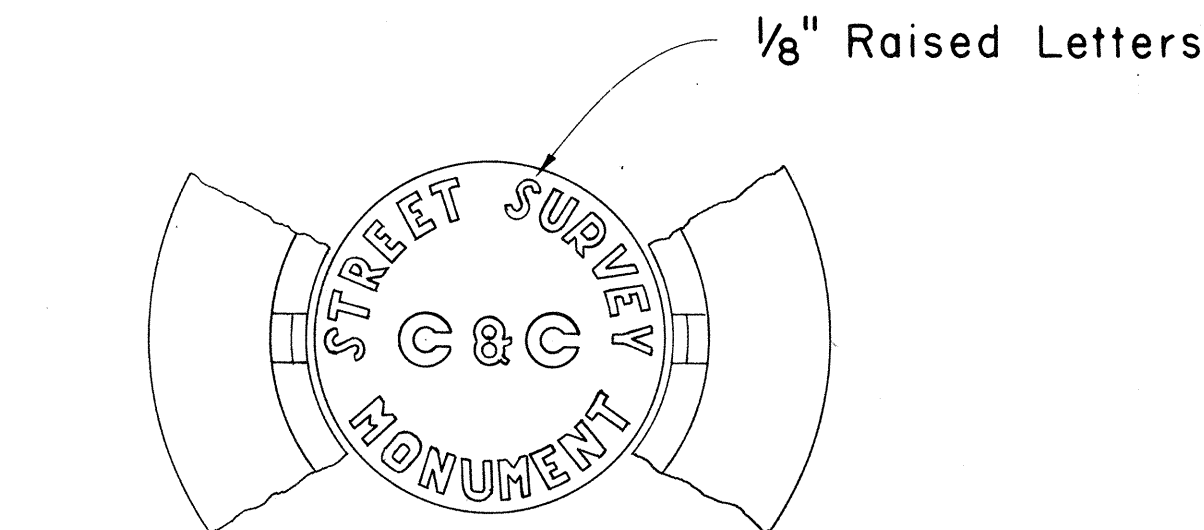
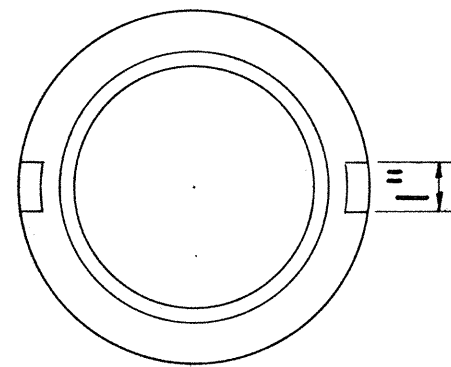


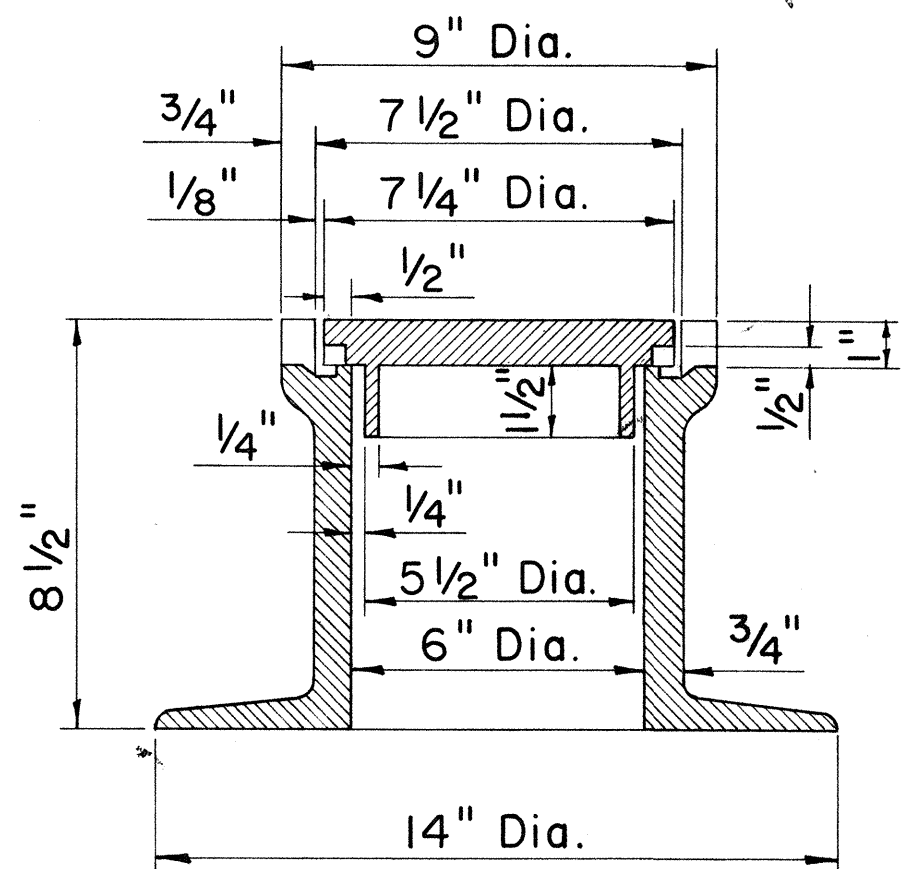
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	39	63



TOP VIEW OF COVER AND PORTION OF FRAME



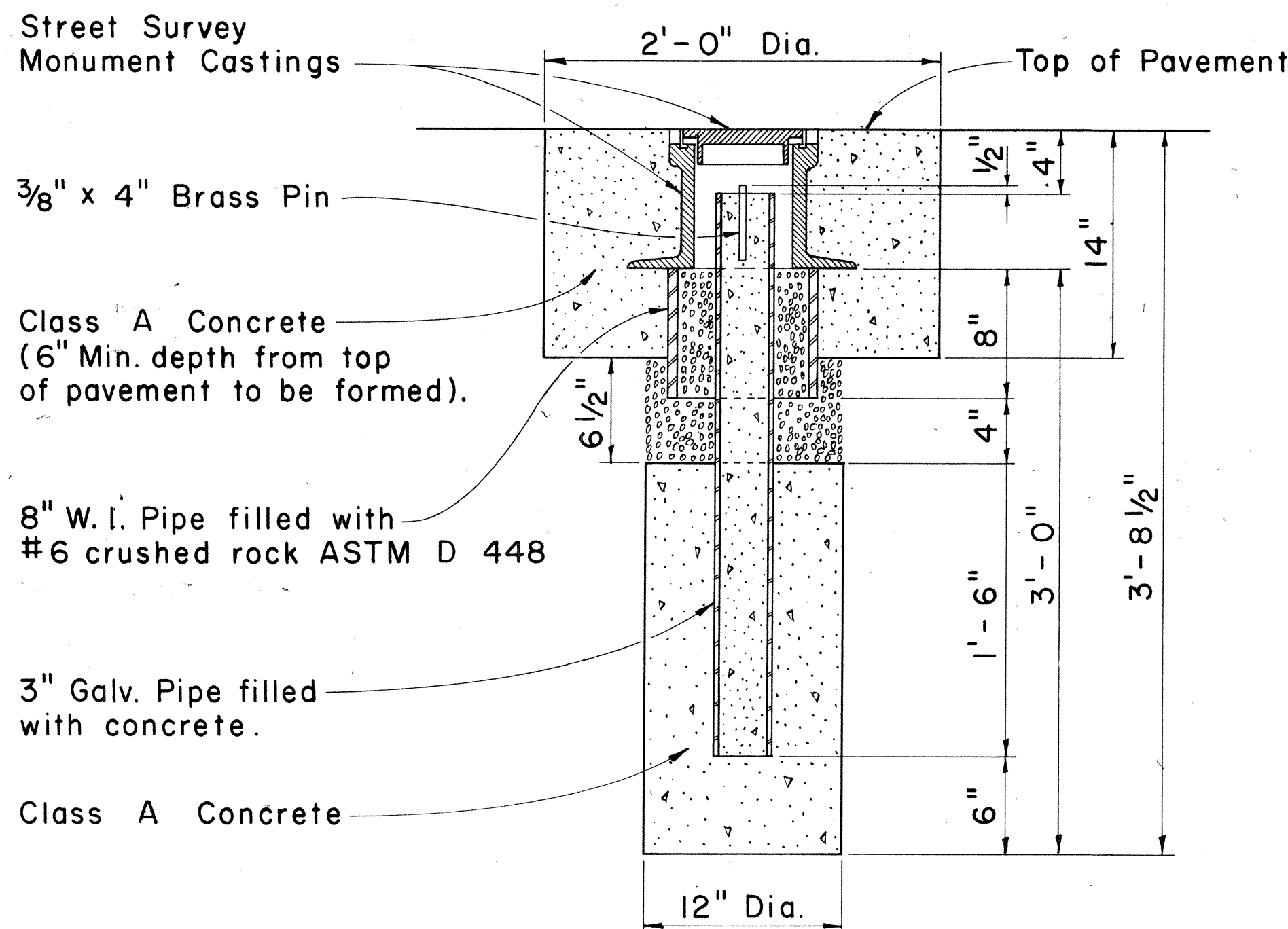
BOTTOM OF COVER



SECTIONAL VIEW OF FRAME AND COVER

STREET SURVEY MONUMENT CASTINGS

Scale: 3" = 1'-0"

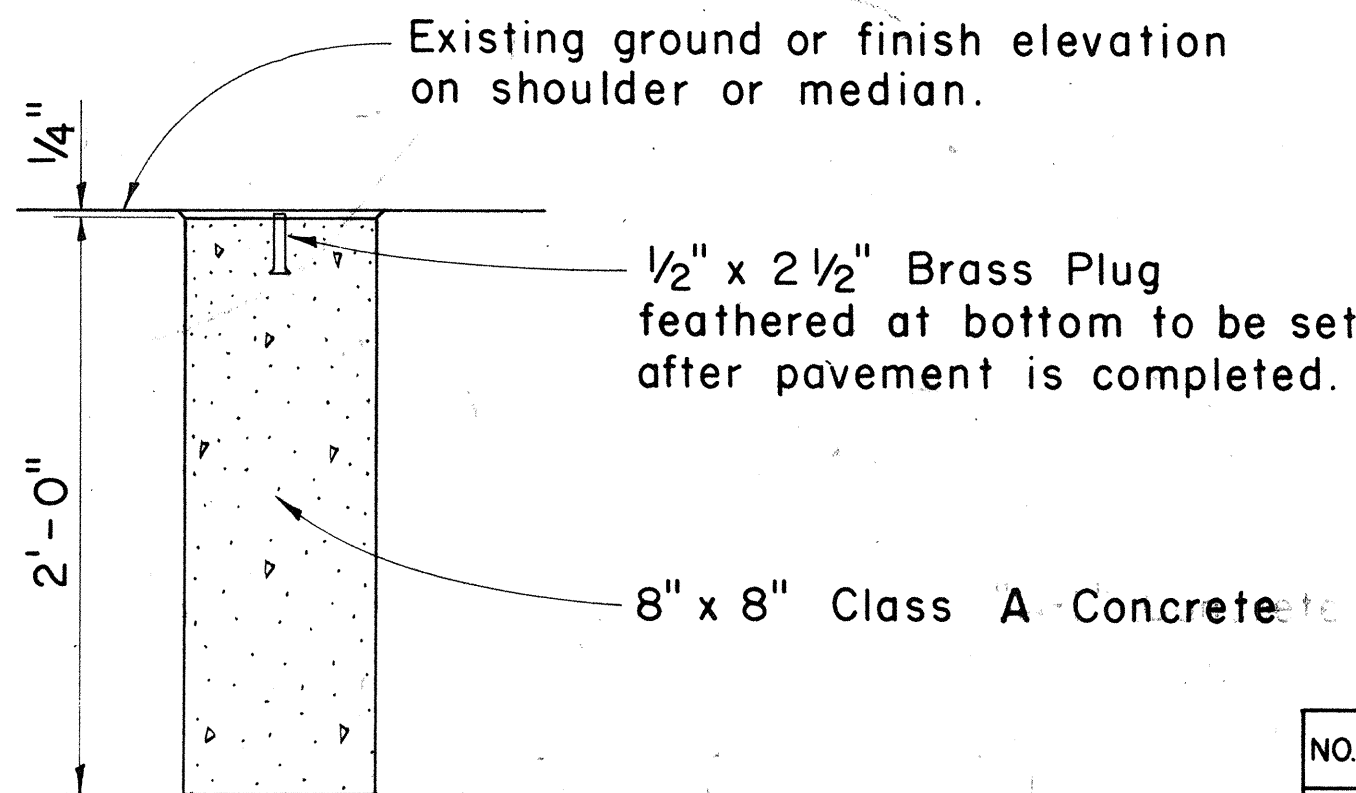


NOTE:

Where the excavation extends into solid rock the depth may be decreased if approved by the Engineer.

STREET SURVEY MONUMENT

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



DETAIL FOR CENTERLINE AND REFERENCE SURVEY MONUMENT

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

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER
12-4-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE

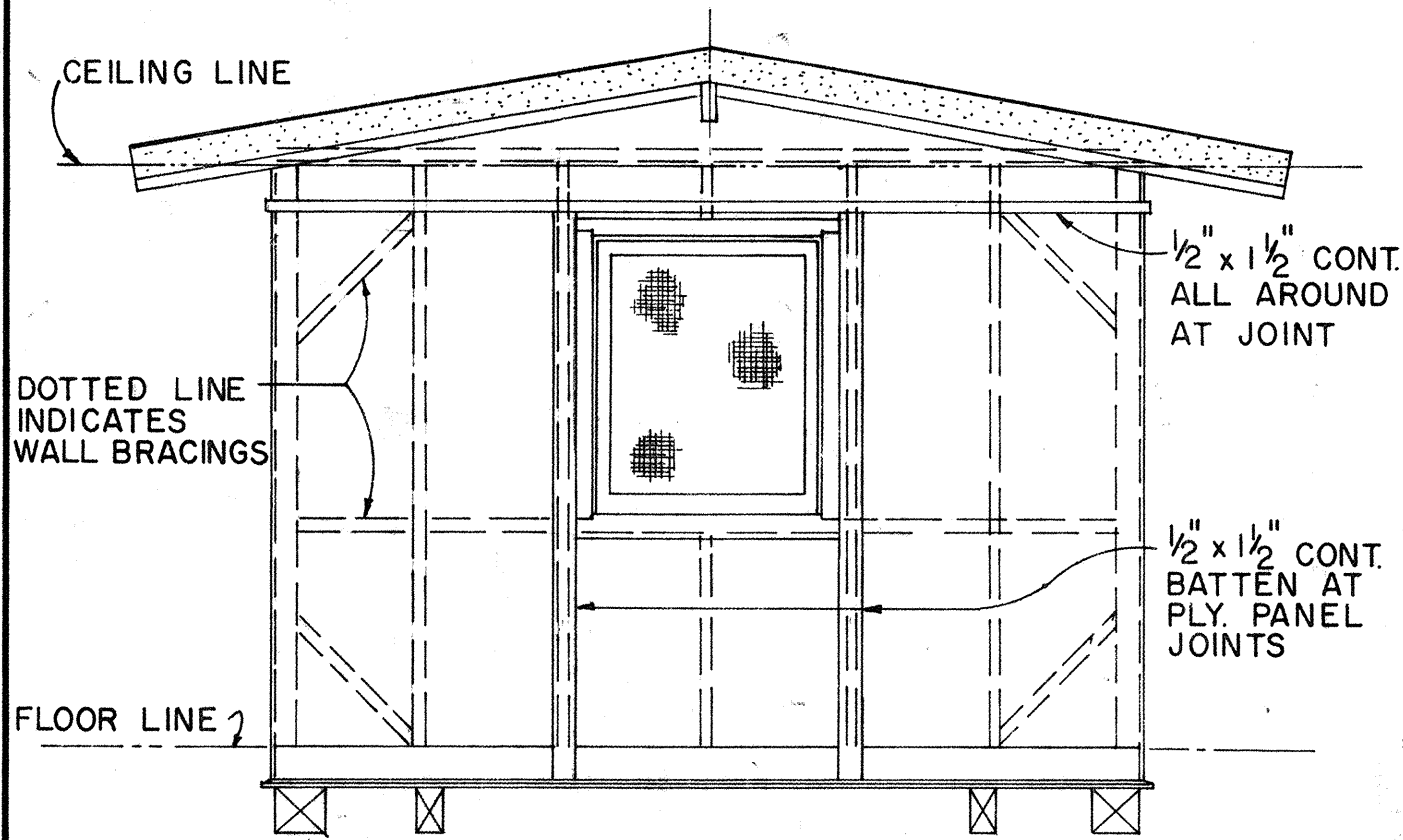
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
CENTERLINE, REFERENCE SURVEY
AND C & C STREET SURVEY
MONUMENTS

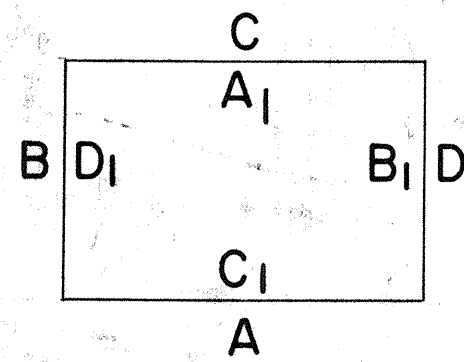
Scale: As Shown

SHEET No. 1 OF 25 SHEETS DD 613.1

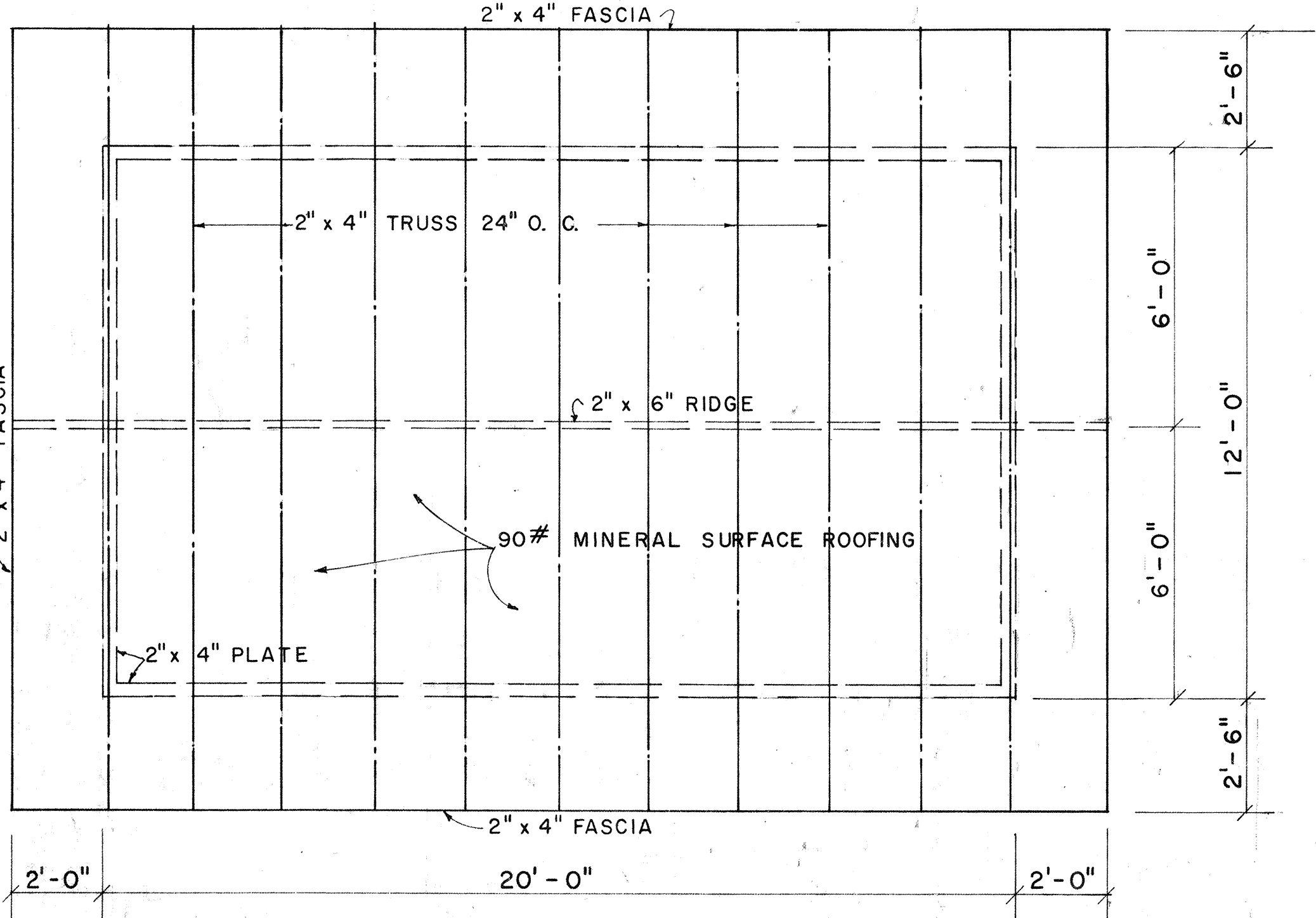
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	240A-01-71 UNIT 2	1978	40	63



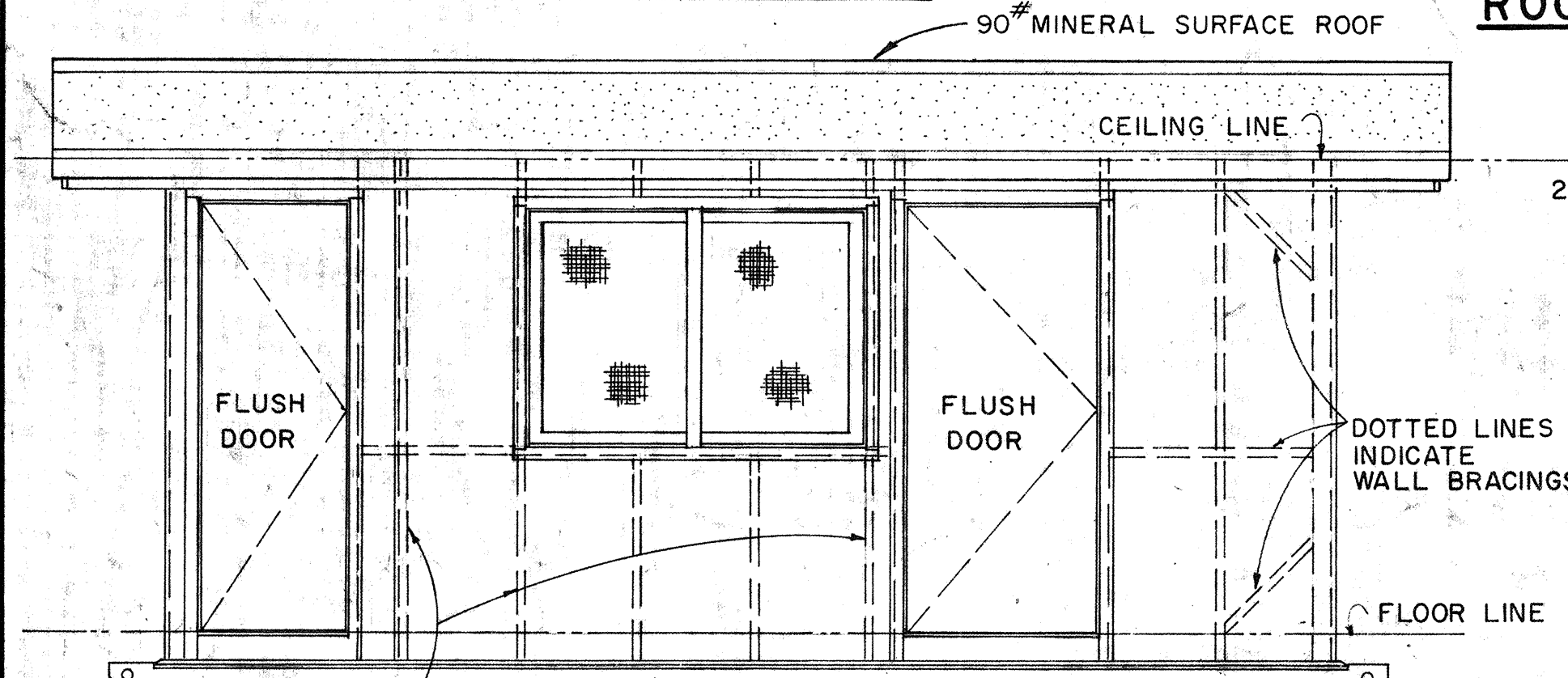
ELEVATION B
- ELEVATION D SIMILAR
SCALE: 3/8" = 1'-0"



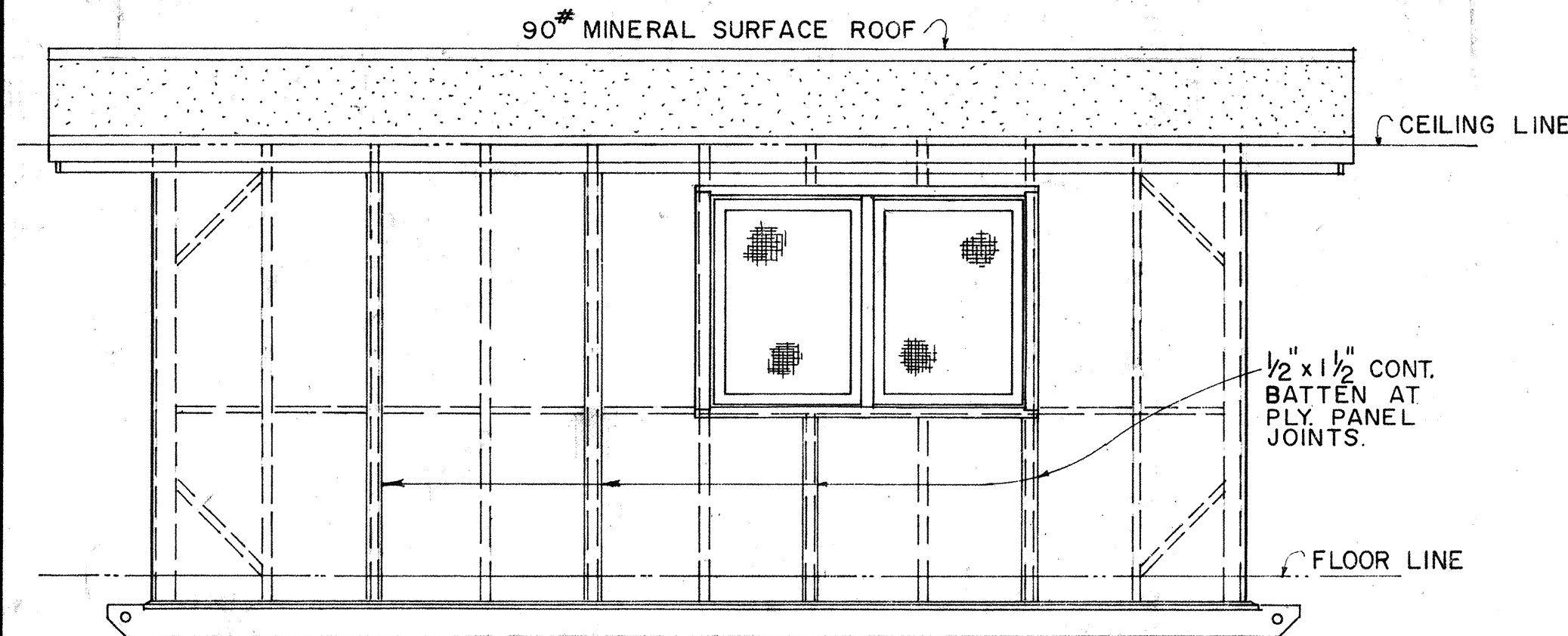
EXTERIOR & INTERIOR KEY



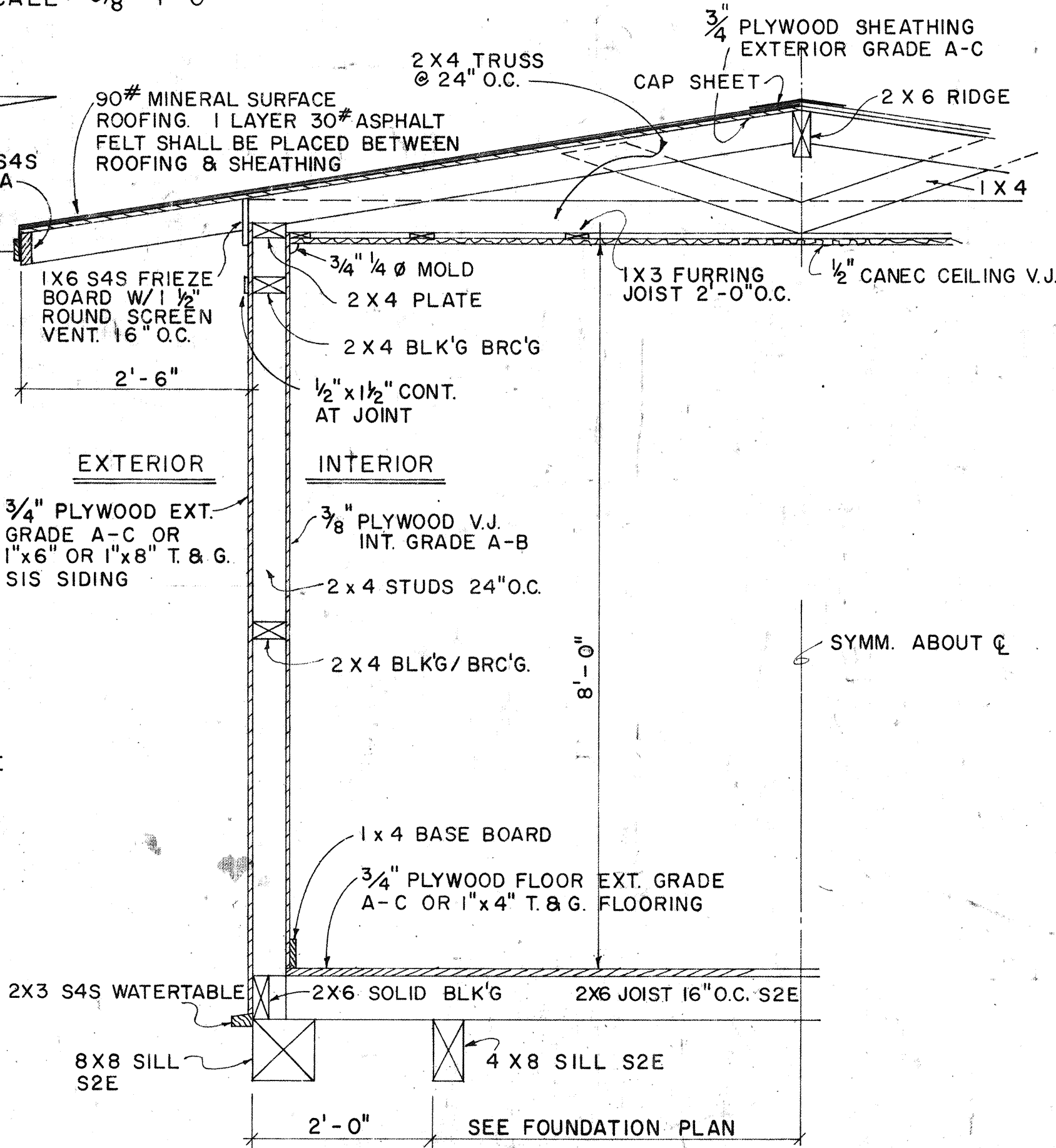
ROOF FRAMING PLAN
SCALE: 3/8" = 1'-0"



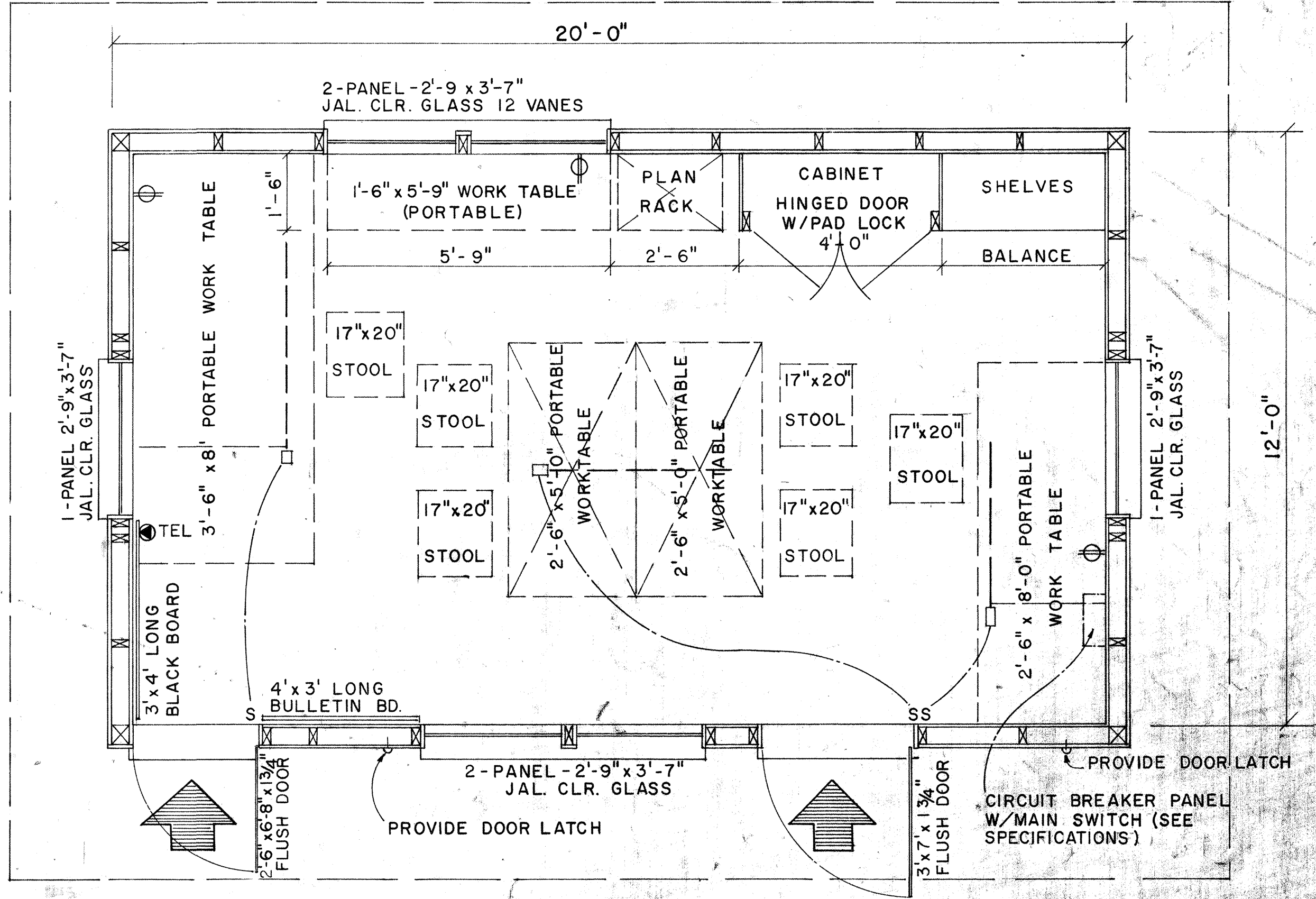
ELEVATION A
SCALE: 3/8" = 1'-0"



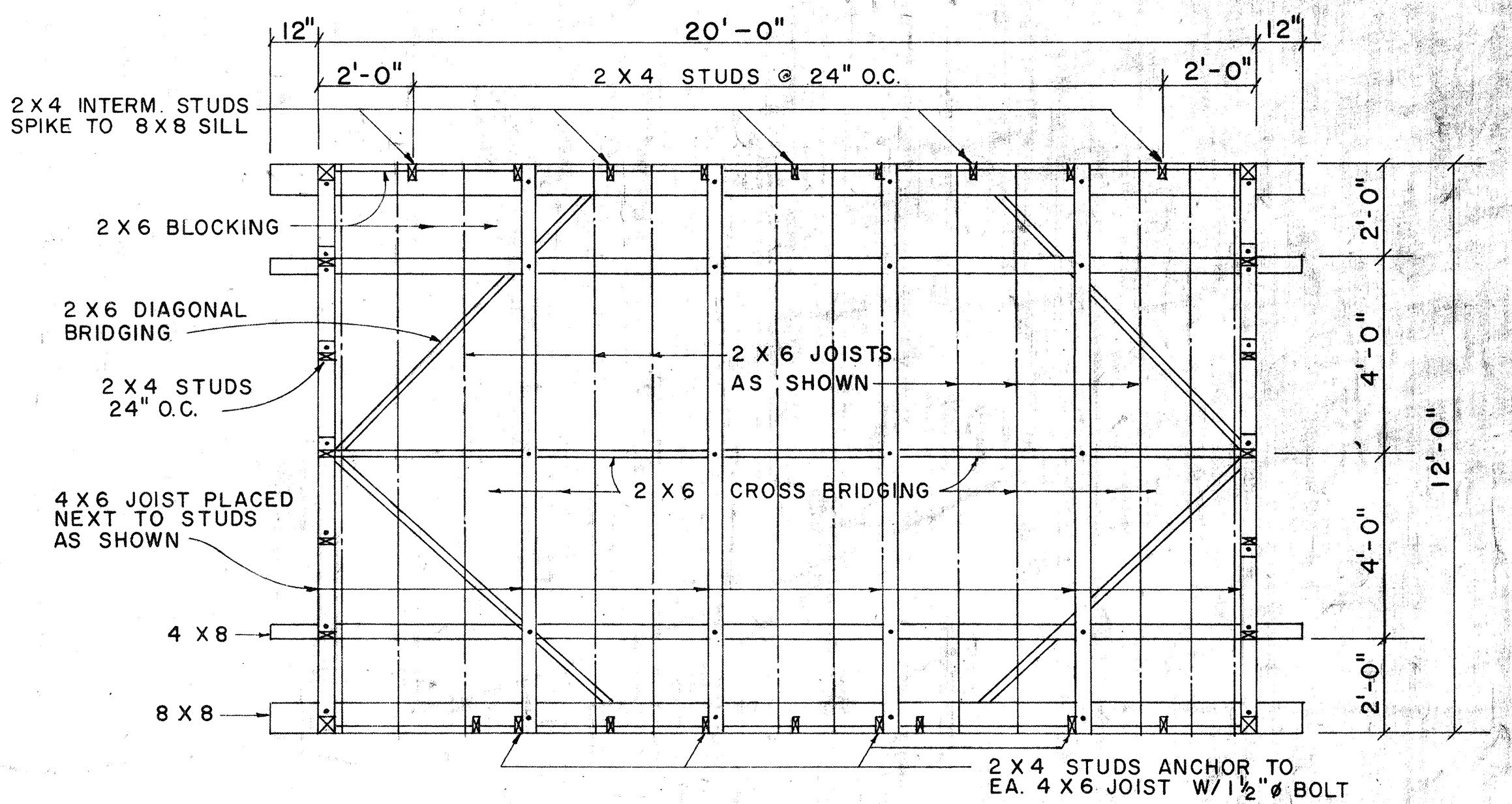
ELEVATION C
SCALE: 3/8" = 1'-0"



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

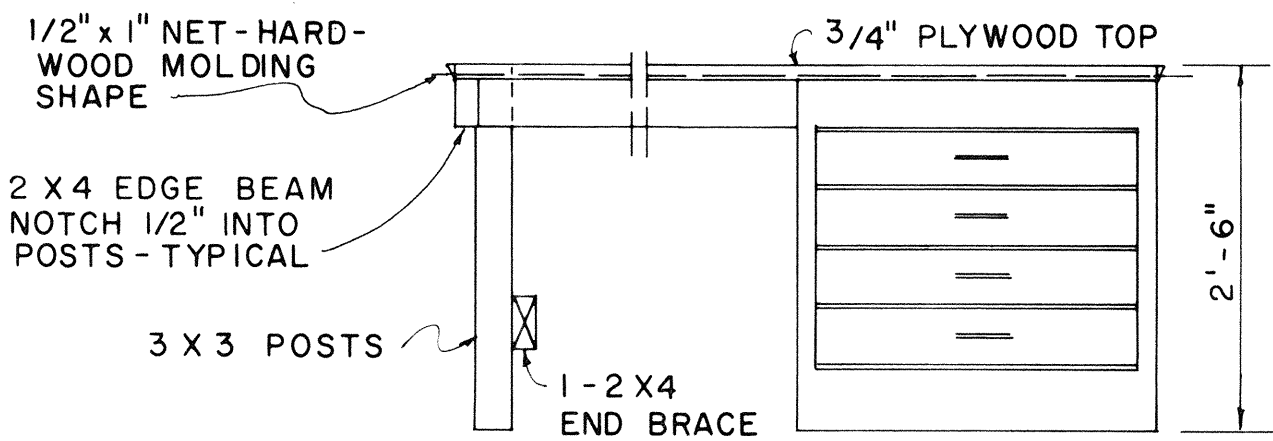
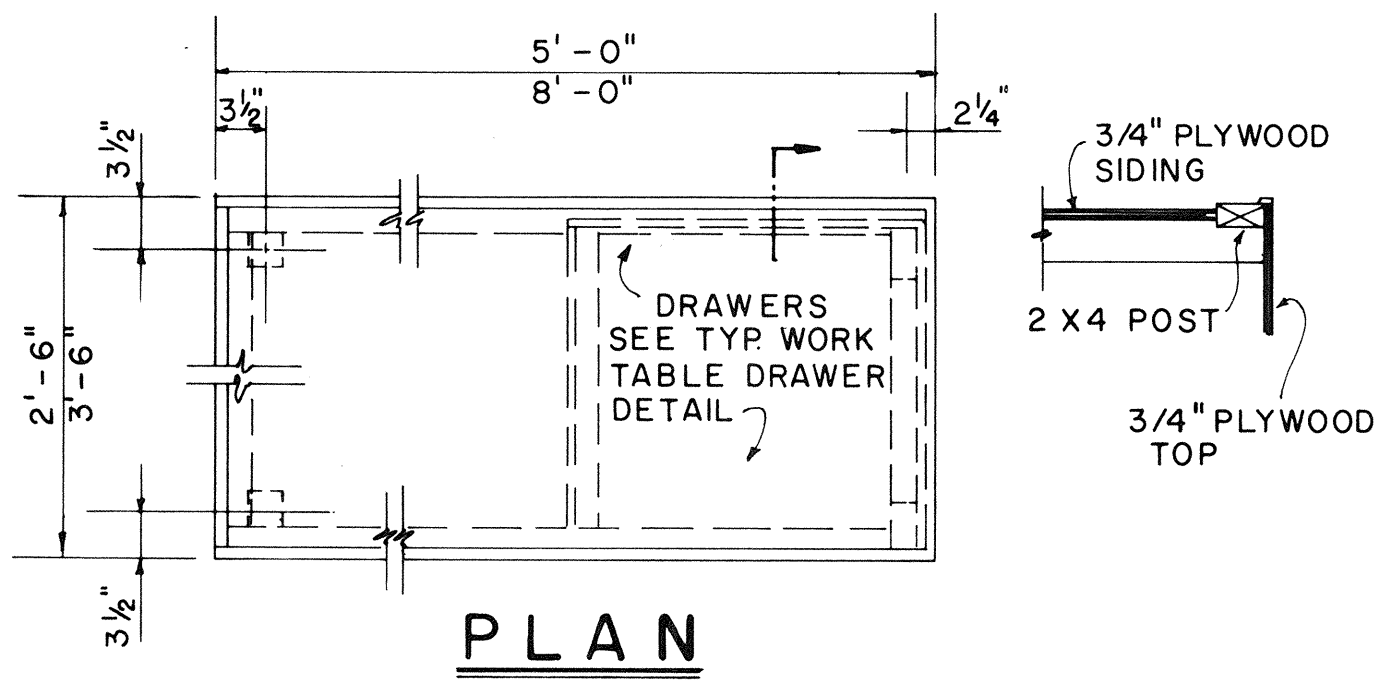
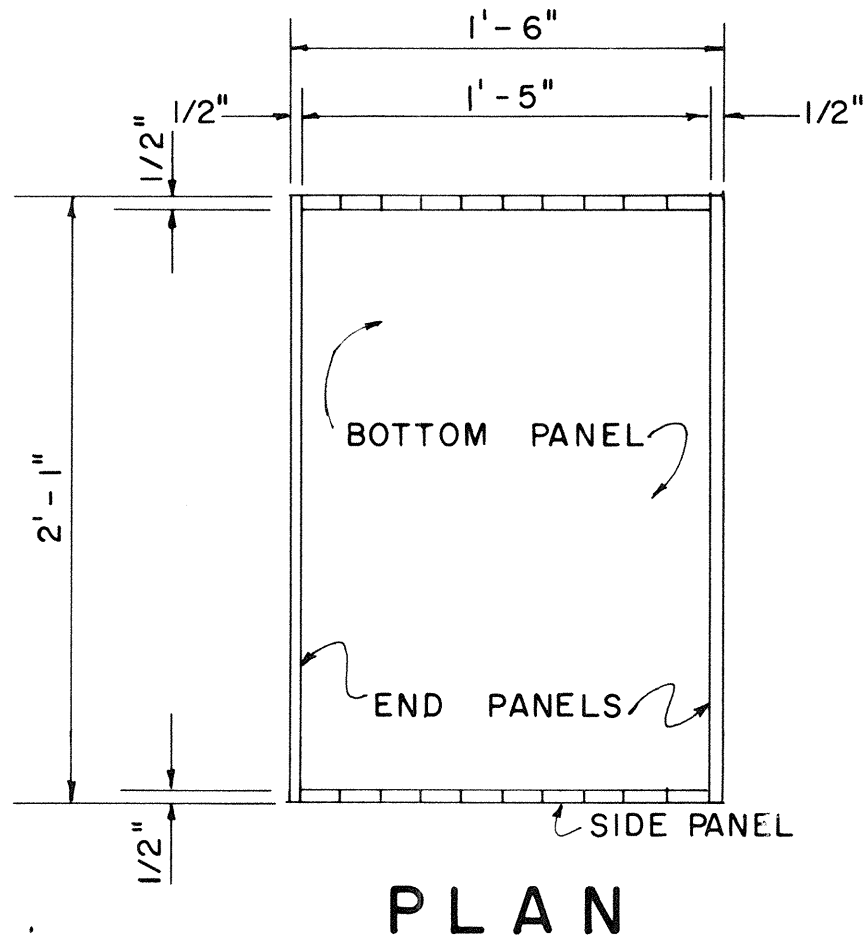
APPROVED:
ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
FIELD OFFICE
Scale: As Noted
SHEET NO. 2 OF 25 SHEETS DD 6361

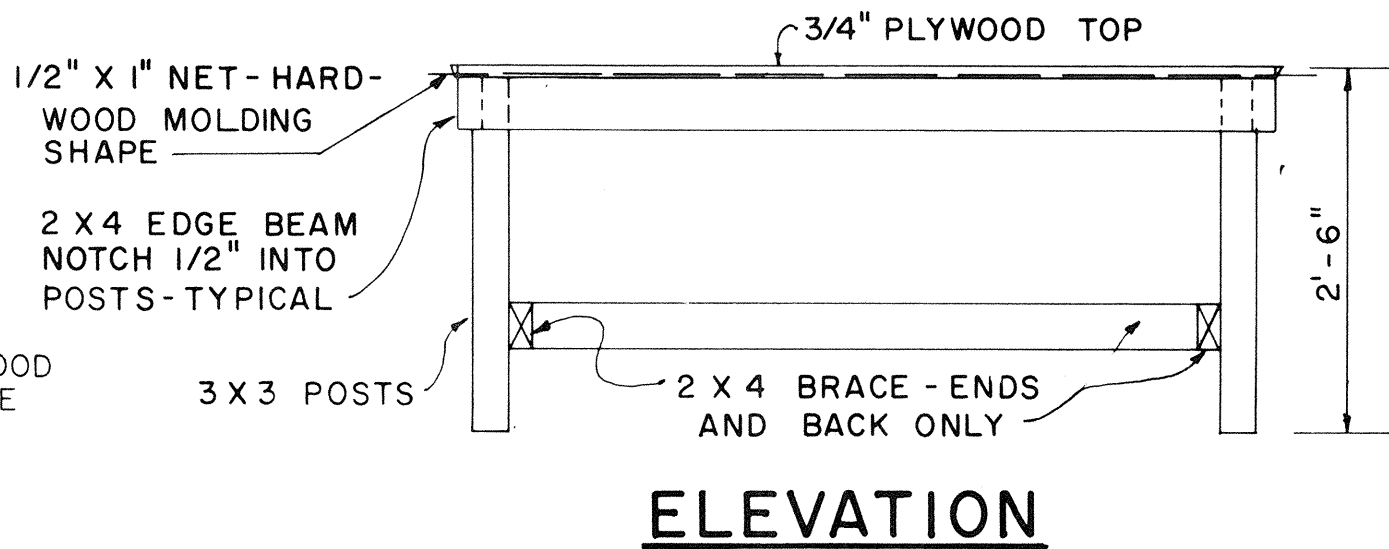
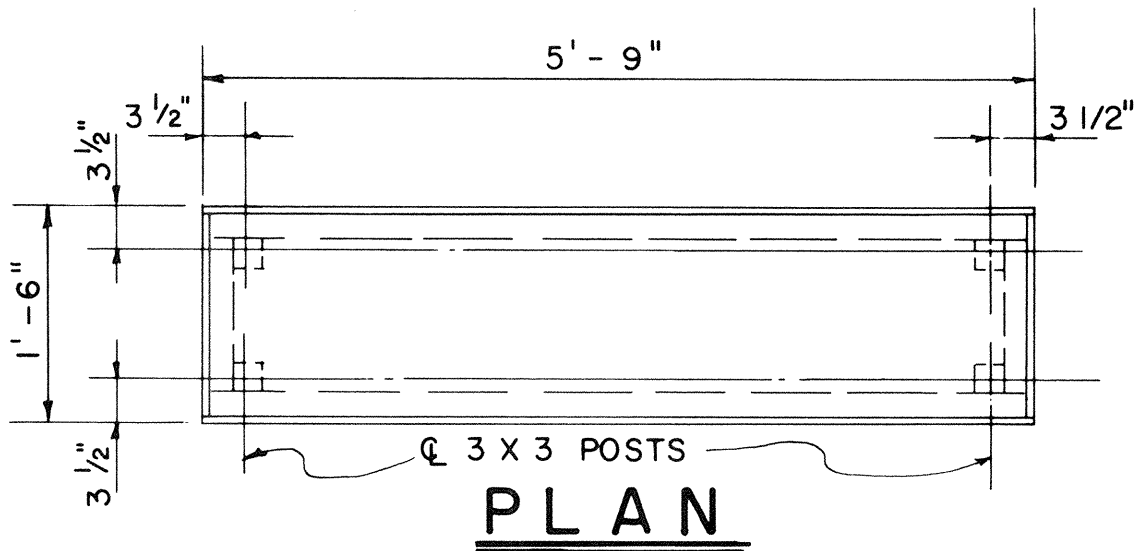
DATE	
SURVEY PLOTTED BY	
PLAN	
DESIGNED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	2A0A-01-71 UNIT 2	1978	41	63

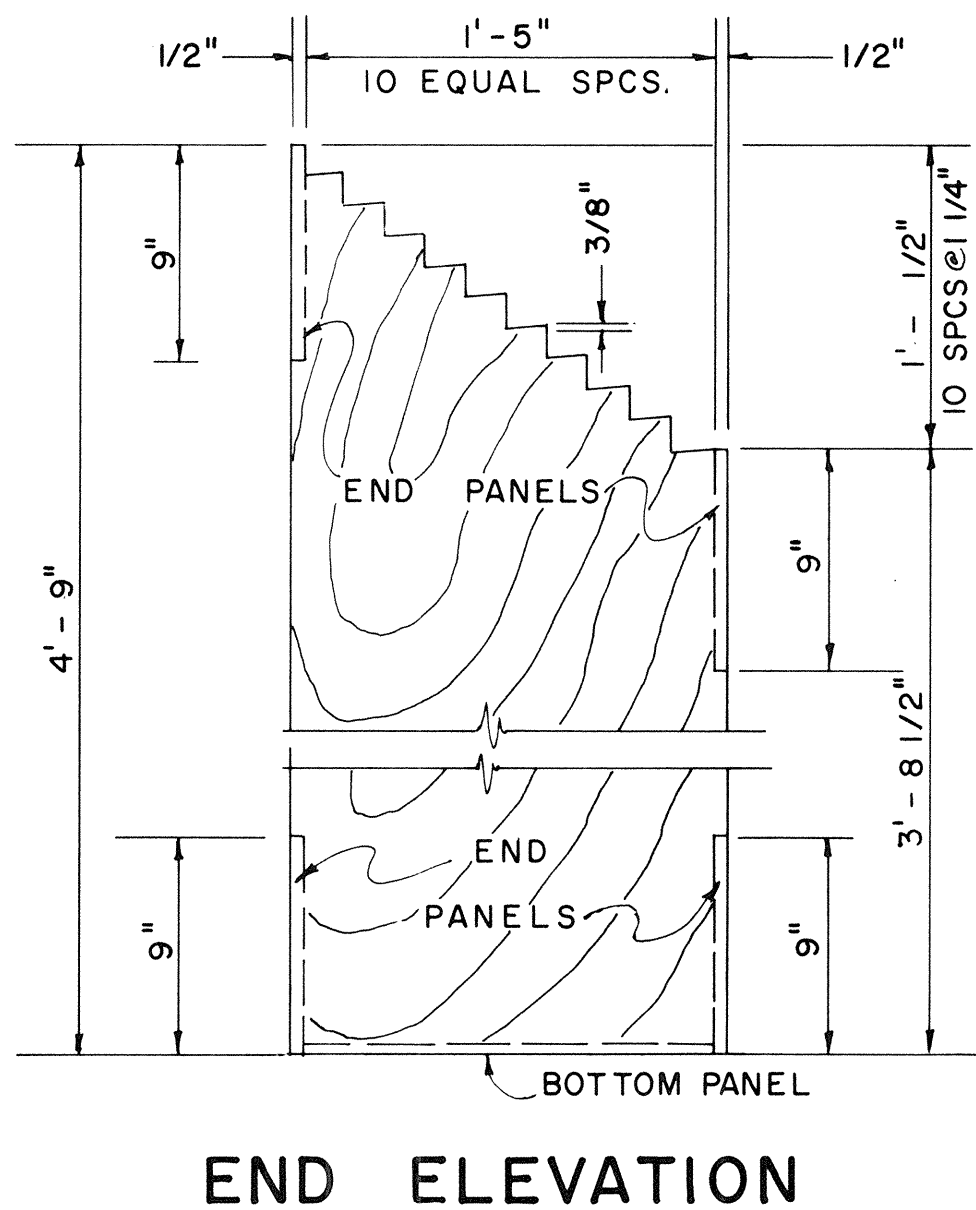
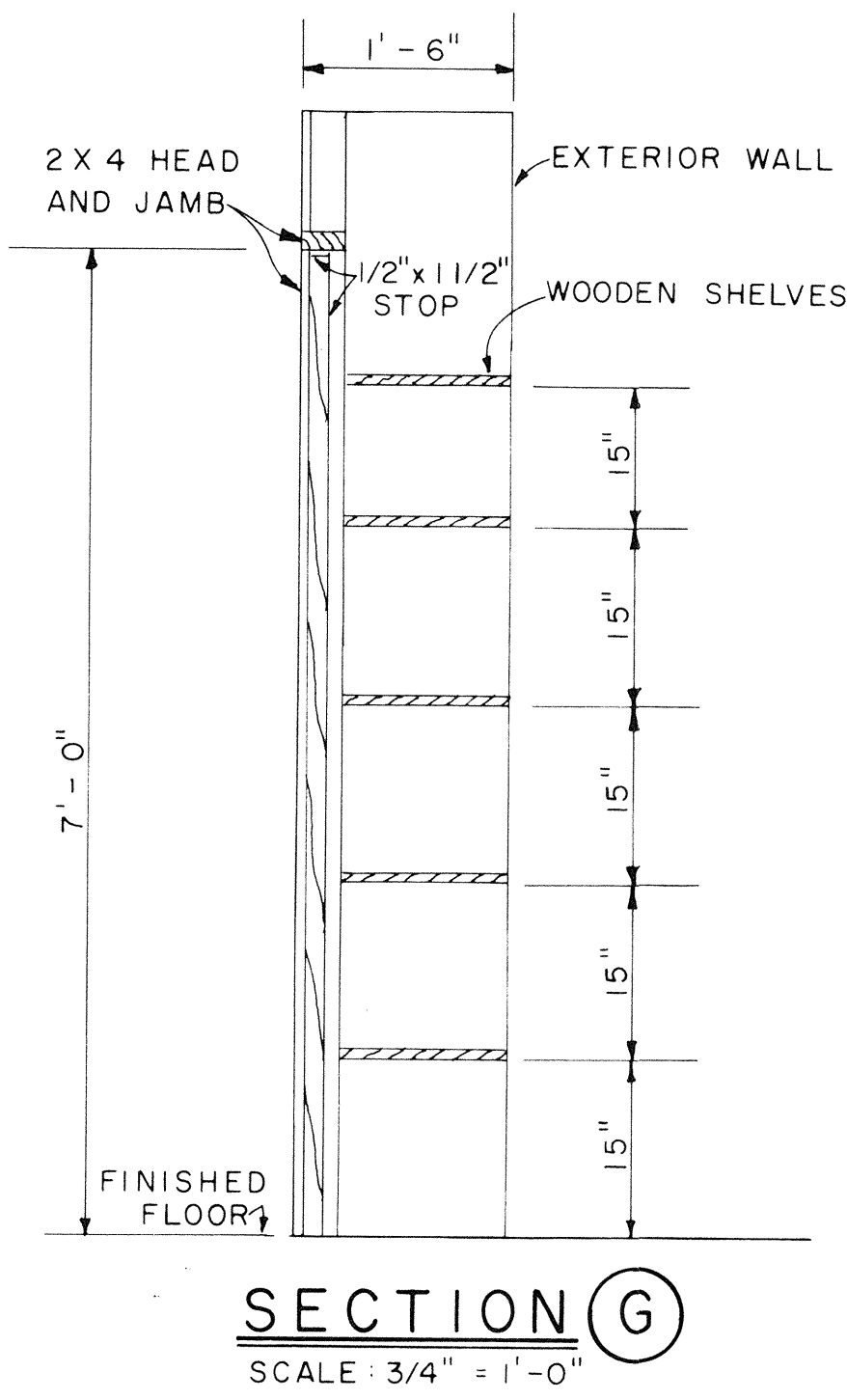
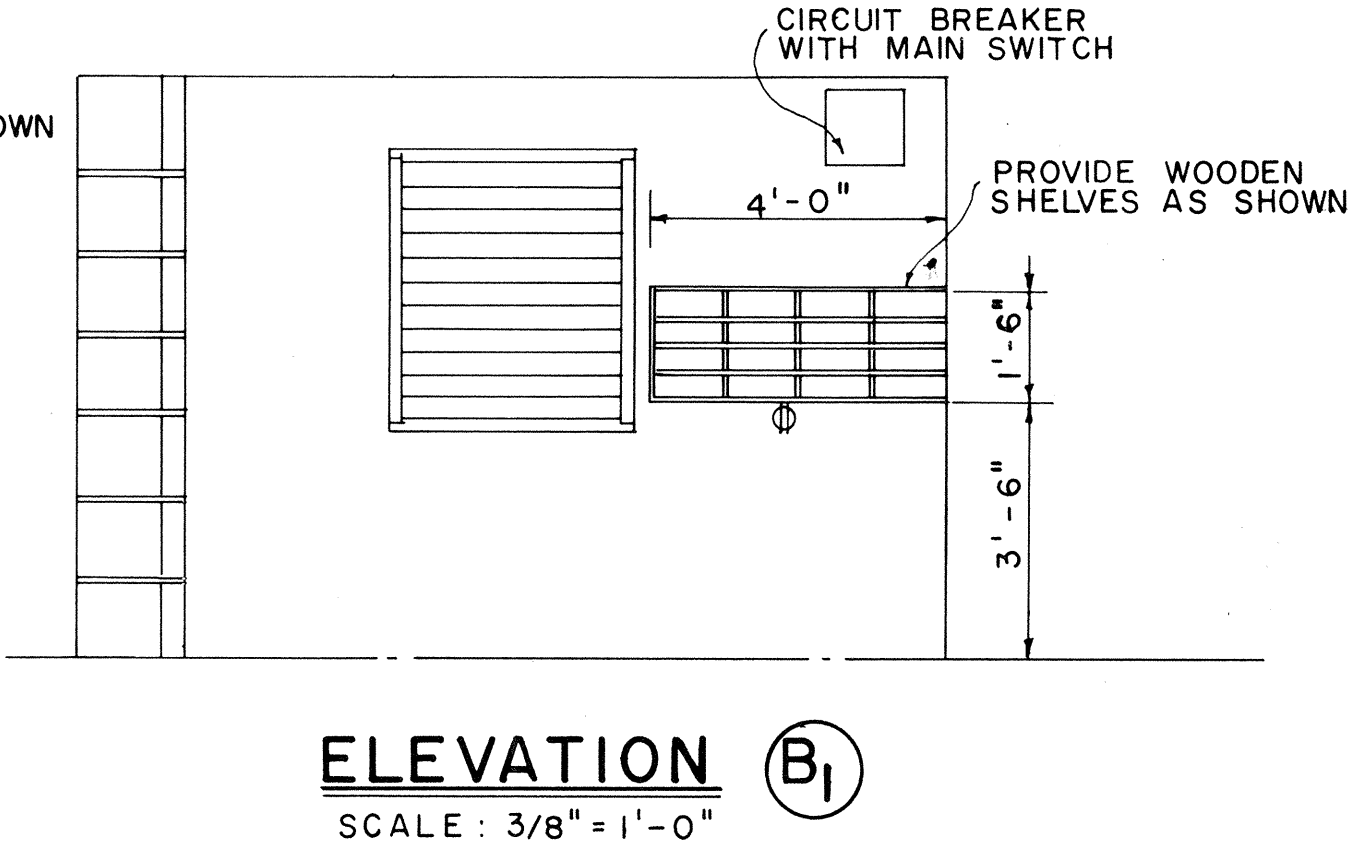
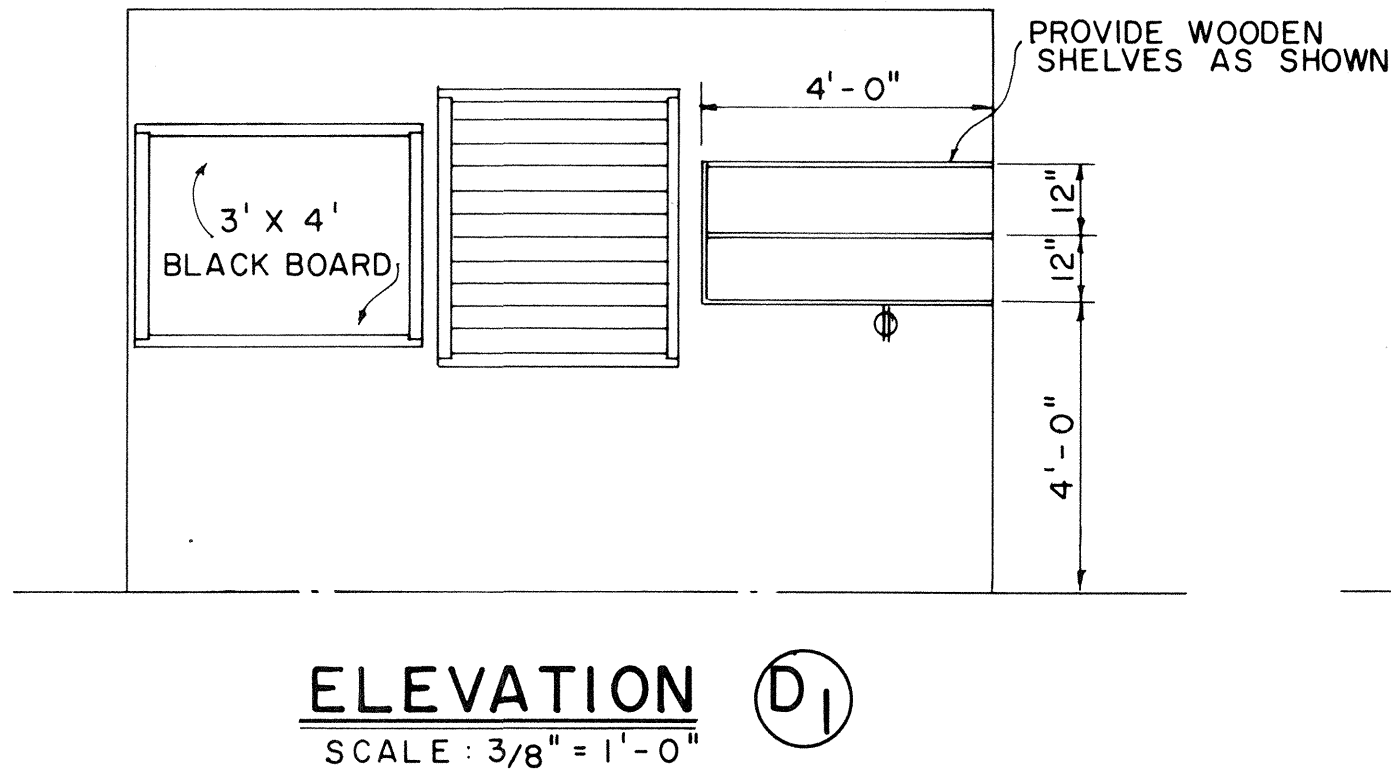


PORTABLE WORK TABLE DETAIL
SCALE: 3/4" = 1'-0"

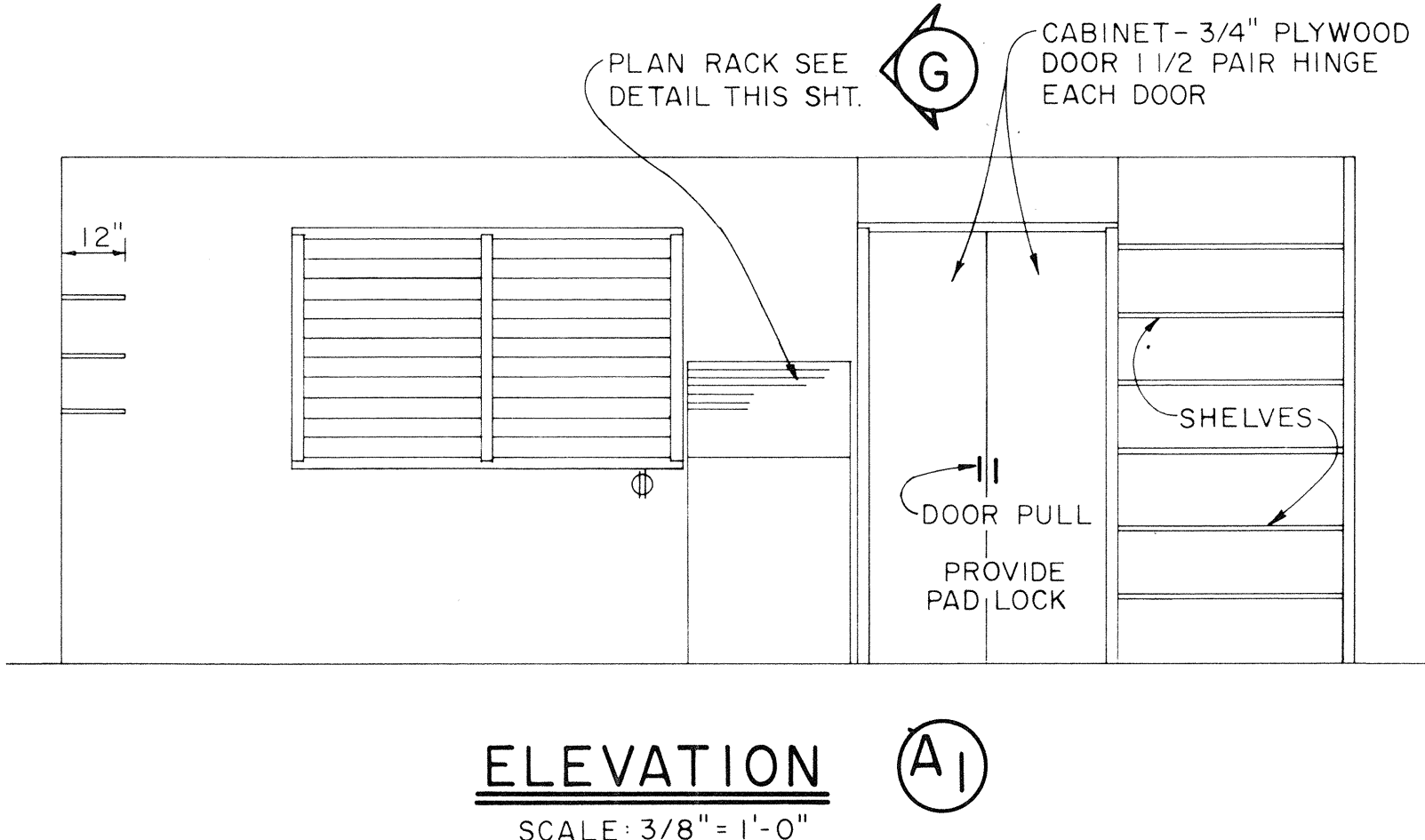
2'-6" x 5'-0" 2 REQ'D.
3'-6" x 8'-0" 1 REQ'D.
2'-6" x 8'-0" 1 REQ'D.



