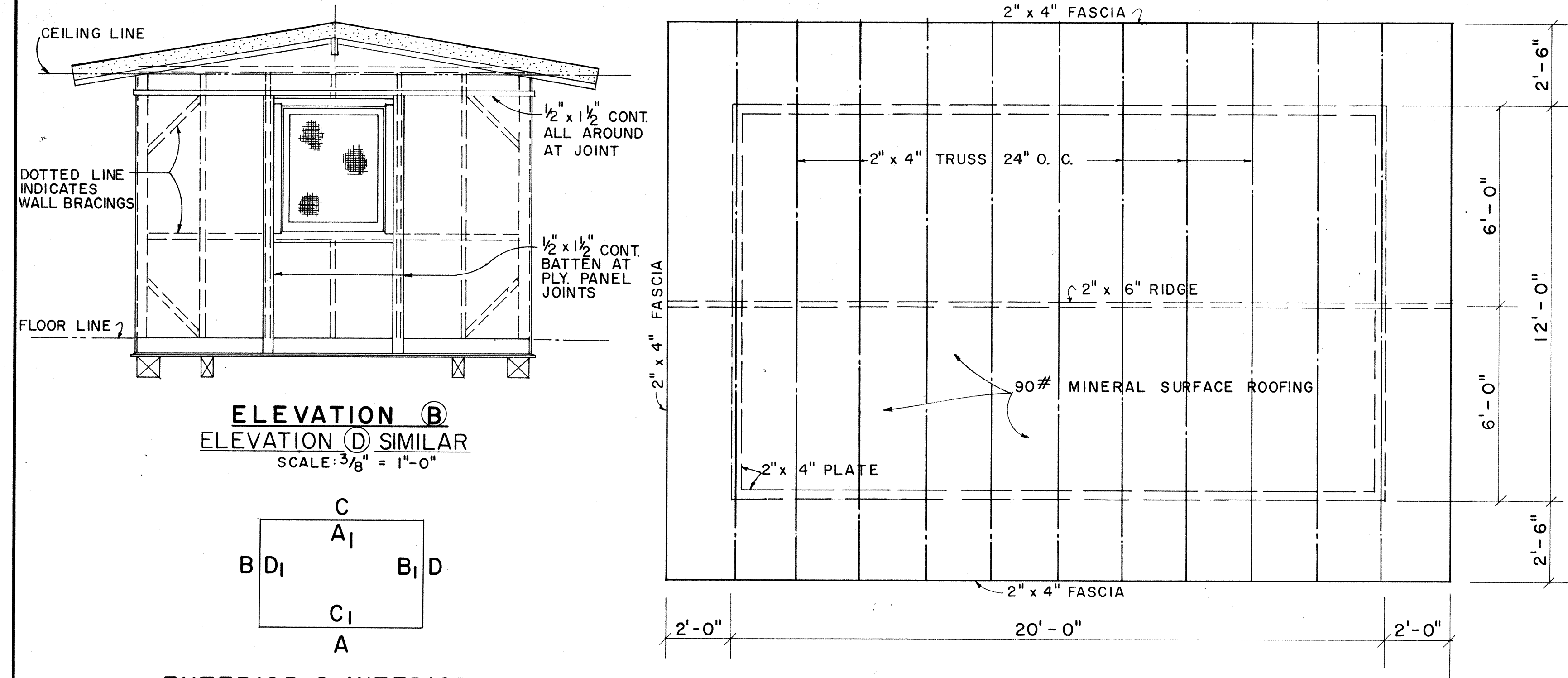
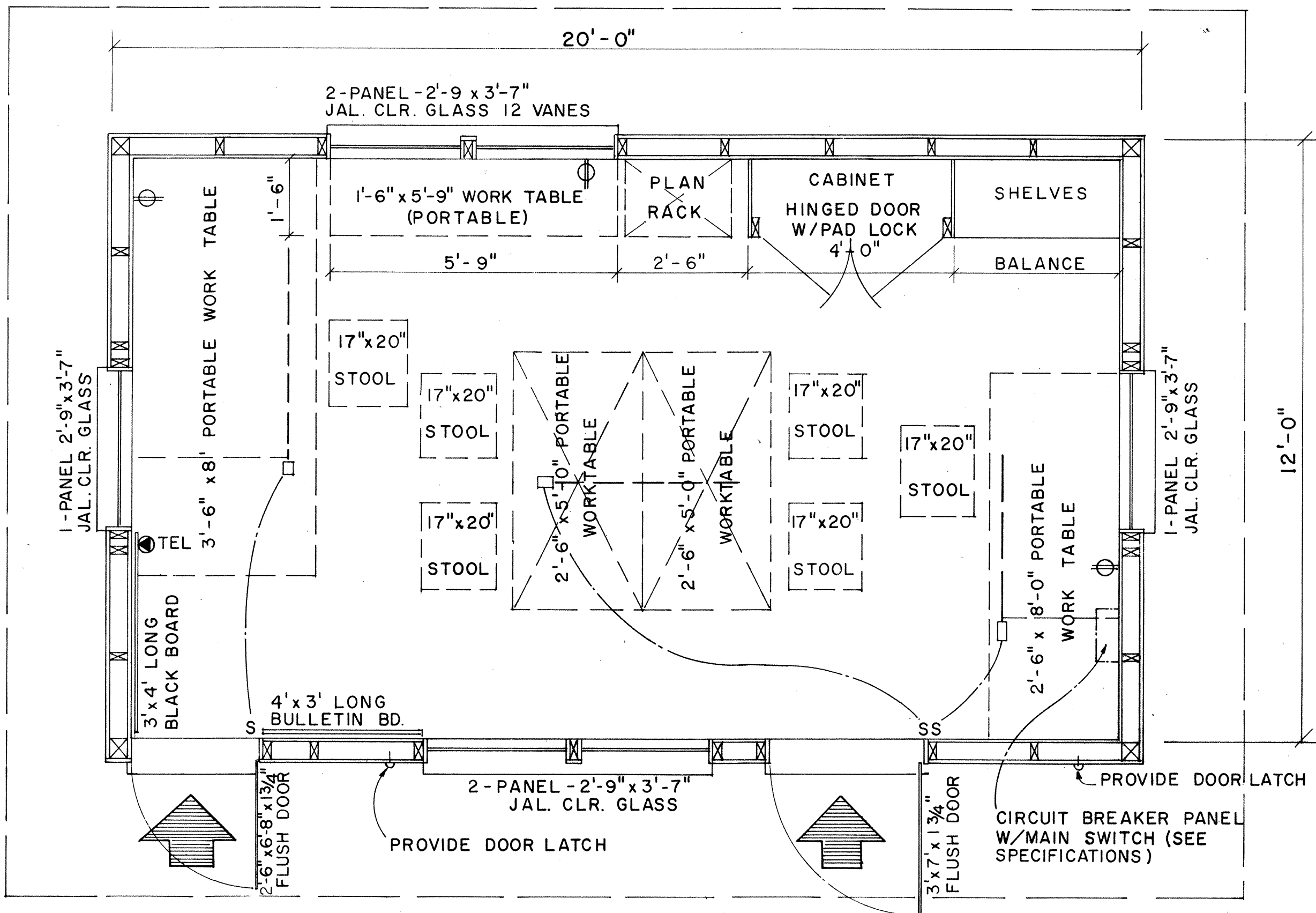
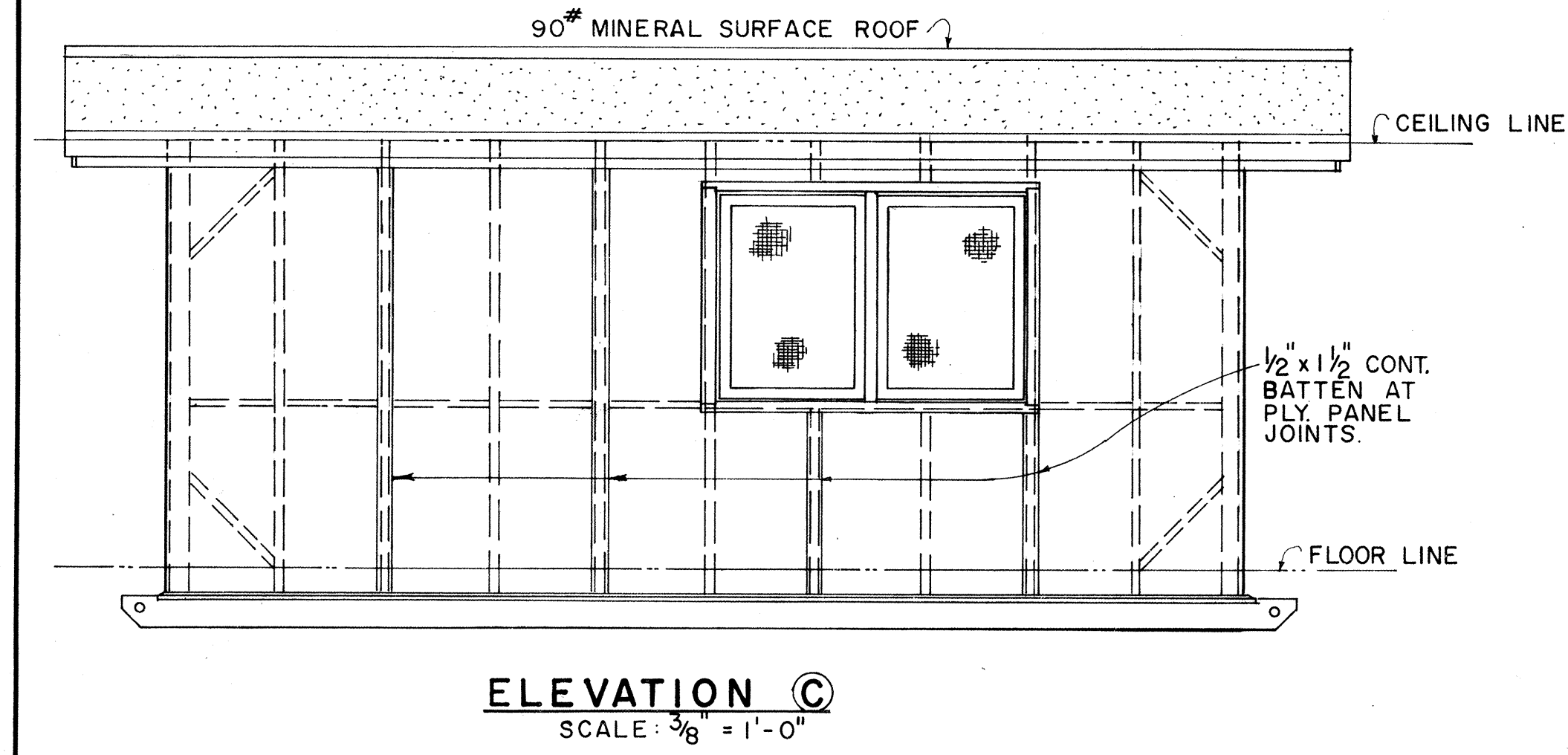
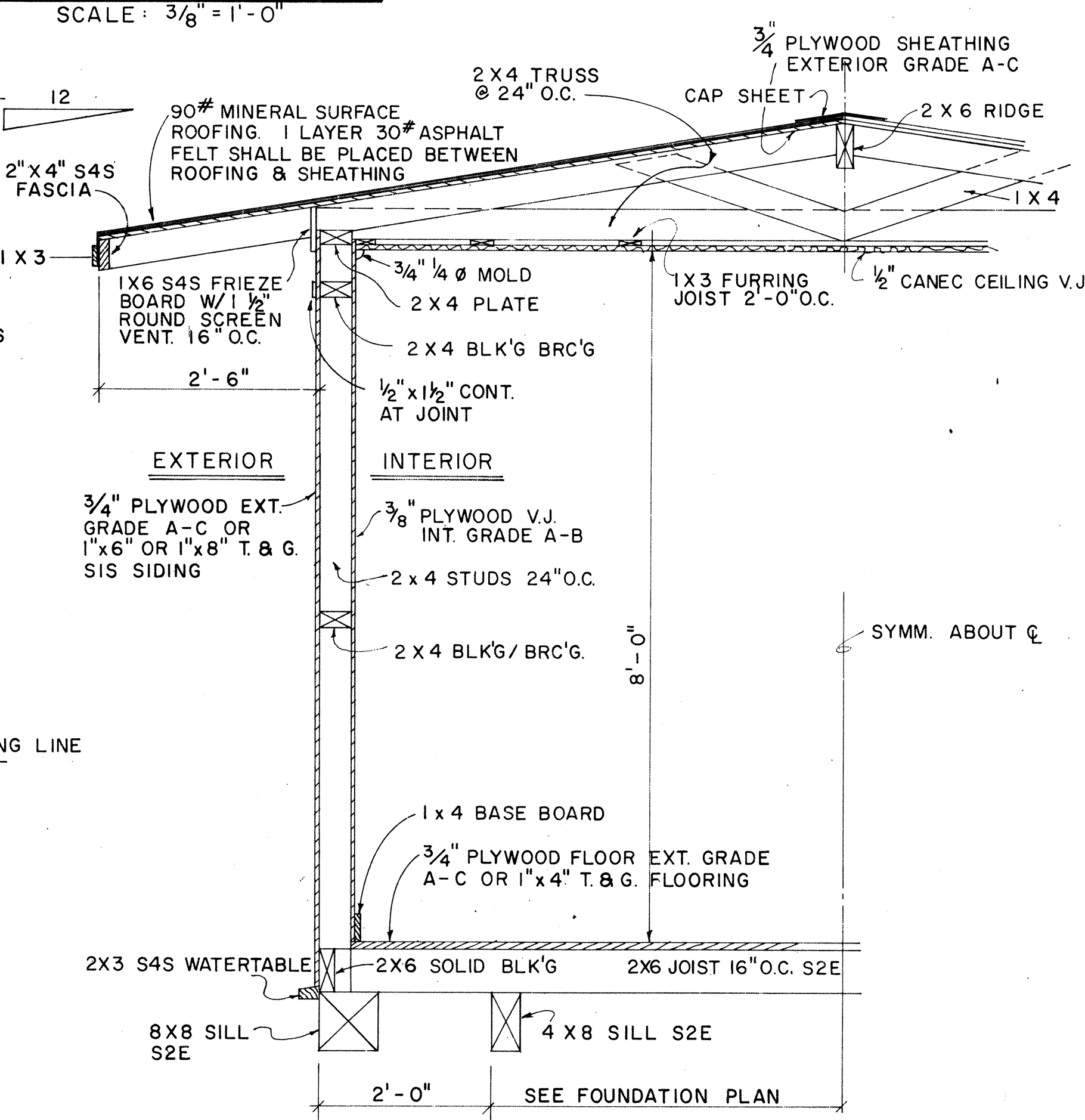
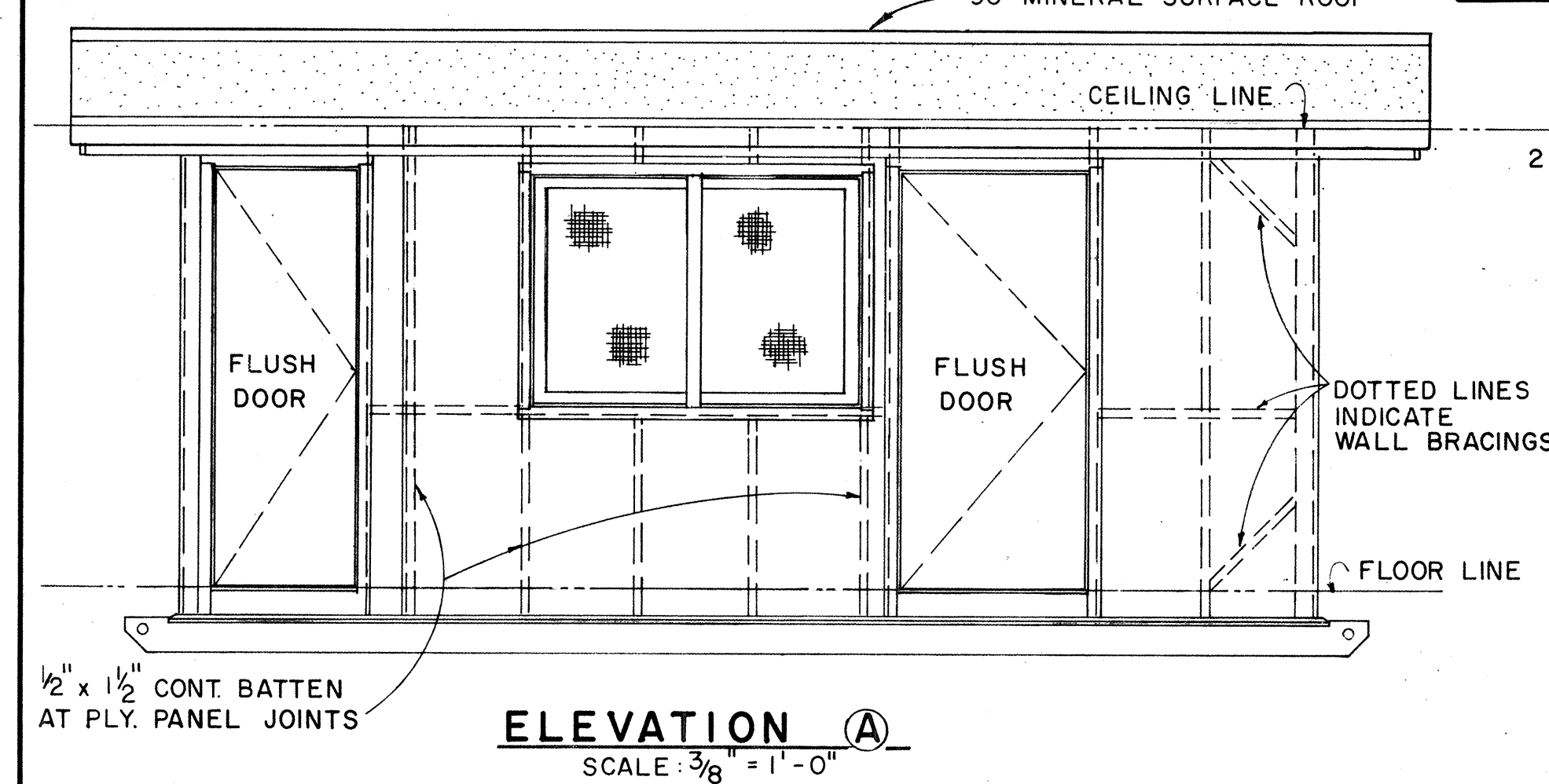


STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	98001-71	1971	43	62

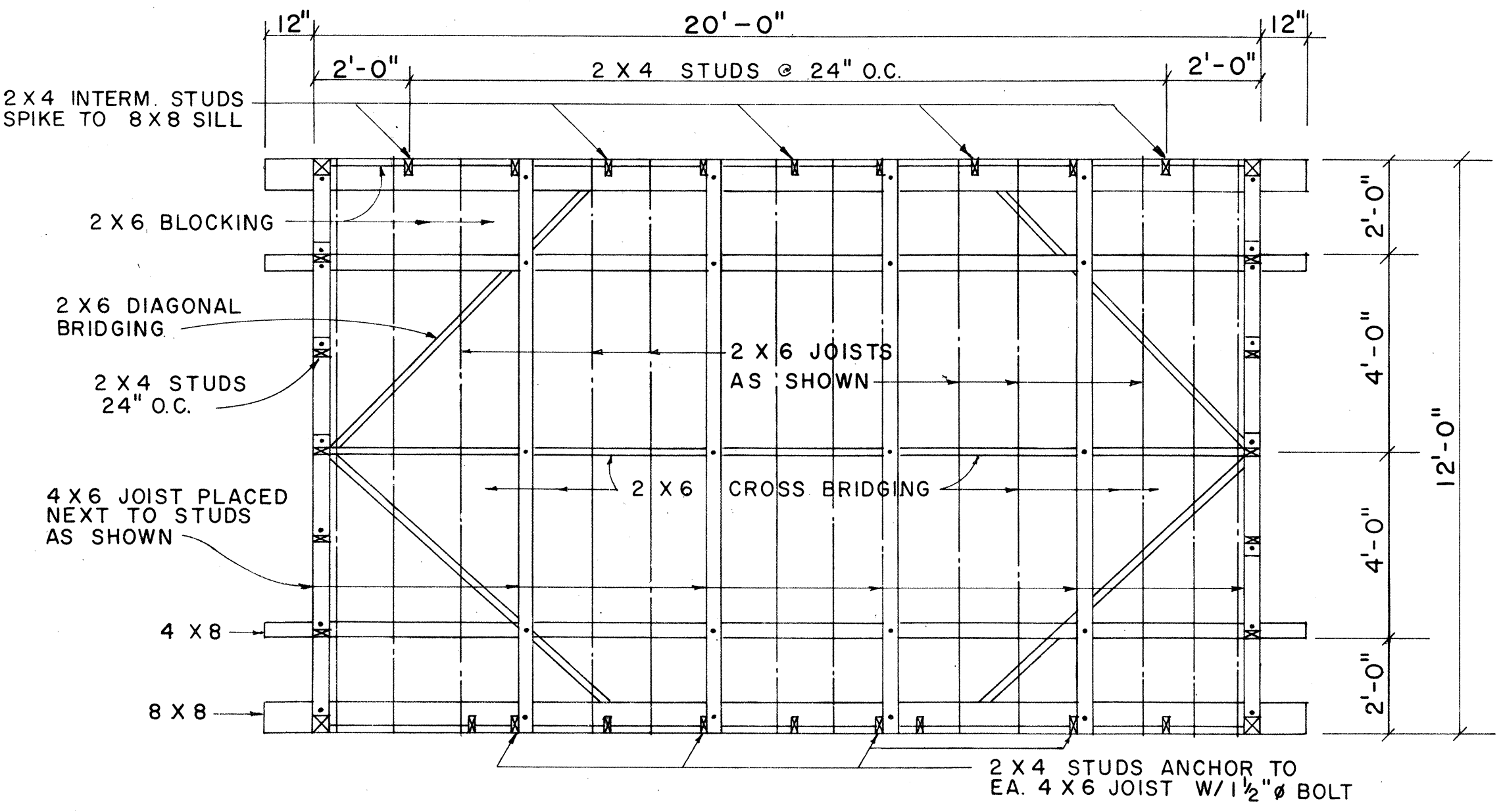


EXTERIOR & INTERIOR KEY

ROOF FRAMING PLAN



FLOOR PLAN



FOUNDATION FRAMING PLAN

APPROVAL RECOMMENDED:
HIGHWAY DESIGN ENGINEER
12-4-69
DATE
APPROVED:
ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE

NO.	REVISION	APPROVED BY	DATE

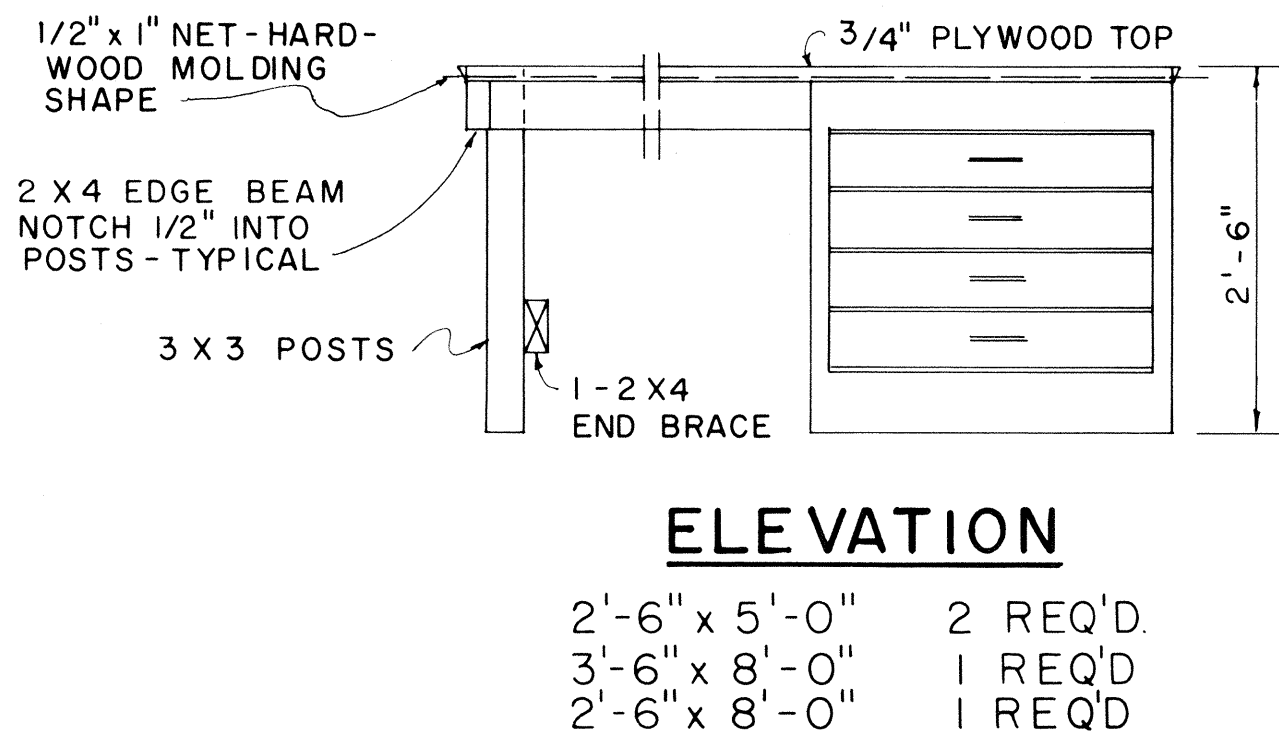
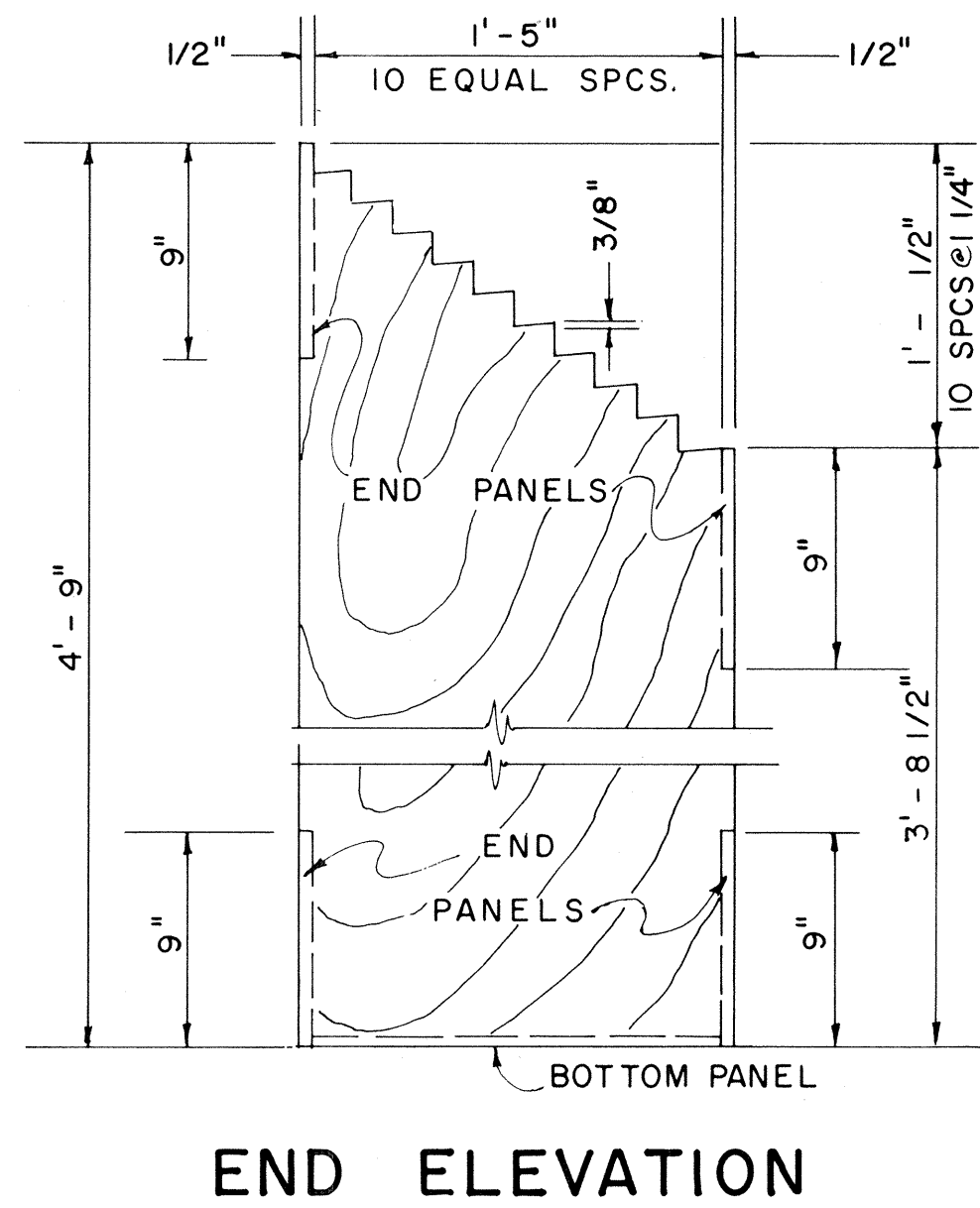
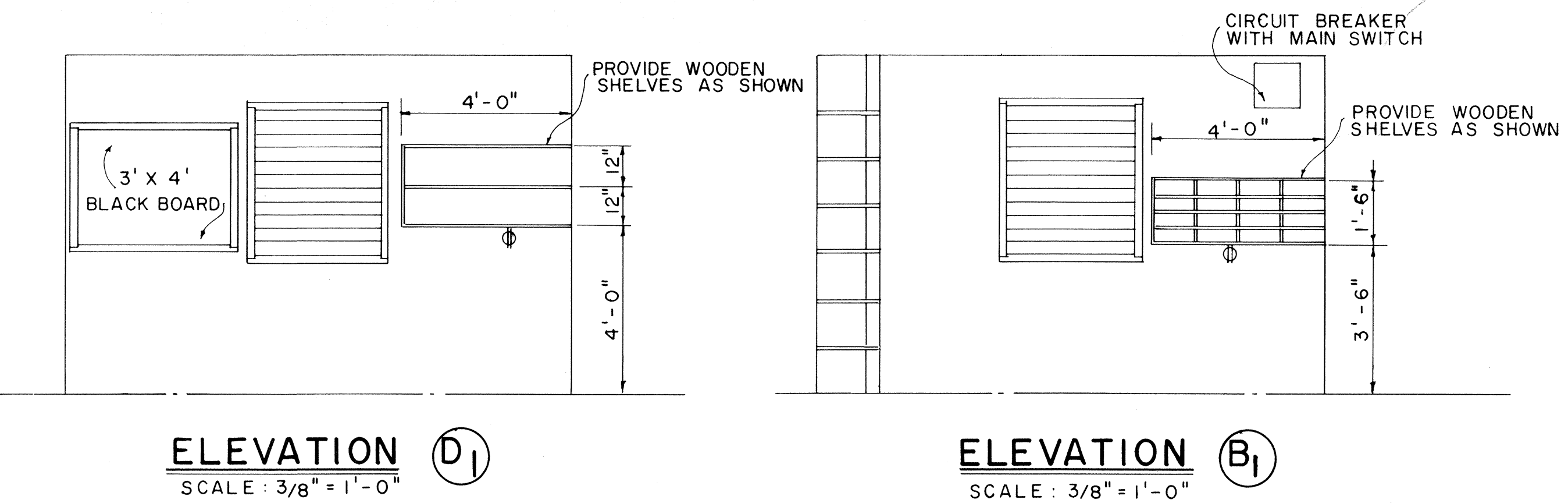
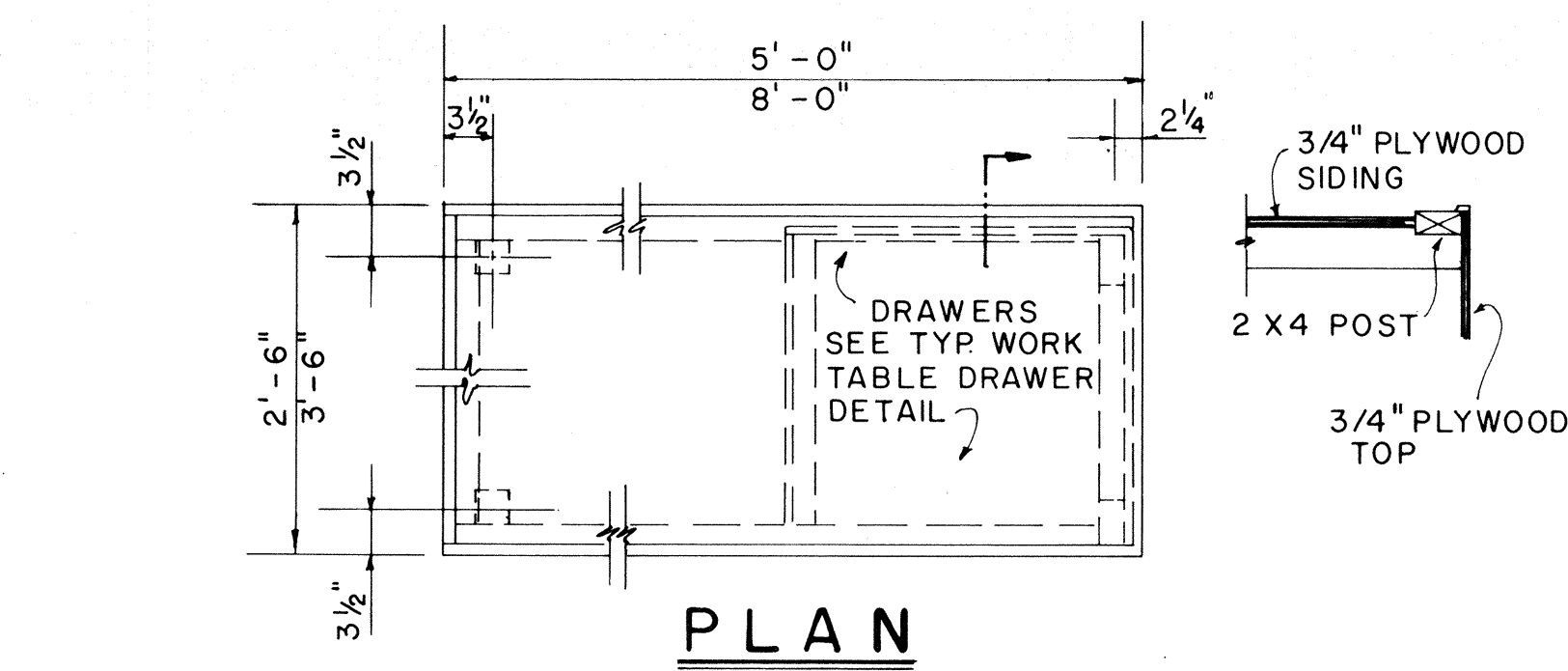
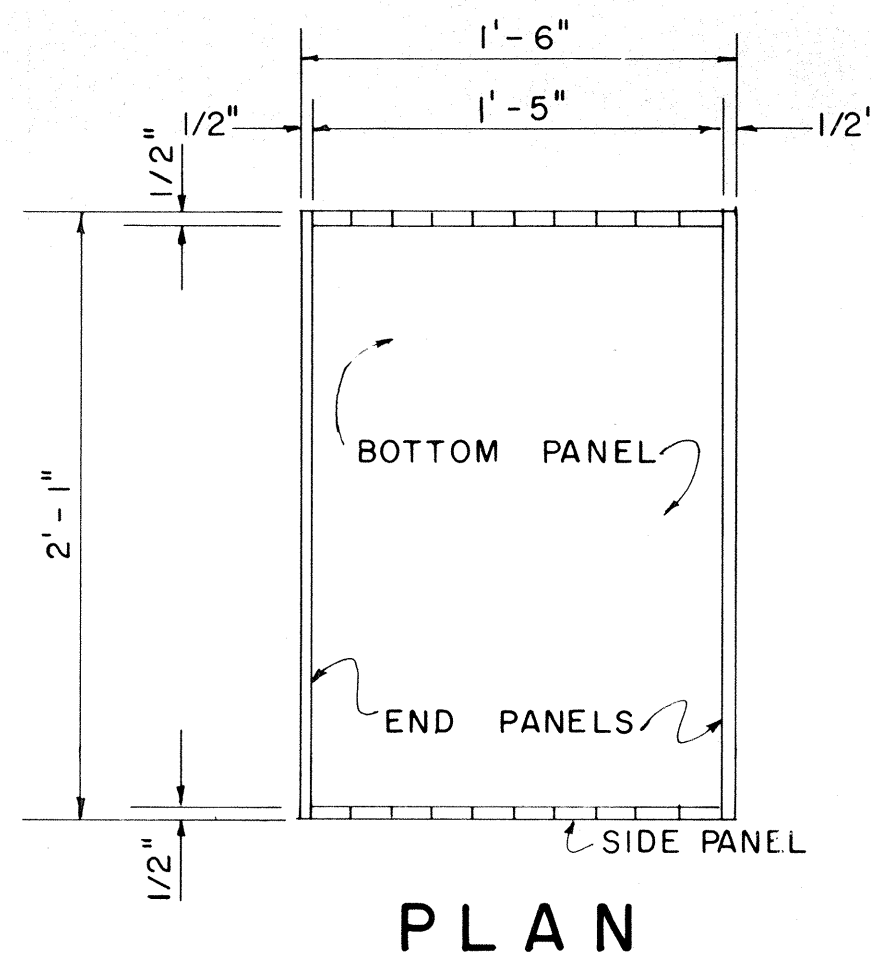
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

