

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



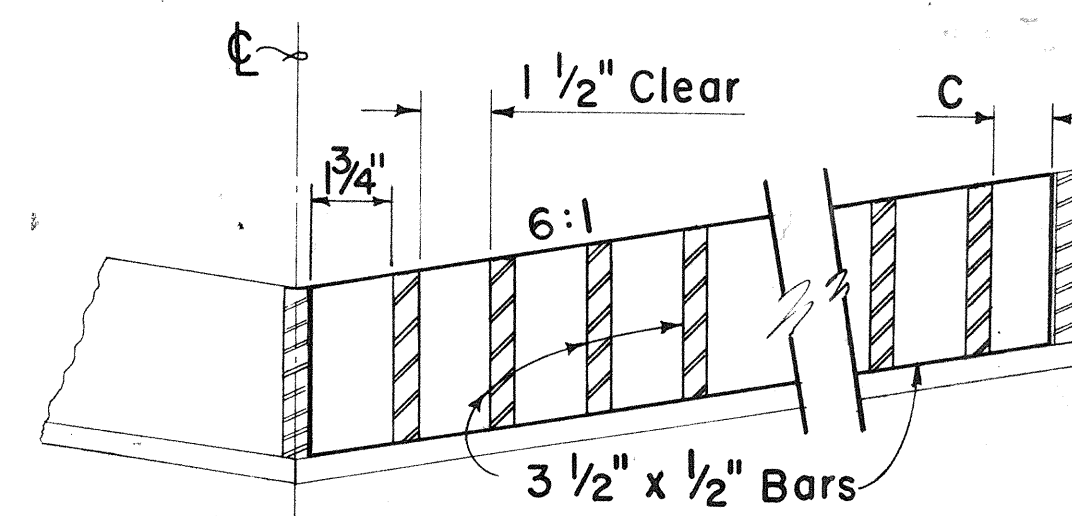
SECTION

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



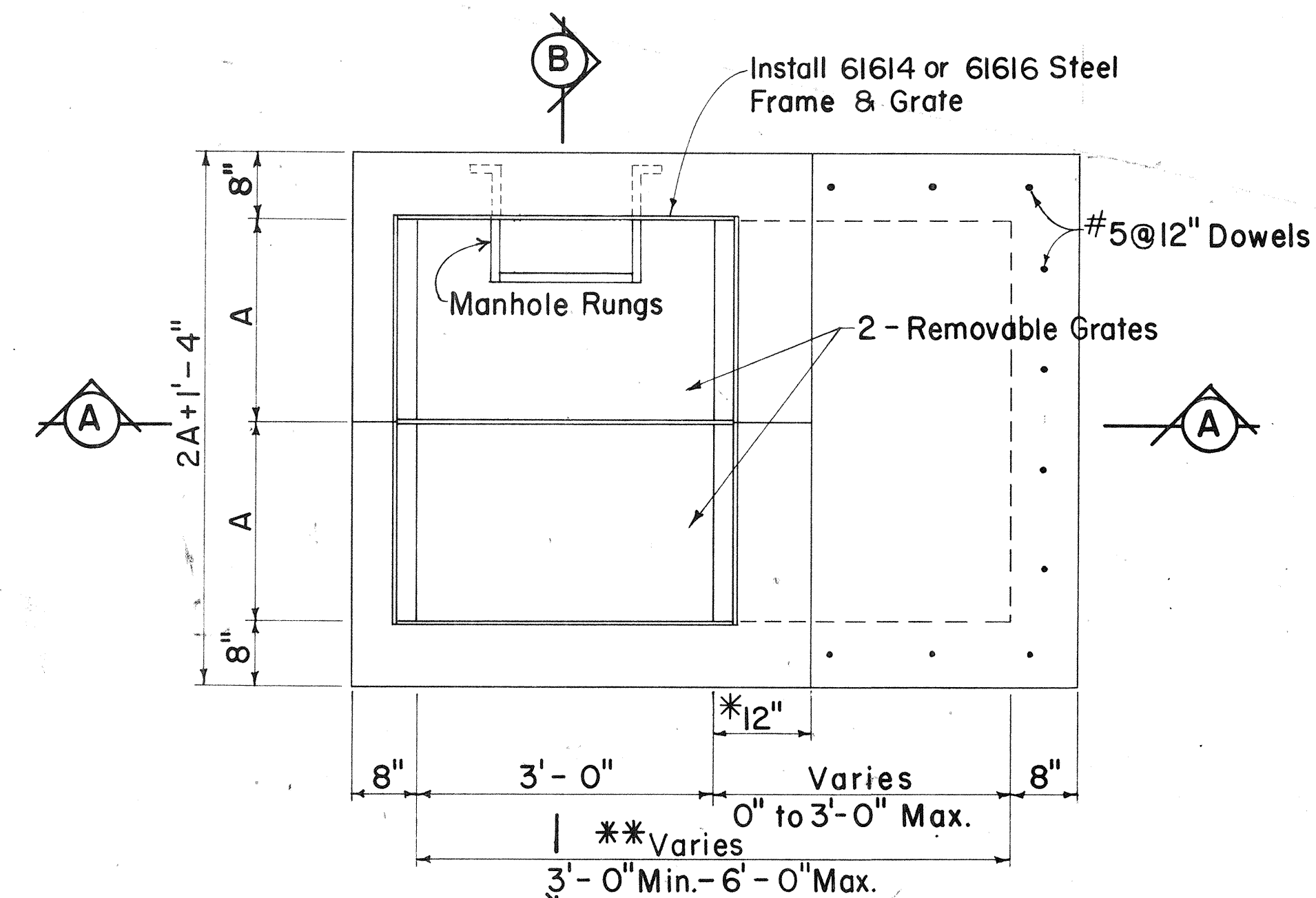
FRAME

Scale: 3" = 1'-0"