1'-6" x 5'-9" PORTABLE WORK TABLE DETAIL
SCALE: 3/4" = 1'-0"



PLAN RACK DETAIL
SCALE: 1 1/2" = 1'-0"
(ONE REQUIRED)



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

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

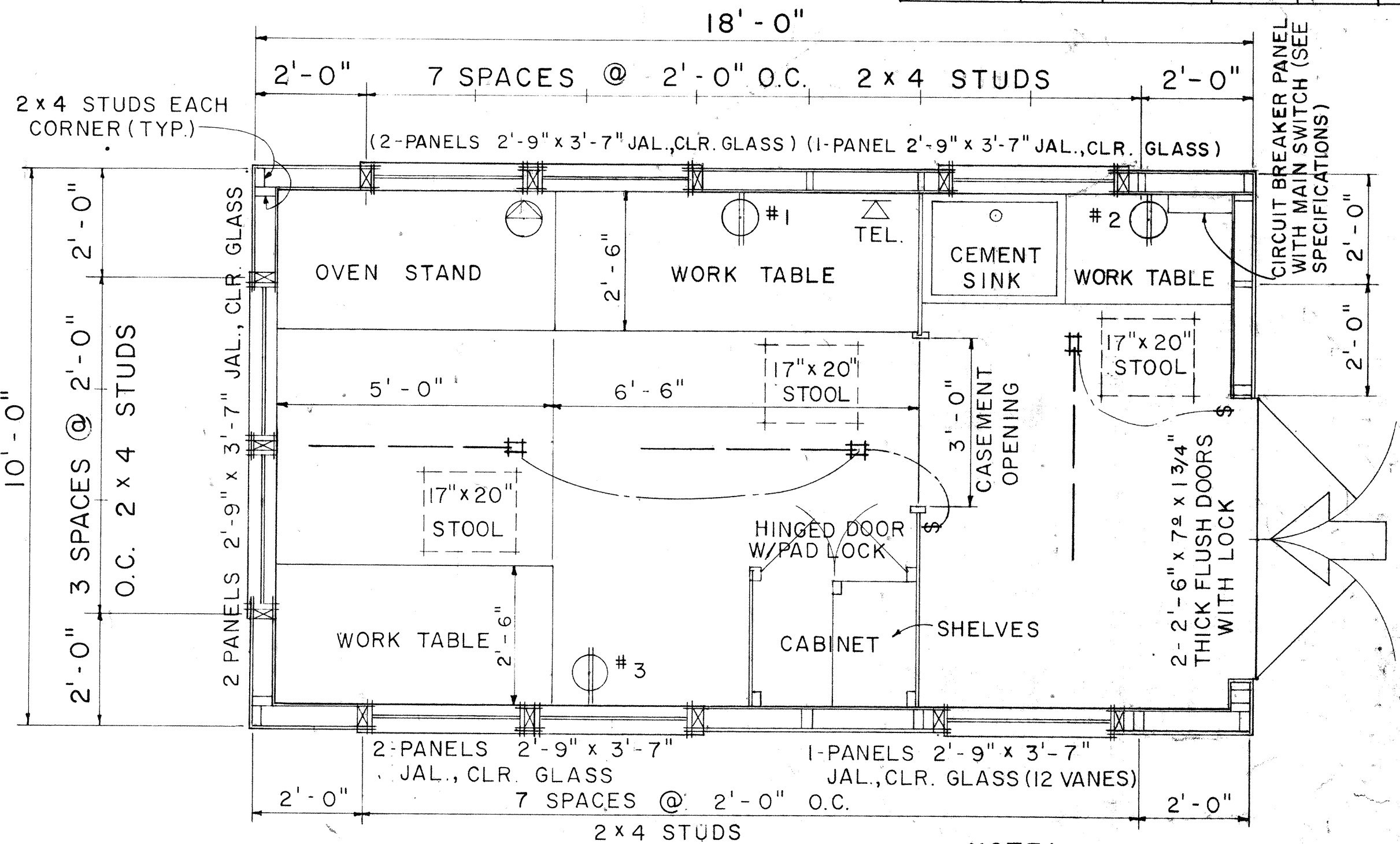
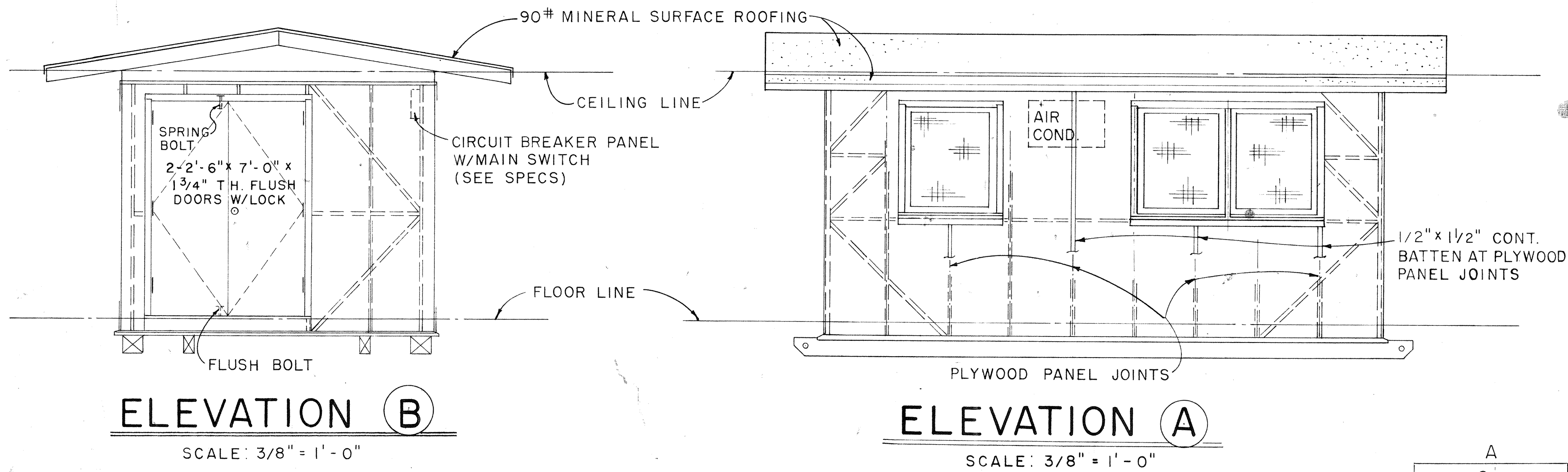
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

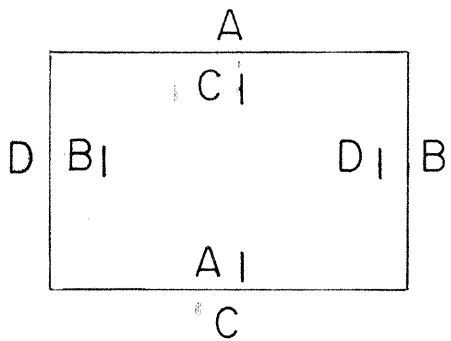
FIELD OFFICE

Scale: As Noted

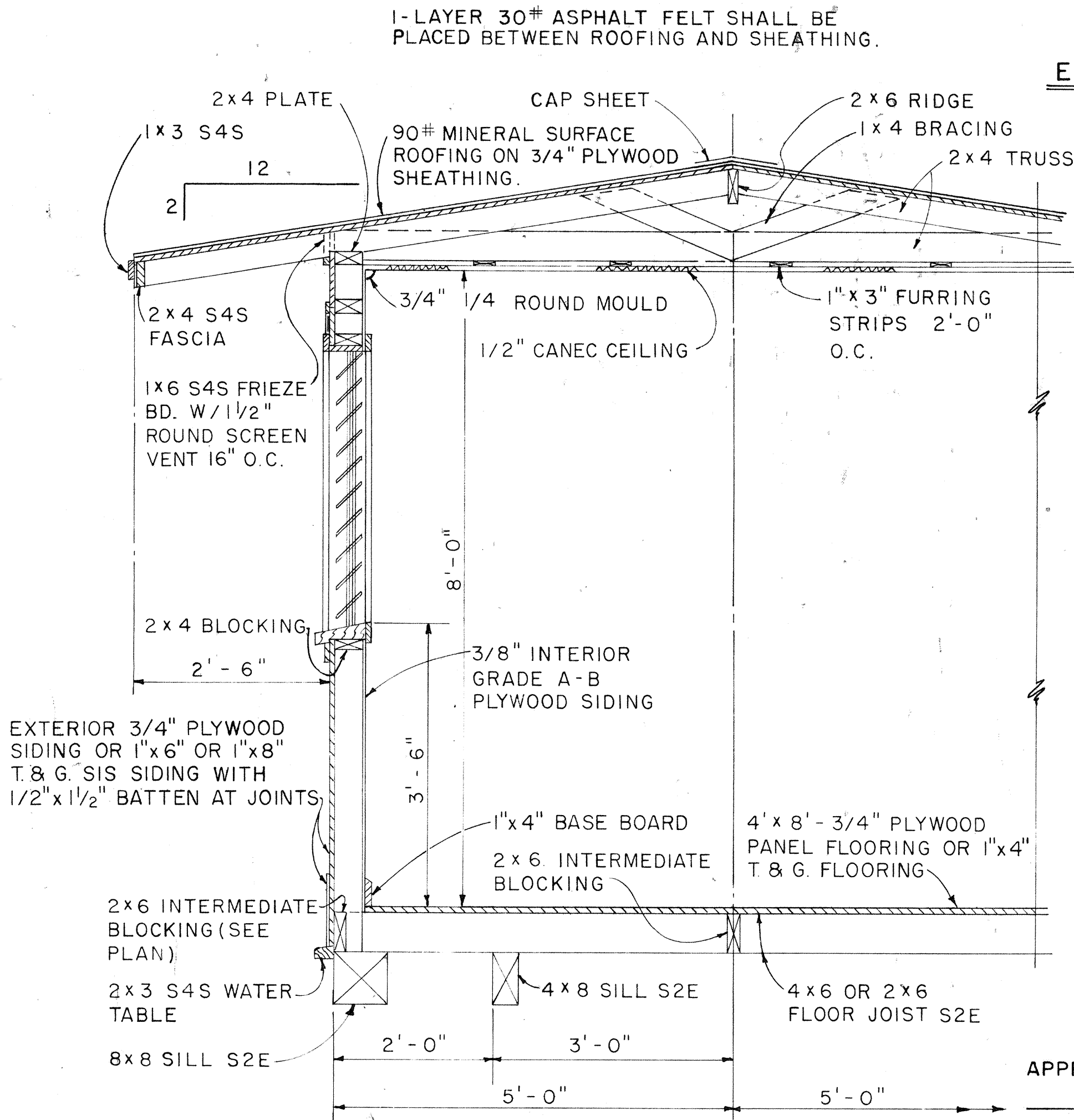
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	42	63



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



EXTERIOR & INTERIOR KEY



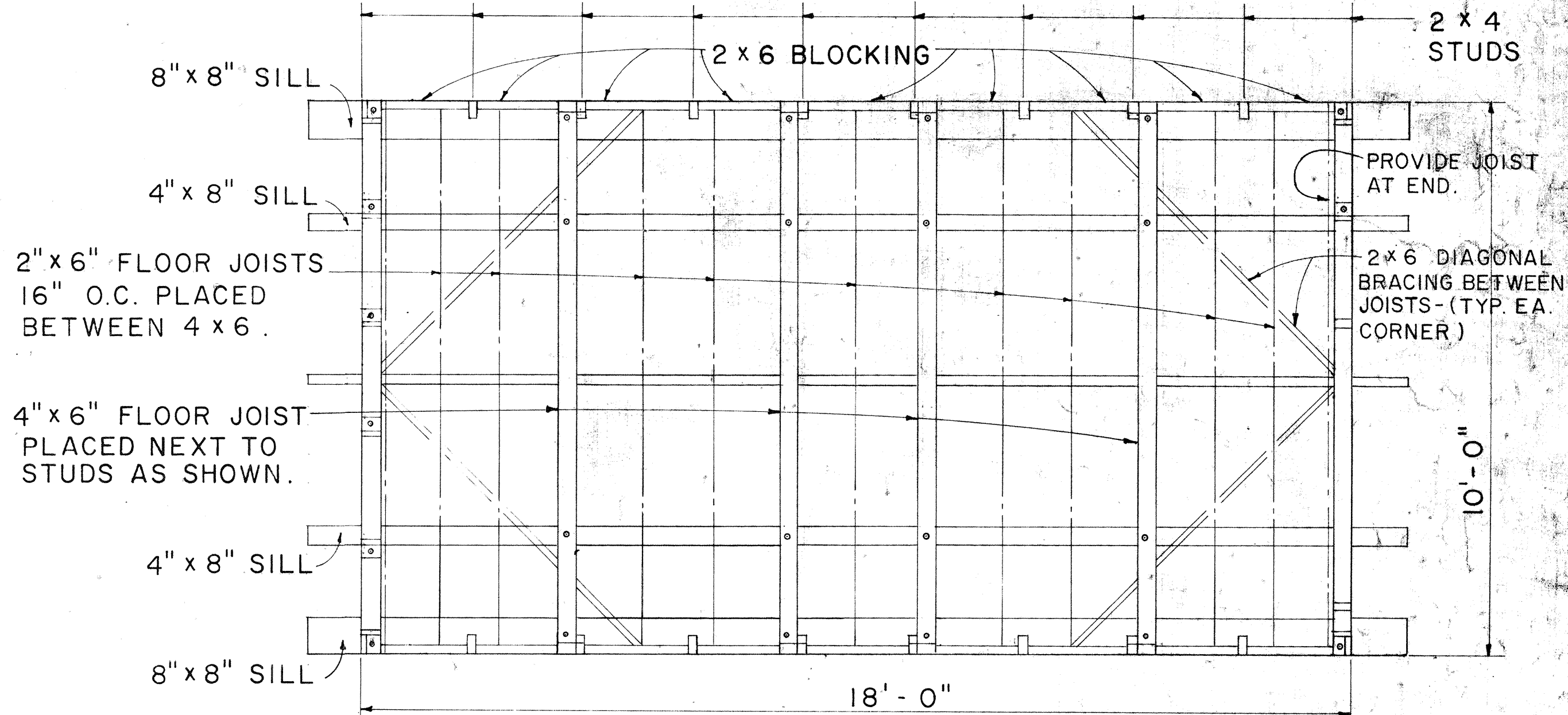
NOTE:
ALL 3/4" PLYWOOD SHALL BE EXTERIOR GRADE A-C OR BETTER.

APPROVAL RECOMMENDED:

 HIGHWAY DESIGN ENGINEER
 12-4-69
 DATE

APPROVED:

 ASSISTANT CHIEF, ENGINEERING
 12-10-69
 DATE



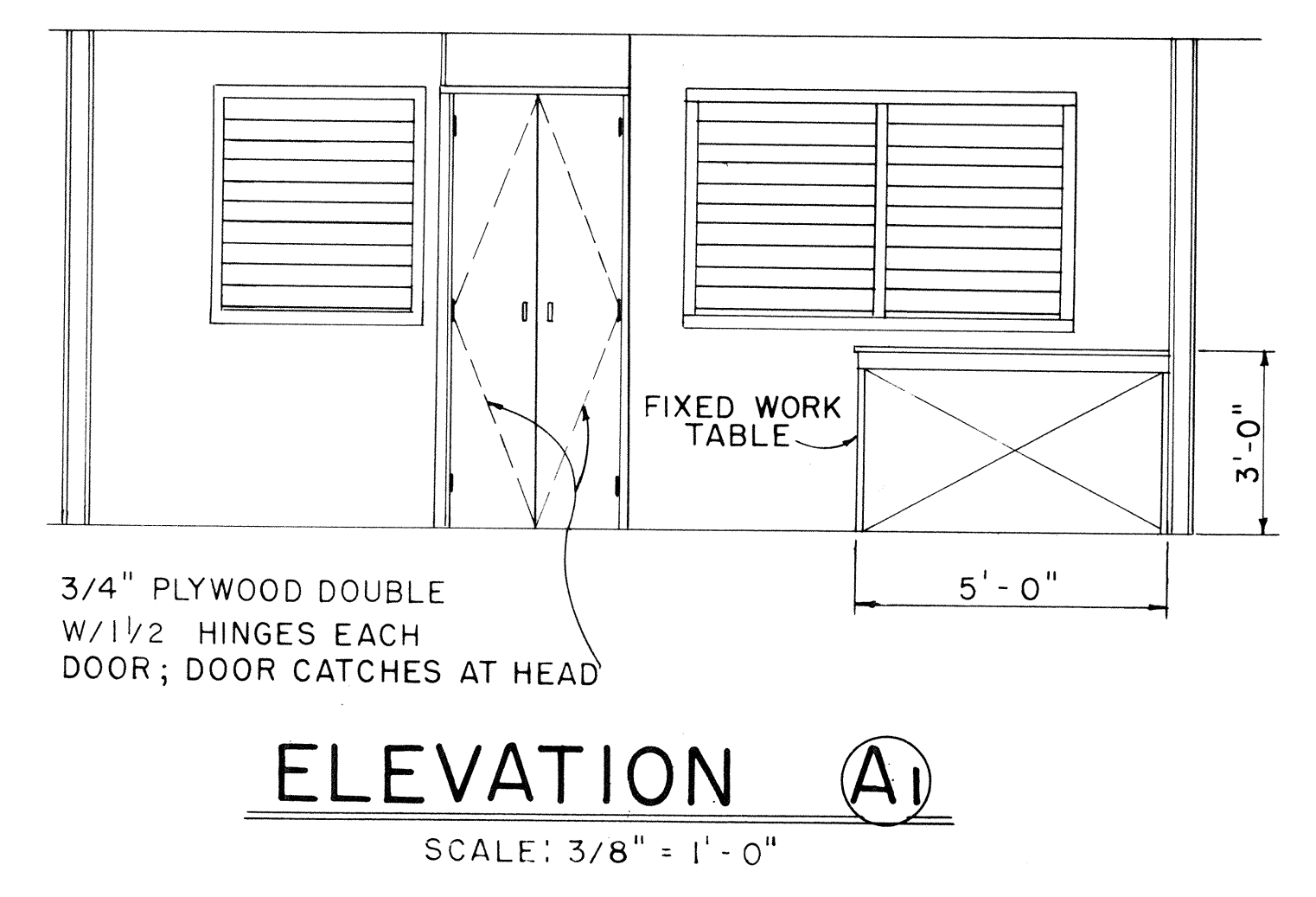
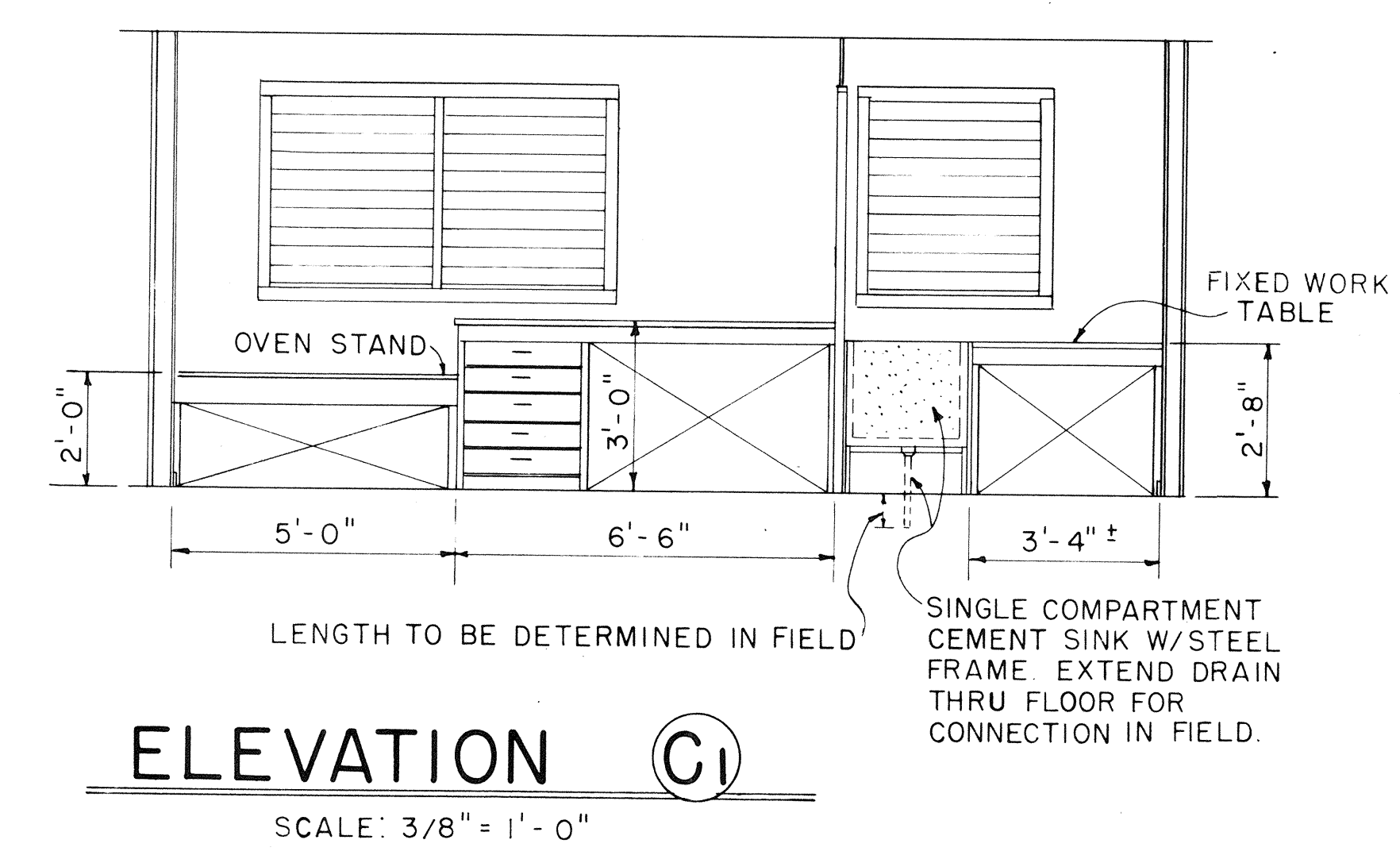
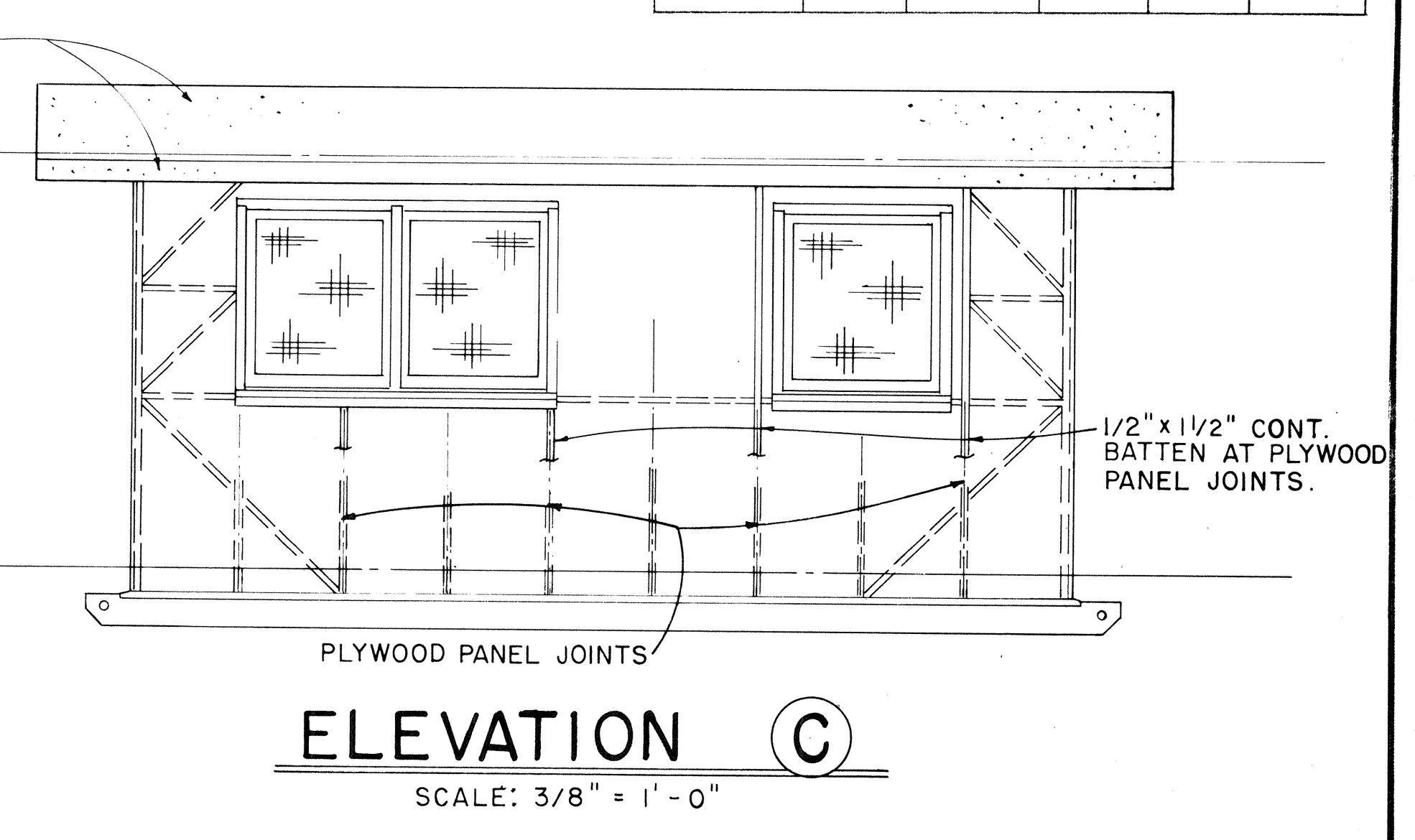
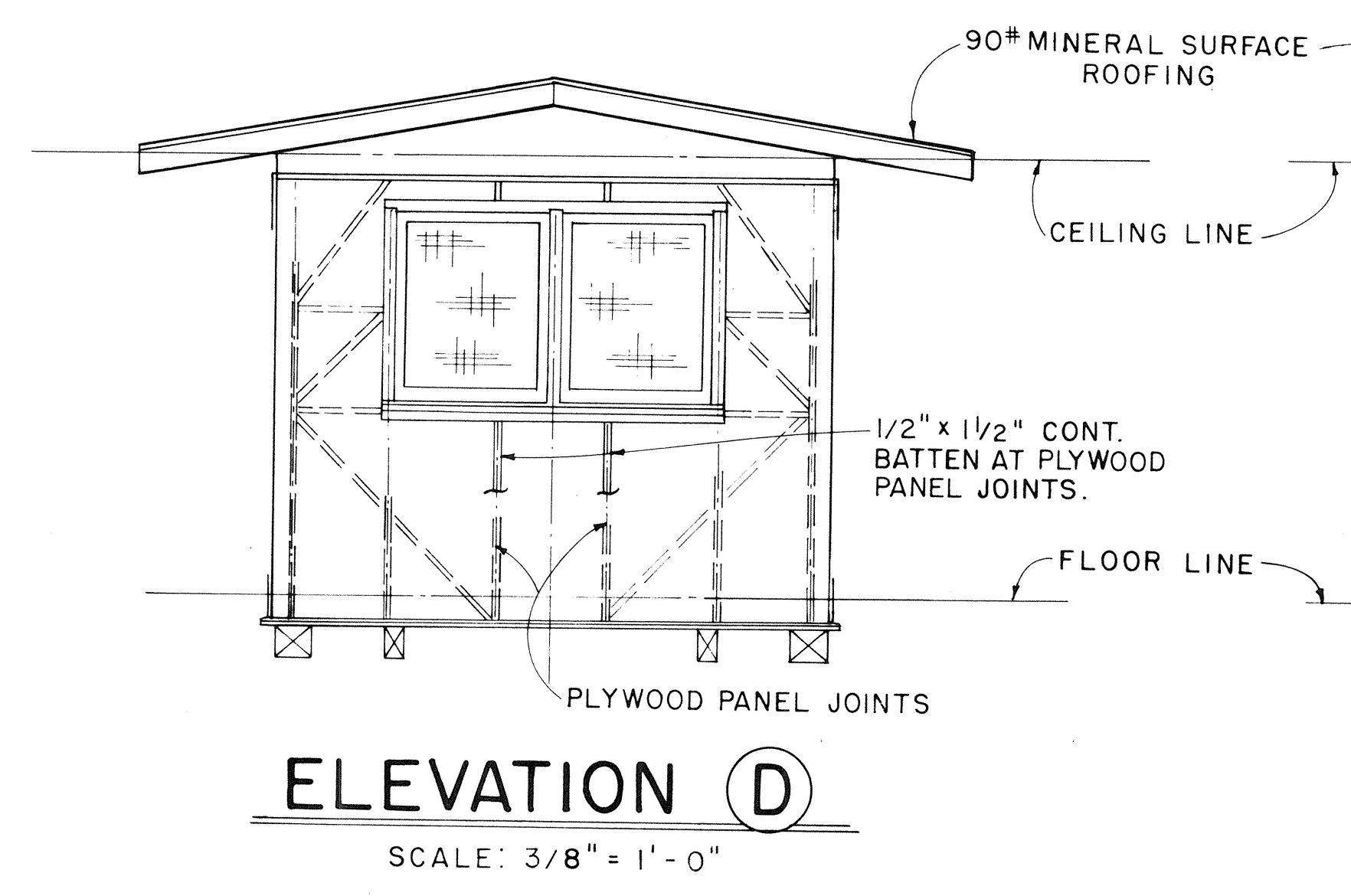
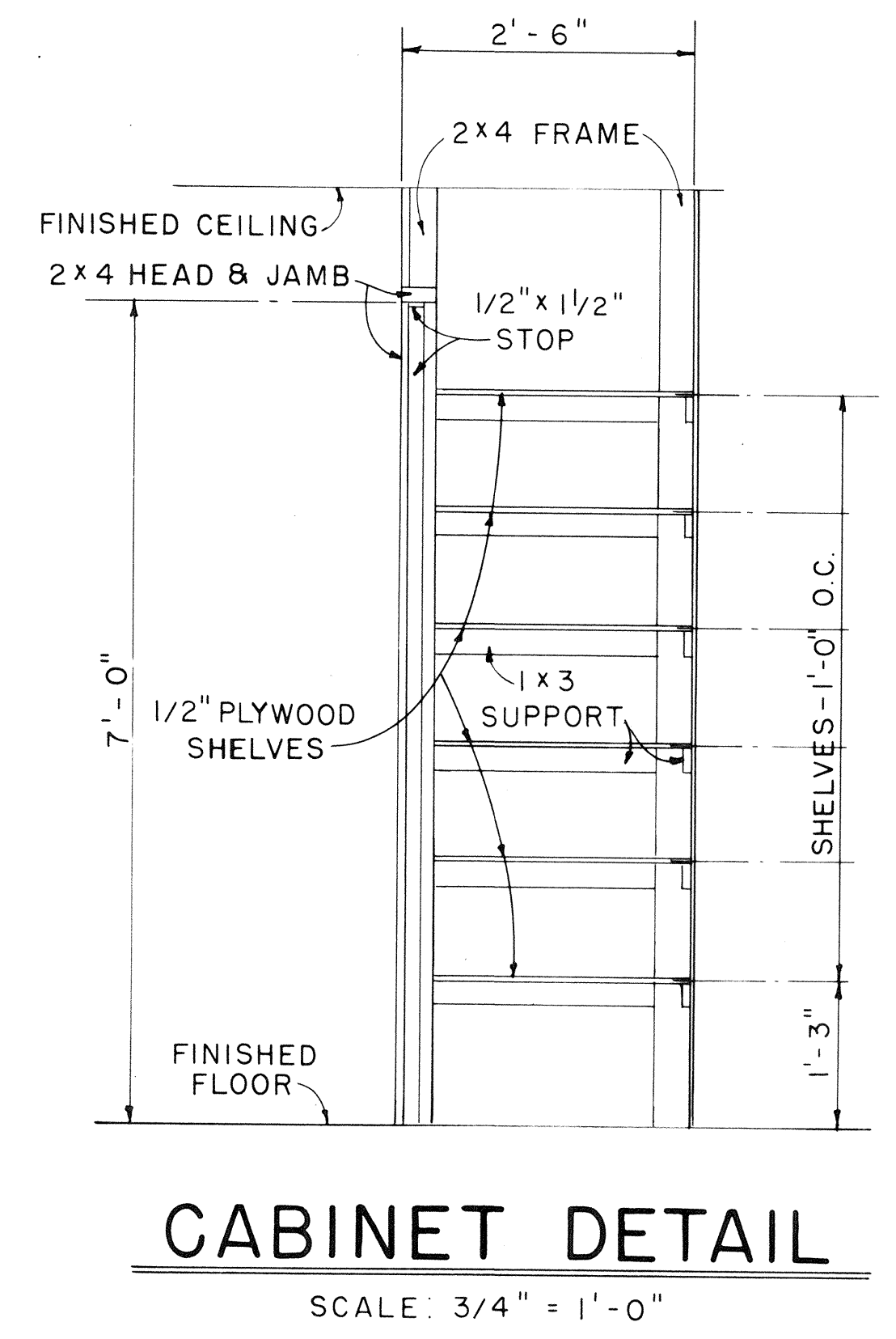
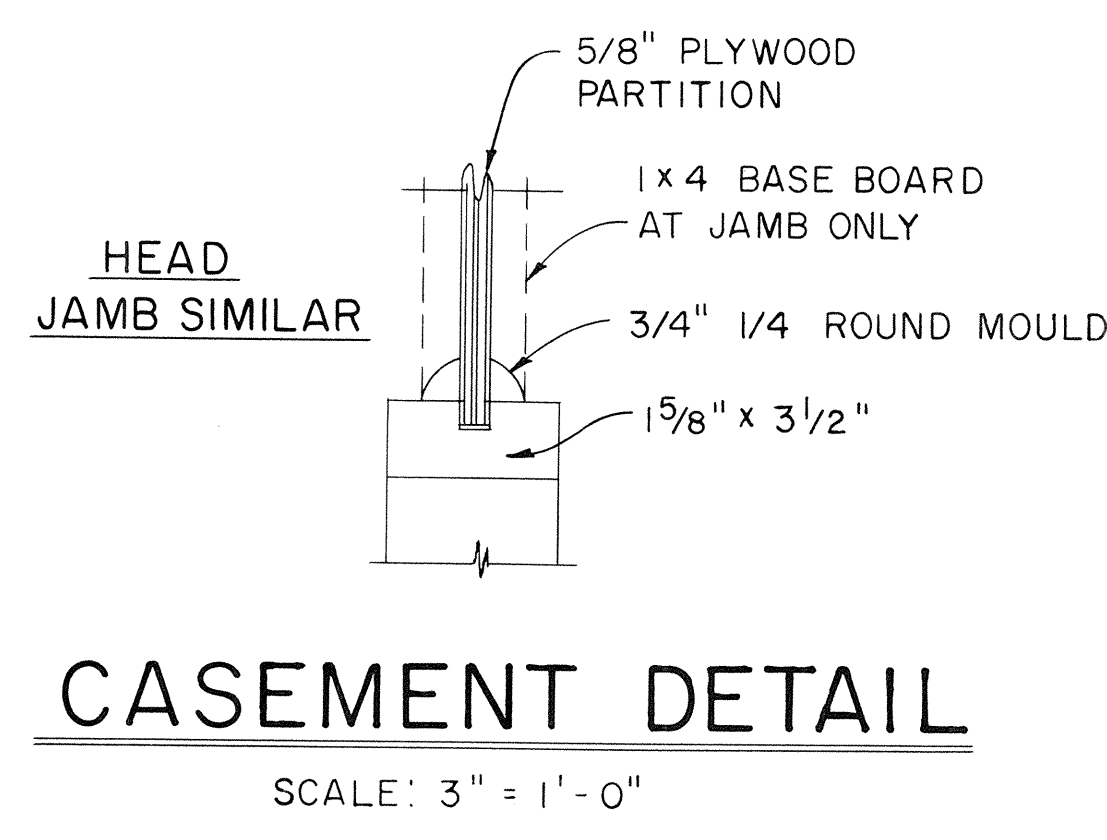
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

PROJECT SITE LABORATORY

Scale: As Noted

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	43	63



APPROVAL RECOMMENDED:

M. J. Jones 12-4-69
HIGHWAY DESIGN ENGINEER DATE

APPROVED:

W. J. Jones 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

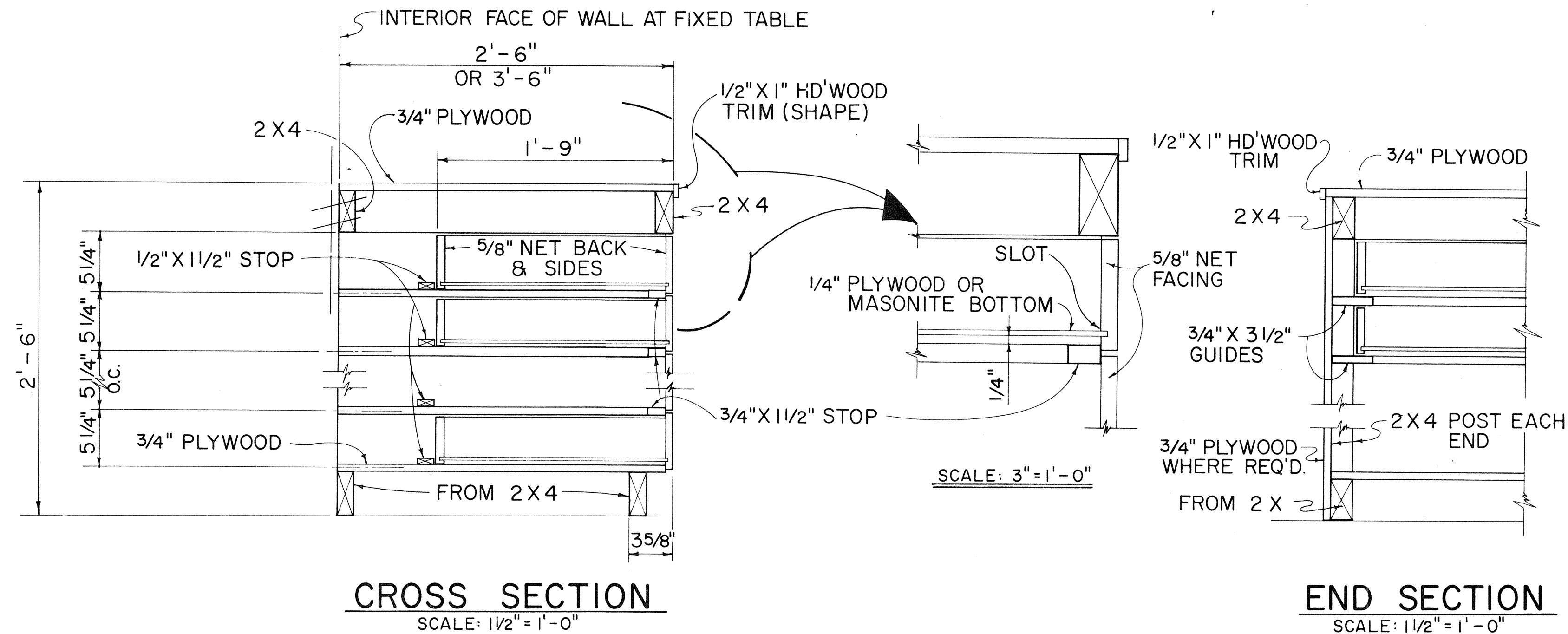
PROJECT SITE LABORATORY

Scale: As Noted

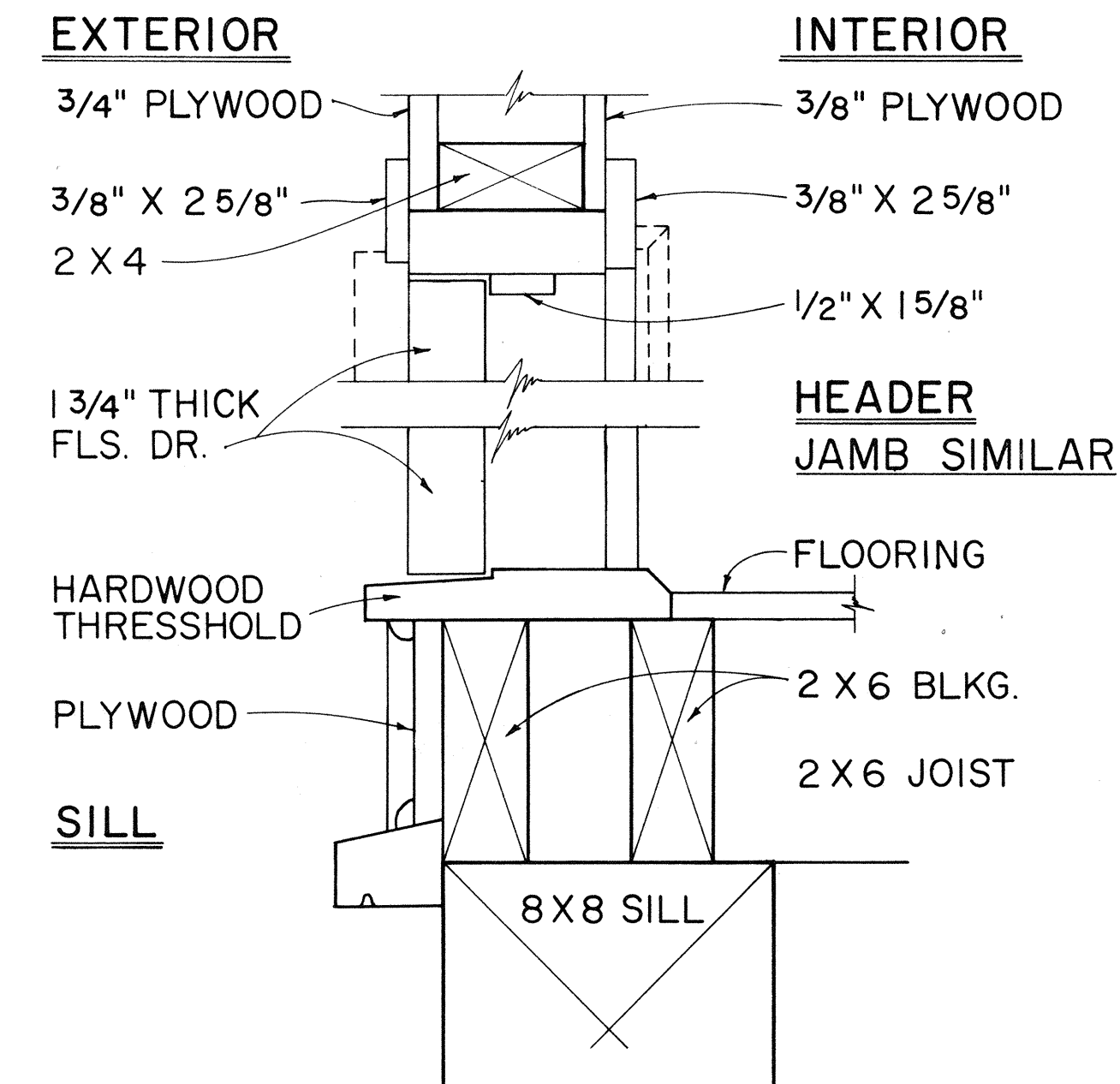
SHEET No. 5 OF 25 SHEETS DD 636.4

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

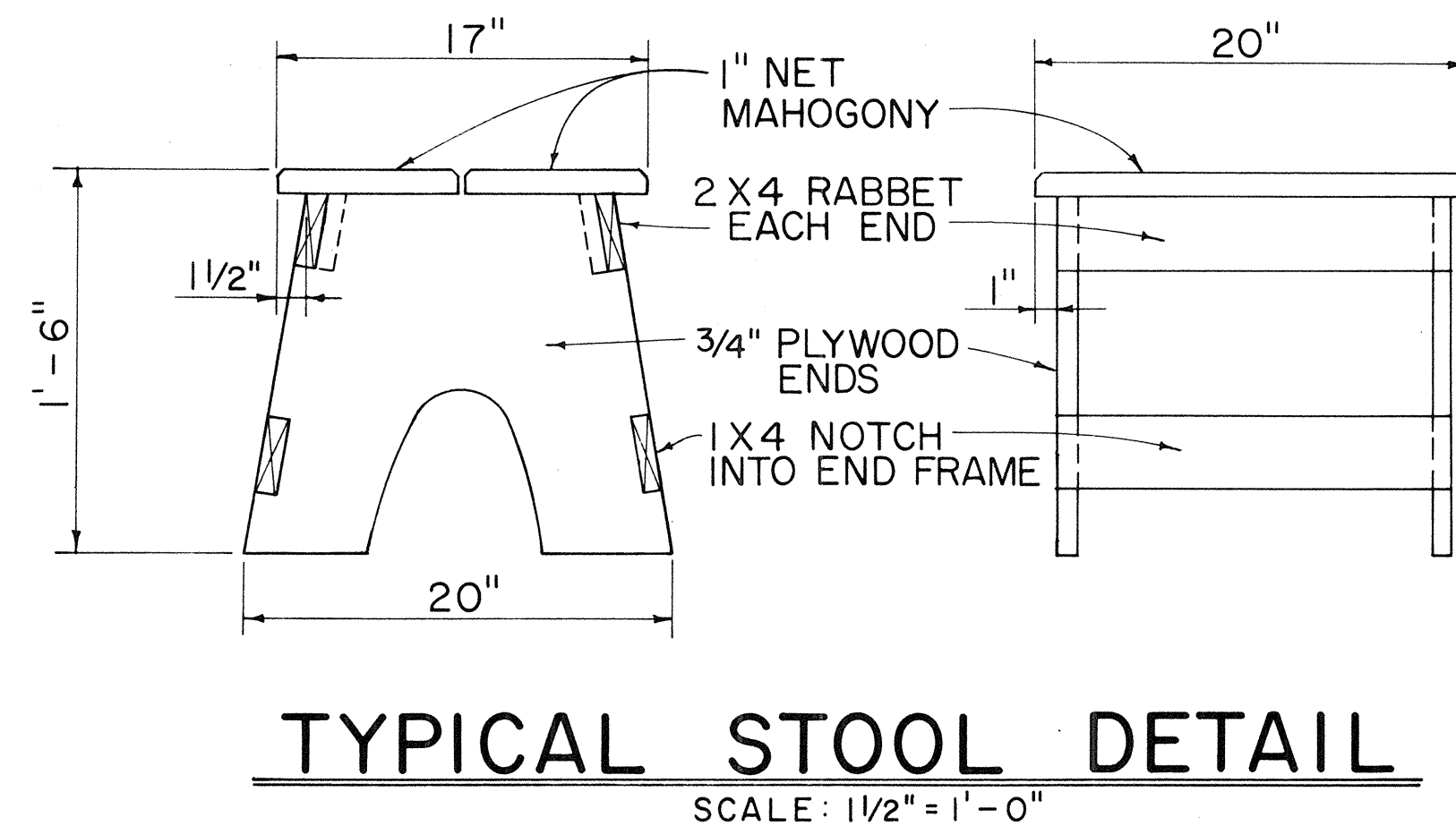
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	240A-01-71 UNIT 2	1978	44	63



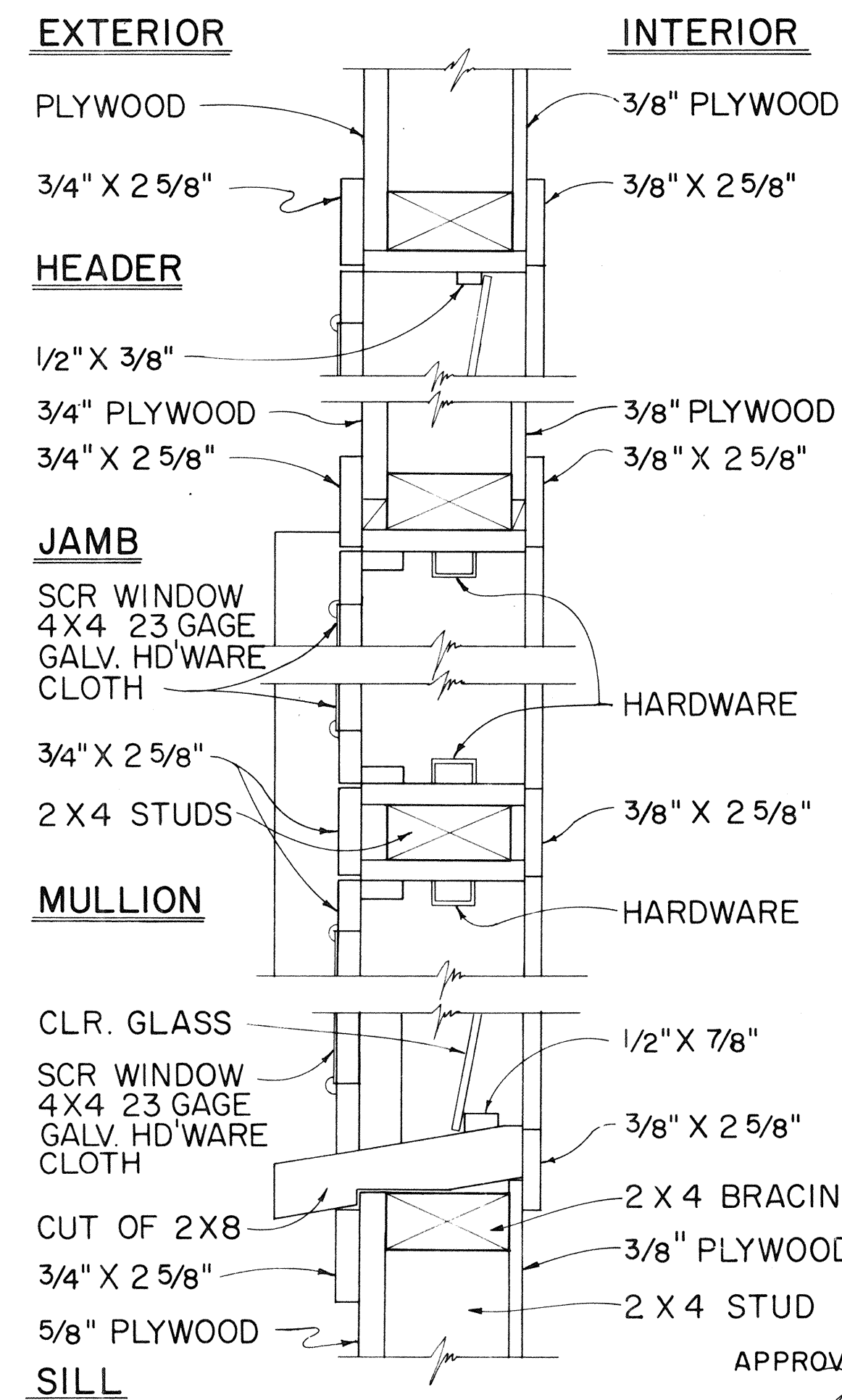
TYPICAL WORK TABLE DRAWER DETAIL



TYP. SWING OUT DOOR
TYPICAL SINGLE OR DOUBLE EXTERIOR DOOR DETAIL



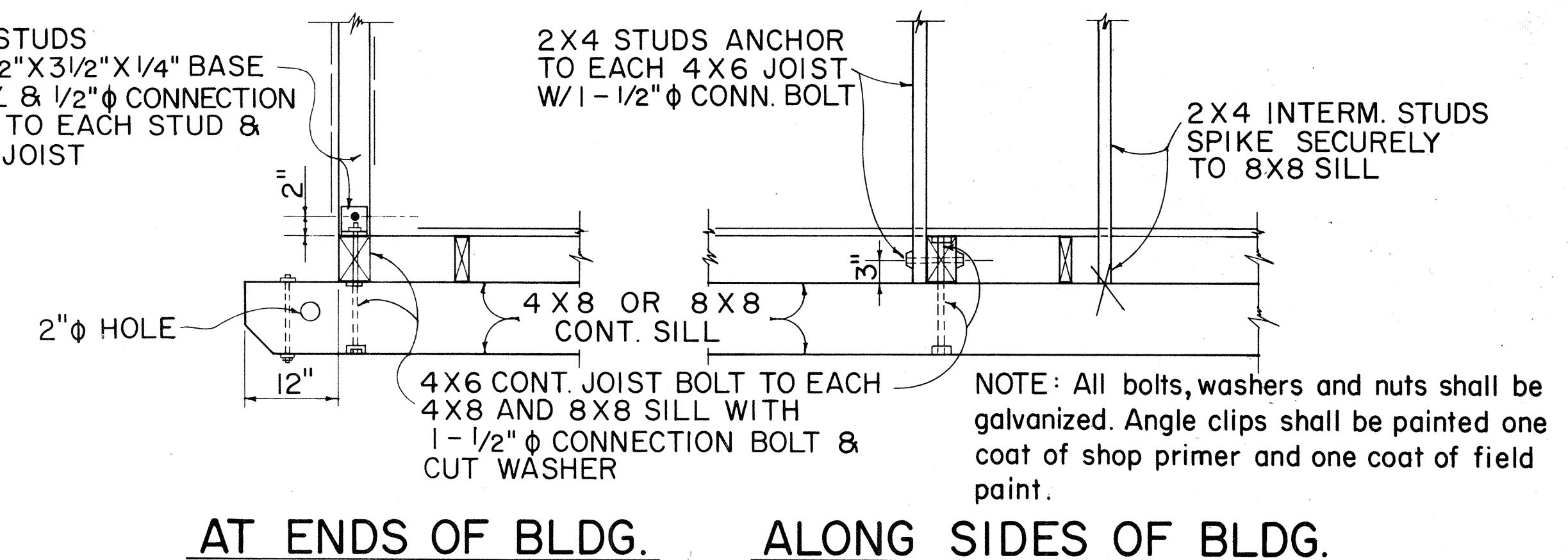
NOTE: CONTRACTOR MAY WITH THE APPROVAL OF THE ENGINEER FURNISH THE FIELD OFFICE OR PROJECT SITE LABORATORY WITH STOOLS OTHER THAN THE TYPE SHOWN IN THE DETAIL.