FIELD OFFICE

Scale : As Noted

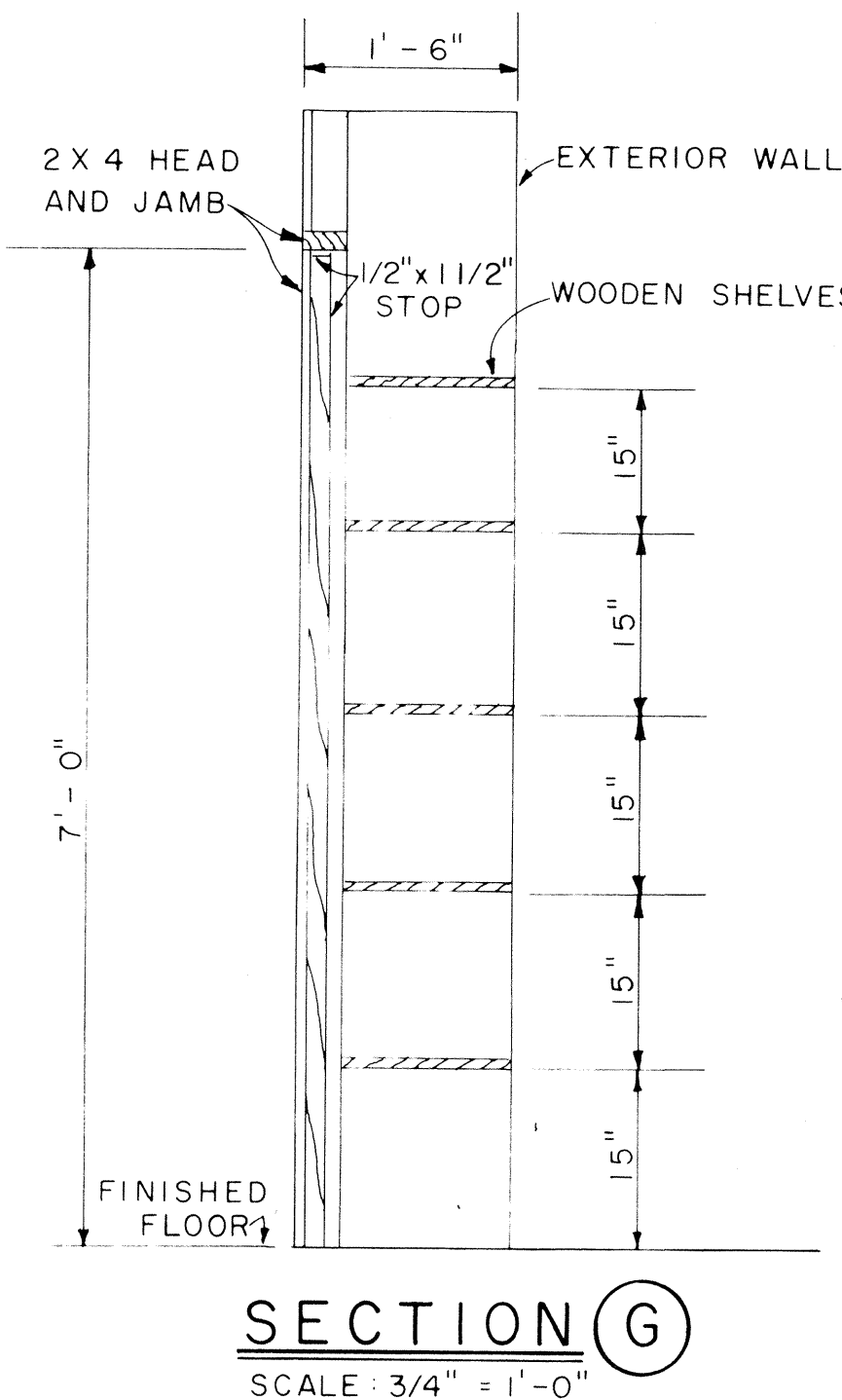
DATE: _____
SURVEY DOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTE BOOK: _____
No. _____

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	DB-01-71	1971	44	62



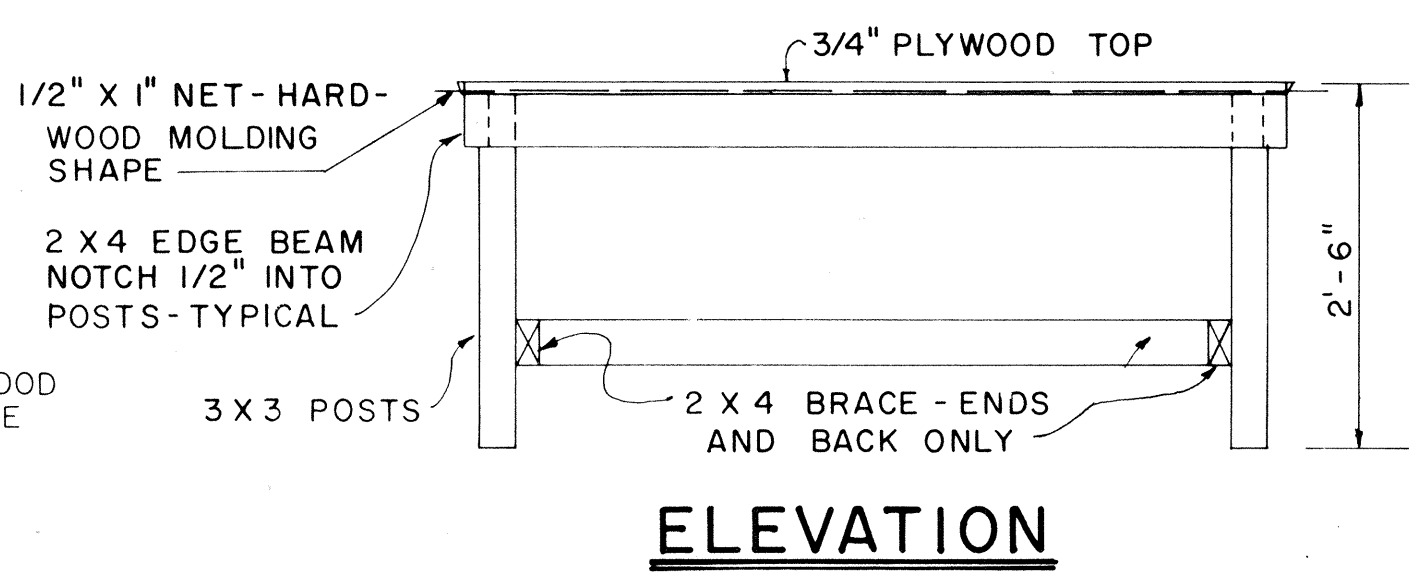
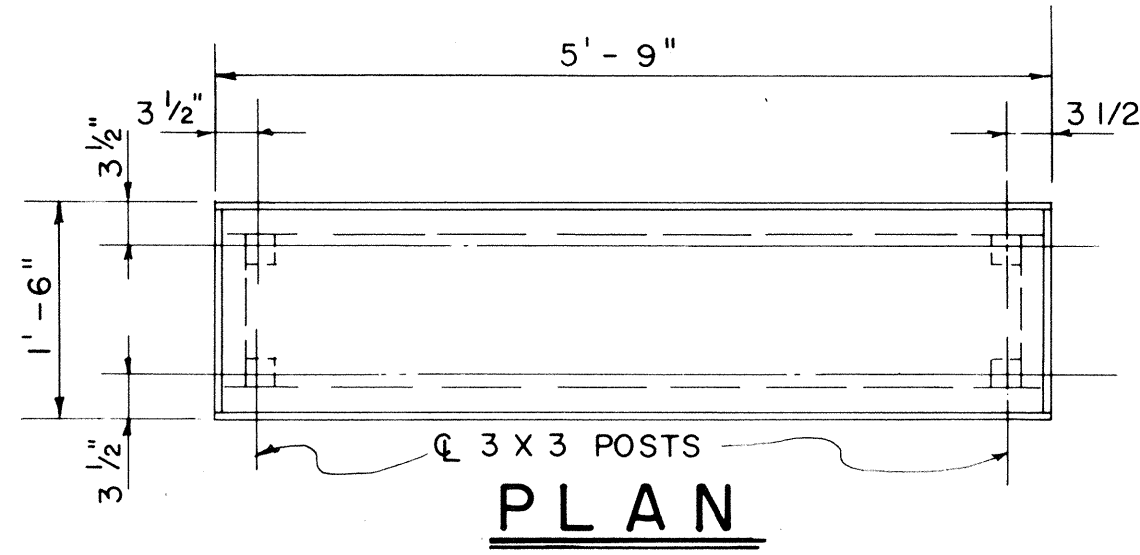
PORTABLE WORK TABLE DETAIL

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



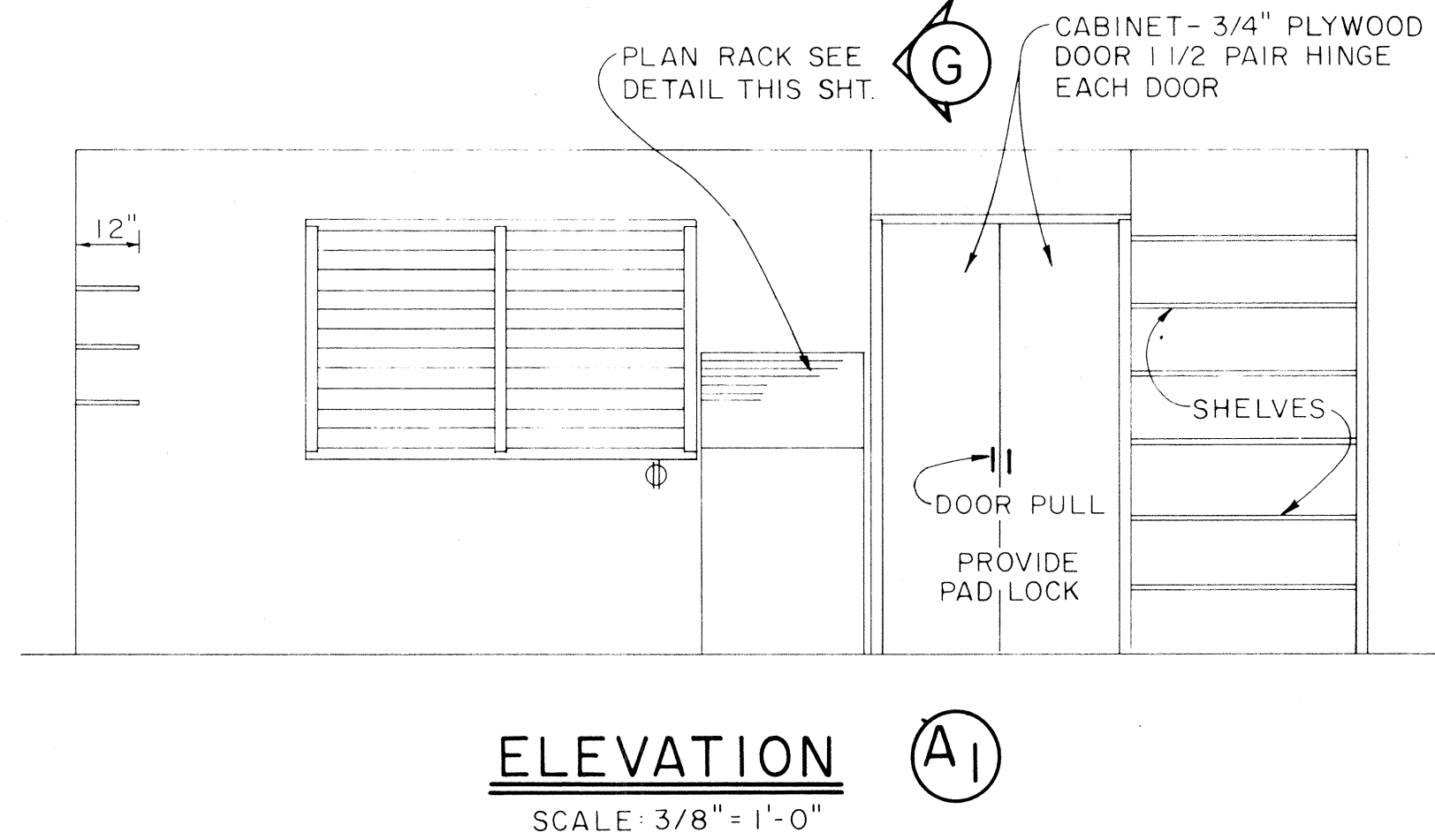
PLAN RACK DETAIL

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



1'-6" x 5'-9" PORTABLE WORK TABLE DETAIL

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



APPROVAL RECOMMENDED:

 HIGHWAY DESIGN ENGINEER 12-4-69 DATE

APPROVED:

 ASSISTANT CHIEF, ENGINEERING 12-10-69 DATE

NO.	REVISION	APPROVED BY	DATE

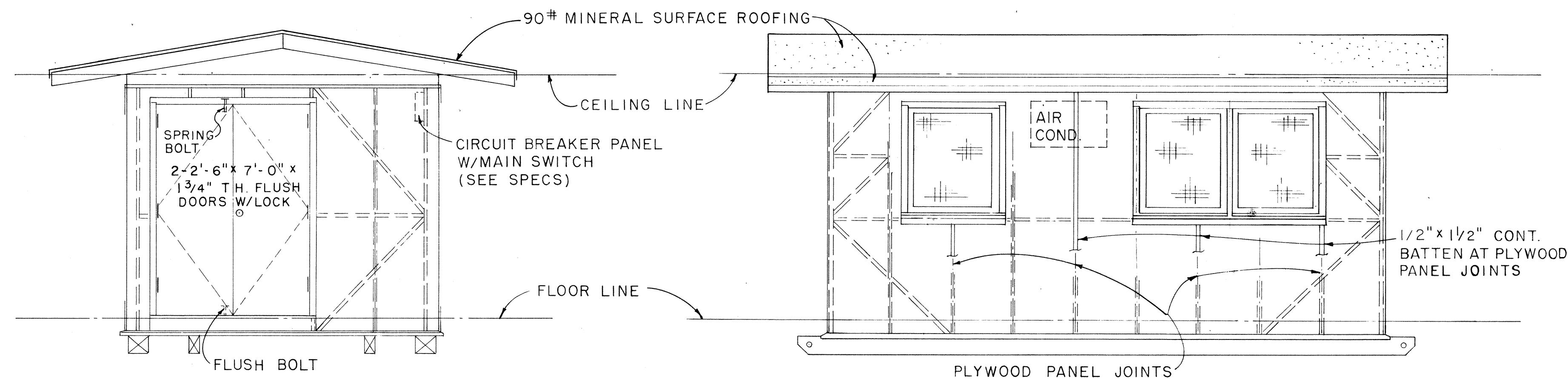
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

 FIELD OFFICE

 Scale : As Noted

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY	DESIGNED BY	
NOTED BY	CHECKED BY	

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	198C-01-71	1971	45	62

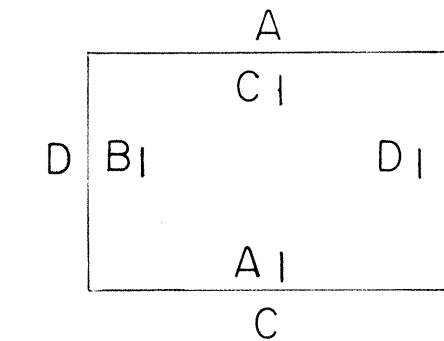


ELEVATION B

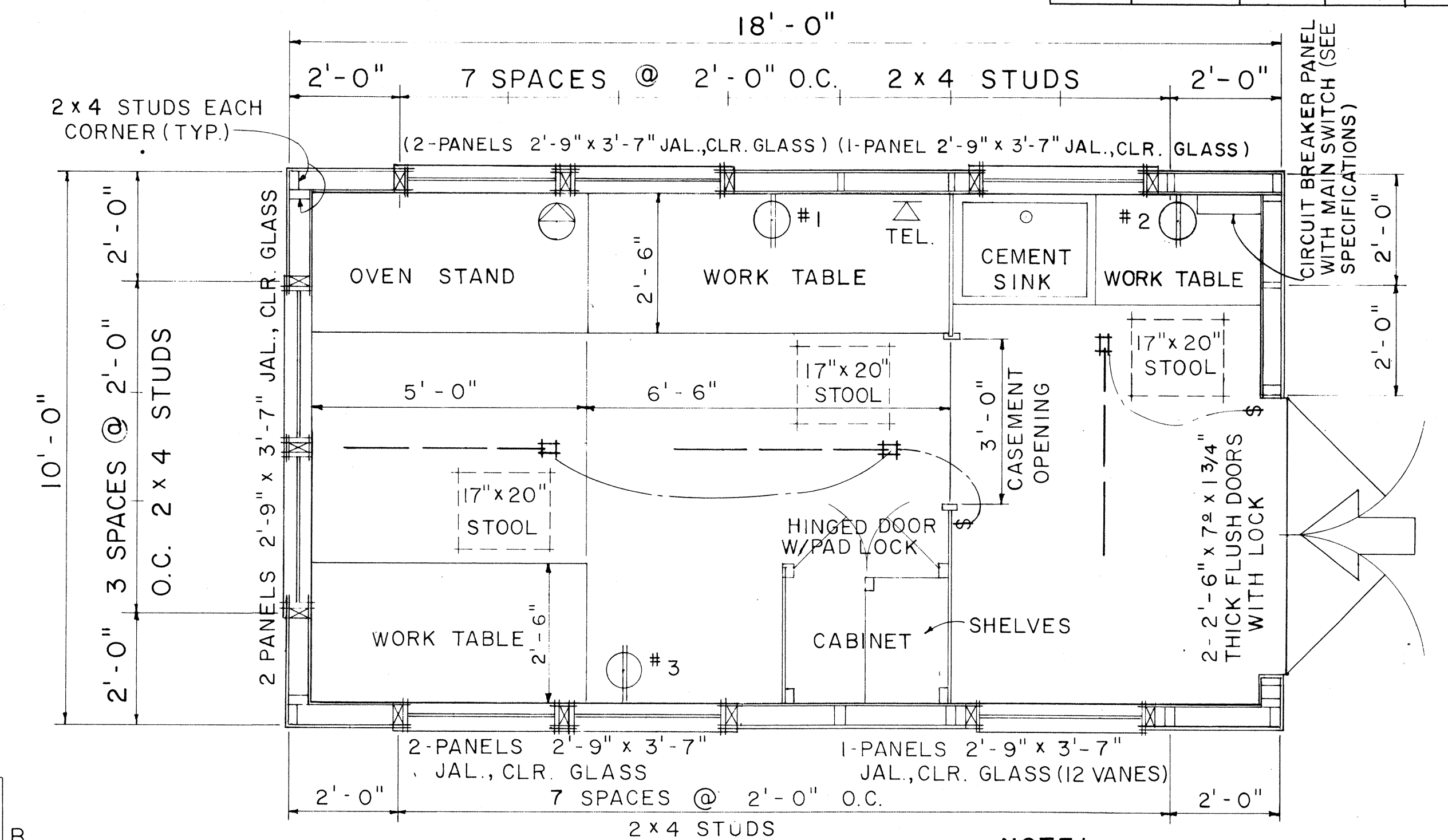
SCALE: 3/8" = 1' - 0"

ELEVATION (A)

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



EXTERIOR & INTERIOR KEY

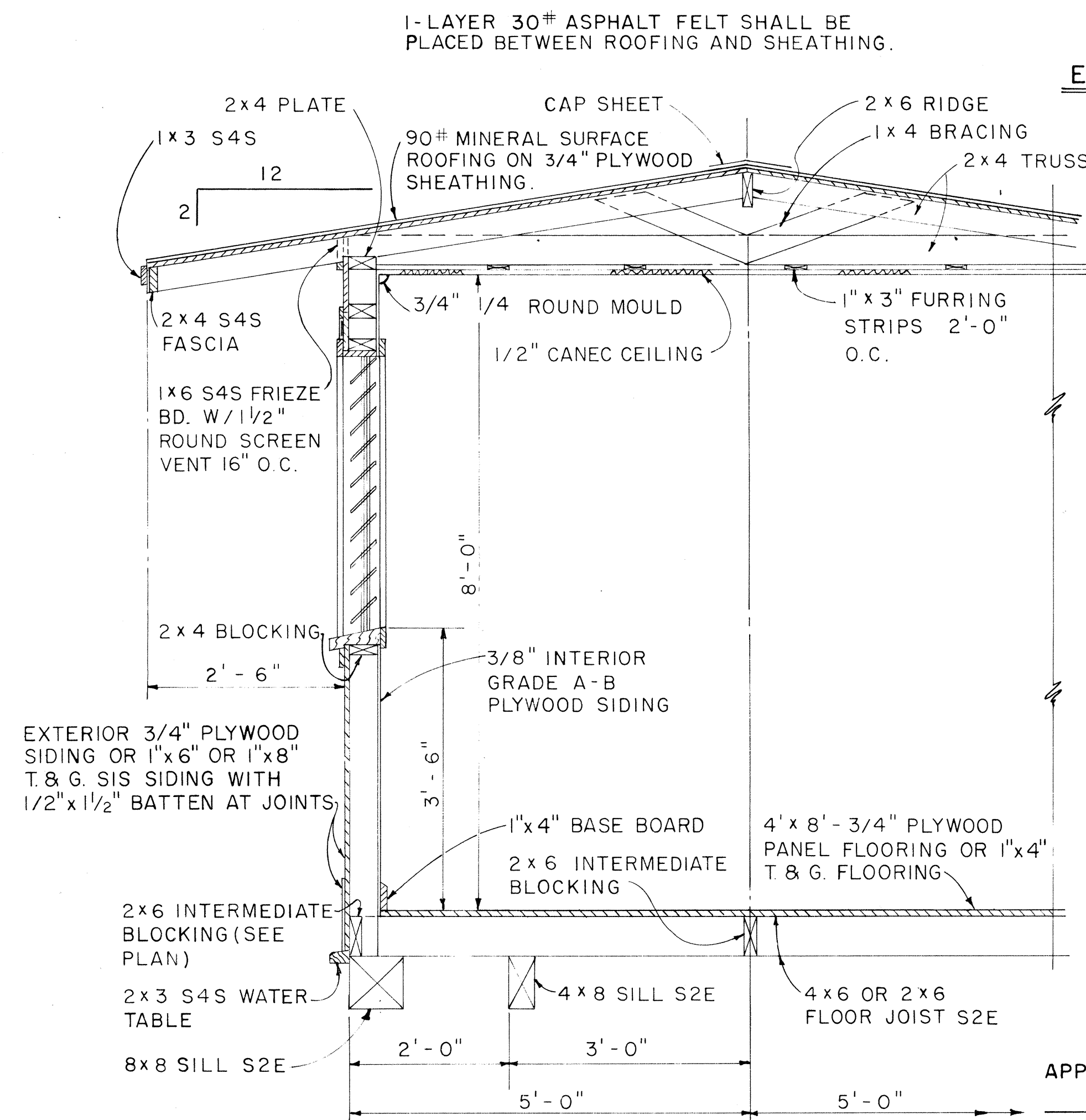


FLOOR PLAN

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

NOTE:

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



TYPICAL SECTION

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

APPROVAL RECOMMENDED:

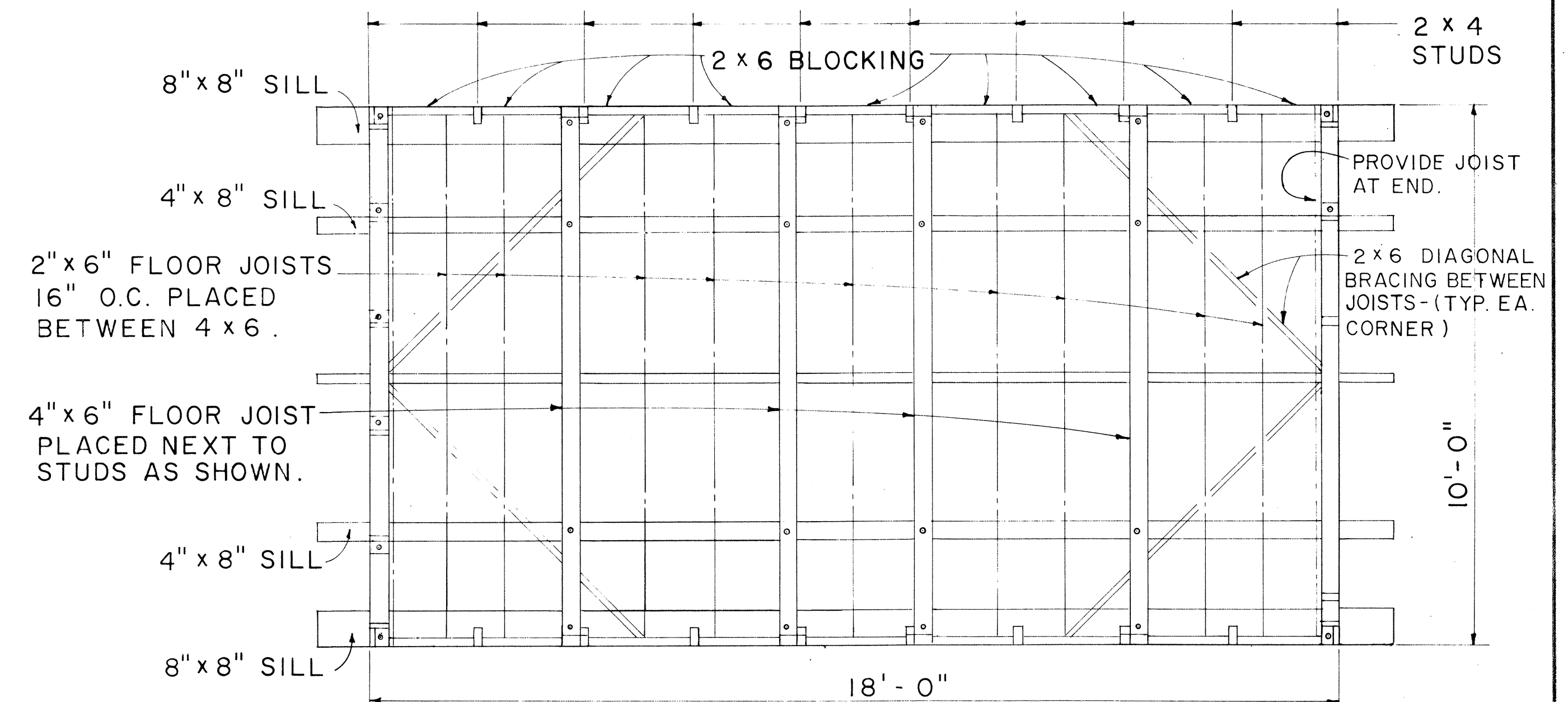
HIGHWAY DESIGN ENGINEER

12-4-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING

12-10-65
DATE



FLOOR FRAMING PLAN

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

NO.	REVISION	APPROVED BY	DATE
2			
3			

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PROJECT SITE LABORATORY

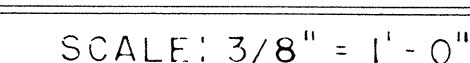
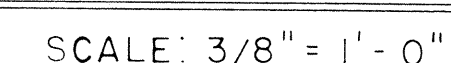
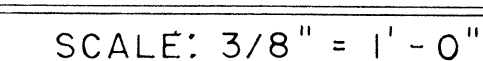
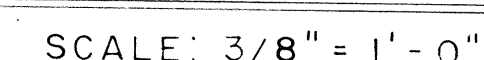
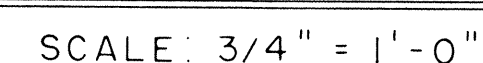
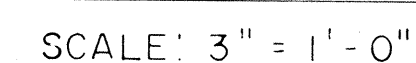
Scale : As Noted

SHEET No. 3 OF 20 SHEETS		DD 636.3
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45

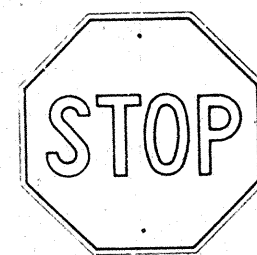
ORIGINAL PLAN	SURVEY PLOTTED BY.....	DATE.....
NOTE BOOK	DRAWN BY.....	44
	TRACED BY.....	44
	DESIGNED BY.....	44
	QUANTITIES BY.....	44
No.....	CHECKED BY.....	44

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	19
	TRACED BY	6
	DESIGNED BY	10
	QUANTITIES BY	10
No.	CHECKED BY	12

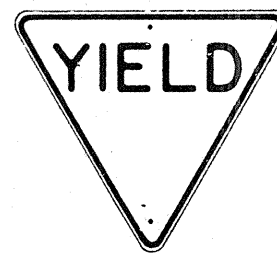


SHEET No. 4 OF 20 SHEETS DD 636.4

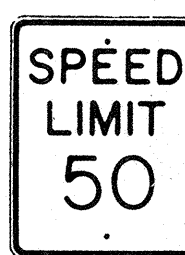
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-T1	1971	49	62



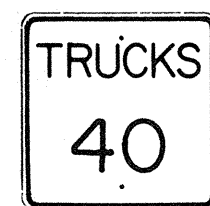
R1-1 30"x 30"



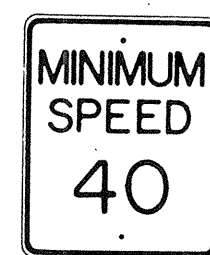
R1-2 36"x 36"x 36"
R1-2-E 48"x 48"x 48"
R1-2-I 60"x 60"x 60"



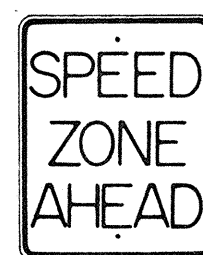
R2-1(50) 24"x 30"
R2-1(50)-E 36"x 48"
R2-1(50)-I 48"x 60"



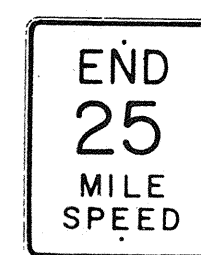
R2-2(40) 24"x 24"
R2-2(40)-E 36"x 36"
R2-2(40)-I 48"x 48"



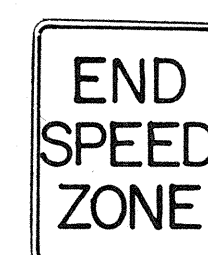
R2-4(40) 24"x 30"
R2-4(40)-E 36"x 48"
R2-4(40)-I 48"x 60"



R2-5 24"x 30"
R2-5-E 36"x 48"
R2-5-I 48"x 60"



R2-6(25) 24"x 30"
R2-6(25)-E 36"x 48"
R2-6(25)-I 48"x 60"



R2-7 24"x 30"
R2-7-E 36"x 48"
R2-7-I 48"x 60"



R3-1 24"x 30"
R3-1-E 36"x 48"



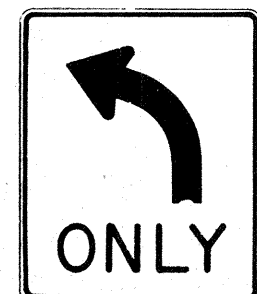
R3-2 24"x 30"
R3-2-E 36"x 48"



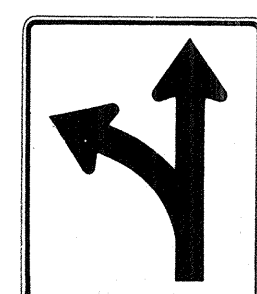
R3-3 24"x 24"



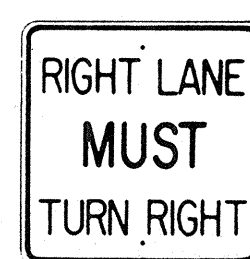
R3-4 24"x 30"
R3-4-E 36"x 48"
R3-4-I 48"x 60"



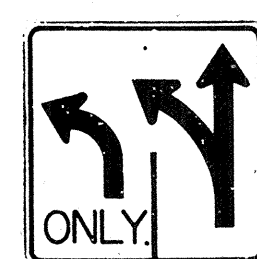
R3-5(L) 30"x 36"



R3-6(L) 30"x 36"



R3-7(R) 30"x 30"



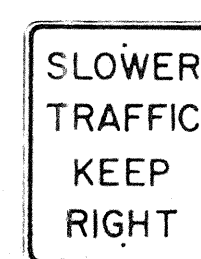
R3-8(L) 30"x 30"



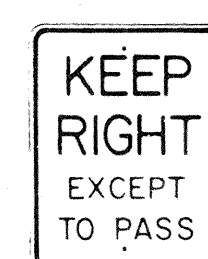
R4-1 24"x 30"



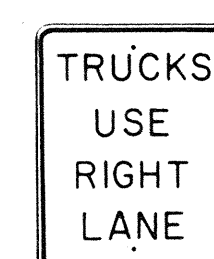
R4-2 24"x 30"



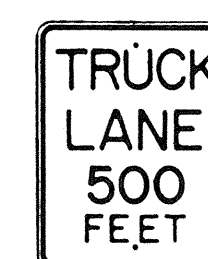
R4-3 24"x 30"
R4-3-E 36"x 48"
R4-3-I 48"x 60"



R4-4 24"x 30"
R4-4-E 36"x 48"
R4-4-I 48"x 60"



R4-5 24"x 30"
R4-5-E 36"x 48"



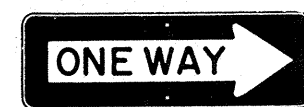
R4-6 24"x 30"
R4-6-E 36"x 48"



R4-7(R) 24"x 30"
R4-7(R)-E 36"x 48"



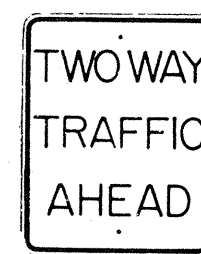
R5-1 24"x 24"



R6-1(R) 36"x 12"



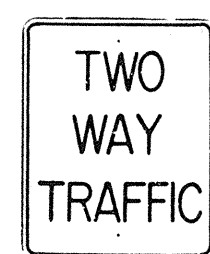
R6-2(R) 18"x 24"



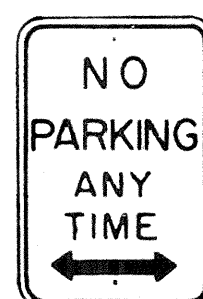
R6-3 24"x 30"



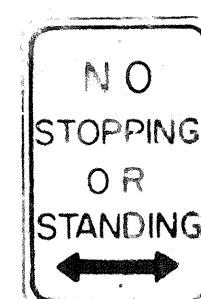
R6-4 24"x 30"



R6-5 24"x 30"



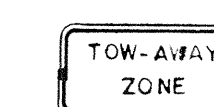
R7-1 12"x 18"



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



R7-107(R) 12"x 18"



R7-201 12"x 6"



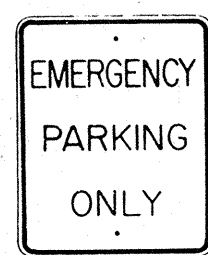
R8-1 24"x 30"
R8-1-E 36"x 48"
R8-1-I 48"x 60"



R8-2 24"x 30"
R8-2-E 36"x 48"



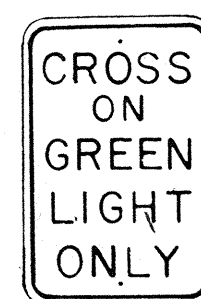
R8-3 24"x 30"
R8-3-E 36"x 48"



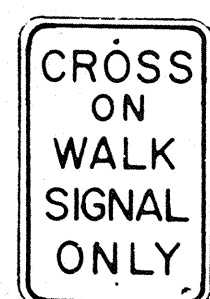
R8-4 24"x 30"
R8-4-E 36"x 48"
R8-4-I 48"x 36"



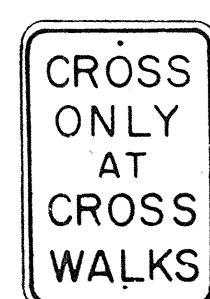
R9-1 18"x 24"



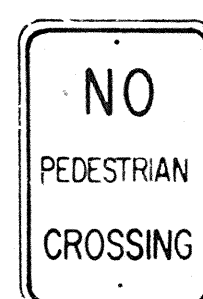
R9-2 12"x 18"



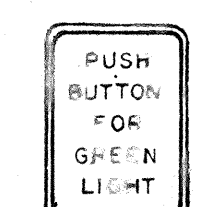
R9-3 12"x 18"



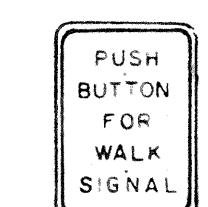
R9-4 12"x 18"



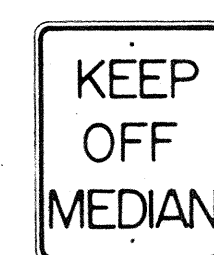
R9-5 12"x 18"



R9-6 9"x 12"



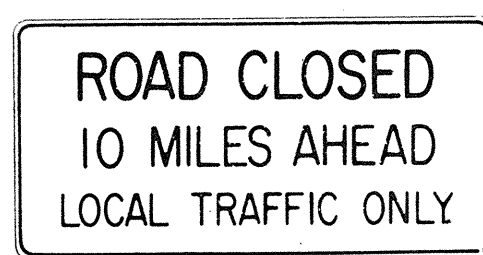
R9-7 9"x 12"



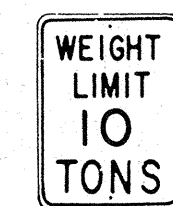
R10-1 24"x 30"
R10-1-E 36"x 48"
R10-1-I 48"x 60"



R10-2 48"x 30"



R10-3(10) 60"x 30"



R10-4(10) 18"x 24"

NOTE:

- The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
- The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
- For R2 signs, number in () indicates speed and shall be as shown on the plans.
- (R) or (L) indicates right or left and shall be as shown on the plans.
- For R10-4 sign, number in () indicates weight and shall be as shown on the plan.