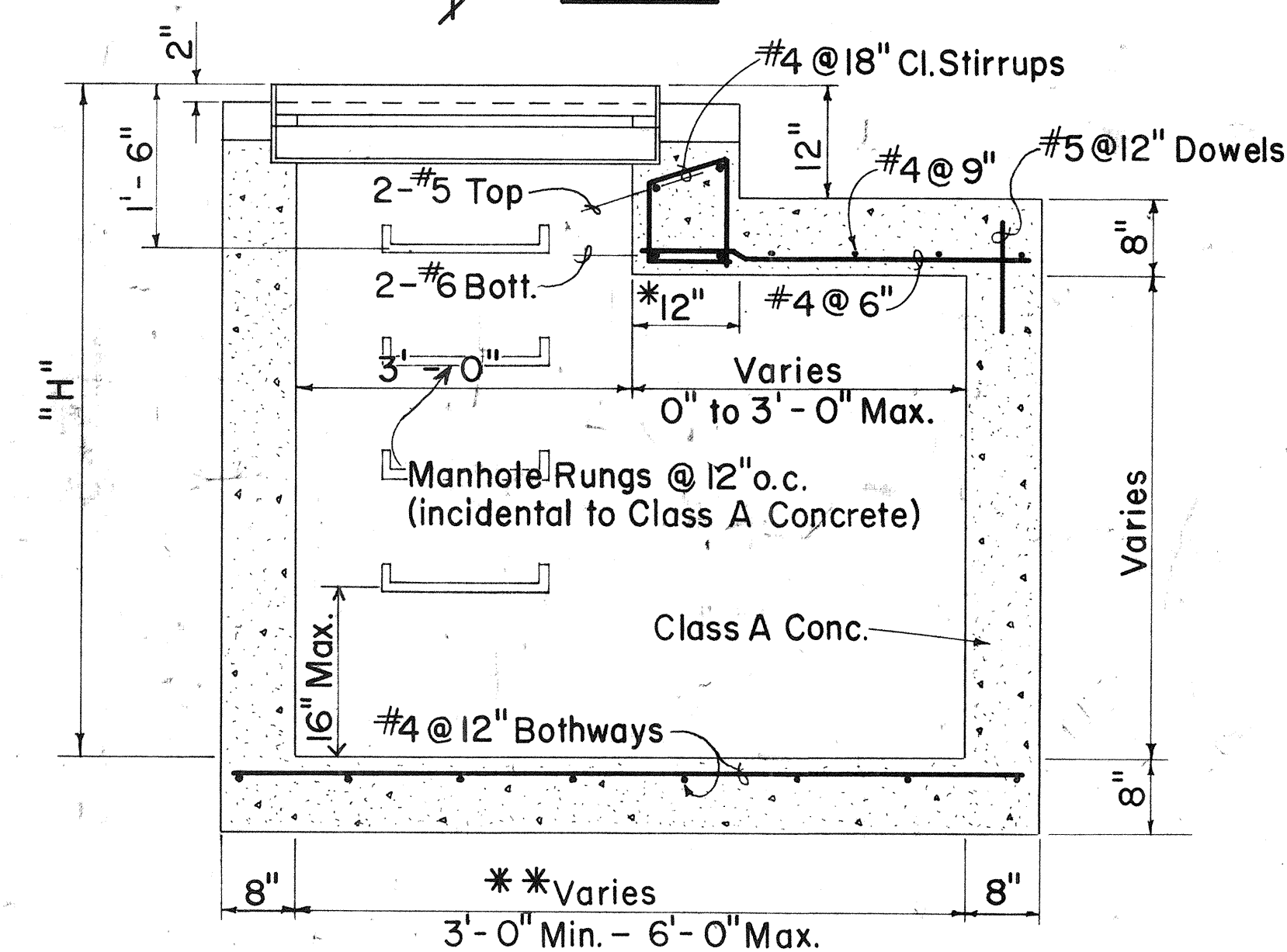


GRATE

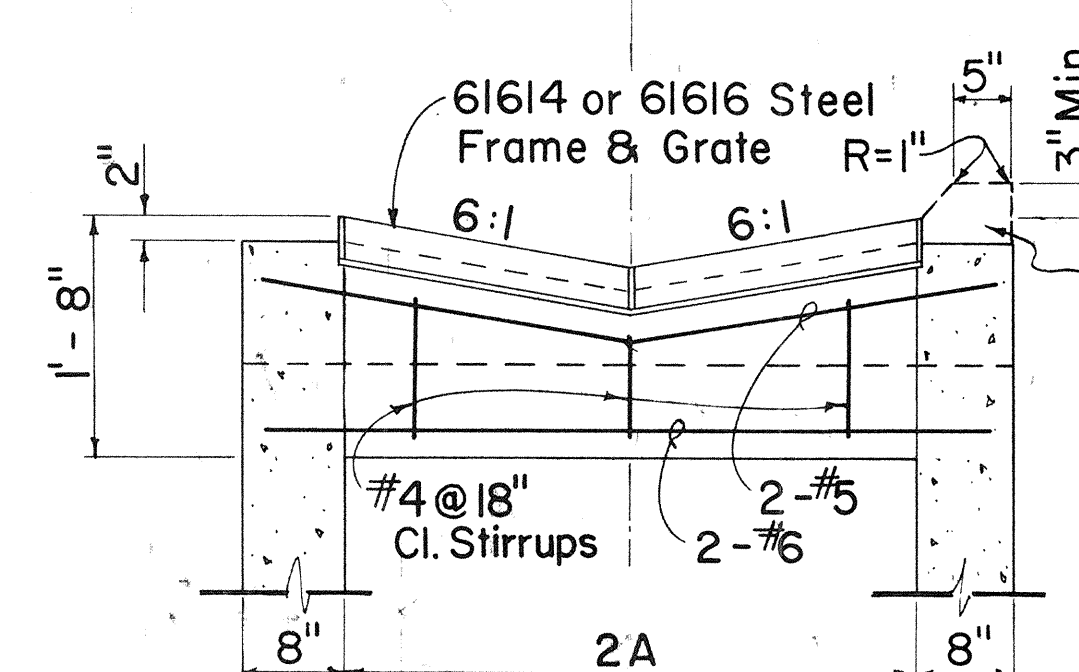
Scale : 3" = 1' - 0"