TYPICAL DETAIL JALOUSIES WINDOWS
SCALE: 3" = 1'-0"

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

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



TYPICAL 2 X 4 STUD & 4 X 6 FLOOR JOIST BASE CONNECTION DETAILS

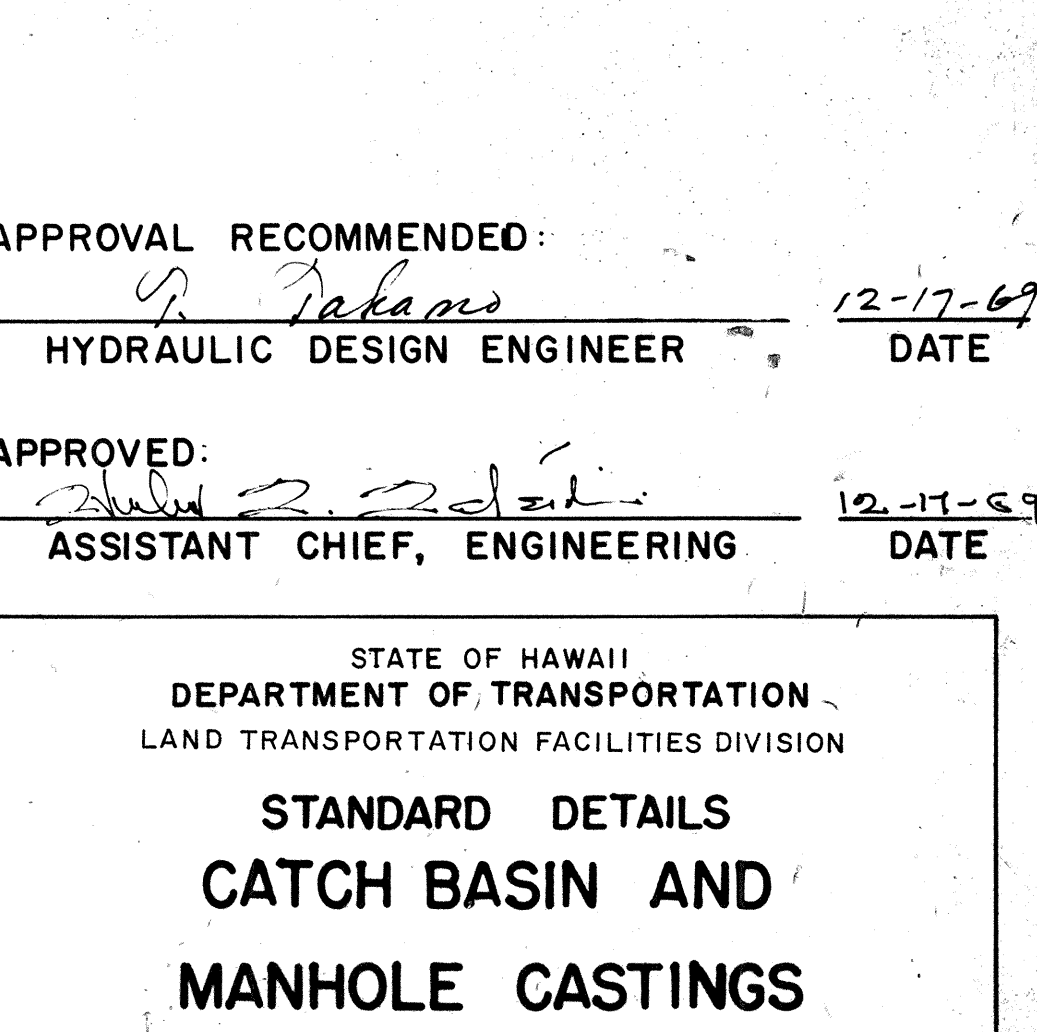
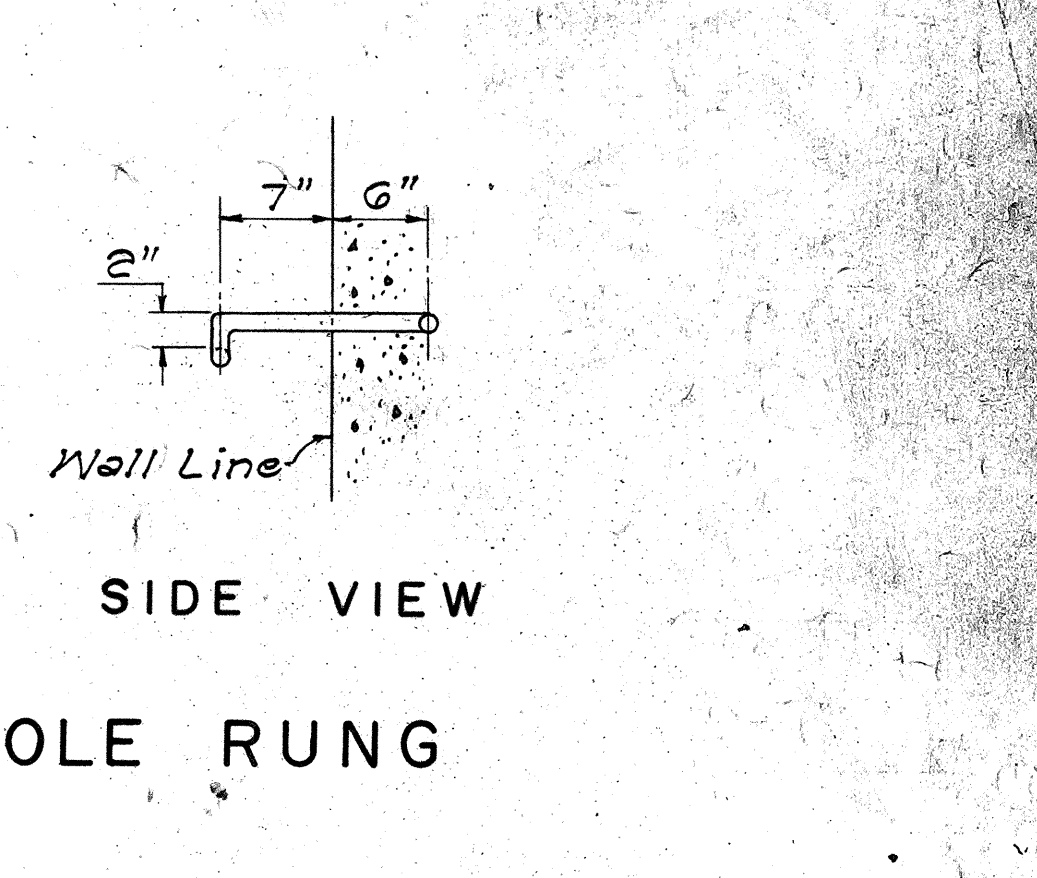
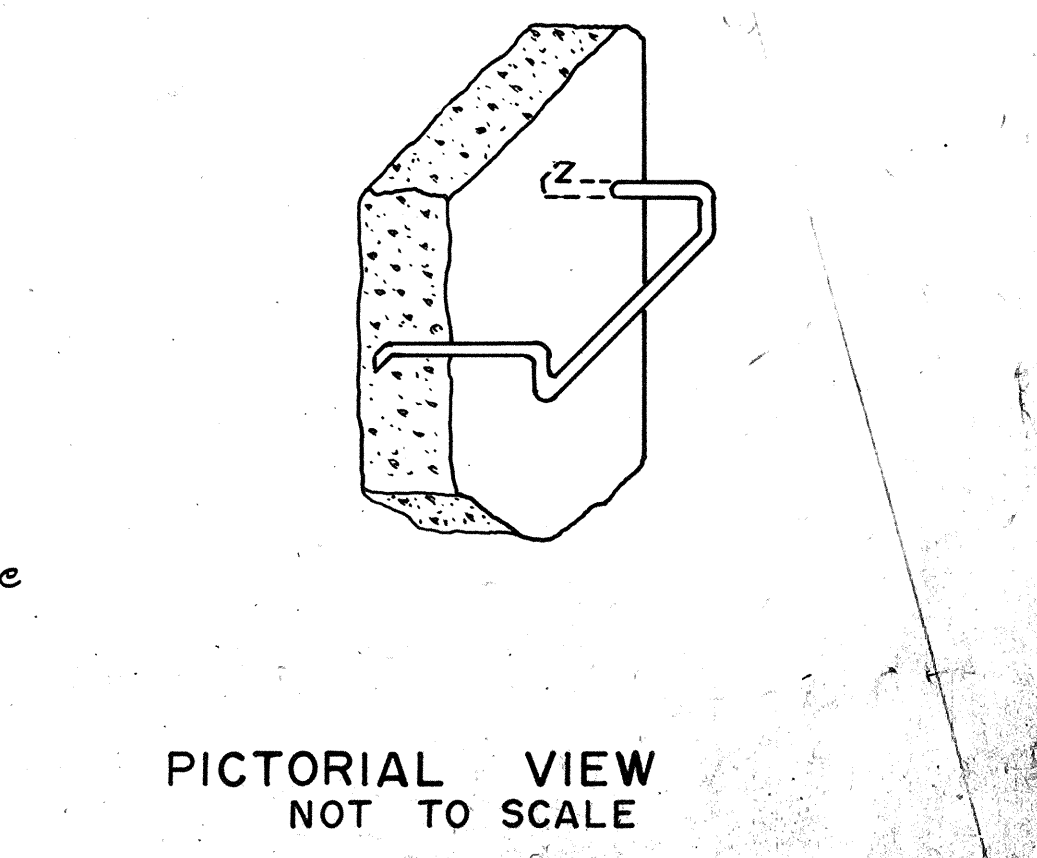
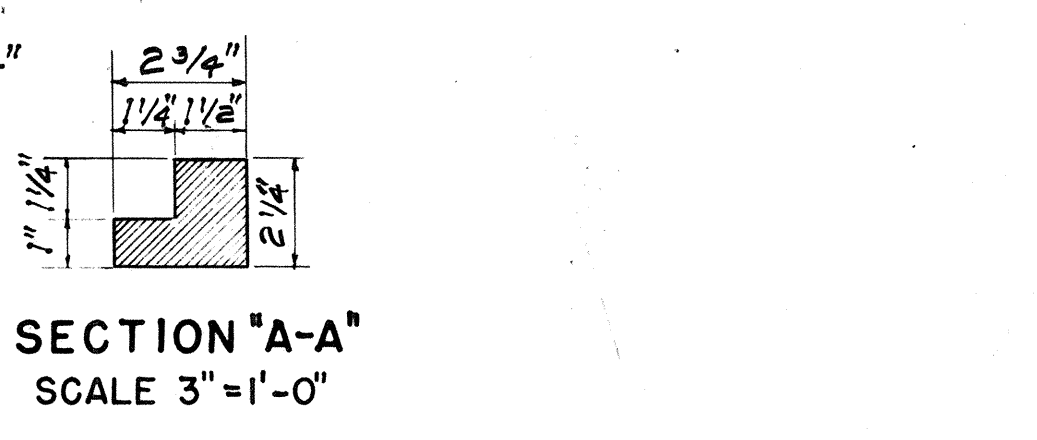
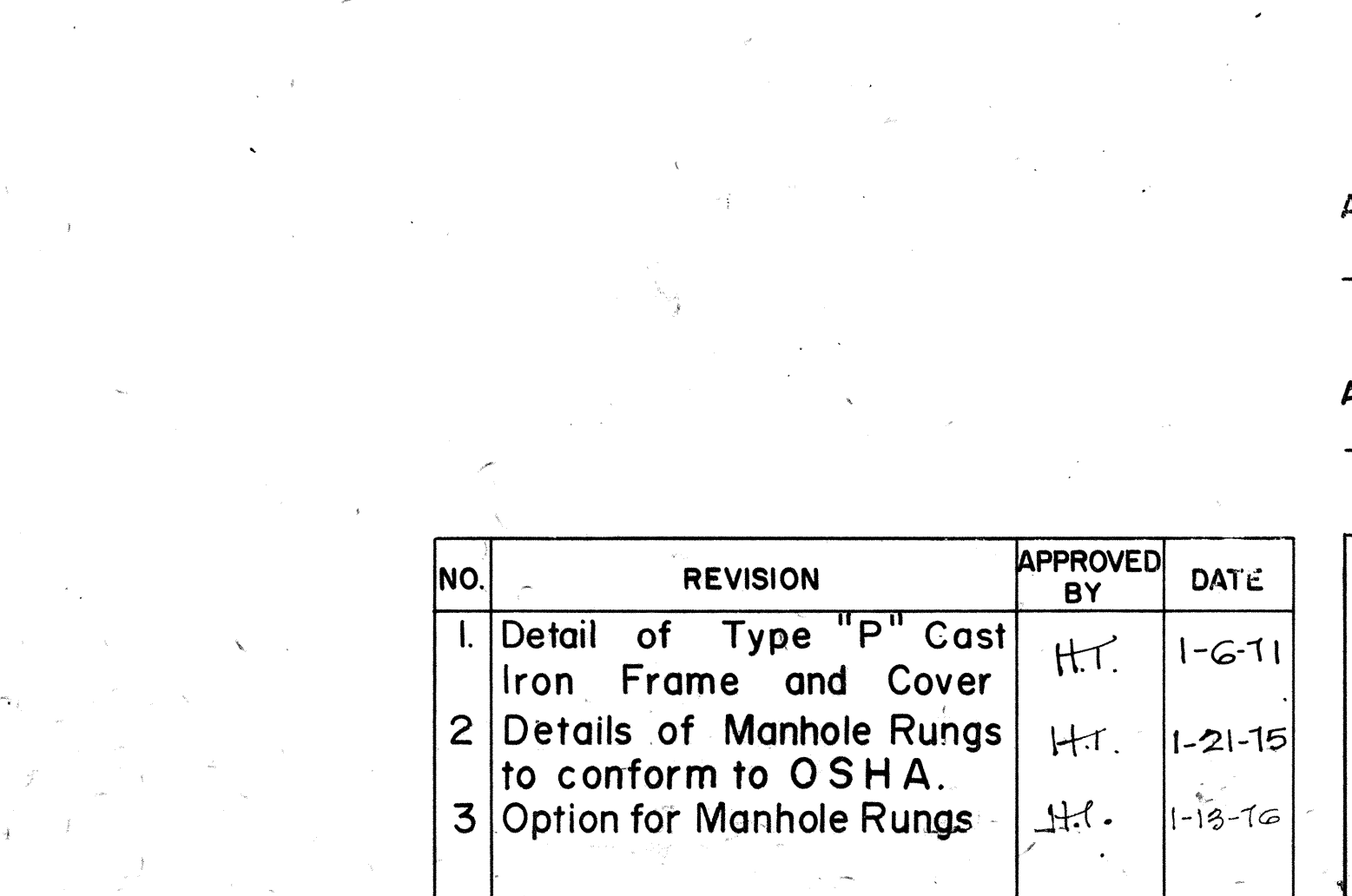
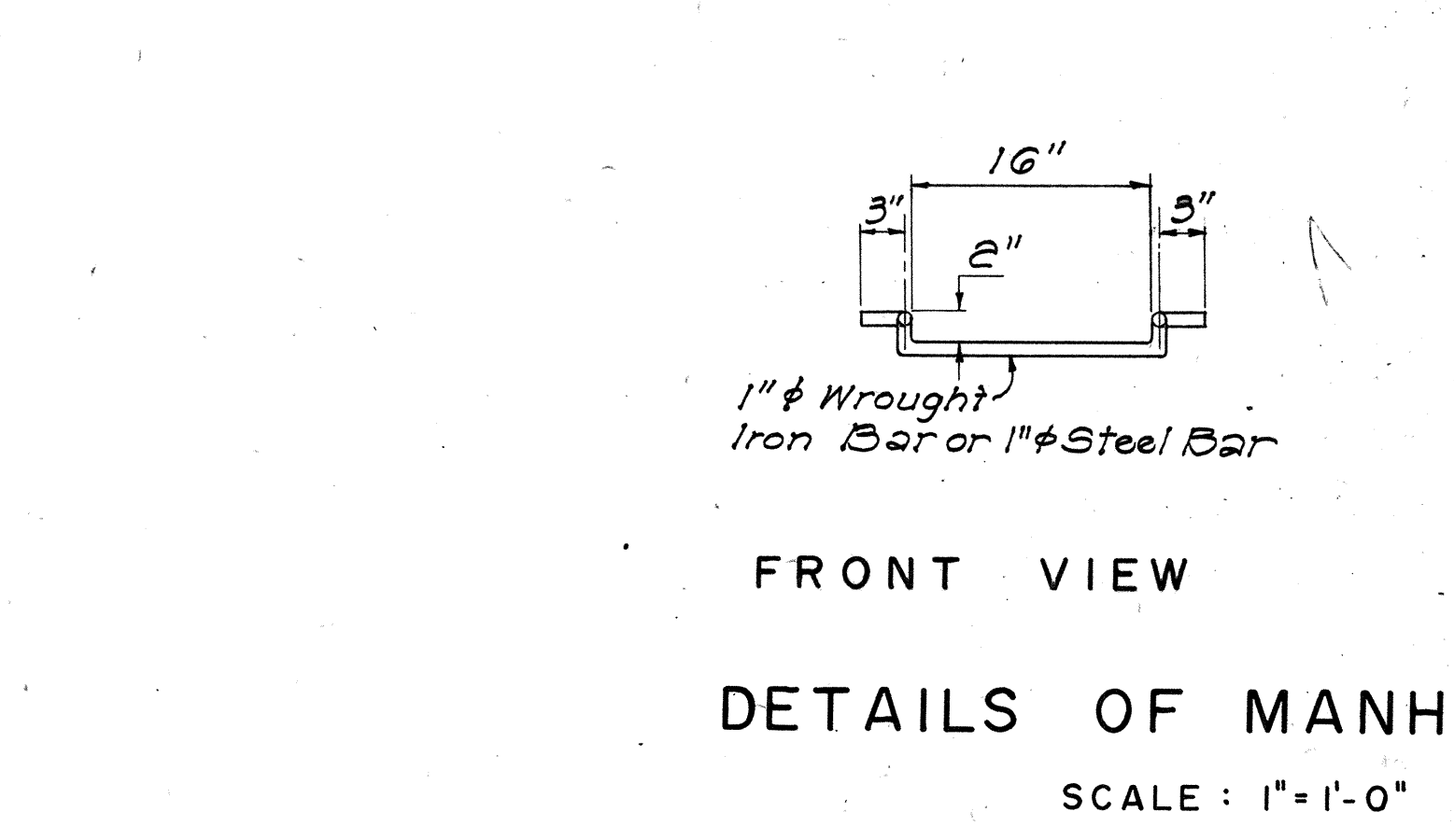
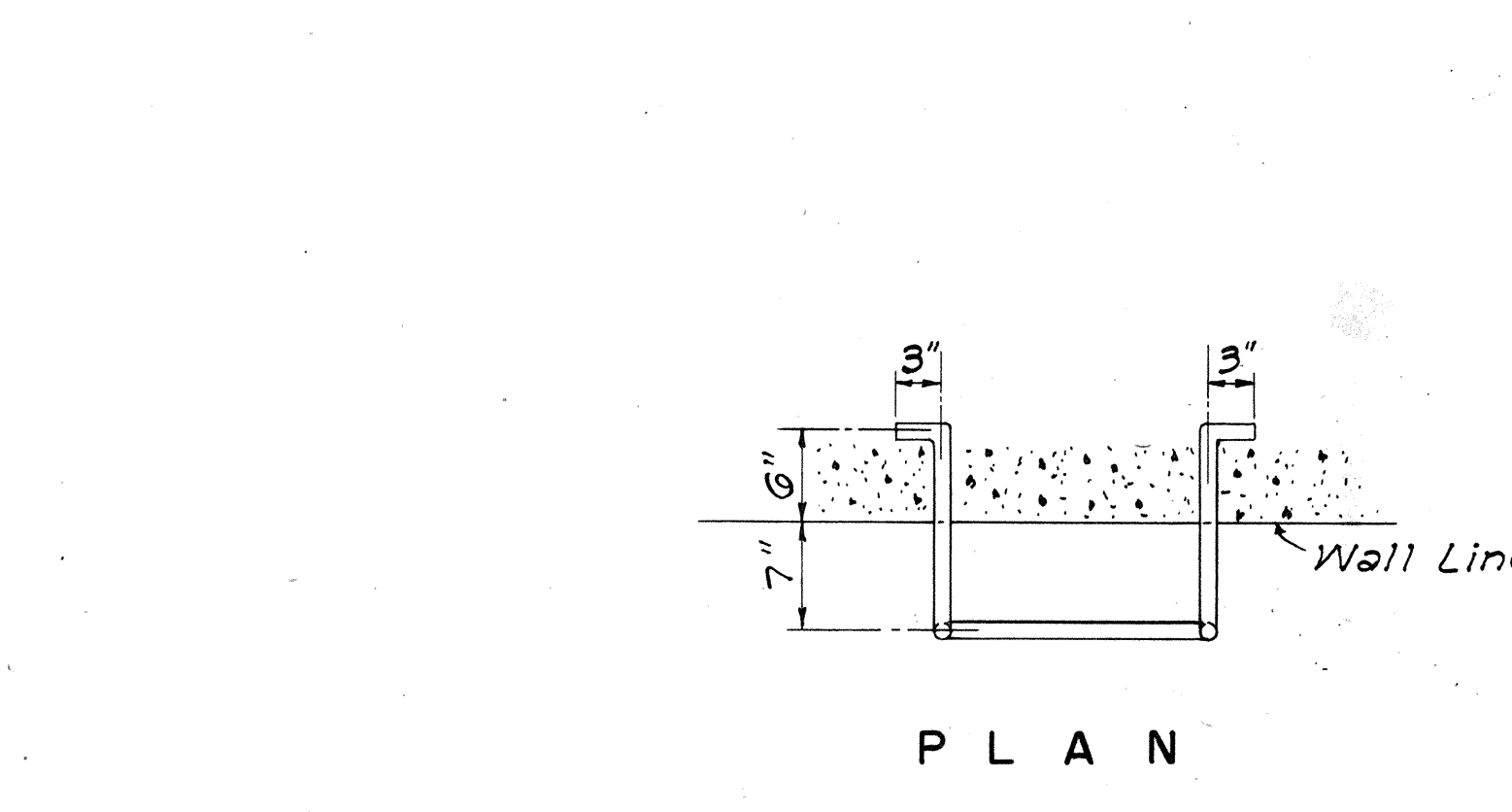
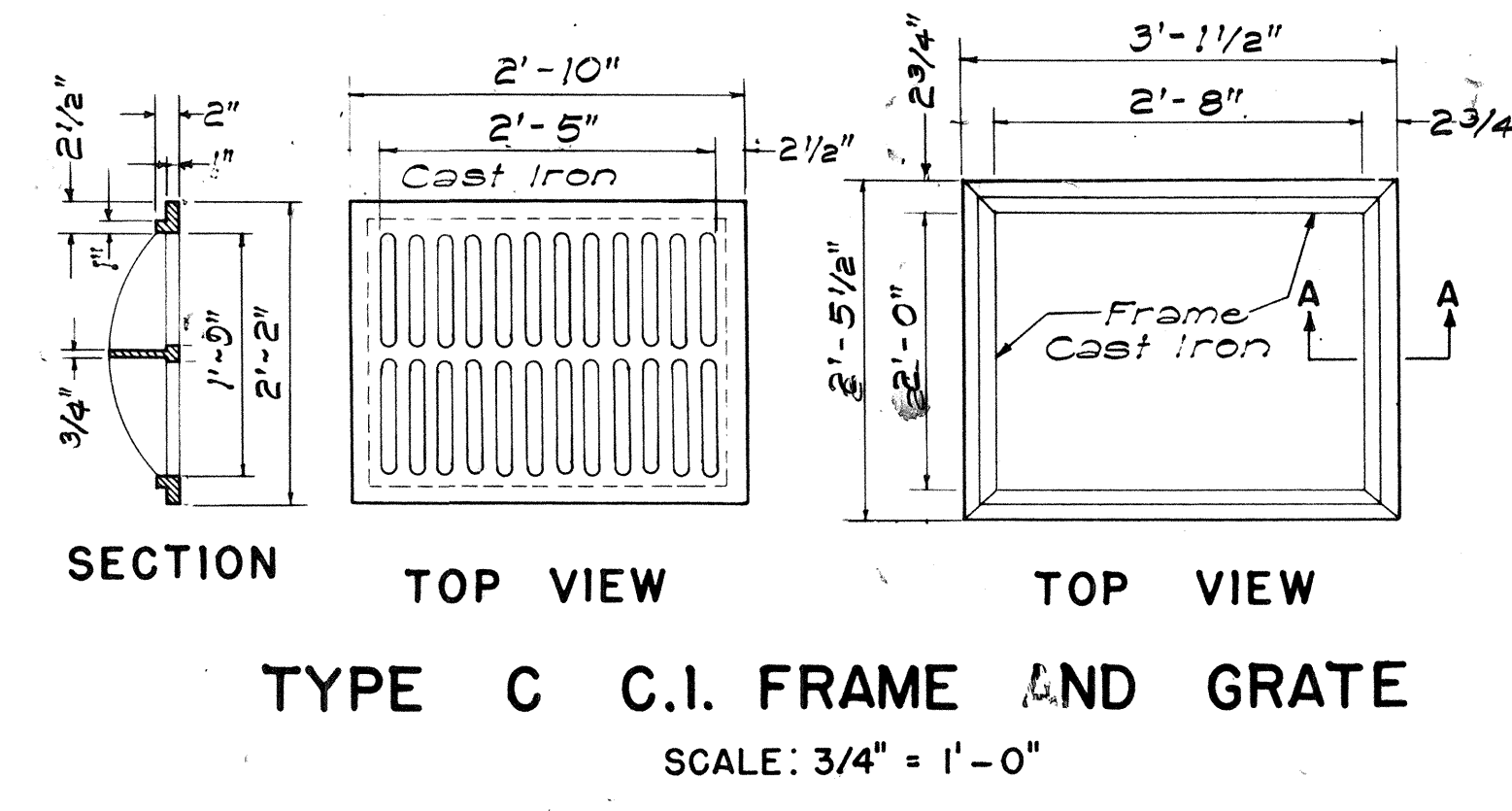
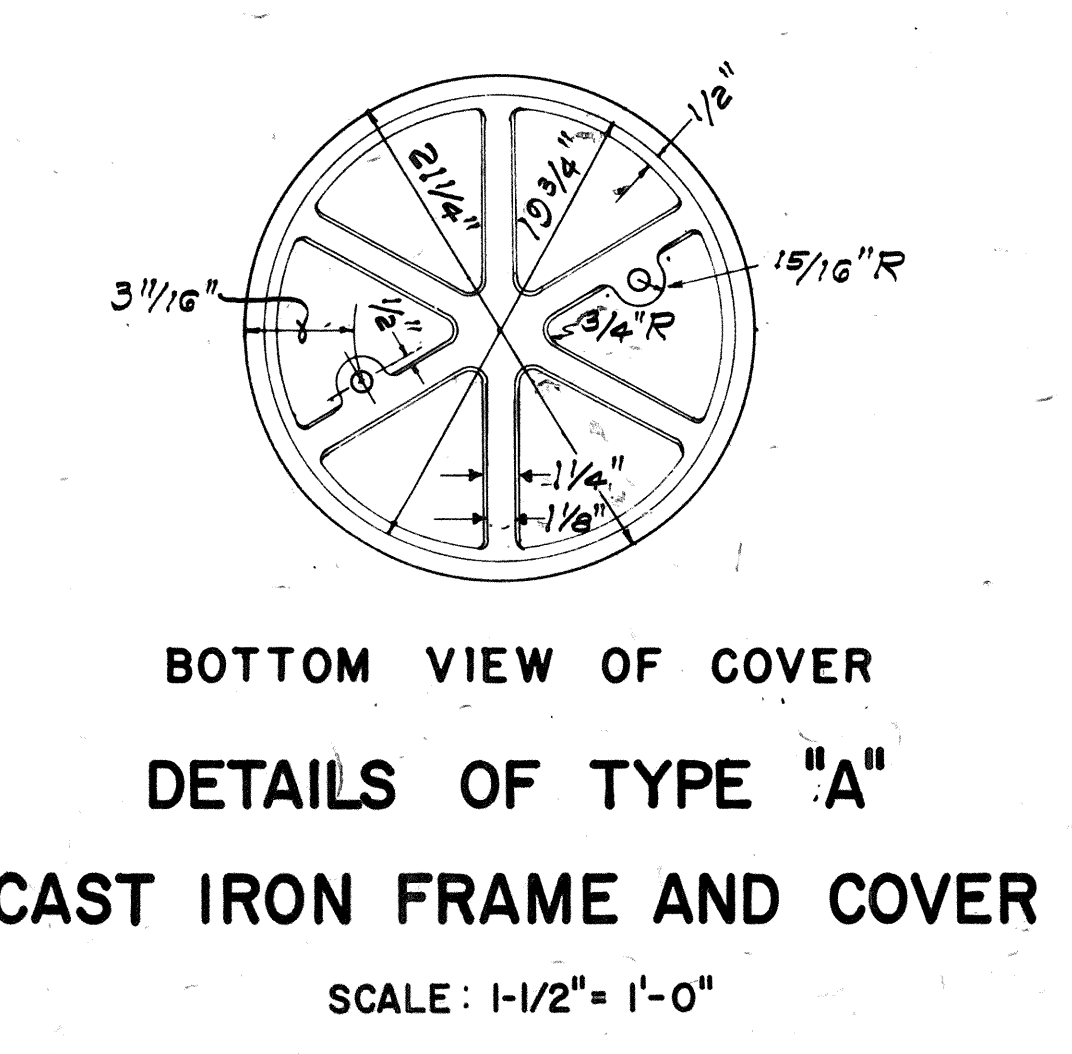
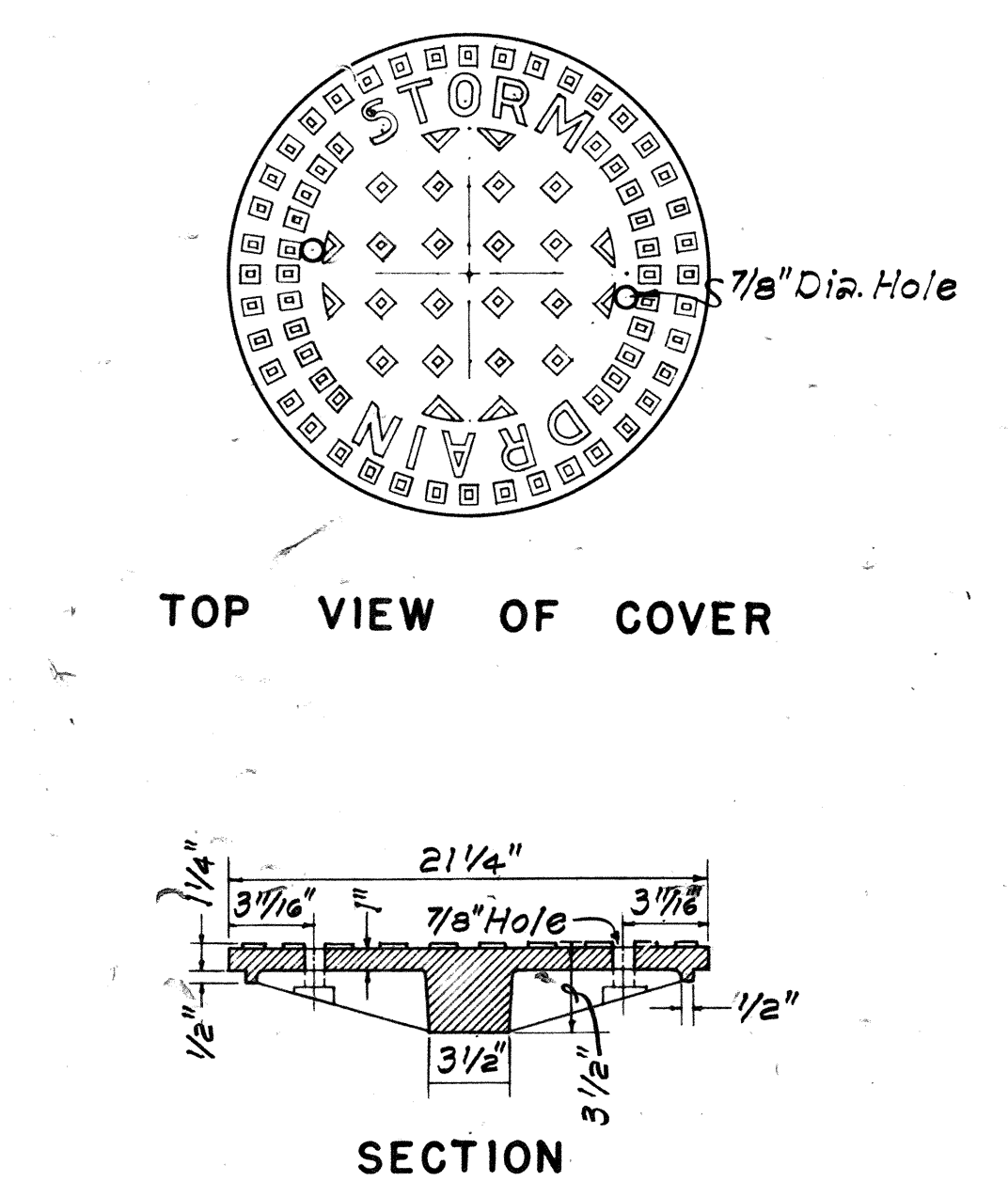
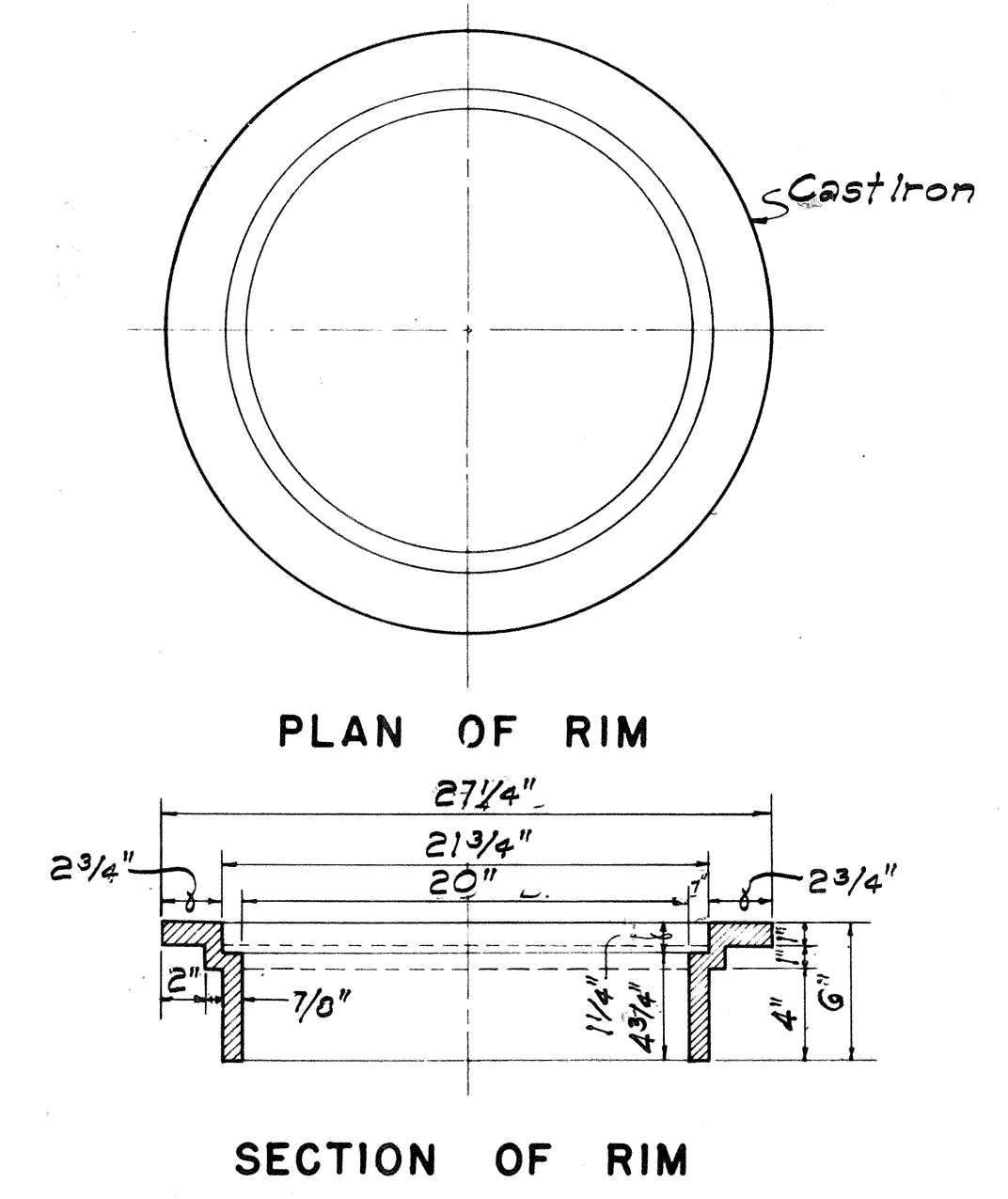
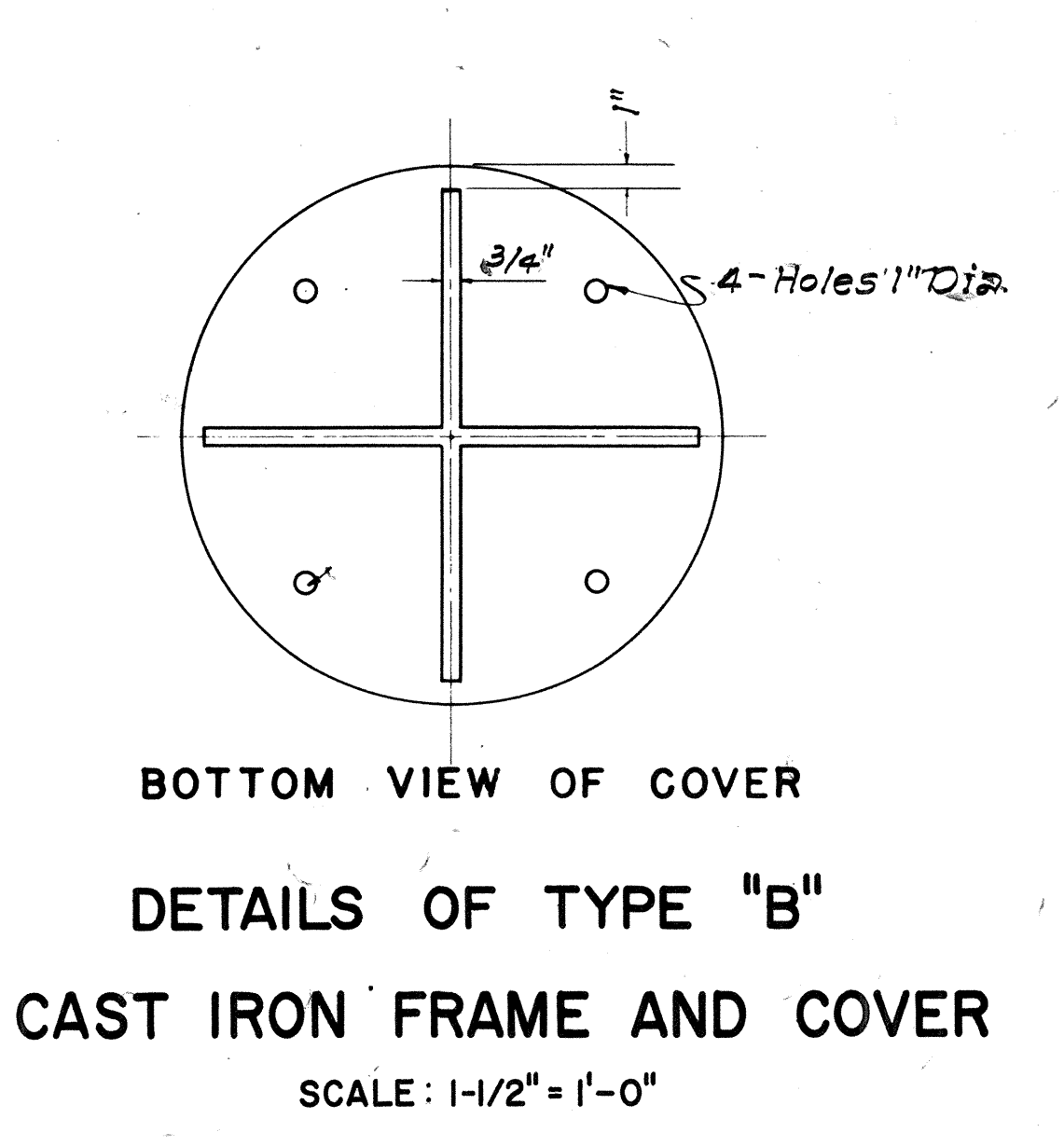
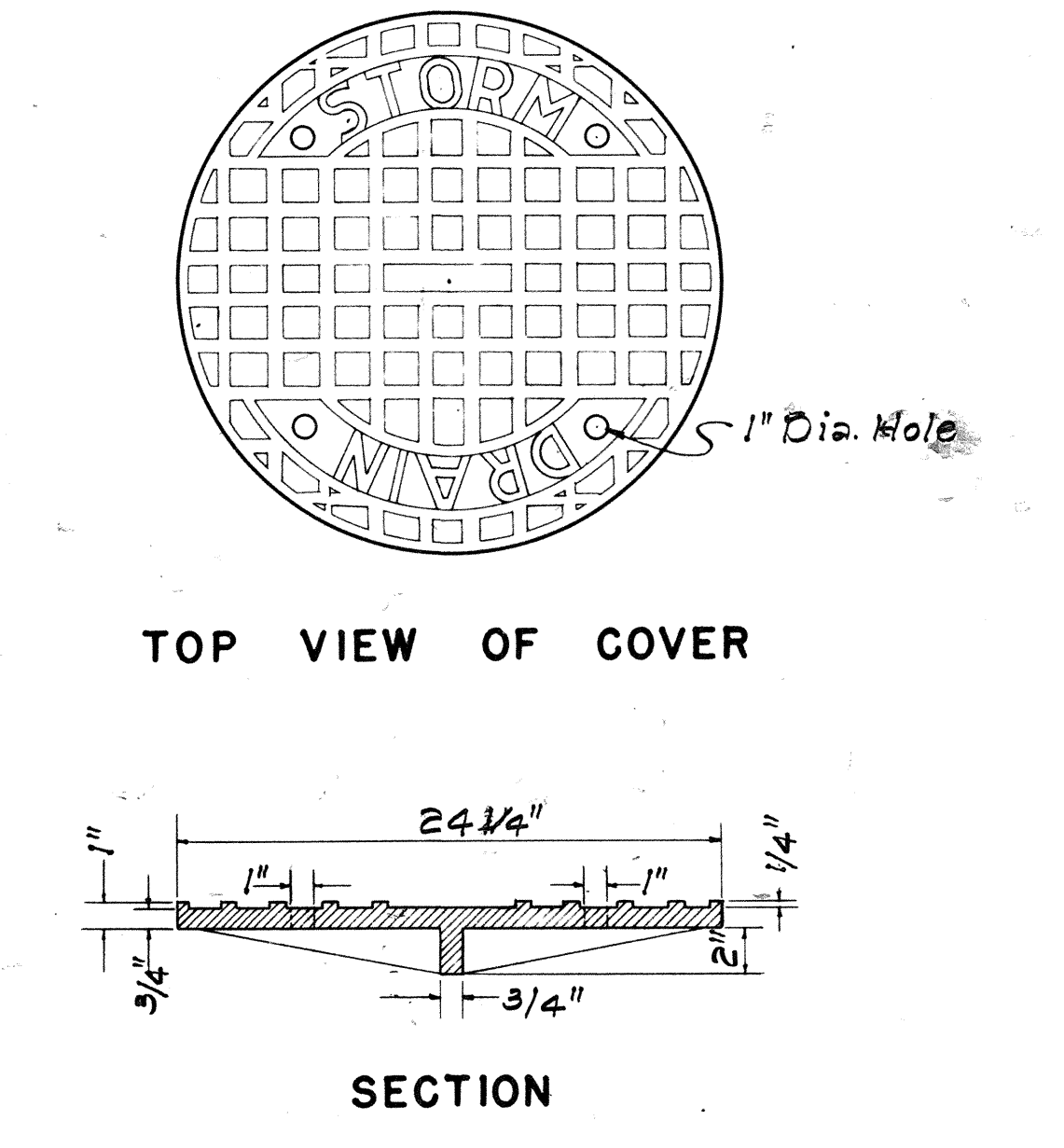
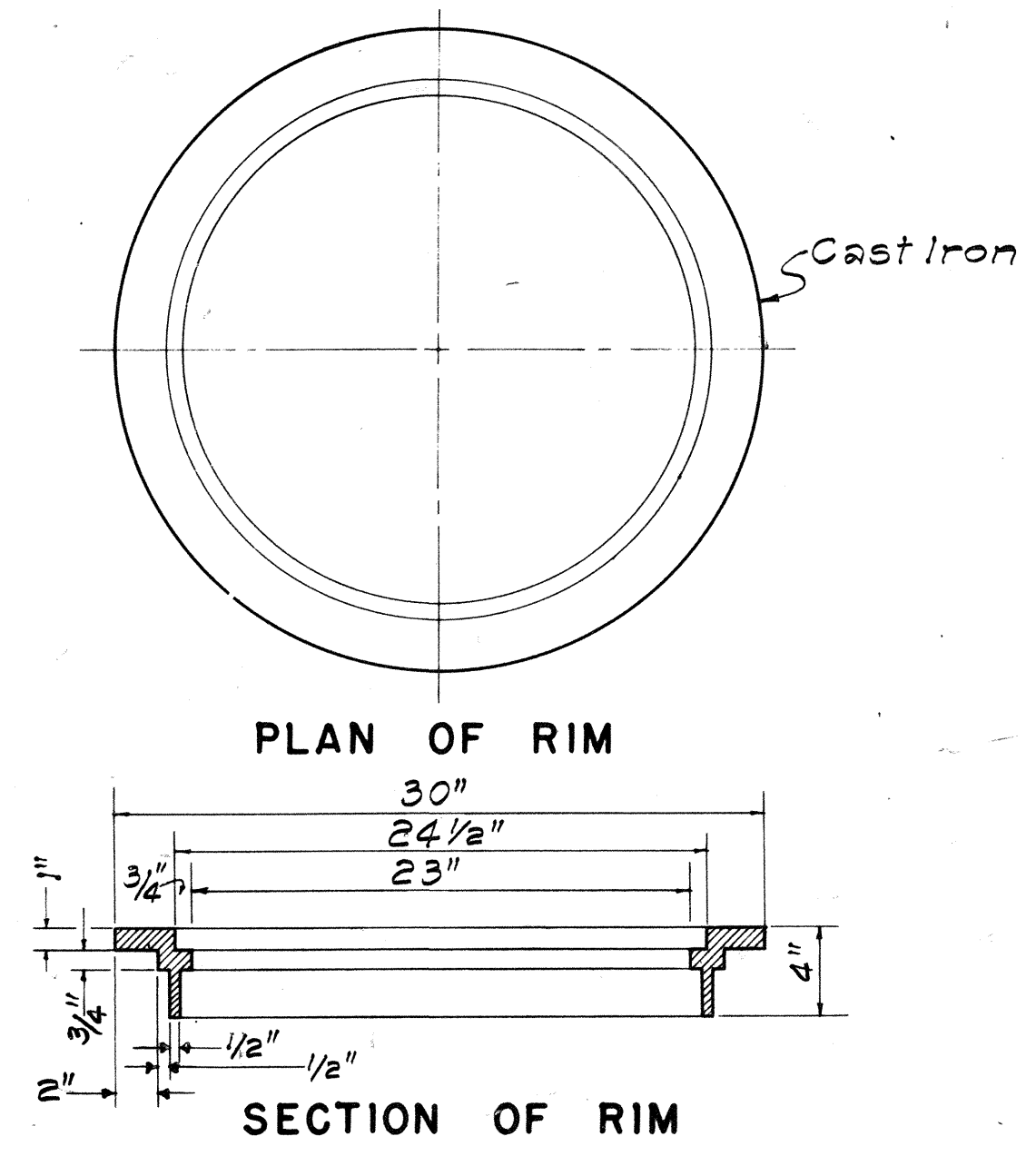
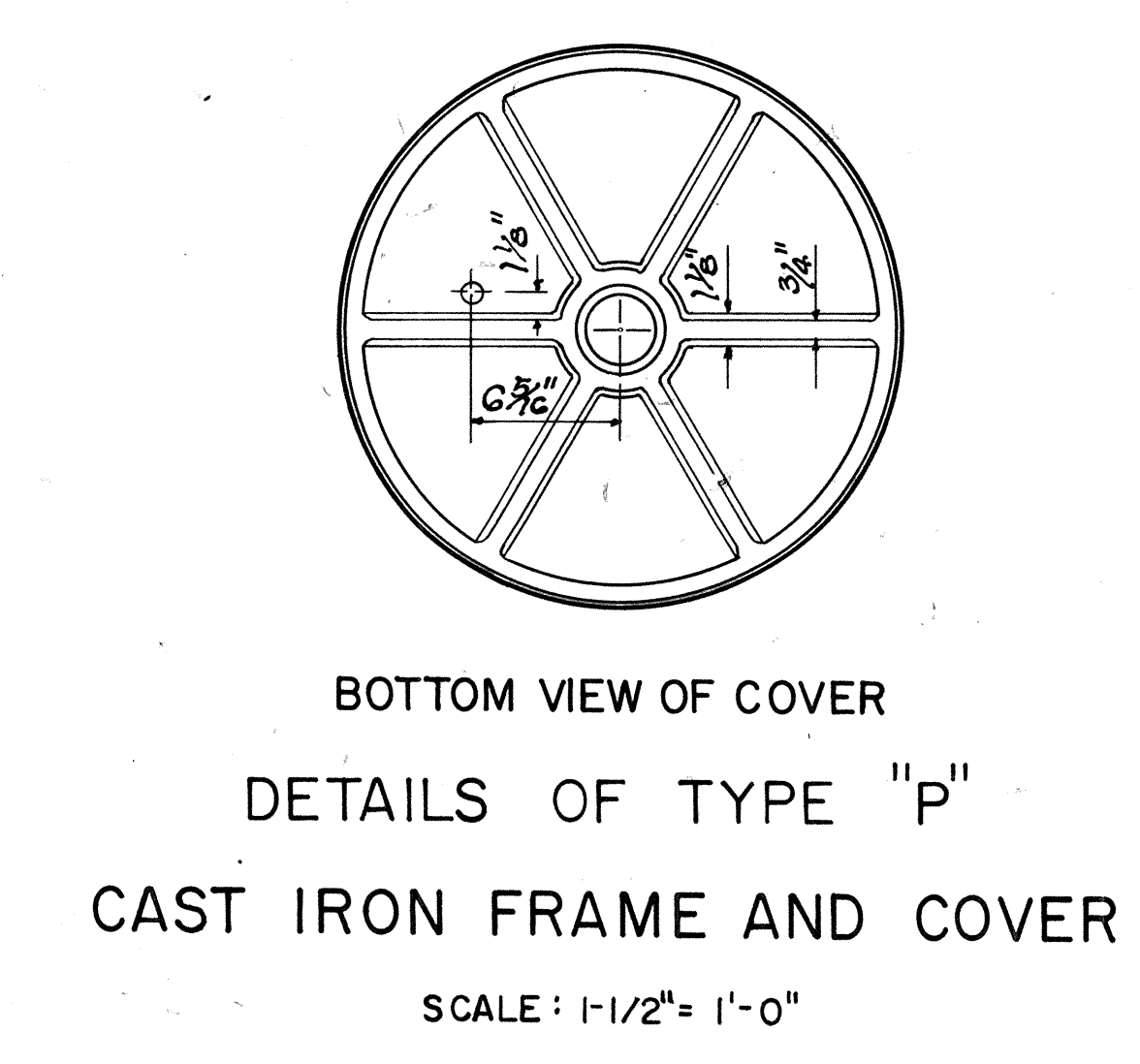
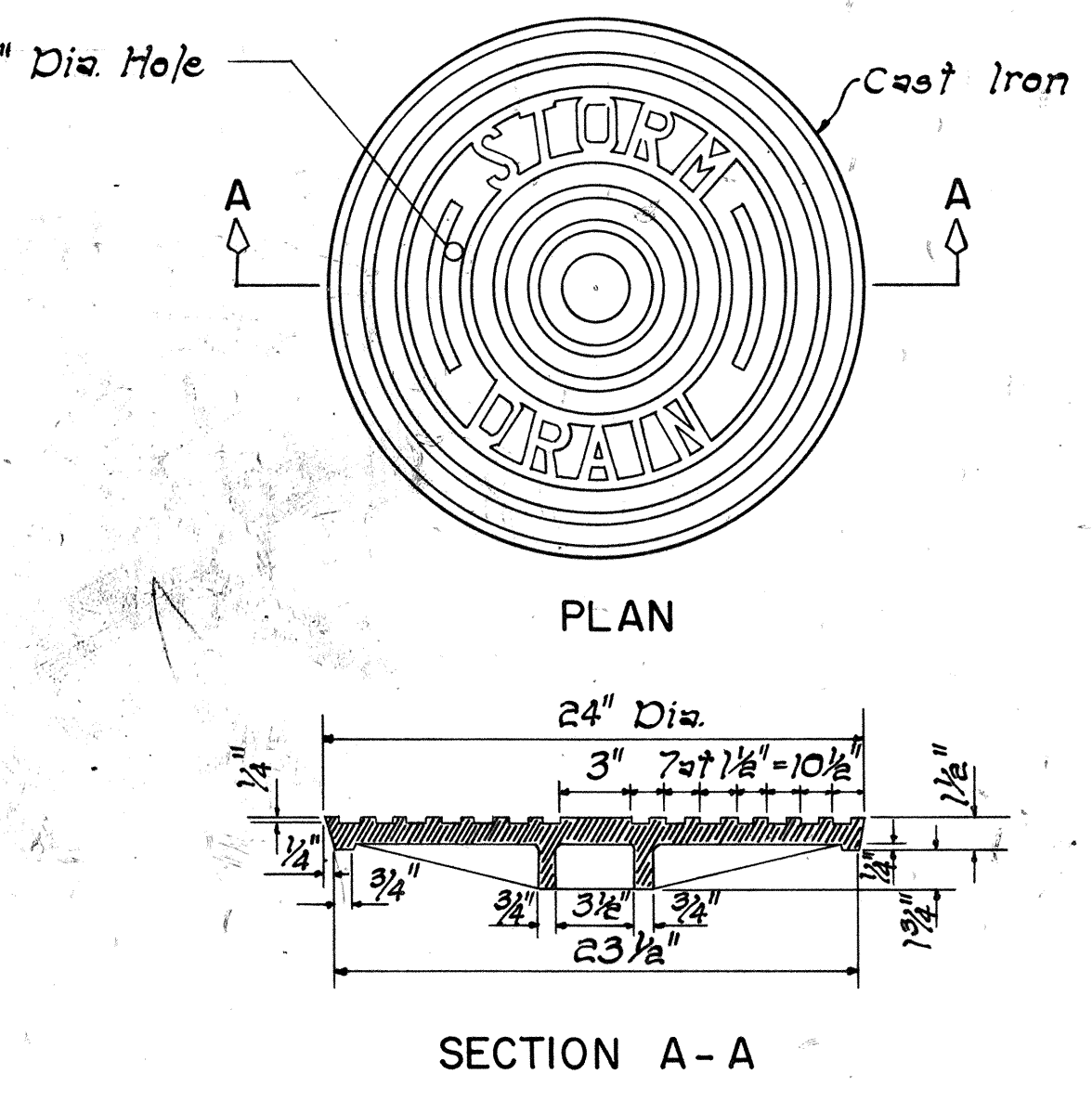
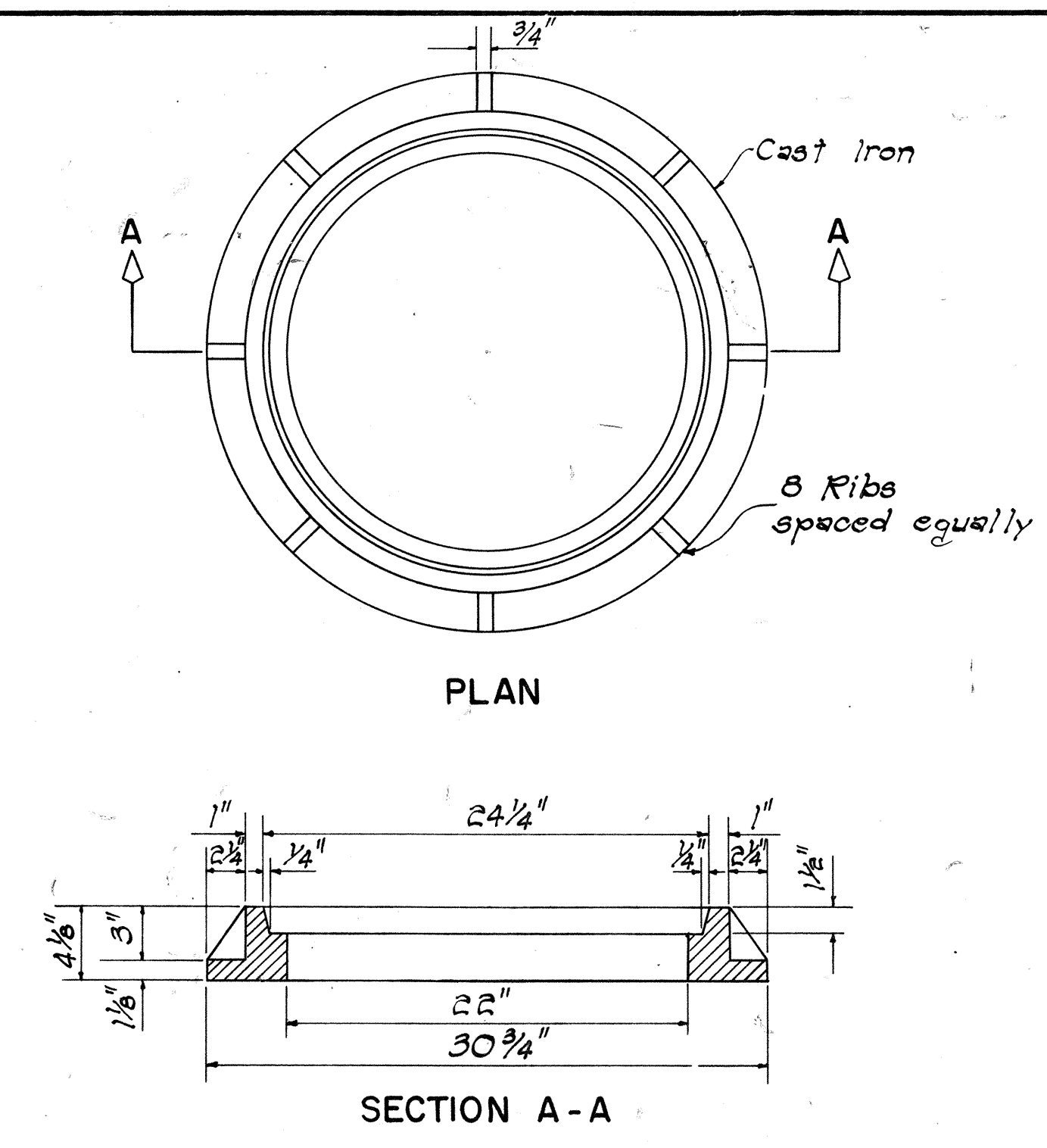
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