APPROVAL RECOMMENDED:

Eishi Tanaka
TRAFFIC ENGINEER

12/29/69
DATE

APPROVED:

W. S. S. S.
ASSISTANT CHIEF, ENGINEERING

12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

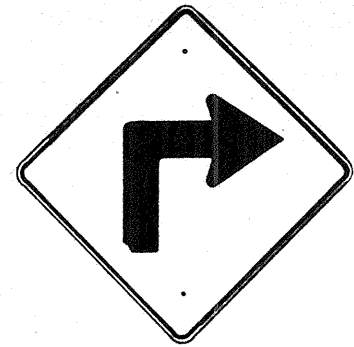
STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE

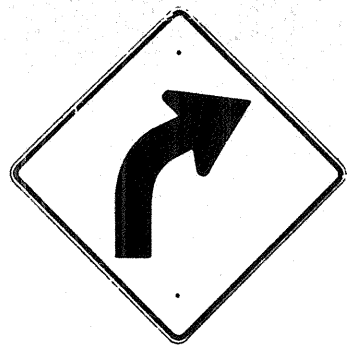
SHEET No. 7 OF 20 SHEETS DT 121

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

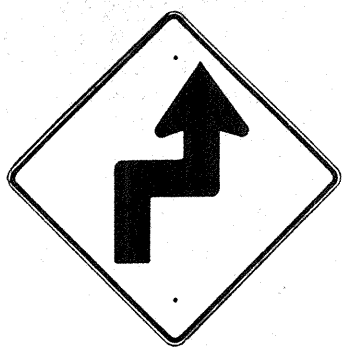
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	50	62



WI-1(R) 30" x 30"



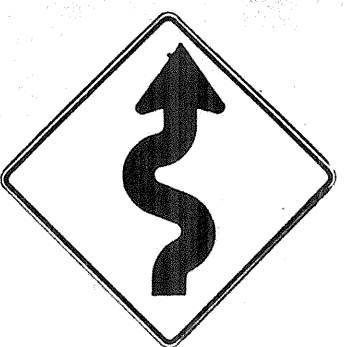
WI-2(R) 30" x 30"



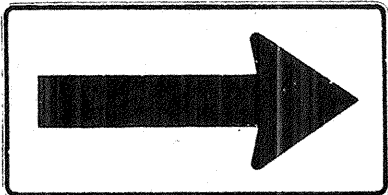
WI-3(R) 30" x 30"



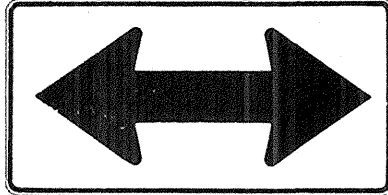
WI-4(R) 30" x 30"



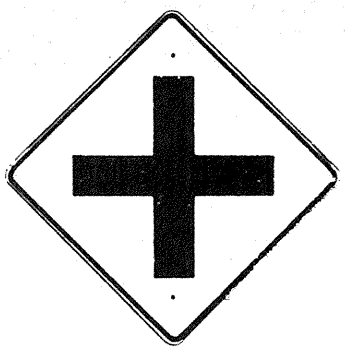
WI-5(R) 30" x 30"



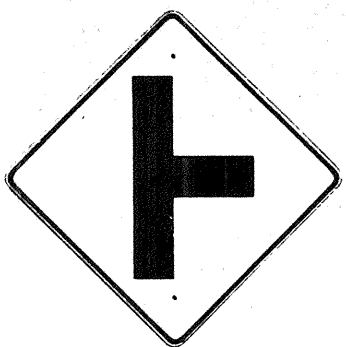
WI-6 48" x 24"



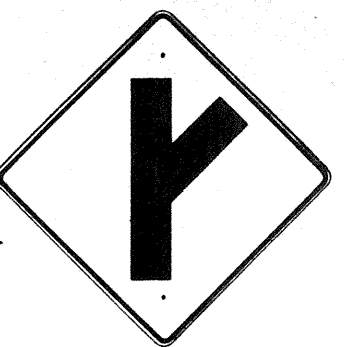
WI-7 48" x 24"



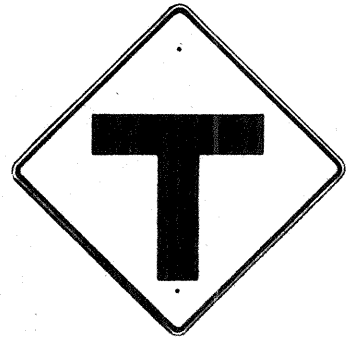
W2-1 30" x 30"



W2-2 30" x 30"



W2-3(R) 30" x 30"



W2-4 30" x 30"



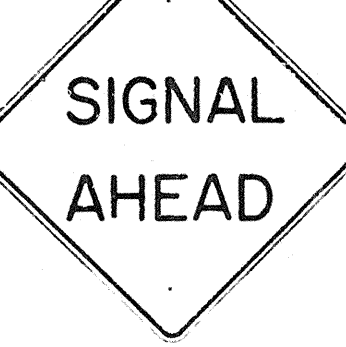
W2-5 30" x 30"



W3-1 30" x 30"



W3-2 30" x 30"



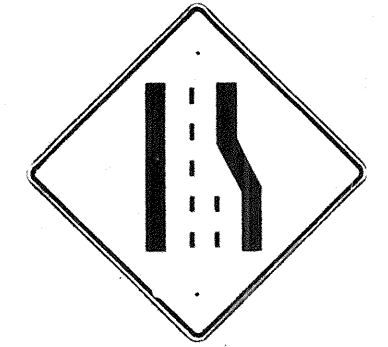
W3-3 36" x 36"



W4-1 30" x 30"

W4-1-E 36" x 36"

W4-1-I 48" x 48"



W4-2 30" x 30"

W4-2-E 36" x 36"



W5-1 30" x 30"

W5-1-E 36" x 36"



W5-2 30" x 30"



W5-3 30" x 30"



W6-1 36" x 36"



W6-2 36" x 36"



W7-1 30" x 30"



W8-1 30" x 30"



W8-2 30" x 30"



W8-3 30" x 30"



W8-4 30" x 30"



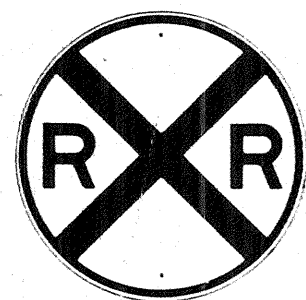
W8-5 30" x 30"



W9-1 30" x 30"



W9-2 30" x 30"



W10-1 36" DIAMETER



W11-1 30" x 30"



W11-5 30" x 30"



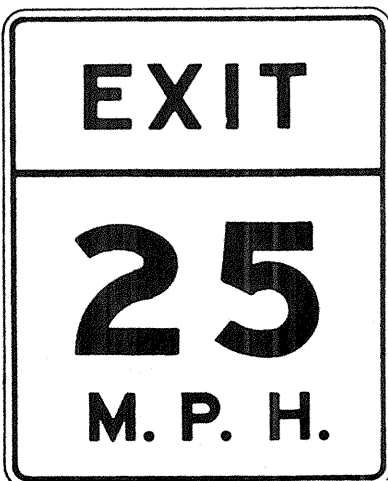
W12-2 36" x 36"



W13-1(35) 18" x 18"
W13-1(35)-E 24" x 24"



W13-2(25) 12" x 18"



W13-3(25) 48" x 60"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. (R) or (L) indicates right or left and shall be as shown on the plan.
5. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
6. For W13 sign, number in () indicates speed and shall be as shown on the plans.

APPROVAL RECOMMENDED:

Erich Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

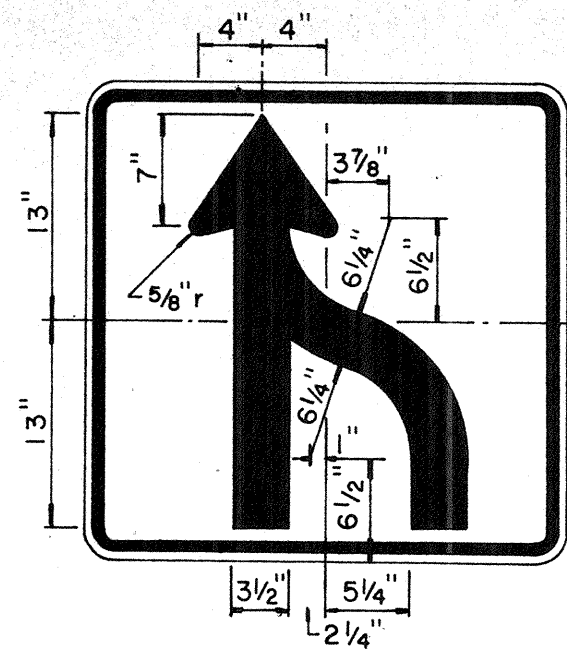
SHEET No. 8 OF 20 SHEETS DT 102

ORIGINAL
PLAN
NOTE BOOK
No.

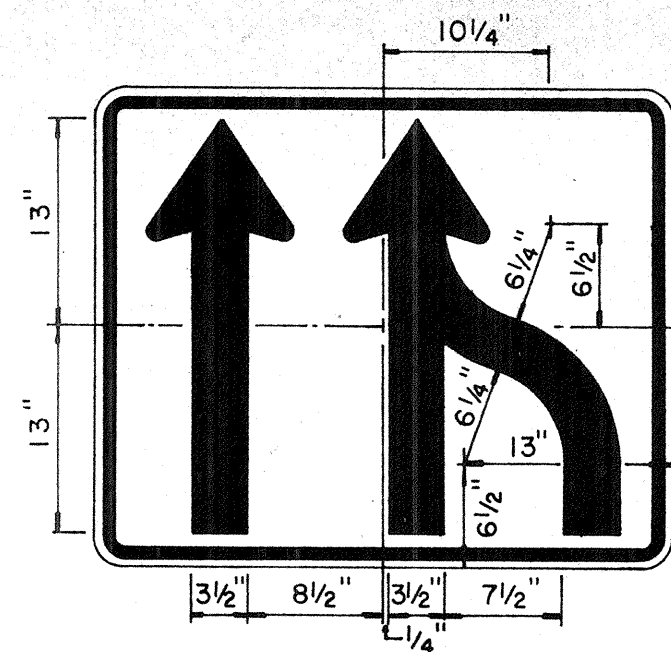
SURVEY PLOTTED BY
DRAWN BY
DESIGNED BY
CHECKED BY

DATE

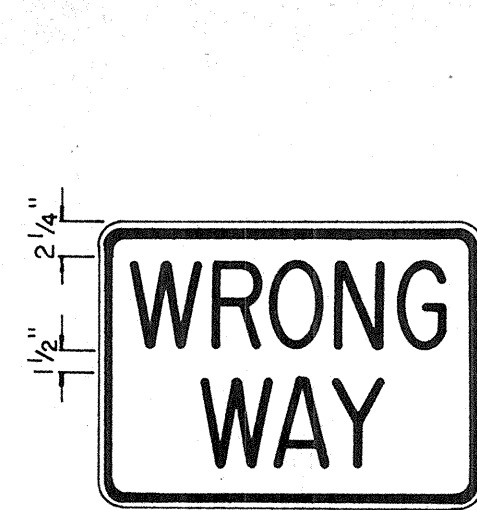
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	51	62



R3-9 30"x 30"

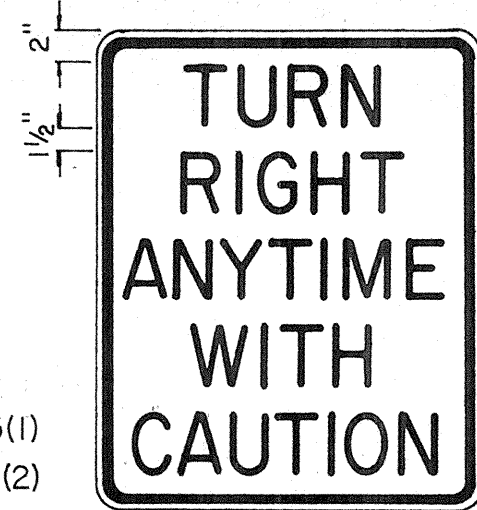


R3-10 36"x 30"

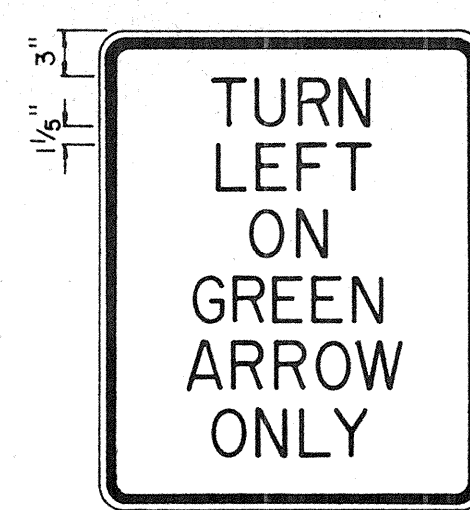


R5-5(1) 24"x 18"
R5-5(2) 36"x 24"

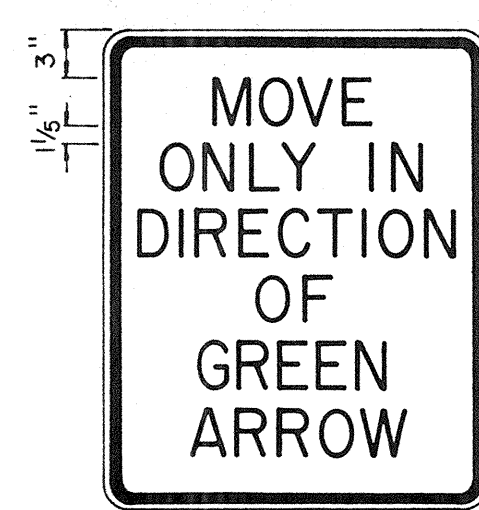
NOTE:
White legend and border
on Red background.



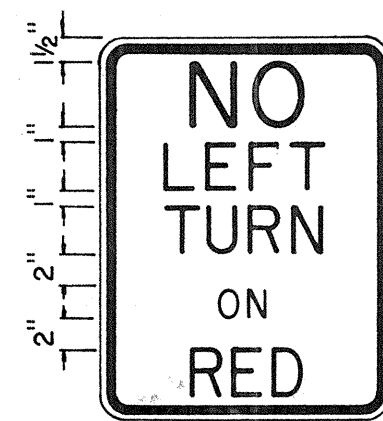
R15-1 24"x 30"



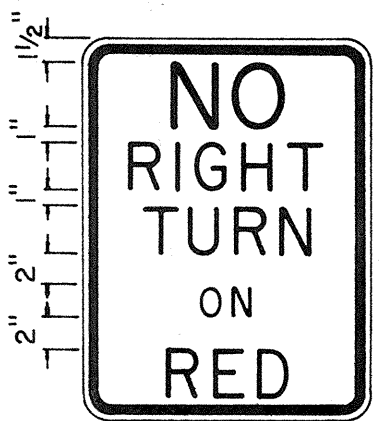
R16-1 24"x 30"



R16-2 24"x 30"



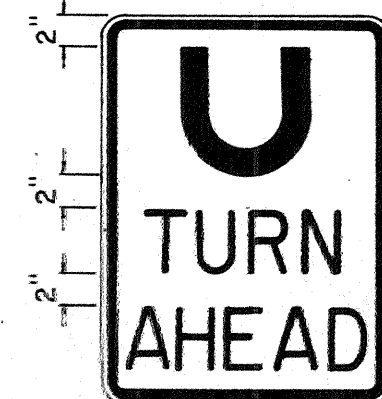
R17-1 18"x 24"



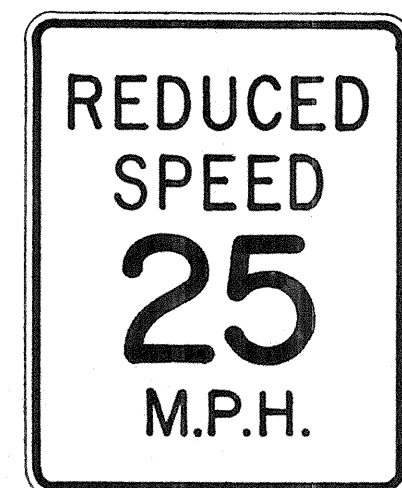
R17-2 18"x 24"



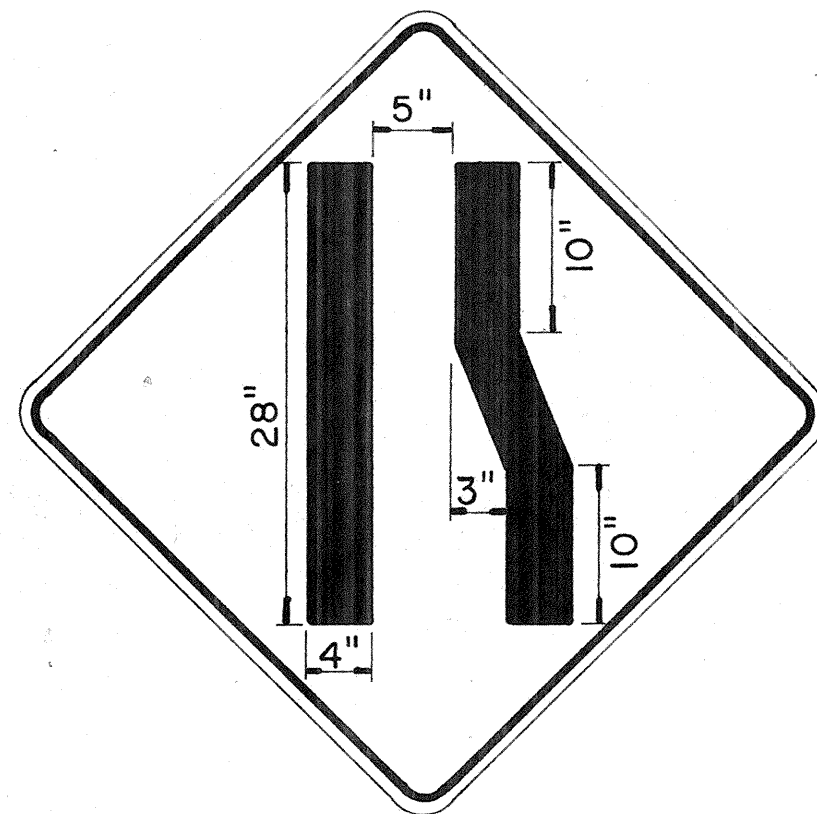
R18-1 36"x 30"



R19-1 18"x 24"



R2-5A(25) 24"x 30"



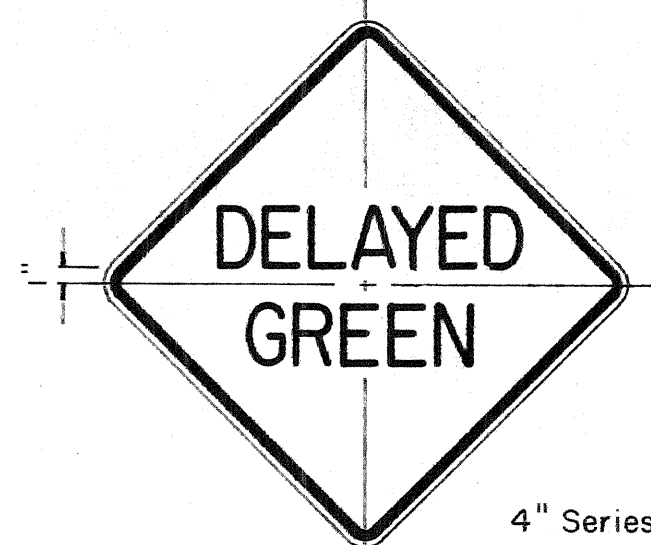
W4-2A(R) 36"x 36"



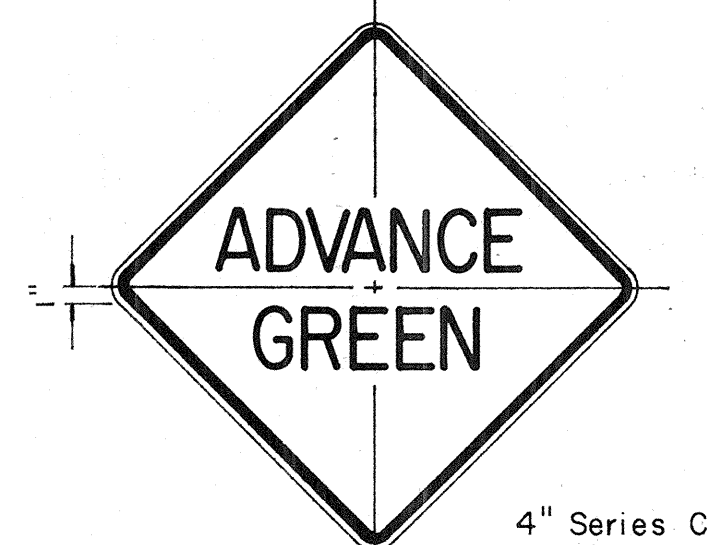
W4-2B(R) 36"x 36"



W13-4 24"x 24"



W15-1 24"x 24"



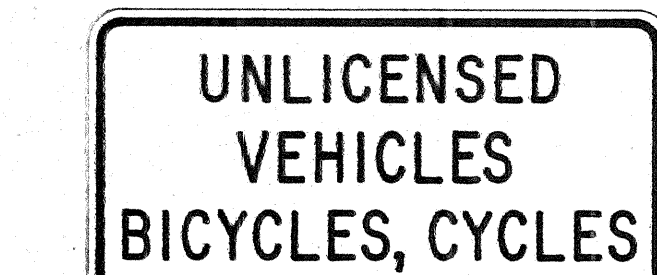
W15-2 24"x 24"



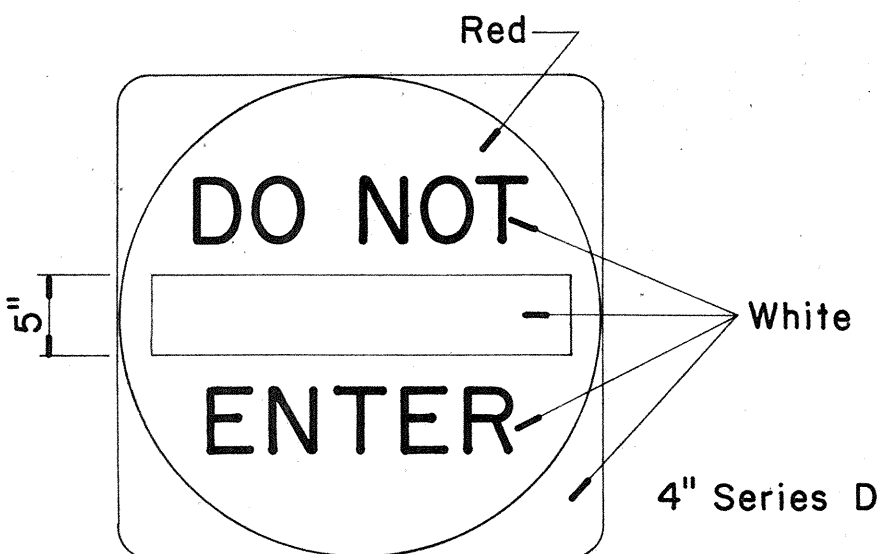
W4-2C(L) 36"x 36"



W13-4A 30"x 30"



SUPPLEMENTARY PLATE
R18-1A 17"x 36"



R5-1A 30"x 30"

- NOTE:
- The shape, color, plate details, lettering and reflectorization of Regulatory signs (Prefix R) and Warning signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
 - All regulatory and warning signs shall be reflectorized unless otherwise specified.
 - All regulatory and warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
 - For R2-5A sign, number in () indicates speed and shall be as shown on the plans.
 - (R) or (L) indicates Right or Left and shall be as shown on the plans.

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

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

NO.	REVISION	APPROVED BY	DATE
1	Added R2-5A(25), R5-1A, W4-2A(R), W4-2B(R), W4-2C(L), W13-4A, R18-1A, Notes 4 & 5	H.C.	5/21/71

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS
Scale: 1" = 1'-0"

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-11	1971	52	62



W 7-2 48" x 48"



W 8-7 30" x 30"



W 14-1 30" x 30"



W 20-1a 48" x 48"



W 20-2d 48" x 48"



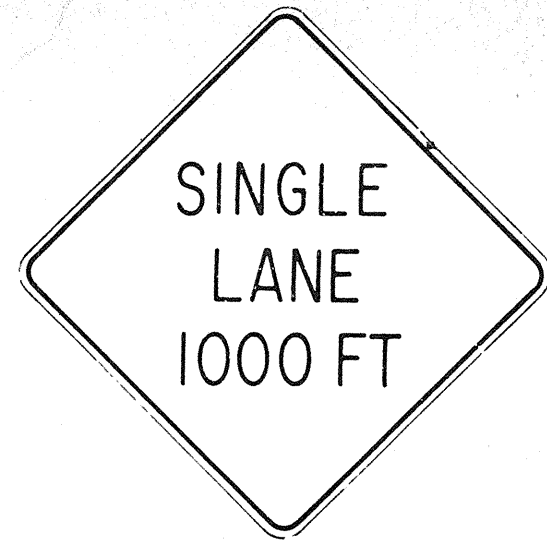
W 20-3b 48" x 48"



W 20-4d 48" x 48"



W 20-5d(L) 48" x 48"



W 20-6b 48" x 48"



W 20-7c 48" x 48"



W 21-1 30" x 30"



W 21-2 24" x 24"



W 21-3 36" x 36"



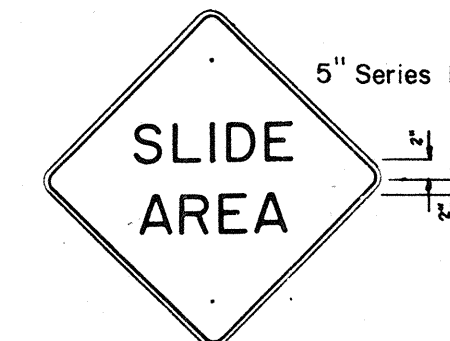
W 21-4 30" x 30"



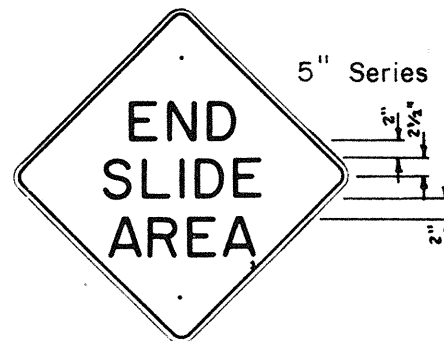
W 21-5 30" x 30"



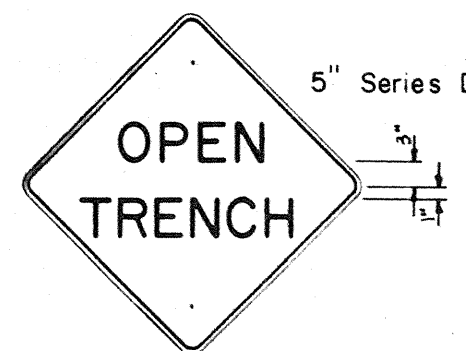
W 21-6 30" x 30"



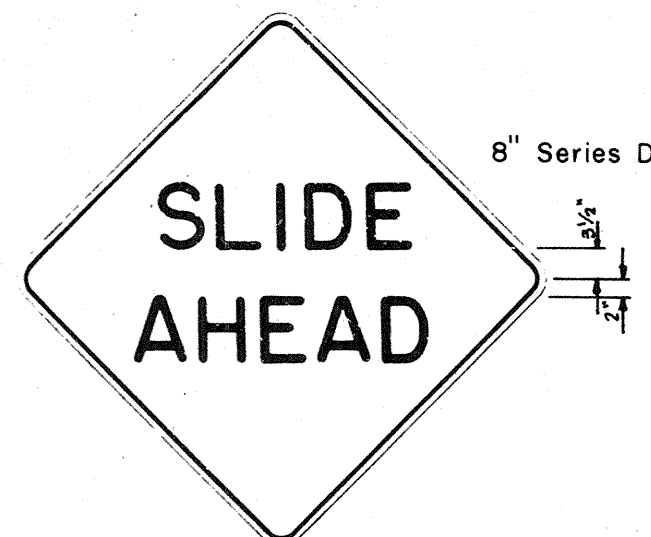
W 22-1 30" x 30"



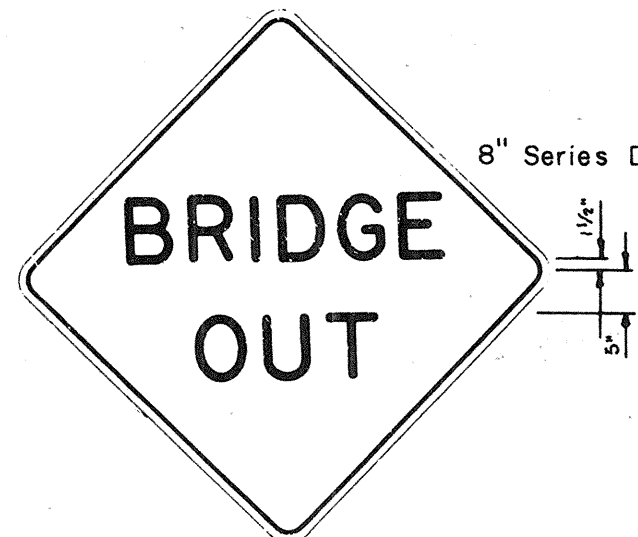
W 22-2 30" x 30"



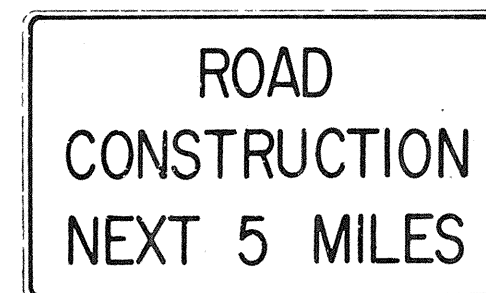
W 22-3 30" x 30"



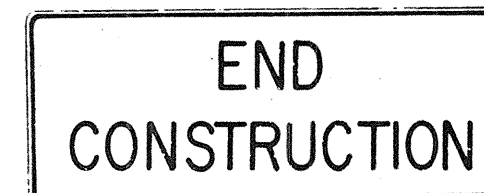
W 22-4 48" x 48"



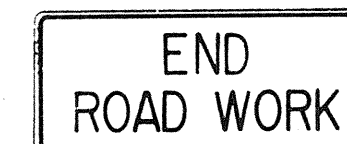
W 22-5 48" x 48"



G 20-1(5) 60" x 36"



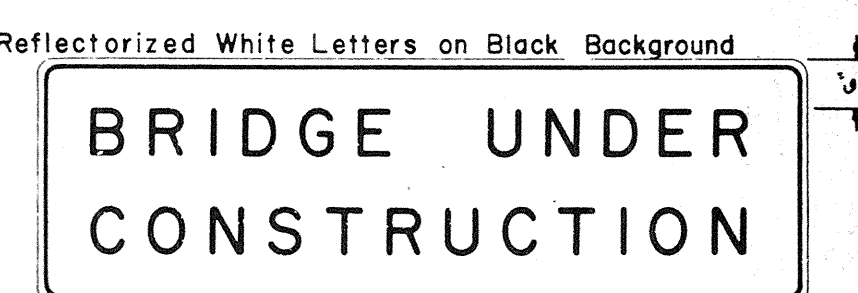
G 20-2 60" x 24"



G 20-3 42" x 18"



M 5-7(L) 48" x 18"



CW-1 96" x 30"

NOTE:

- The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
- All signs shall be reflectorized unless otherwise specified.
- All signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
- For W20 series signs, suffixes a,b,c and d are as follows a 1500 FT, b 1000 FT, c 500 FT and d AHEAD
- (R) or (L) indicates right or left and shall be as shown on the plans.
- Number in () indicates miles and shall be as shown on the plans.

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

APPROVAL RECOMMENDED:

Erich Tanaka
TRAFFIC ENGINEER

12/29/69
DATE

APPROVED:

John J. ...
ASSISTANT CHIEF, ENGINEERING

12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

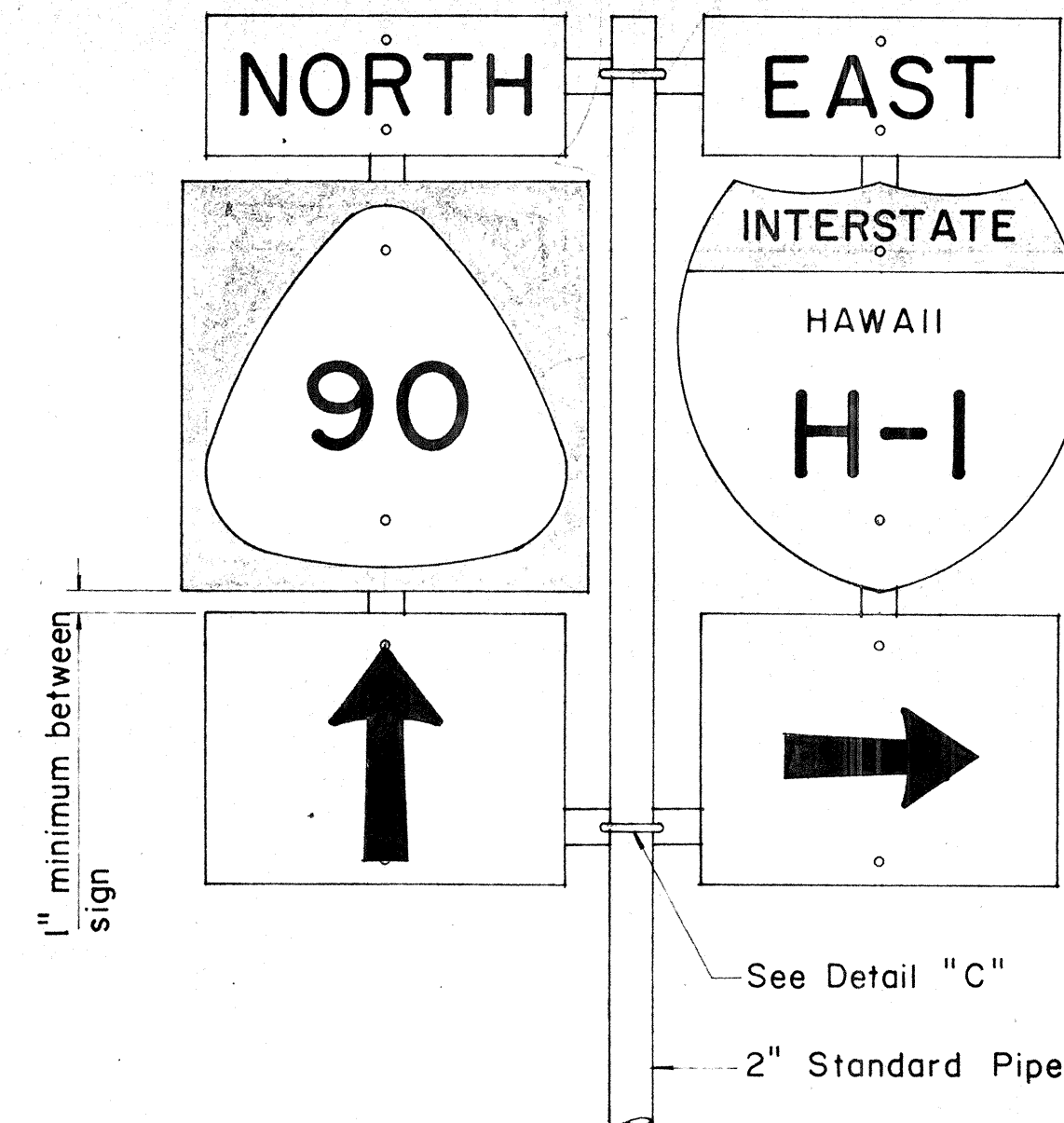
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONSTRUCTION SIGNS