PLAN



SECTION A - A



SECTION B - B

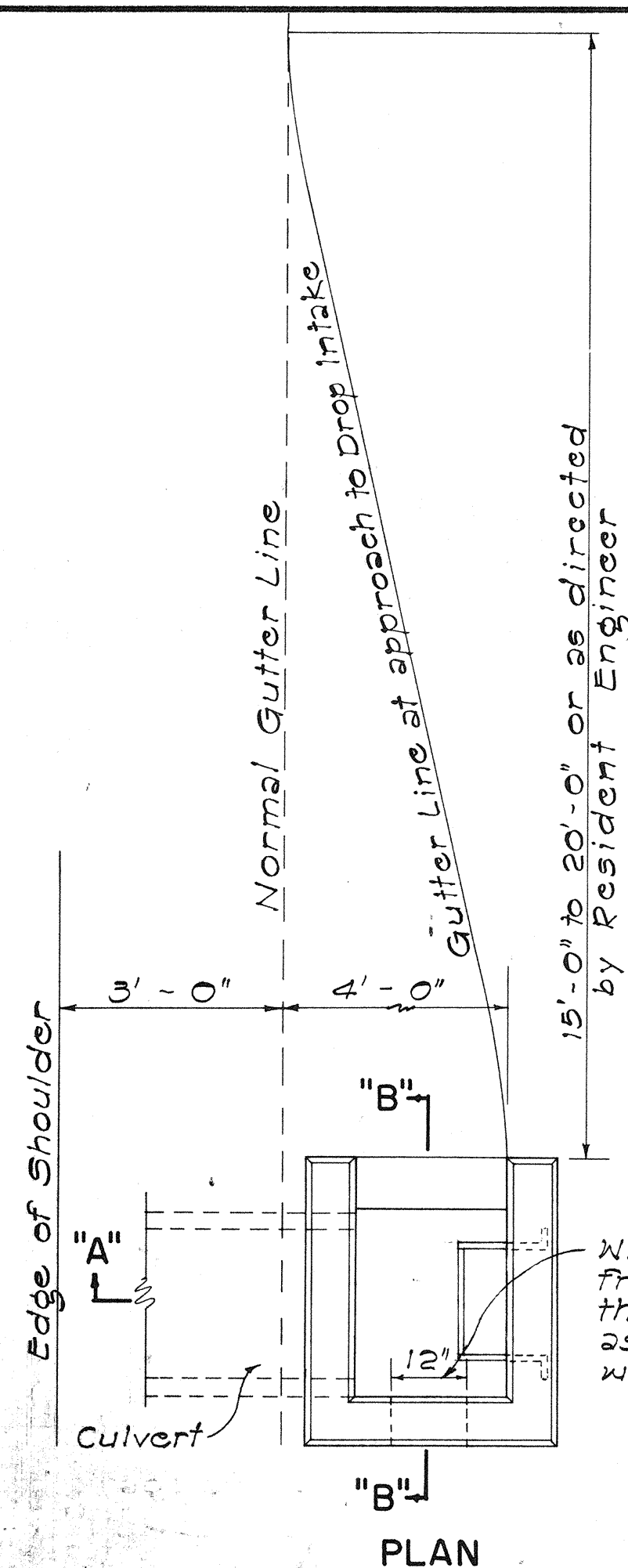
DETAILS OF 61614 OR 61616 DROP INTAKE

Scale: $\frac{3}{4}" = 1' - 0"$

- *For Minimum size box of 3'-0", use 8" and eliminate reinforcing steel shown in the top portion.
 **For Culverts larger than 30", the minimum dimension shall be D'.