FIELD OFFICE
8
PROJECT SITE LABORATORY

Scale: As Noted

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	45	63



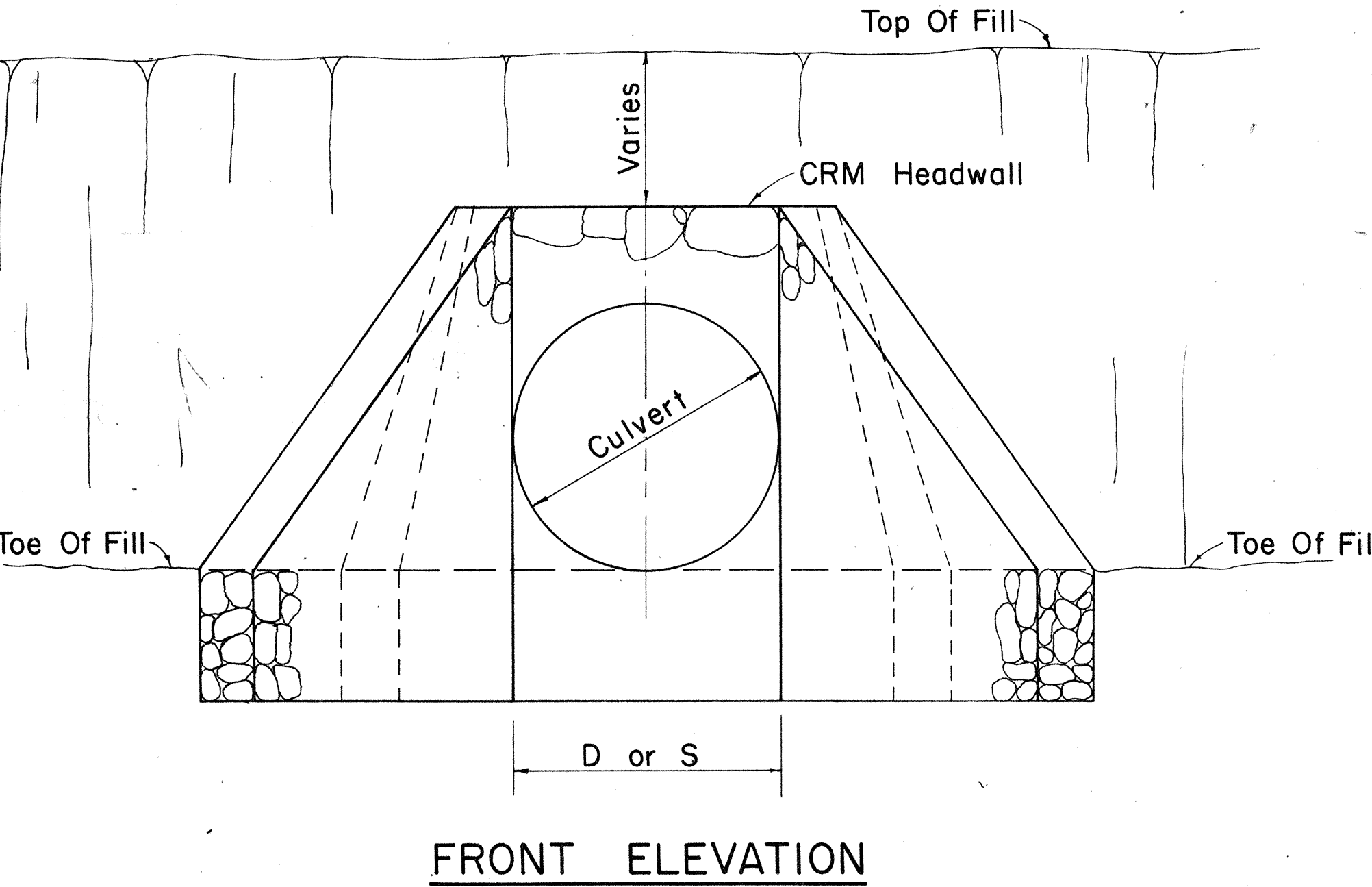
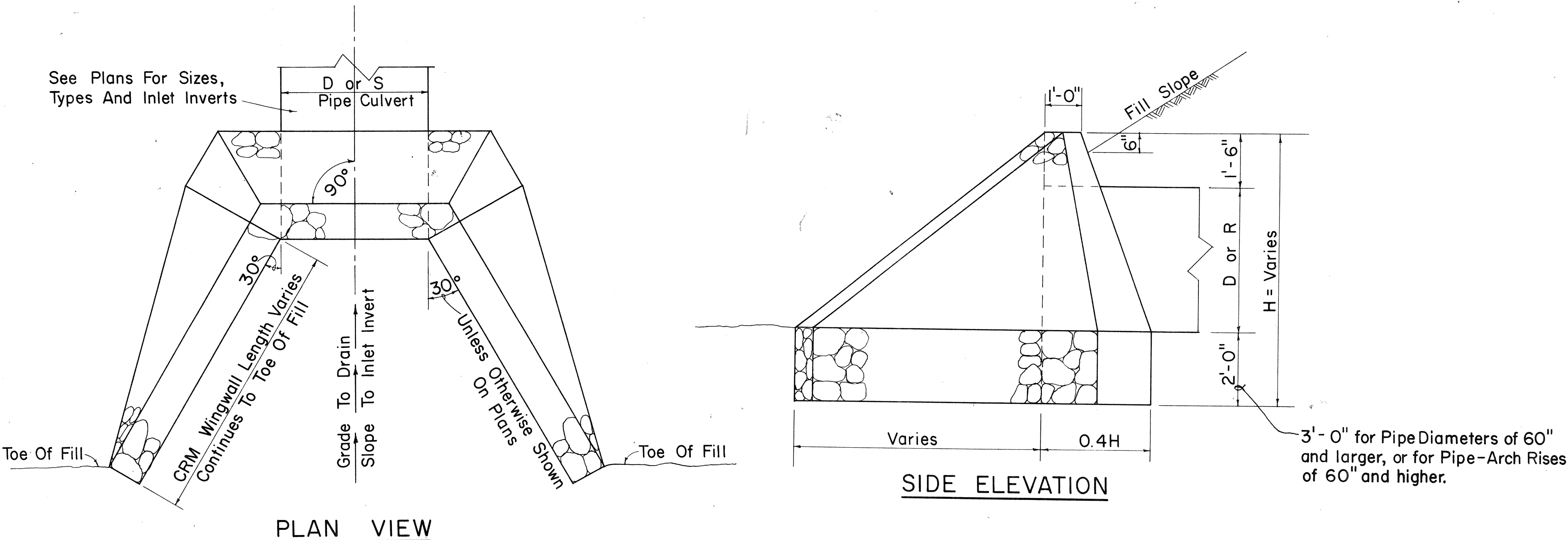
NO.	REVISION	APPROVED BY	DATE
1.	Detail of Type "P" Cast Iron Frame and Cover	H.T.	1-6-71
2.	Details of Manhole Rungs to conform to OSHA.	H.T.	1-21-75
3.	Option for Manhole Rungs	H.T.	1-13-76

Scale: As Noted Date: July, 1969

SHEET NO. 7 OF 25 SHEETS DH 6

41 5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	40	63



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] 12-17-69
HYDRAULIC DESIGN ENGINEER DATE

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

NO.	REVISION	APPROVED BY	DATE

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

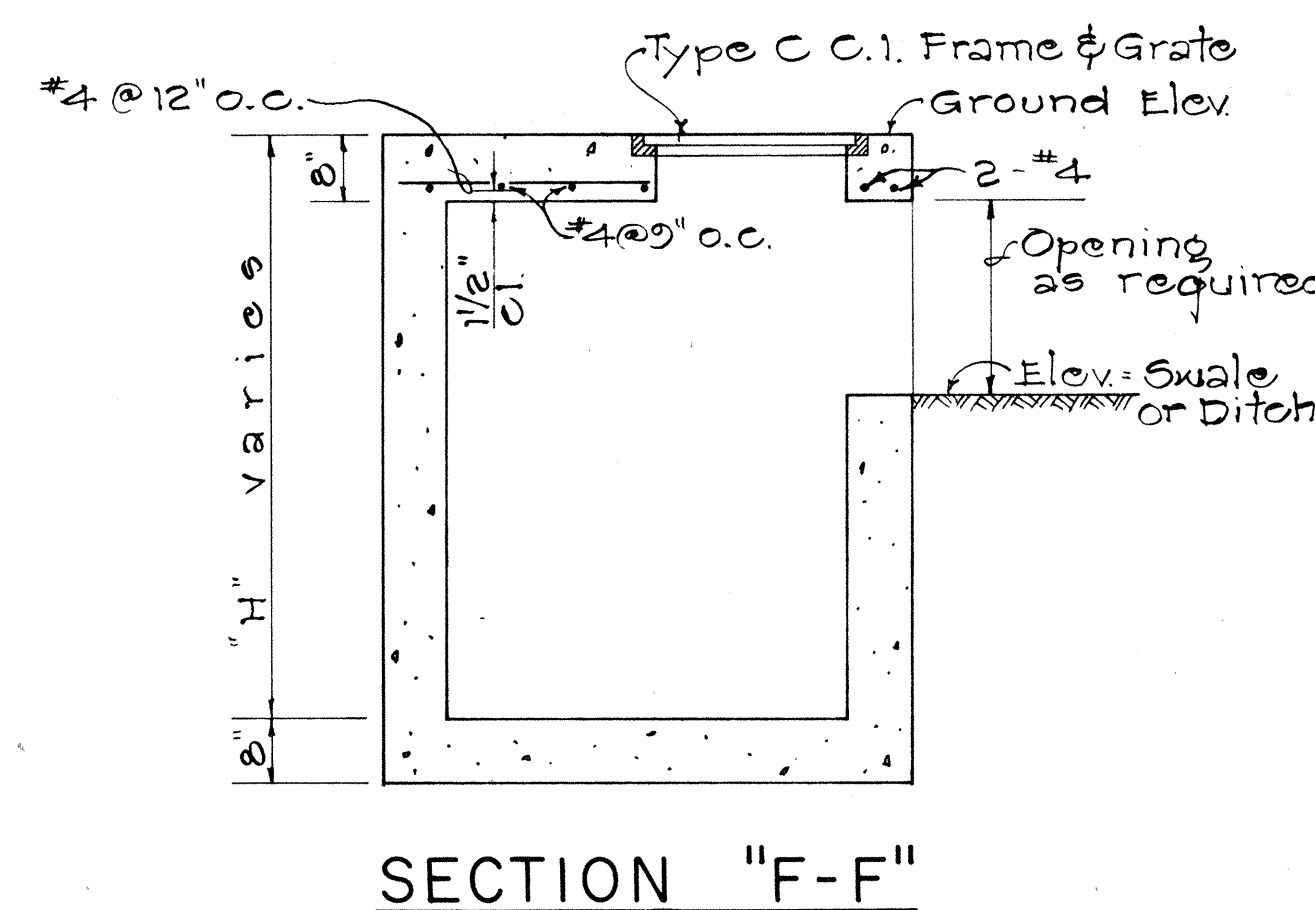
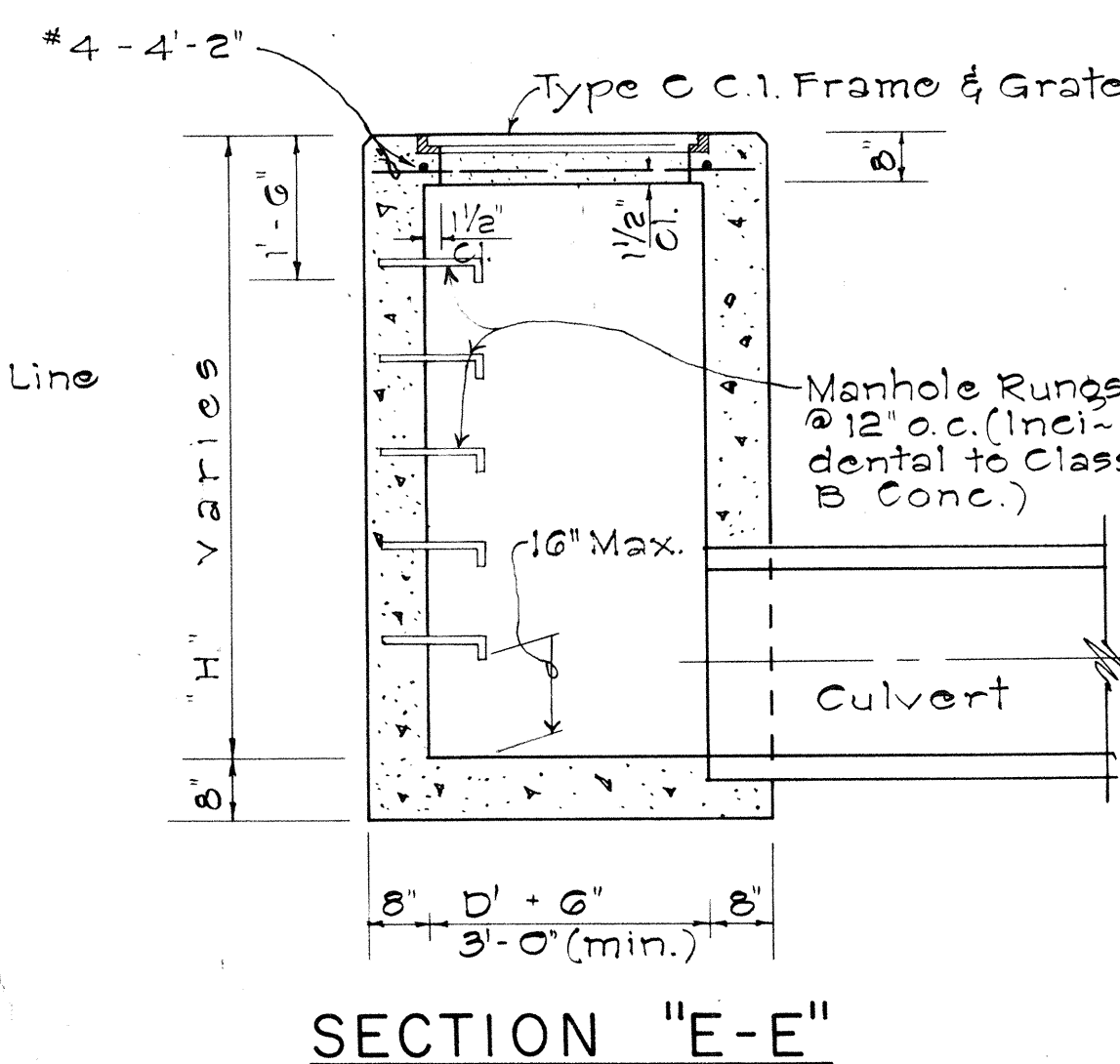
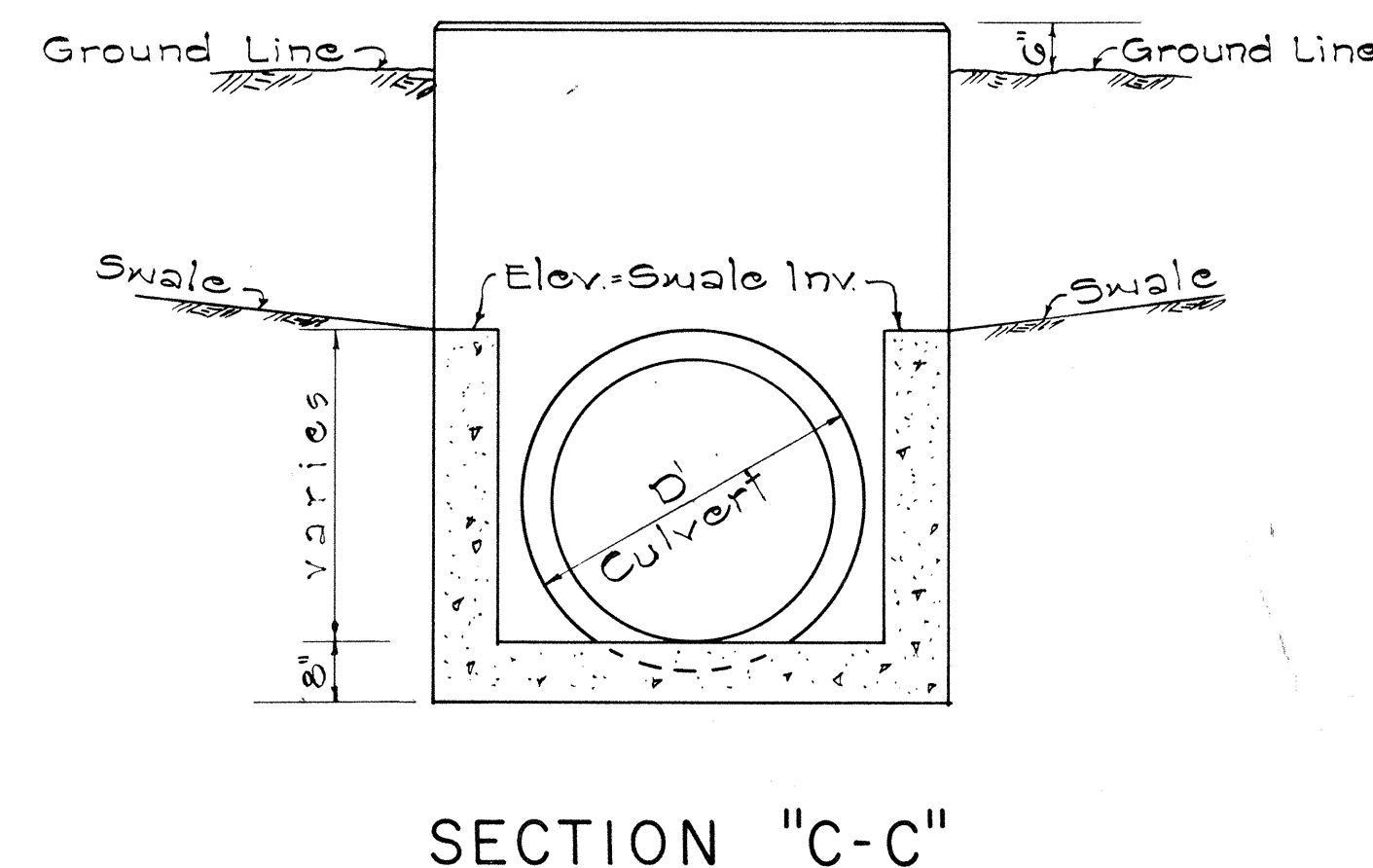
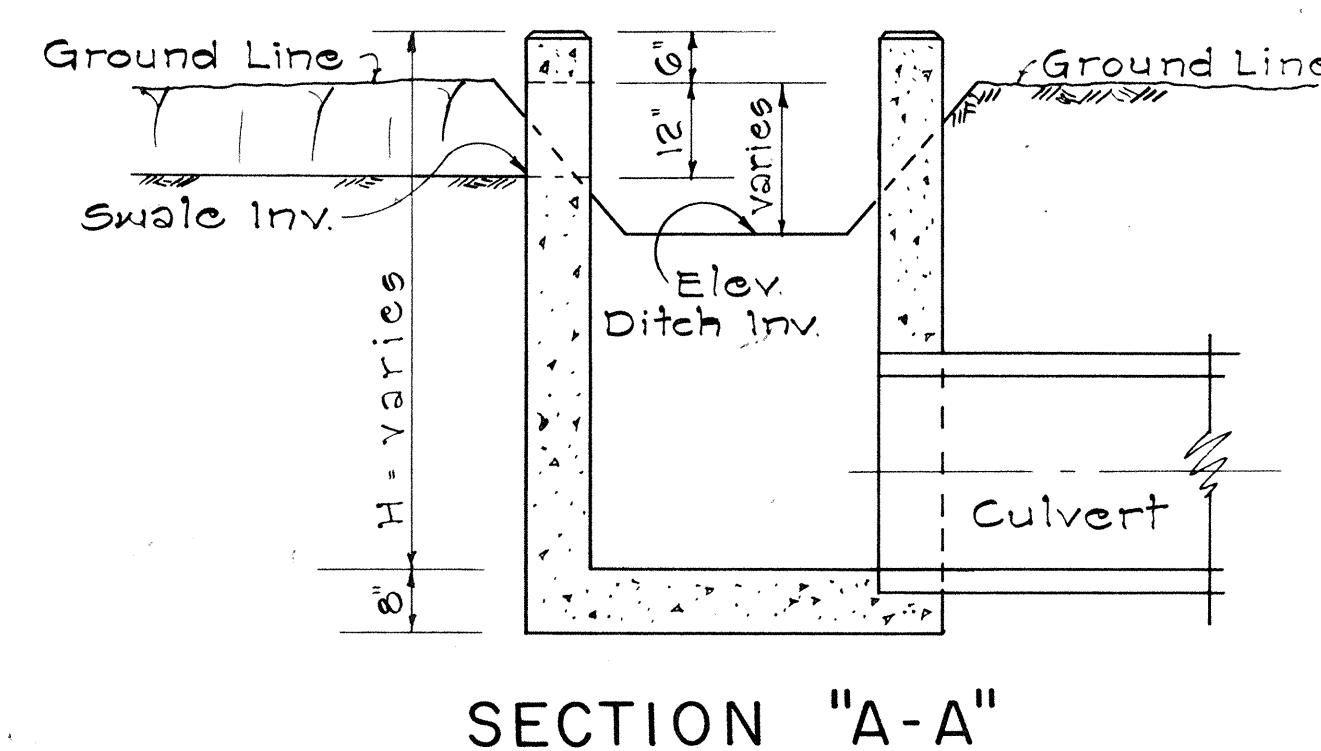
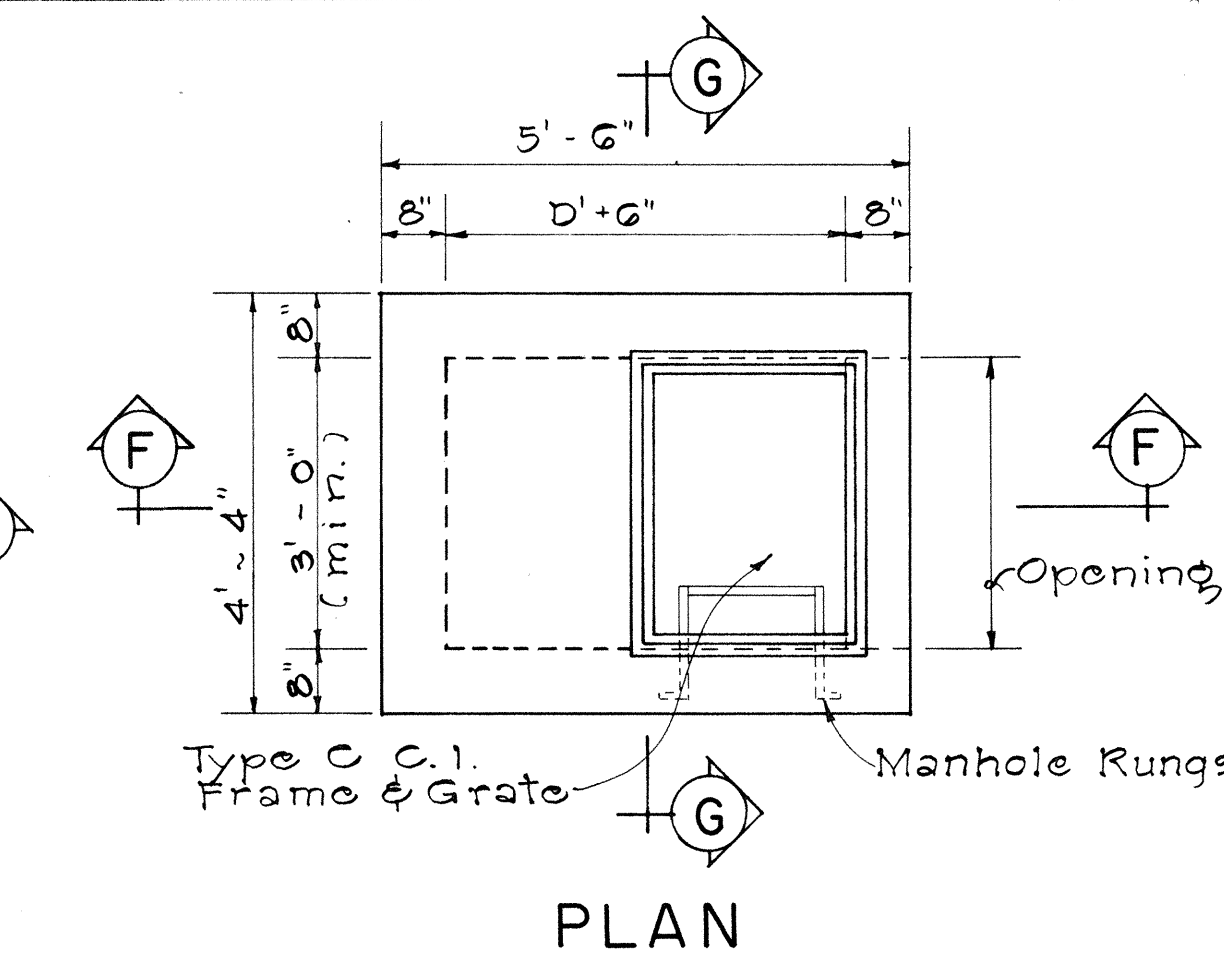
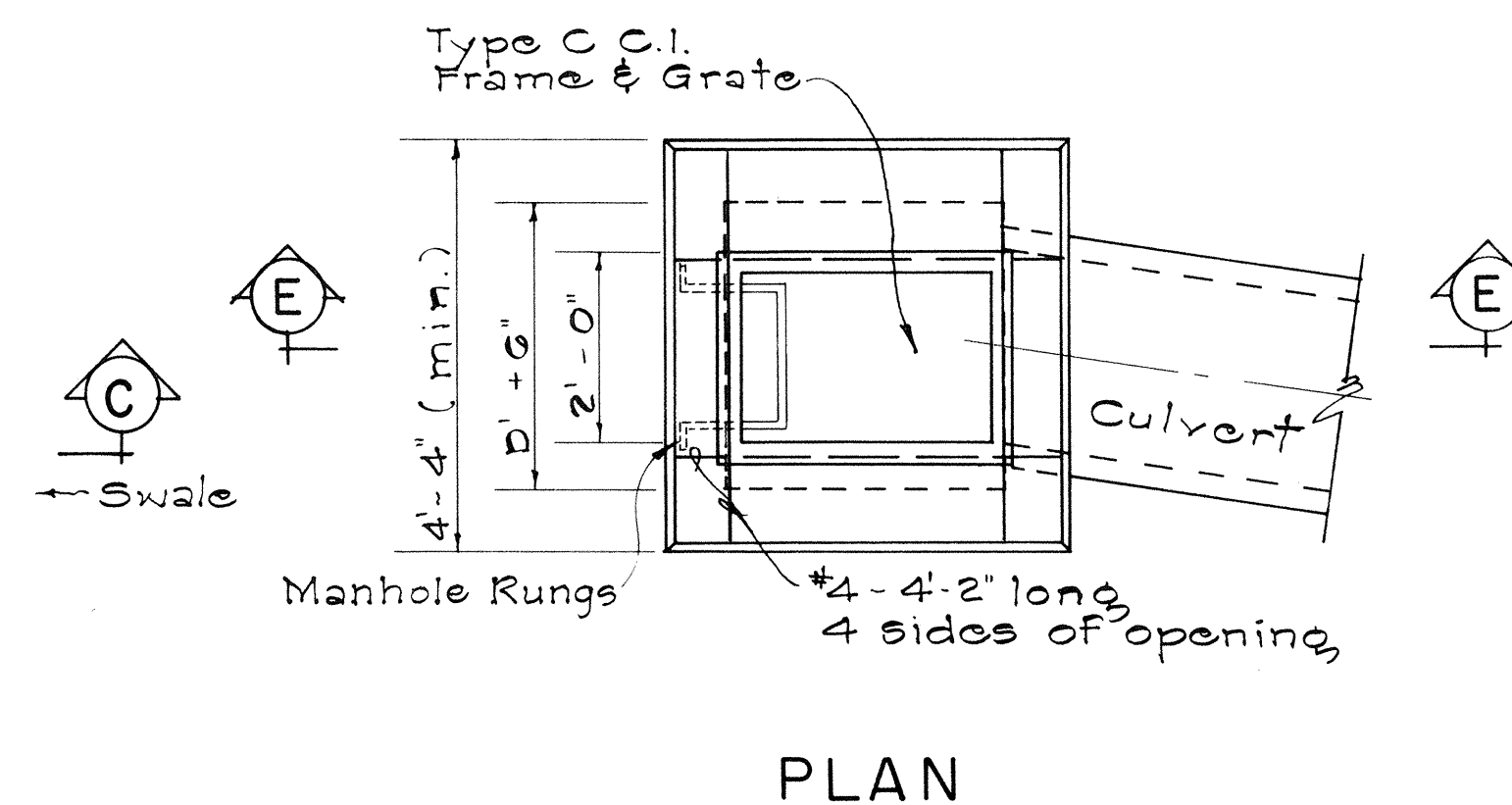
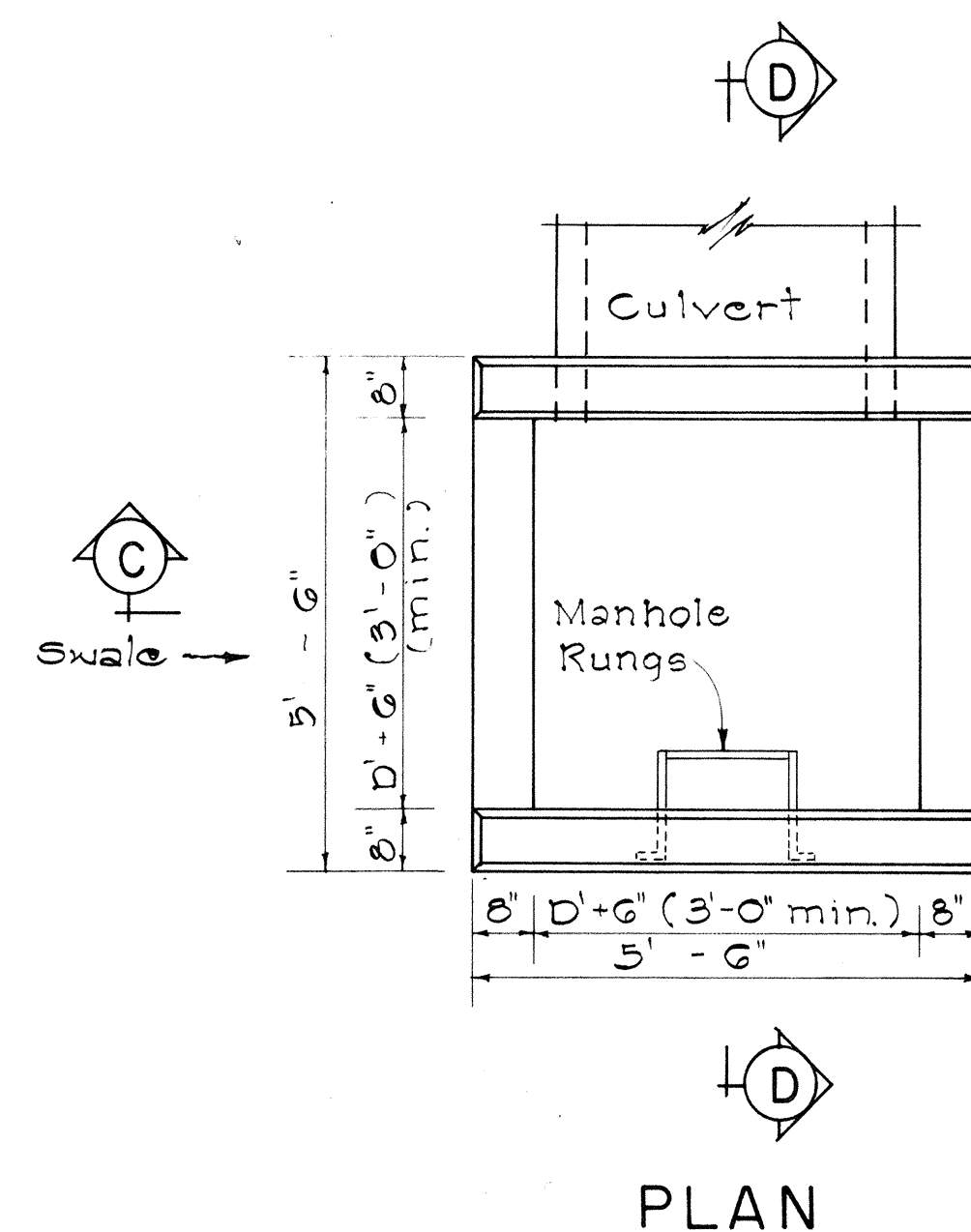
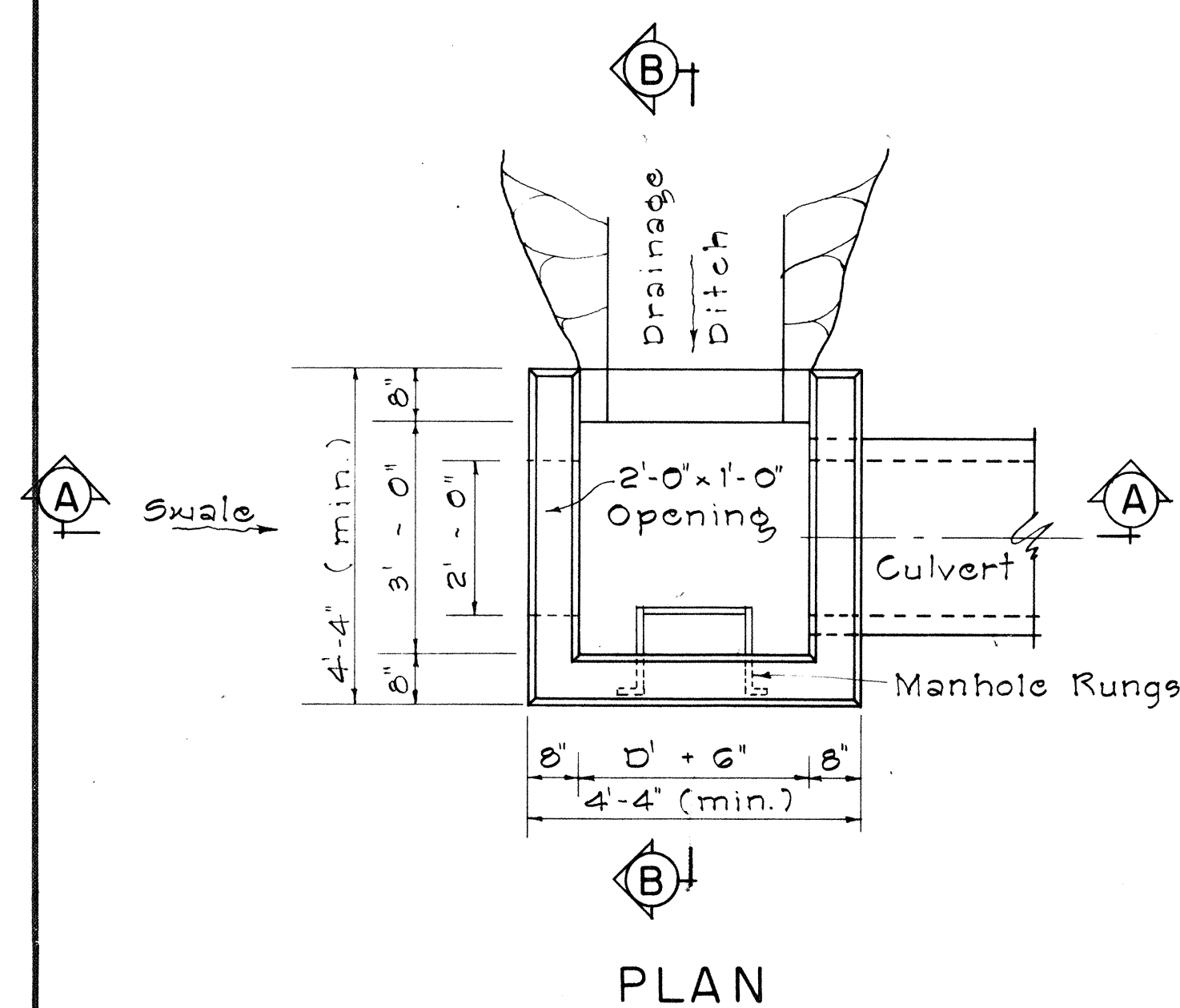
Scale: As Noted
Date: July, 1969
SHEET No. 8 OF 25 SHEETS

SURVEY PLOTTED BY	DATE
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.	240A-01-71 UNIT 2	1978	47	63

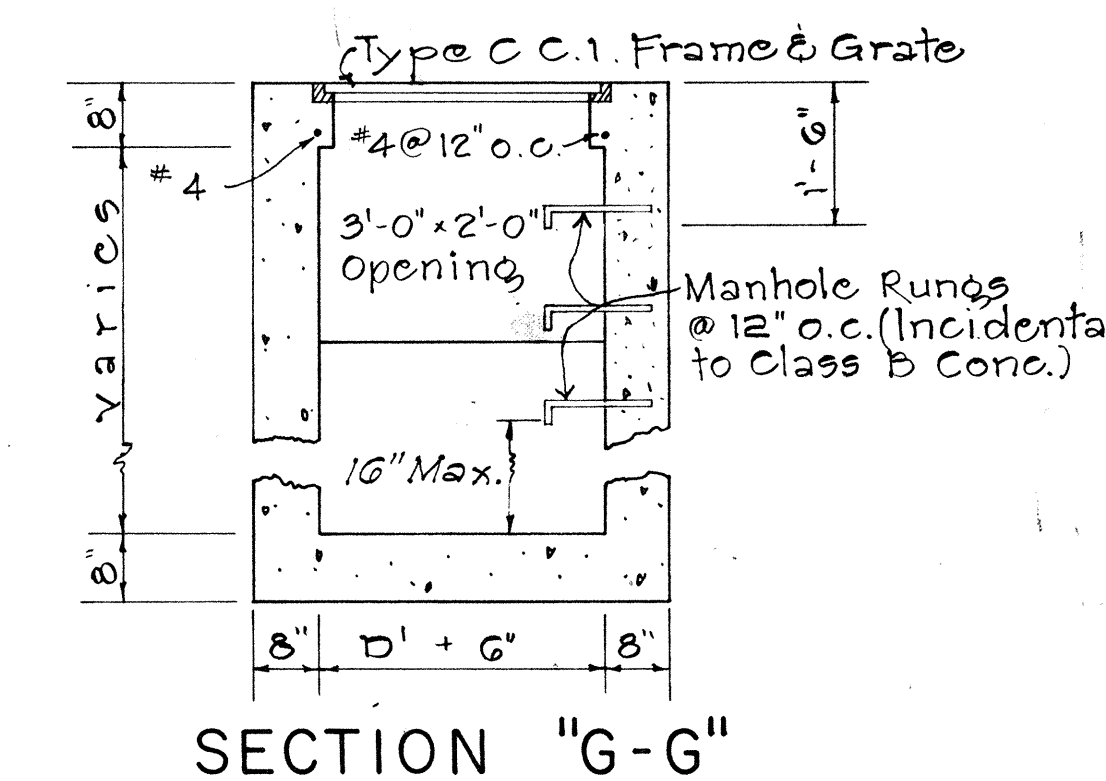
GENERAL NOTES

- All concrete shall be Class "B" unless otherwise noted.
- Exposed edges of all drainage structures shall be chamfered one inch.
- Culvert shall enter and leave Drop Intake from any position and in the direction indicated by the plans or ordered by the Engineer.
- Manhole Rungs (12" o.c.) are req'd. when "H" is greater than 4'-6". Only one rung (16 inches from the bottom) is required if "H" is 4'-6" or less. Manhole Rungs may be placed at any location as ordered by the Engineer.



TYPE "C" GRATED CONCRETE DROP INTAKE

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



TYPE "D" GRATED CONCRETE DROP INTAKE

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

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
TYPE "A", "B", "C", AND "D"
CONCRETE DROP INTAKE

Scale: As Noted Date: July, 1969

SHEET No. 9 OF 25 SHEETS DH19

DATE	12-17-69
DESIGNED BY	H.C.
CHECKED BY	H.C.
QUANTITIES BY	H.C.
NOTED BY	H.C.
ORIGINAL	H.C.

TYPE "A" CONCRETE DROP INTAKE

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

TYPE "B" CONCRETE DROP INTAKE

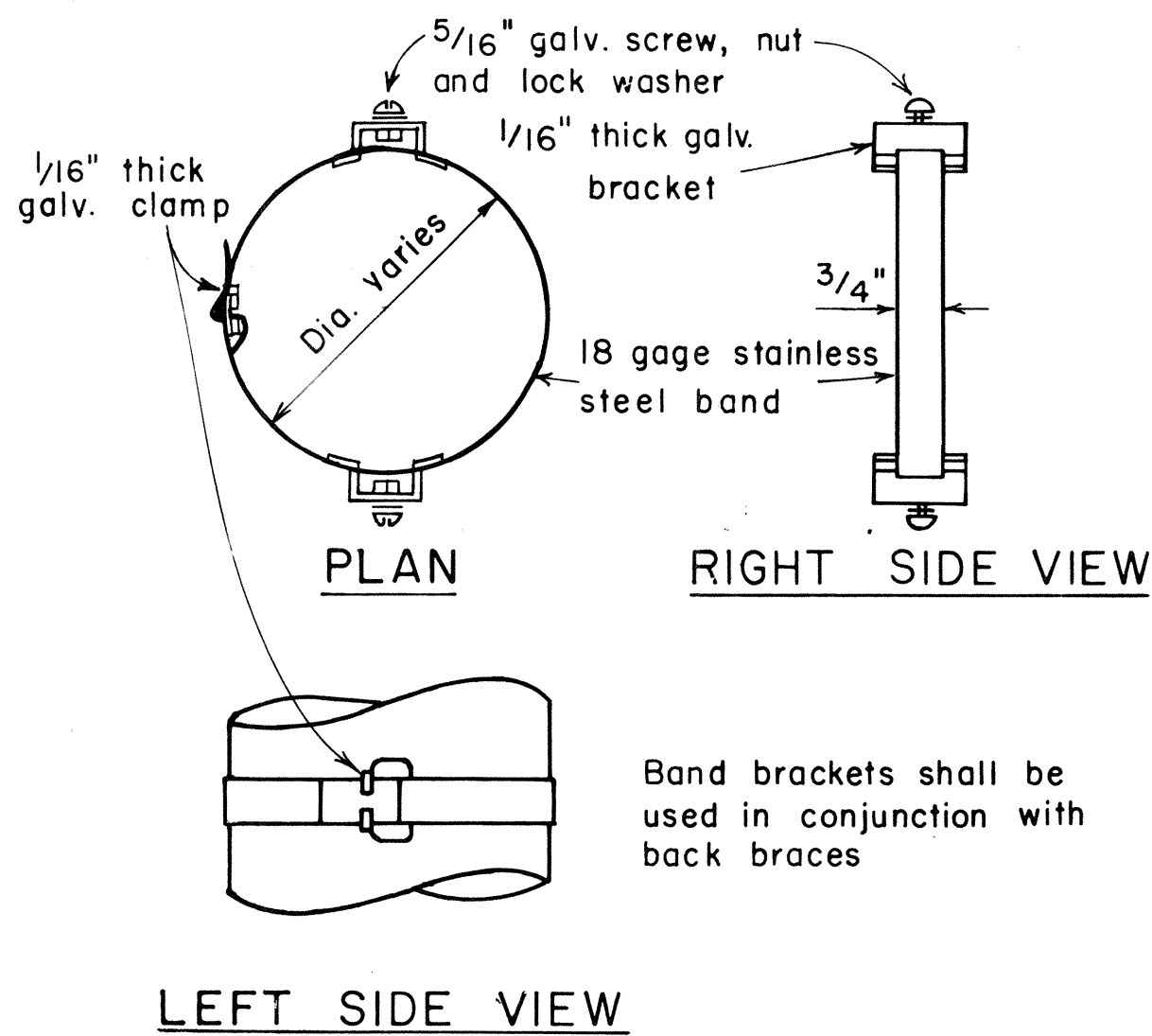
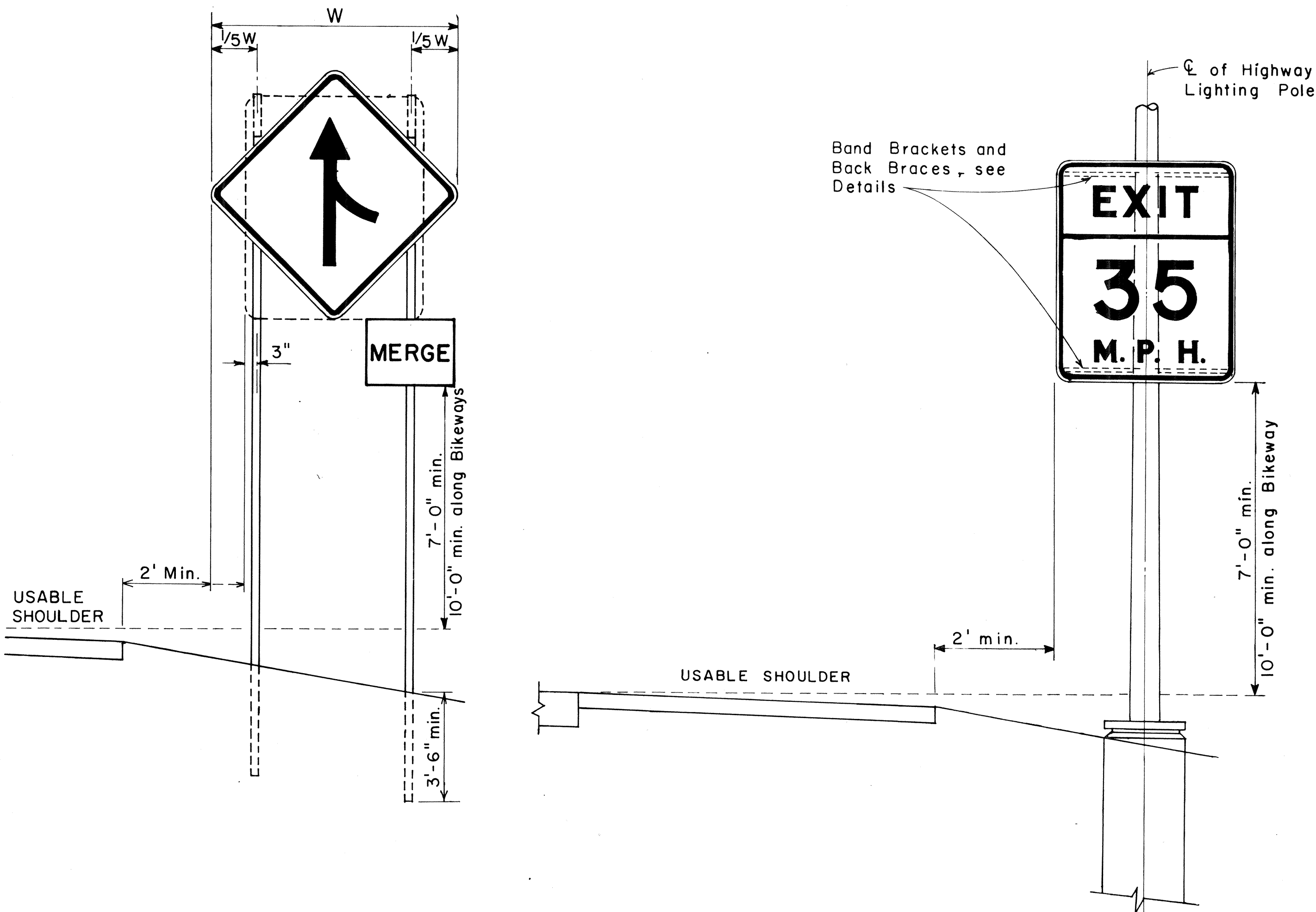
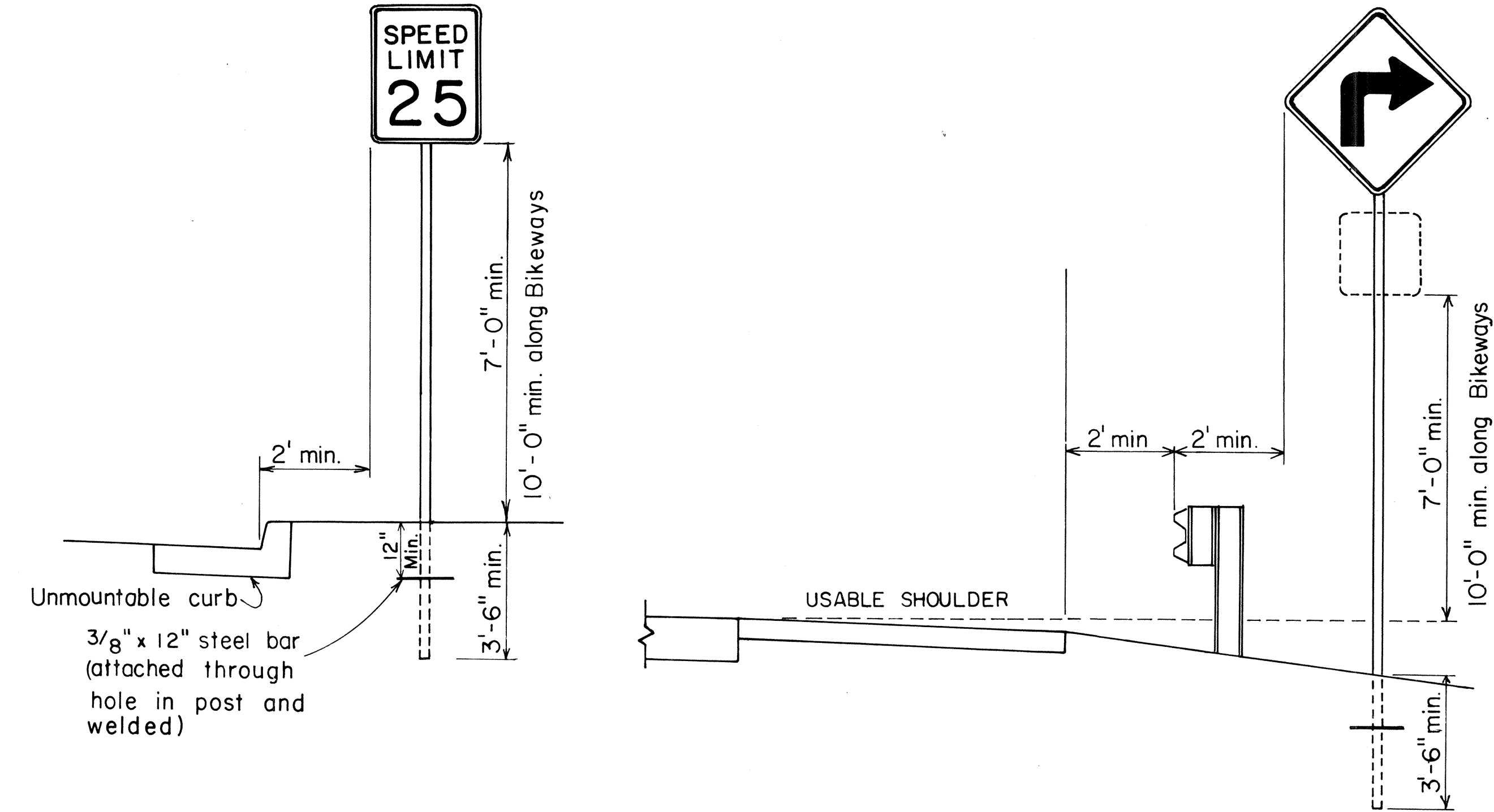
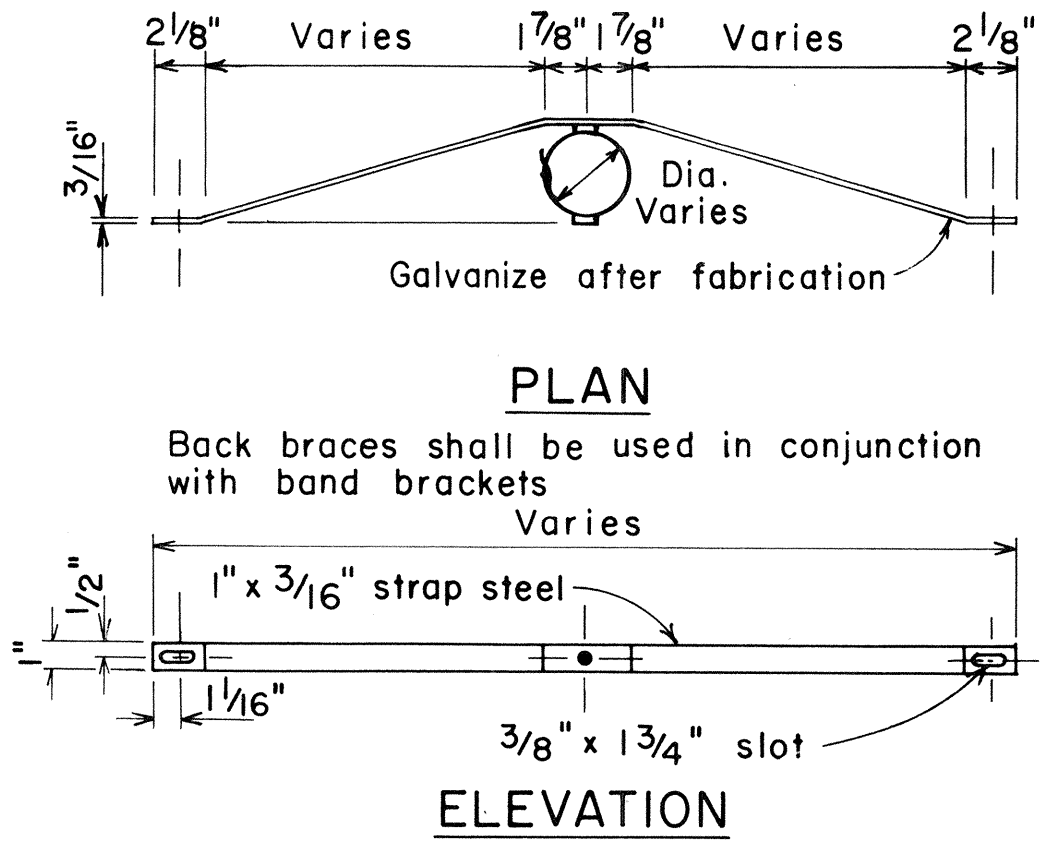
Scale: 1/2" = 1'-0"

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A01-71 UNIT 2	1978	48	63

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

HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION

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

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

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

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

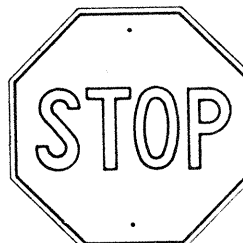
STANDARD DETAILS
 MISCELLANEOUS SIGN DETAILS

Not to scale June, 1977

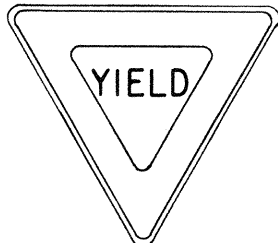
SHEET No. 10 OF 25 SHEETS DT 100

41 S

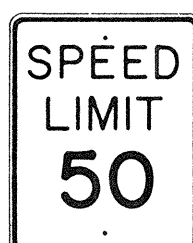
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	47	63



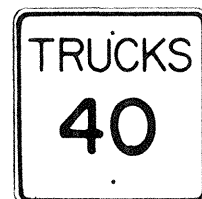
R1-1 30" x 30"
R1-1-A 36" x 36"
4-WAY
R1-3 12" x 6"
R1-3-A 18" x 9"



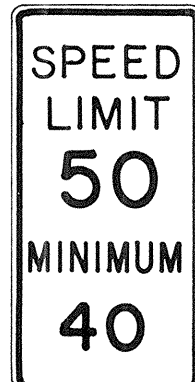
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



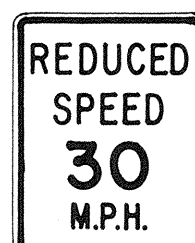
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



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"



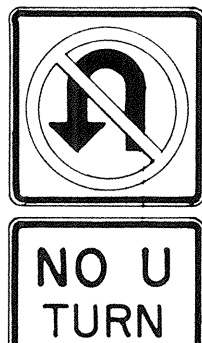
R3-1 24" x 24"
R3-1-A 48" x 48"
48" x 36"



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



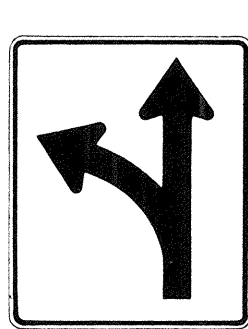
R3-3 24" x 24"
R3-3-A 48" x 48"



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



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



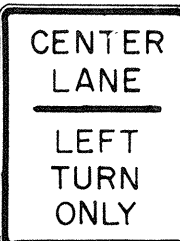
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



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



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



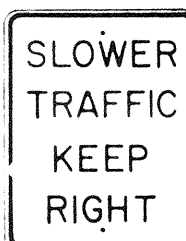
R3-9 24" x 30"



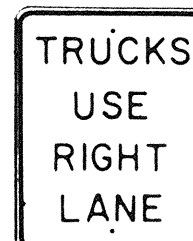
R4-1 24" x 30"



R4-2 24" x 30"



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



R4-5 24" x 30"



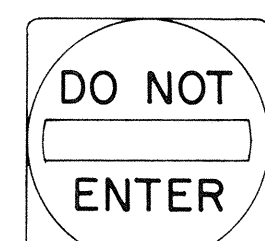
R4-6(500) 24" x 30"



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



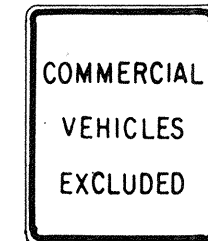
R4-8 24" x 30"
24" x 18"



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



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



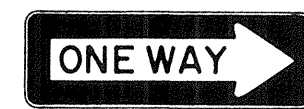
R5-4 24" x 30"



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



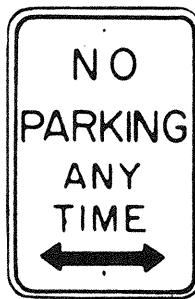
R5-9 36" x 24"



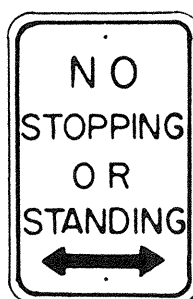
R6-1 (R) 36" x 12"



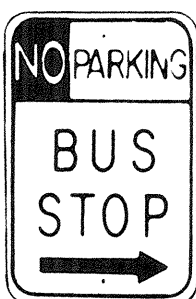
R6-2(R) 18" x 24"



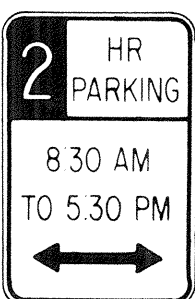
R7-1 12" x 18"
R7-1-A 24" x 30"



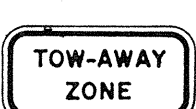
R7-4 12" x 18"
R7-4-A 24" x 30"



R7-107(R) 12" x 18"



R7-108 12" x 18"



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



R8-1 24" x 30"



R8-2 24" x 30"



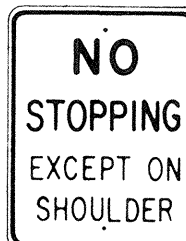
R8-3 24" x 30"



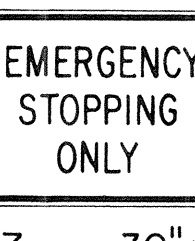
R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



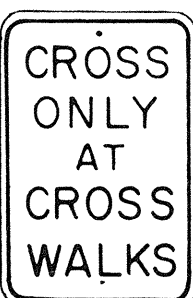
R8-6 24" x 30"



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



R9-1 18" x 24"



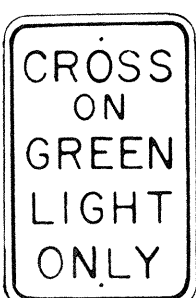
R9-2 12" x 18"



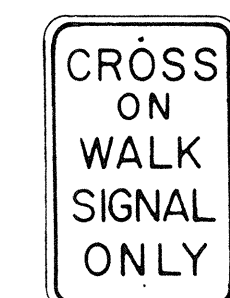
R9-3 12" x 18"



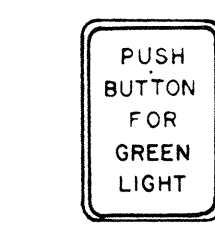
R9-4 18" x 24"



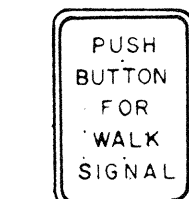
R10-1 12" x 18"



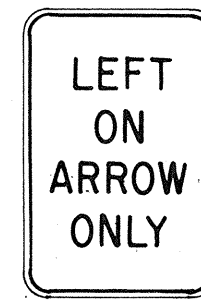
R10-2 12" x 18"



R10-3 9" x 12"



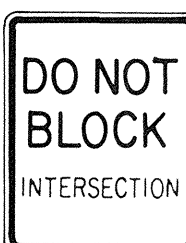
R10-4 9" x 12"



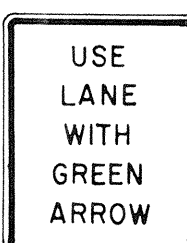
R10-5 24" x 30"



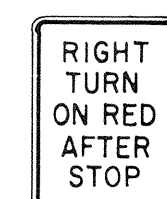
R10-6 24" x 36"



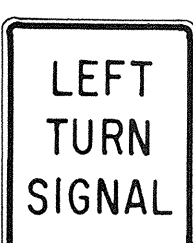
R10-7 24" x 30"



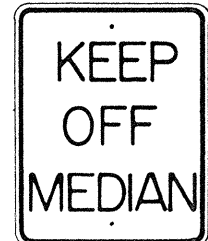
R10-8 24" x 30"



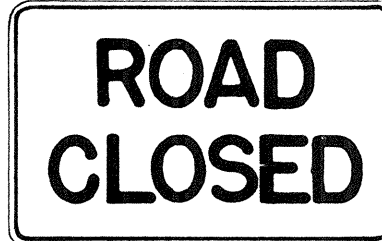
R10-9 24" x 30"



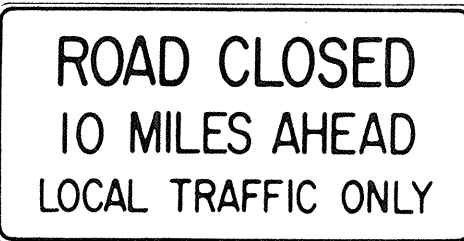
R10-10 24" x 30"



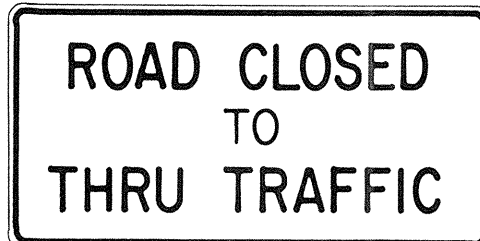
R11-1 24" x 30"



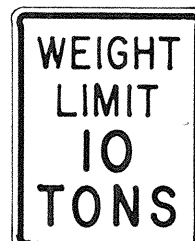
R11-2 48" x 30"



R11-3(10) 60" x 30"



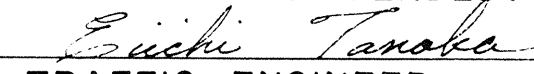
R11-4 60" x 30"

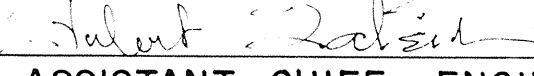


R12-1(10) 24" x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:

TRAFFIC ENGINEER
3/17/72
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING
3-20-72
DATE

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE

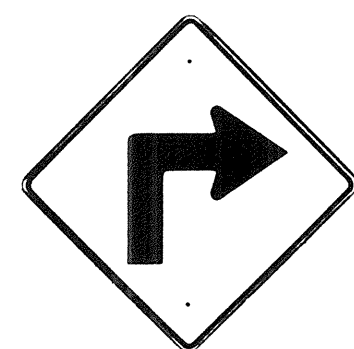
SHEET No. 11 OF 25 SHEETS DT 101

DESIGNED BY
CHECKED BY
DATE
ORIGINAL PLAN
NOTE BOOK
No.