NOT TO SCALE

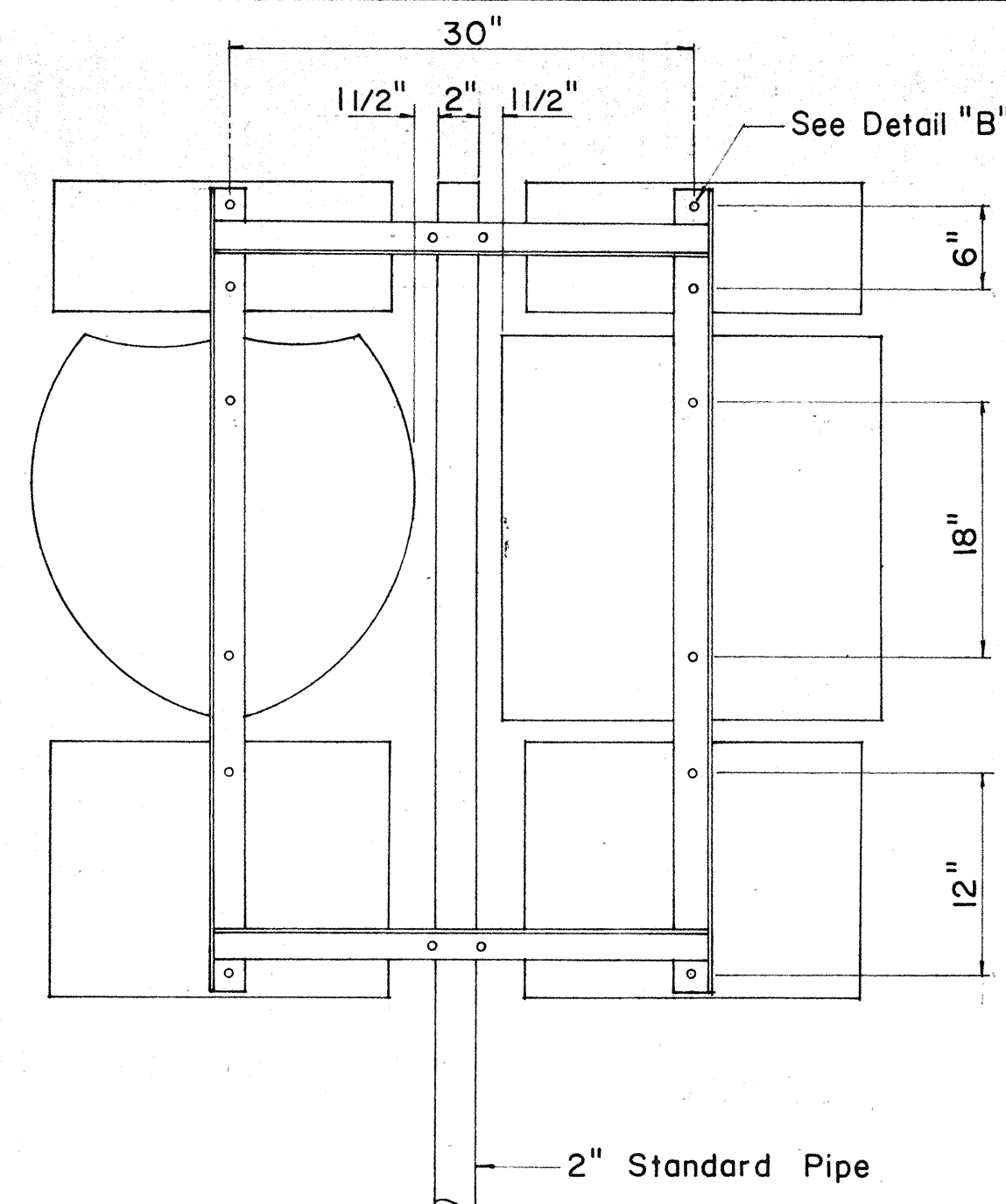
SHEET No. 10 OF 20 SHEETS DT 104

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-8C-01-71	1971	53	62



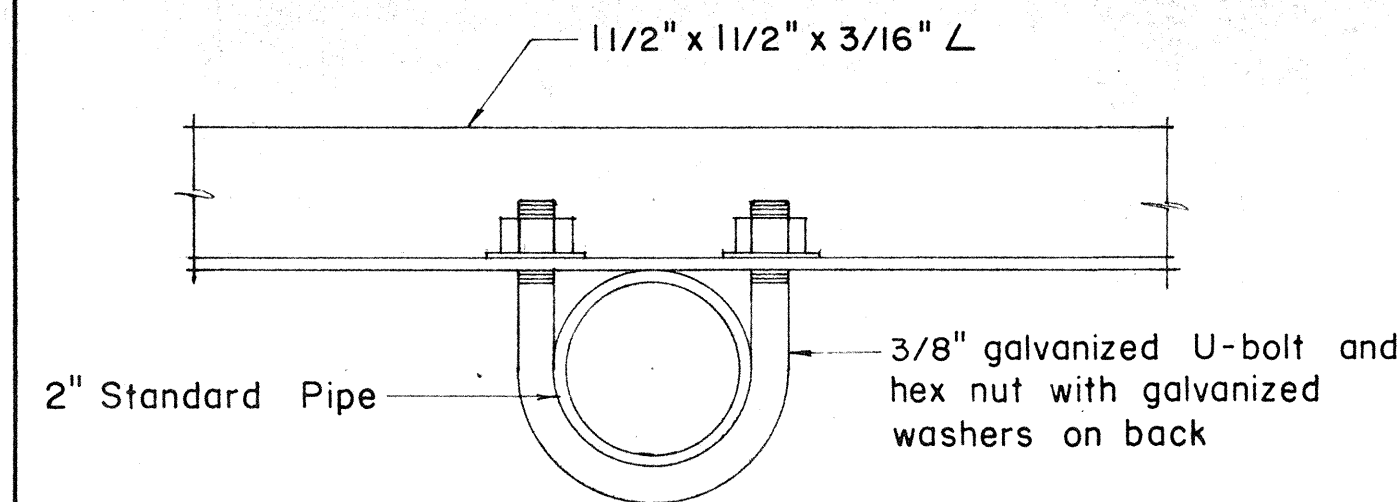
FRONT ELEVATION

TYPE "B" ASSEMBLY

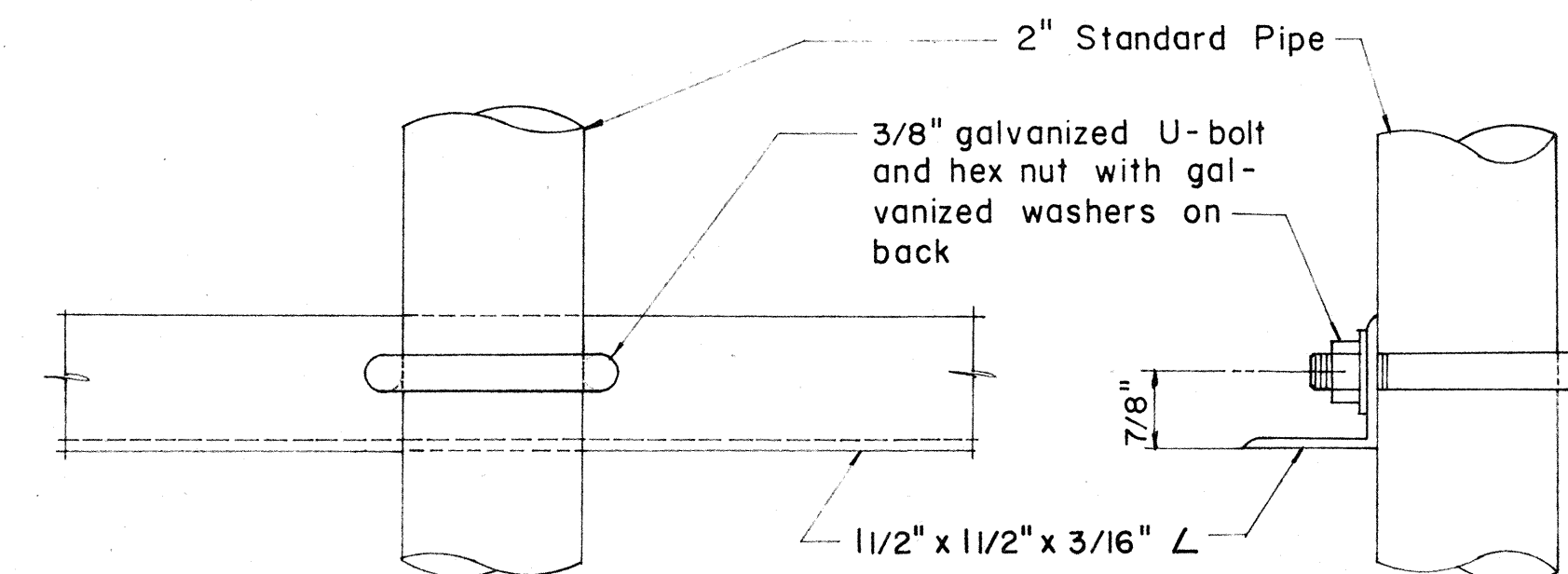


REAR ELEVATION

- NOTE:
1. Minimum clearance between signs shall be one inch. (Larger clearances shall be in multiples of one inch.)
 2. Pipe post for Type "A" & Type "B" Assembly shall be 2" Standard Pipe.



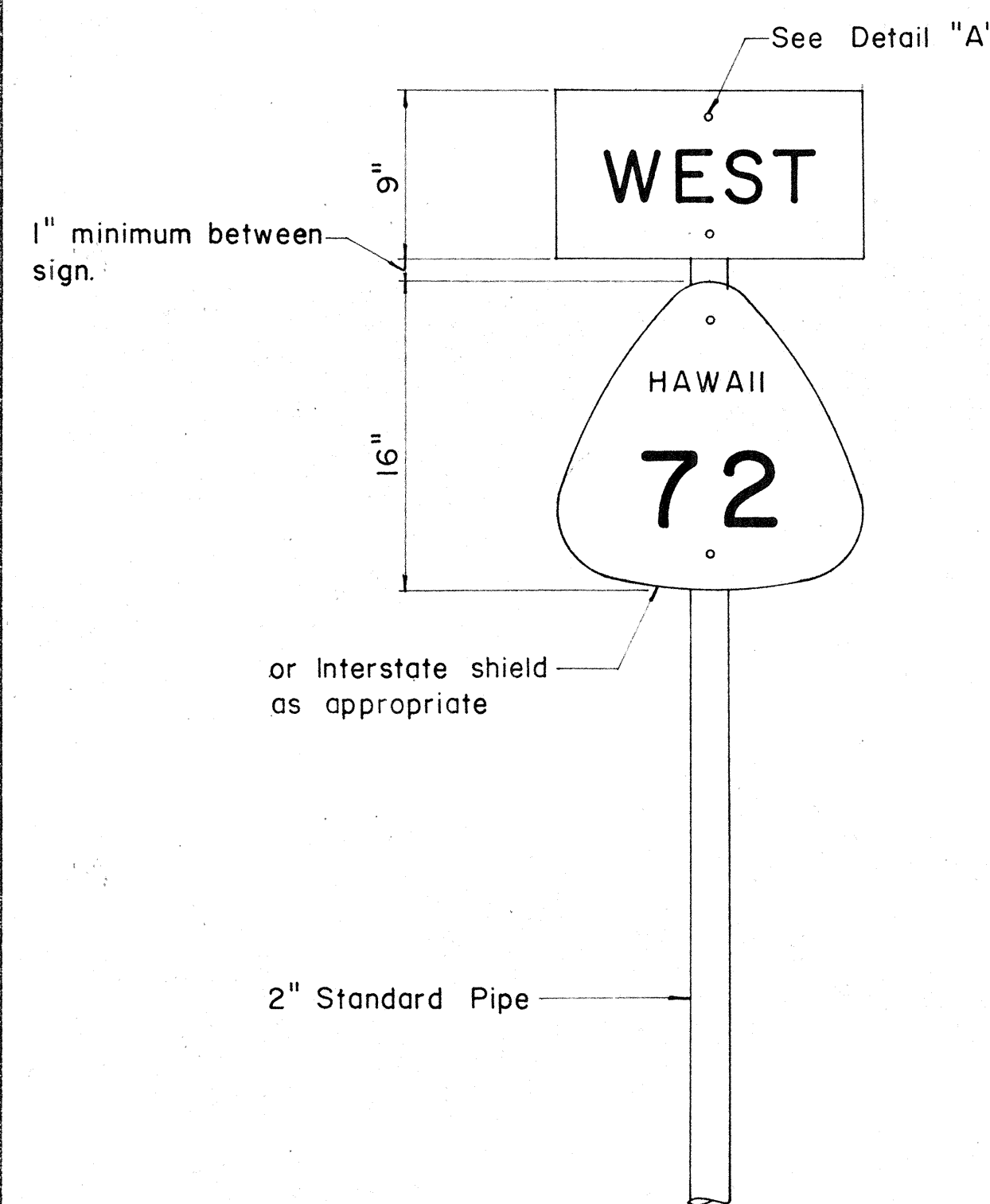
PLAN



FRONT ELEVATION

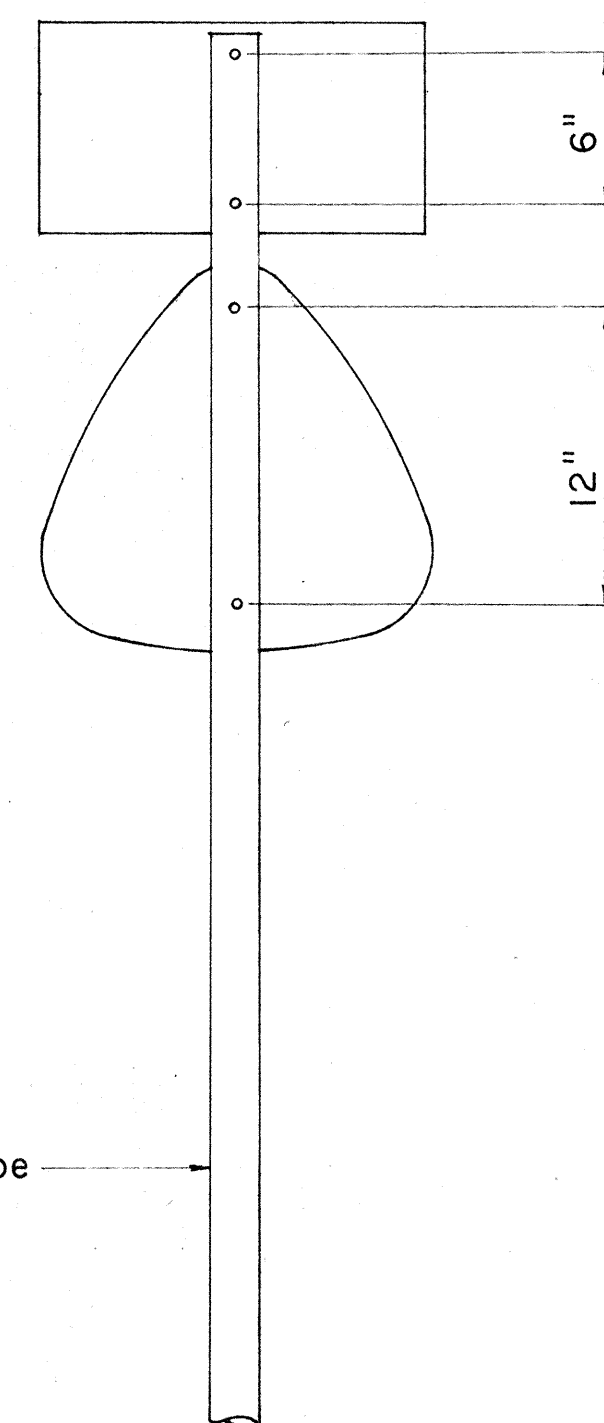
SIDE ELEVATION

DETAIL "C"



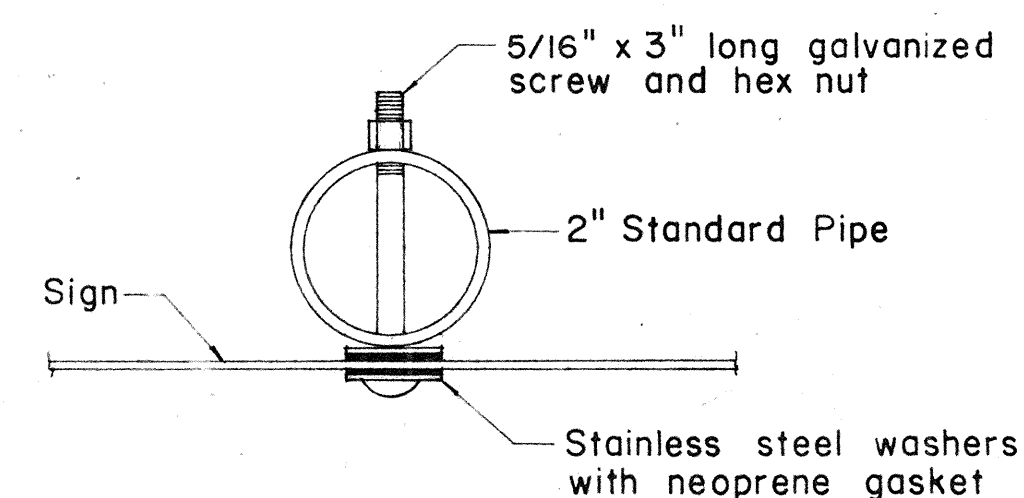
FRONT ELEVATION

TYPE "A" ASSEMBLY

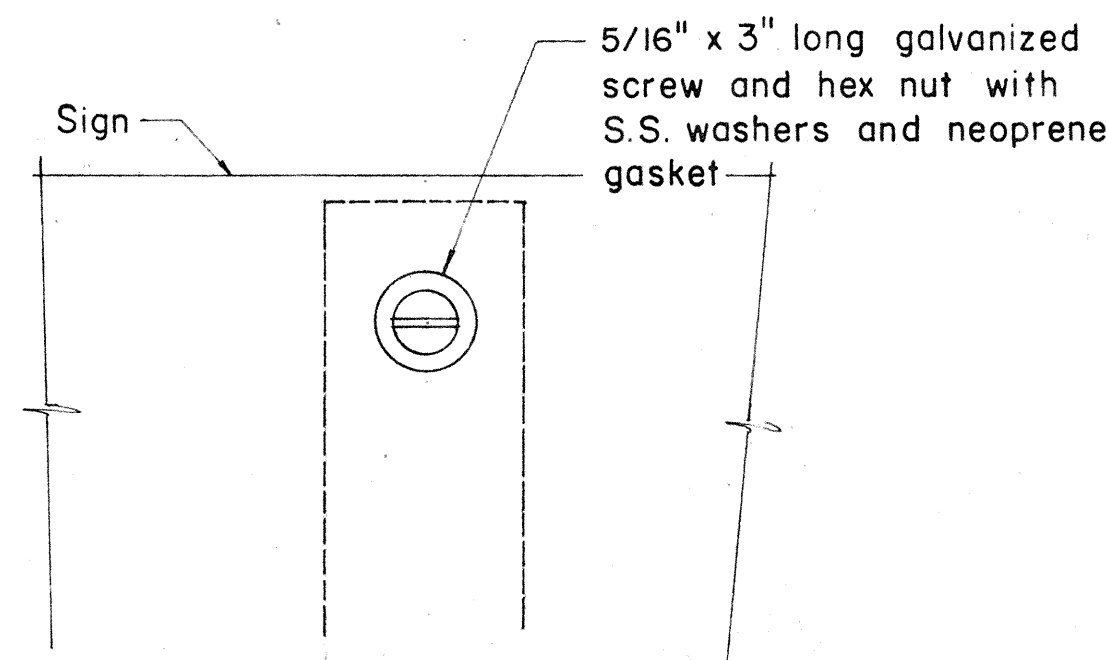


REAR ELEVATION

- NOTE:
- For height and lateral location of Route Marker Assembly, see plan sheet DT 100.

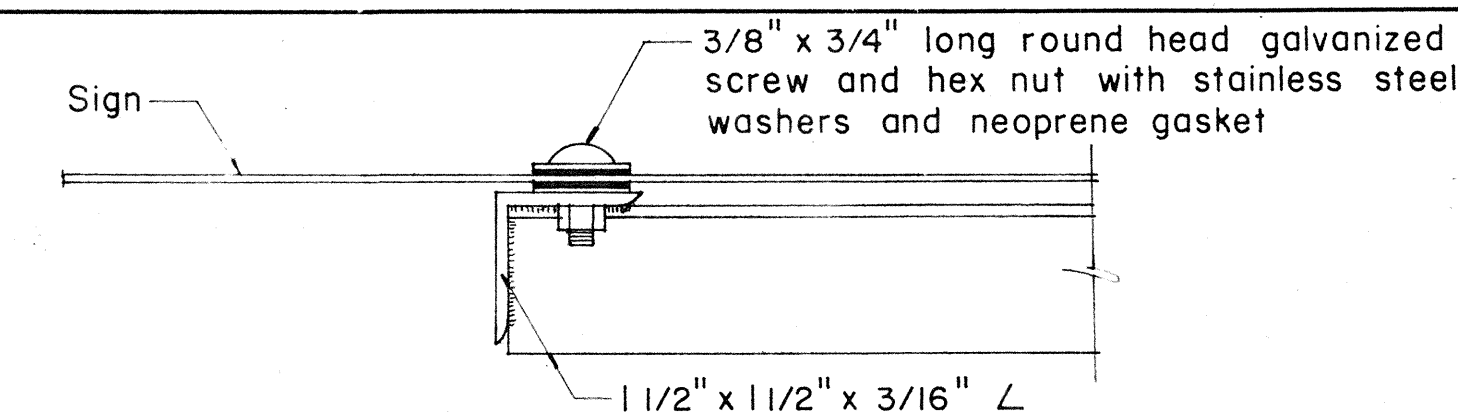


PLAN

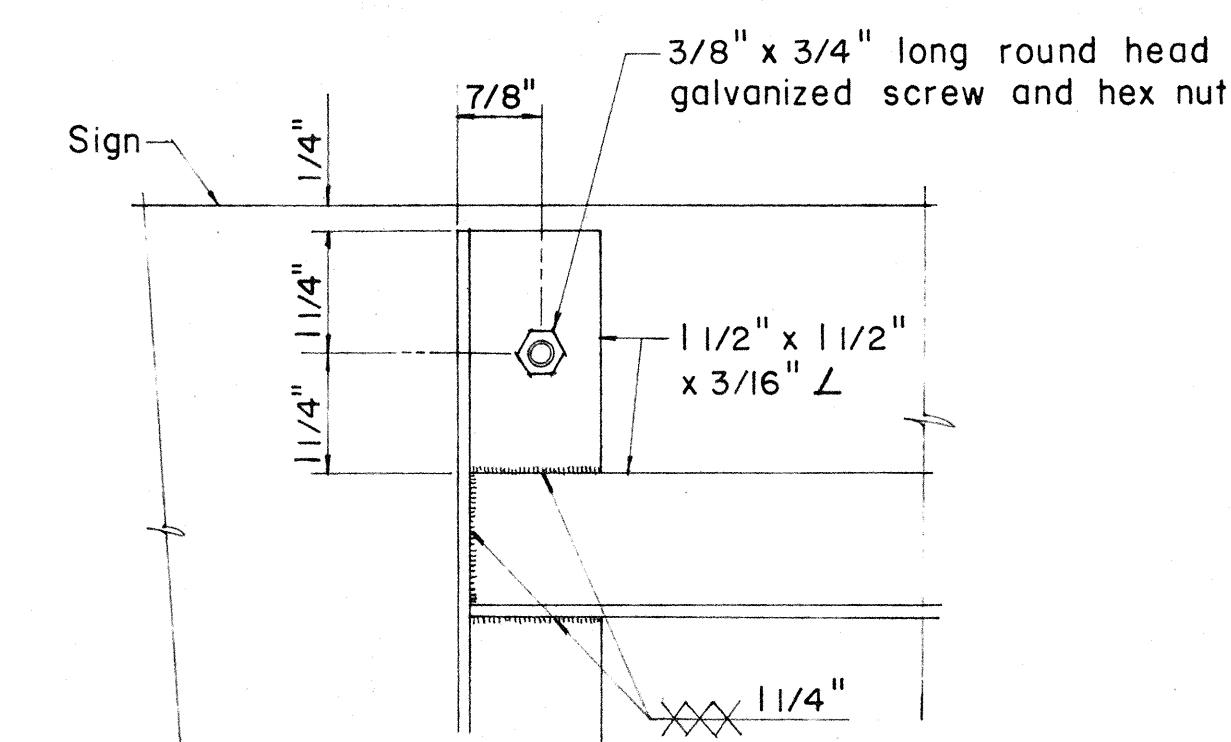


FRONT ELEVATION

DETAIL "A"



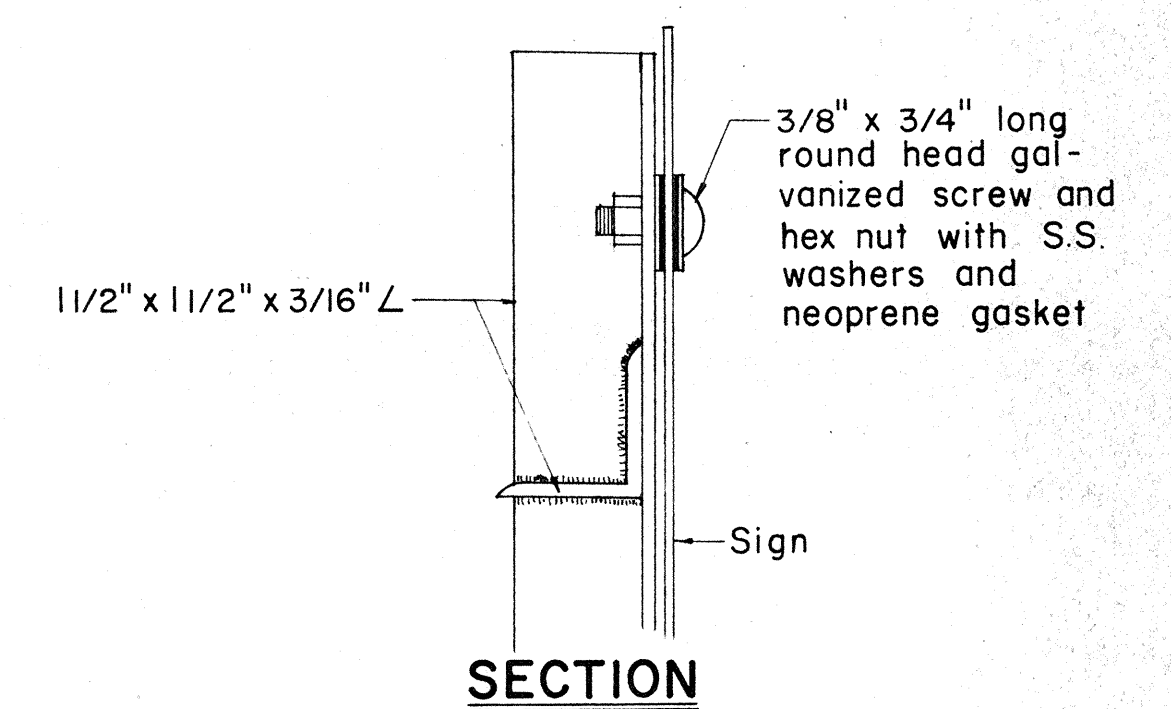
PLAN



ELEVATION

DETAIL "B"

NO.	REVISION	APPROVED BY	DATE



SECTION

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

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

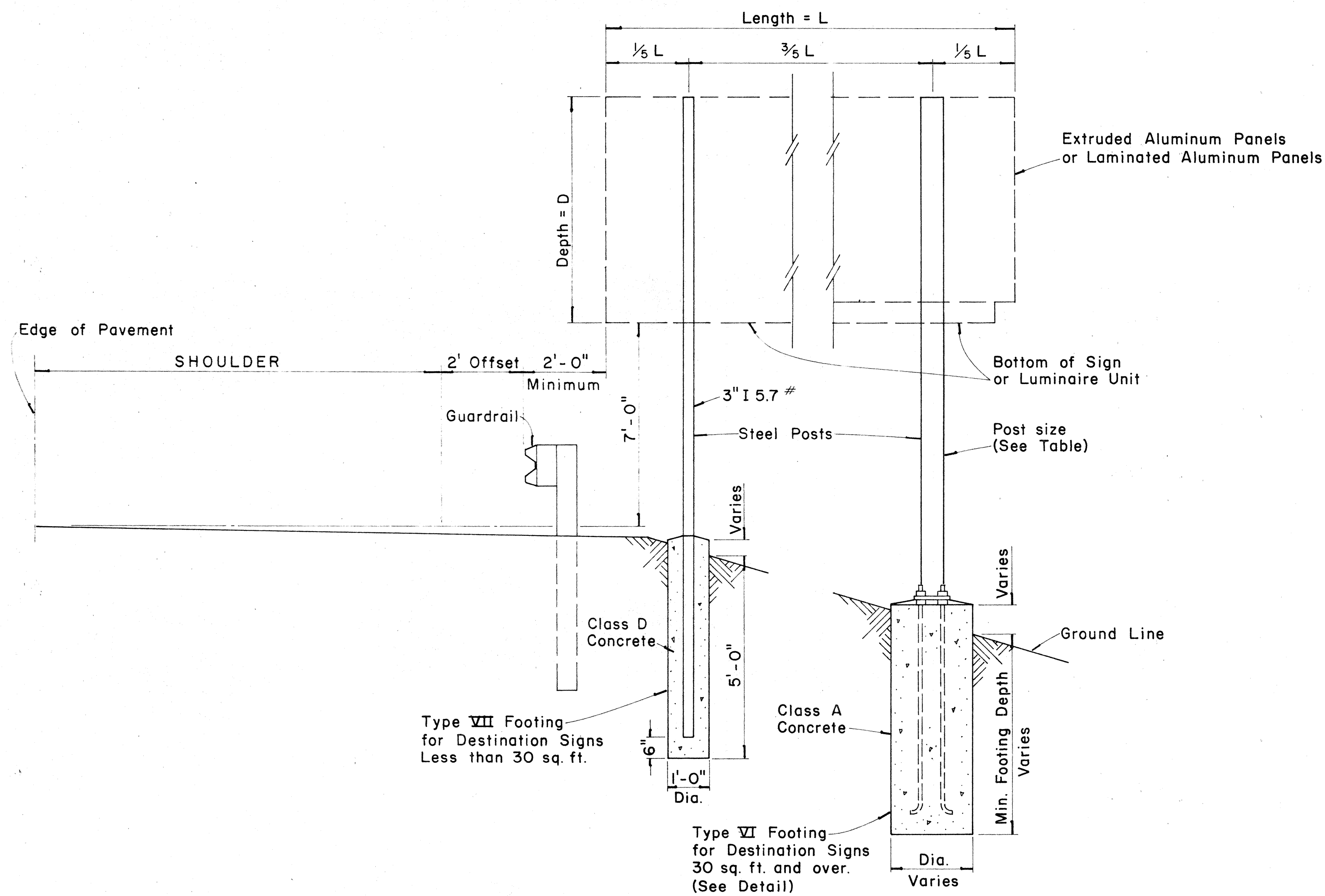
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

DETAILS
 OF
 ROUTE MARKER ASSEMBLY

SHEET No. 11 OF 60 SHEETS DT 107

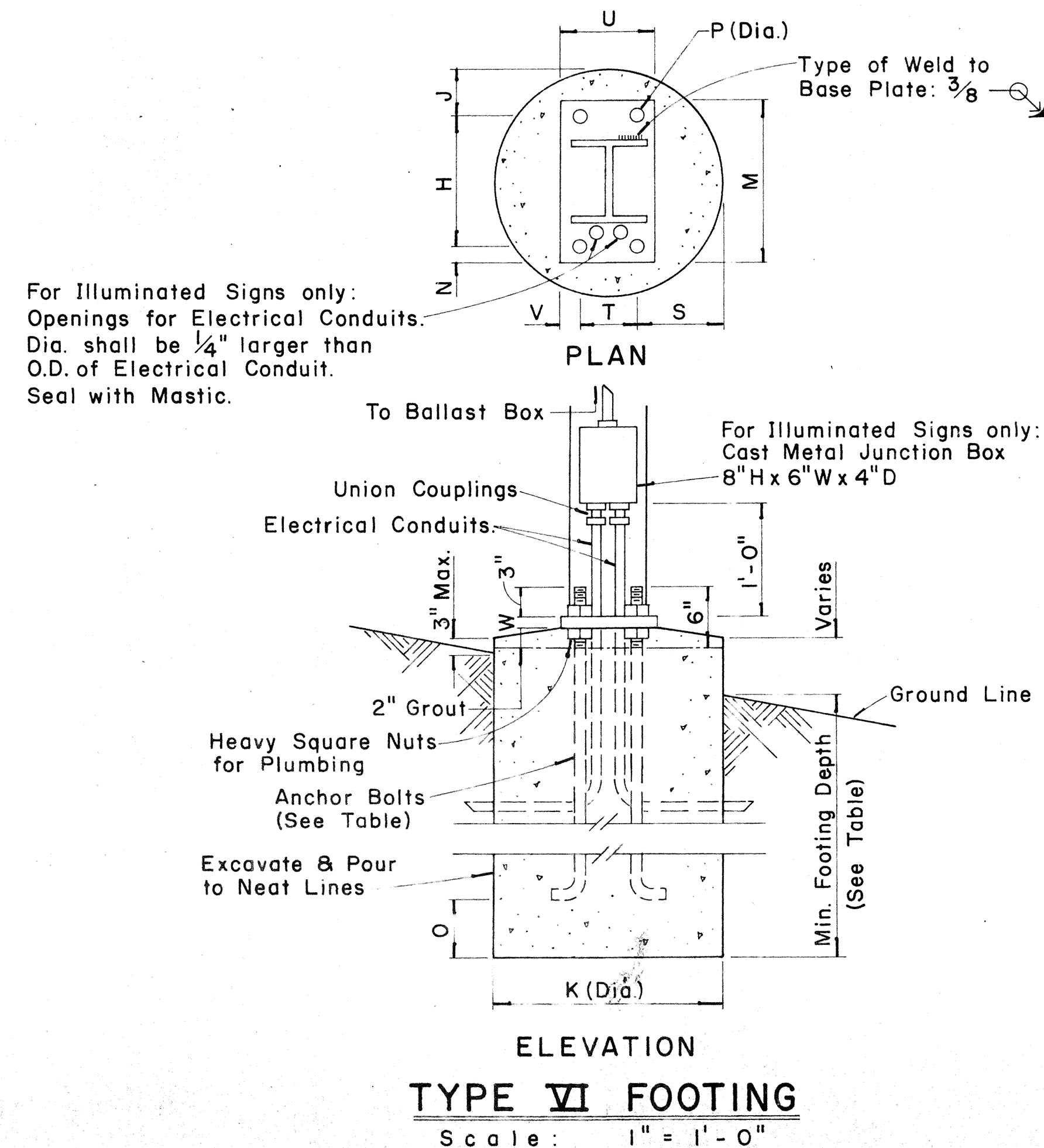
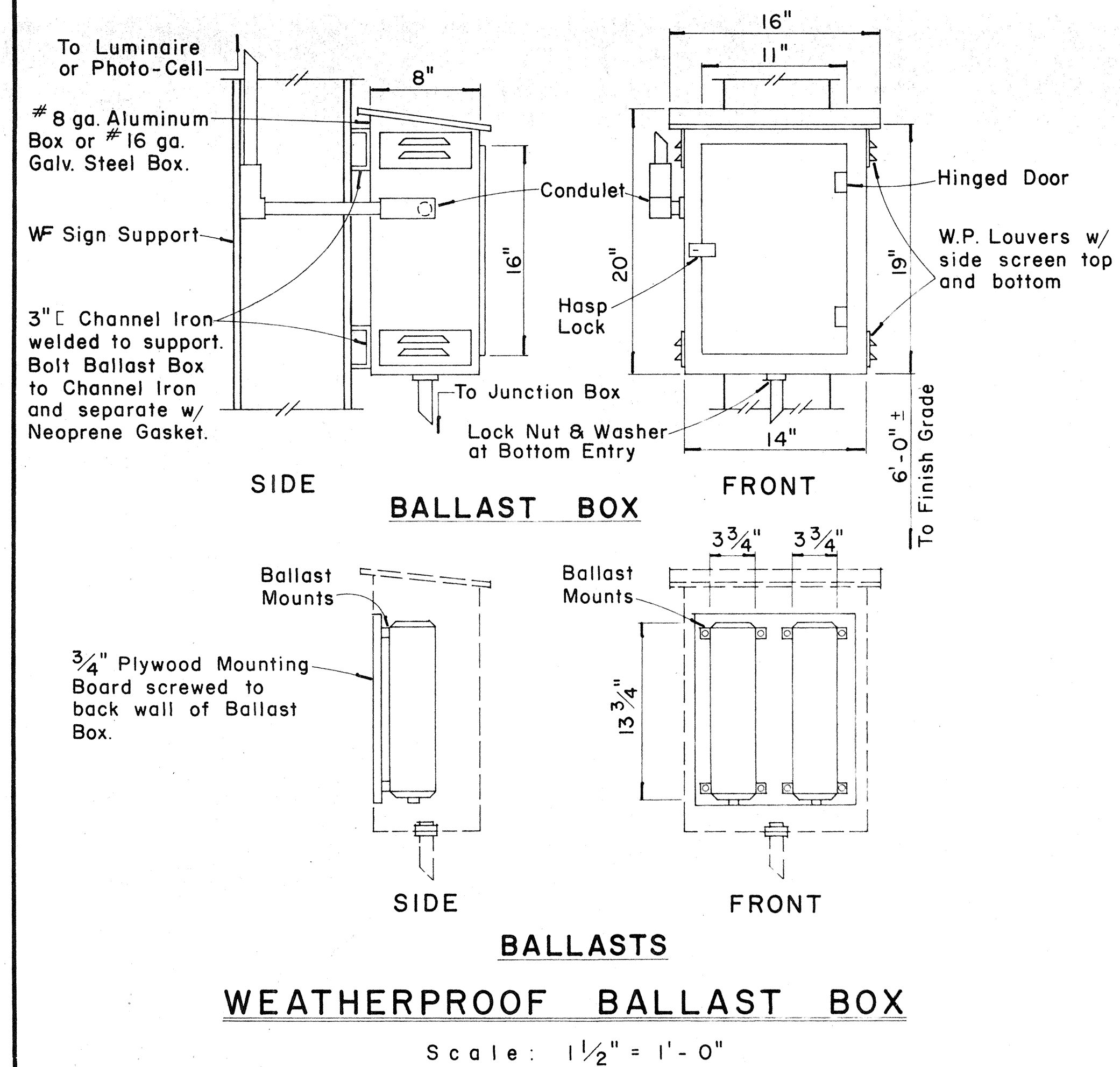
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTE BOOK	
No.	