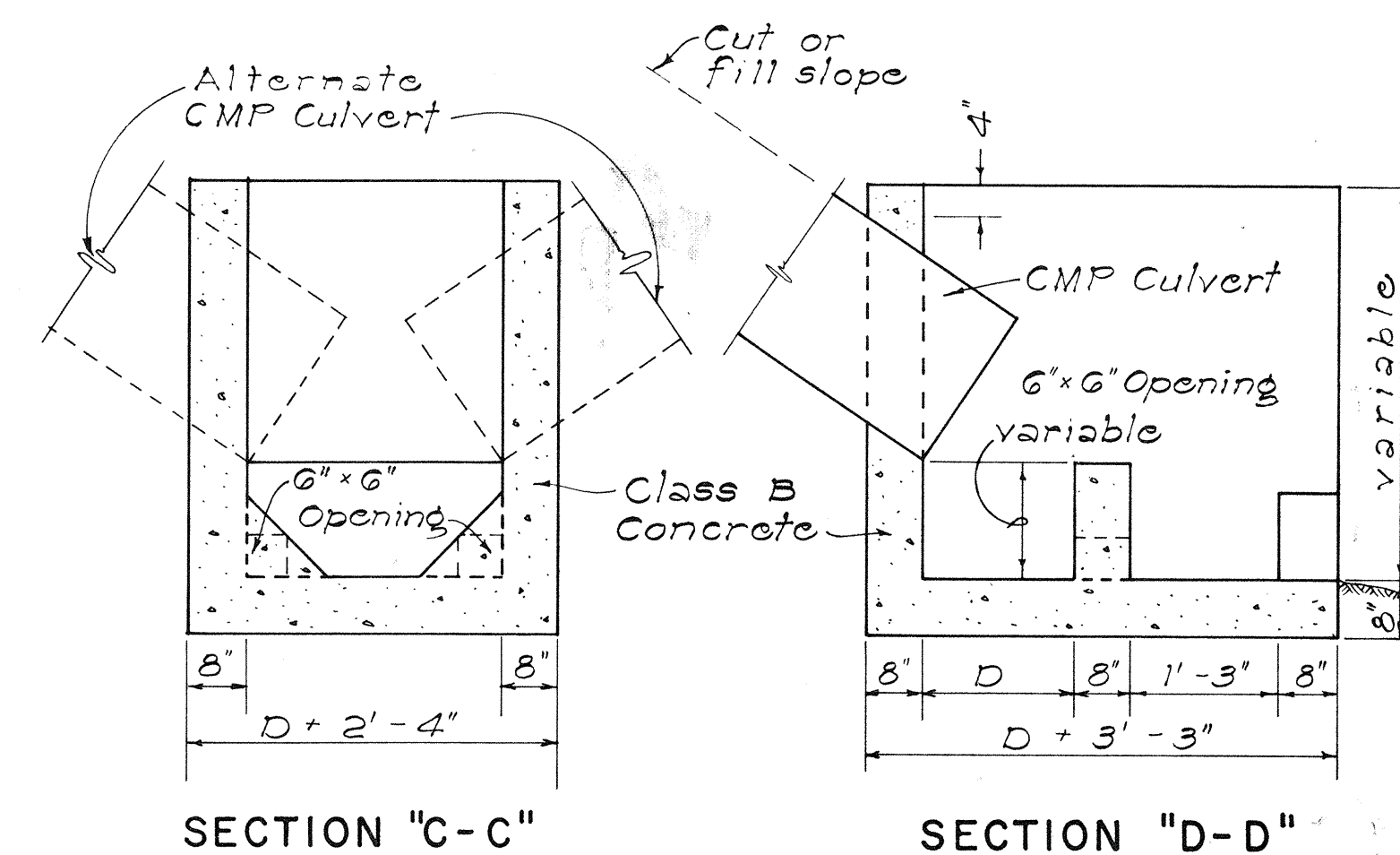
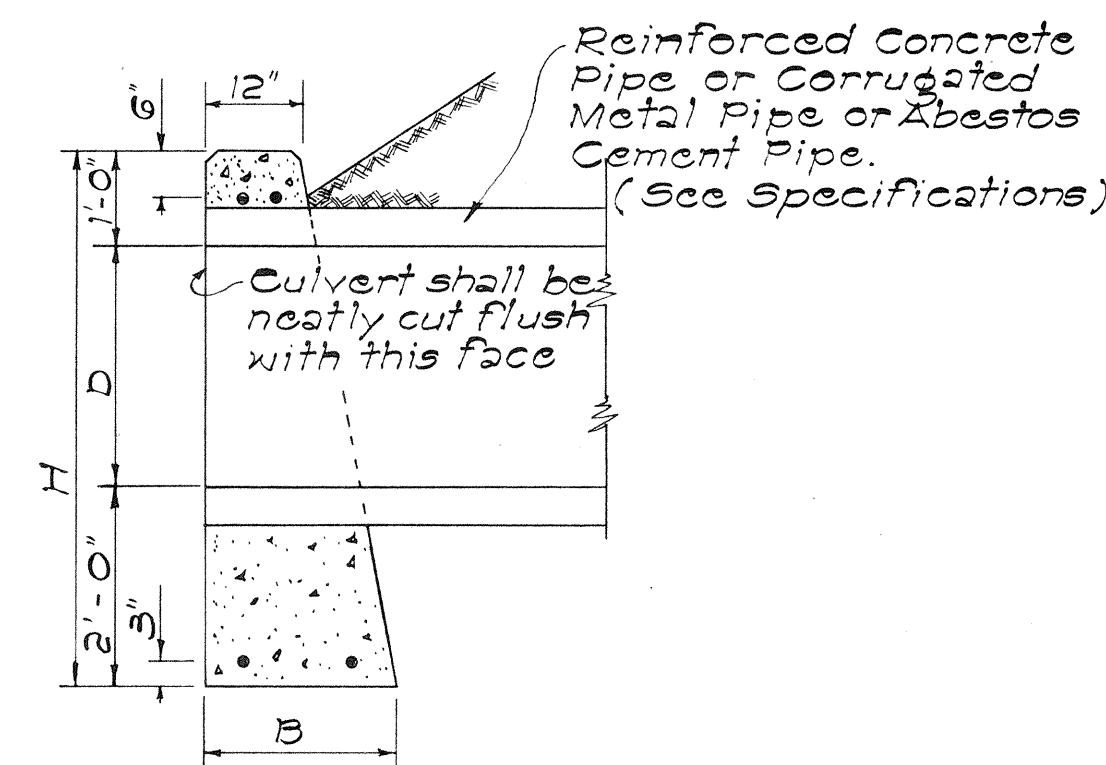
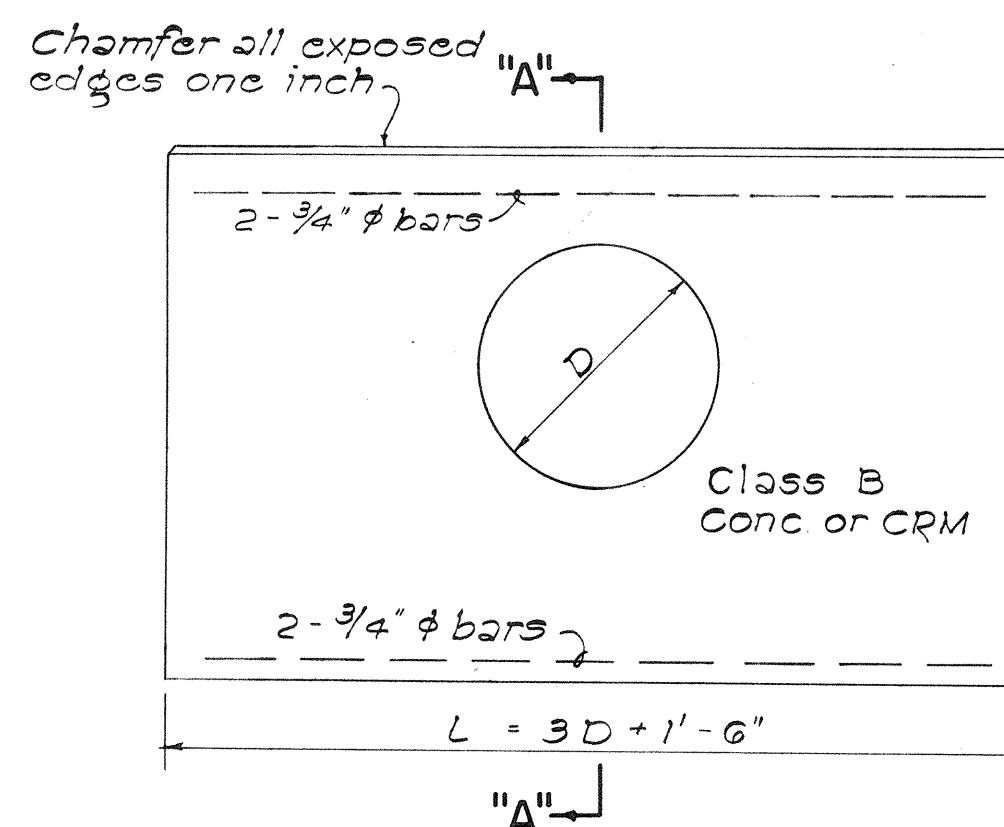
ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____
	TRACED BY _____
	DESIGNED BY _____
	QUANTITIES BY _____
No. _____	CHECKED BY _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	26	35



DATA - CONC. DROP INTAKE	Where Variable Equals
D' 18" 2'-3" 8" 1.41 4'-6"	
24" 3'-0" 8" 1.72 5'-0"	
30" 3'-7" 9" 2.32 5'-6"	
36" 4'-2" 9" 2.73 6'-0"	
42" 4'-9" 10" 3.54 6'-6"	
48" 5'-4" 10" 4.01 7'-0"	

Note: Dimension "X" is assumed as 2'-4" in figuring the above quantities.