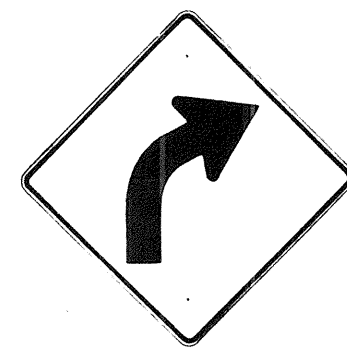
41

9

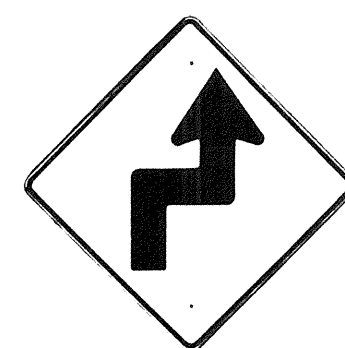
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII *	HAW.	240A-01-71 UNIT 2	1978	50	63



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



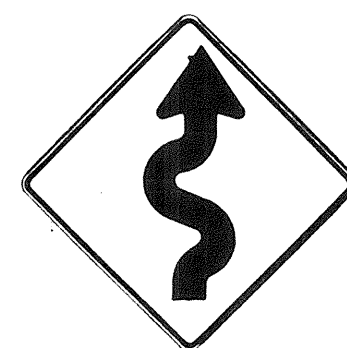
W1-2(R) 30"x 30"
W1-2(R)-A 48"x 48"



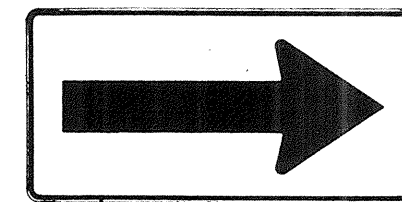
W1-3(R) 30"x 30"
W1-3(R)-A 48"x 48"



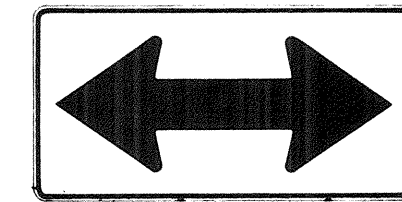
W1-4(R) 30"x 30"
W1-4(R)-A 48"x 48"



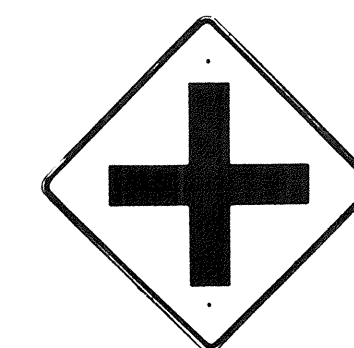
W1-5(R) 30"x 30"
W1-5(R)-A 48"x 48"



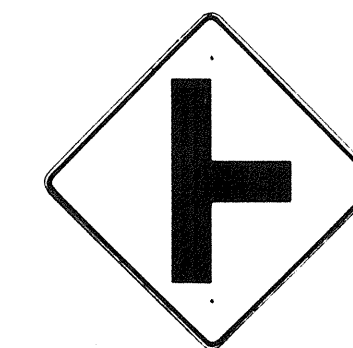
W1-6 48"x 24"



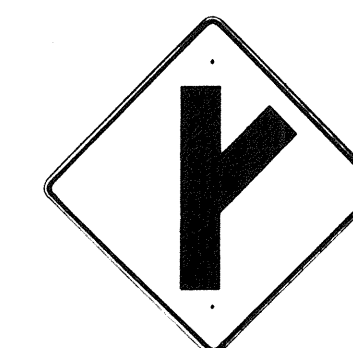
W1-7 48"x 24"



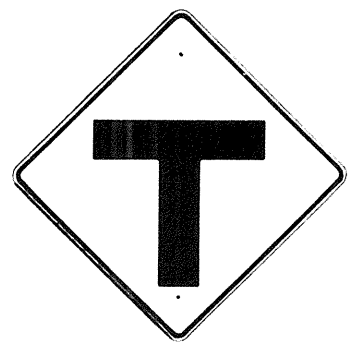
W2-1 30"x 30"
W2-1-A 48"x 48"



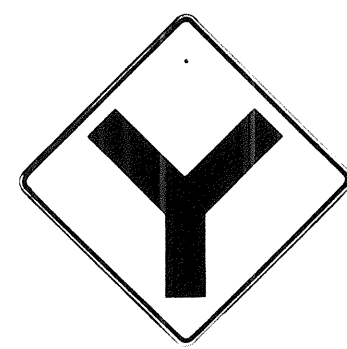
W2-2 30"x 30"
W2-2-A 48"x 48"



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



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



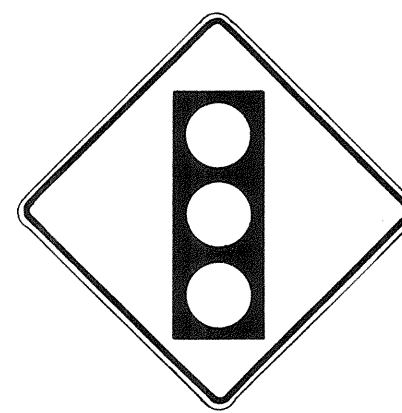
W2-5 30"x 30"
W2-5-A 48"x 48"



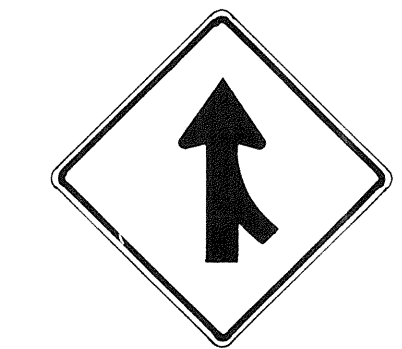
W3-1 30"x 30"
W3-1-A 36"x 36"



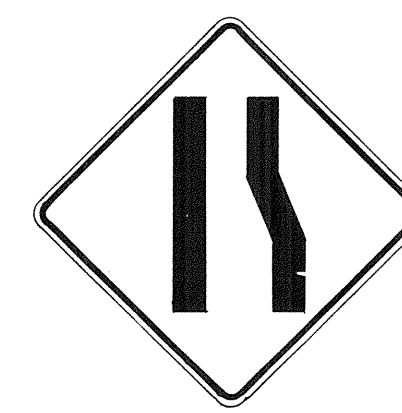
W3-2 30"x 30"
W3-2-A 36"x 36"



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"



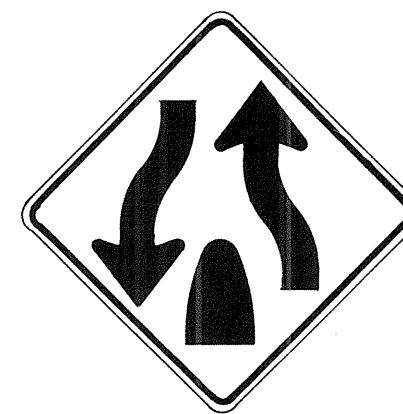
W5-2 30"x 30"
W5-2-A 36"x 36"



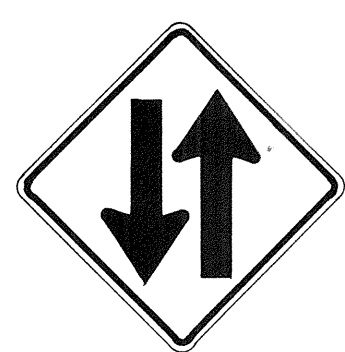
W5-3 36"x 36"



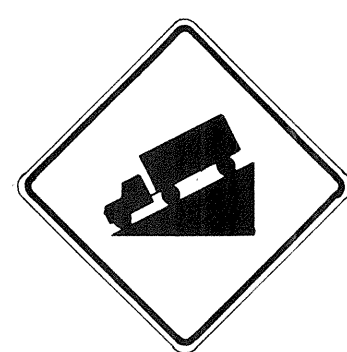
DIVIDED HIGHWAY
W6-1 36"x 36"
24"x 18"



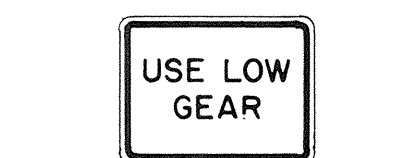
DIVIDED HIGHWAY ENDS
W6-2 36"x 36"
24"x 18"



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"



USE LOW GEAR
W7-2 24"x 18"



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



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



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



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



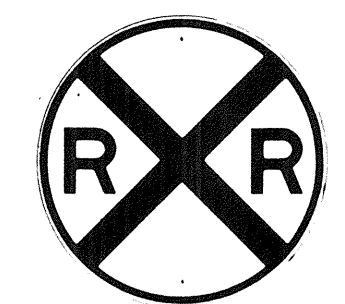
SLIPPERY WHEN WET
W8-5 30"x 30"
24"x 18"
W8-5-A 36"x 36"
24"x 18"



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



LANE ENDS MERGE LEFT
W9-2(L) 36"x 36"
W9-2(L)-A 48"x 48"



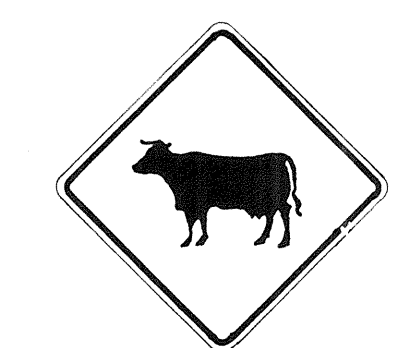
W10-1 36" Diameter



BIKE XING
W11-1 30"x 30"
24"x 18"
W11-1-A 36"x 36"
24"x 18"



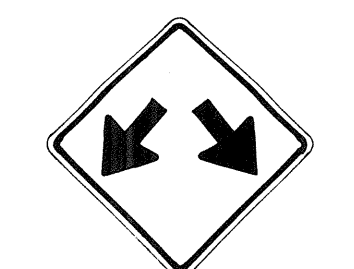
PED XING
W11-2 30"x 30"
24"x 18"
W11-2-A 36"x 36"
24"x 18"



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"



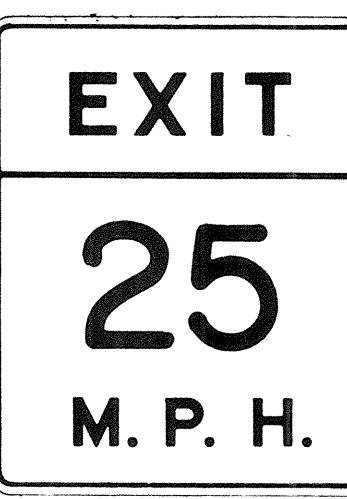
W12-1 24"x 24"
W12-1-A 36"x 36"
W12-1-B 48"x 48"



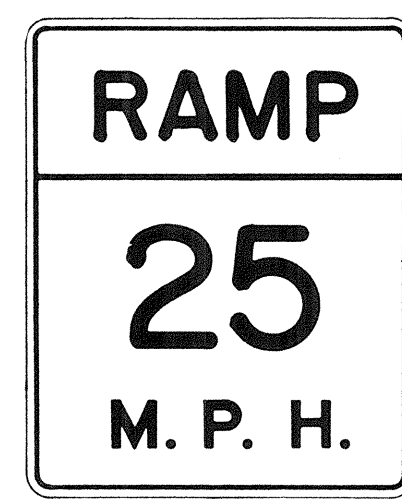
LOW CLEARANCE
W12-2(12'-6") 36"x 36"
24"x 18"



25 M.P.H.
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:
Emilio Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:
Walter P. S. S. S.
ASSISTANT CHIEF, ENGINEERING

3-50-12
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	MT	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

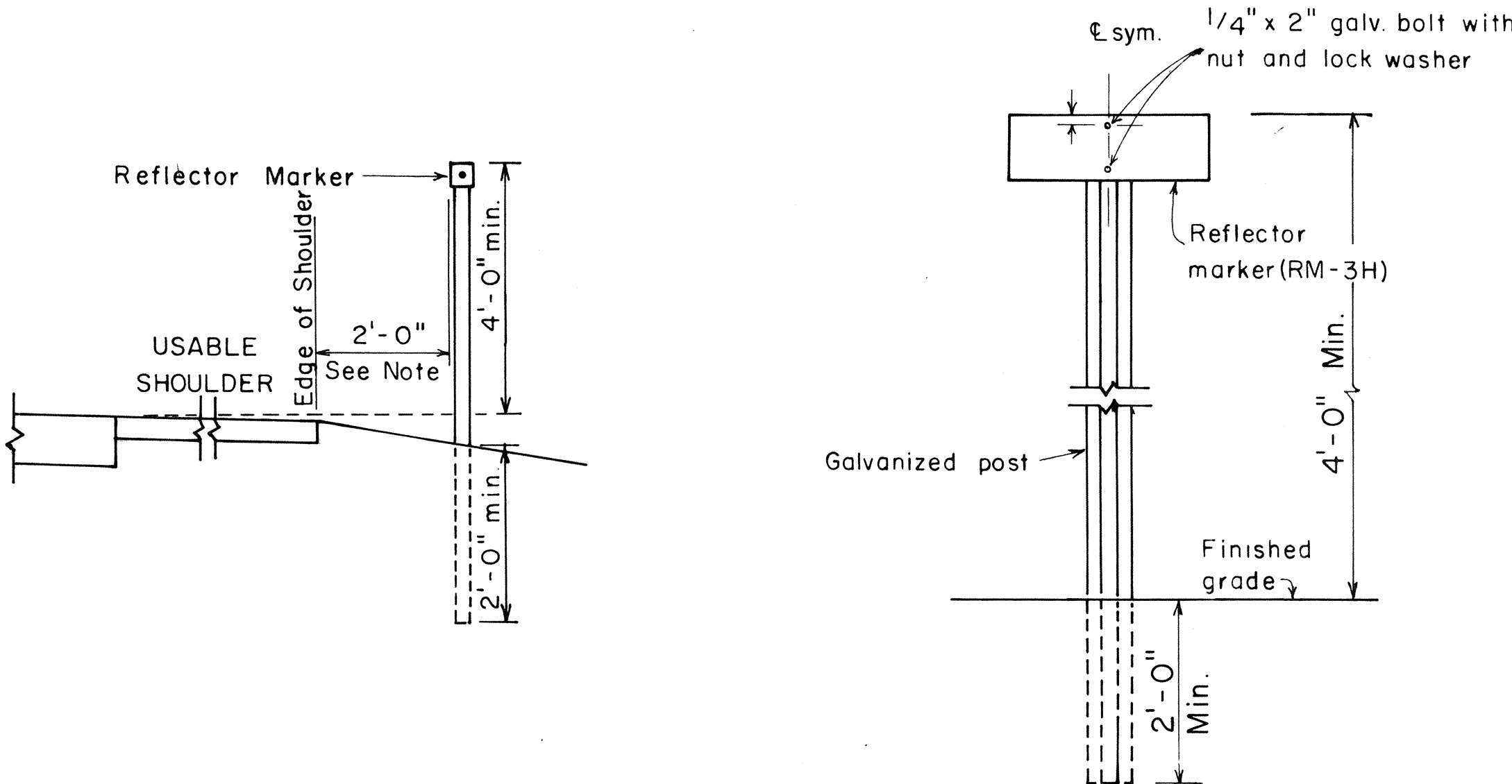
NOT TO SCALE

SHEET No. 12 OF 25 SHEETS DT 102

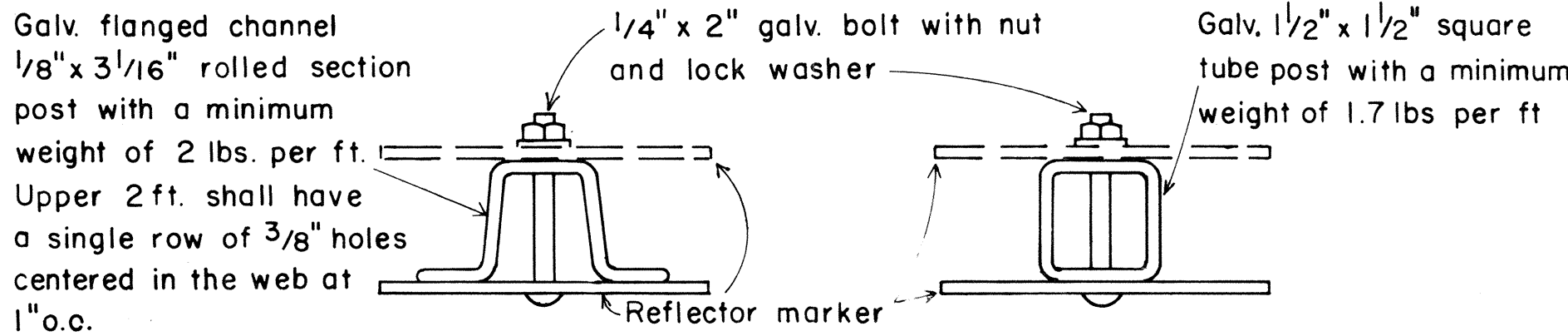
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	52	63

GENERAL NOTES:

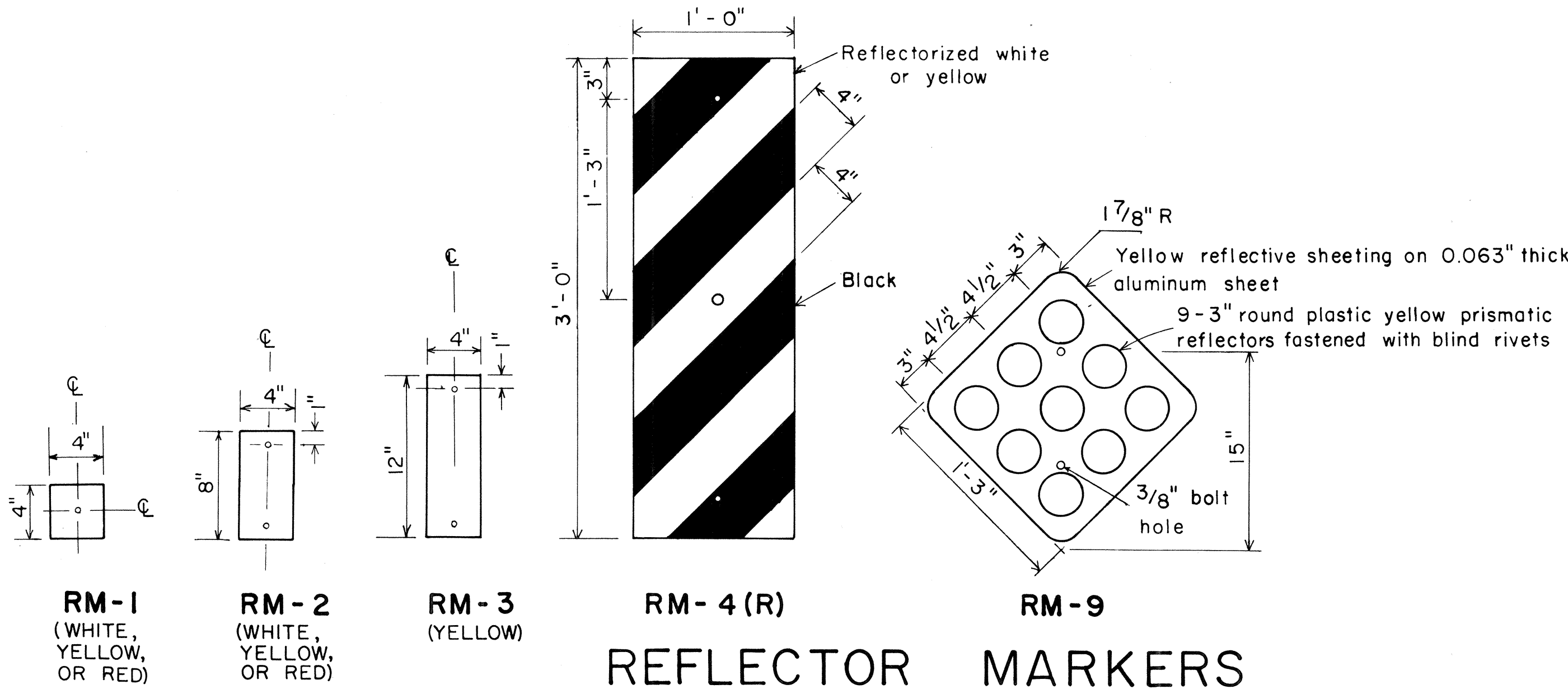
- Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
- (R) or (L) indicates right or left and shall be as shown on the plans.
- Reflector markers RM-1 and RM-2 shall be:
 - Yellow if placed along the left edge of divided roadways,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

APPROVED:

Herbert S. Sakuma _____ DATE *11/15/91*
ASSISTANT CHIEF, ENGINEERING

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

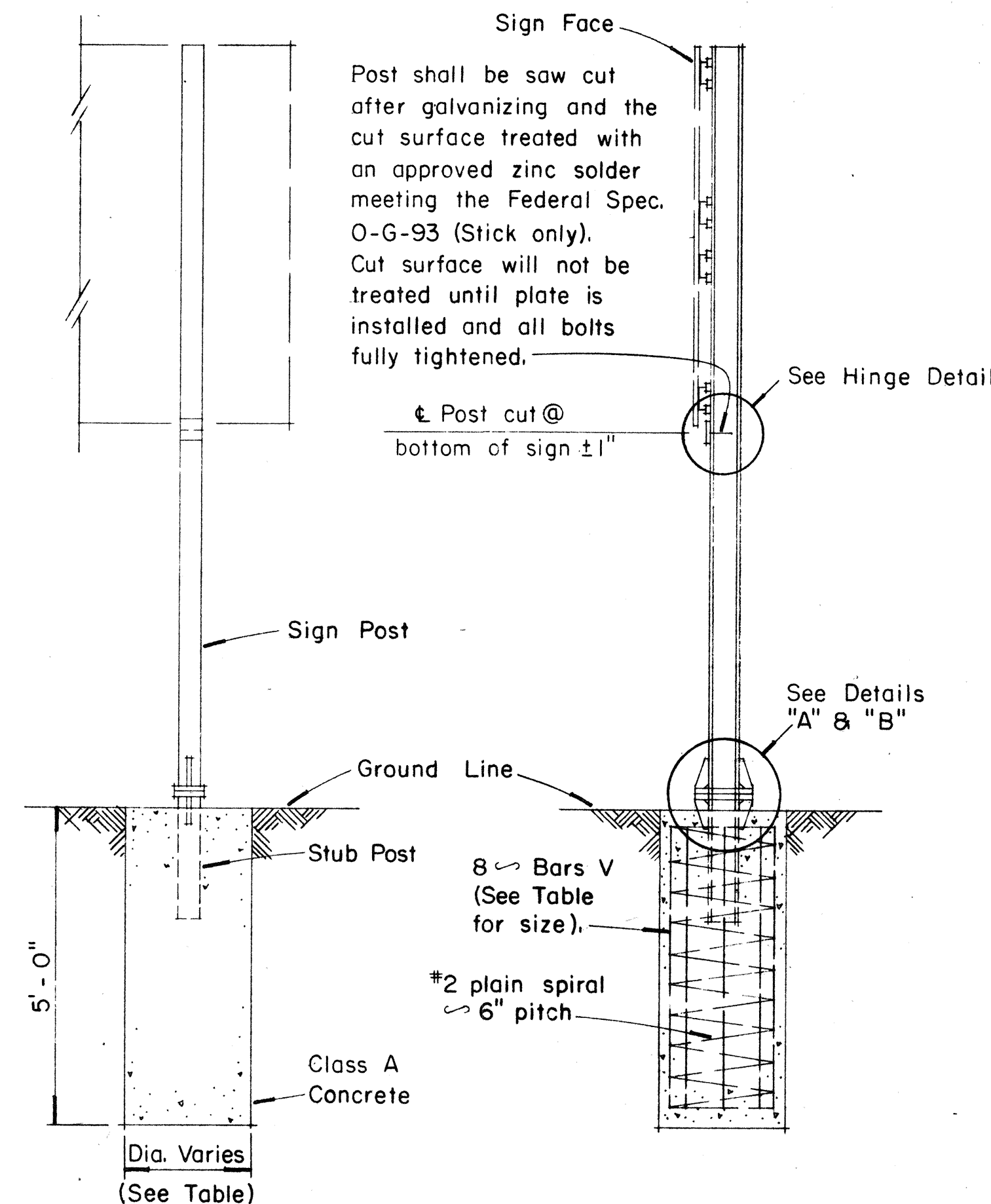
STANDARD DETAILS

MISCELLANEOUS REFLECTOR MARKERS

Not to scale June, 1977

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

	BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE											FOUNDATION DATA				
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size	
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450"⋄	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	11/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2" ϕ	1.09 ⋄	2'-0"	3"	2'-0"	#5	
6 B 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	1 1/16"	3/8"	5/8" ϕ	1.60 ⋄	2'-0"	3"	2'-0"	#5	
6 B 15.5											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	1 3/16"	1/2"	3/4" ϕ	3.75 ⋄	2'-6"	3"	2'-0"	#6	
8 WF 17											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	1 3/16"	1/2"	3/4" ϕ	3.27 ⋄	2'-6"	3"	2'-0"	#7	
8 WF 20	3/4" ϕ x 3 1/2" Torque = 750"⋄	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	13/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	1 5/16"	9/16"	7/8" ϕ	3.93 ⋄	3'-0"	2 1/2"	2'-0"	#8	
10 WF 21											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	1 5/16"	9/16"	7/8" ϕ	4.75 ⋄	3'-0"	2 1/2"	2'-0"	#9	
10 WF 25											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	1 5/16"	9/16"	7/8" ϕ	4.79 ⋄	3'-0"	2 1/2"	2'-0"	#10	
12 WF 27											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	1 5/16"	9/16"	7/8" ϕ	5.42 ⋄	3'-0"	2 1/2"	2'-0"	#11	
3 I 5.7	1/2" ϕ x 2 1/2"	SEE DETAIL "A"									3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64 ⋄	1'-6"	3 1/2"	1'-6"	#5	
4 I 7.7	Torque = 200"⋄										3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" ϕ	0.64 ⋄	1'-6"	3 1/2"	1'-6"	#5	



FED. ROAD DIST. NO.	STATE	FED.-AID- PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	53	63

H.S. bolts (Bearing Type) with hex. hd. nut and one flat washer under each bolt head and bevel or flat washer (where required) under nut.

Fuse Plate (Install with notches toward base)

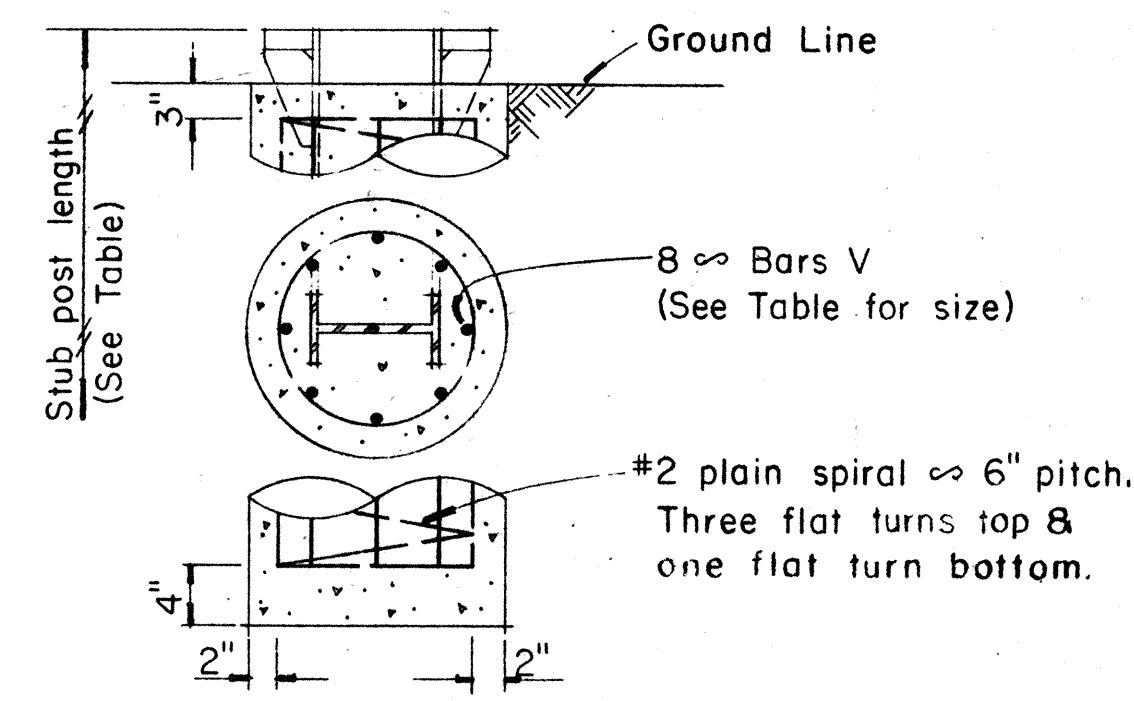
Flange holes for hinge shall be drilled or sub-punched and reamed.

Beveled washers for all I-shaped posts. Flat washers for others.

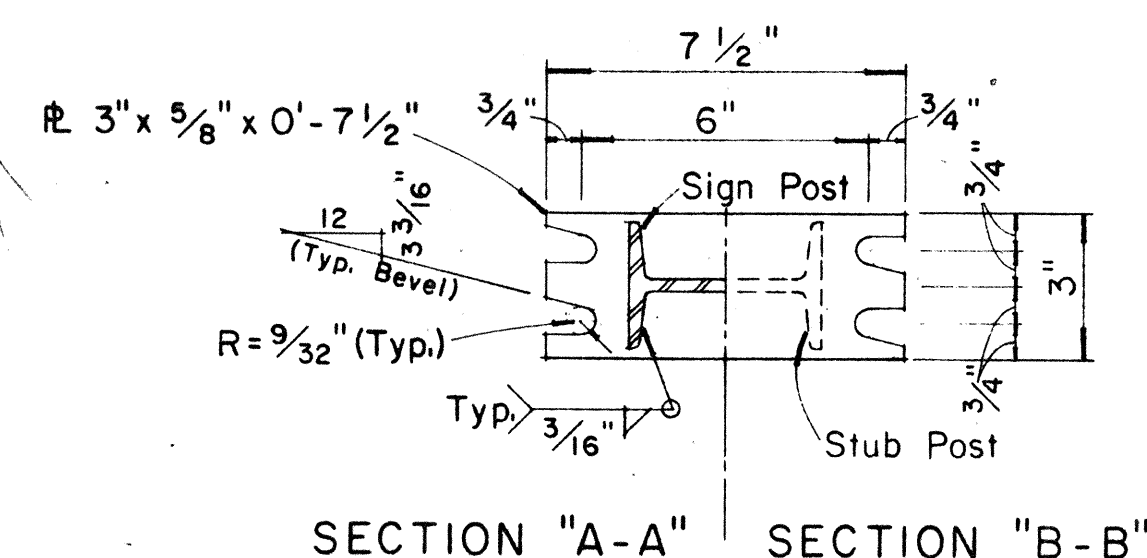
Fillet depth $\pm 1/16$ " No Cut

Cut flange and web

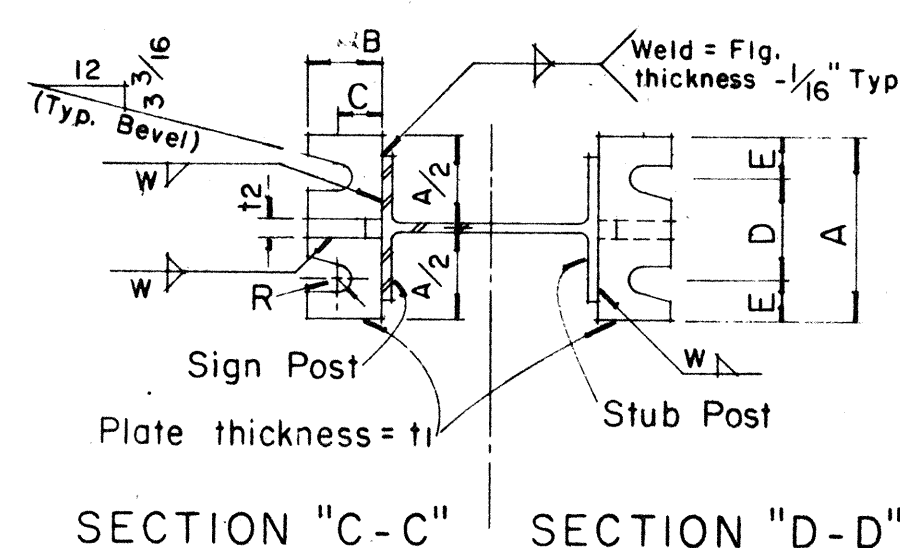
HINGE DETAIL



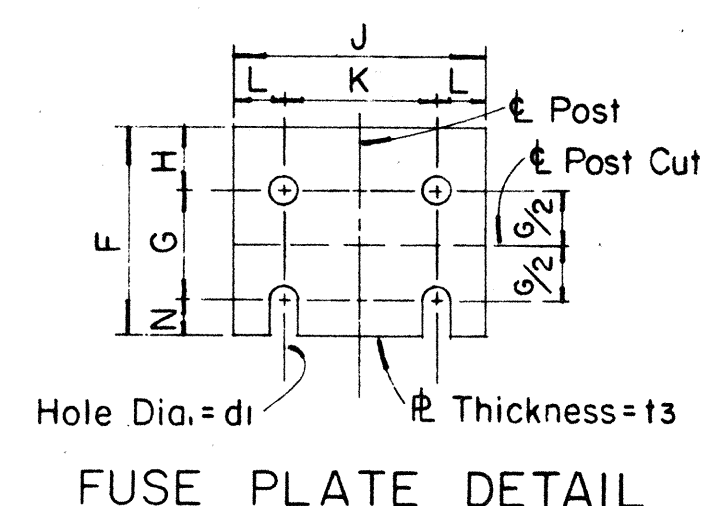
FOUNDATION DETAIL



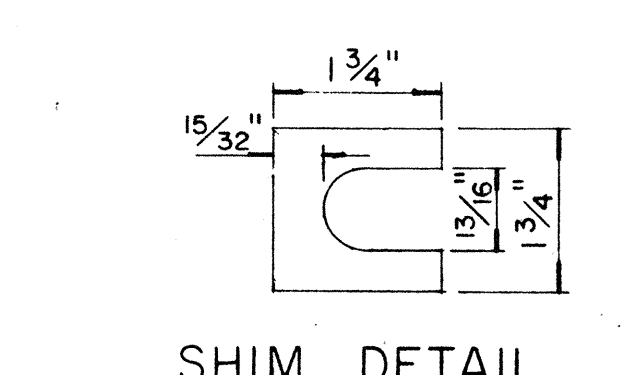
NOTE:
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



STIFFENER PLATE DETAIL



FUSE PLATE DETAIL



SHIM DETAIL

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

GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM A 307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with the requirements of ASTM A 441.
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

Bolt Size	Min. Tension	Bolt Size	Min. Tension
1/2" ϕ	12050 Lbs.	3/4" ϕ	28400 Lbs.
5/8" ϕ	19200 Lbs.	7/8" ϕ	36050 Lbs.

APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER
12/23/69
DATE

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

NO.	REVISION	APPROVED BY	DATE

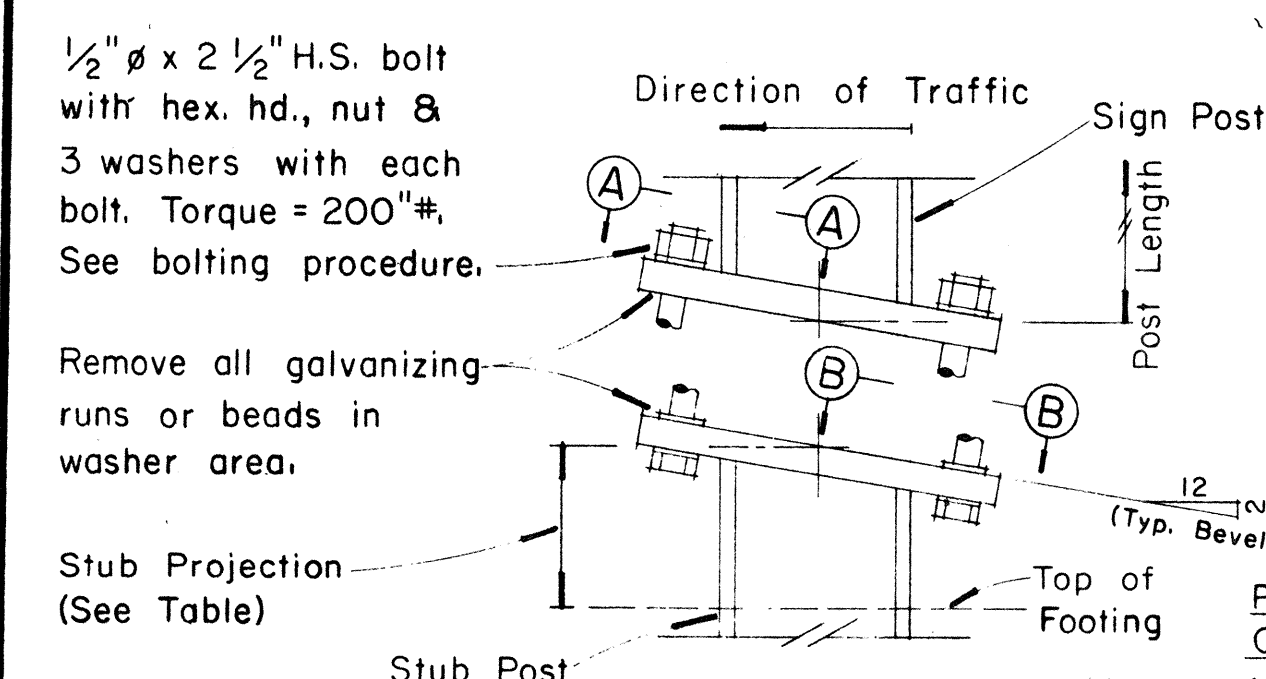
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS

Not to Scale

SHEET No. 15 OF 25 SHEETS DT204

53

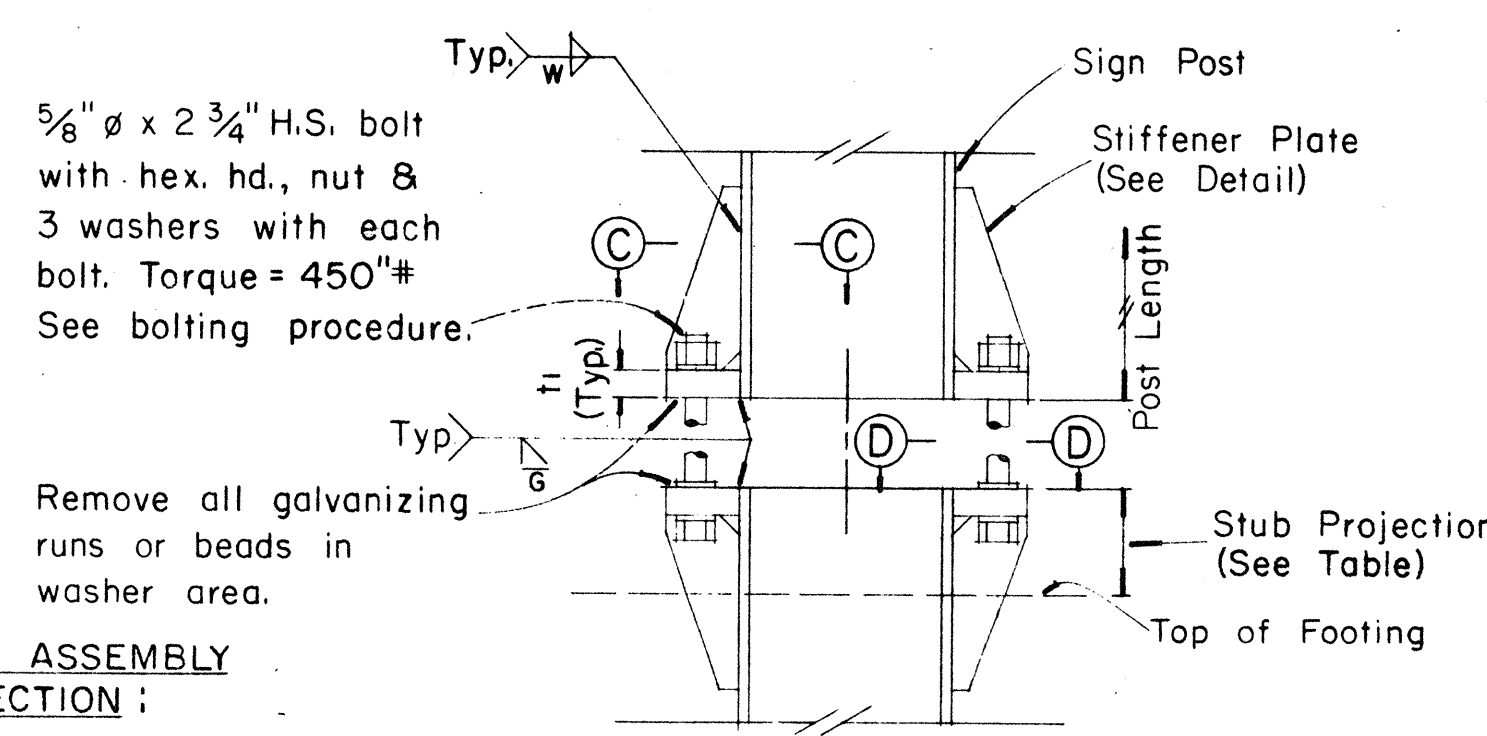
DATE
SURVEY PLANNED BY
DRAWN BY
CHECKED BY
NOTED BY
QUANTITIES BY
NO.



DETAIL "A"
SIGN POST & STUB POST
(For 4I7.7 and 3I5.7 Shapes)

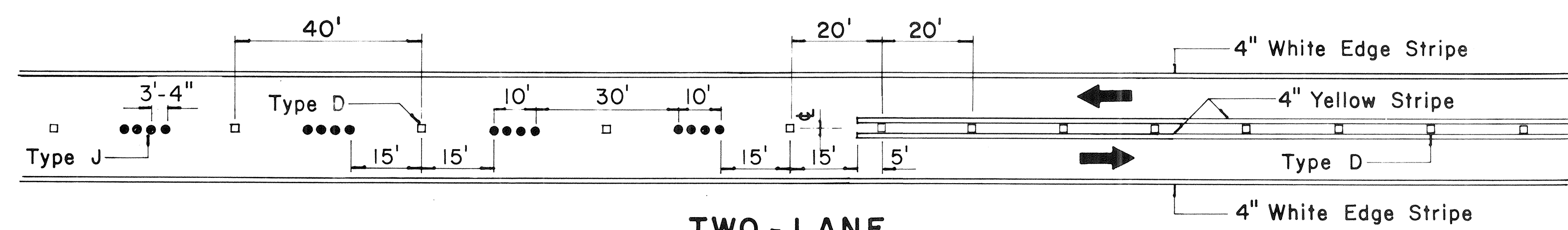
PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:

- Assemble post to stub with bolts and with one flat washer on each bolt between plates.
- Shim as required to plumb post.
- Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt in turn & retighten bolts in systematic order to prescribed torque. (See Table)
- Burr threads at junction with nut using a center punch to prevent nut loosening.

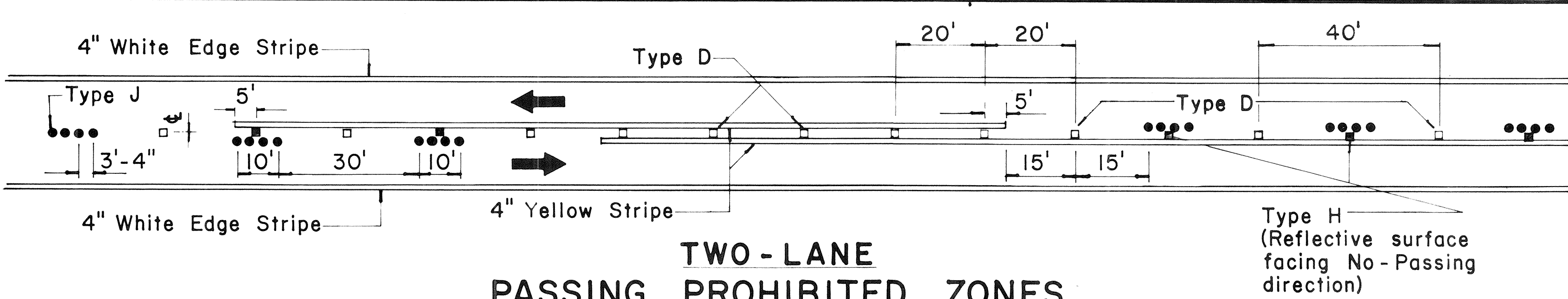


DETAIL "B"
SIGN POST & STUB POST
(For WF and B Shapes)

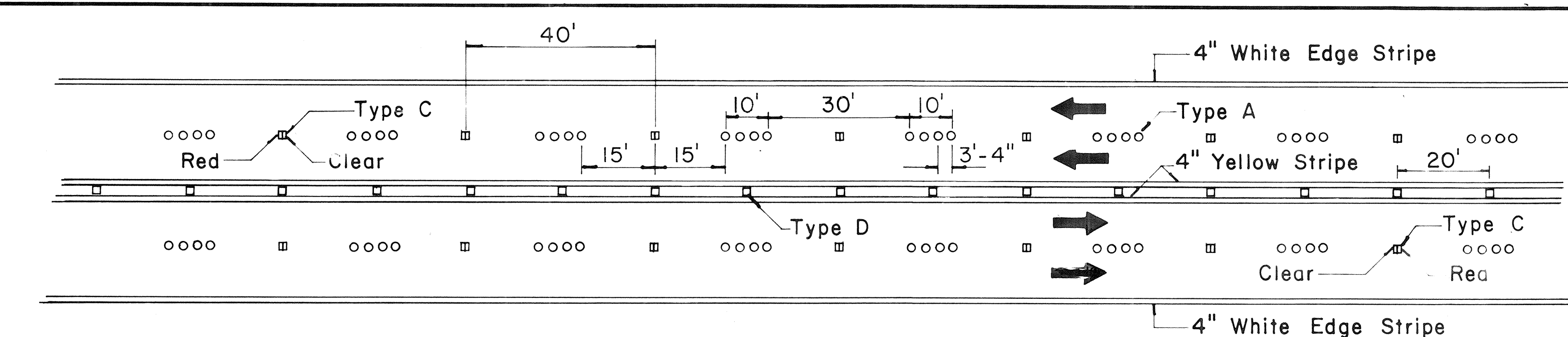
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	54	63



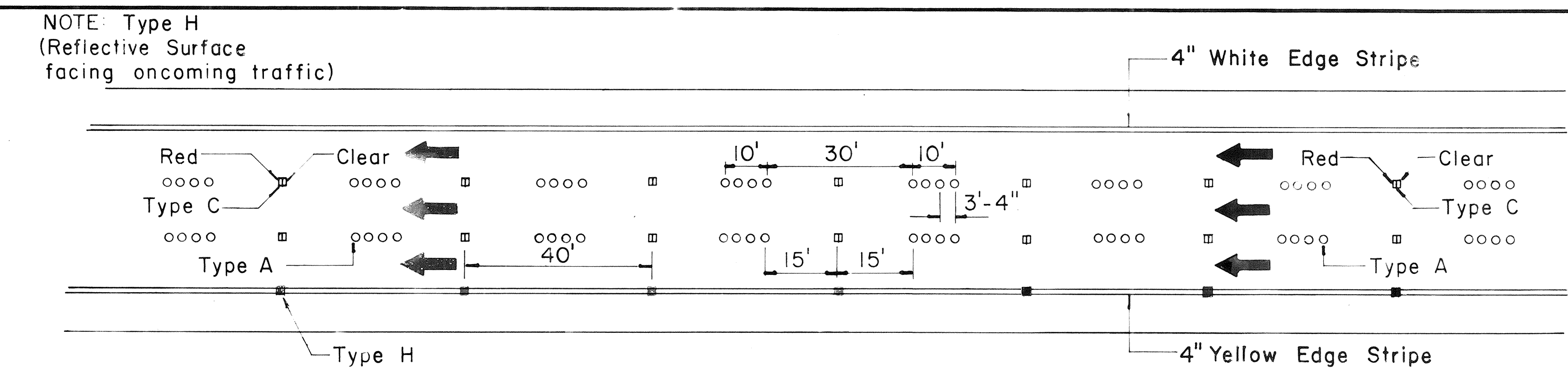
**TWO - LANE
PASSING PERMITTED AND PASSING PROHIBITED**



**TWO - LANE
PASSING PROHIBITED ZONES**

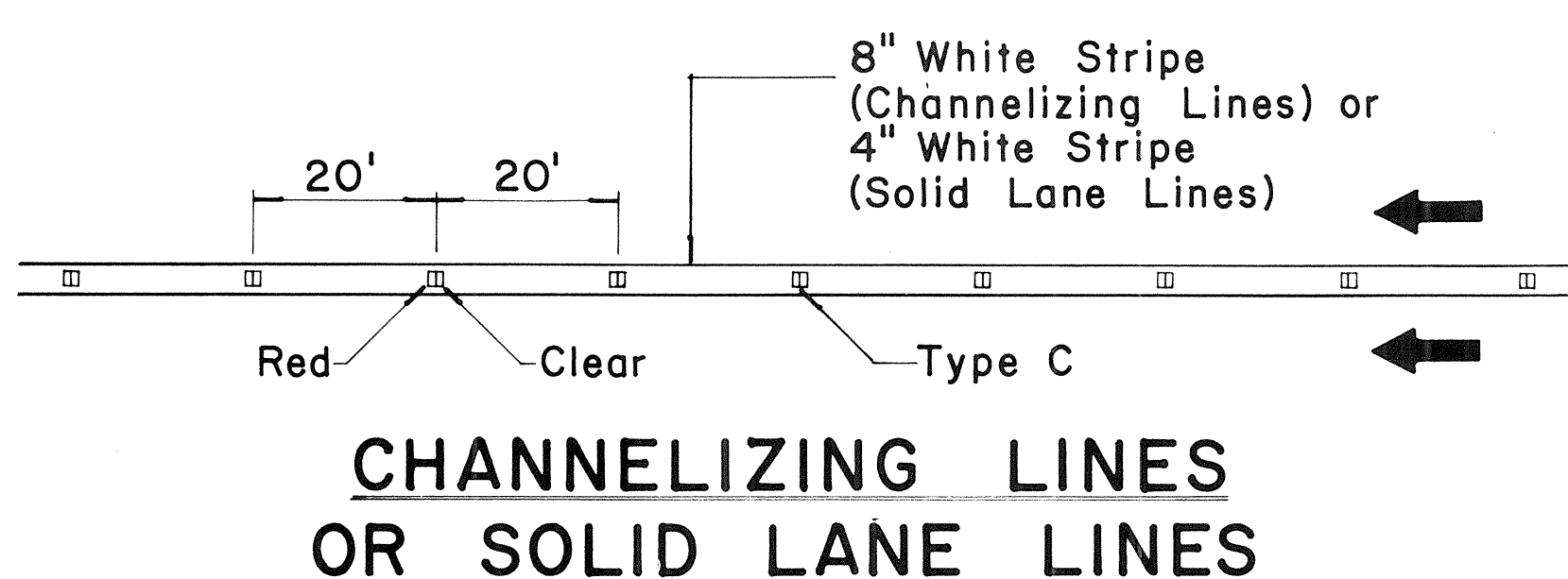


**MULTI - LANE
LANE LINES AND CENTER LINE**

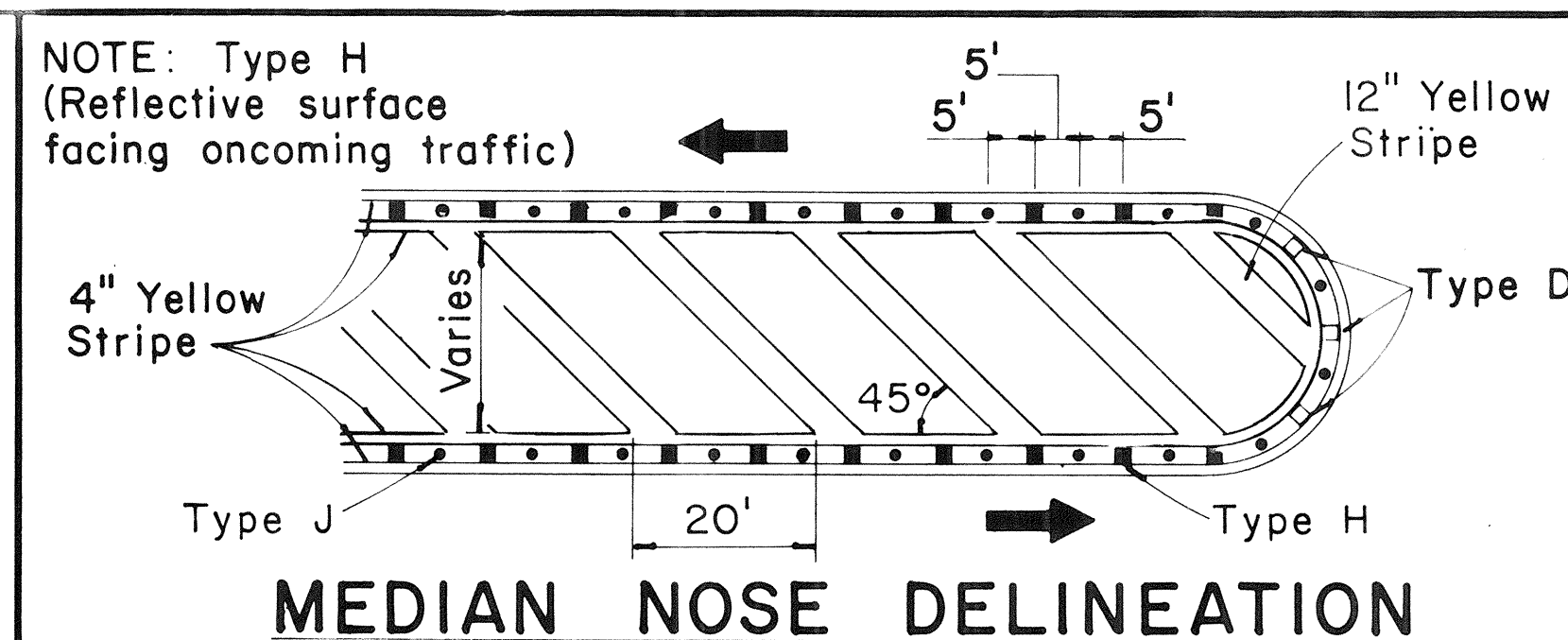


NOTE: Type H
(Reflective Surface
facing oncoming traffic)

**DIVIDED HIGHWAY
AND
FREEWAY**



**CHANNELIZING LINES
OR SOLID LANE LINES**



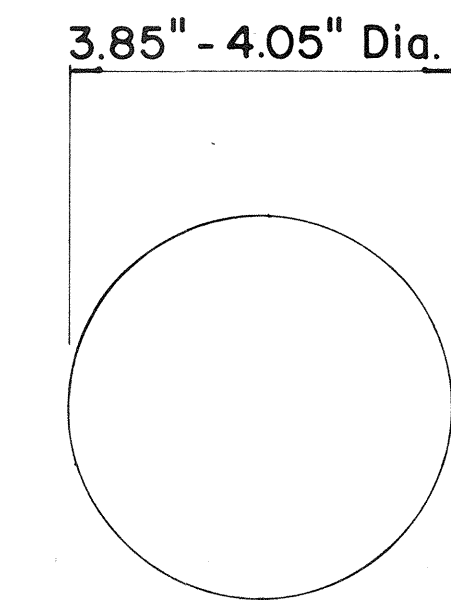
NOTE: Type H
(Reflective surface
facing oncoming traffic)

MEDIAN NOSE DELINEATION

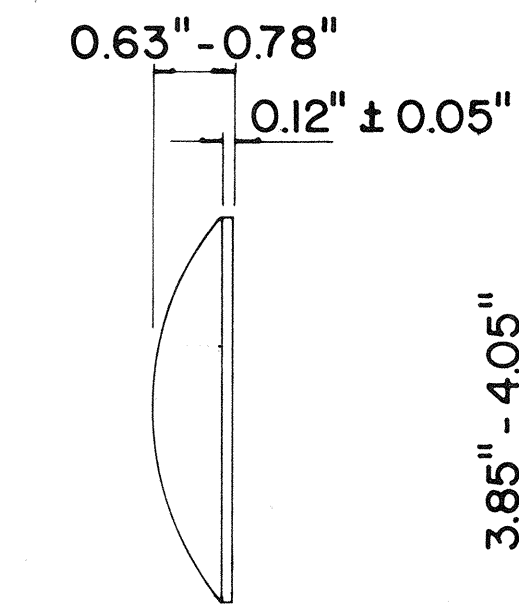
MISCELLANEOUS

TWO - LANE

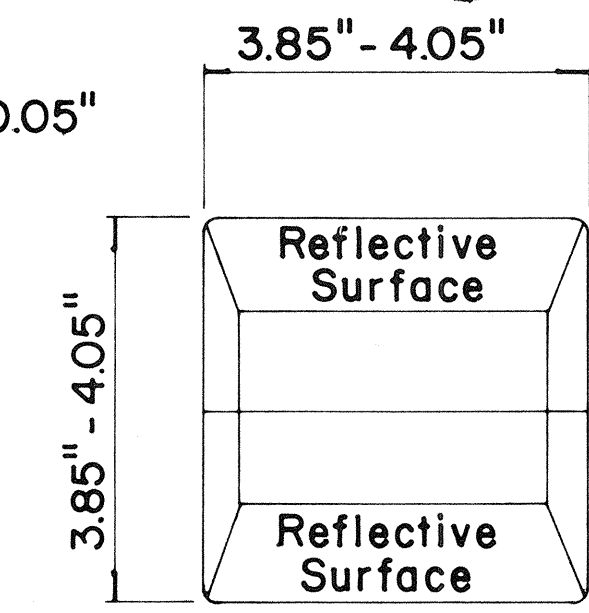
MULTI - LANE



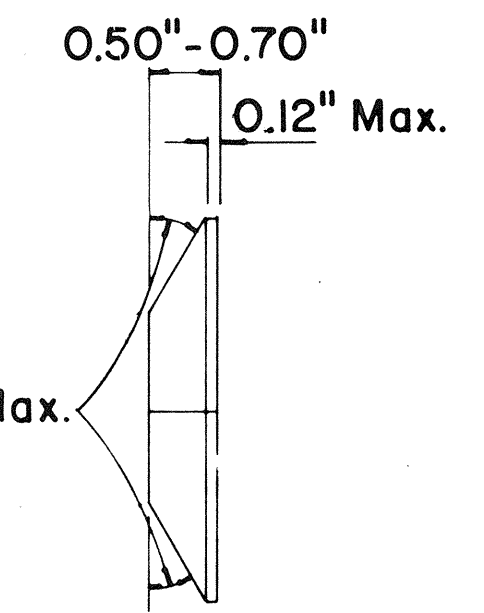
**TYPE A
NON - REFLECTIVE WHITE MARKER**



**TYPE J
NON - REFLECTIVE YELLOW MARKER**



**TYPE C
RED - CLEAR REFLECTIVE MARKER**



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

GENERAL NOTES

1. Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
2. 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:
E. I. Tanaka 11/18/71
TRAFFIC ENGINEER DATE