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

[illegible]

TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale



STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	54	62

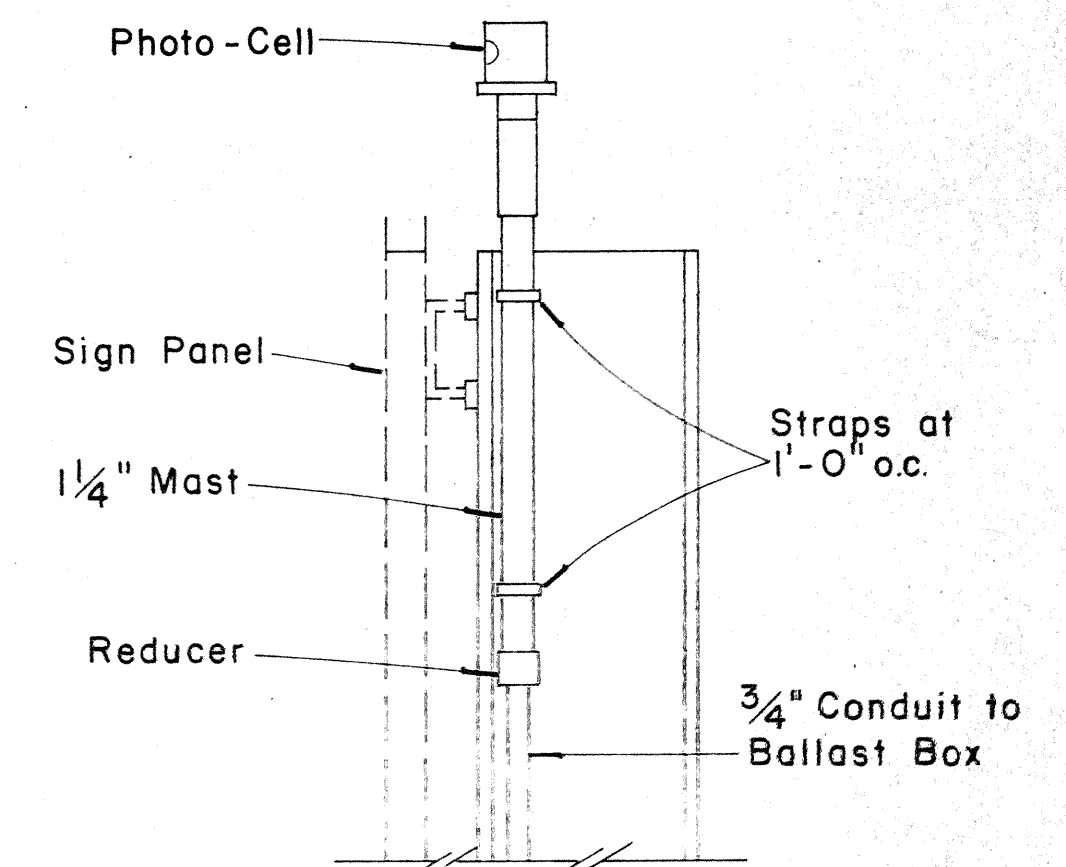


PHOTO - CELL DETAIL

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

APPROVAL RECOMMENDED:

Enchi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

Arthur L. Salter 12-20-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

DESTINATION & GROUND MOUNTED EXPRESSWAY SIGNS

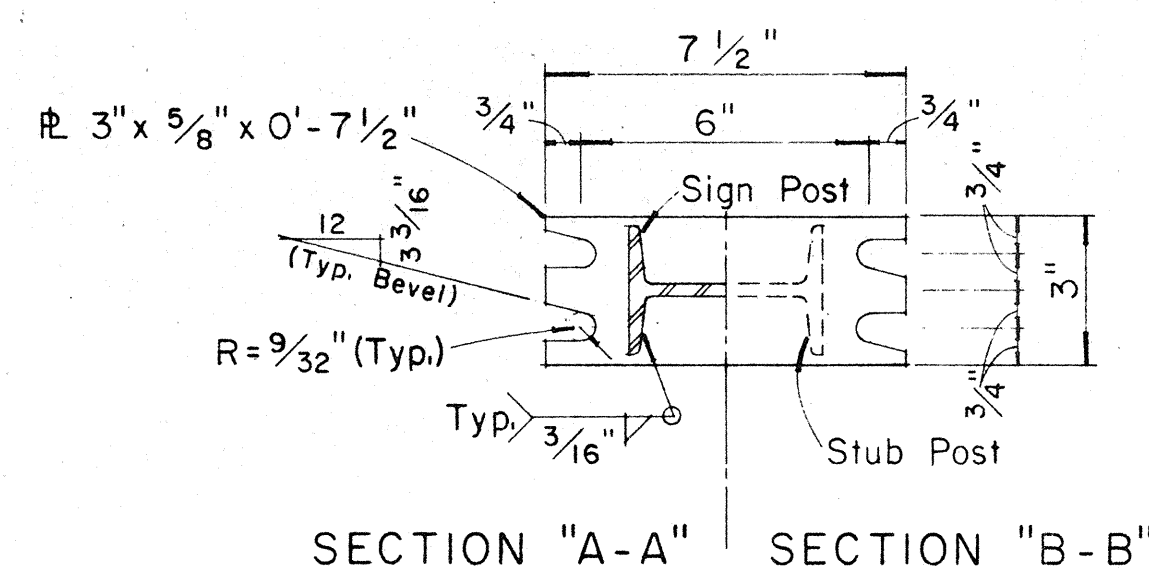
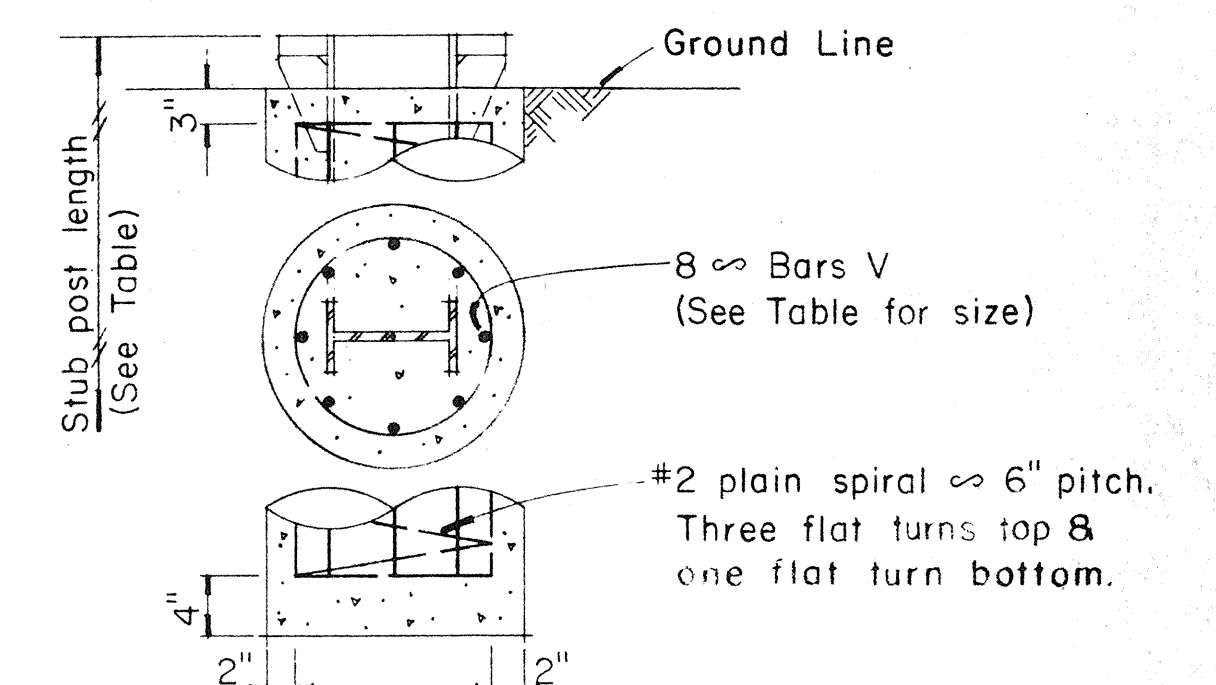
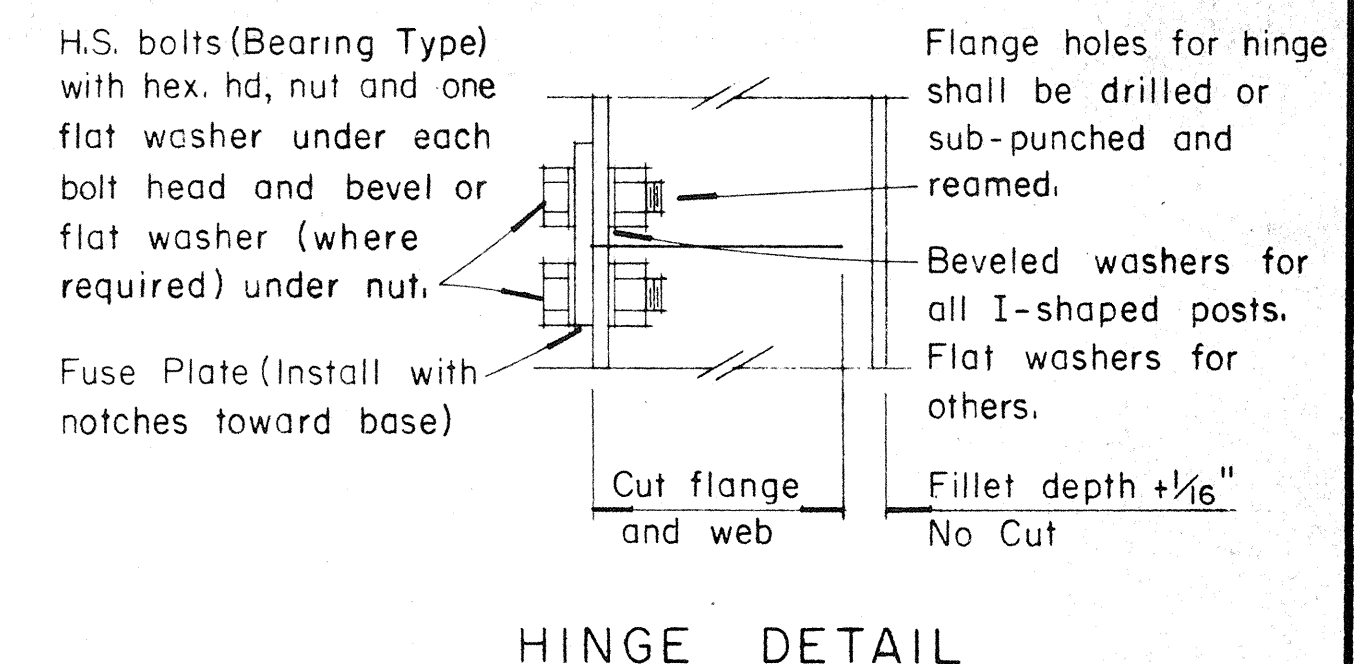
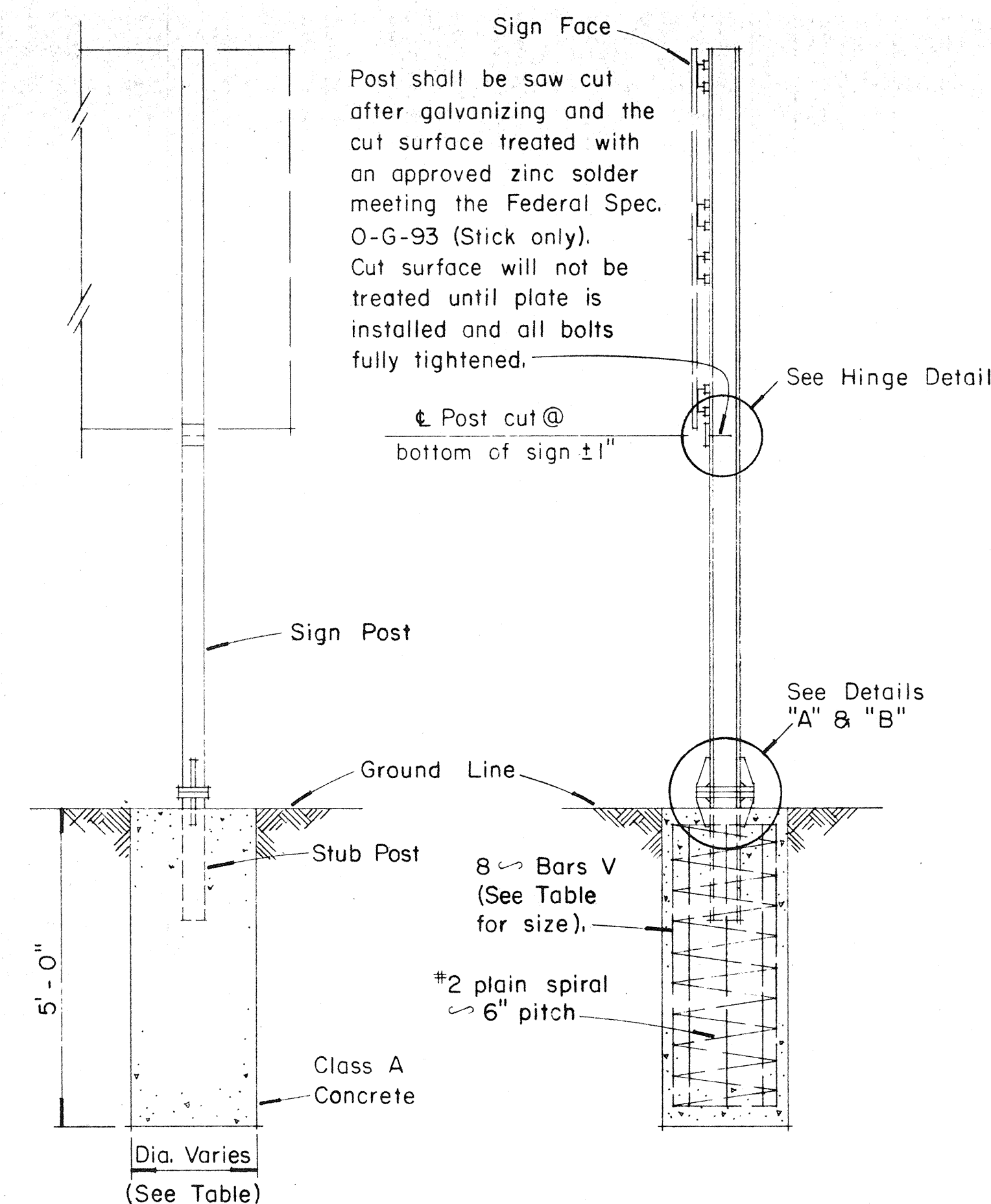
Scale: As Shown

SHEET No. 12 OF 20 SHEETS DT 203

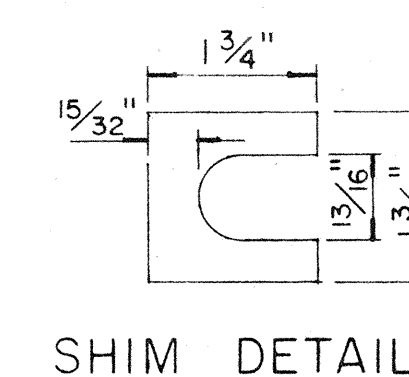
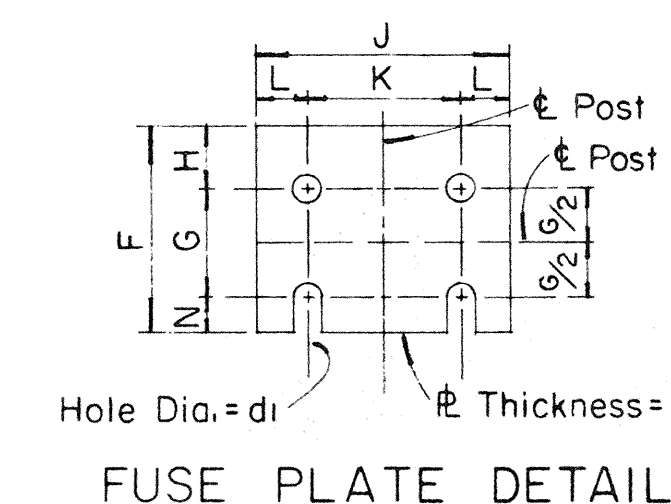
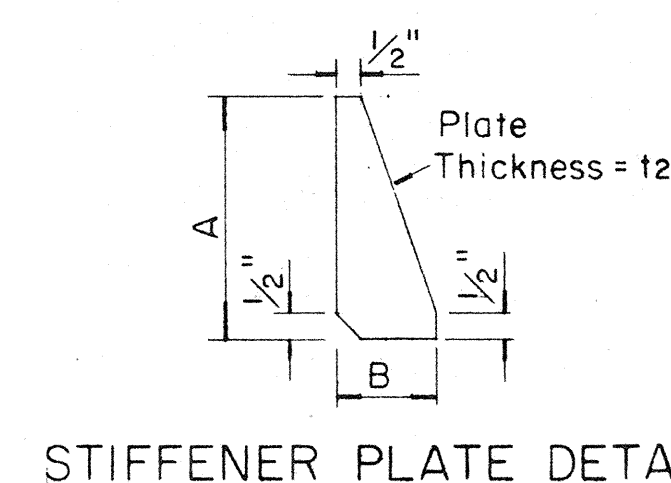
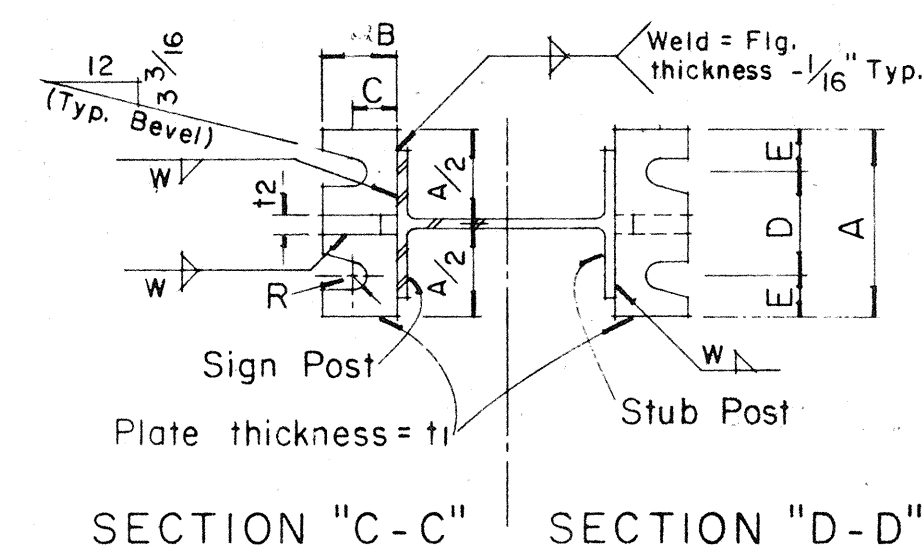
	BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE										FOUNDATION DATA				
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars \ Size
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450" #	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	1 1/32"	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 13/16"	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 13/16"	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"	1 3/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	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"	15/16"	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"	15/16"	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"	15/16"	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

	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 \ 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"	1 1/32"	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 13/16"	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 13/16"	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"	1 3/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	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"	15/16"	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"	15/16"	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"	15/16"	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

	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 \ 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"	1 1/32"	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 13/16"	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 13/16"	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"	1 3/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	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"	15/16"	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"	15/16"	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"	15/16"	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



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



GENERAL NOTES

1. Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
2. Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
3. 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.
4. 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.
5. 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.
6. Structural steel shall conform with with the requirements of ASTM A 441
7. Galvanizing of all posts shall be projection above concrete plus 6" minimum.
8. 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:

APPROVAL RECOMMENDED:

Eichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

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

STANDARD DETAILS

BREAK-AWAY SIGN SUPPORTS

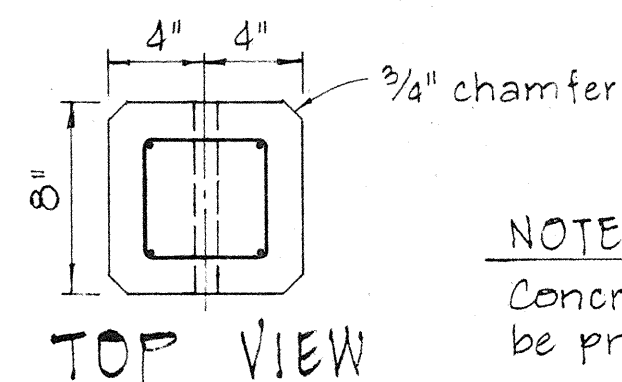
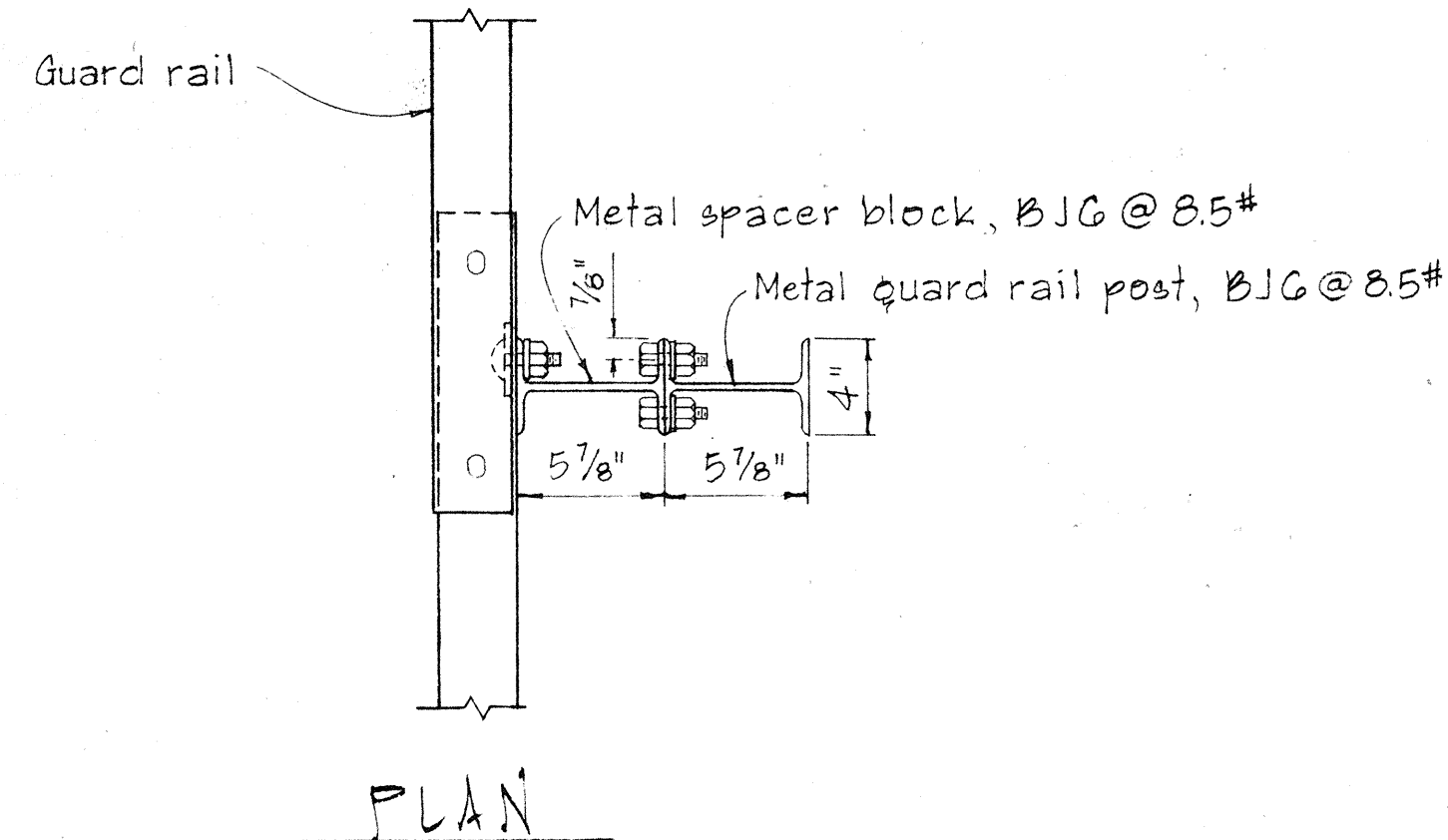
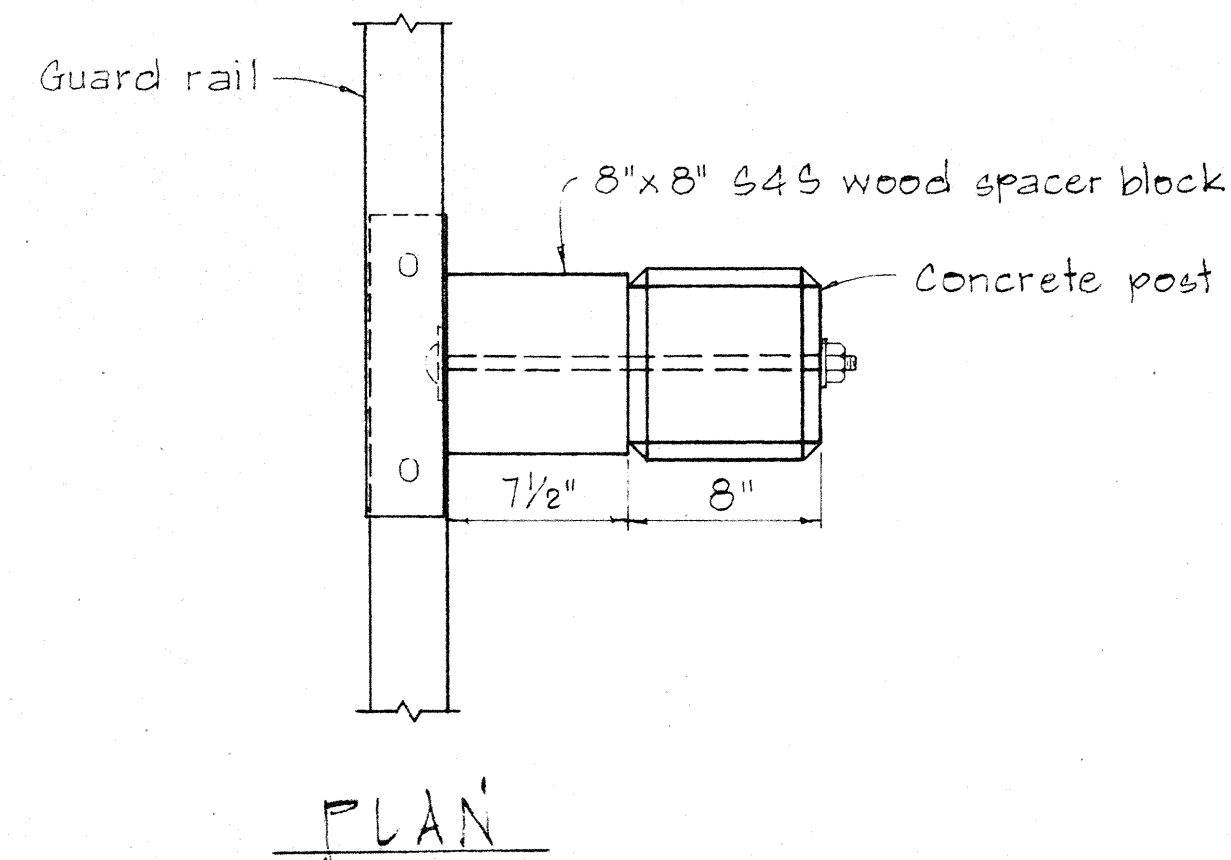
FOR

GROUND MOUNTED GUIDE SIGNS

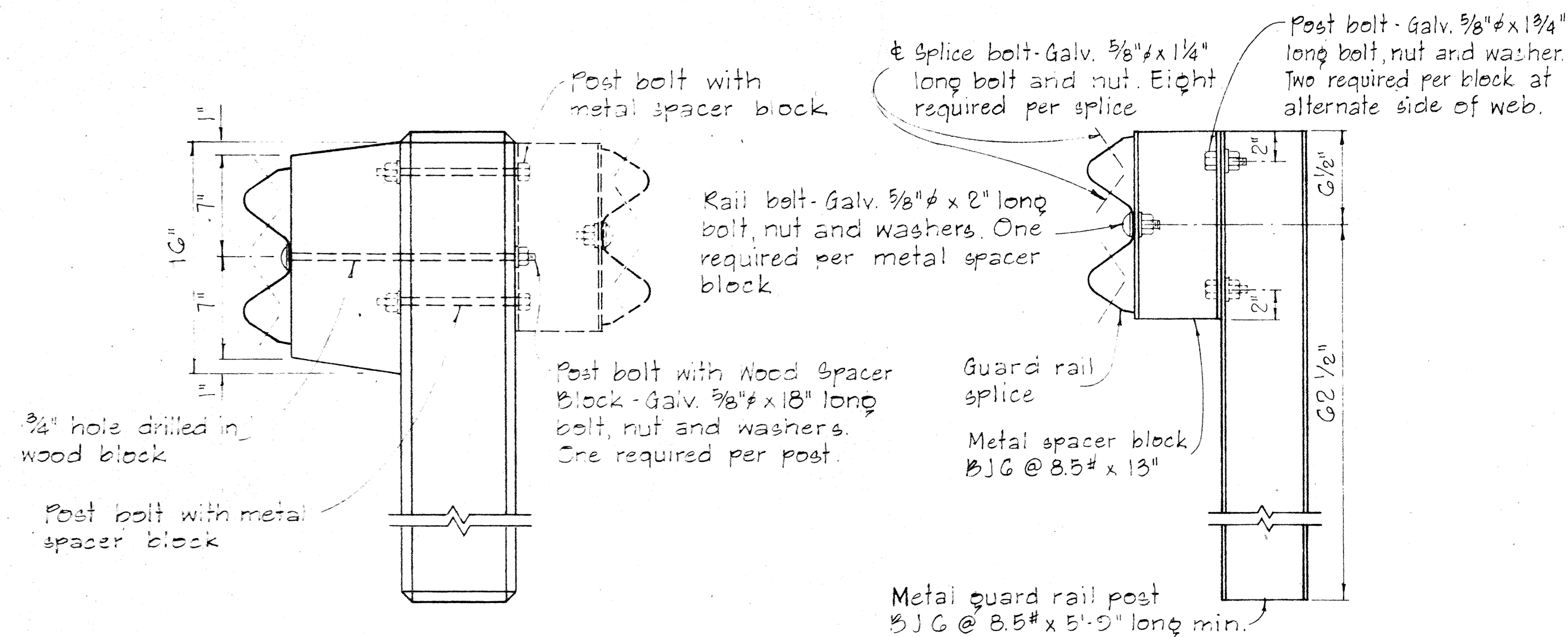
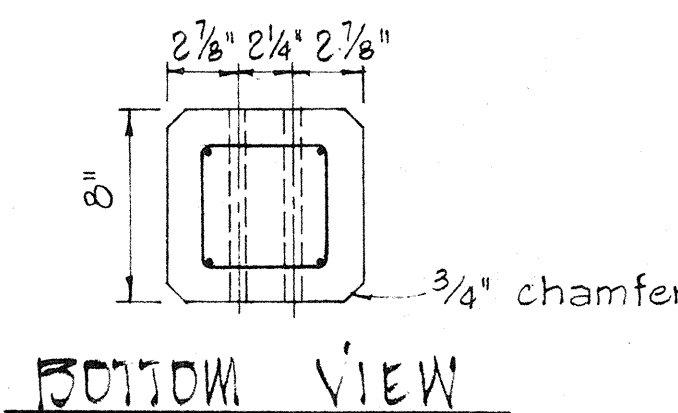
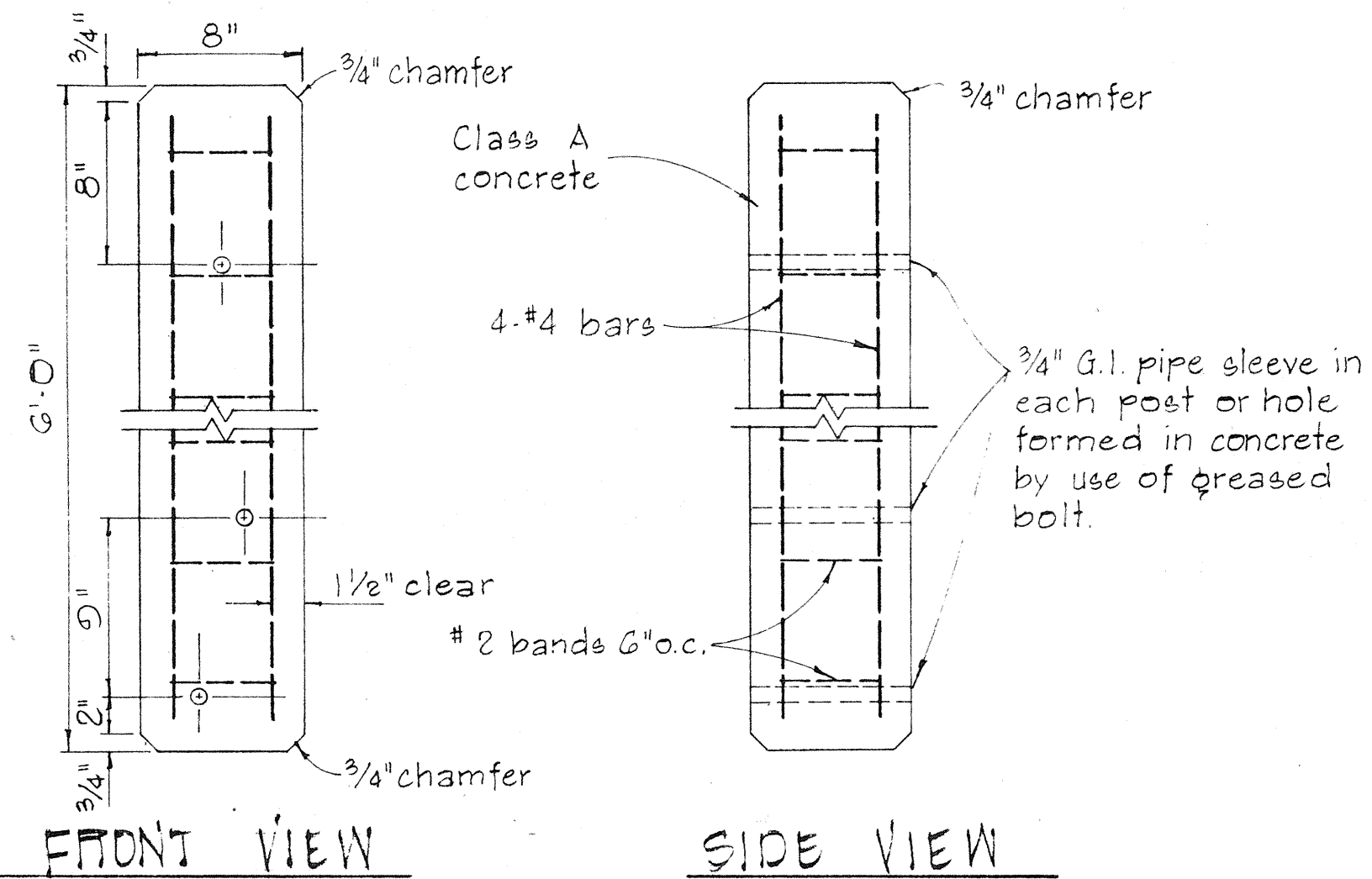
Not to Scale

SHEET No. 13 OF 20 SHEETS DT 204

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	56	62

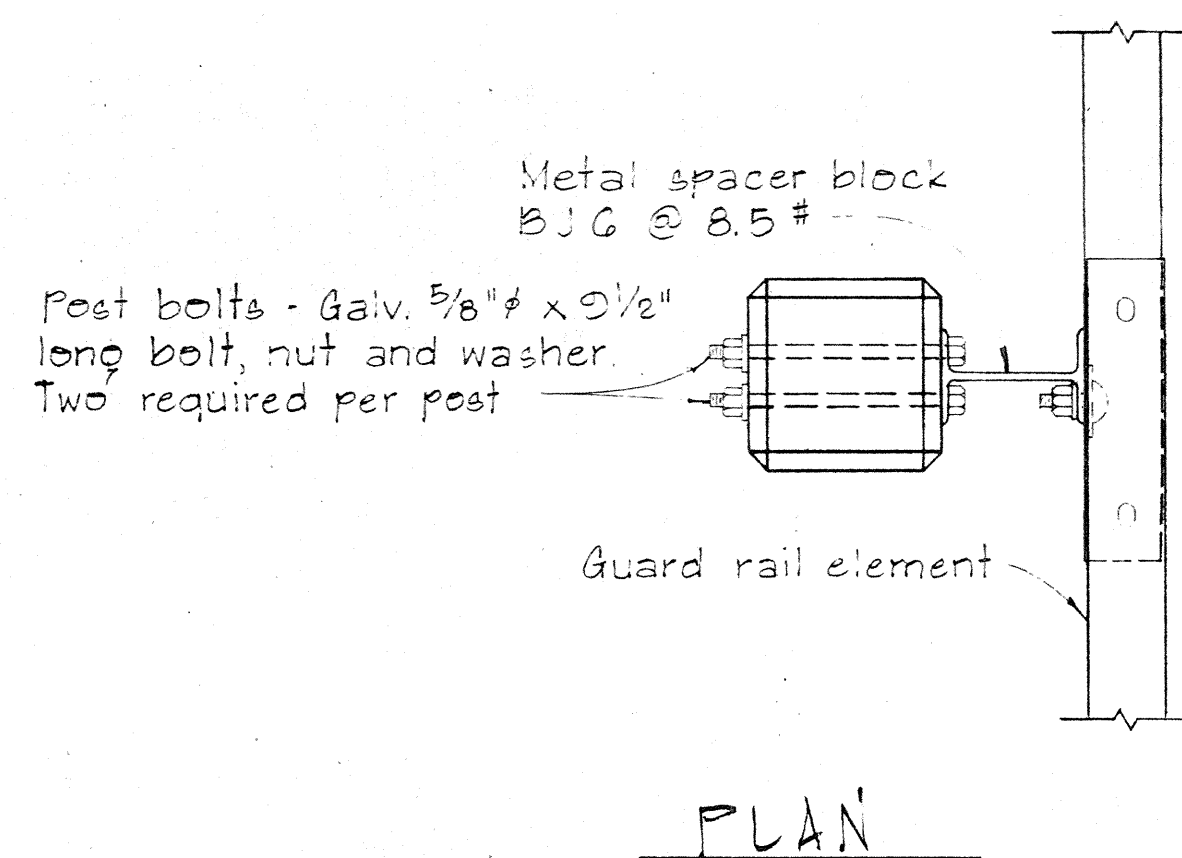


NOTE:
Concrete post shall be precast



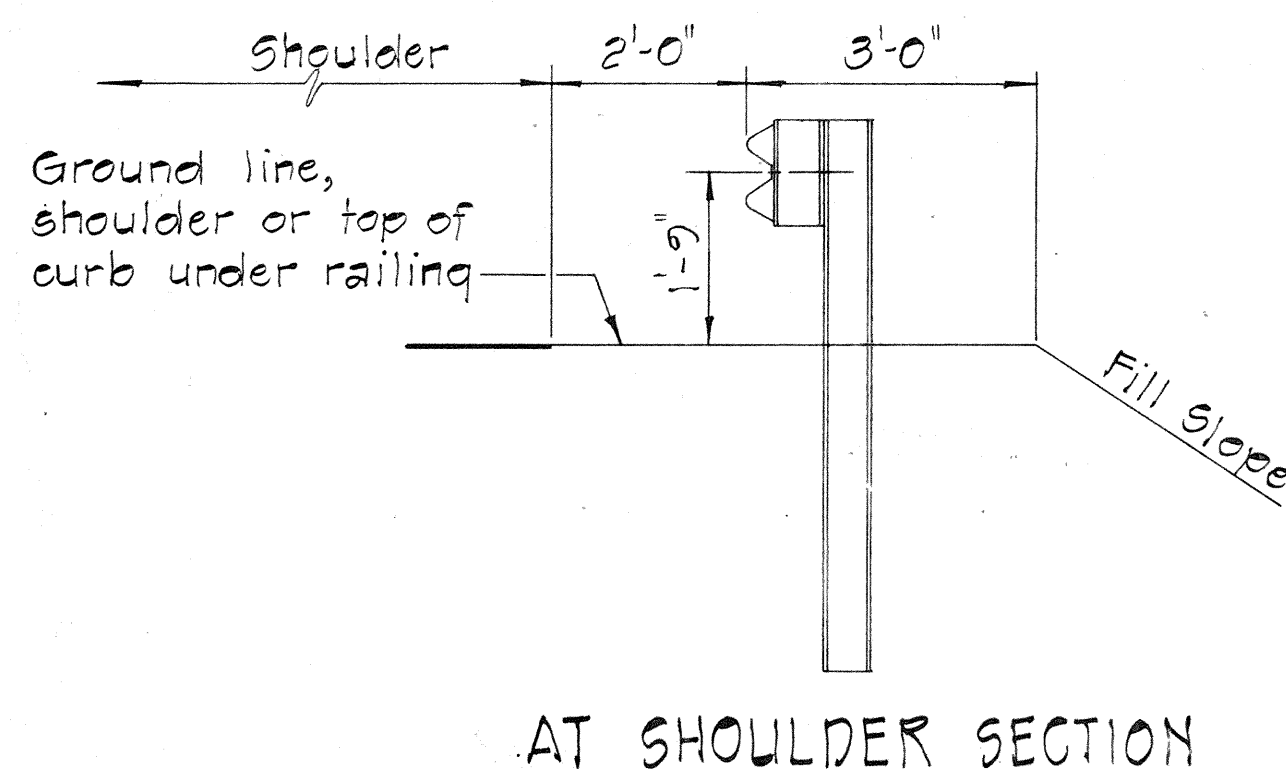
SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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