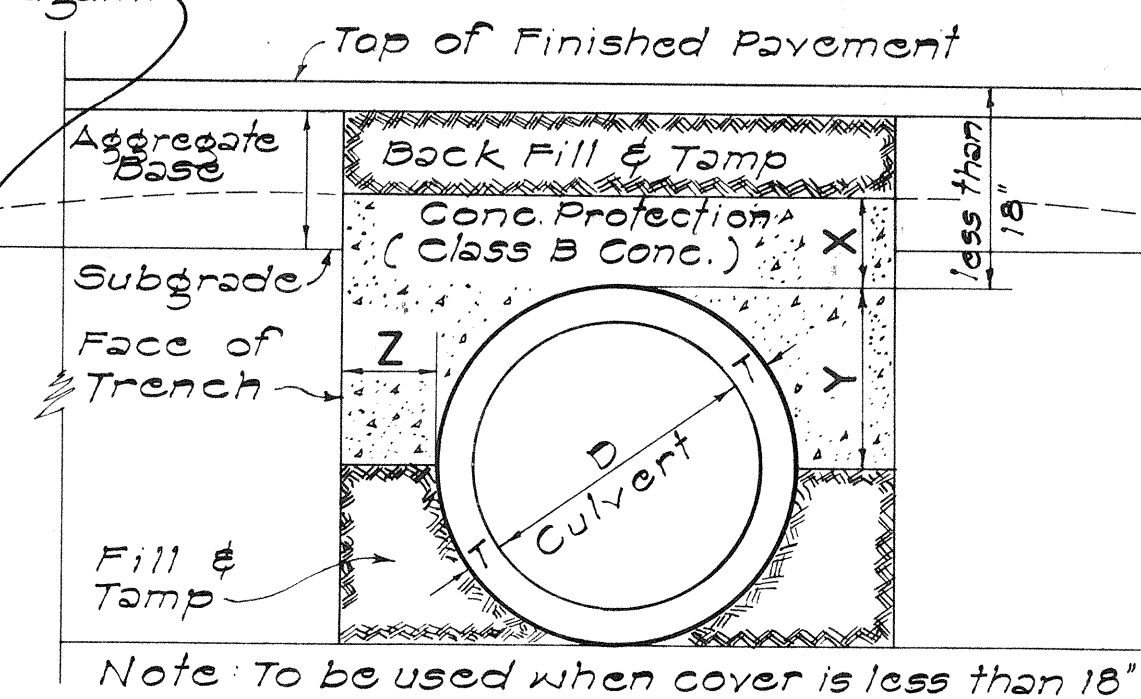
DATA FOR CONC. HEADWALL	CL. B CONC. FOR B.C.P.	CL. B CONC. FOR C.M.P.	Steel For One Headwall
D' 18" 1'-6" 6'-0" 4'-6" 1.12 1.17 4 3/4" ϕ 5'-6" 33			
24" 1'-6" 7'-6" 5'-0" 1.52 1.60 4 3/4" ϕ 7'-0" 42			
30" 2'-0" 9'-0" 5'-6" 2.36 2.49 4 3/4" ϕ 8'-6" 51			
36" 2'-0" 10'-6" 6'-0" 2.94 3.13 4 3/4" ϕ 10'-0" 60			
42" 2'-6" 12'-0" 6'-6" 4.19 4.47 4 3/4" ϕ 11'-6" 69			
48" 2'-6" 13'-6" 7'-0" 5.01 5.36 4 3/4" ϕ 13'-0" 78			

DATA - MASONRY HEADWALL	CRM FOR R.C.P.	CRM FOR C.M.P.
D' 18" 1'-9" 6'-0" 4'-6" 1.24 1.29		
24" 2'-0" 7'-6" 5'-0" 1.83 1.92		
30" 2'-3" 9'-0" 5'-6" 2.56 2.70		
36" 2'-6" 10'-6" 6'-0" 3.45 3.66		