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

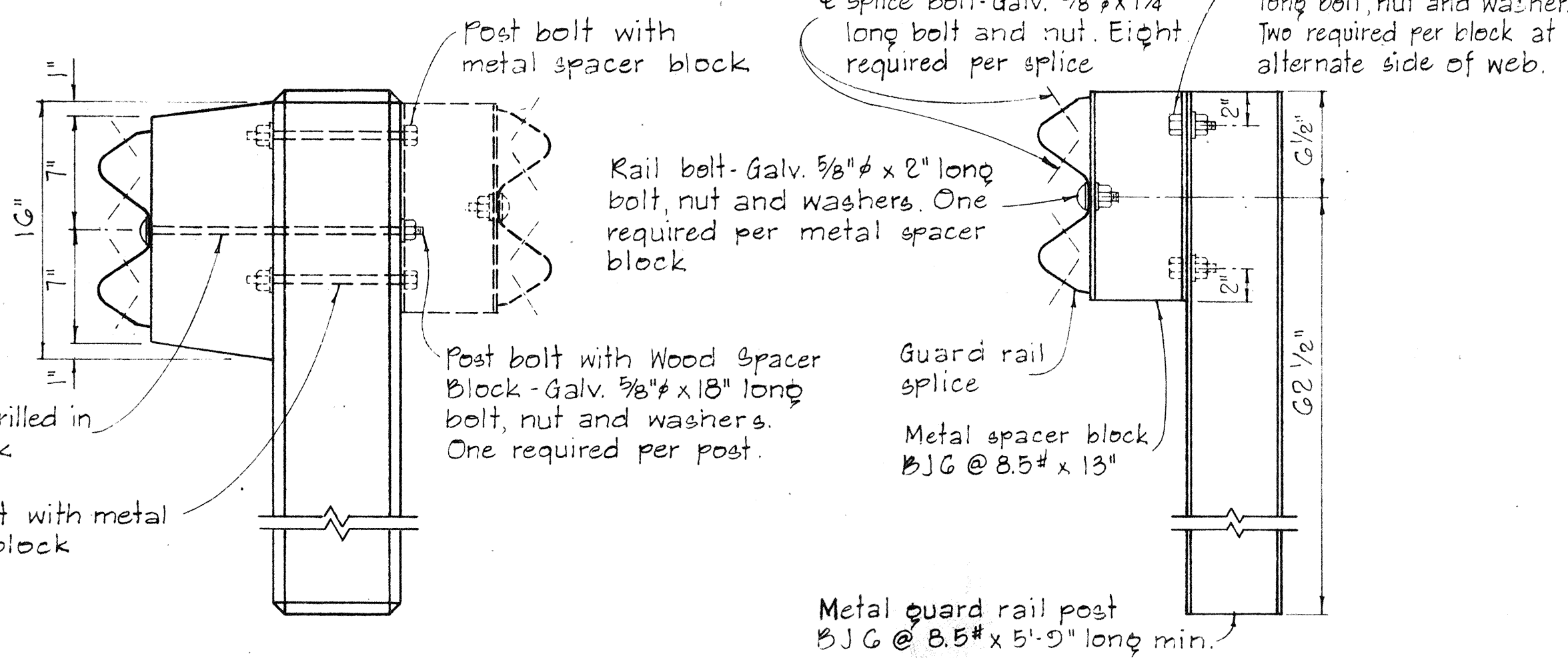
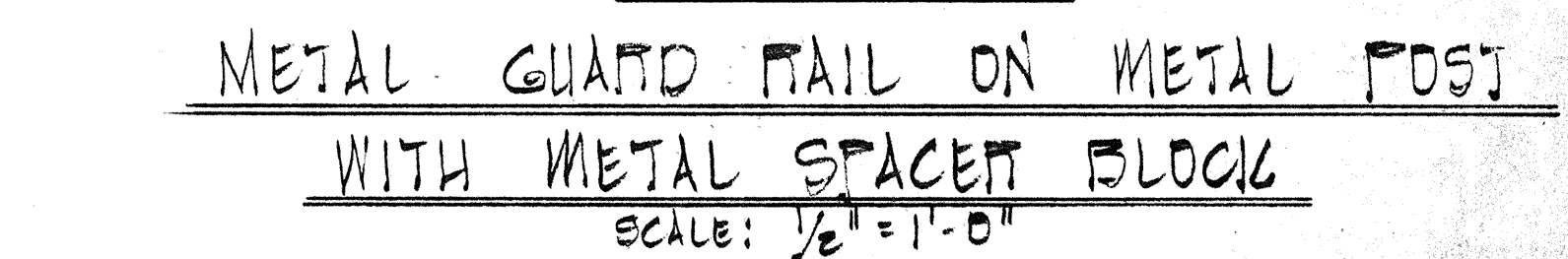
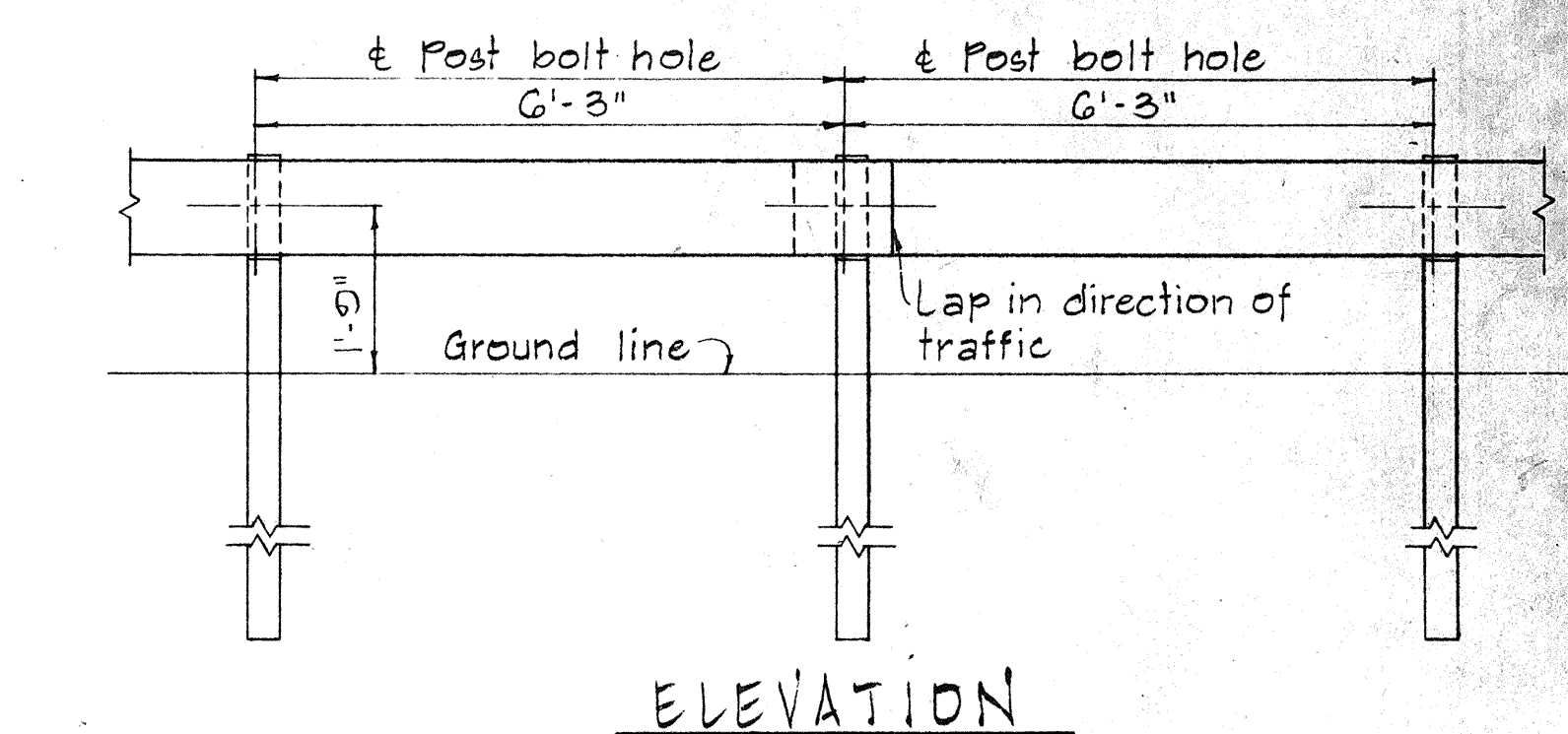
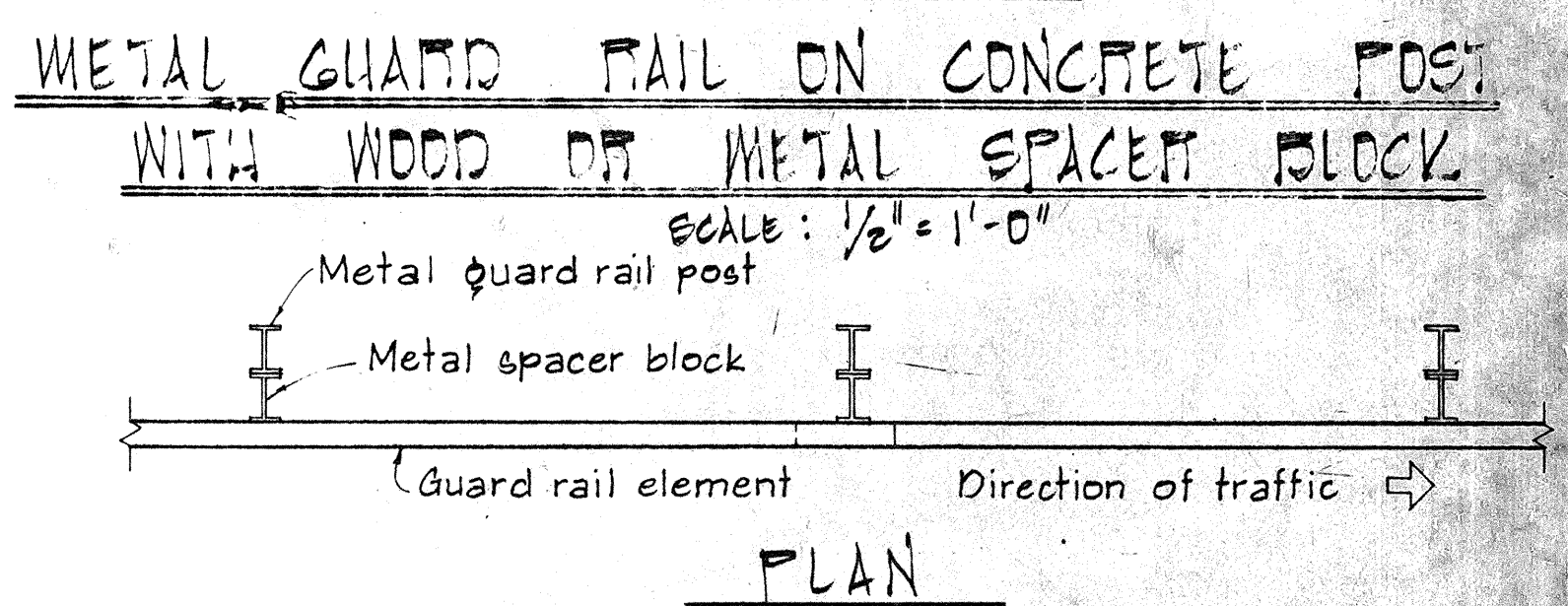
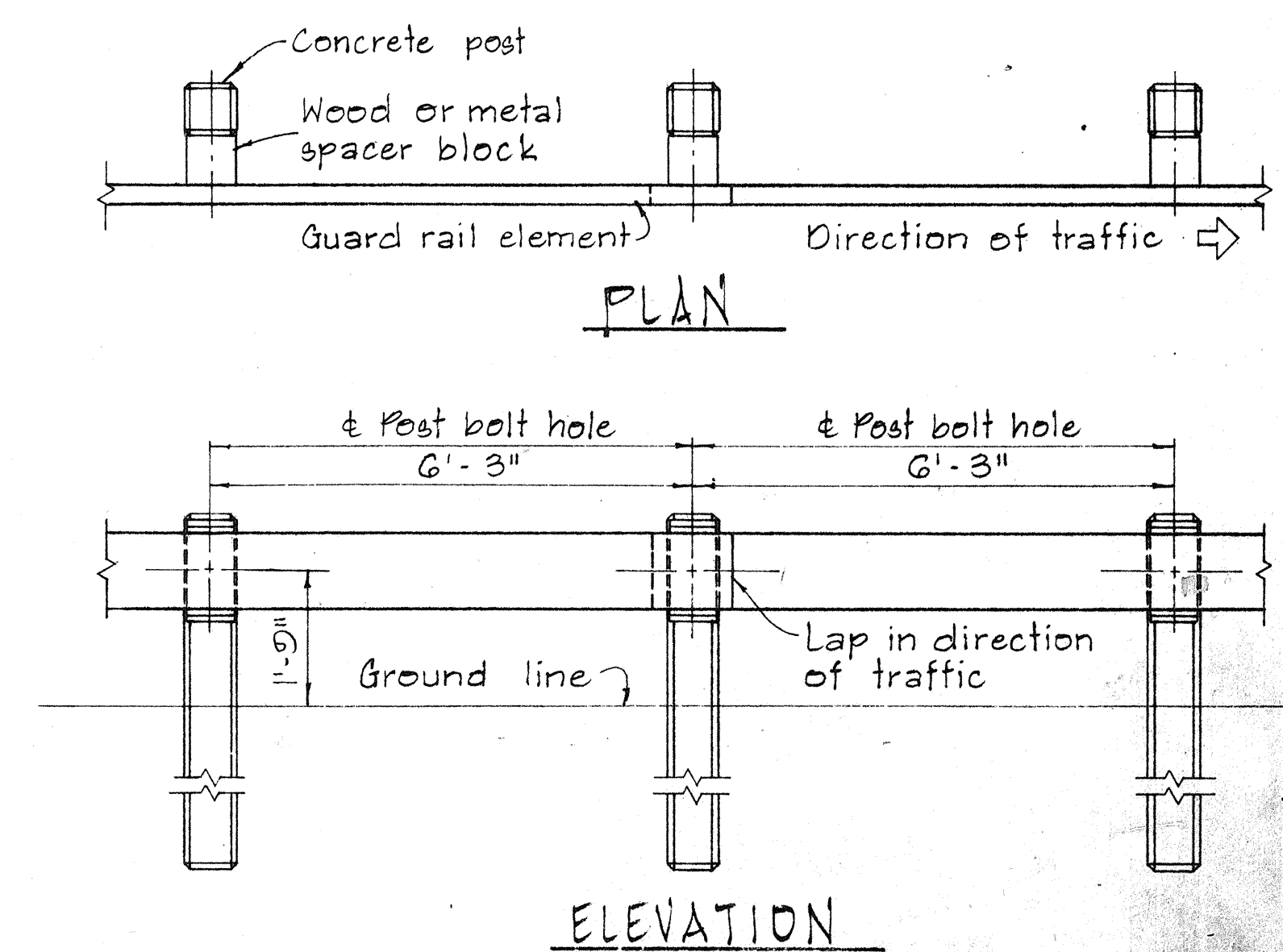
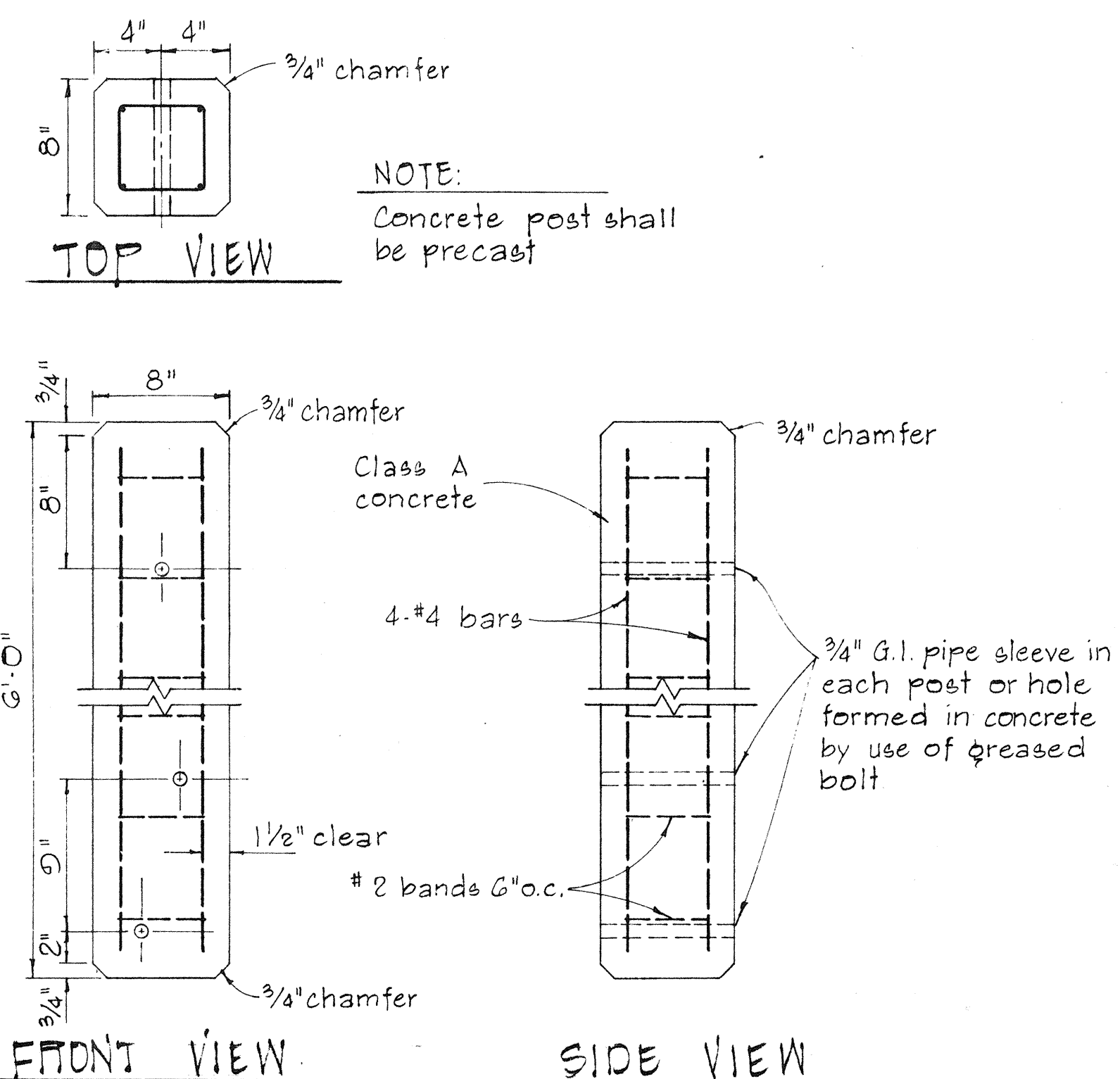
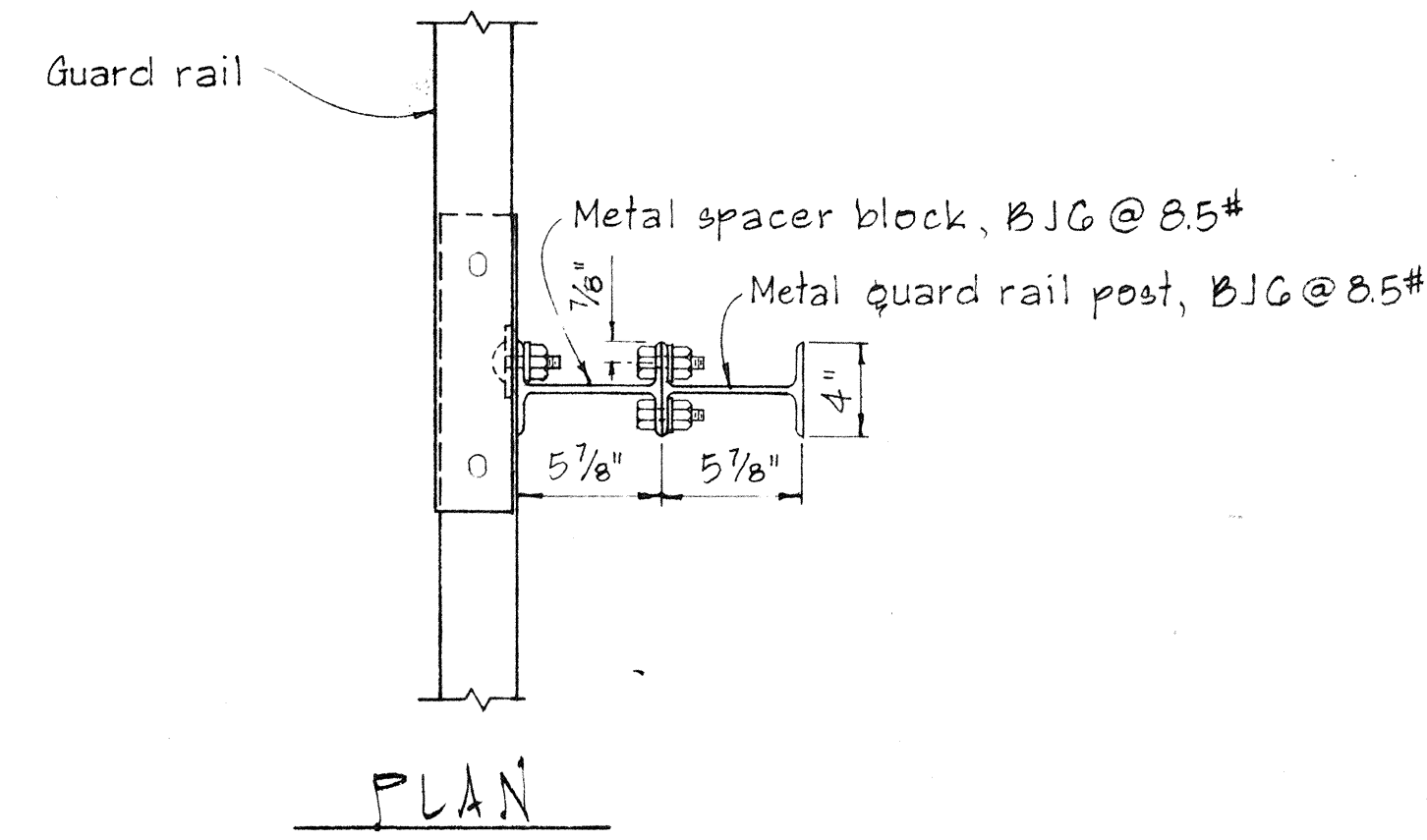
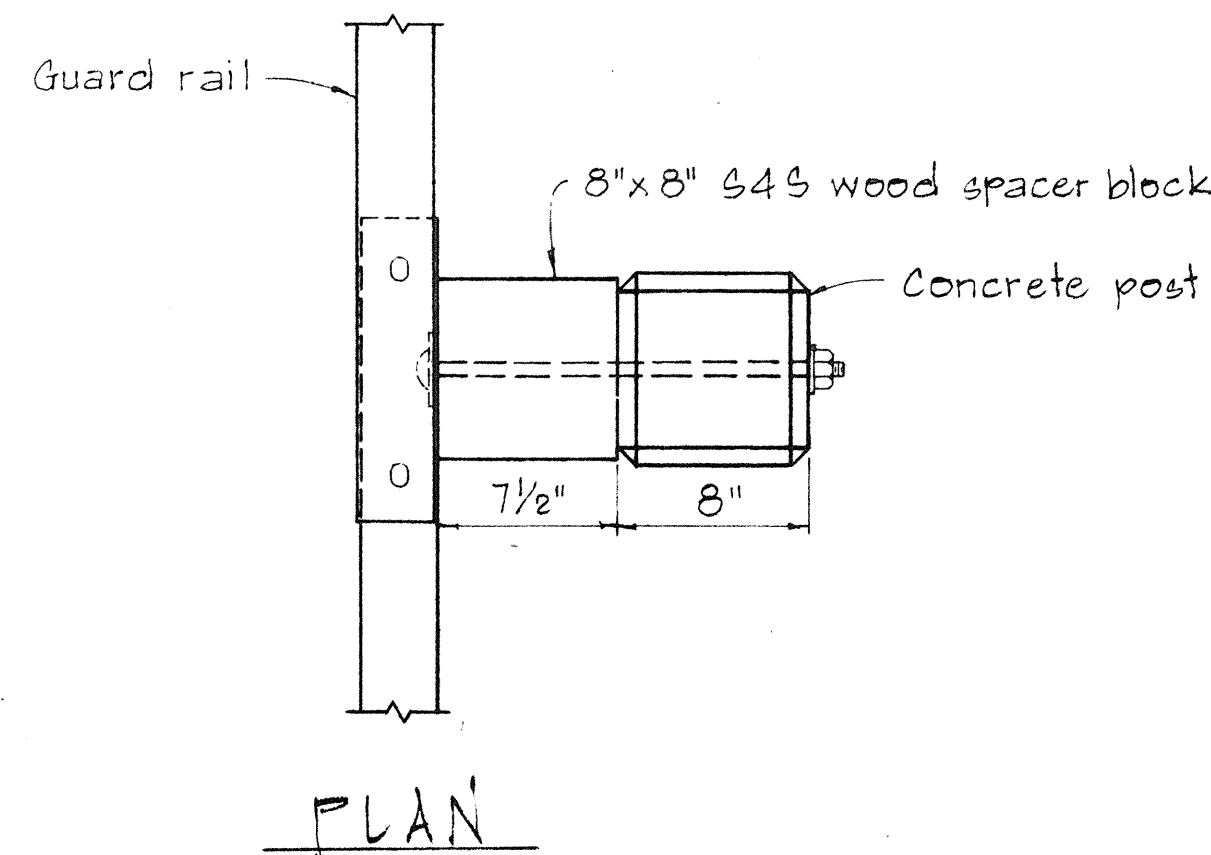
No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72
3	Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of a travel path and Add Type H Reflector Marker.	H.C.	5-22-74
4	Revised details, General Notes & Title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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

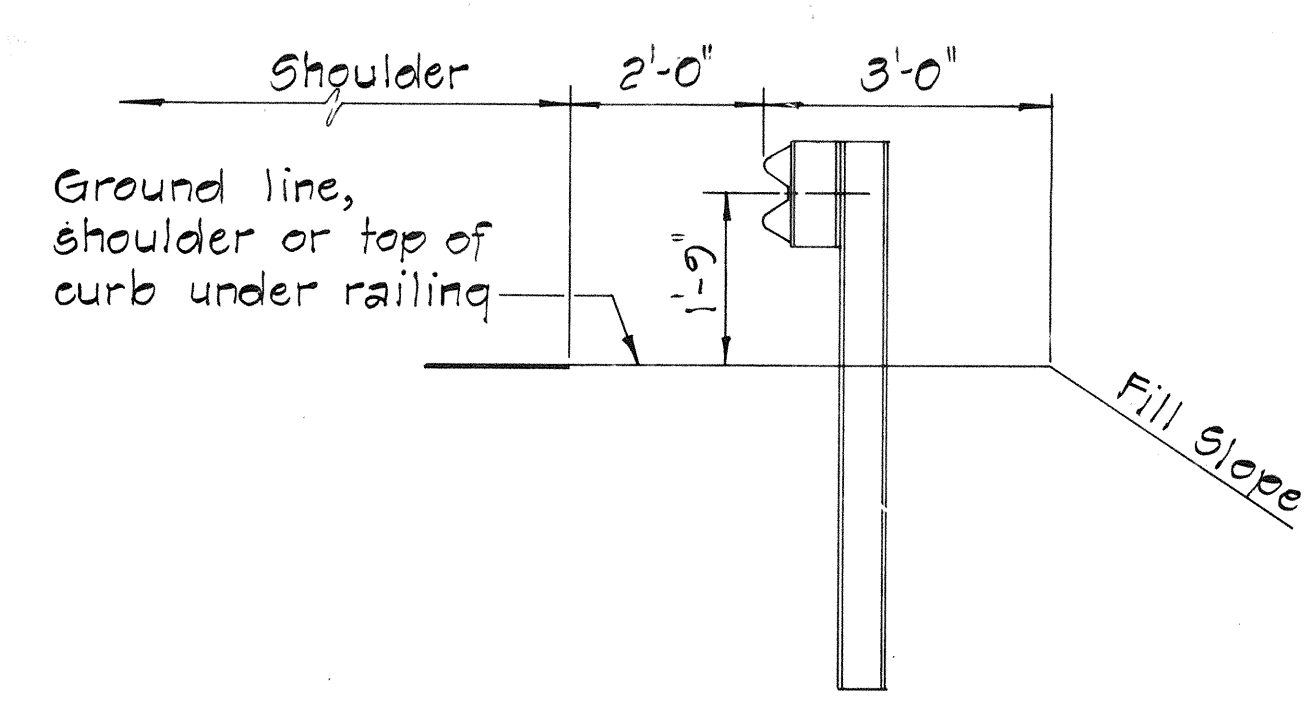
**STANDARD DETAILS
RAISED PAVEMENT MARKERS
AND STRIPING**

Not to Scale October 1971
SHEET No. 16 OF 25 SHEETS DT 300

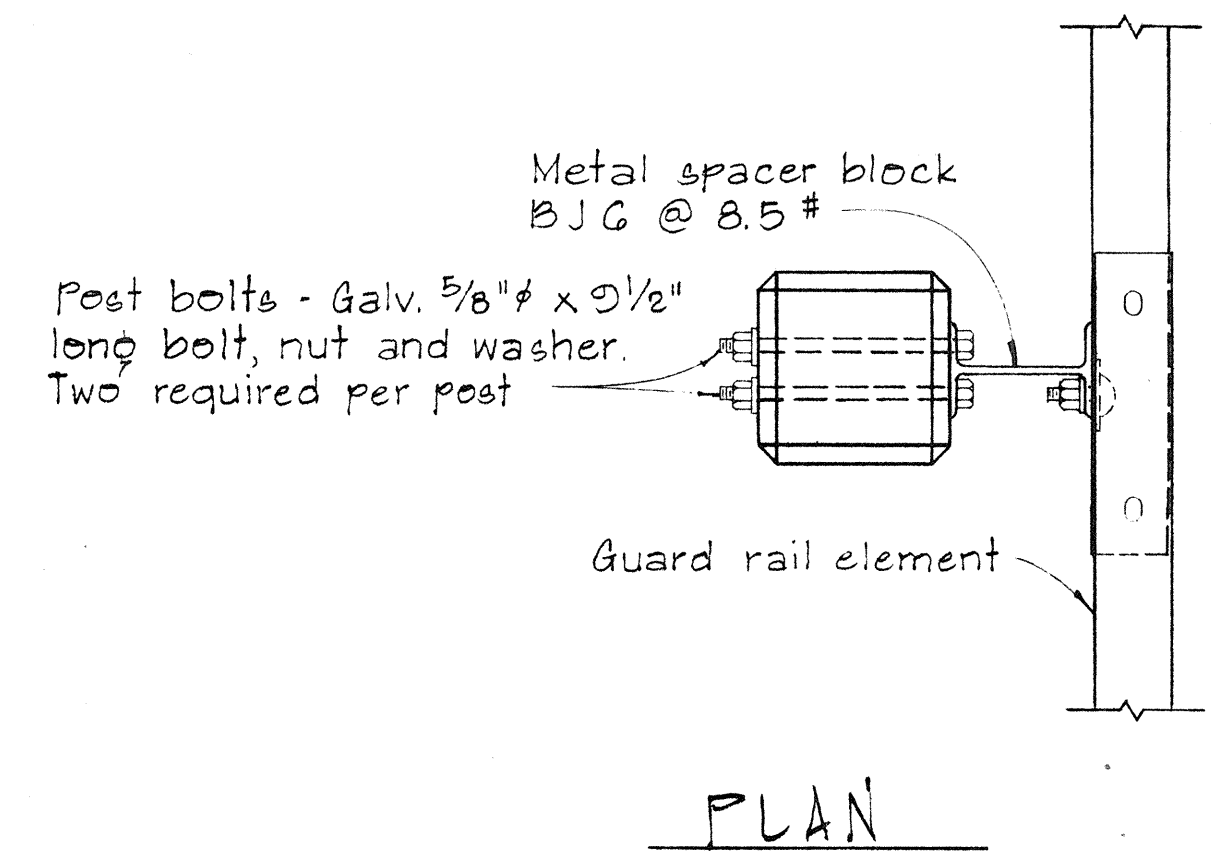
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	55	63



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"



SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"

APPROVAL RECOMMENDED:
Erich Tanaka
TRAFFIC ENGINEER
12/29/62
DATE

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS

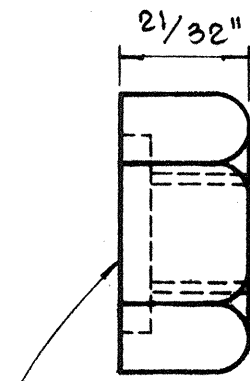
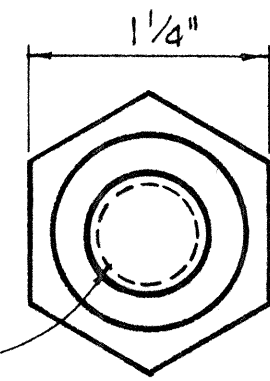
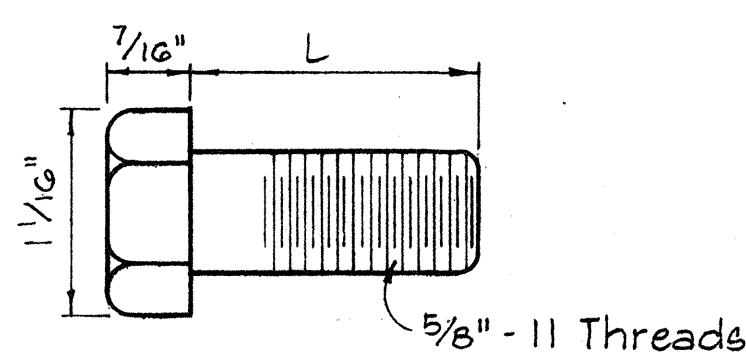
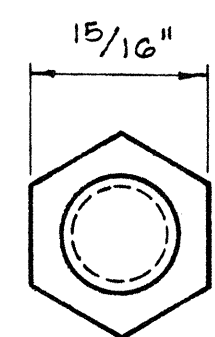
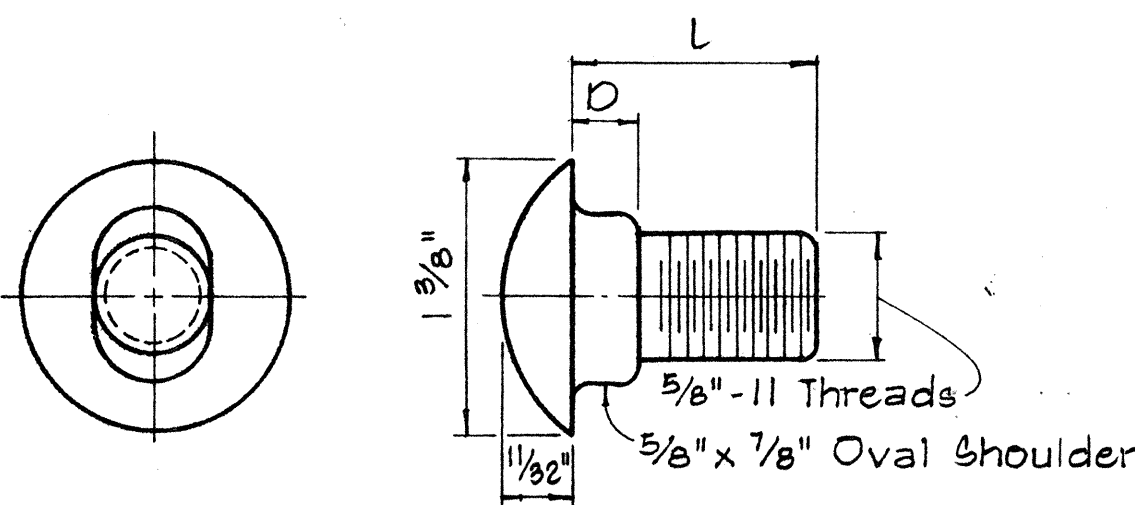
METAL GUARD RAIL

SCALE: AS SHOWN
NOV. 1968

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	56	63

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"



5/32" Deep x 15/16" Dia. C' Bore for Type A Bolt only. Plain nut for Type B Bolt.

TYPE A BOLT

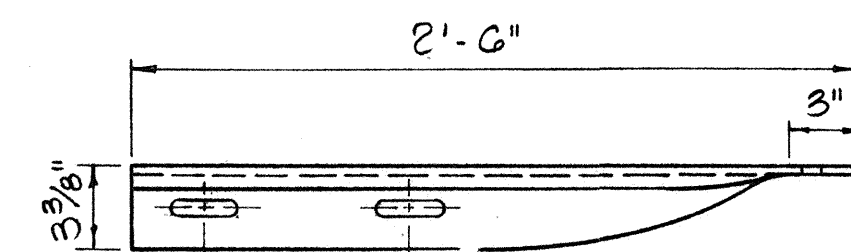
TYPE B BOLT

SPUCE RAIL AND POST BOLTS

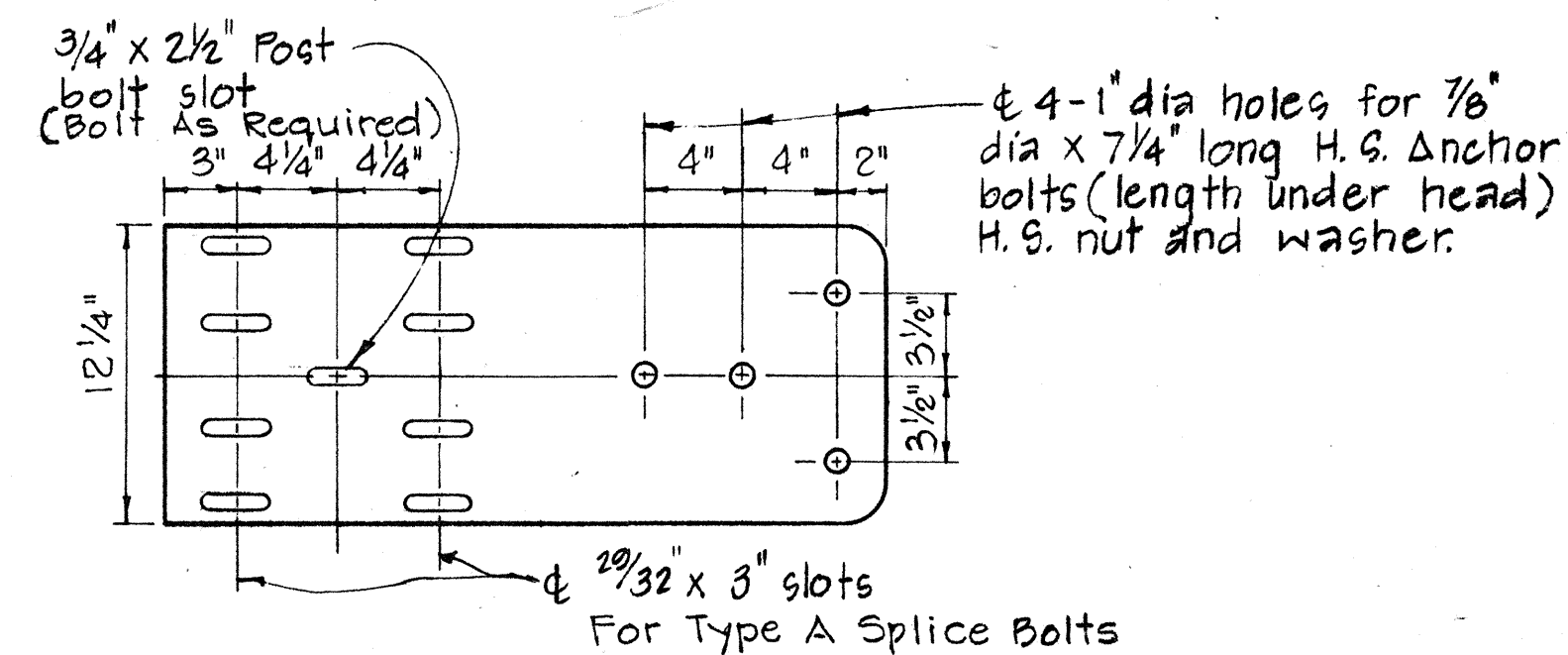
Scale: Full Size

HEXAGON NUT

Scale: Full Size



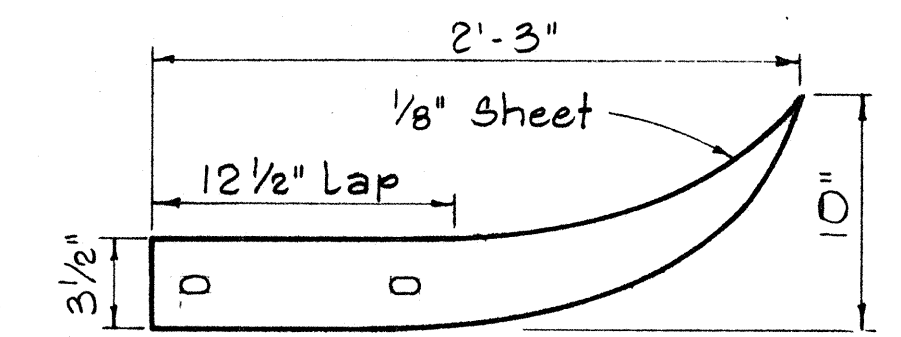
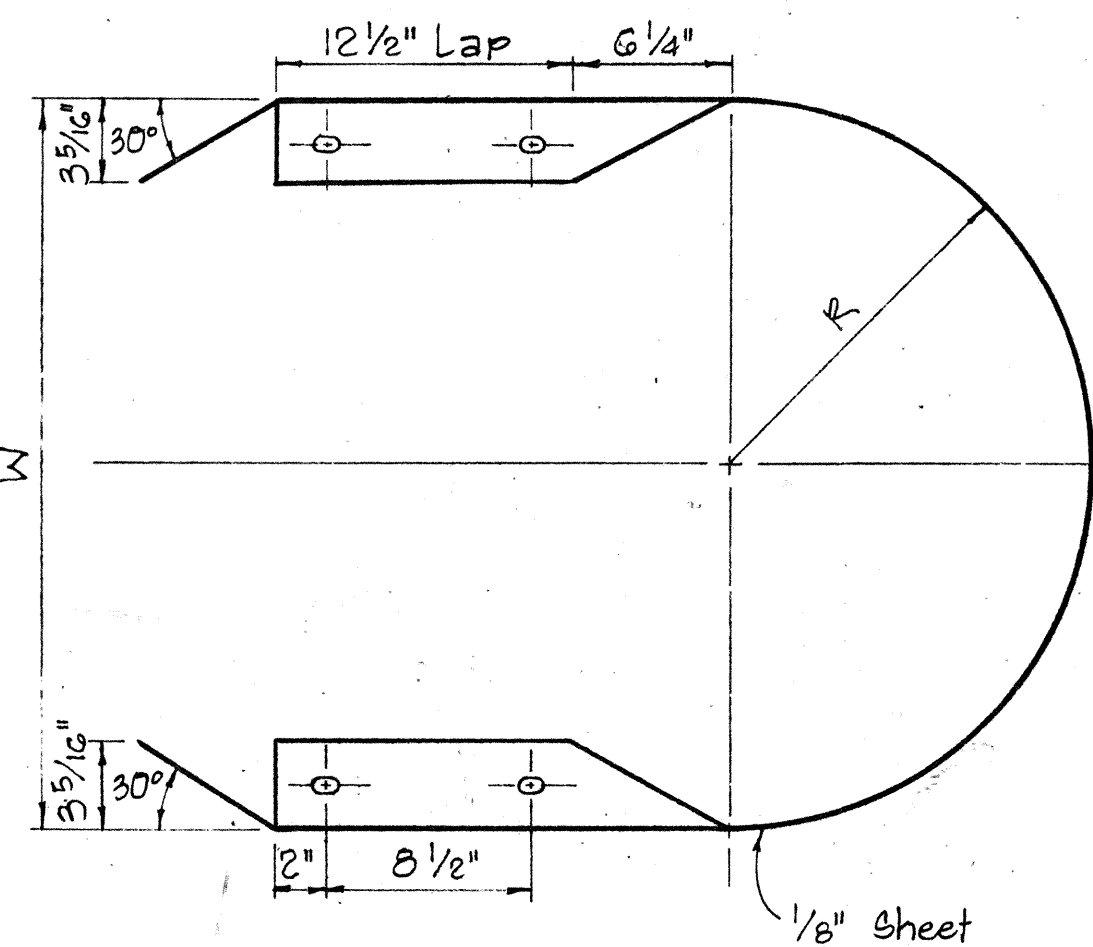
← Lap in direction of traffic



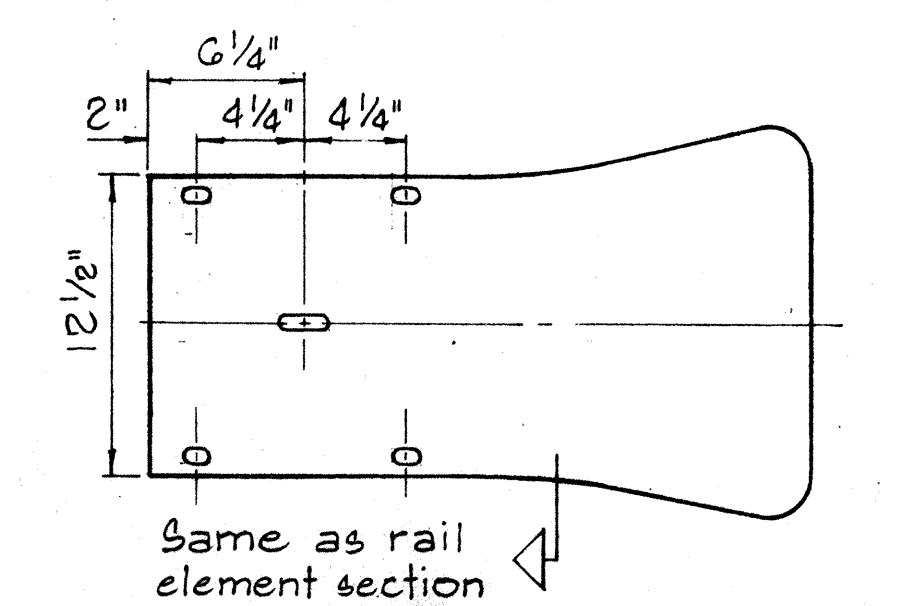
SPECIAL END SHOE

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

← Lap in direction of traffic

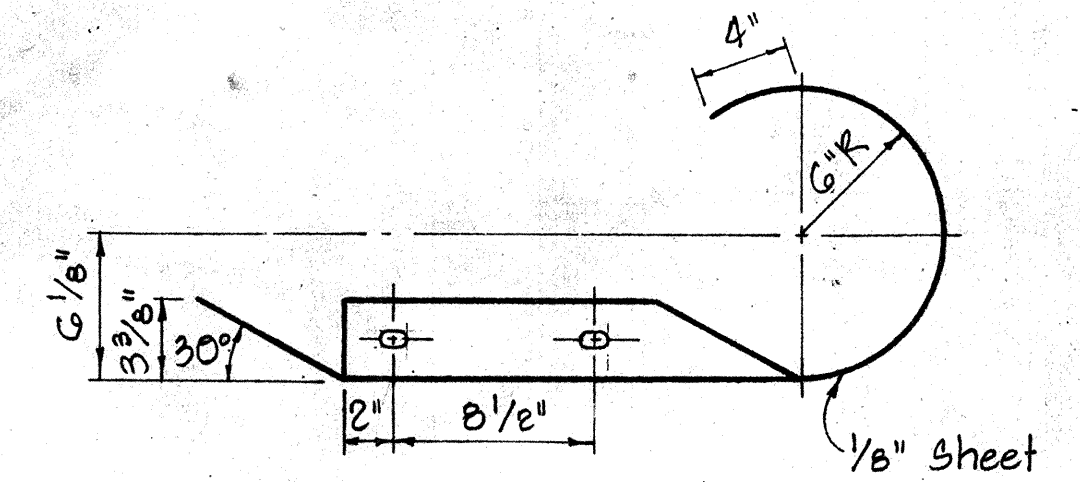


← Lap in direction of traffic

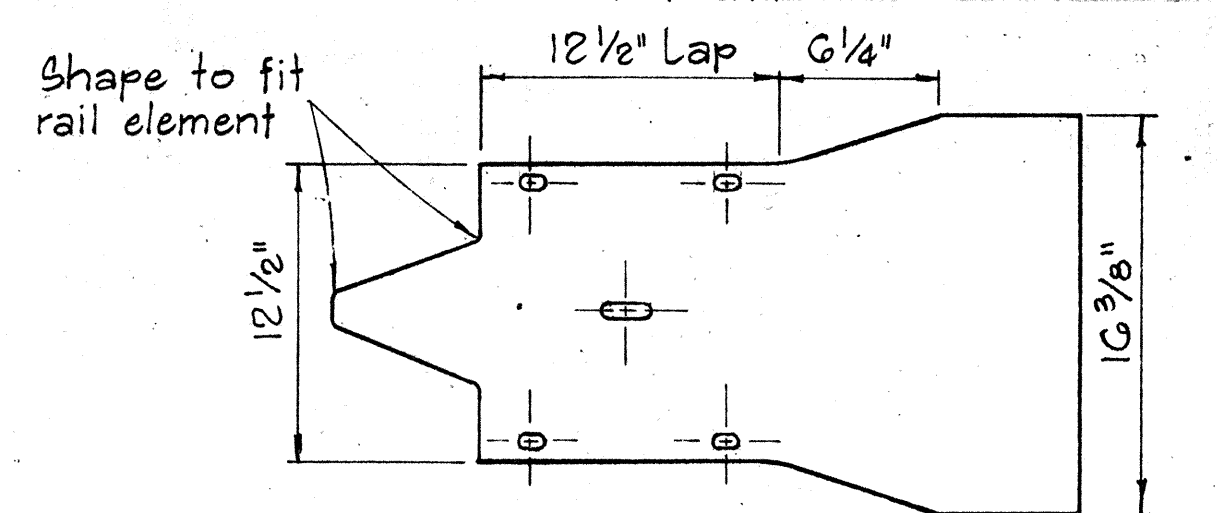


FLARED END

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



← Lap in direction of traffic



CURVED END

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

APPROVAL RECOMMENDED:

TRAFFIC ENGINEER

APPROVED:

ASSISTANT CHIEF, ENGINEERING

12/23/69
DATE

12-20-69
DATE

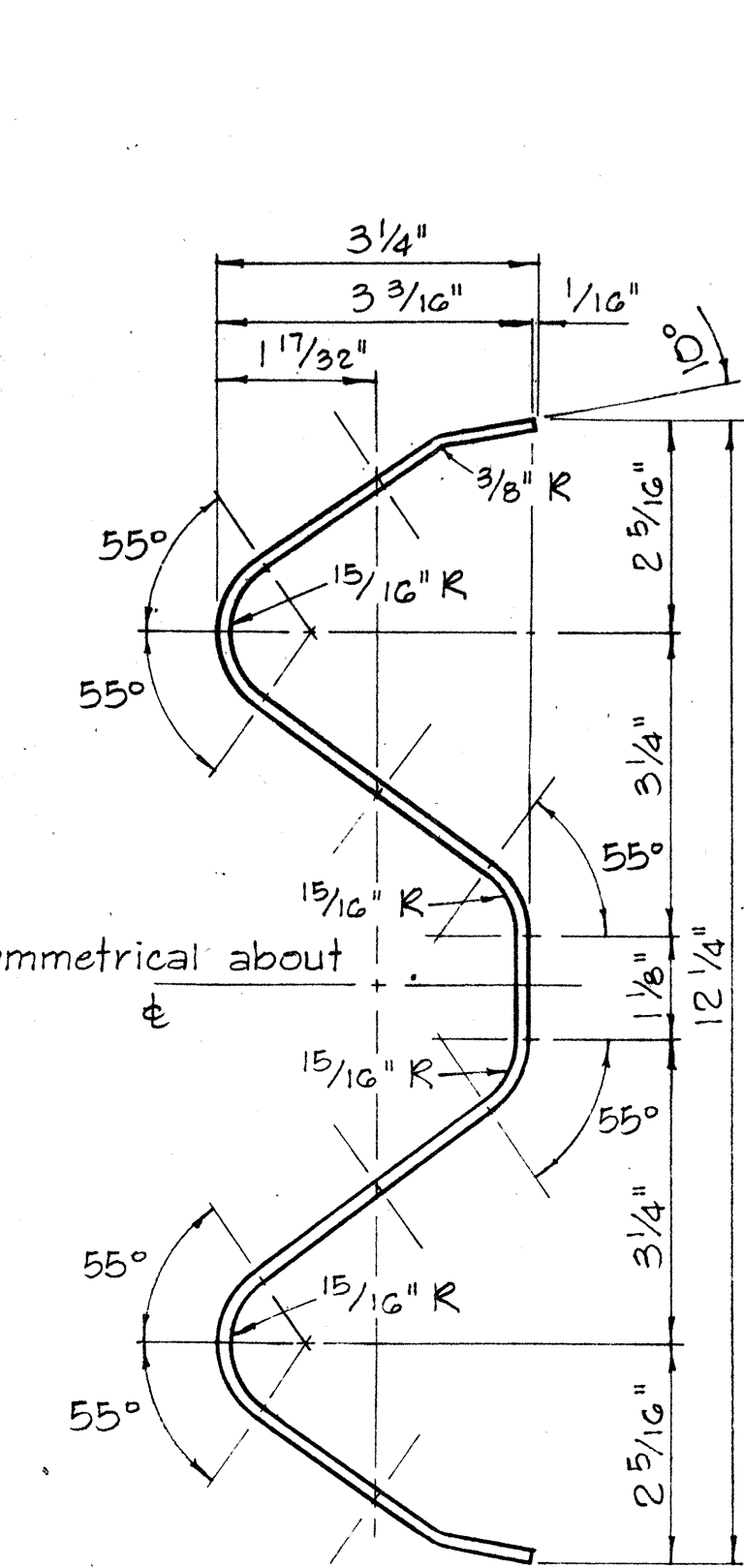
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted

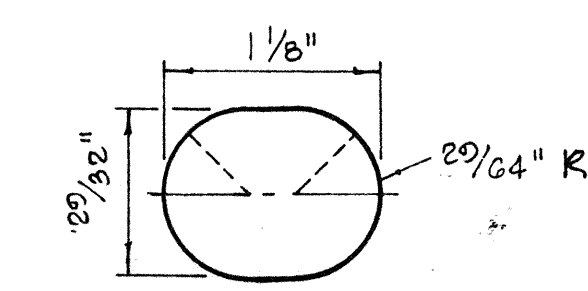
August, 1968

SHEET No. 18 OF 25 SHEETS DT 501



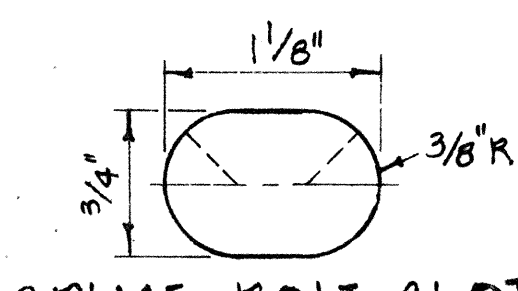
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

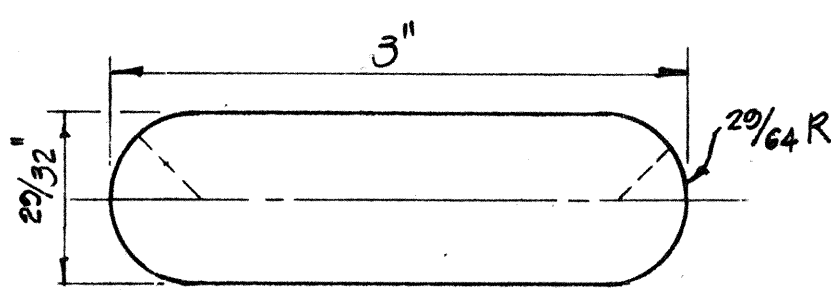


SPUCE BOLT SLOT

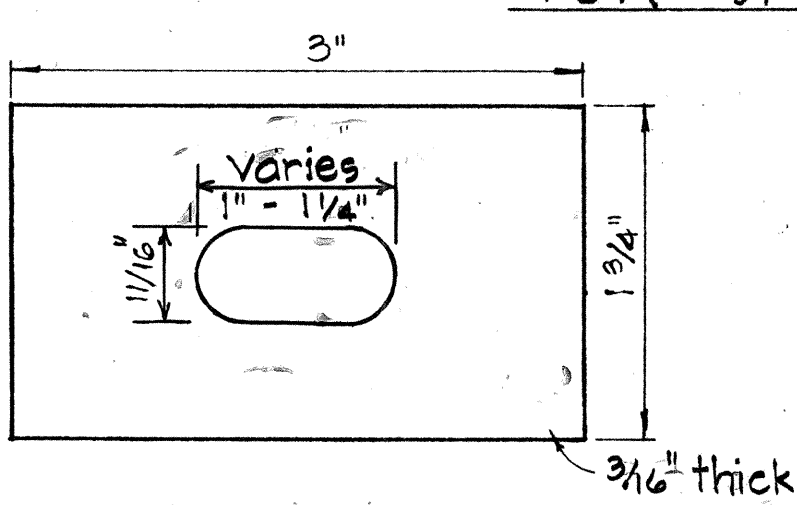
Scale: Full Size



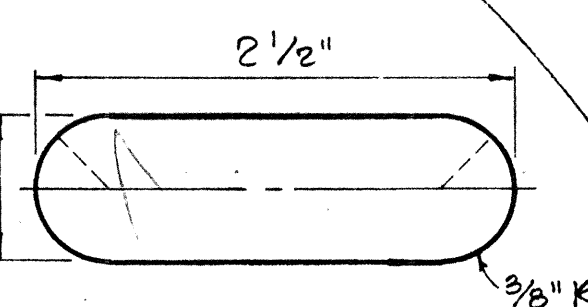
SPUCE BOLT SLOT FOR ALL ENDS



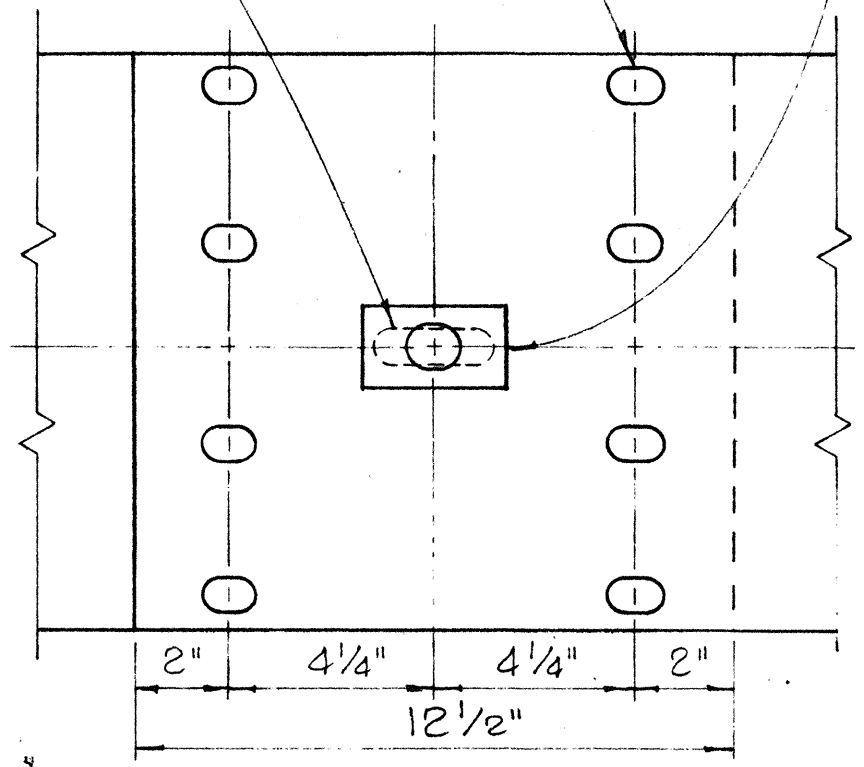
SPUCE BOLT SLOT FOR SPECIAL END SHOE



RAIL WASHER



POST BOLT SLOT



RAIL SPUCE

Scale: 3" = 1'-0"

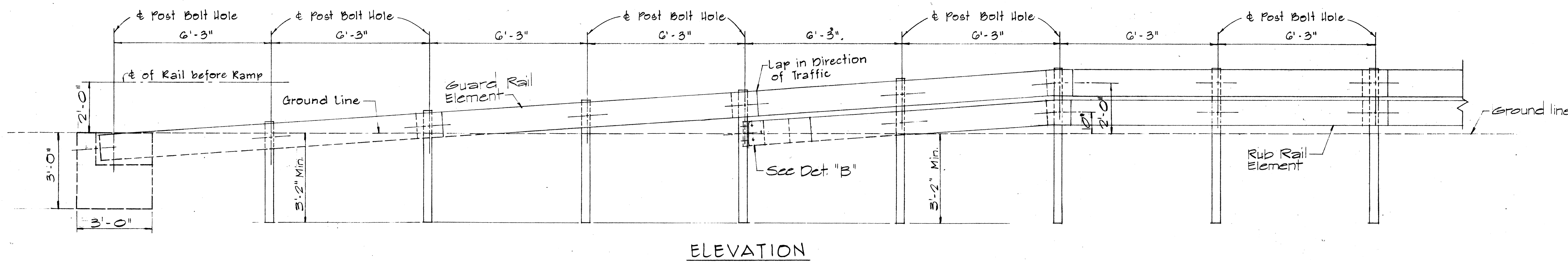
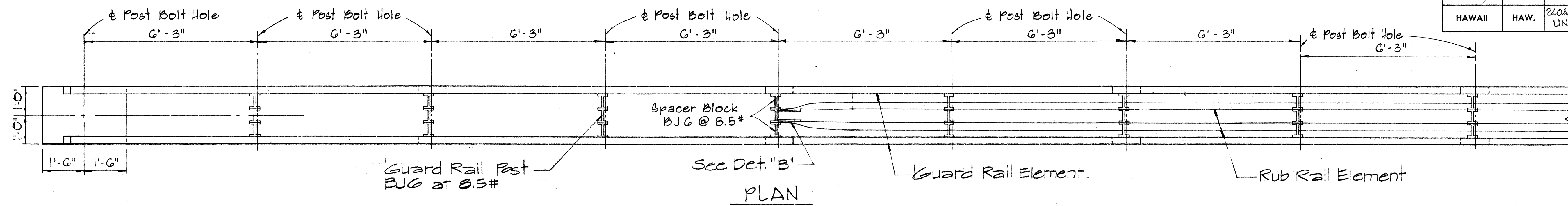
NOTES:

- H.S. Bolts shall conform to the requirements of ASTM A 325.
- Special End Shoe shall be fabricated from 10 Gage steel conforming to the requirements of AASHTO 180.