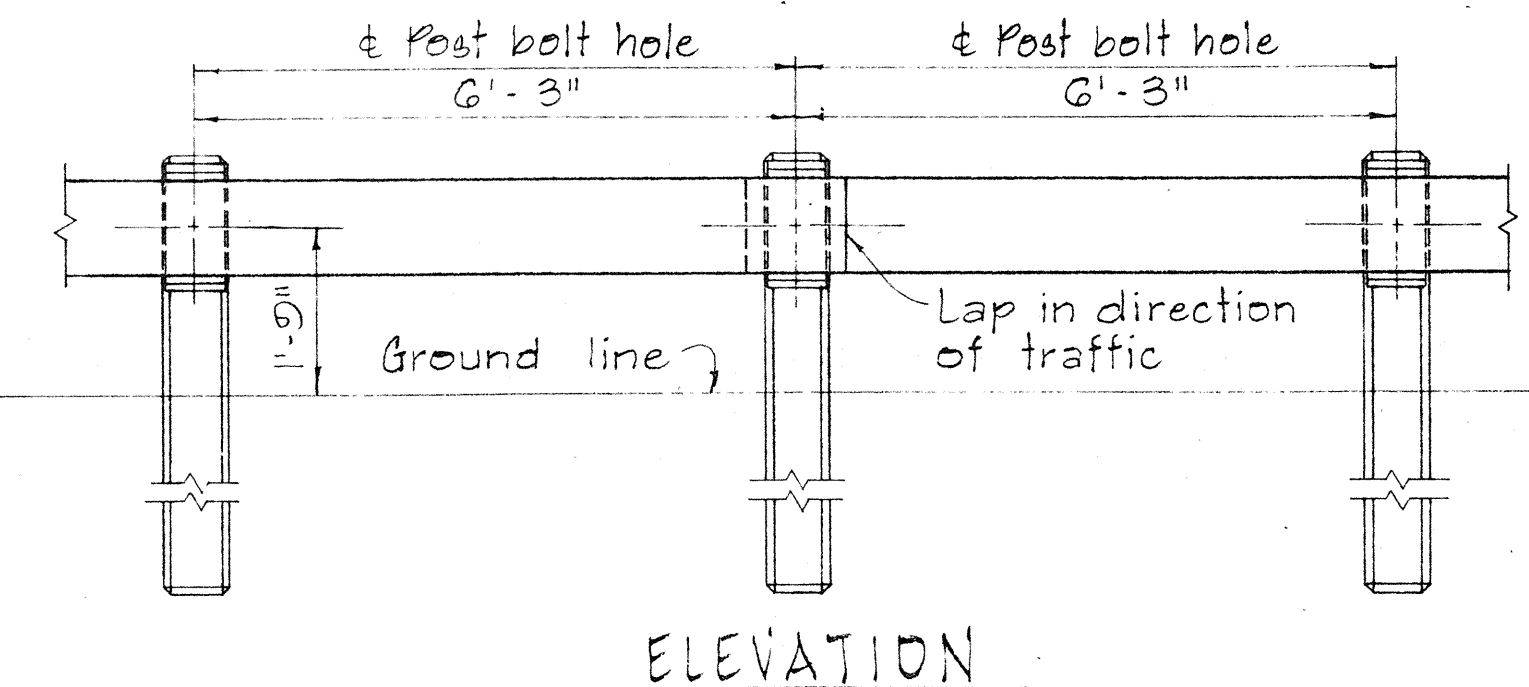
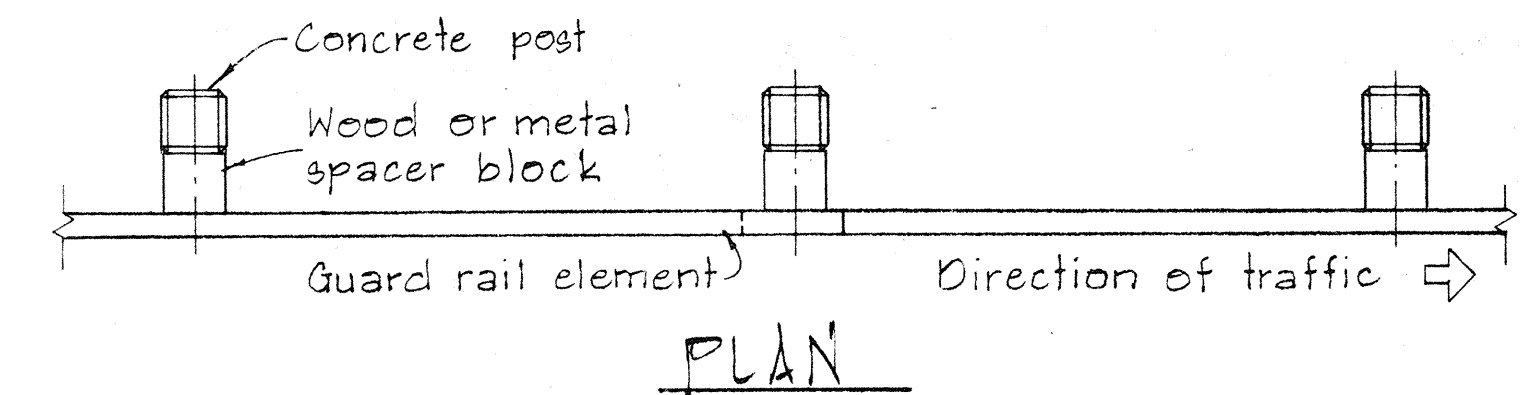
SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

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



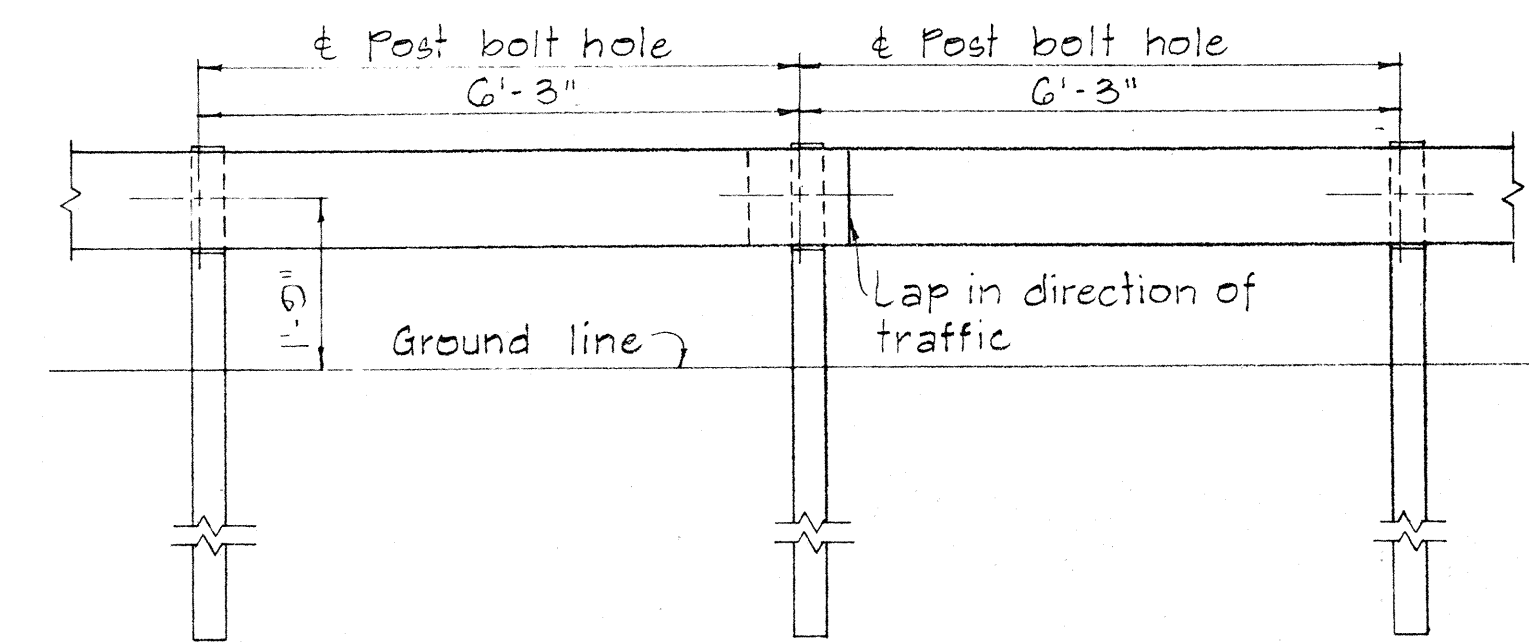
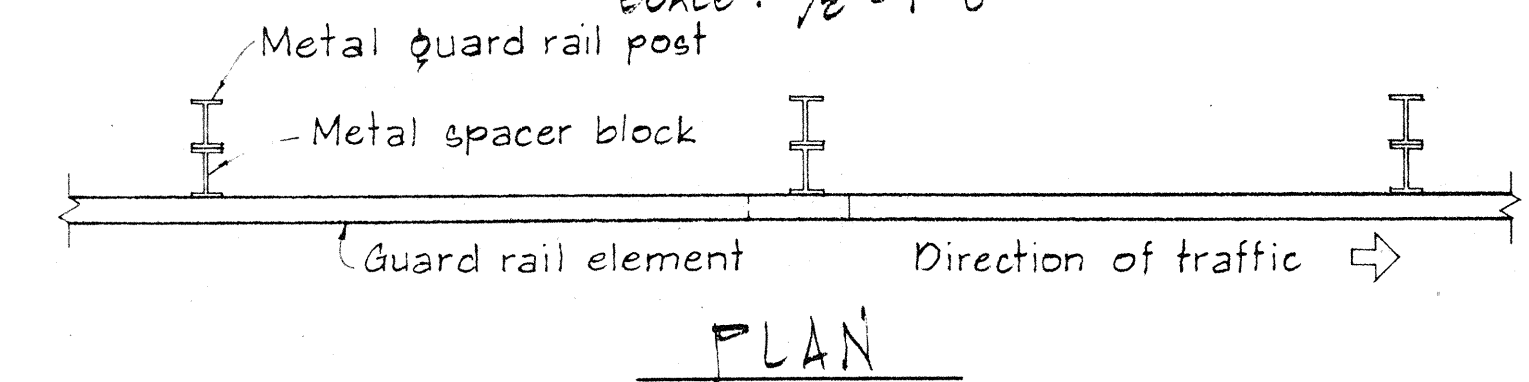
TYPICAL METAL GUARD RAIL DETAIL

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



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"

APPROVAL RECOMMENDED:
Traffic Engineer
12/23/62
DATE

APPROVED:
Assistant Chief, Engineering
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

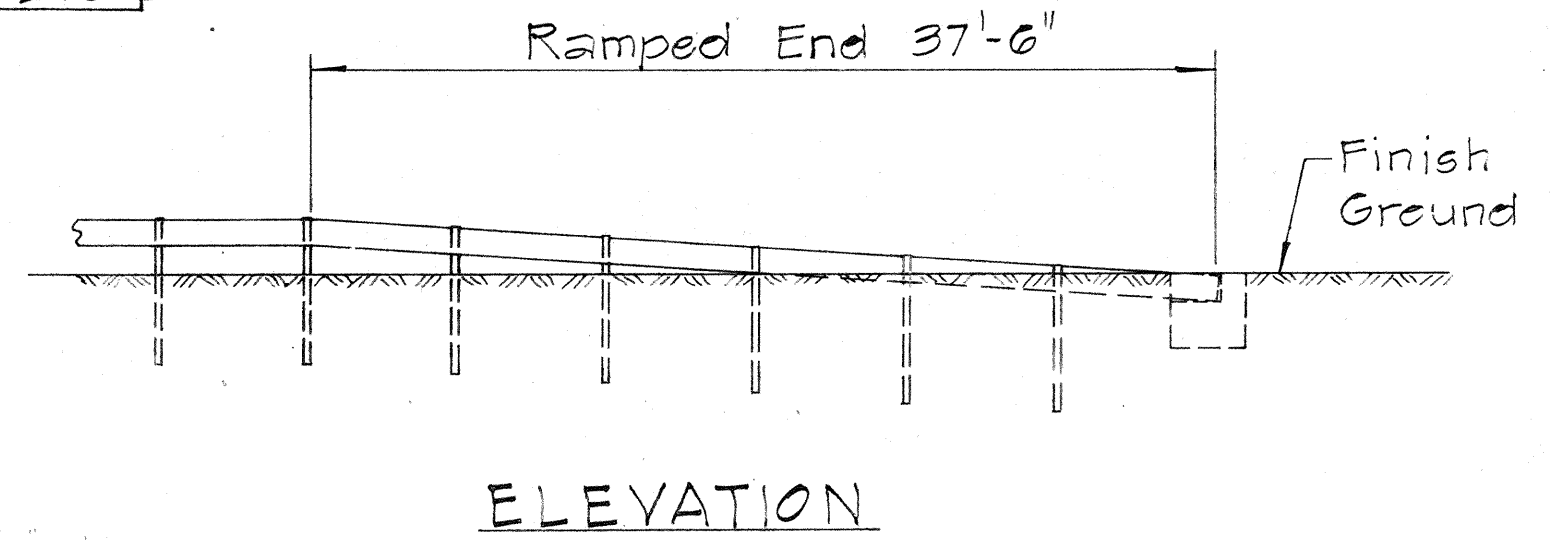
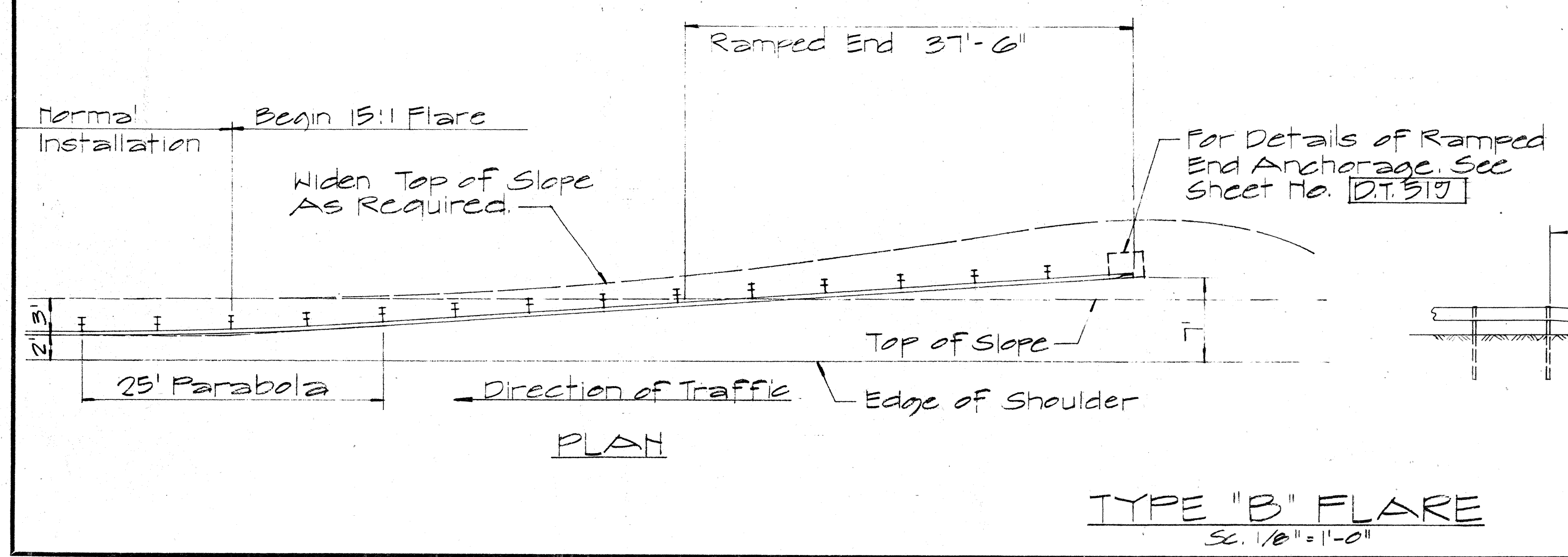
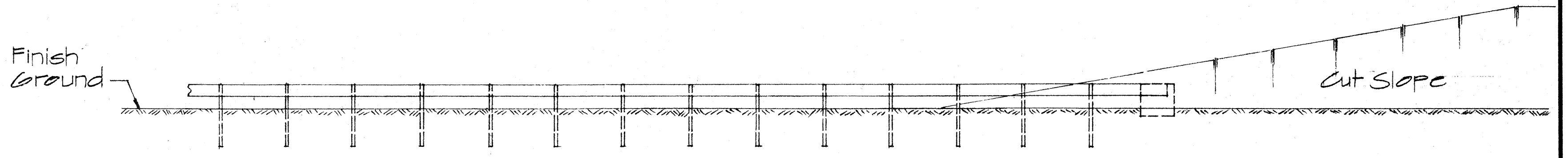
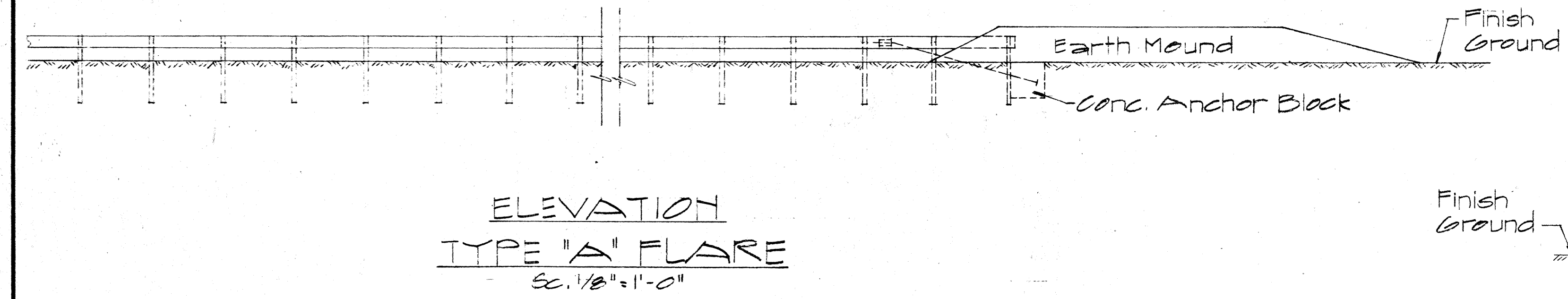
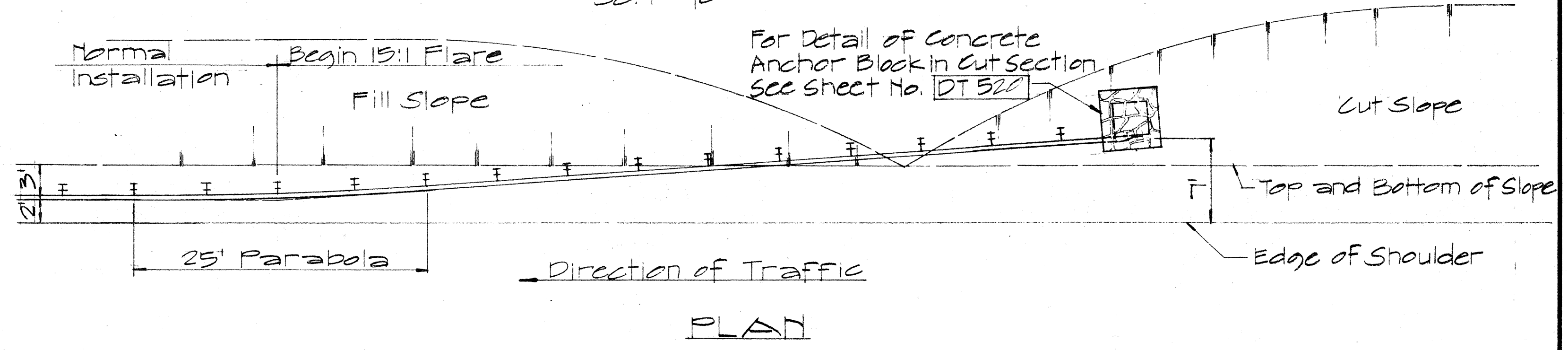
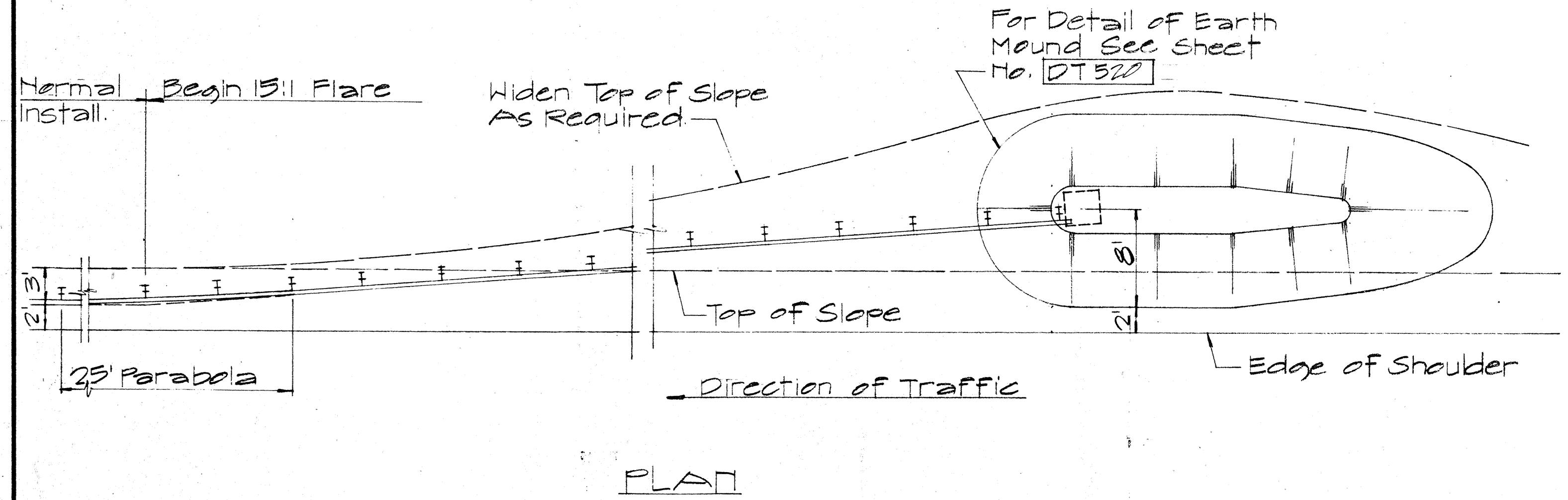
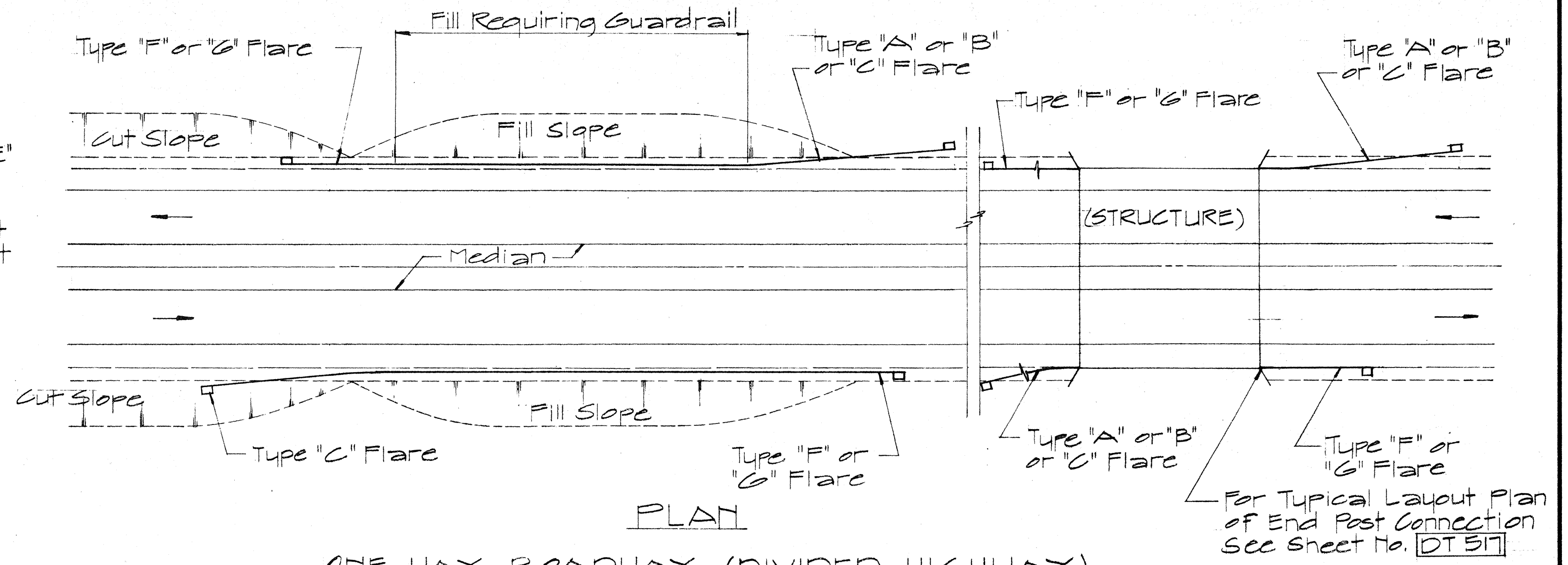
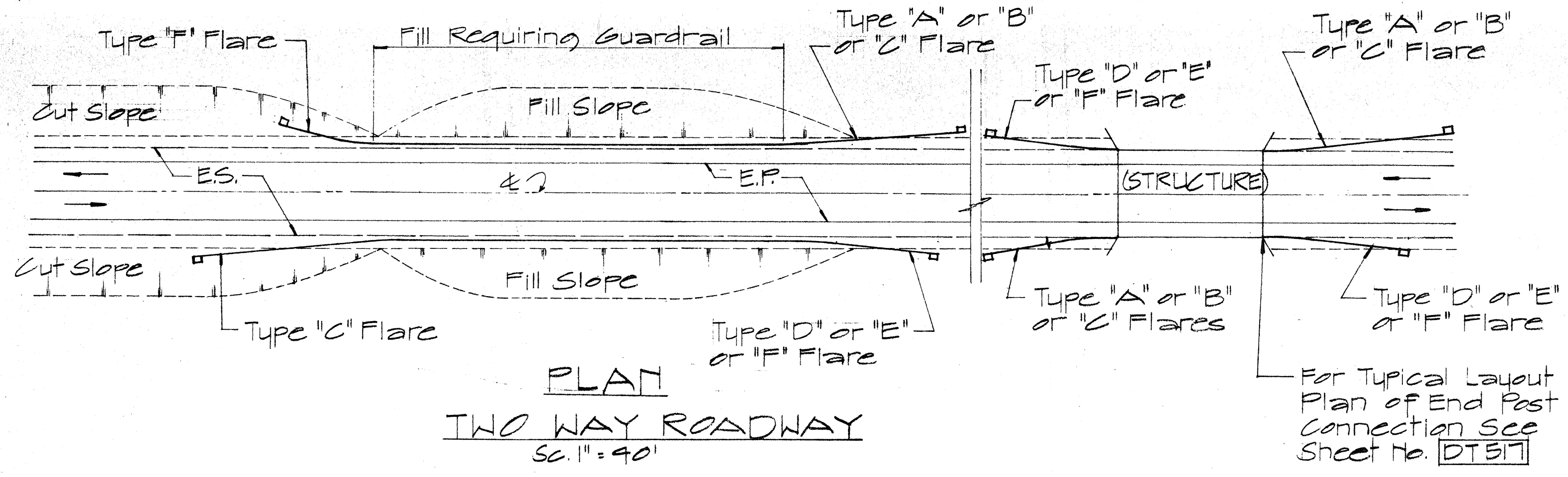
STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN
NOV. 1968
SHEET No. 14 OF 80 SHEETS DT 500

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	58	62

NOTE:

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



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

NO.	REVISION	APPROVED BY	DATE

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

APPROVED:
W. B. B. B. 12-30-69
 ASSISTANT CHIEF, ENGINEERING DATE

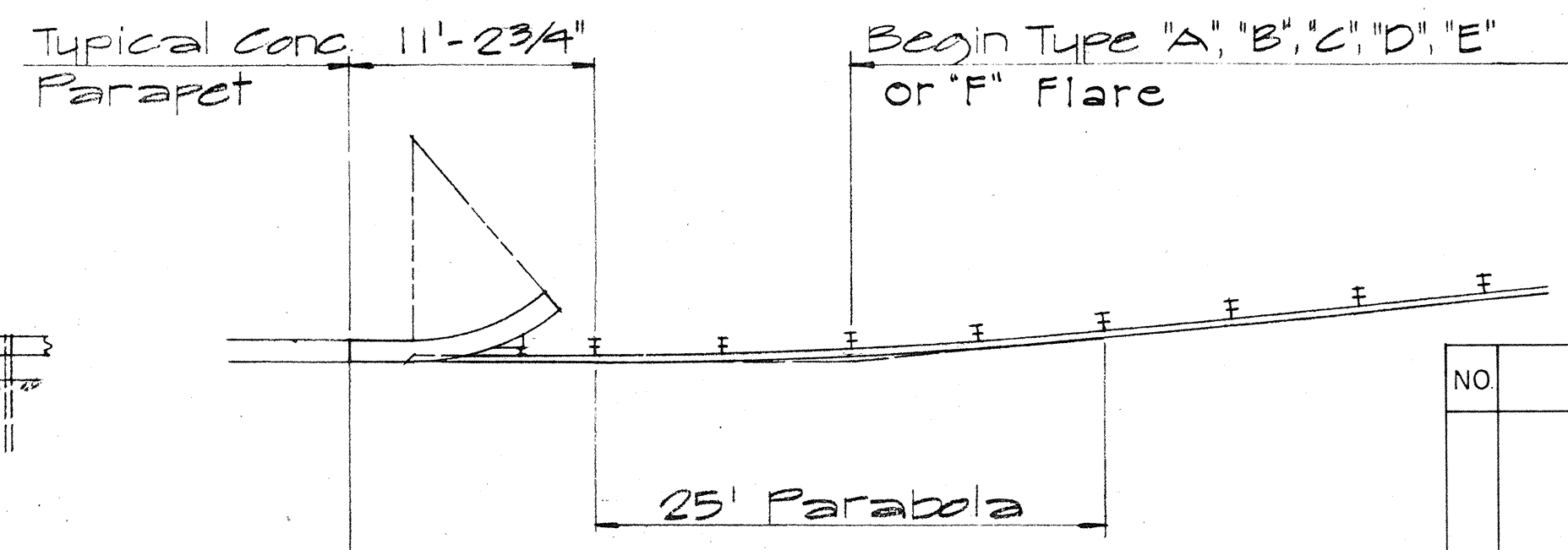
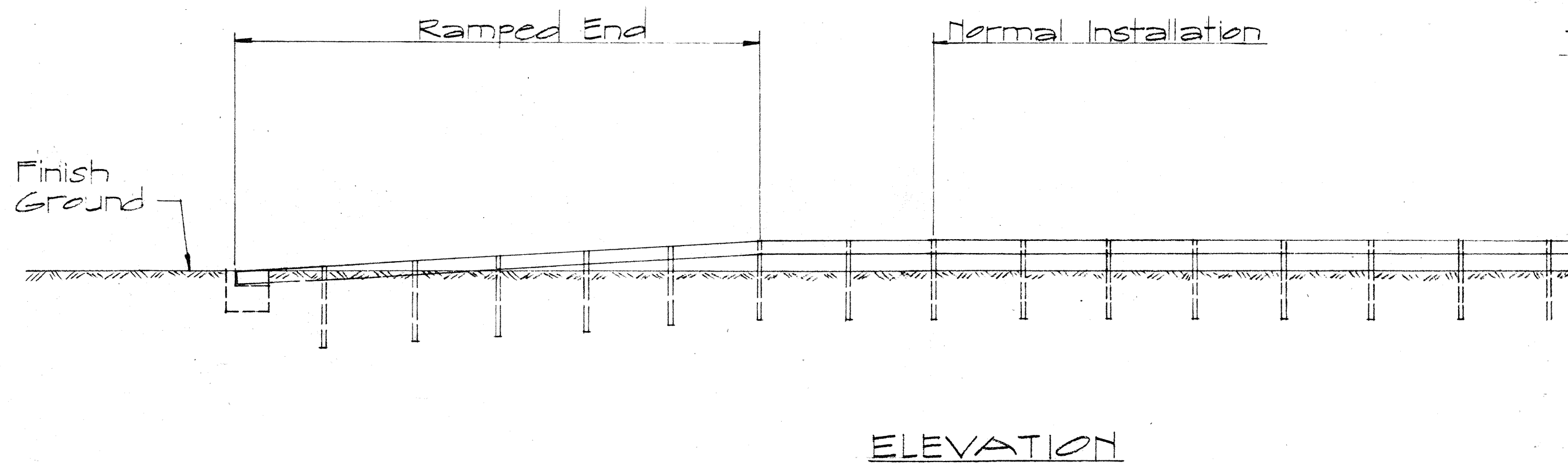
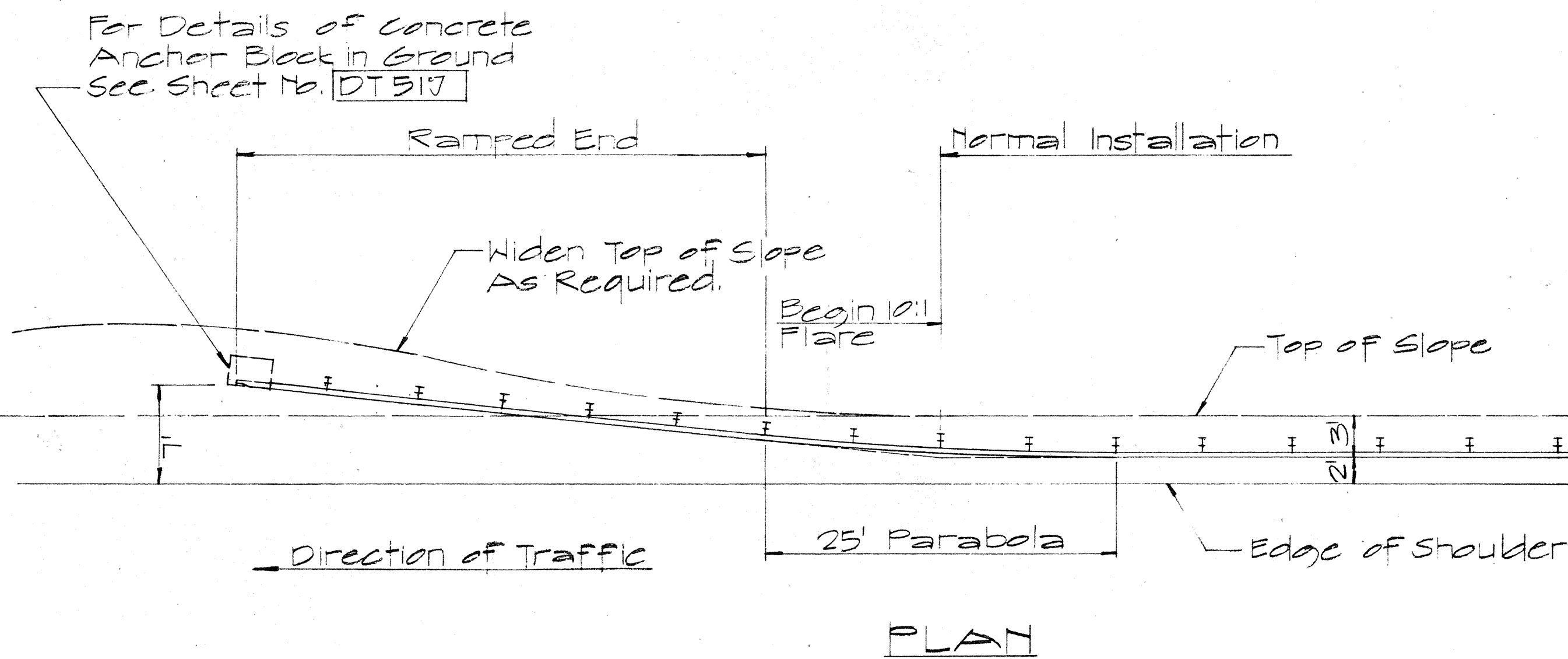
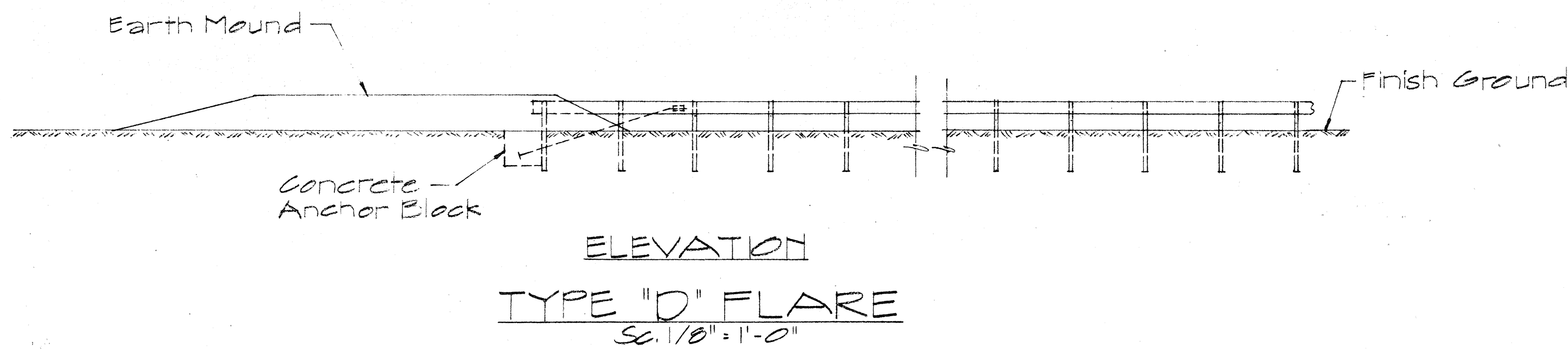
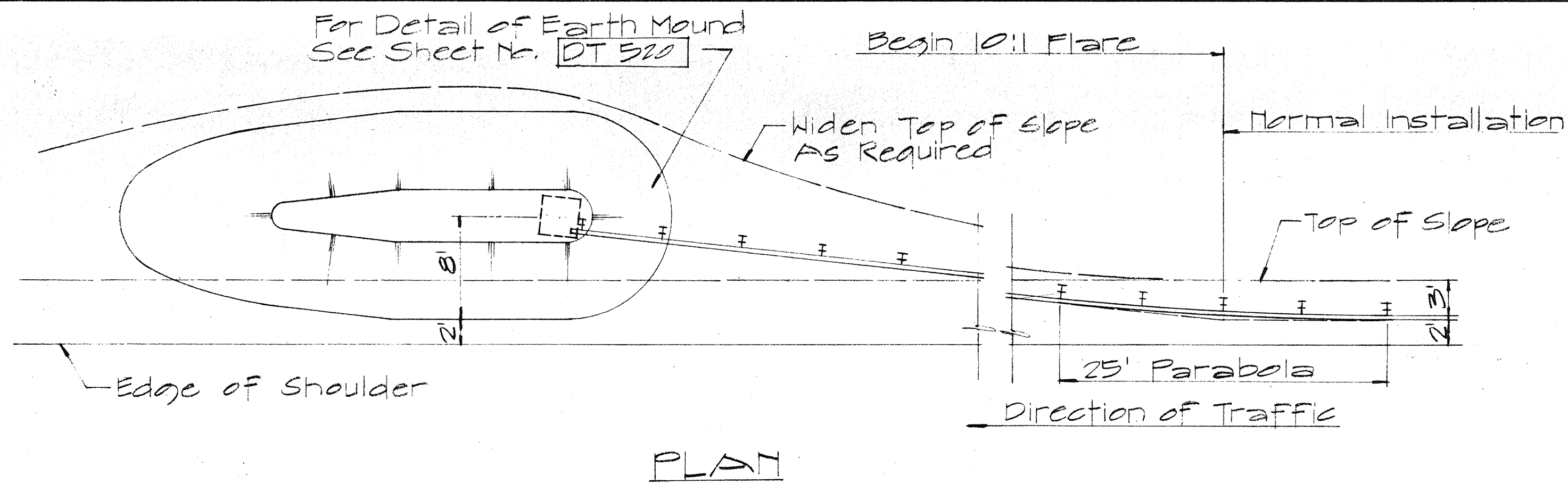
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