DETAIL OF HEADWALL

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

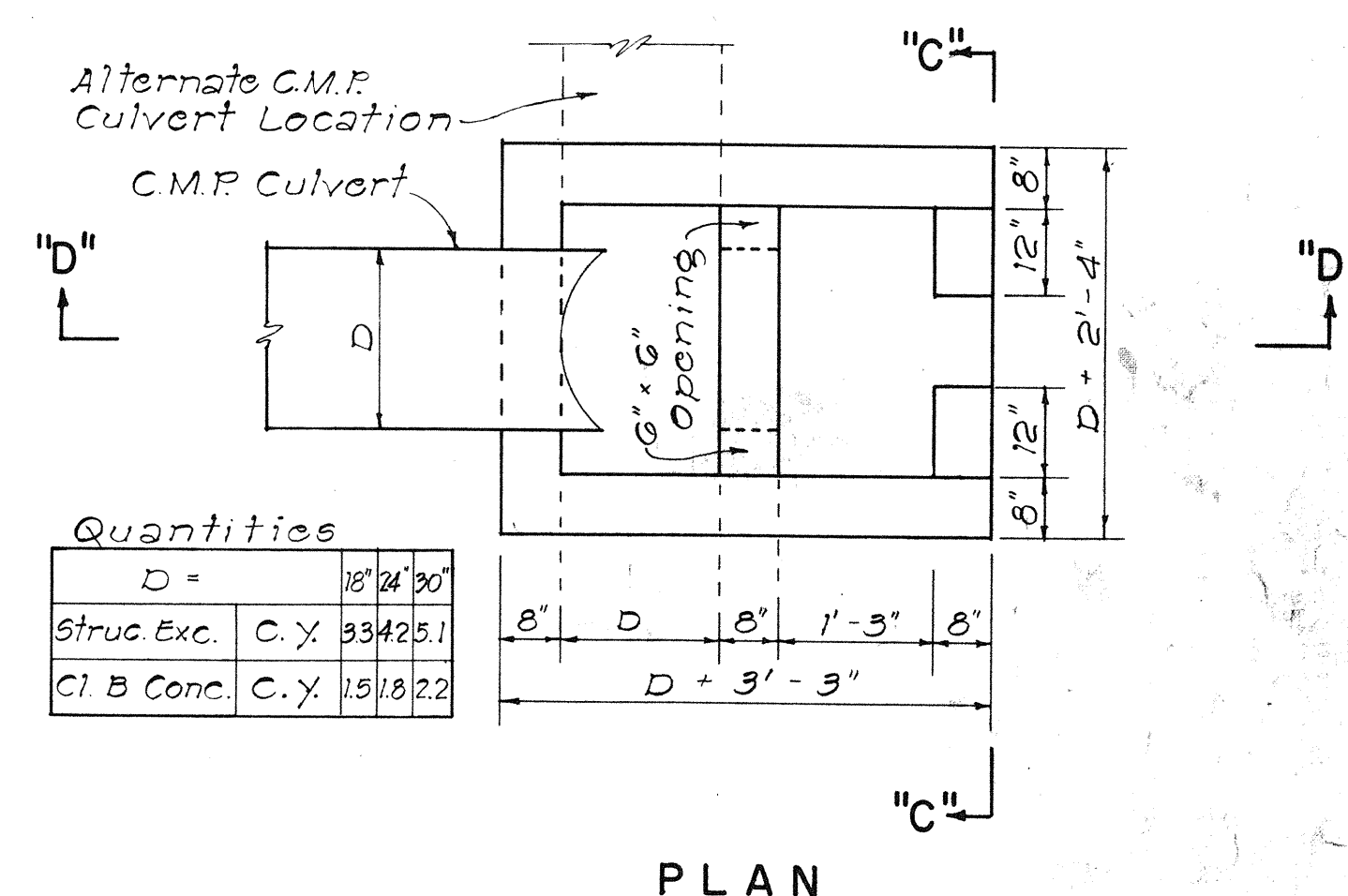
Note: When subgrade is below top of jacket, it shall be fully compacted to this line and then re-excavated (struc. exc.) to proper subgrade. This surface shall be rolled again.



DATA FOR CONCRETE PROTECTION OVER CULVERTS	X	Y	Z
6" for 18" D.			
7" for 24" D.			
8" for 30" D.			
9" for 36" D.			
10" for 42" D.			
11" for 48" D.			
12" for 54" D.			

SECT. OF CULVERT WITH CONC. PROTECTION

Scale: 1" = 1'-0"



DETAILS OF CONC. DROP BOX AT OUTLET OF CULVERT PIPE

NOT TO SCALE

APPROVAL RECOMMENDED:

HYDRAULIC DESIGN ENGINEER

12-17-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING

12-17-69
DATE

NO.	REVISION	APPROVED BY	DATE
1	Spacing on Manhole Rungs to conform to OSHA.	H.C.	1-21-75

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
DROP INTAKE, HEADWALL & CONCRETE PROTECTION

Scale: As Noted. Date: Aug. 1967

SHEET No. 15 OF 16 SHEETS DH 10

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

DETAIL OF CONCRETE DROP INTAKE

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

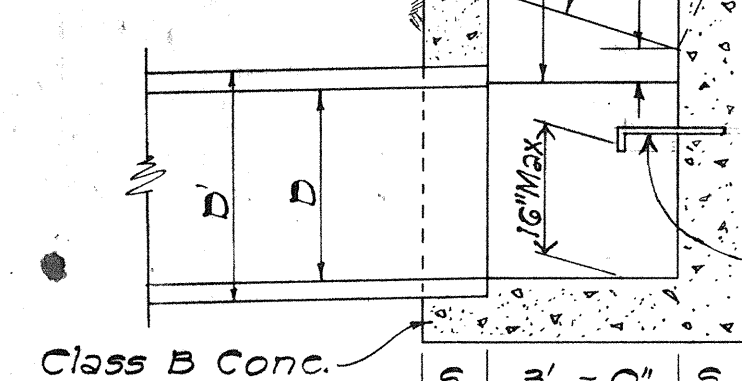
GENERAL NOTES

- Culvert shall enter and leave Drop Intake from any position and in the direction indicated by the plans or ordered by the Engineer.
- D shall be the maximum outside dimension of the culvert at the Drop Intake wall.
- Manhole Rungs (12" o.c.) are required when "H" is greater than 4 feet 6 inches. Only one rung (16 inches from the bottom) is required if "H" is 4 feet 6 inches or less. Manhole Rungs may be placed at any location as ordered by the Engineer.

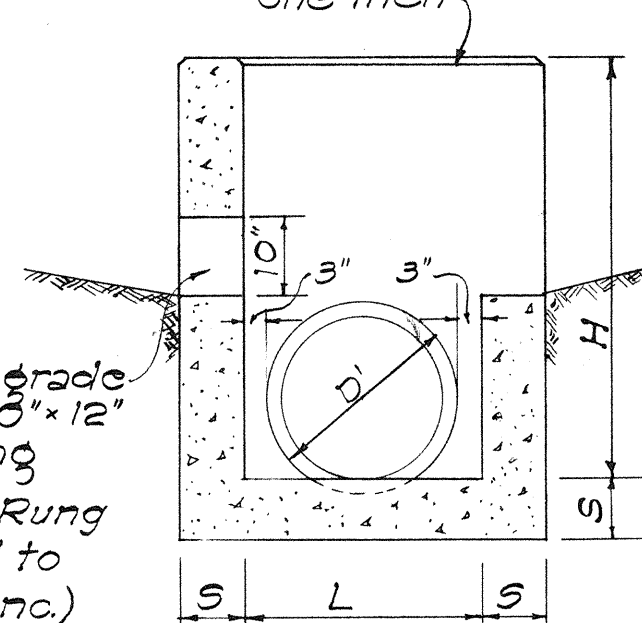
Excavate recess in roadway excavation slope for inlet to dimensions and form designated by the Engineer. This is "Unclassified Excavation."