MEDIAN END DIMENSIONS		
TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	29 3/4"	14 3/8"
Double Metal Guard Rail on Concrete Post with Metal Blocks (BJG)	26 1/2"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJG)	24 3/8"	12 3/16"

NO.	REVISION	APPROVED BY	DATE
1	Revised Hole Size for Rectangular Rail Washer	H.T.	8/10/77

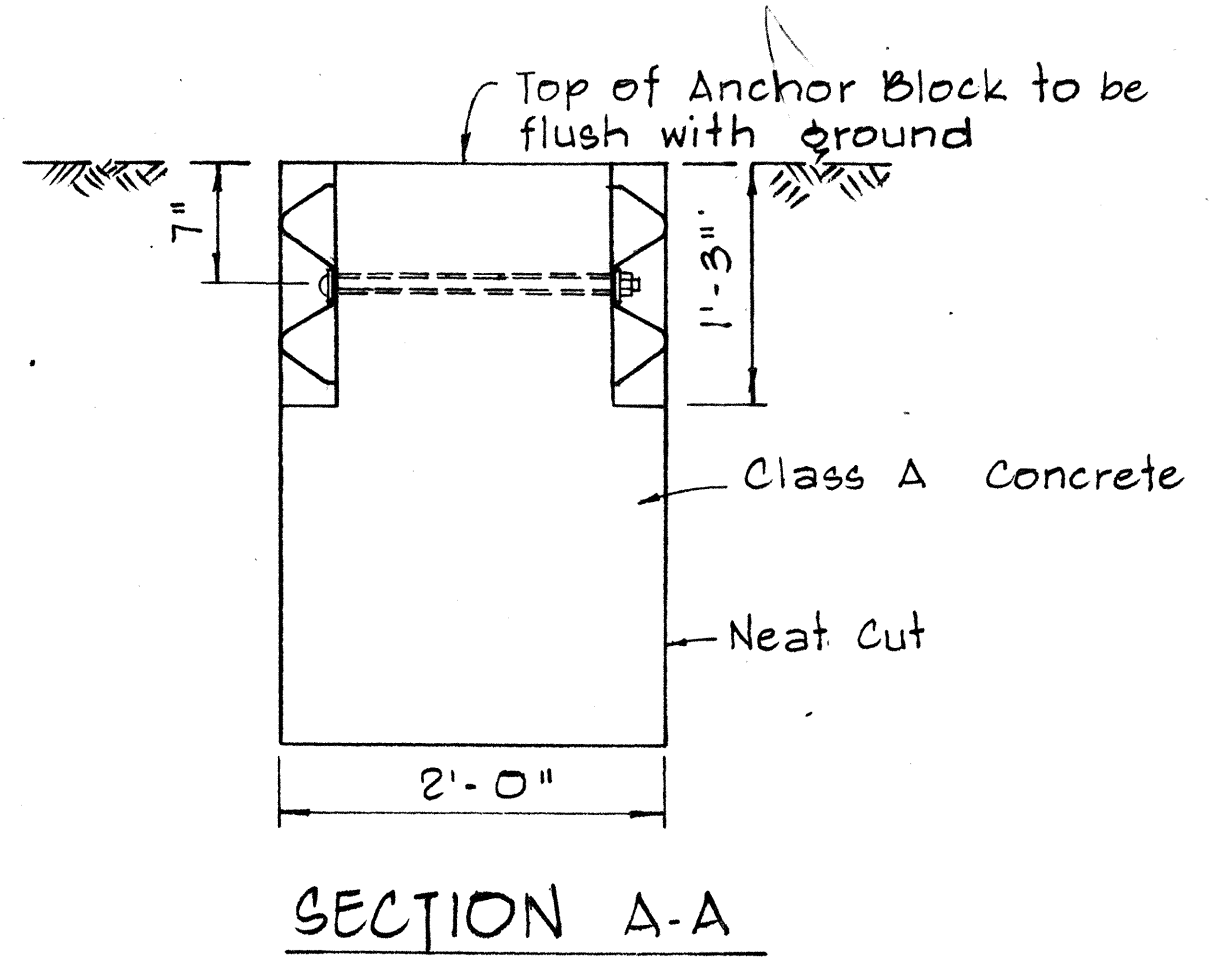
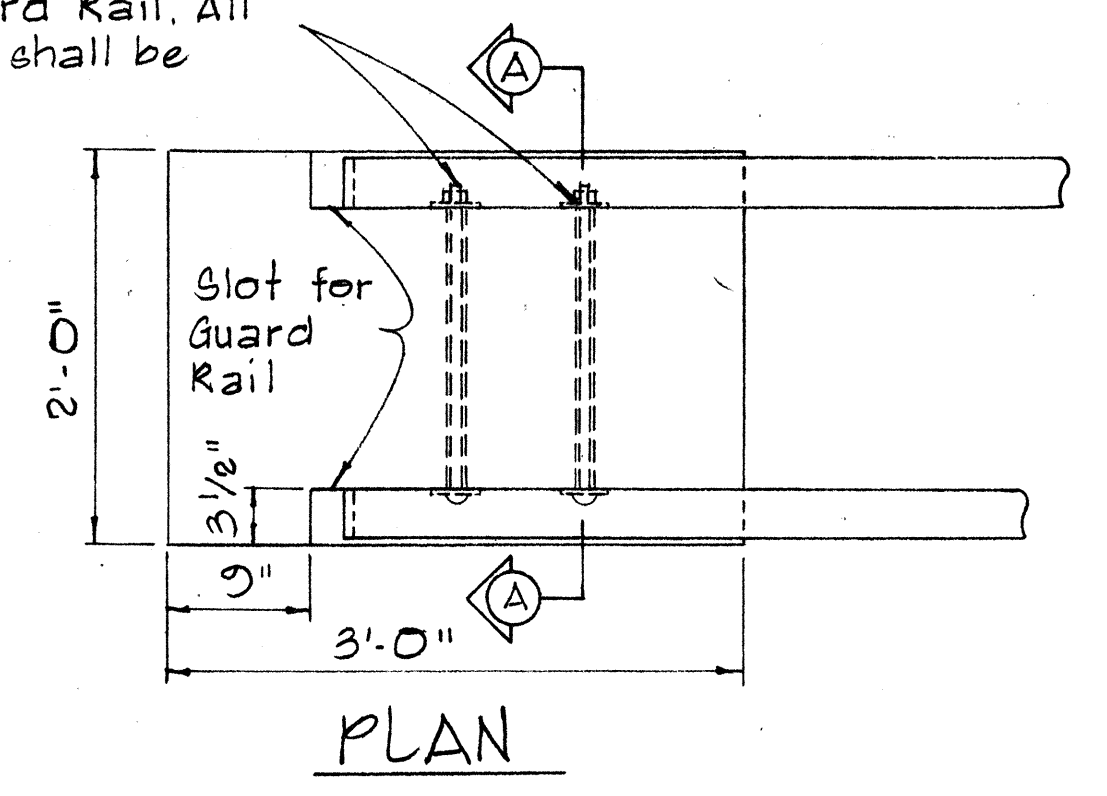
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	57	63



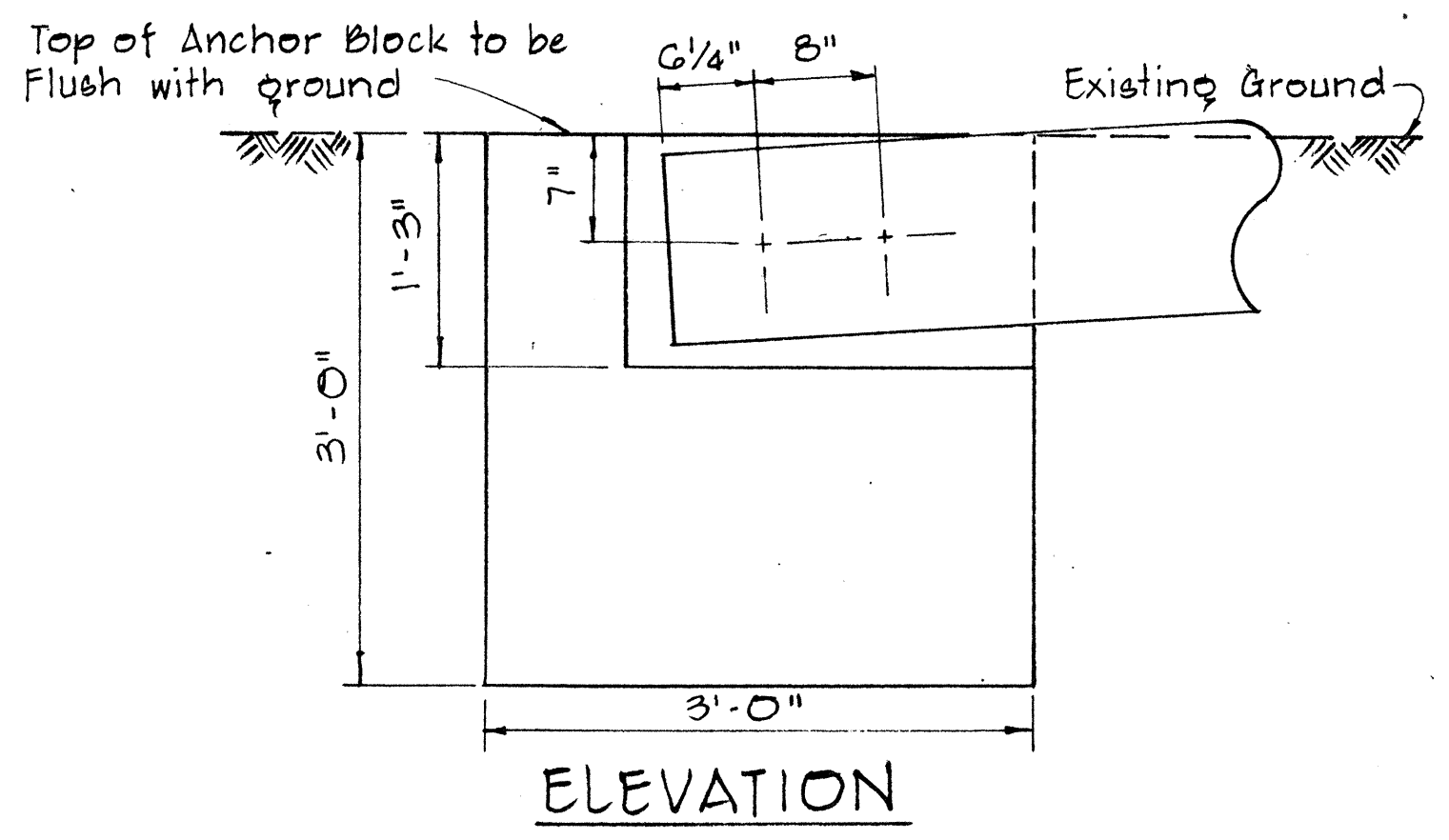
STRAIGHT APPROACH - RAMP END ANCHORAGE (MEDIAN)

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

5/8" Bolts with 3/4" G.I. Pipe Sleeve in each hole. Incidental to Metal Guard Rail. All Metal Pieces shall be Galvanized.

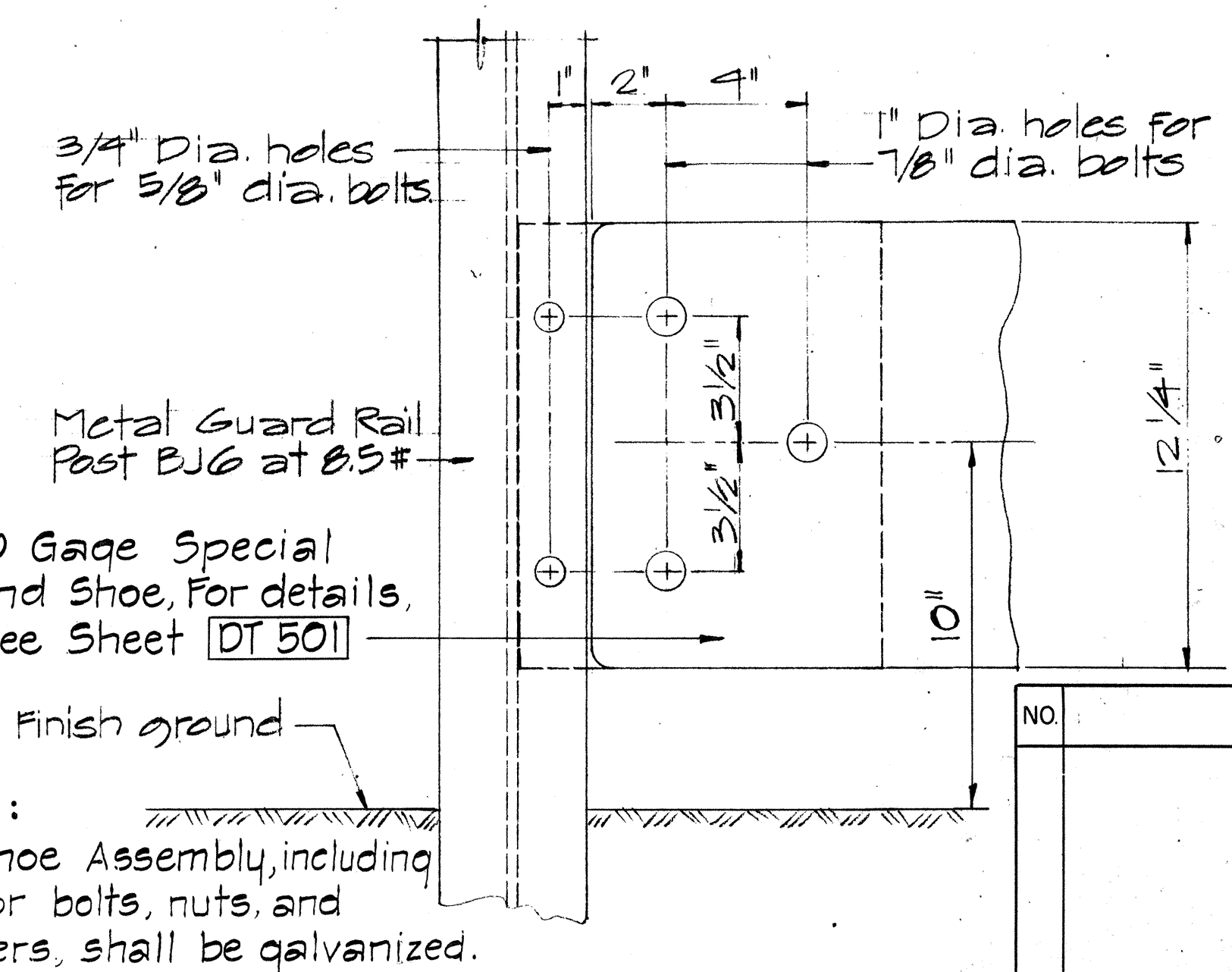


NOTE: Concrete, Excavation, and Miscellaneous Appurtenances necessary to anchor the Guard Rail Ends, shall be incidental to the Metal Guard Rail.

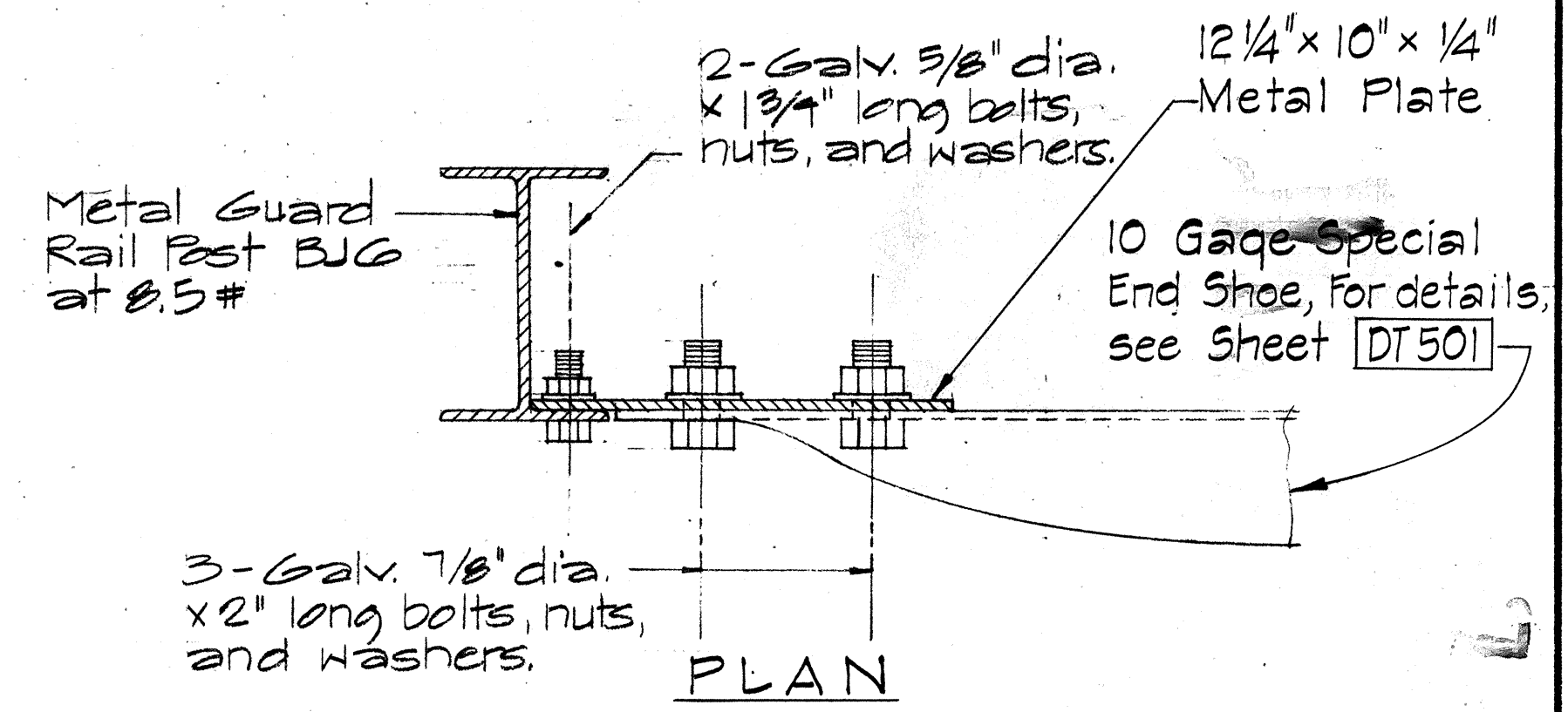


CONCRETE ANCHOR BLOCK FOR RAMP END

Scale: 1" = 1'-0"



NOTE: All Shoe Assembly, including anchor bolts, nuts, and washers, shall be galvanized.



APPROVAL RECOMMENDED:
TRAFFIC ENGINEER

APPROVED:
ASSISTANT CHIEF, ENGINEERING

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAIL

GUARD RAIL

RAMP END ANCHORAGE

Scale: as Noted

August, 1968

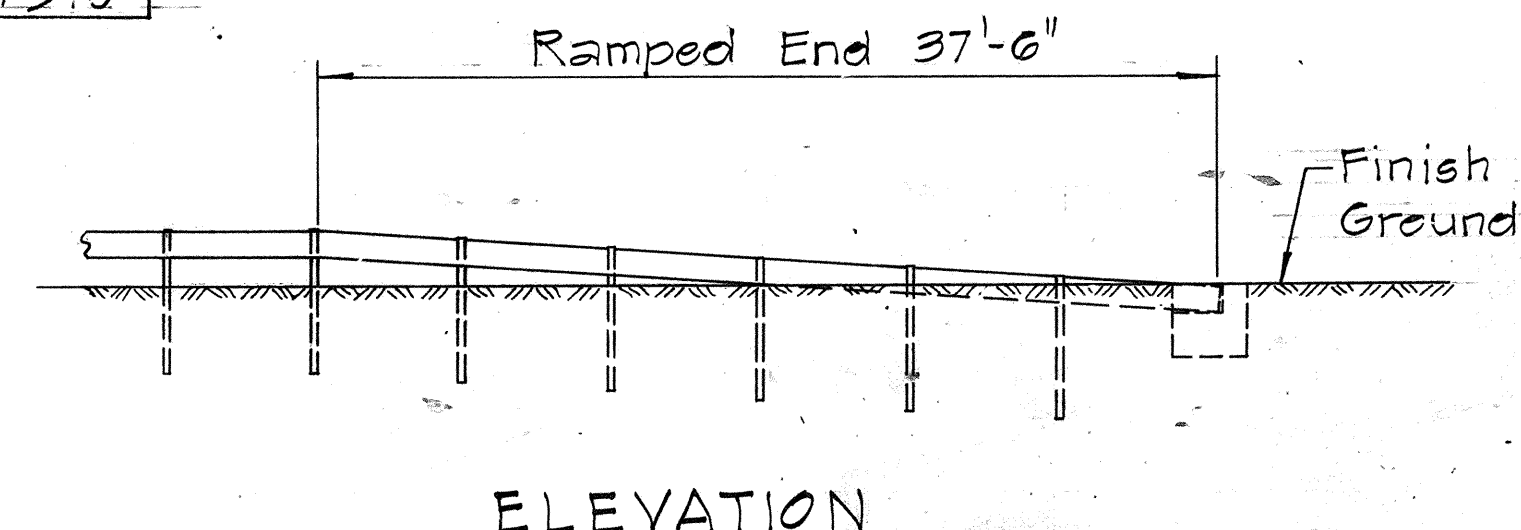
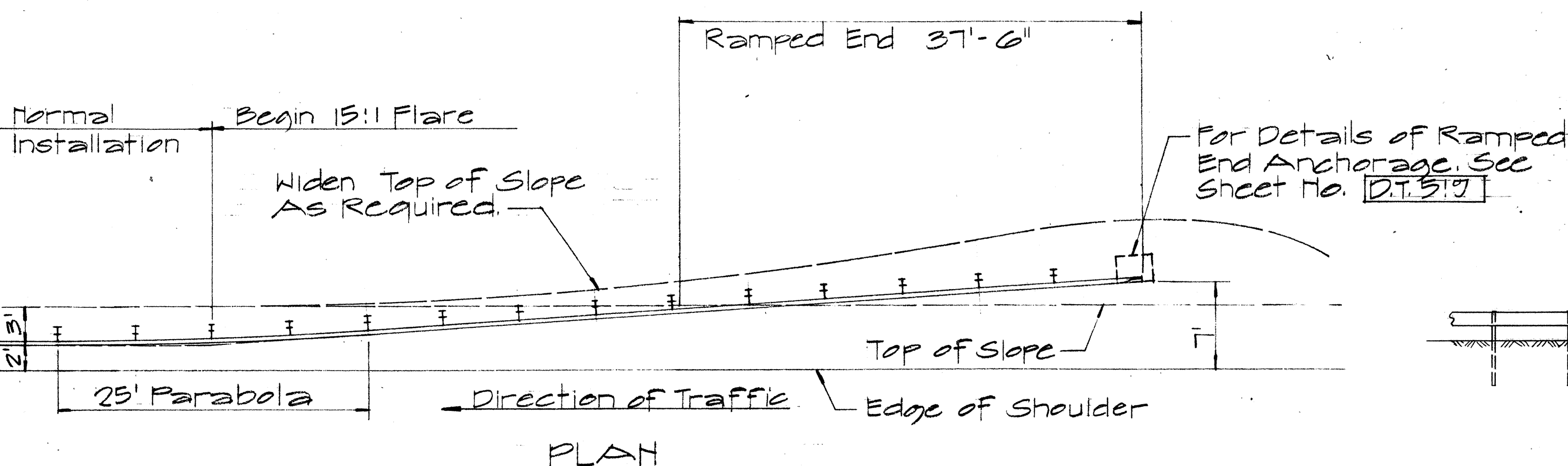
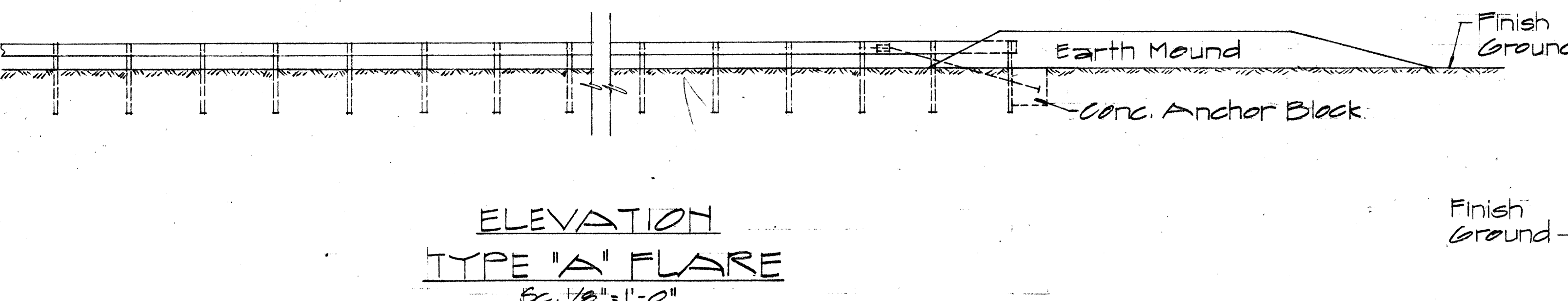
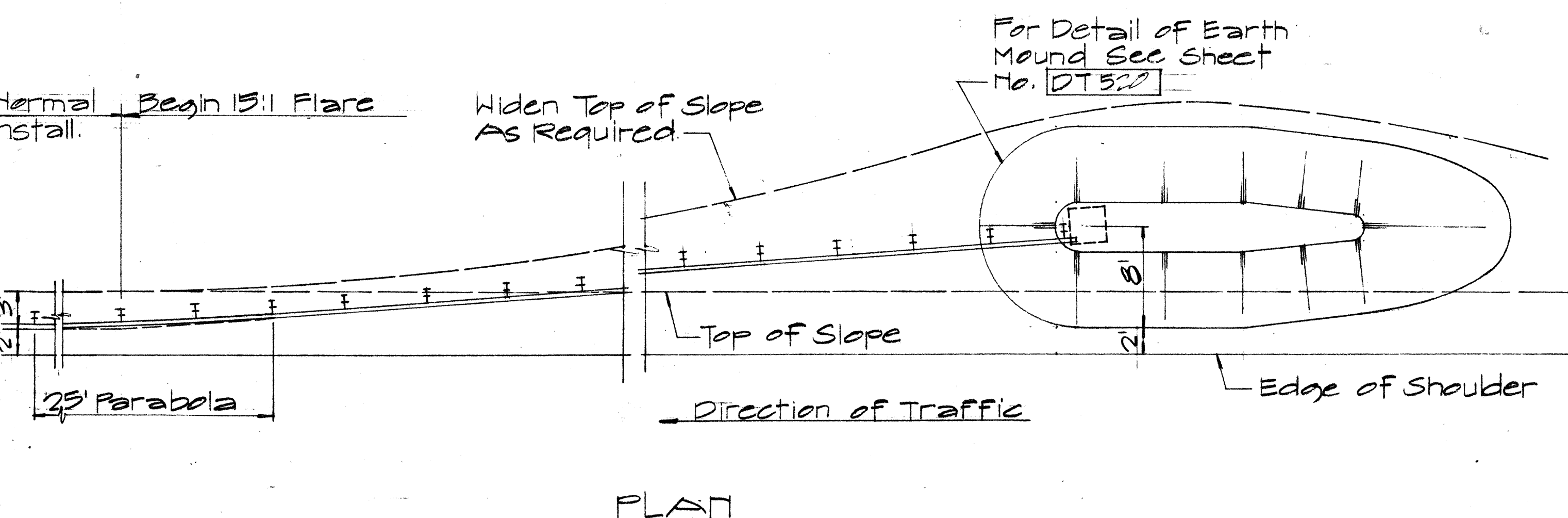
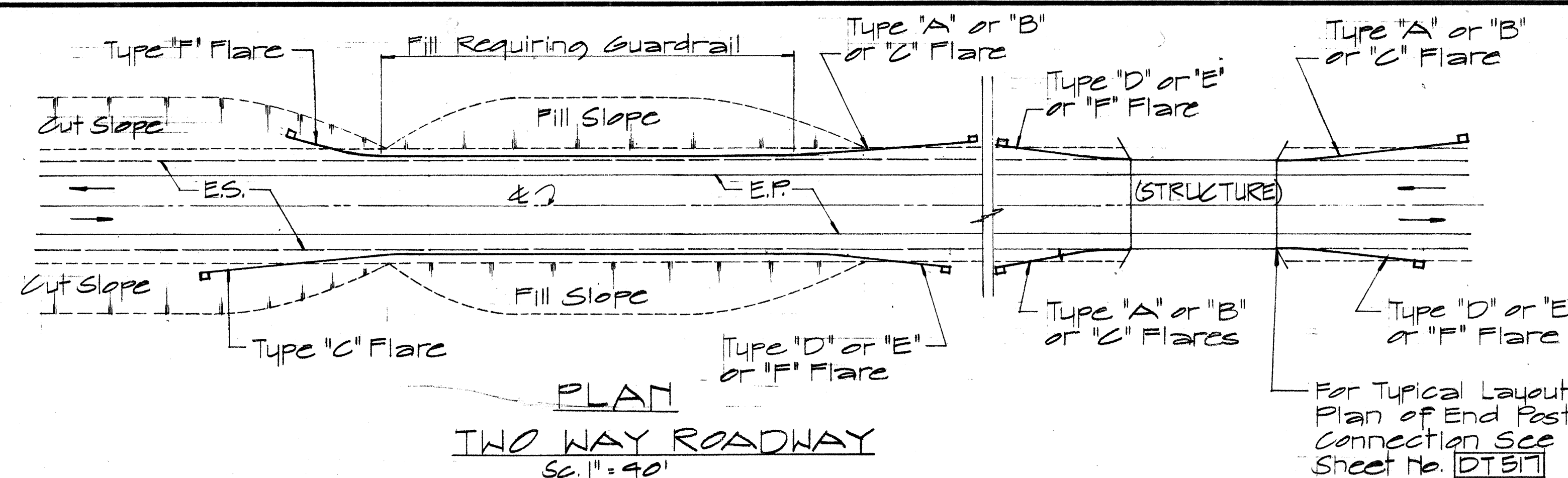
SHEET No. 17 OF 25 SHEETS

DT 502

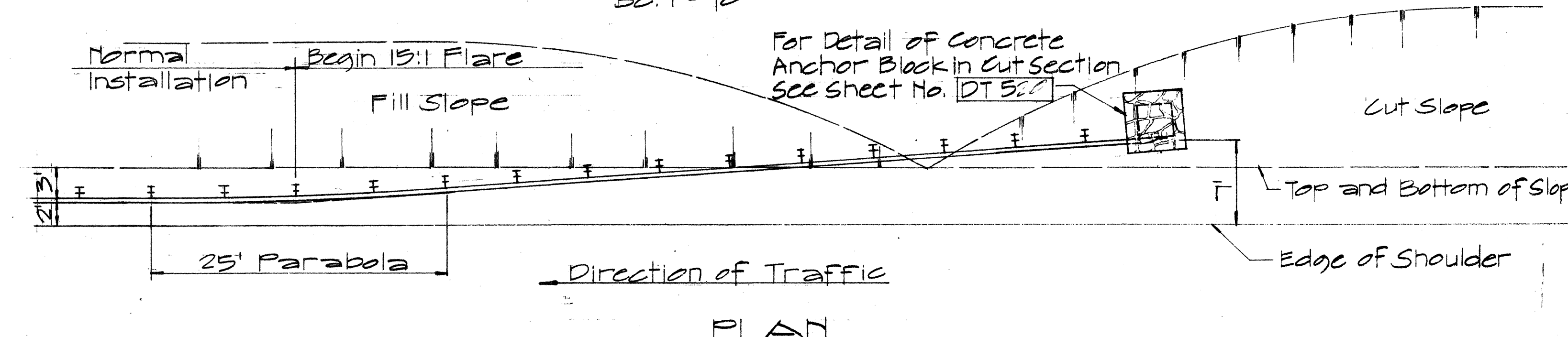
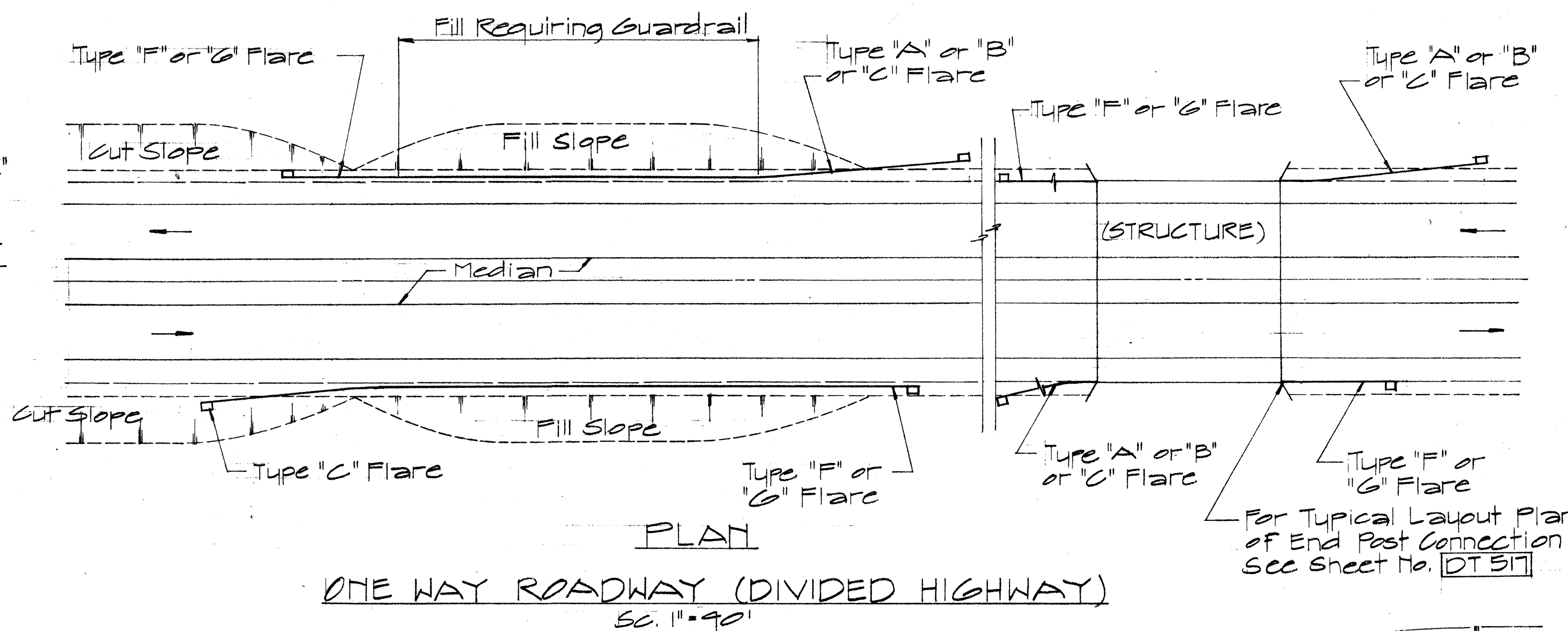
ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	58	63

NOTE:
Metal guard rail connection to structures requires End Post Connection. See structure plans.



TYPE "B" FLARE
Sc. 1/8" = 1'-0"



ELEVATION
TYPE "C" FLARE
Sc. 1/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
Euske Tanaka 12/23/62
TRAFFIC ENGINEER DATE

APPROVED:
[Signature] 12-20-69
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

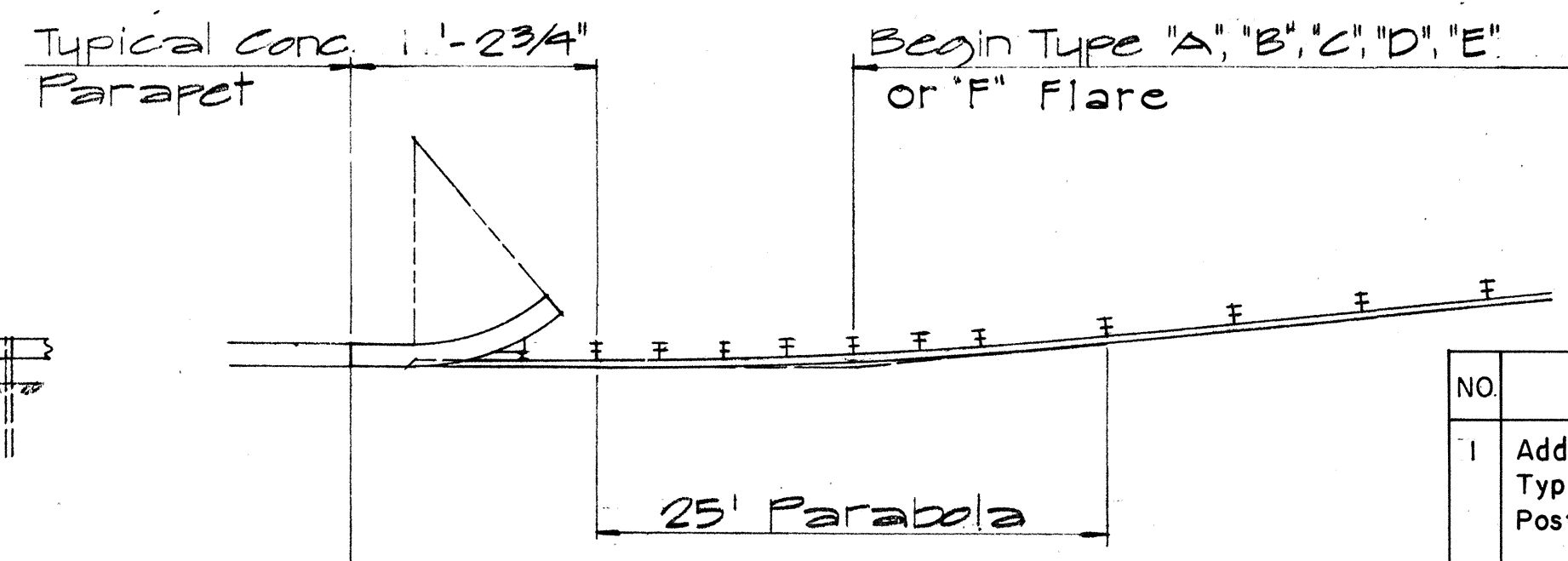
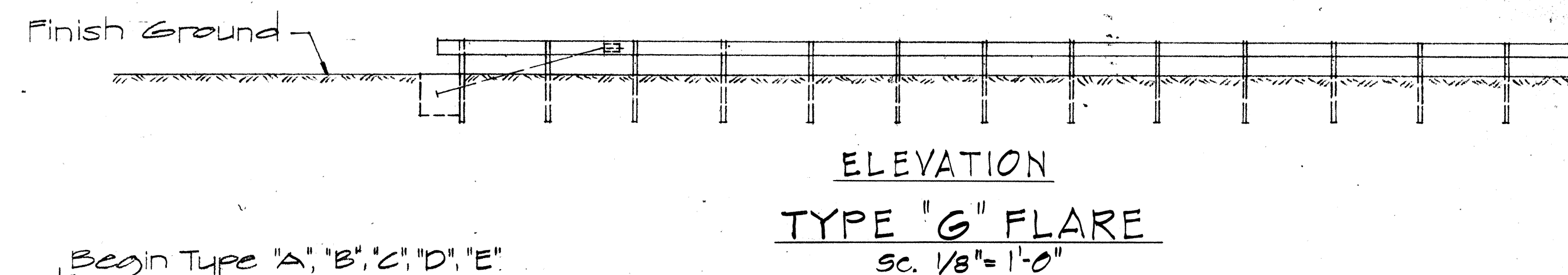
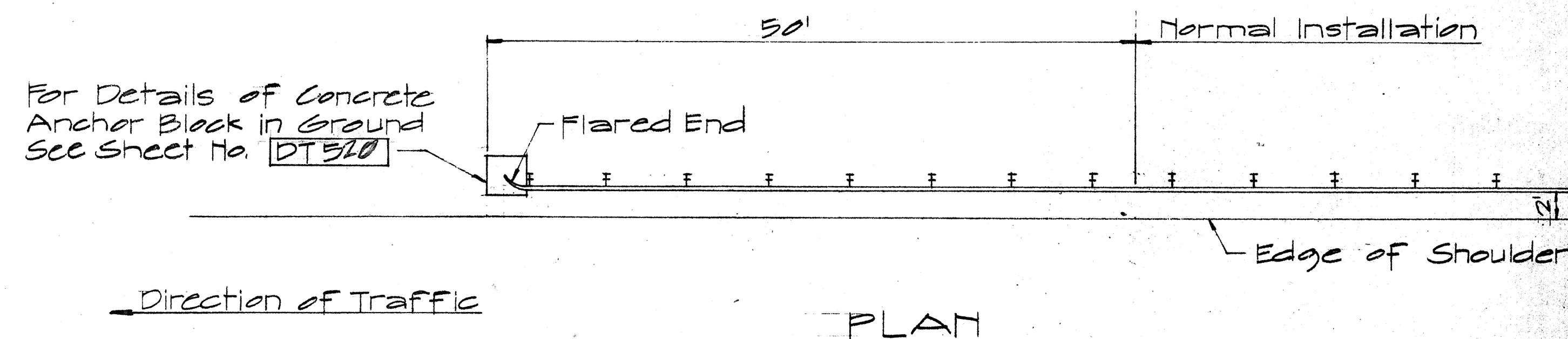
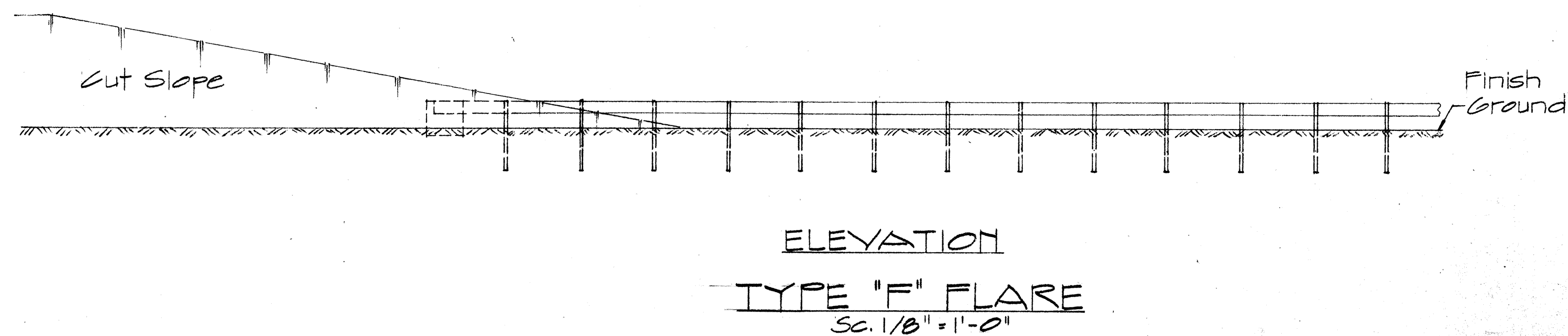
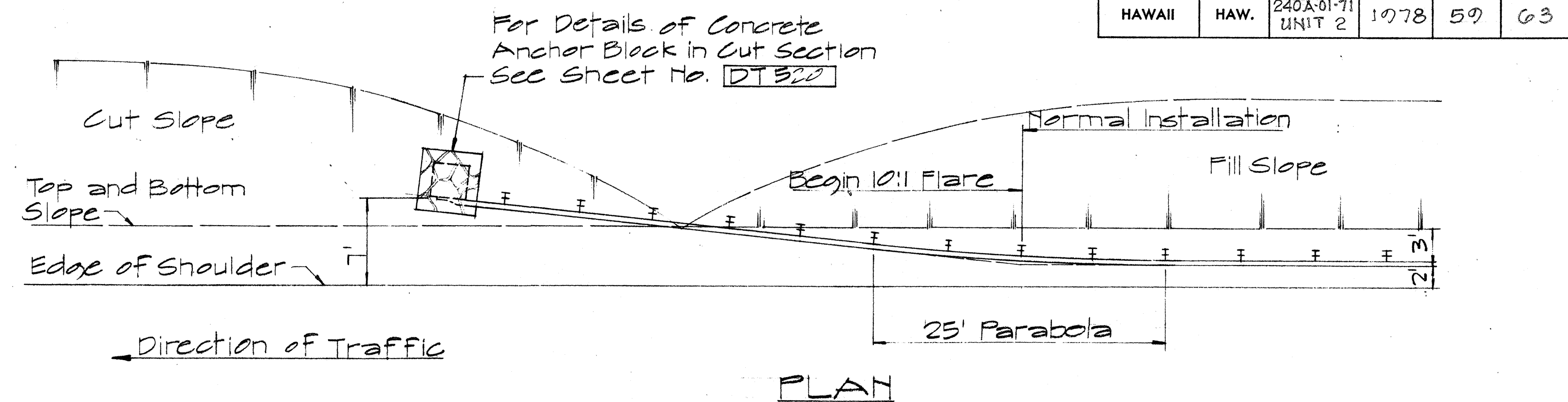
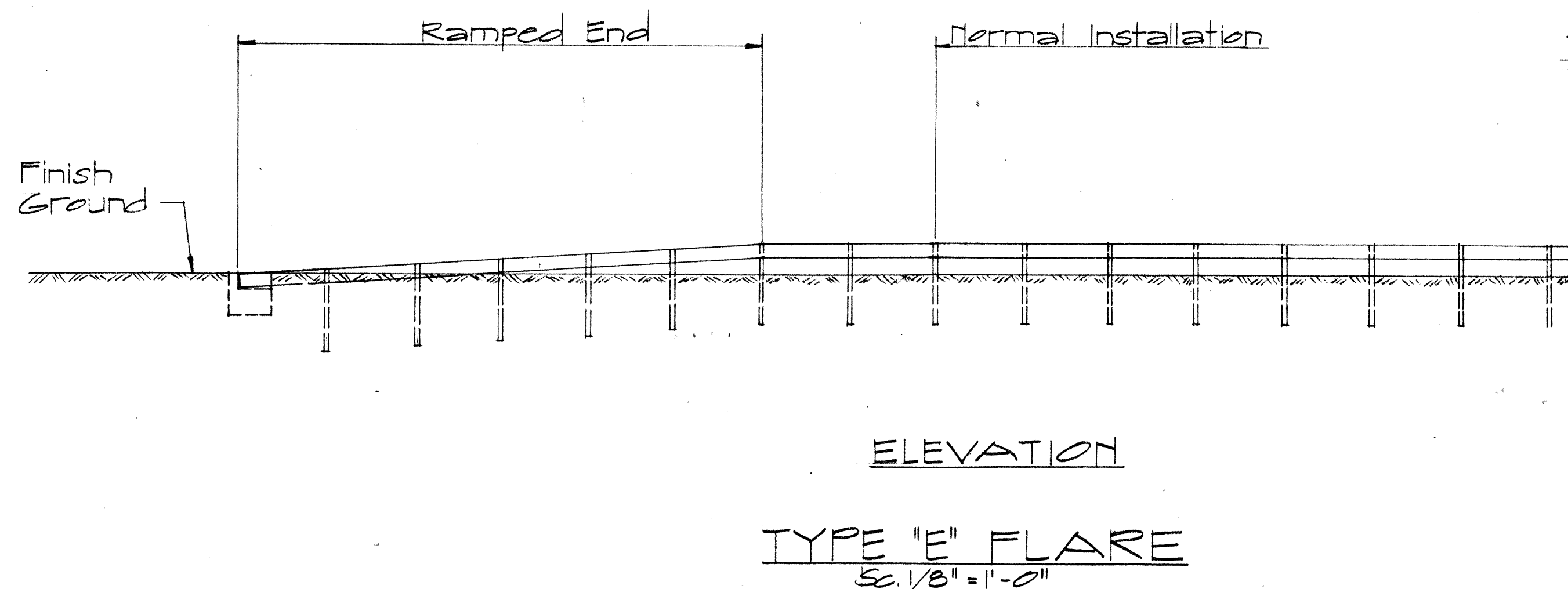
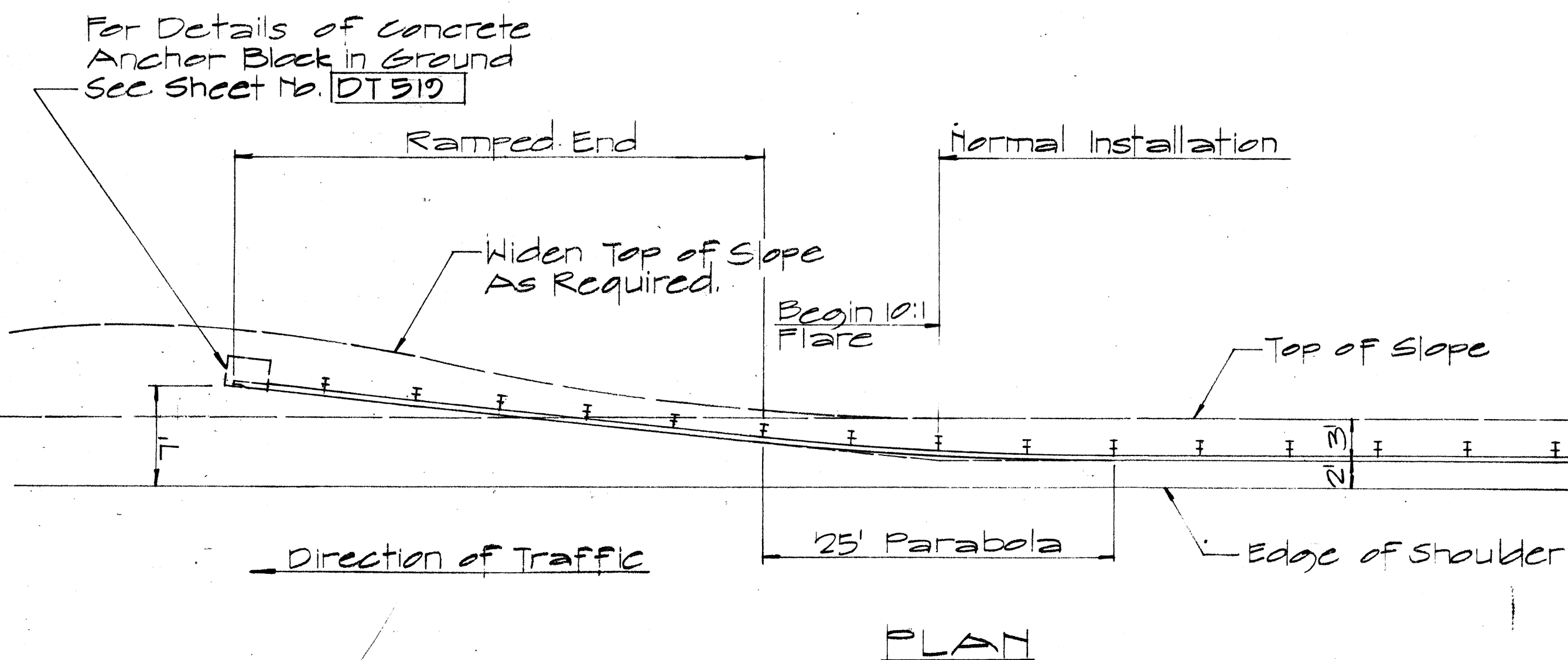
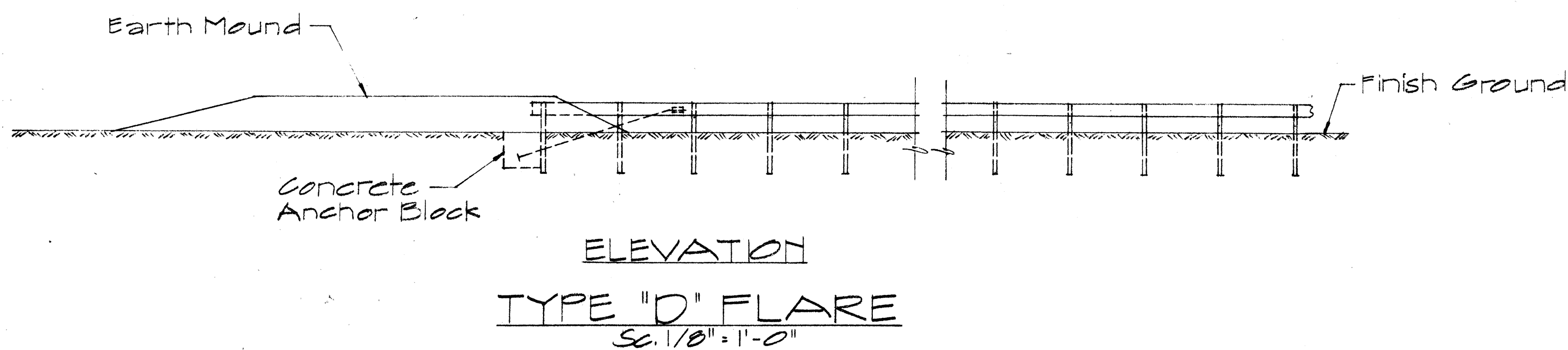
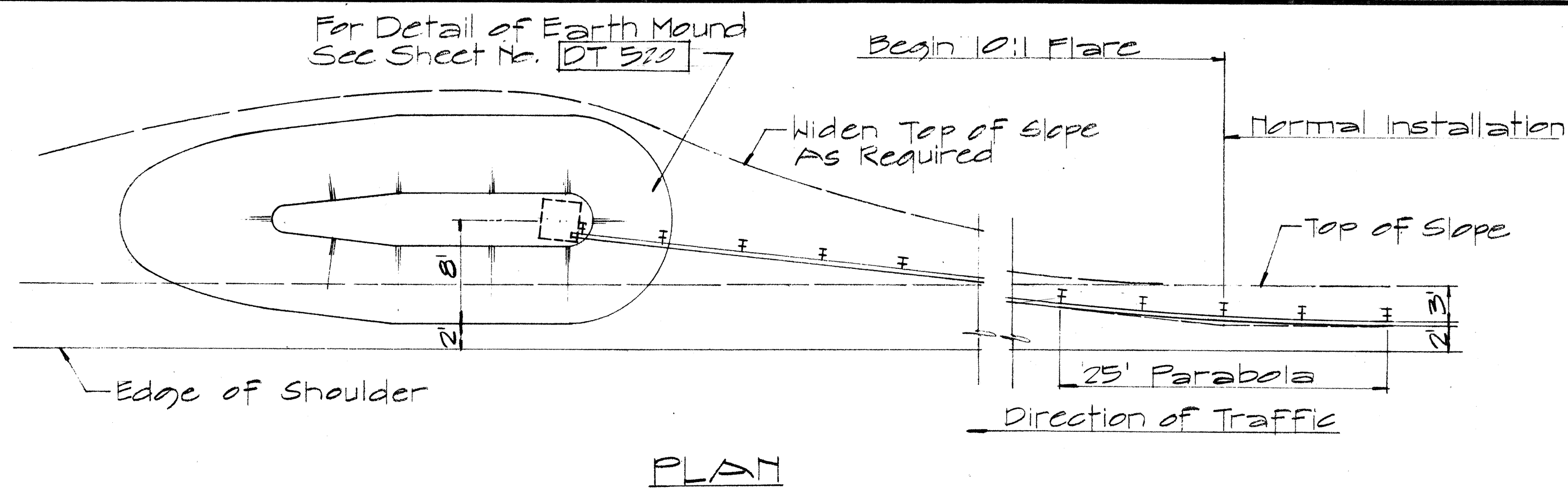
**STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY**

Sc. As Noted April 1969

SHEET No. 20 OF 25 SHEETS [DT 516]

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	59	63



TYPICAL LAYOUT PLAN OF END POST CONNECTION

Sc. 1/8" = 1'-0"

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

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

NO.	REVISION	APPROVED BY	DATE
1	Additional Posts Added to Typical Layout Plan Of End Post Connection	H.C.	4-12-72

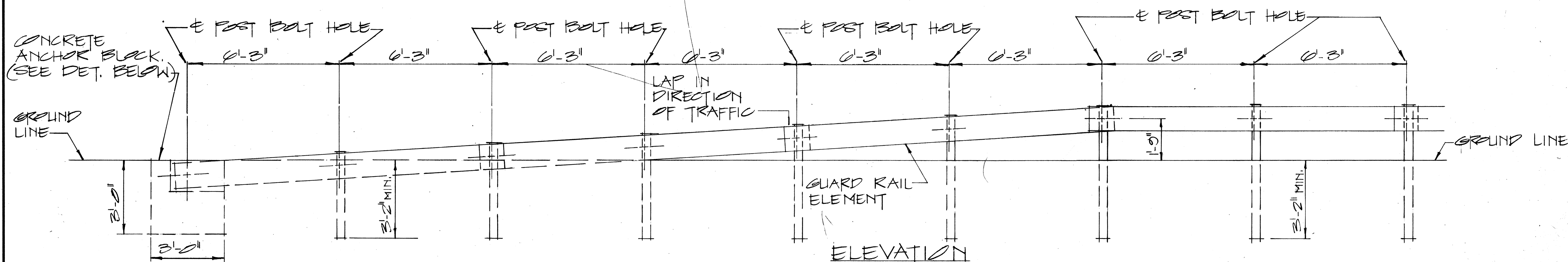
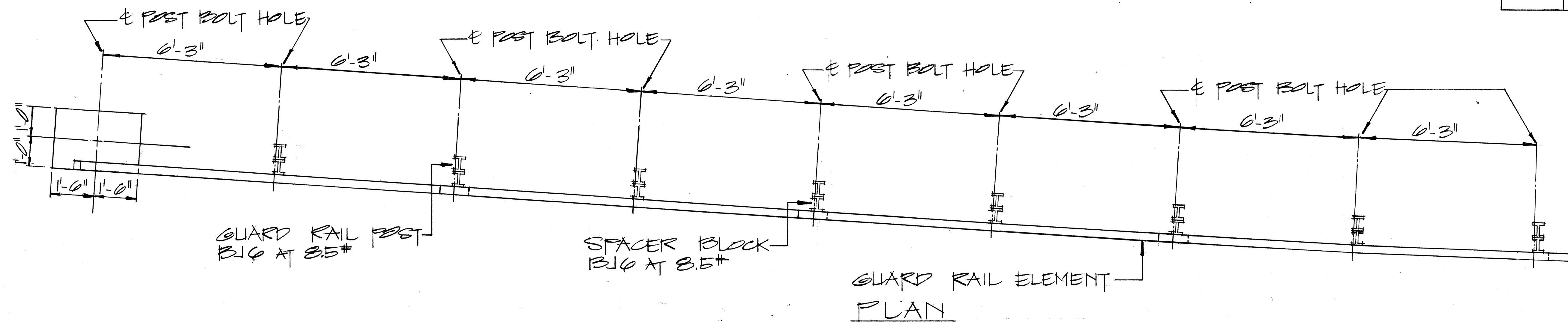
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
TRAILING END
FLARE - ONE & TWO
WAY ROADWAY

Scale: As Noted April 1969

SHEET No. 21 OF 25 SHEETS DT 517

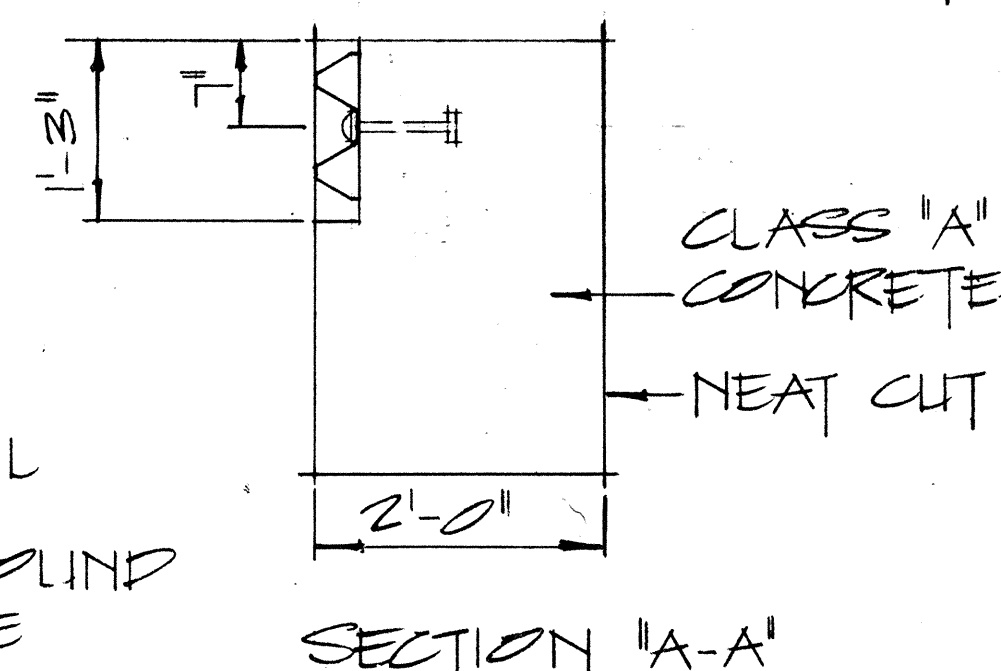
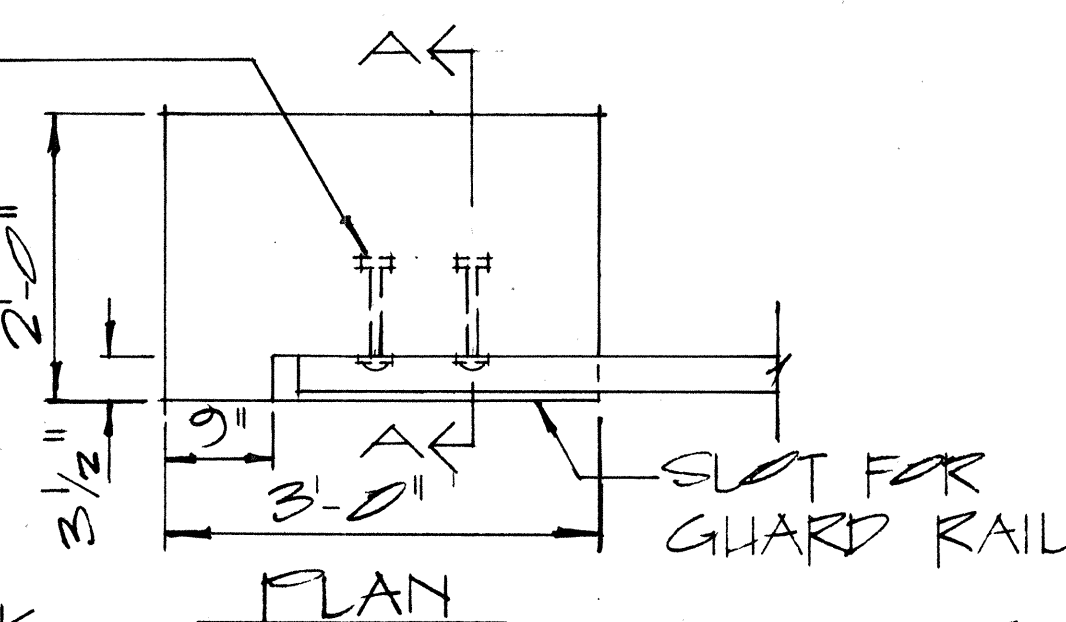
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	60	63



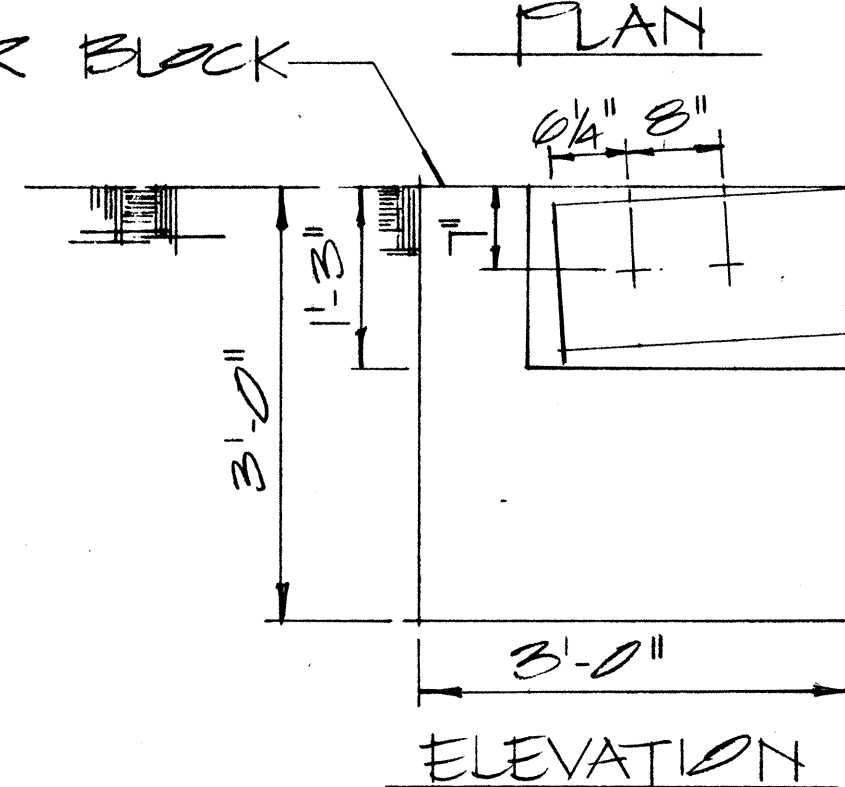
RAMP END ANCHORAGE

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

2-5/8" x 7/4" LONG BOLTS W NUTS & WASHERS INCIDENTAL TO METAL GUARD RAIL. ALL METAL PIECES SHALL BE GALVANIZED.