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

Sc. As Noted April 1967

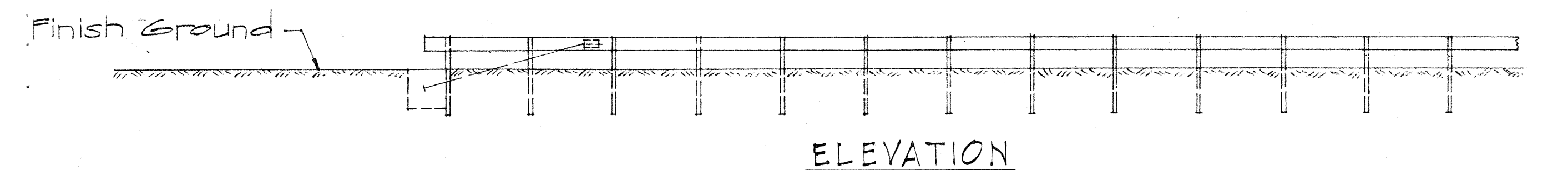
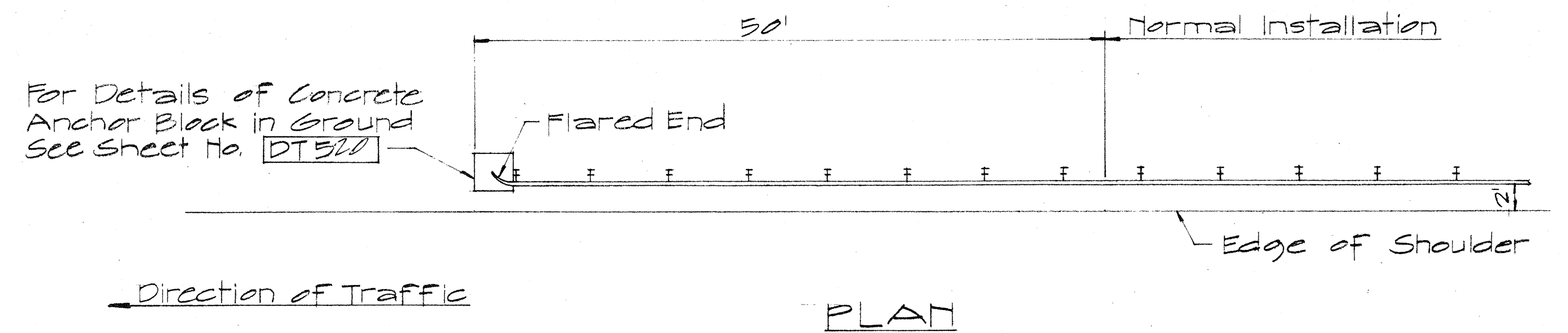
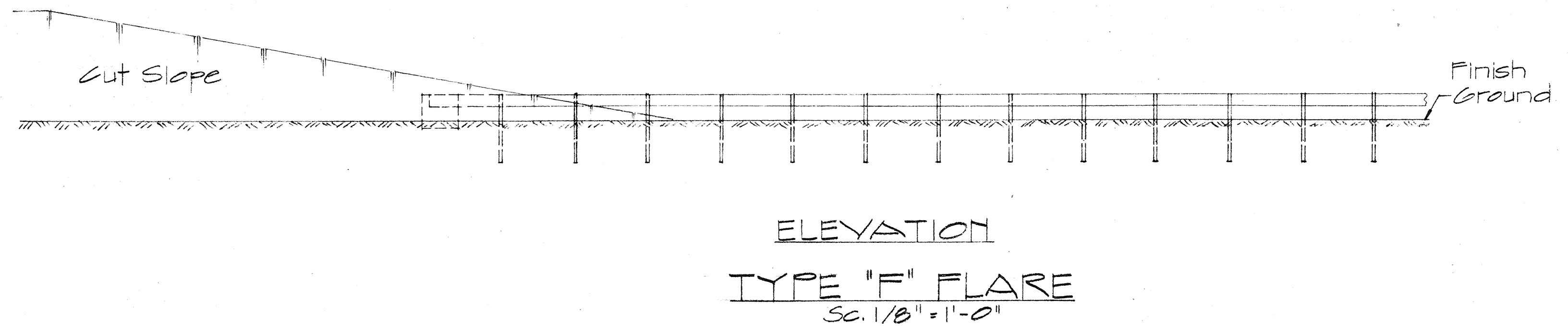
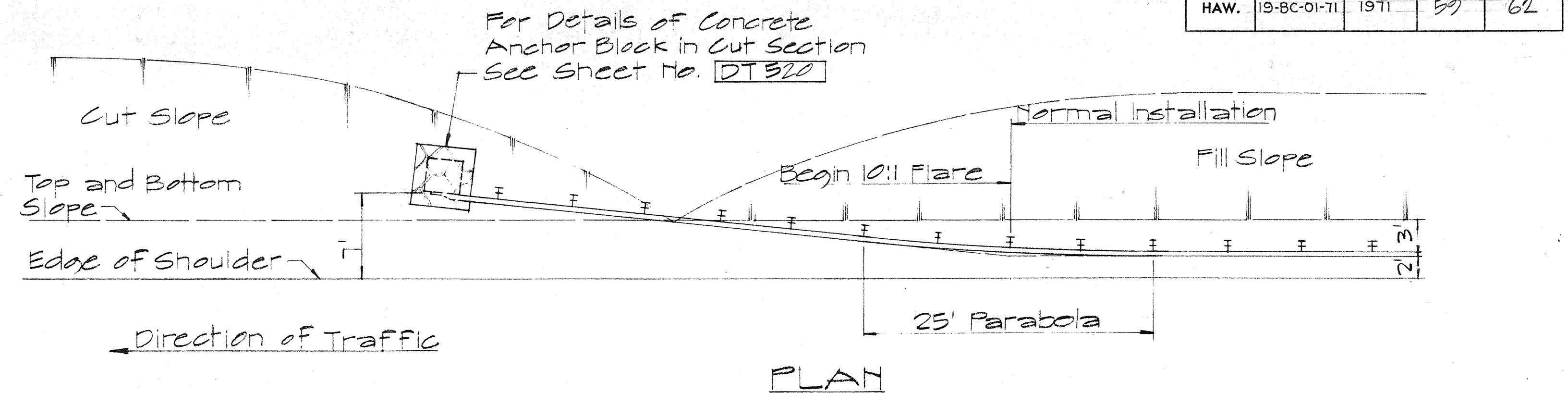
SHEET No. 16 OF 20 SHEETS DT 516

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	59	62



TYPICAL LAYOUT PLAN OF END POST CONNECTION

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



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

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

NO.	REVISION	APPROVED BY	DATE

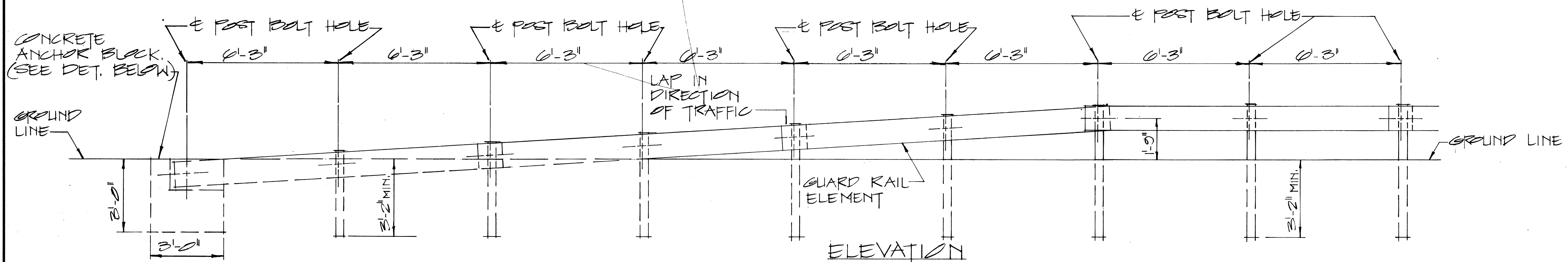
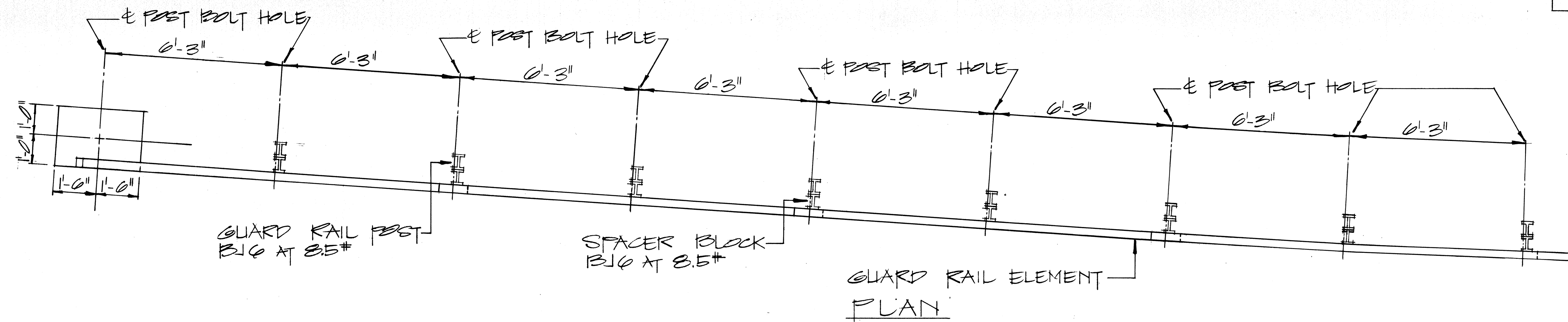
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
 OF TRAILING END
 FLARE - ONE & TWO
 WAY ROADWAY

Sc. As Noted APRIL 1969

SHEET No. 17 OF 20 SHEETS DT 517

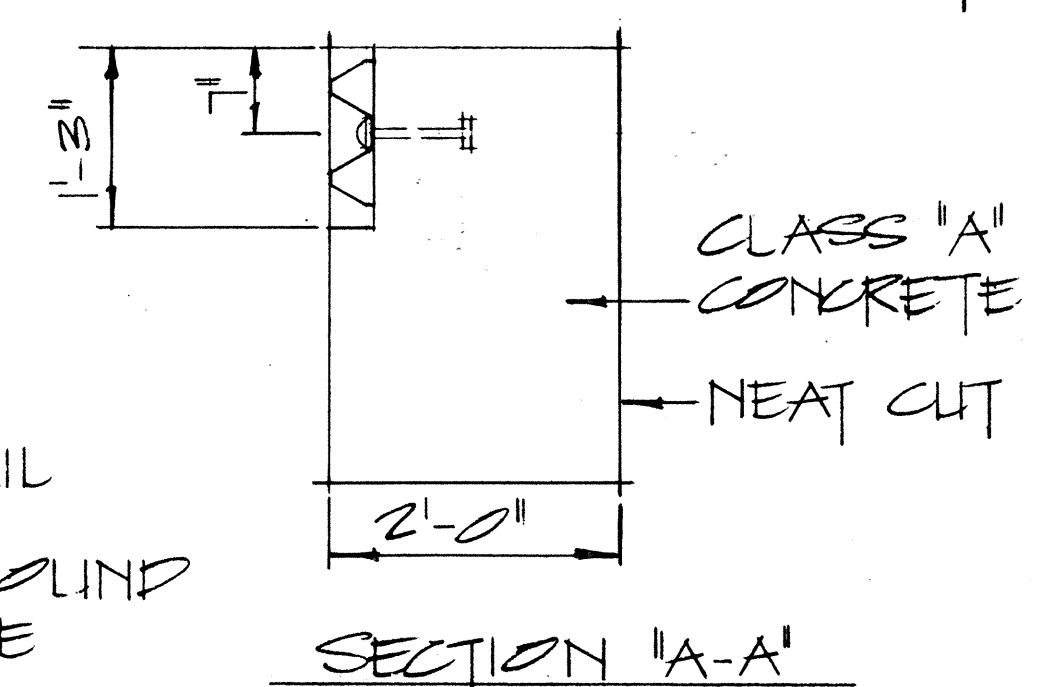
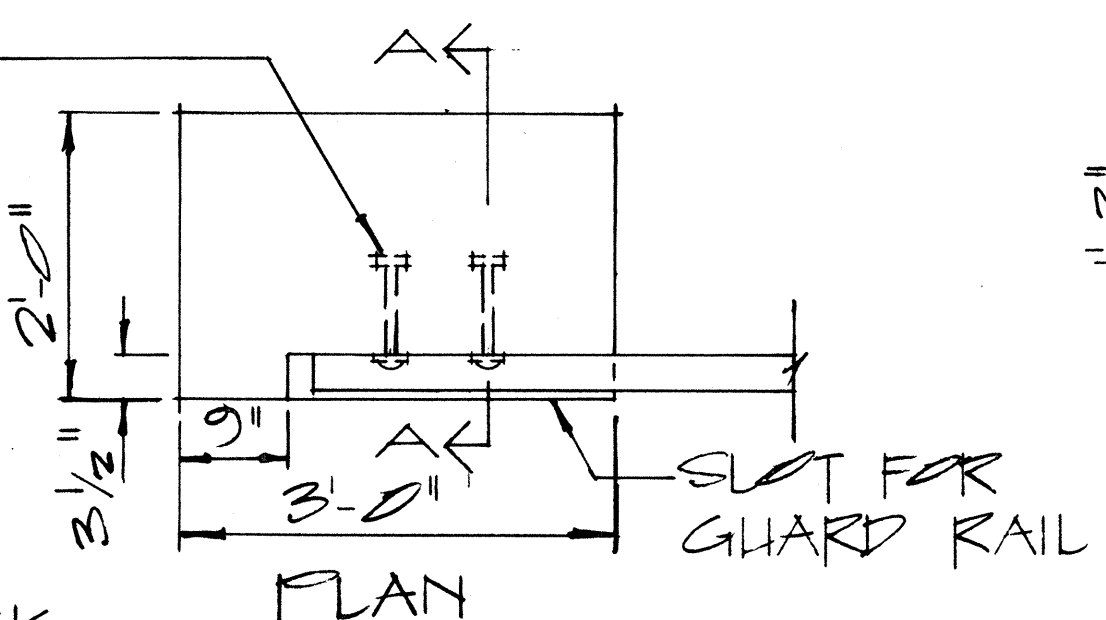
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	1980-01-71	1971	60	62



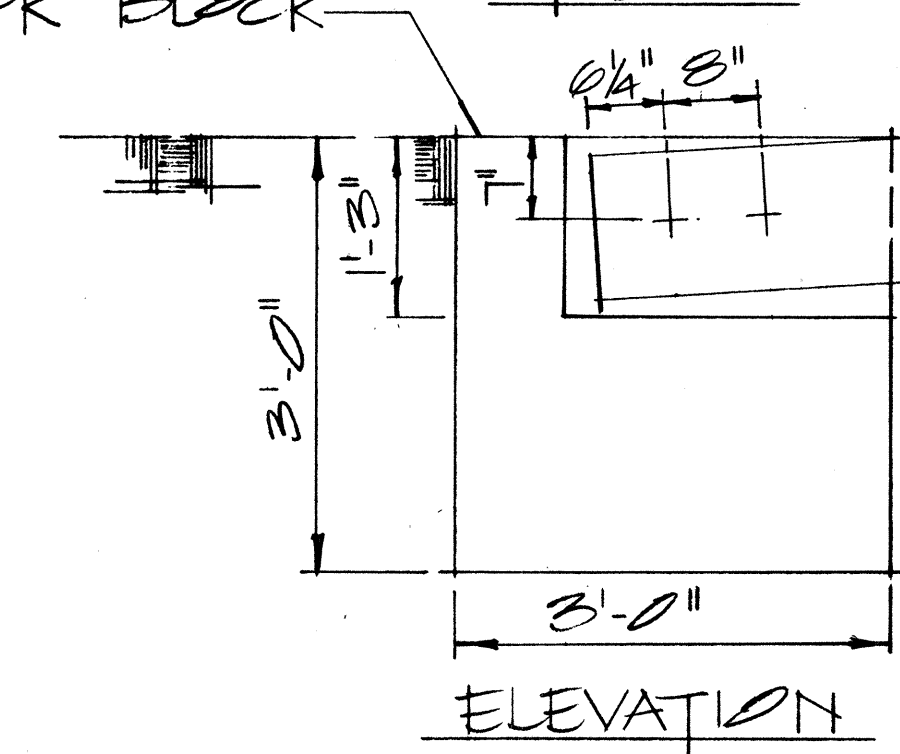
RAMP END ANCHORAGE

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

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

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

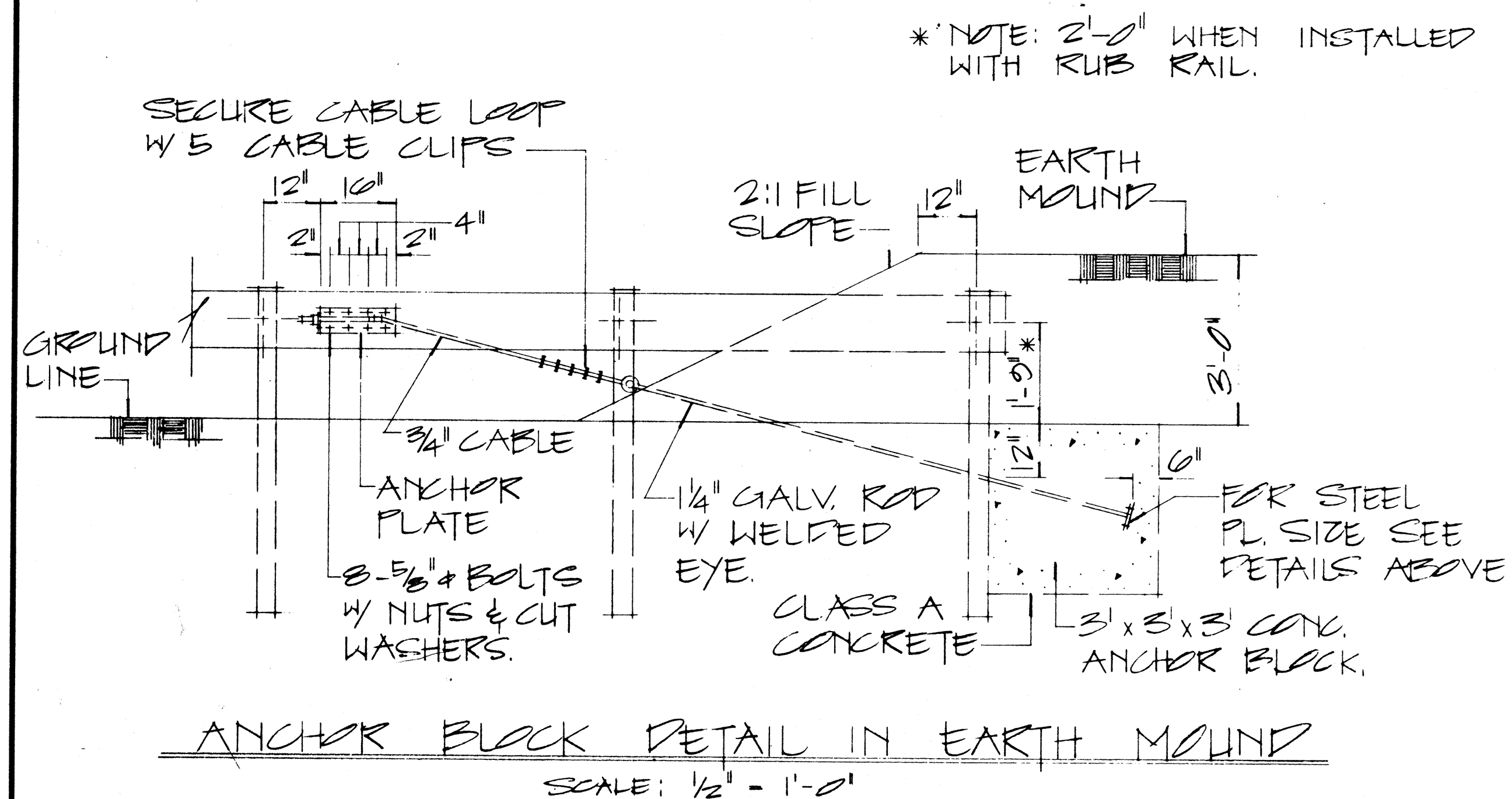
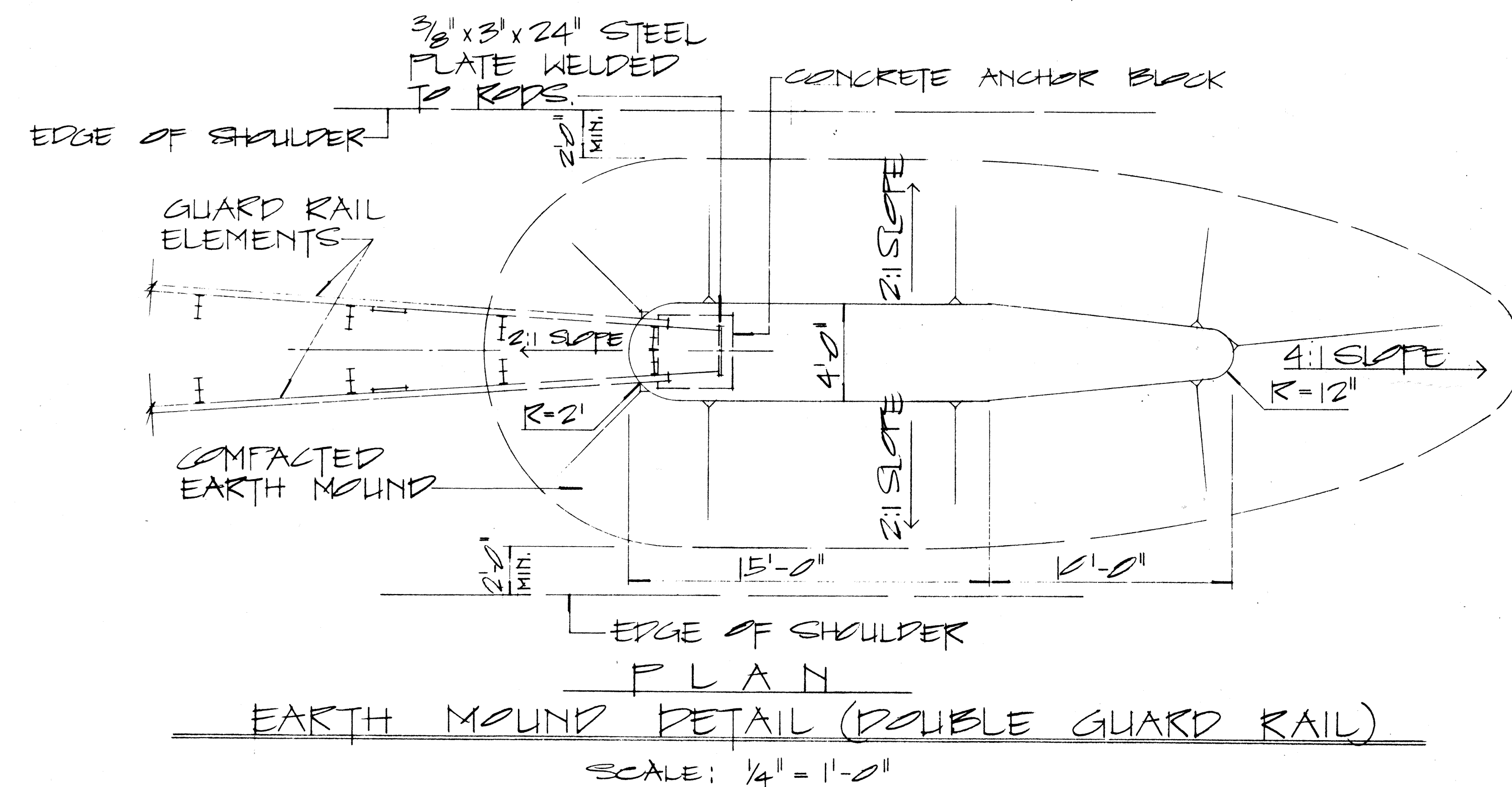
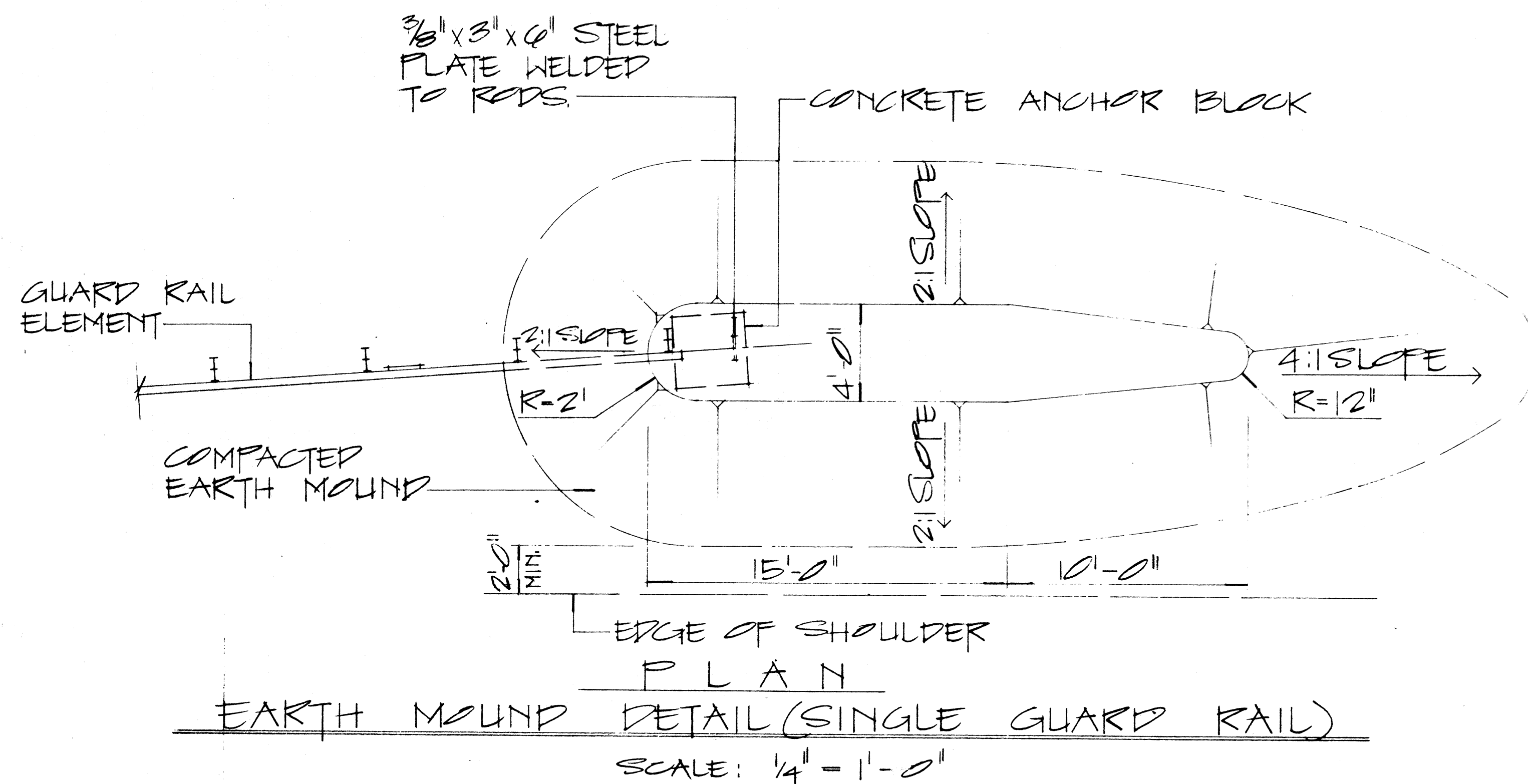
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
 GUARD RAIL, TYPE 3
 RAMP END ANCHORAGE