Top limits of structure excavation other than at bridges

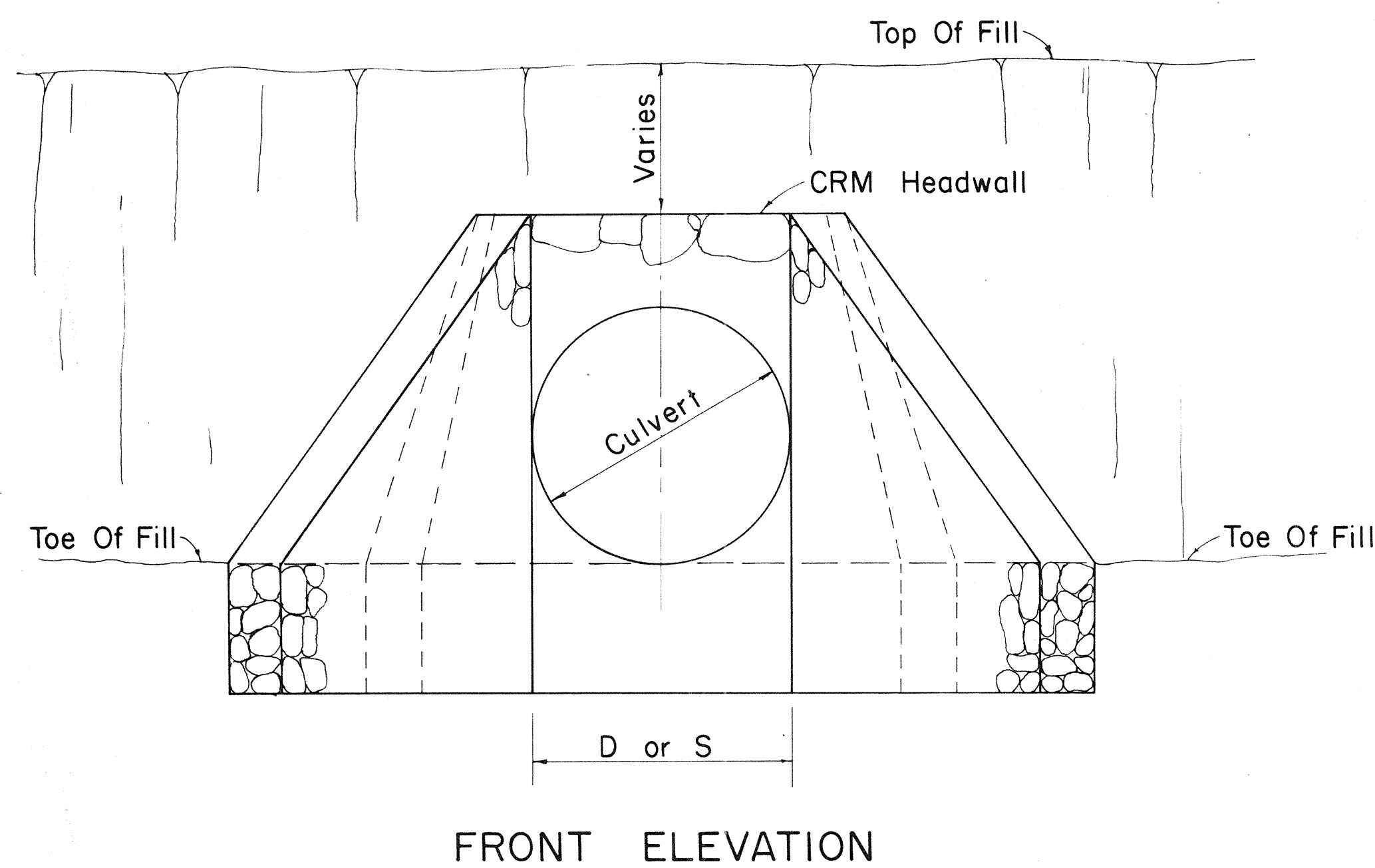
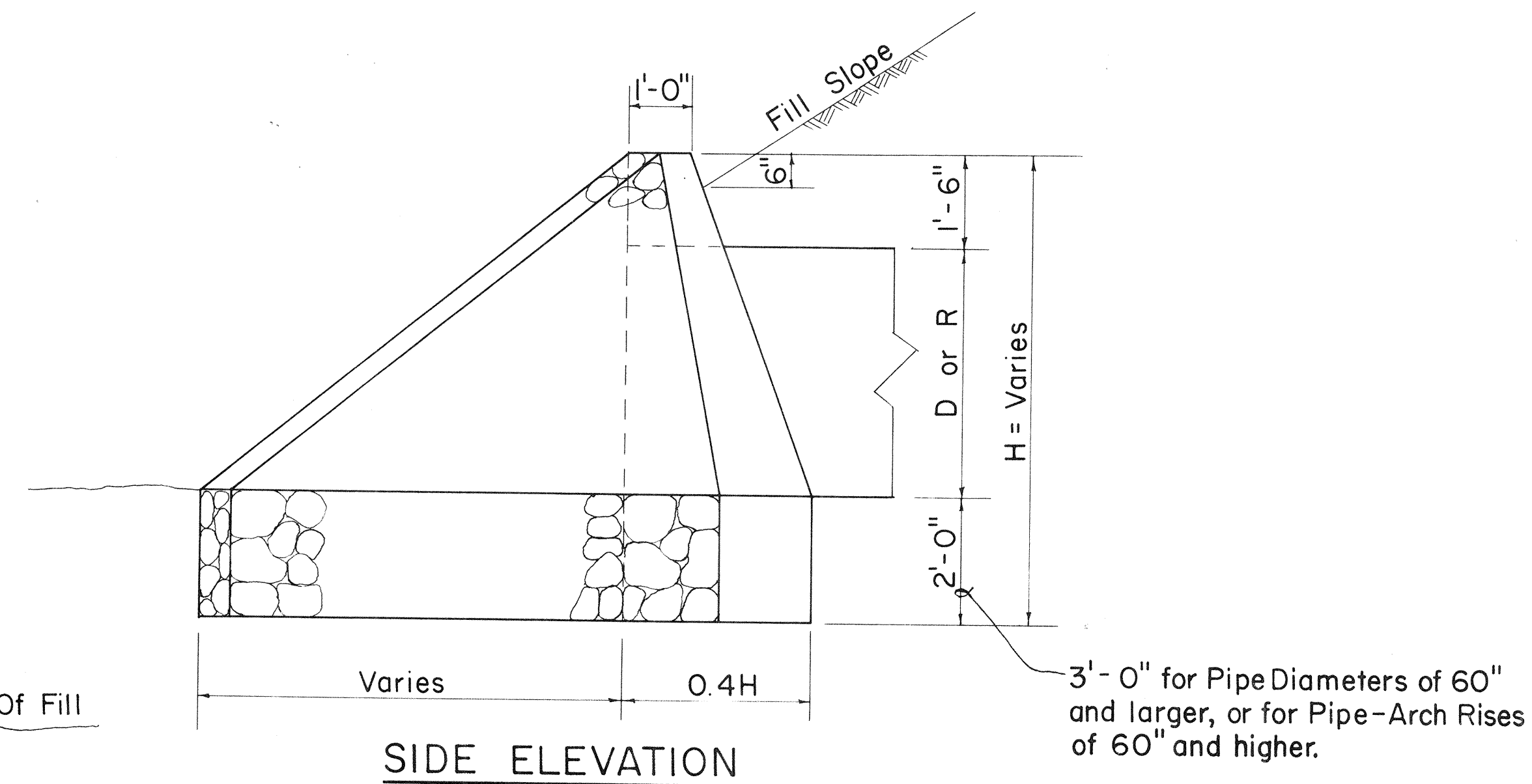
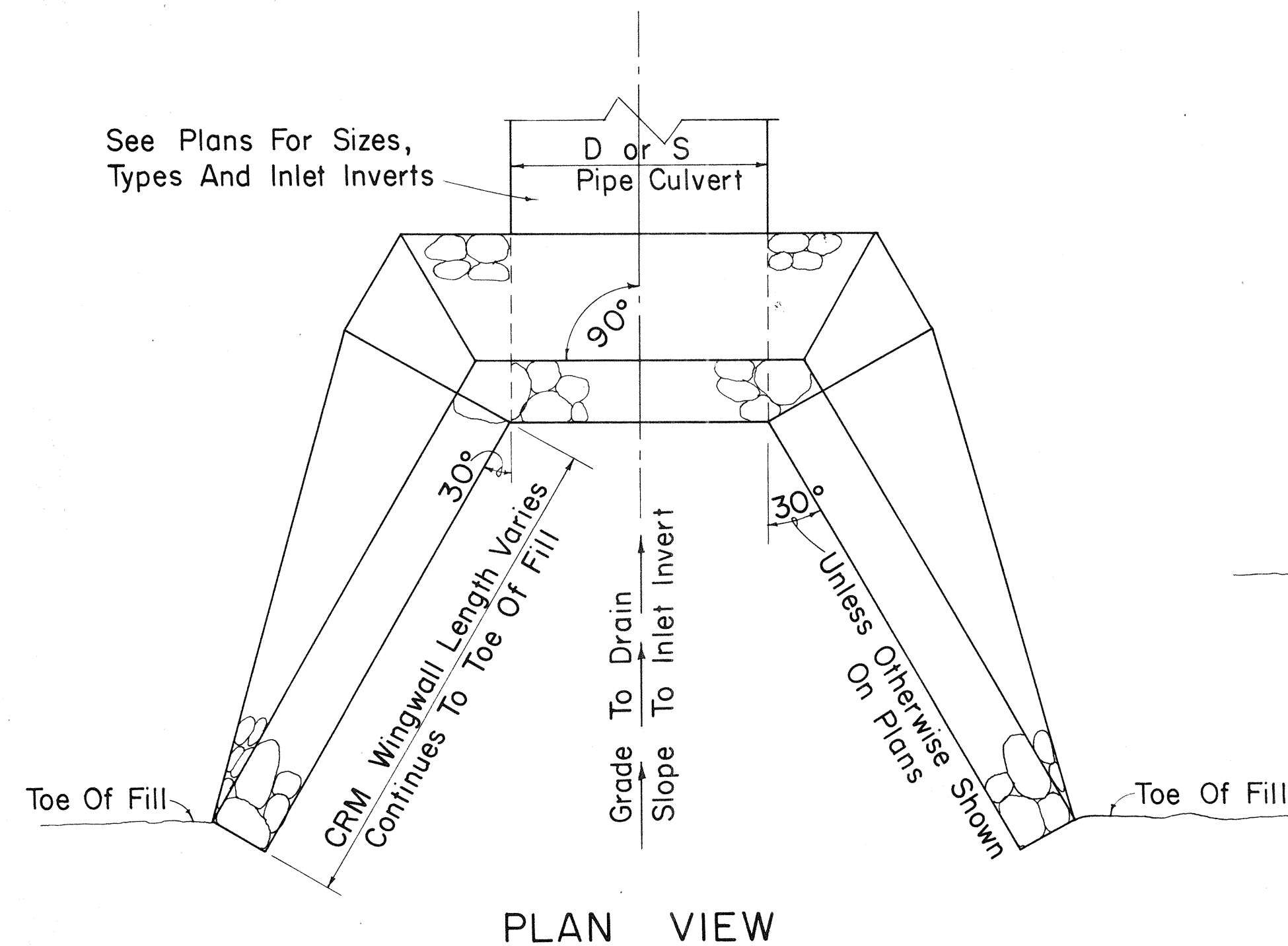
12" unless otherwise noted



Chamfer all exposed edges one inch



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0190(2)	1978	27	35



NOTE:
D = Diameter of Pipe Culvert
R = Rise of Pipe-Arch Culvert
S = Span of Pipe-Arch Culvert

DETAILS OF CRM INLET STRUCTURE

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

APPROVAL RECOMMENDED:
[Signature]
HYDRAULIC DESIGN ENGINEER 12-17-69
DATE

APPROVED:
[Signature]
ASSISTANT CHIEF, ENGINEERING 12-17-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
CRM INLET STRUCTURE

Scale: As Noted Date: July, 1969

SHEET No. 16 OF 16 SHEETS DH 16

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	