TOP OF ANCHOR BLOCK TO BE FLUSH 1/4" GROUND.



NOTE: CONCRETE, EXCAVATION AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS, SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.

CONCRETE ANCHOR BLOCK

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

APPROVAL RECOMMENDED:
Enoch Tanaka
TRAFFIC ENGINEER
12/23/69
DATE

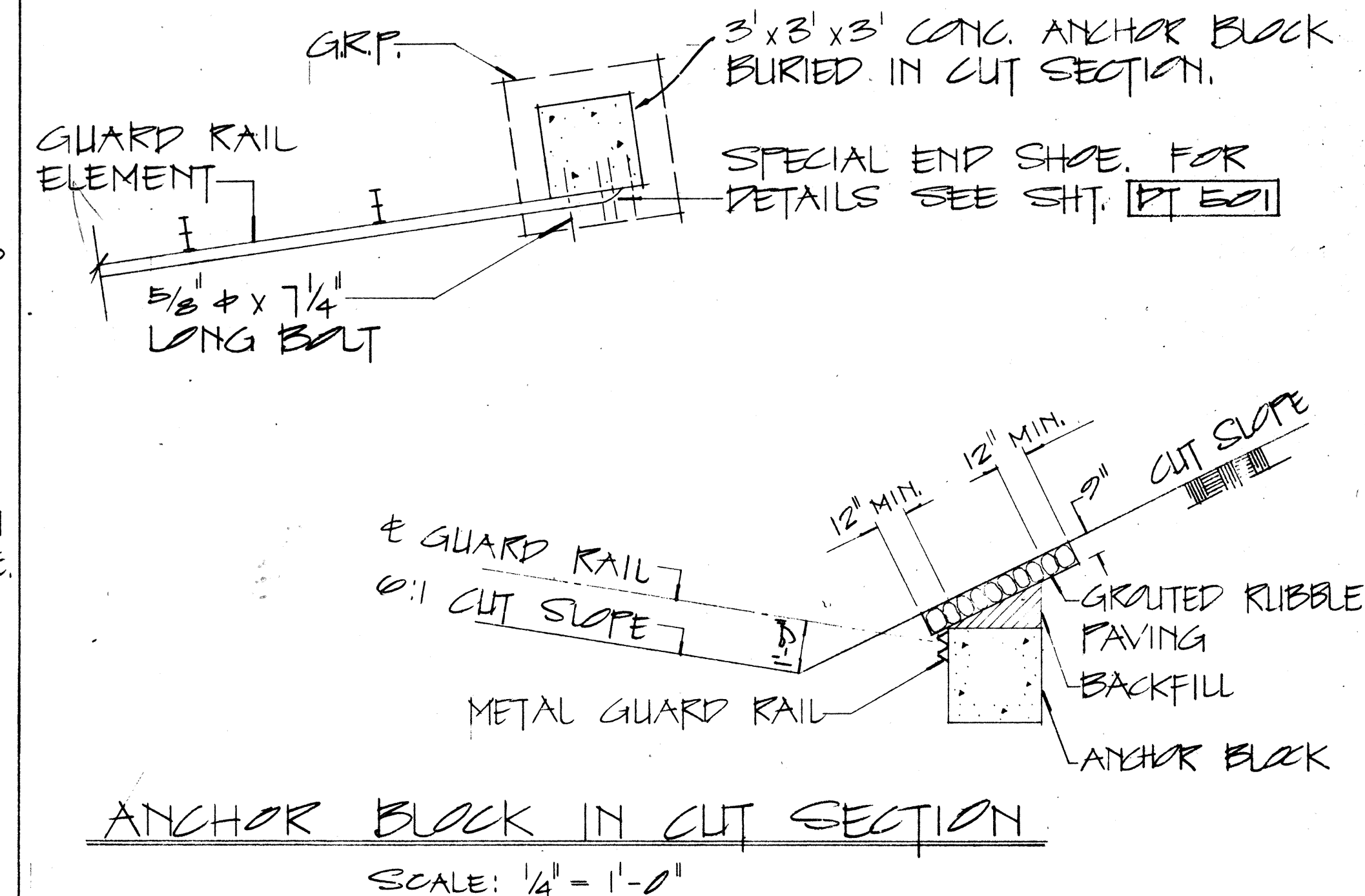
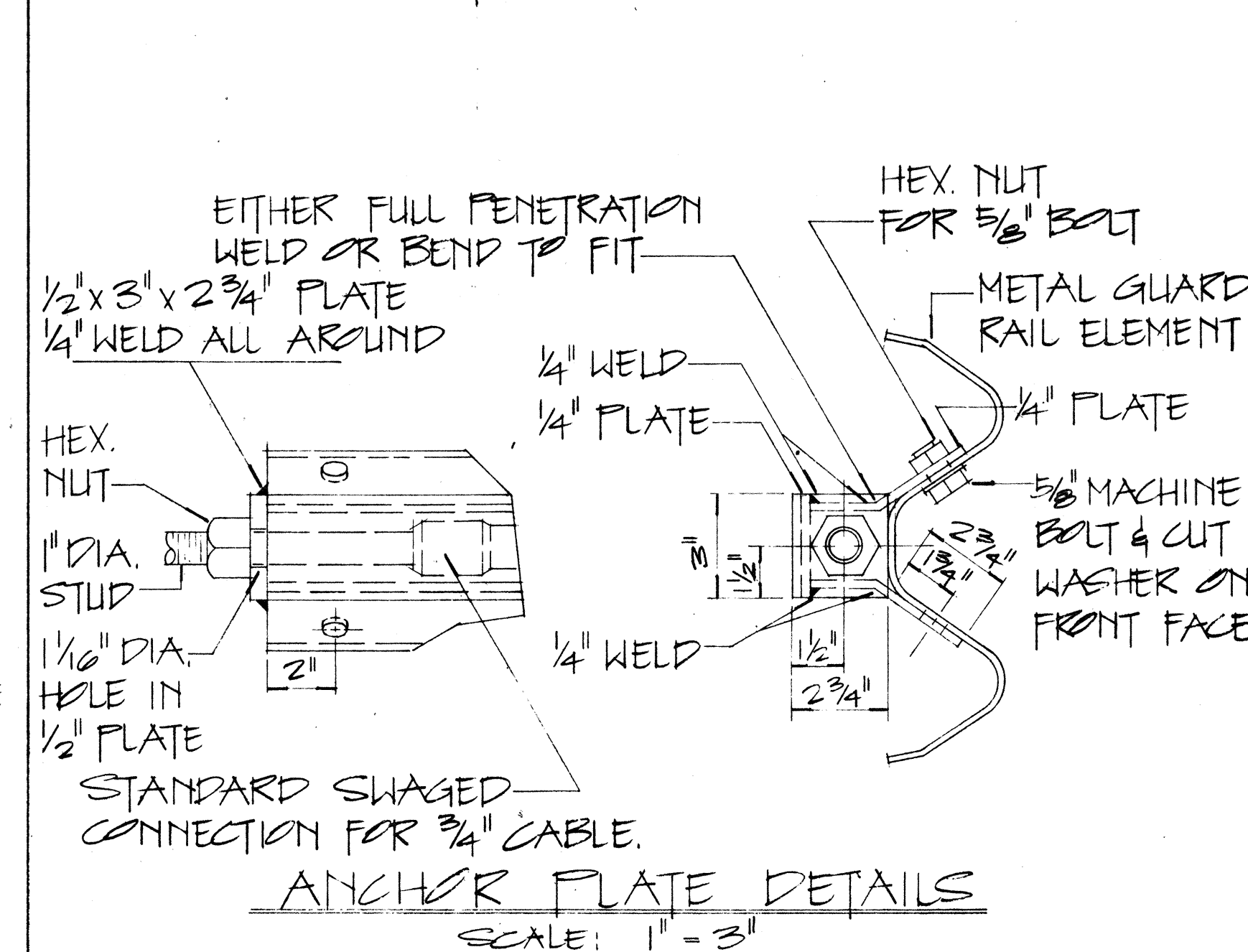
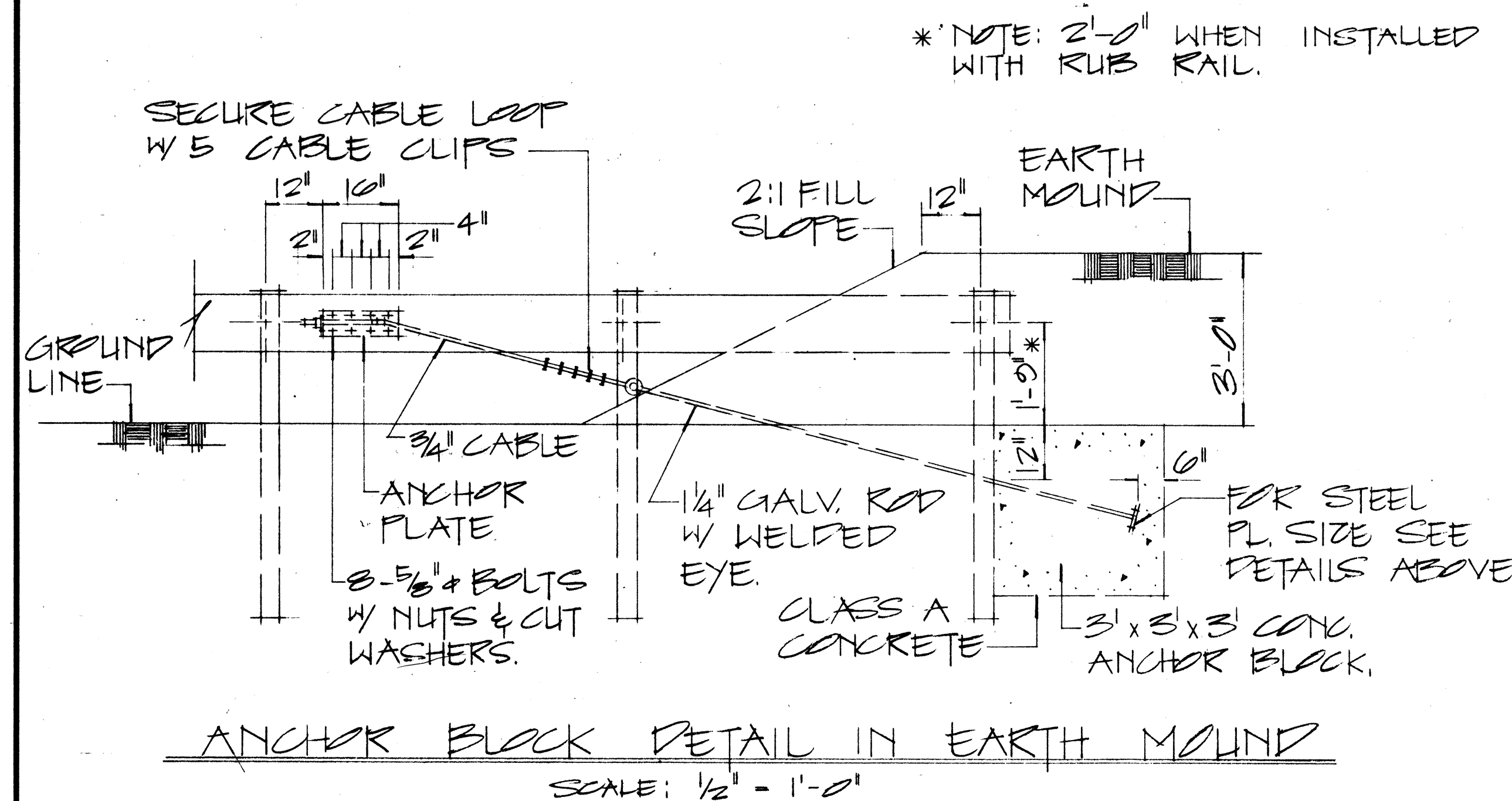
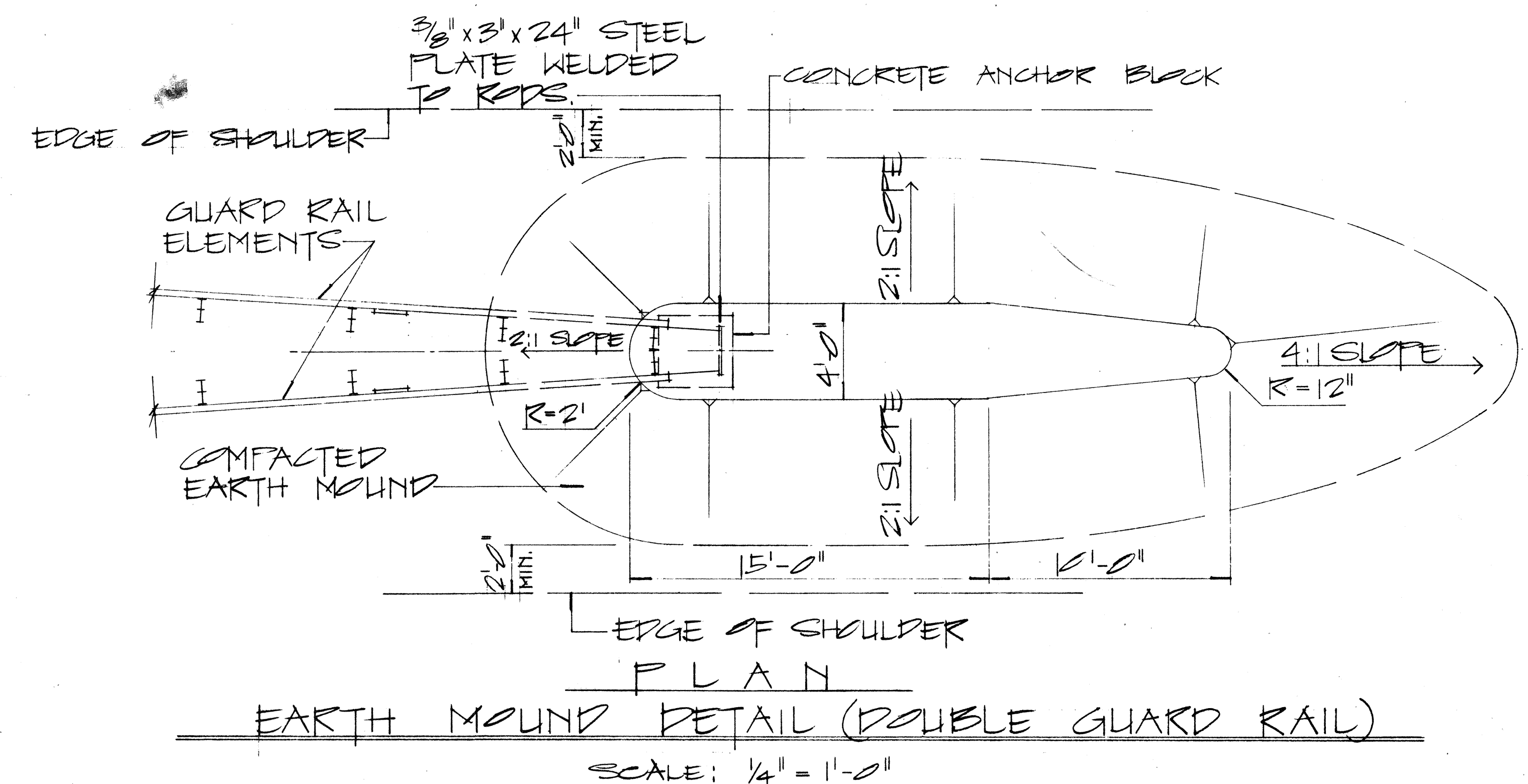
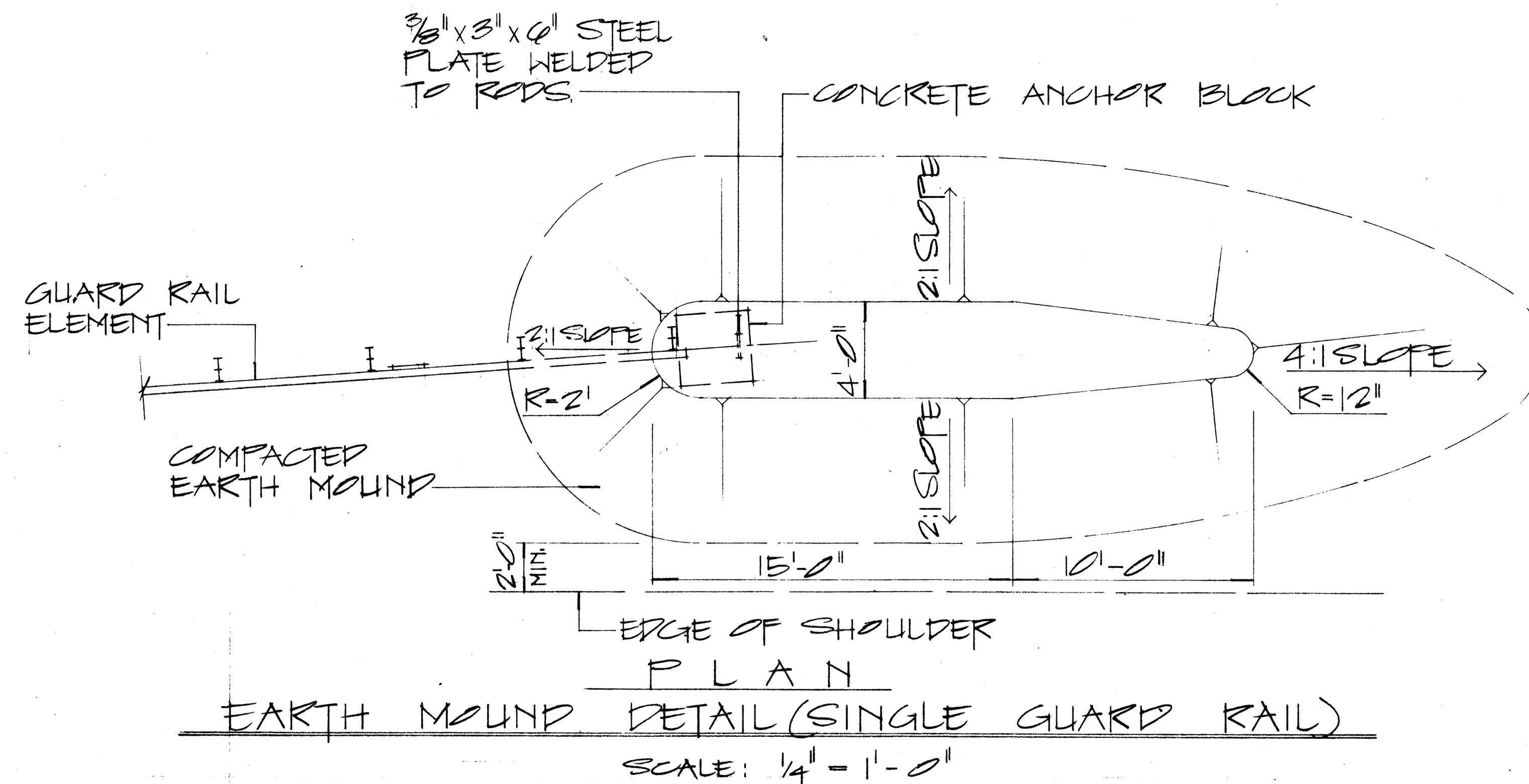
APPROVED:
John J. Del...
ASSISTANT CHIEF, ENGINEERING
12-20-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION	
STANDARD DETAILS	
GUARD RAIL, TYPE 3 RAMP END ANCHORAGE	
SCALE: AS SHOWN	

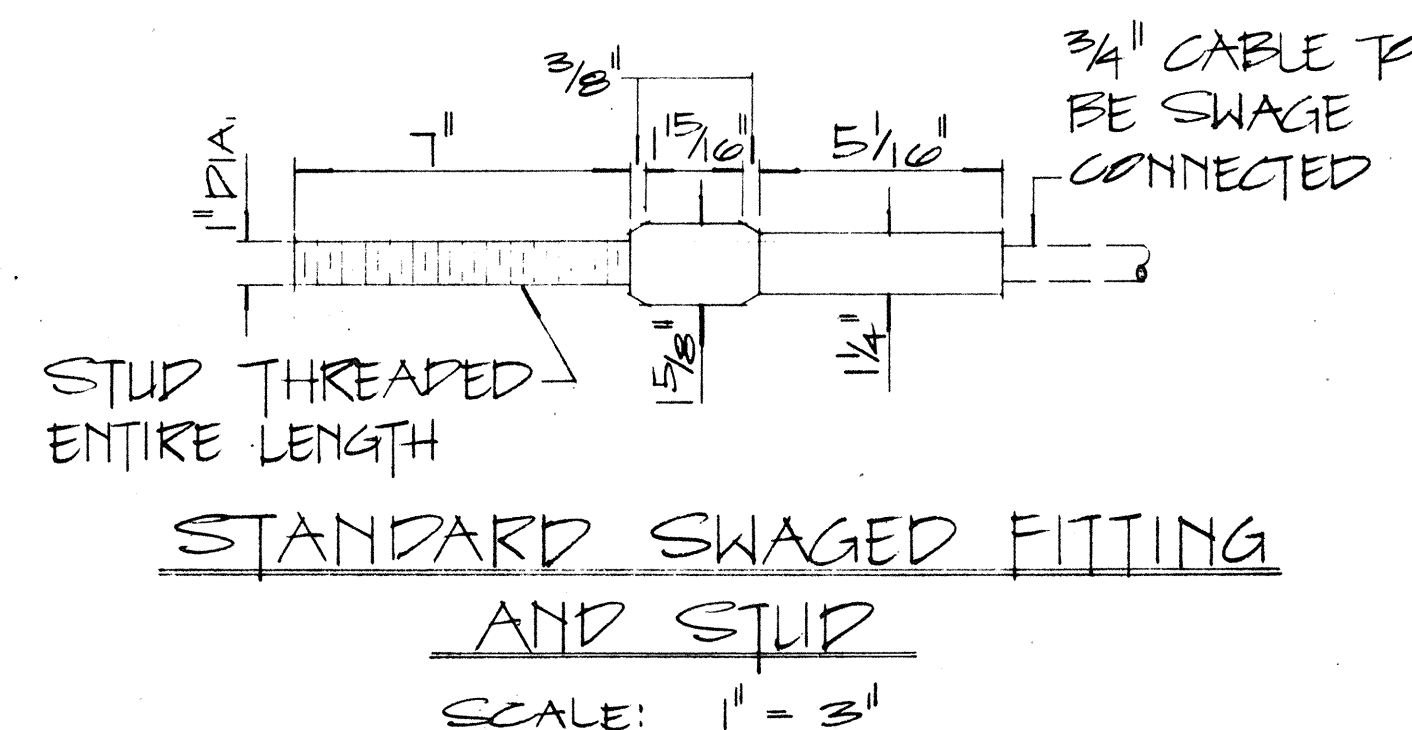
SHEET No. 22 OF 25 SHEETS PT512

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	01	03



NOTE:

1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND FAST BURIED IN GROUND SHALL BE COVERED WITH A MIN. 20-MIL THICKNESS OF COAL TAR ENAMEL, CONFORMING TO AWWA STANDARD: C 203
2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.



APPROVAL RECOMMENDED:		12/29/63	
Euschi Tanaka		DATE	
TRAFFIC ENGINEER			
APPROVED:		12-30-69	
Assistant Chief, Engineering		DATE	
NO.	REVISION	APPROVED BY	DATE

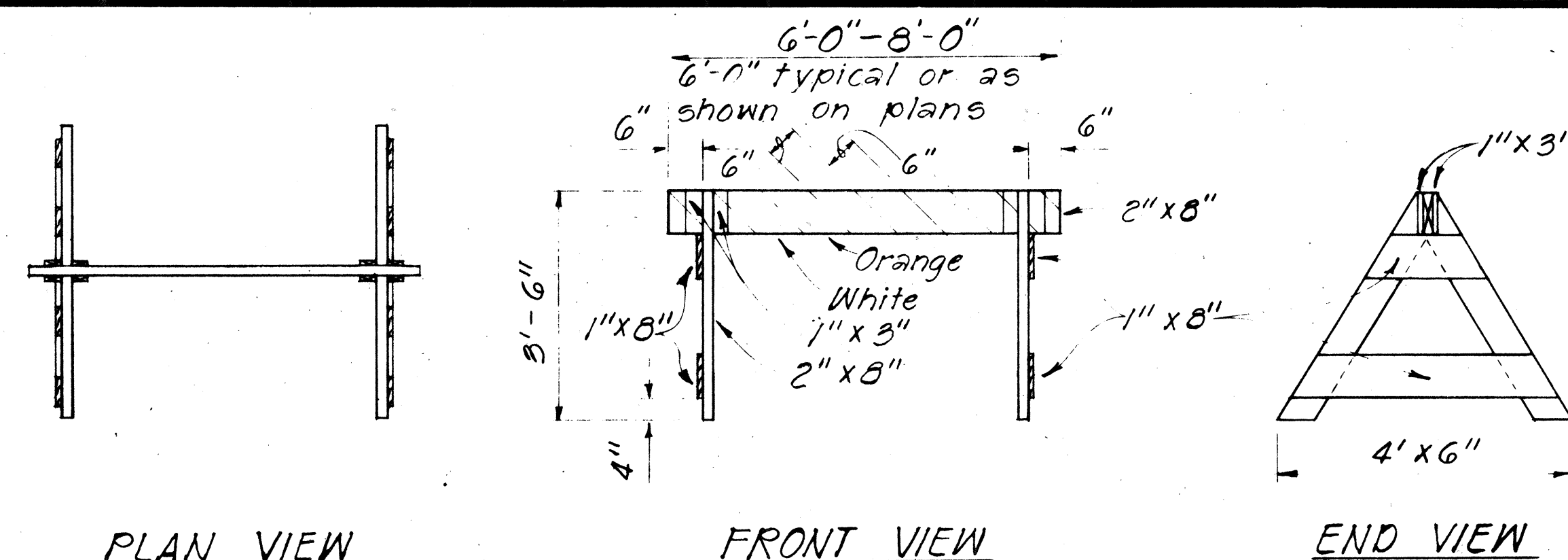
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

STANDARD DETAILS
EARTH MOUND AND
ANCHOR BLOCK DETAILS

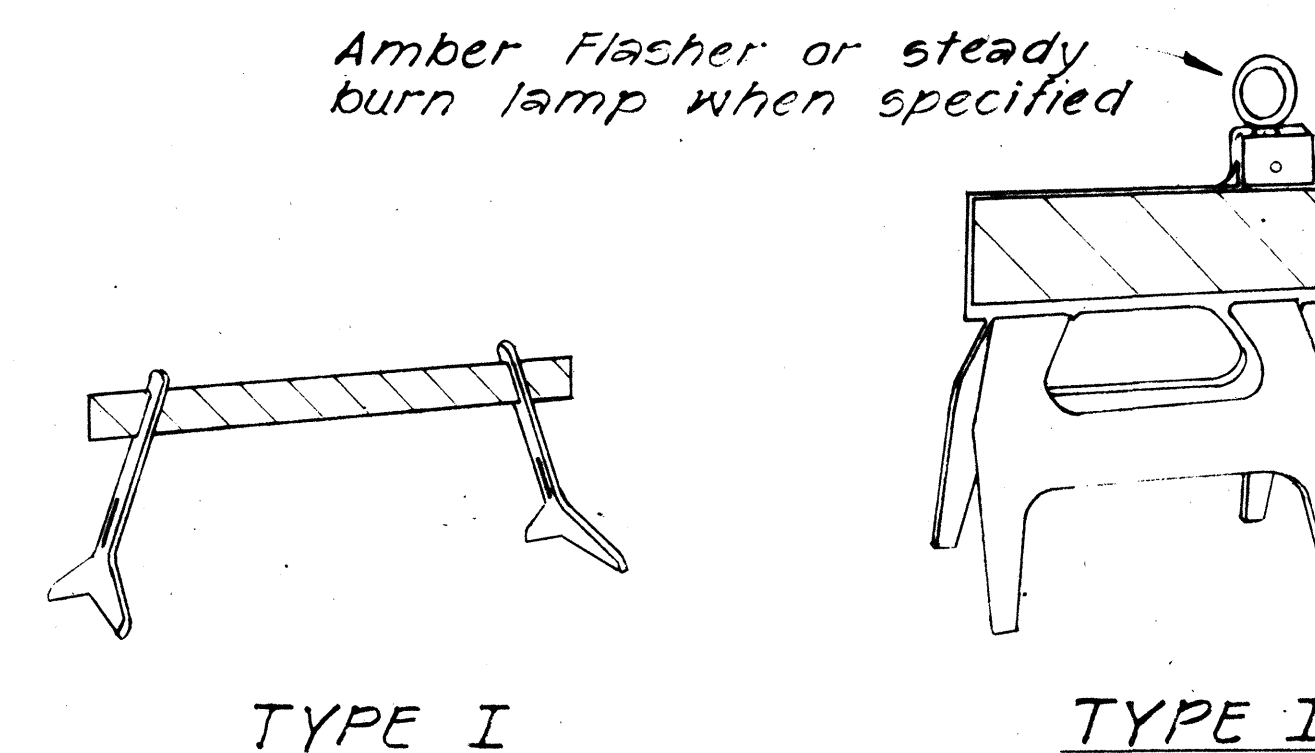
SCALE: AS SHOWN

SHEET No. 23 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	62	63

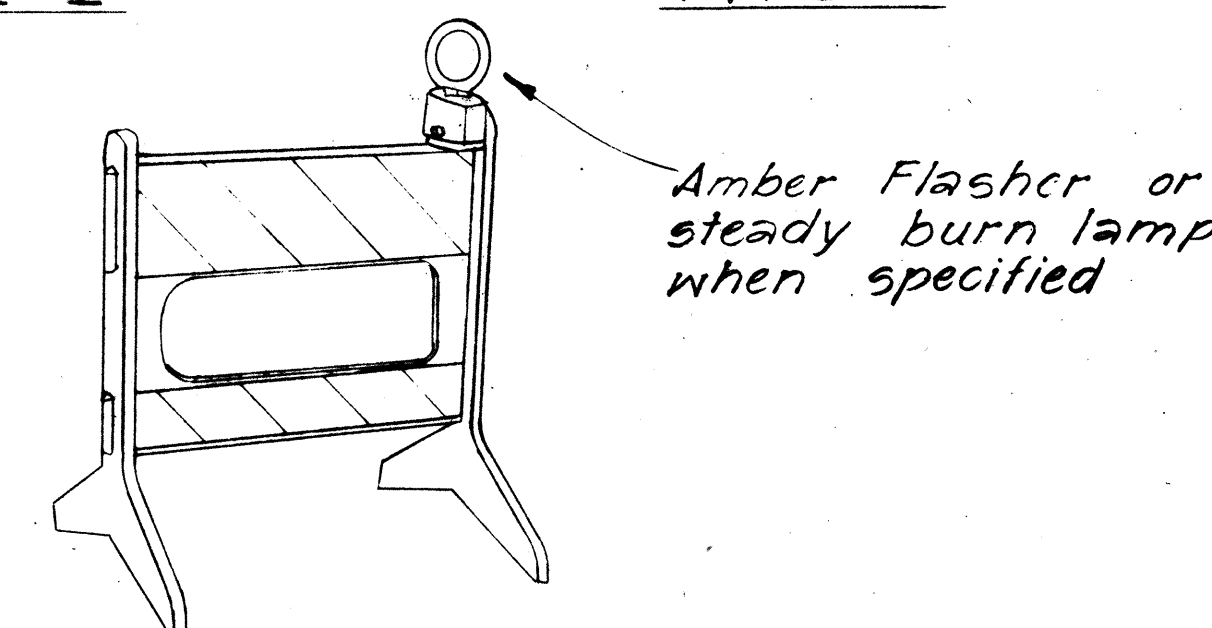


TYPE I BARRICADE
Scale: 1/2" = 1'-0"

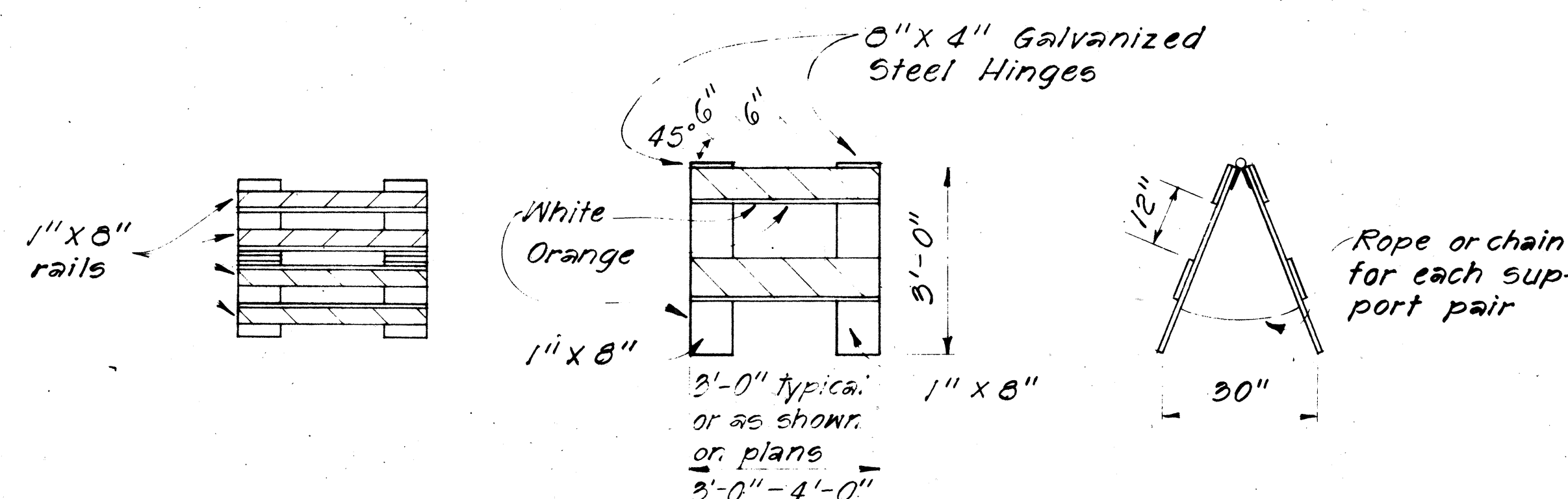


TYPE I

TYPE I



TYPE II



PLAN VIEW

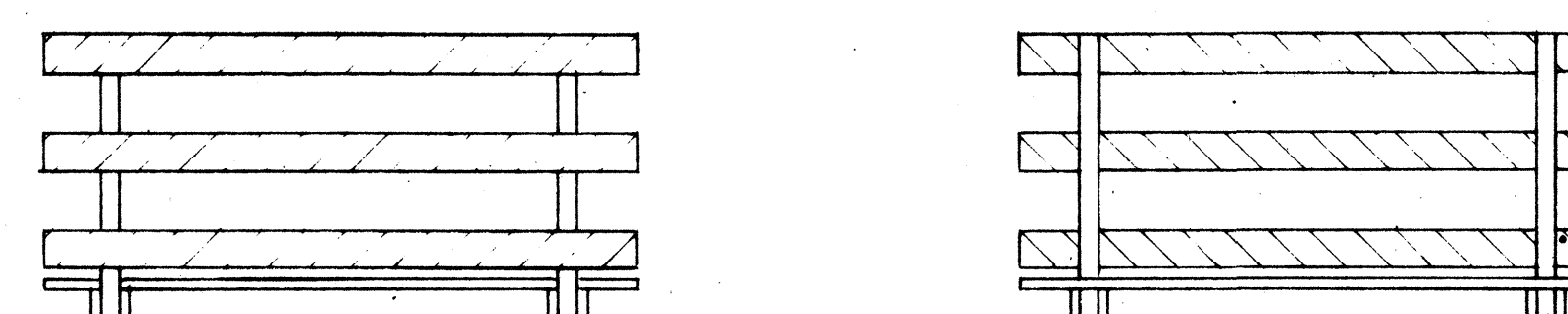
FRONT VIEW

END VIEW

TYPE II BARRICADE
Scale: 1/2" = 1'-0"

PLASTIC MOLDED BARRICADE OPTIONS *
Not to Scale

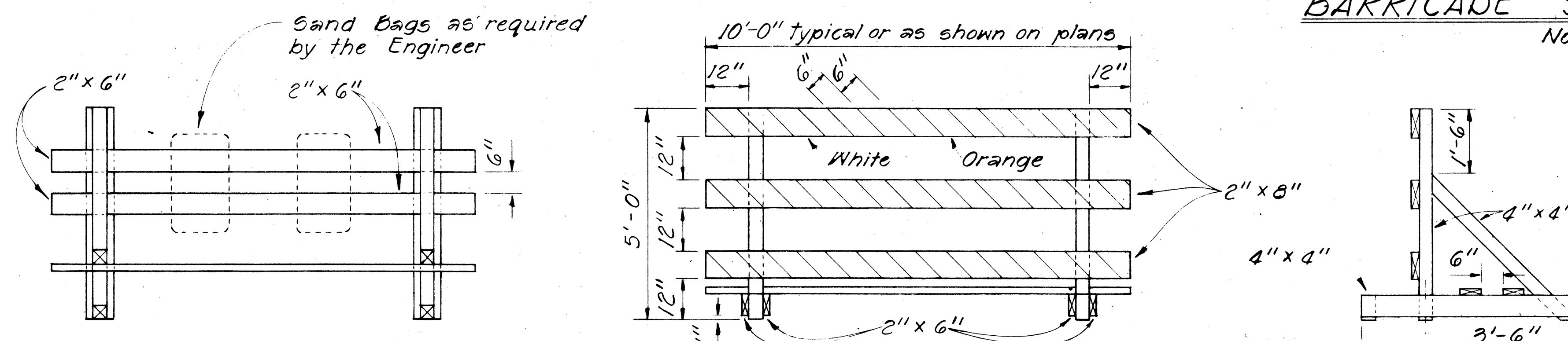
* Shop Drawings must be submitted for approval.



FRONT FACE

BACK FACE

BARRICADE STRIPING DETAILS
Not to Scale



PLAN VIEW

FRONT VIEW

END VIEW

TYPE III BARRICADE
Scale: 1/2" = 1'-0"

- GENERAL NOTES**
- The Contractor shall construct, install and maintain the barricades at the locations shown on the Plans.
 - The barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property, unless otherwise specified.
 - The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized with reflective sheeting.
 - Both faces of the barricade rails shall be striped. See Striping Detail Arrangement.
 - Contractor may submit alternate designs for approval.
 - Barricade details shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, by the Federal Highway Administration and as amended.
 - If wooden rails are used, 26 ga. galv. steel sheet shall be first tacked on to the rails and then overlaid with reflective sheeting.

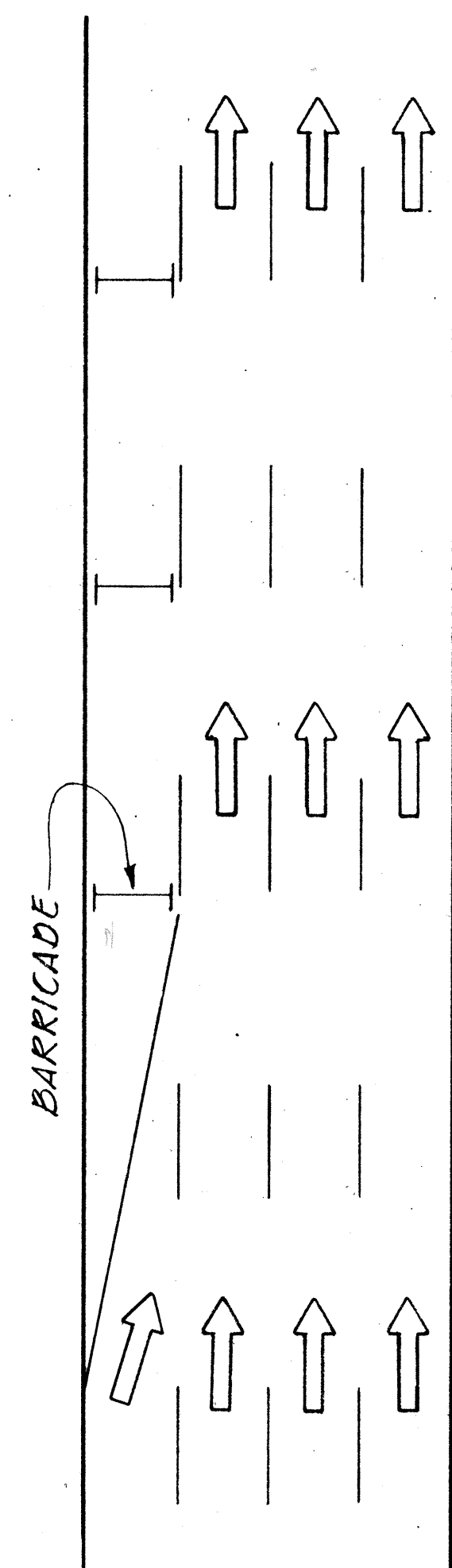
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
TYPICAL DETAILS
BARRICADES
SCALE: As Shown
SHEET NO. 24 OF 25 SHEETS

DESIGNED BY	DATE
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

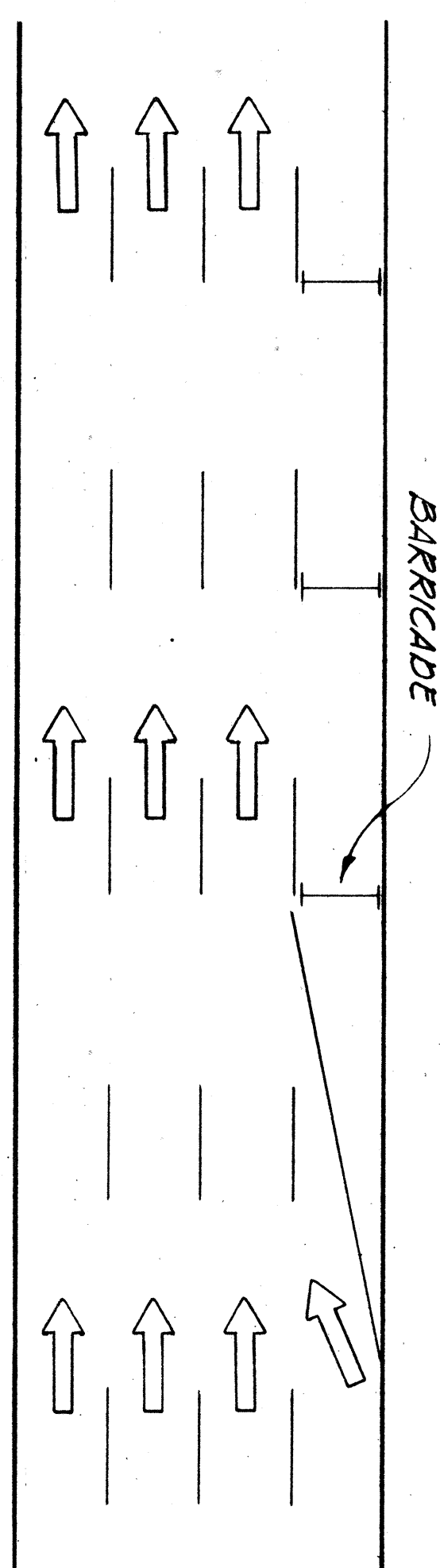
FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	240A-01-71 UNIT 2	1978	63	63

GENERAL NOTES

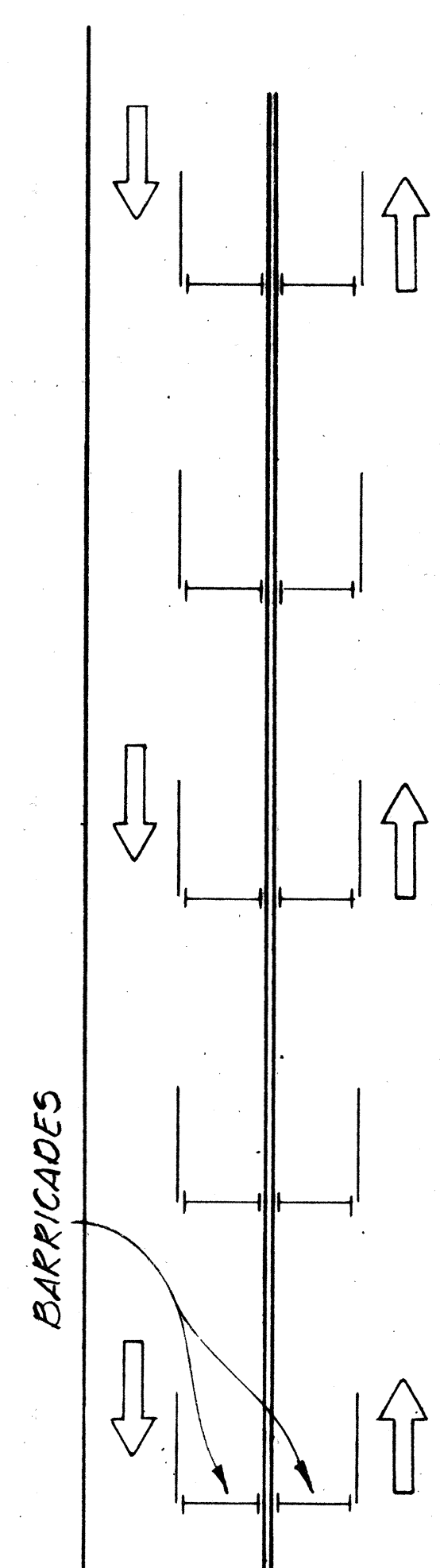
1. Barricade Type, Placement, and Arrangement shall be as shown on the Construction Plans.



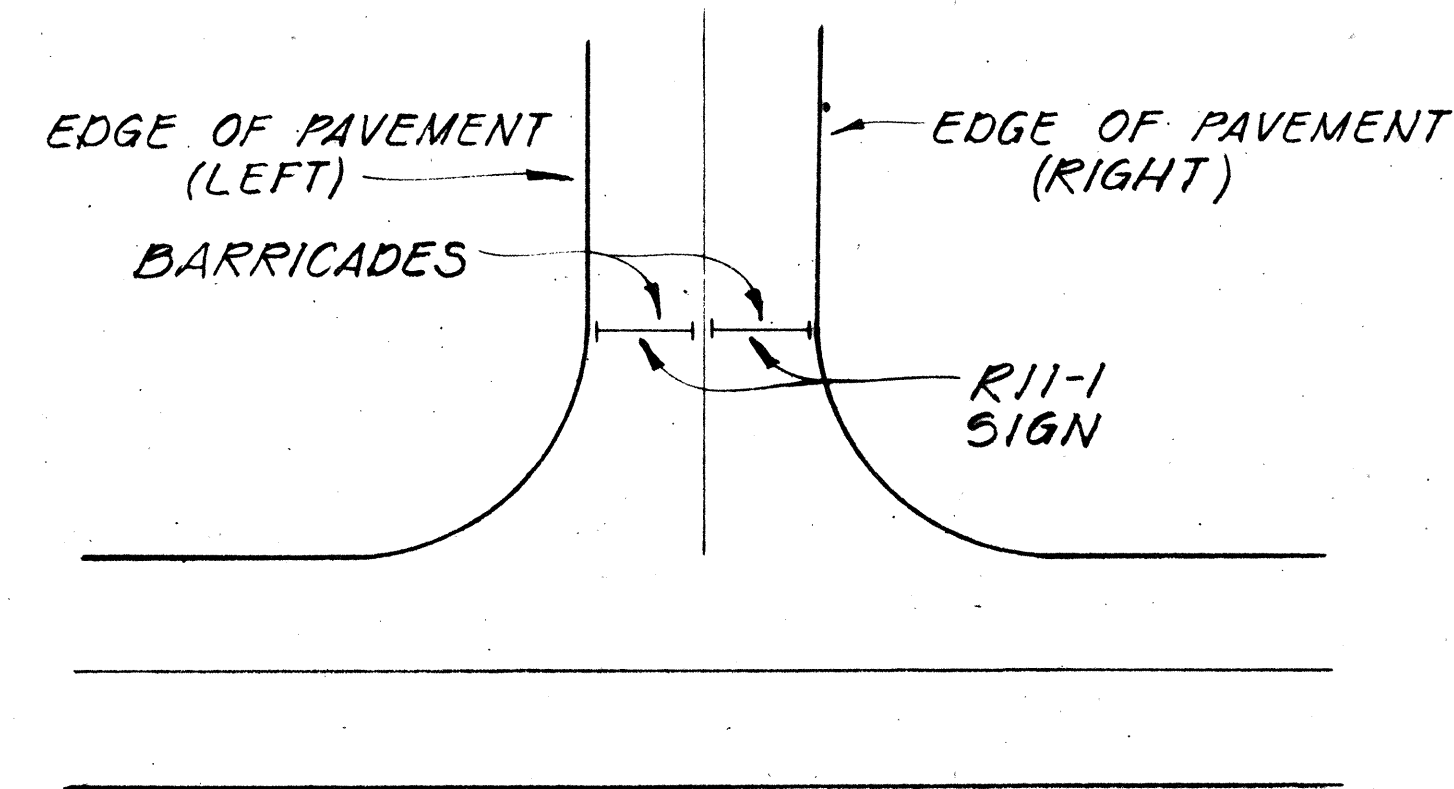
ROADWAY DELINEATION TO THE RIGHT
NOT TO SCALE



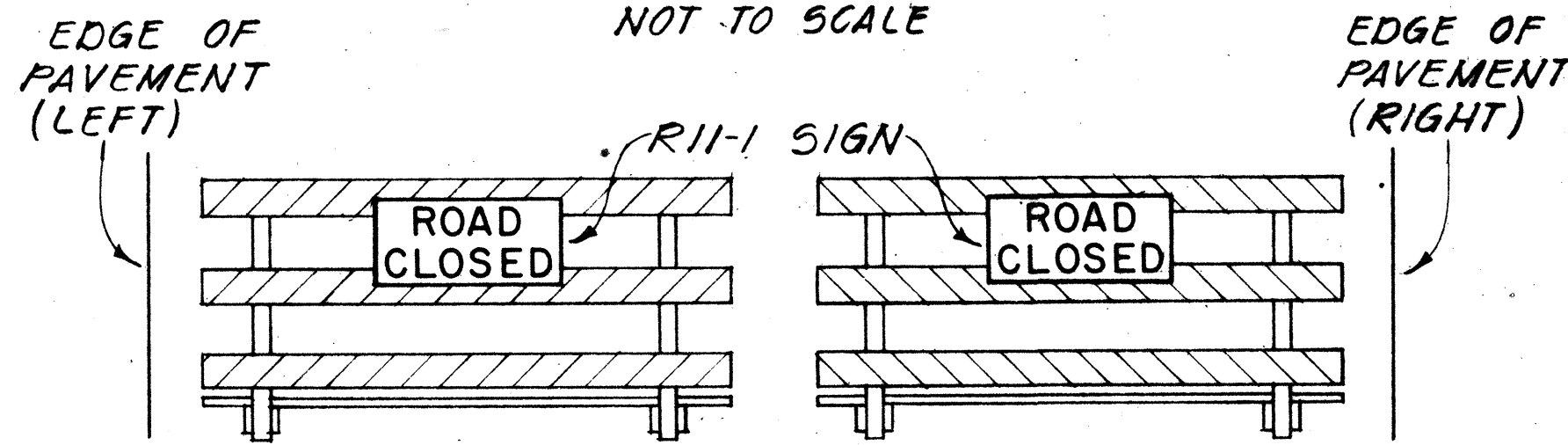
ROADWAY DELINEATION TO THE LEFT
NOT TO SCALE



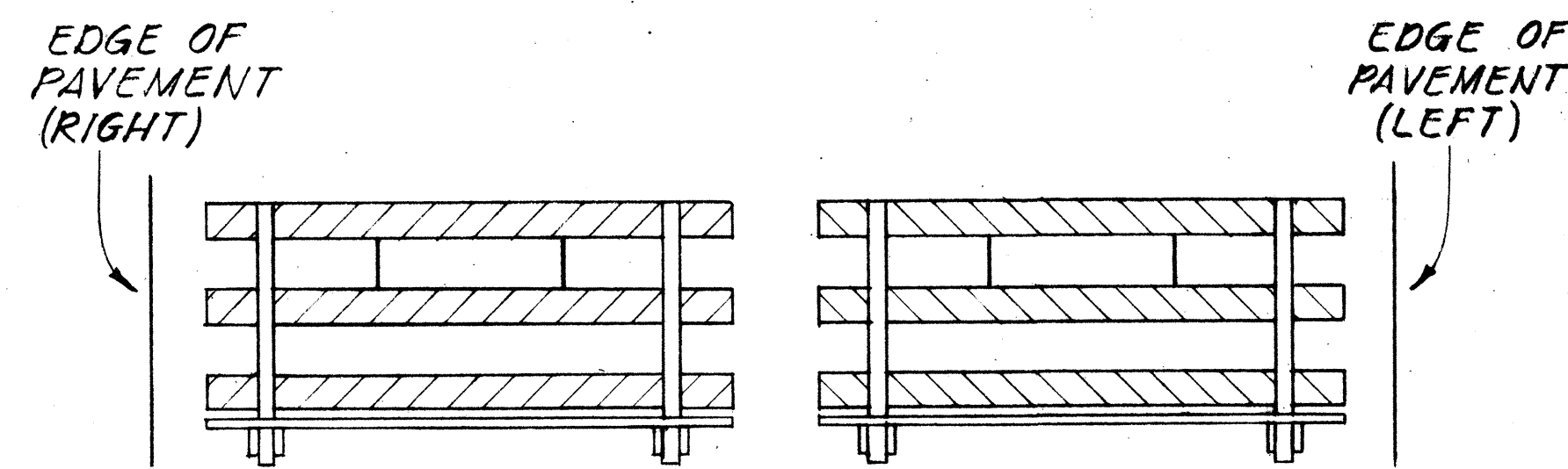
ROADWAY DELINEATION FOR 2-WAY TRAFFIC
NOT TO SCALE



ROADWAY CLOSED
NOT TO SCALE

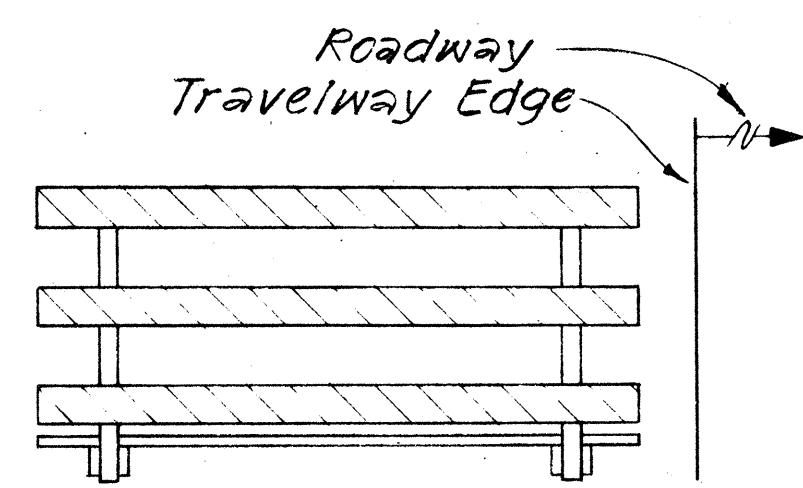


FRONT VIEW

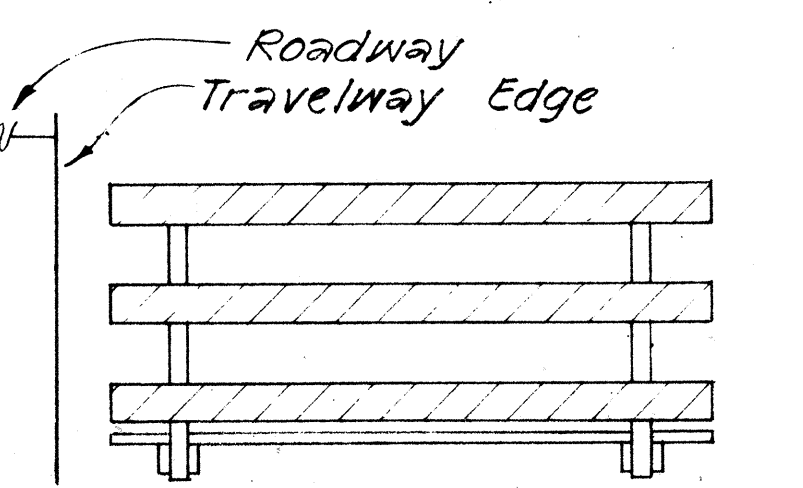


BACK VIEW

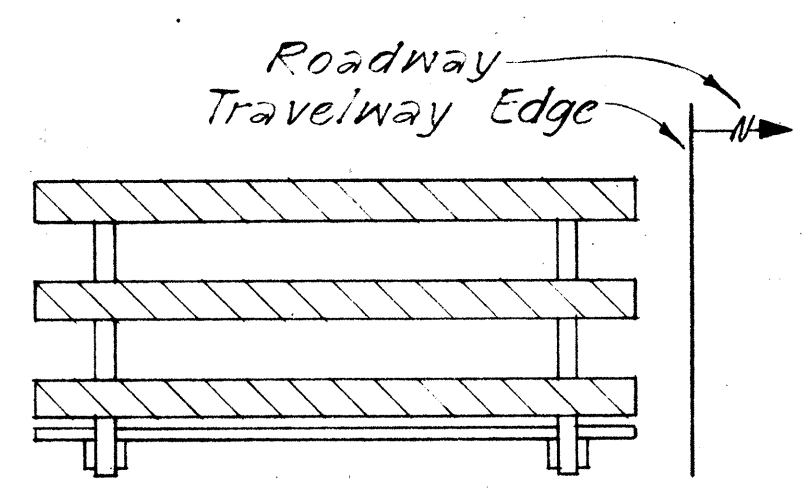
BARRICADE STRIPING ARRANGEMENT
NOT TO SCALE



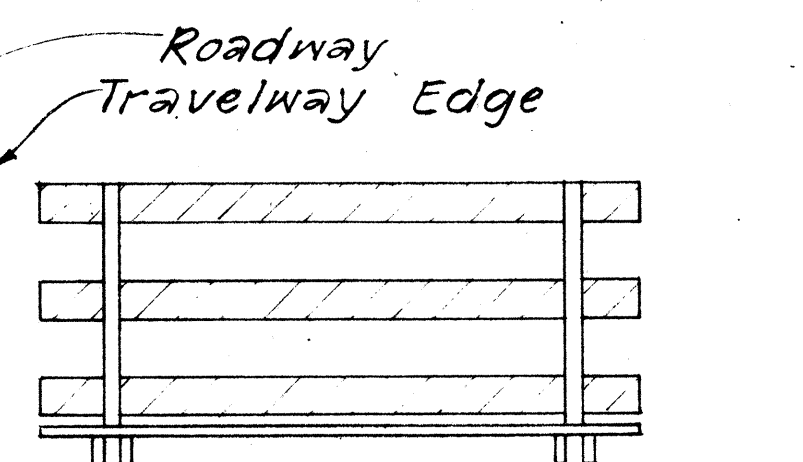
FRONT VIEW



FRONT VIEW

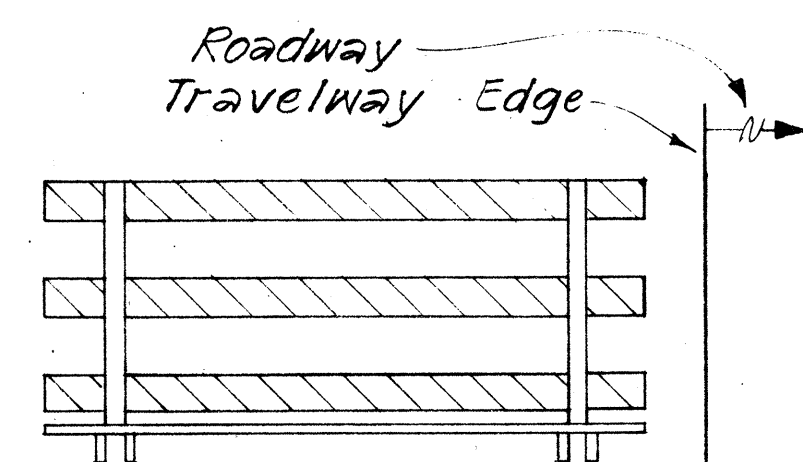


FRONT VIEW



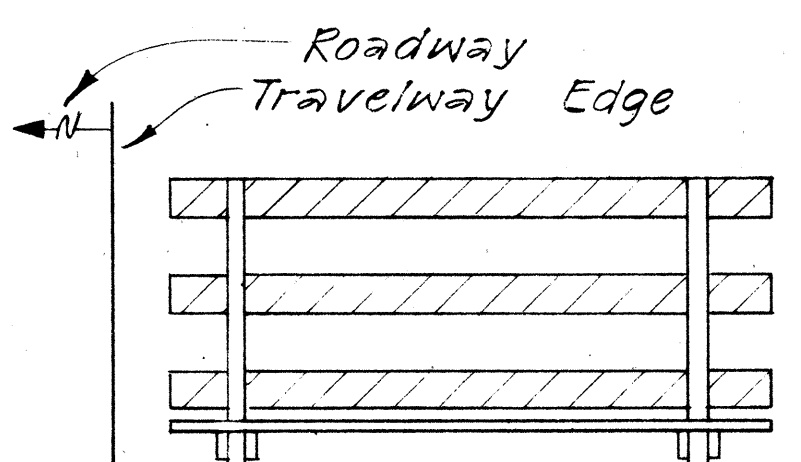
BACK VIEW

BARRICADE STRIPING ARRANGEMENT
NOT TO SCALE



BACK VIEW

BARRICADE STRIPING ARRANGEMENT
NOT TO SCALE



BACK VIEW

BARRICADE STRIPING ARRANGEMENT
NOT TO SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TYPICAL DETAILS

BARRICADE STRIPING DETAILS

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