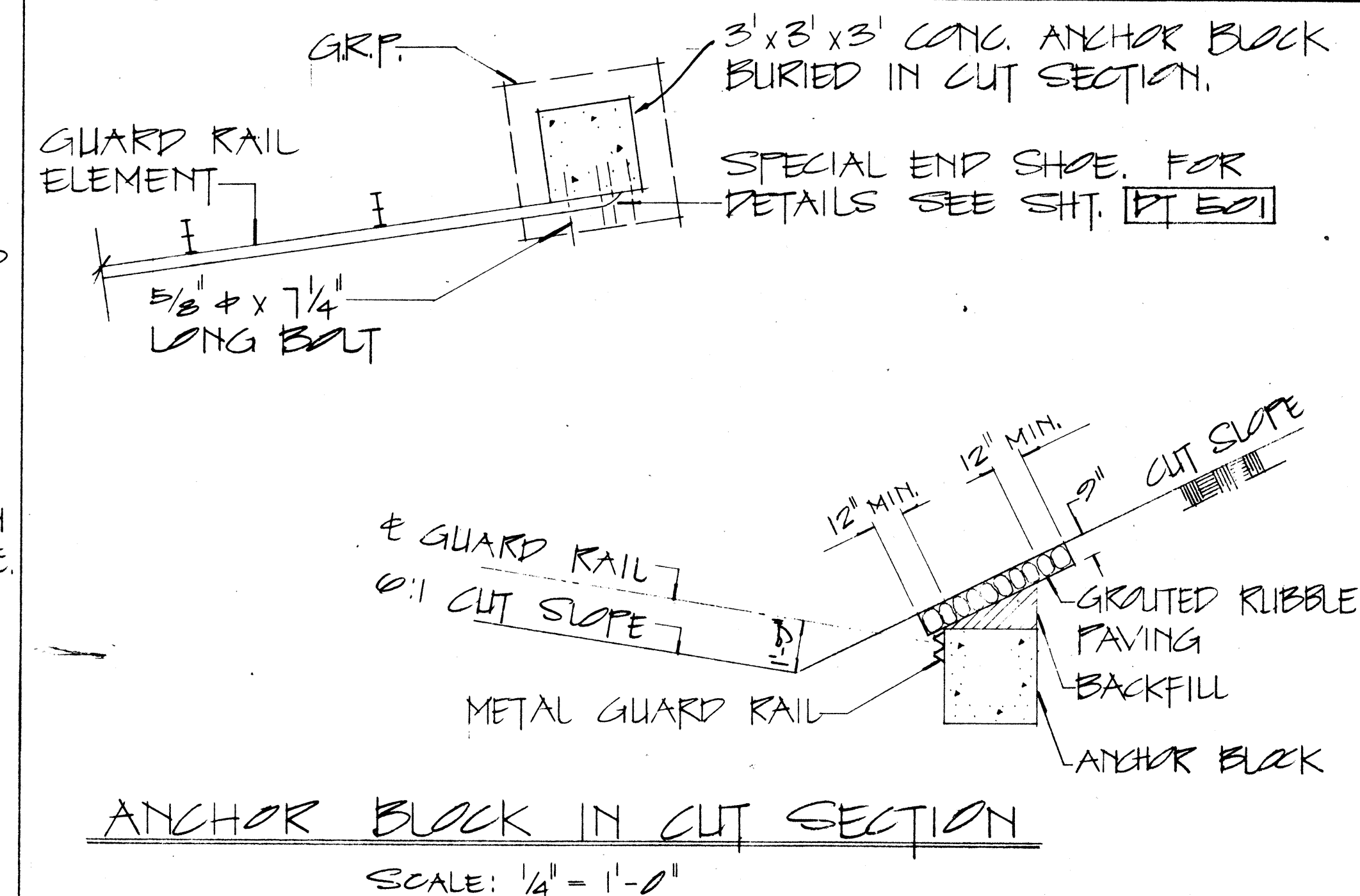
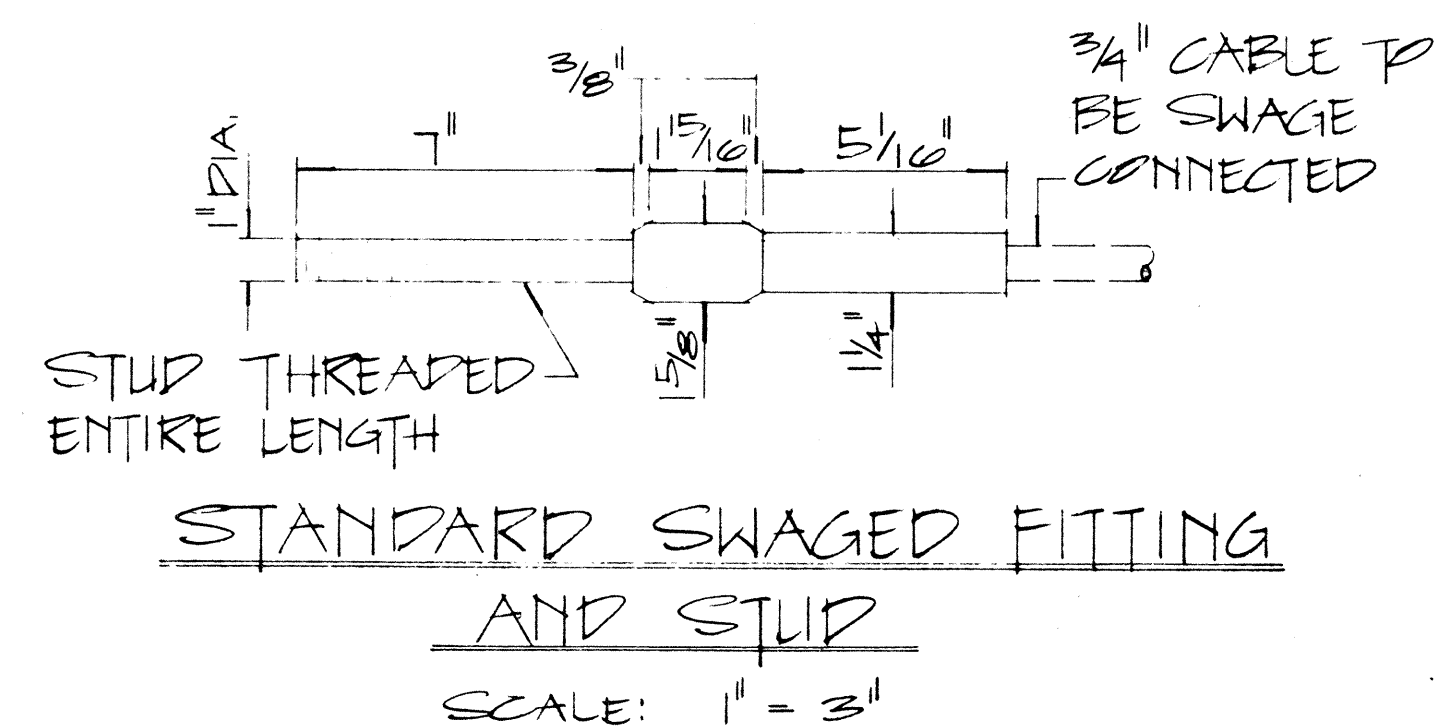
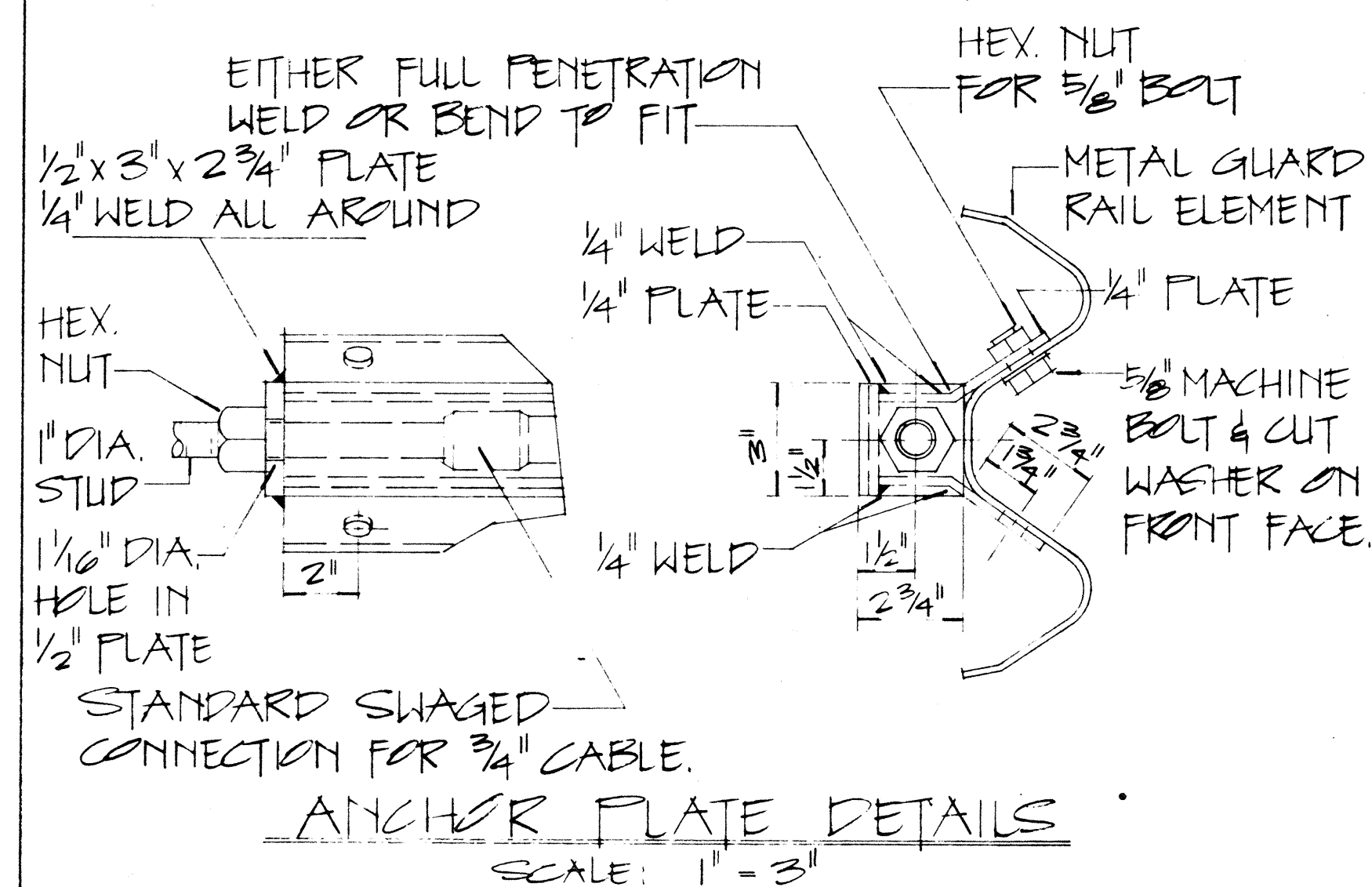
SCALE: AS SHOWN

STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	98C-01-71	97	61	62



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: Erich. Tanaka 12/29/69
TRAFFIC ENGINEER DATE

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

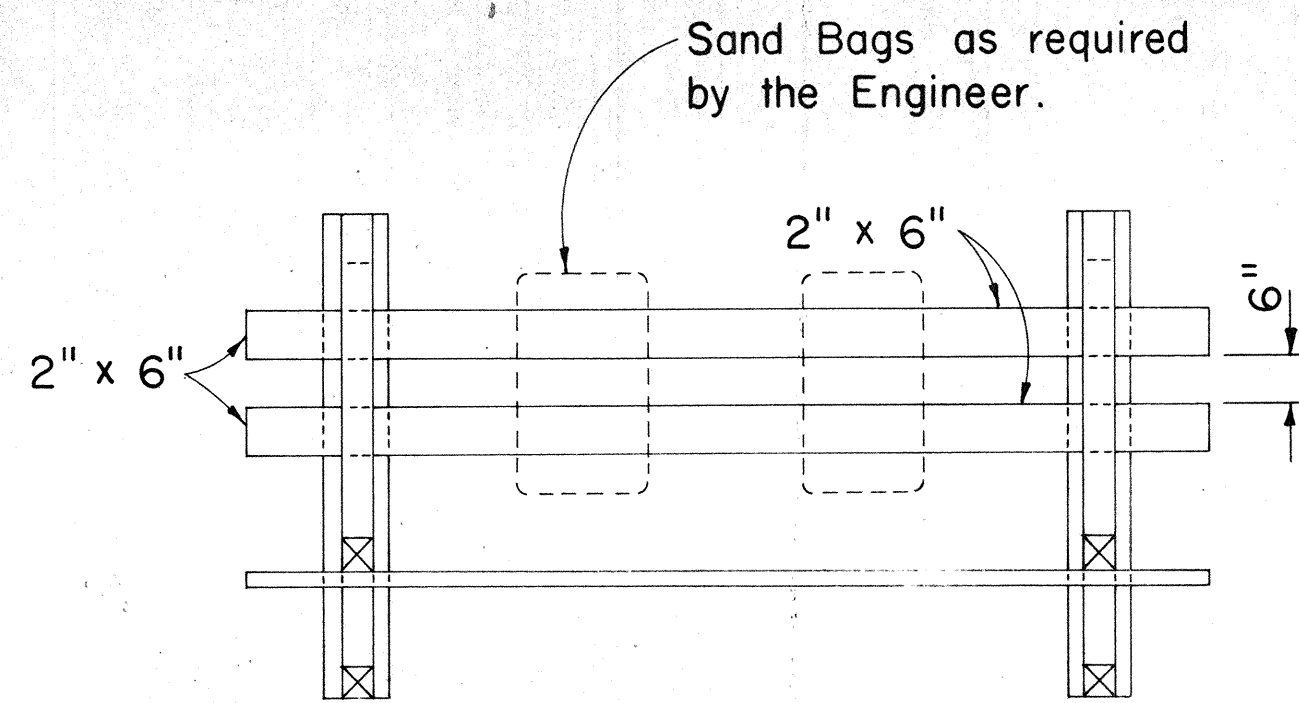
STANDARD DETAILS
EARTH MOUND AND
ANCHOR BLOCK DETAILS

SCALE: AS SHOWN OCT 1960

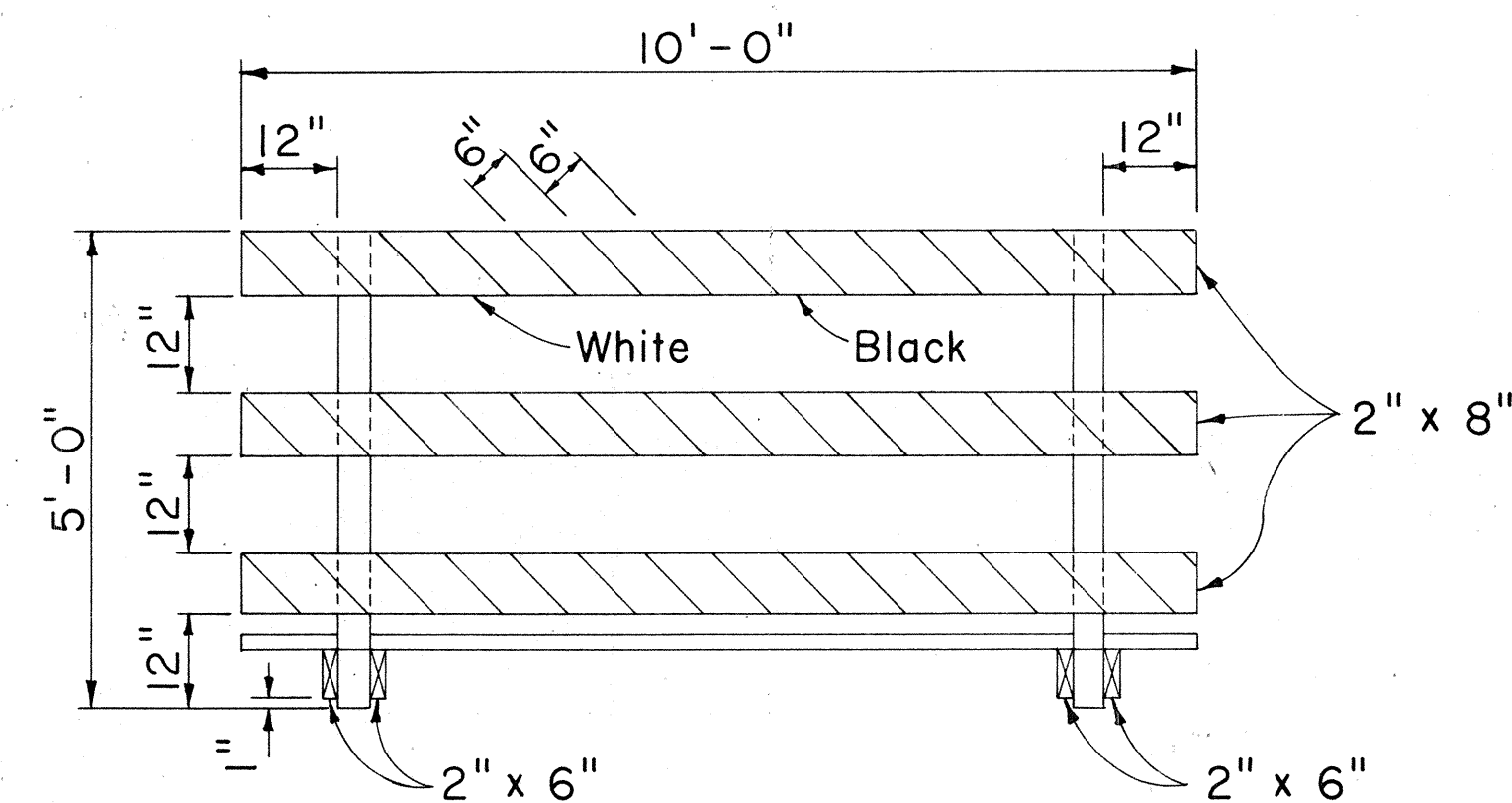
SHEET No. 19 OF 20 SHEETS DTS2

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

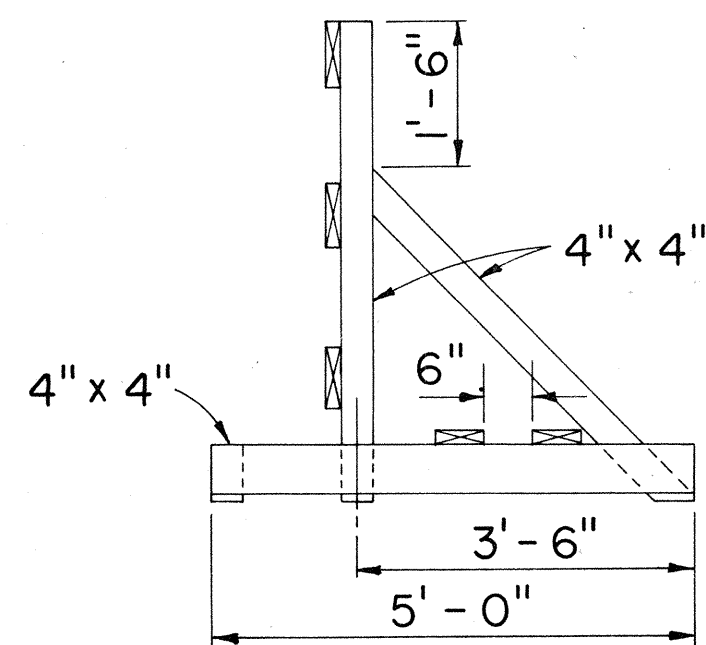
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAW.	19-BC-01-71	1971	62	62



PLAN VIEW



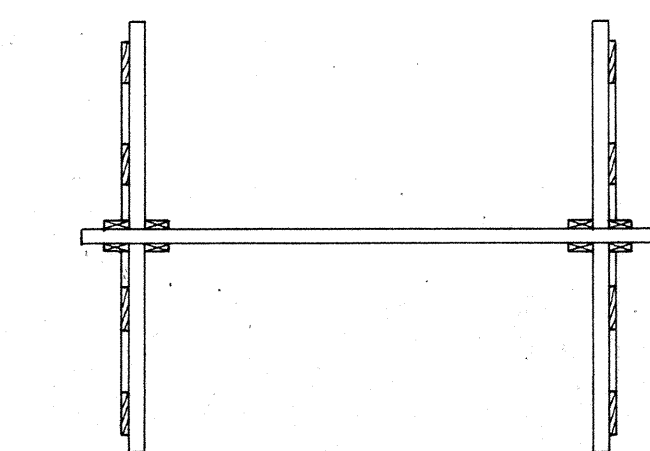
FRONT VIEW



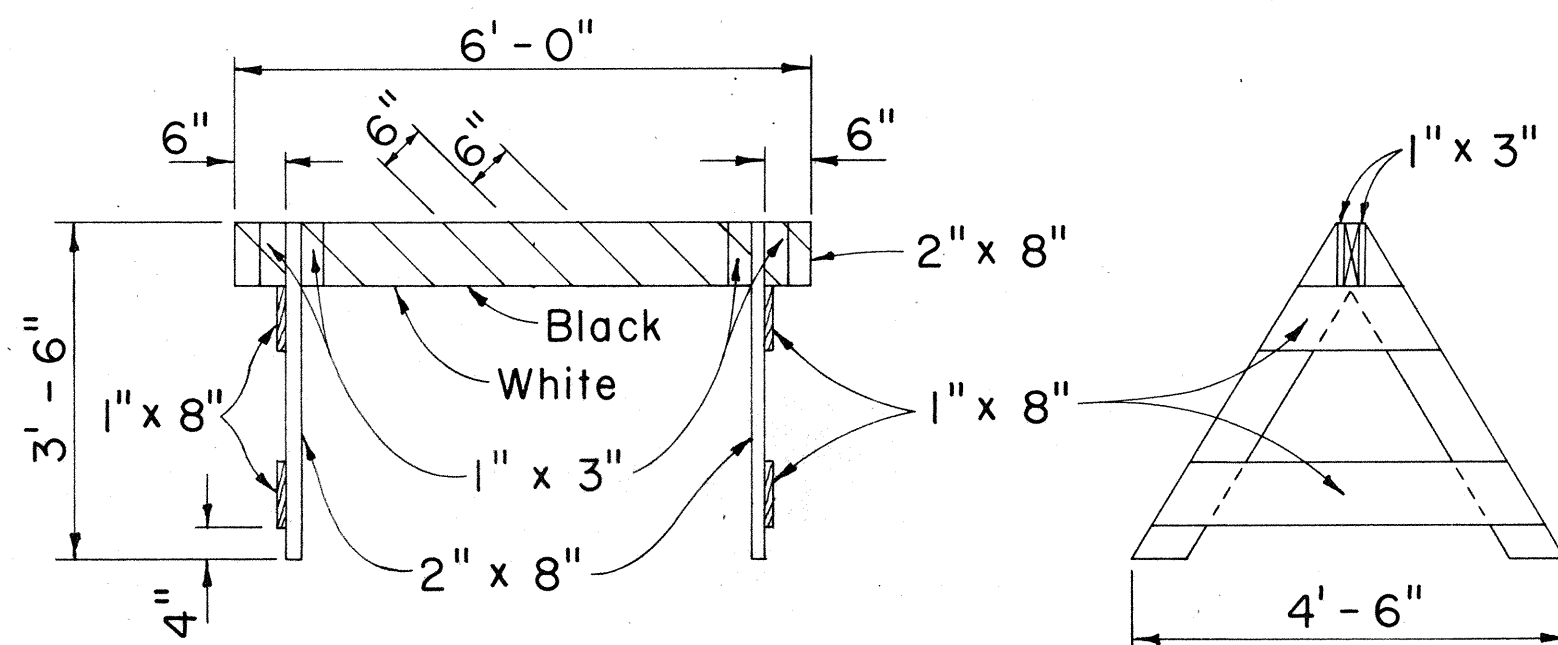
END VIEW

CLASS I BARRICADE

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



PLAN VIEW



FRONT VIEW

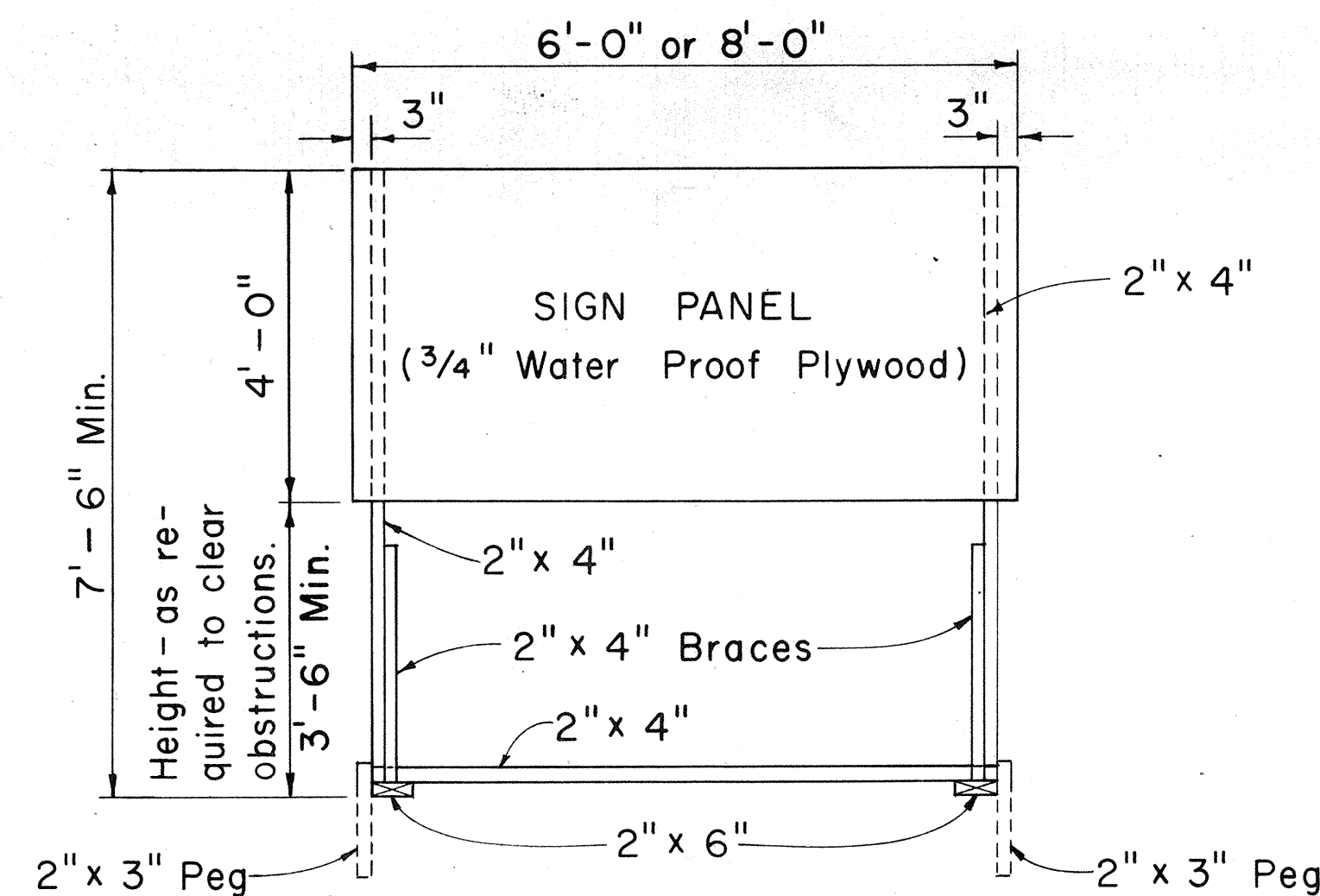
END VIEW

CLASS II BARRICADE

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

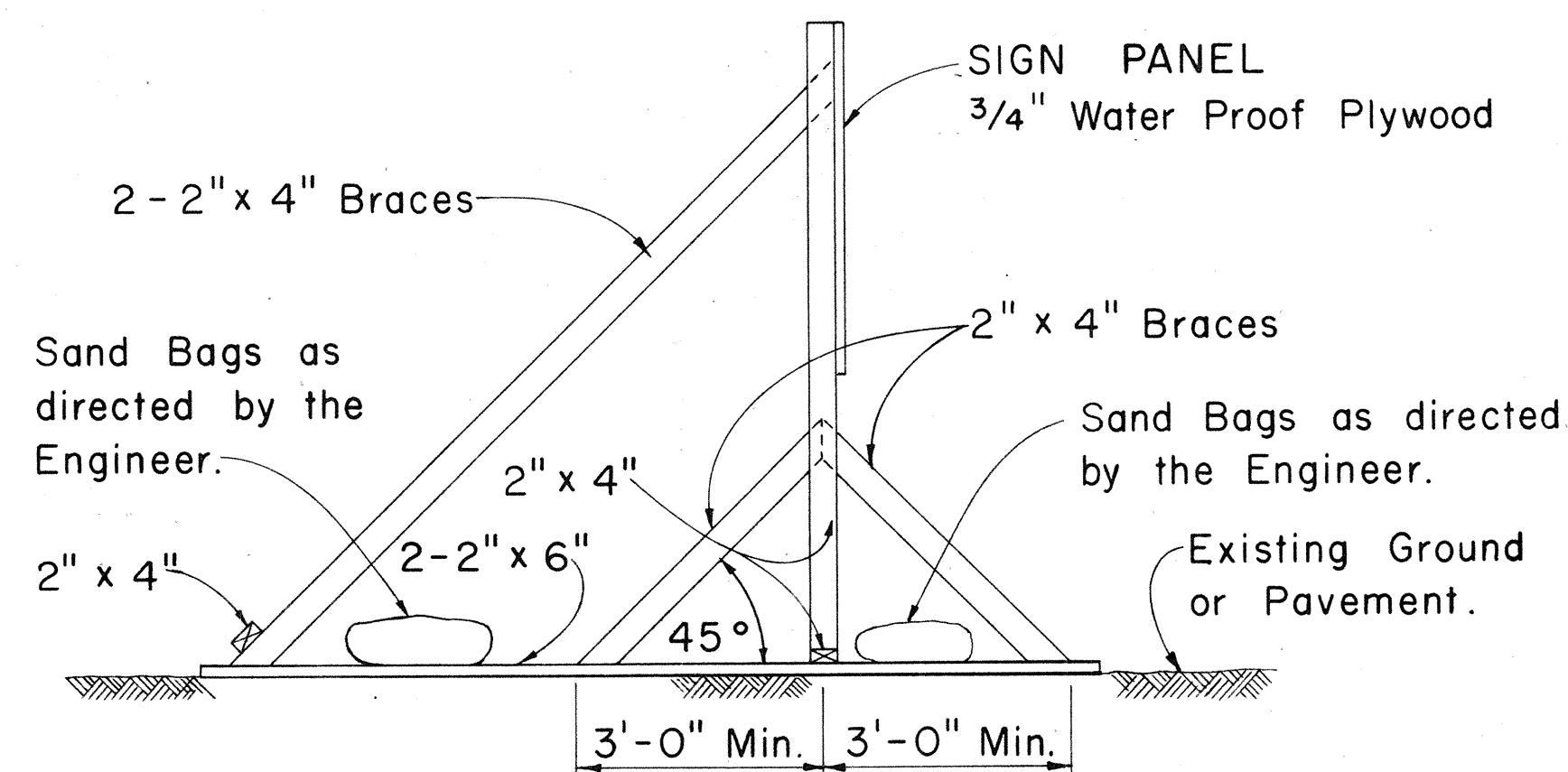
GENERAL NOTES

- The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
- The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.
- The black and white stripes shall slant downward toward the side on which traffic is to pass.



FRONT VIEW

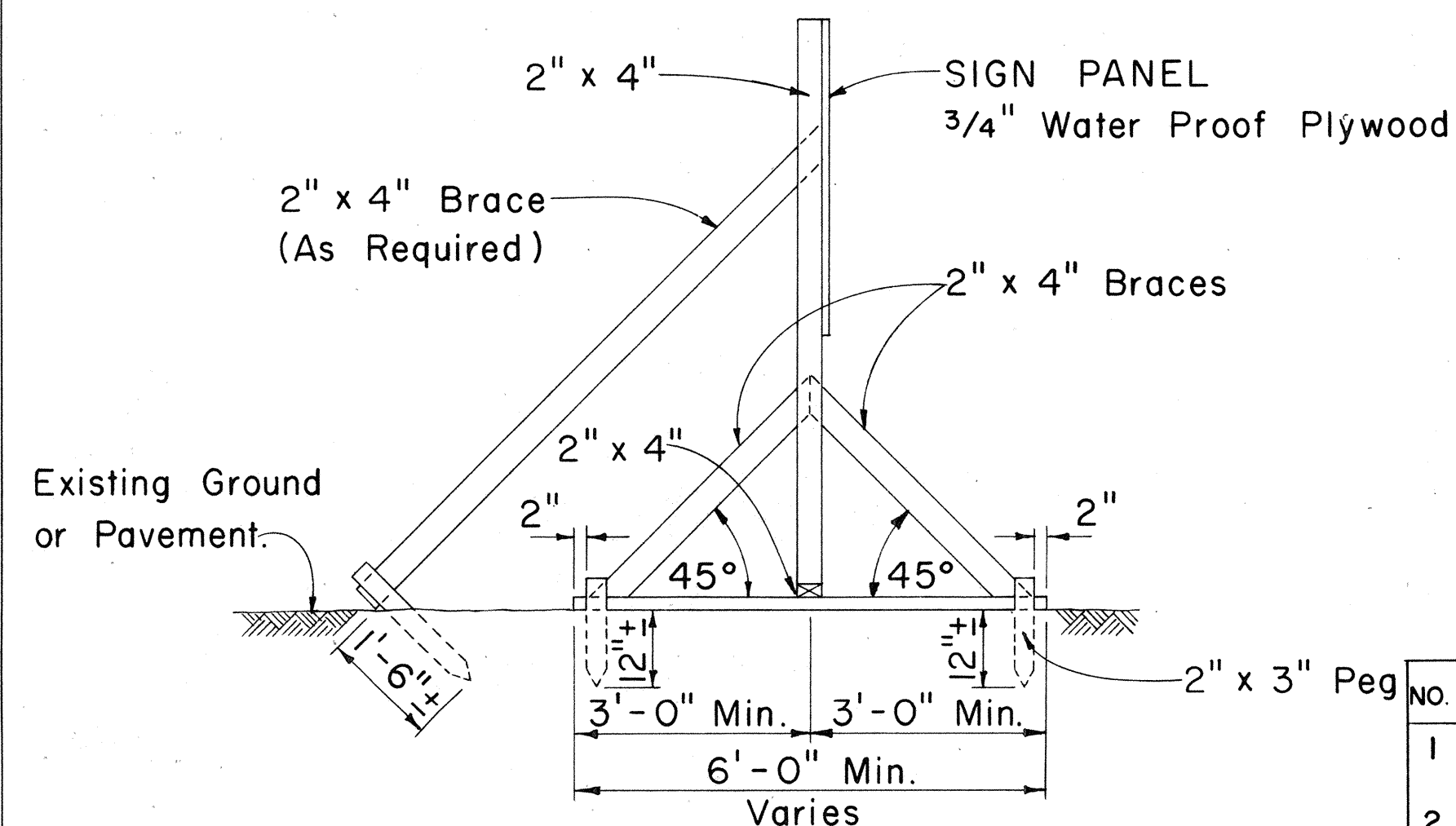
Scale: 1/2" = 1'-0"



SIDE VIEW

(SIGN FRAME WEIGHTED DOWN)

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



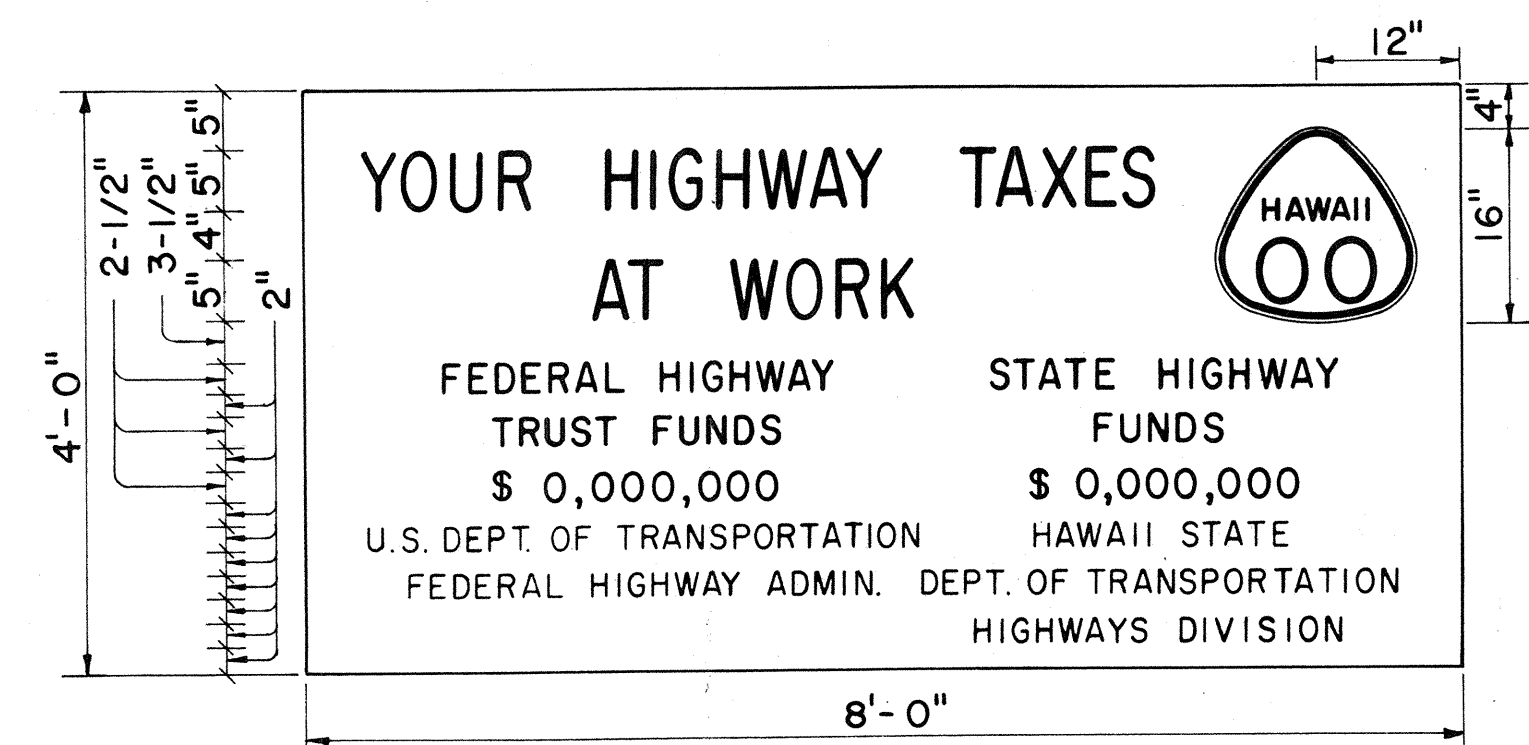
SIDE VIEW

(SIGN FRAME ANCHORED IN GROUND)

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

CONSTRUCTION IDENTIFICATION SIGN

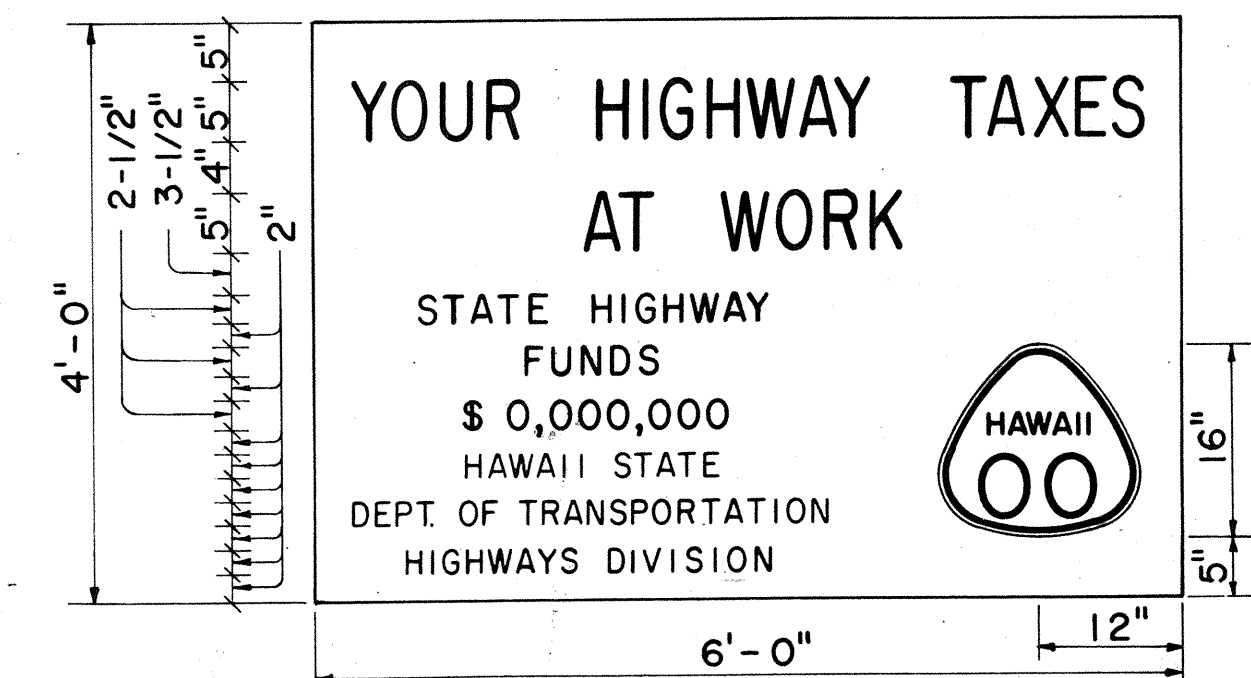
Scale: As Shown



SIGN PANEL

PRIMARY AND SECONDARY SYSTEMS

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



SIGN PANEL

NON-FEDERAL AID PROJECT

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

GENERAL NOTES

- The sign legend shall be black on white background.
- The Contractor shall construct, install and maintain the project signs at the locations shown on the plans and as ordered by the Engineer.
- Letters shall be Series "C" of the sizes shown on the plan and shall conform with the "Standard Alphabet for Highway Signs", Bureau of Public Roads, 1966
- The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.

APPROVAL RECOMMENDED:

Eichi Tanaka 12/23/69
TRAFFIC ENGINEER DATE

APPROVED:

John J. S. S. S. 12/30/69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Delete "Bureau of Public Roads"	H.T.	4-29-70
2	Add Note No.3 for Barricades	H.T.	5-4-71

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
TYPICAL DETAILS CONSTRUCTION IDENTIFICATION SIGN AND WOOD BARRICADES
Scale: As Shown Date:

SHEET No. 20 OF 20 SHEETS DT 801