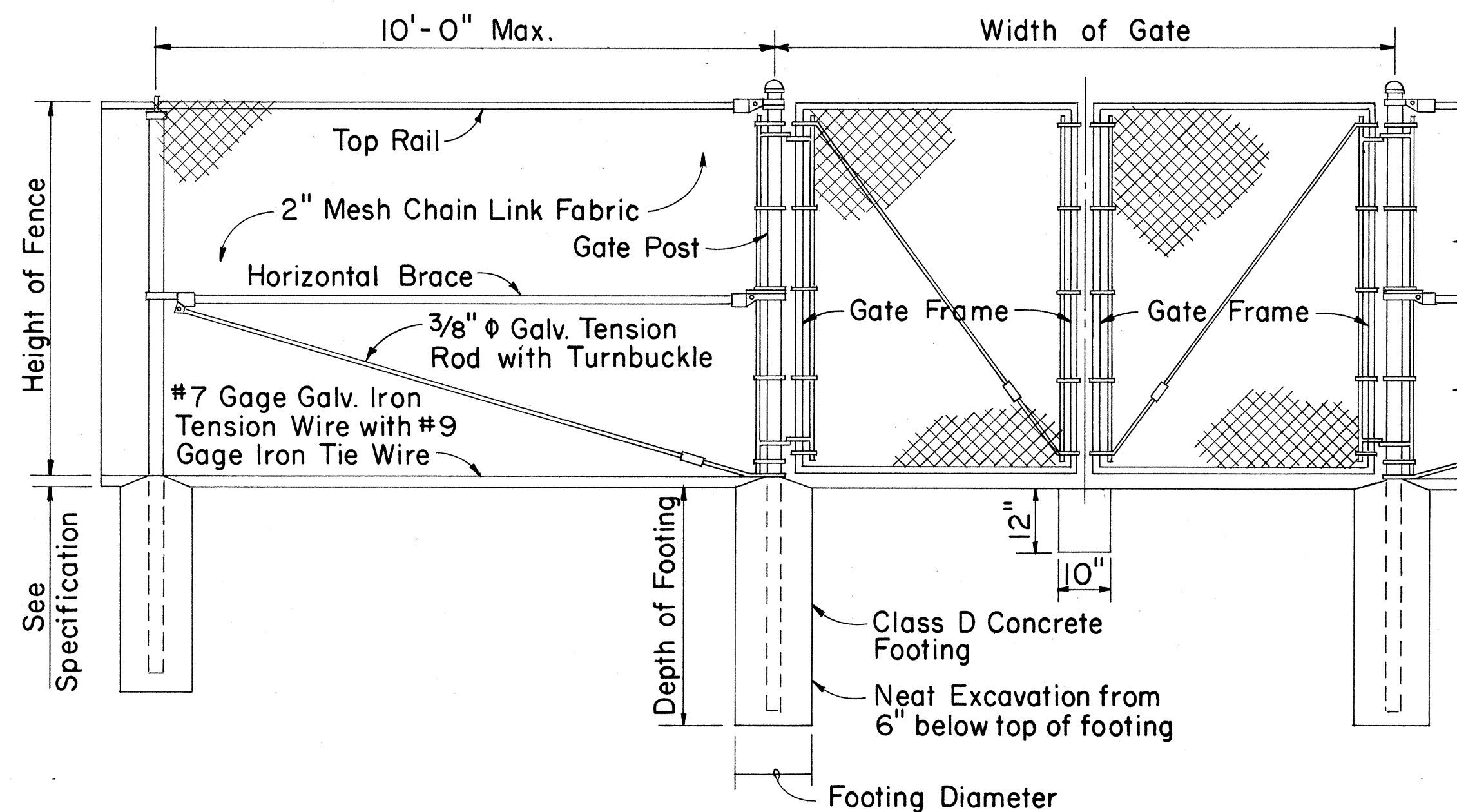


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(11)14	1974	21	234



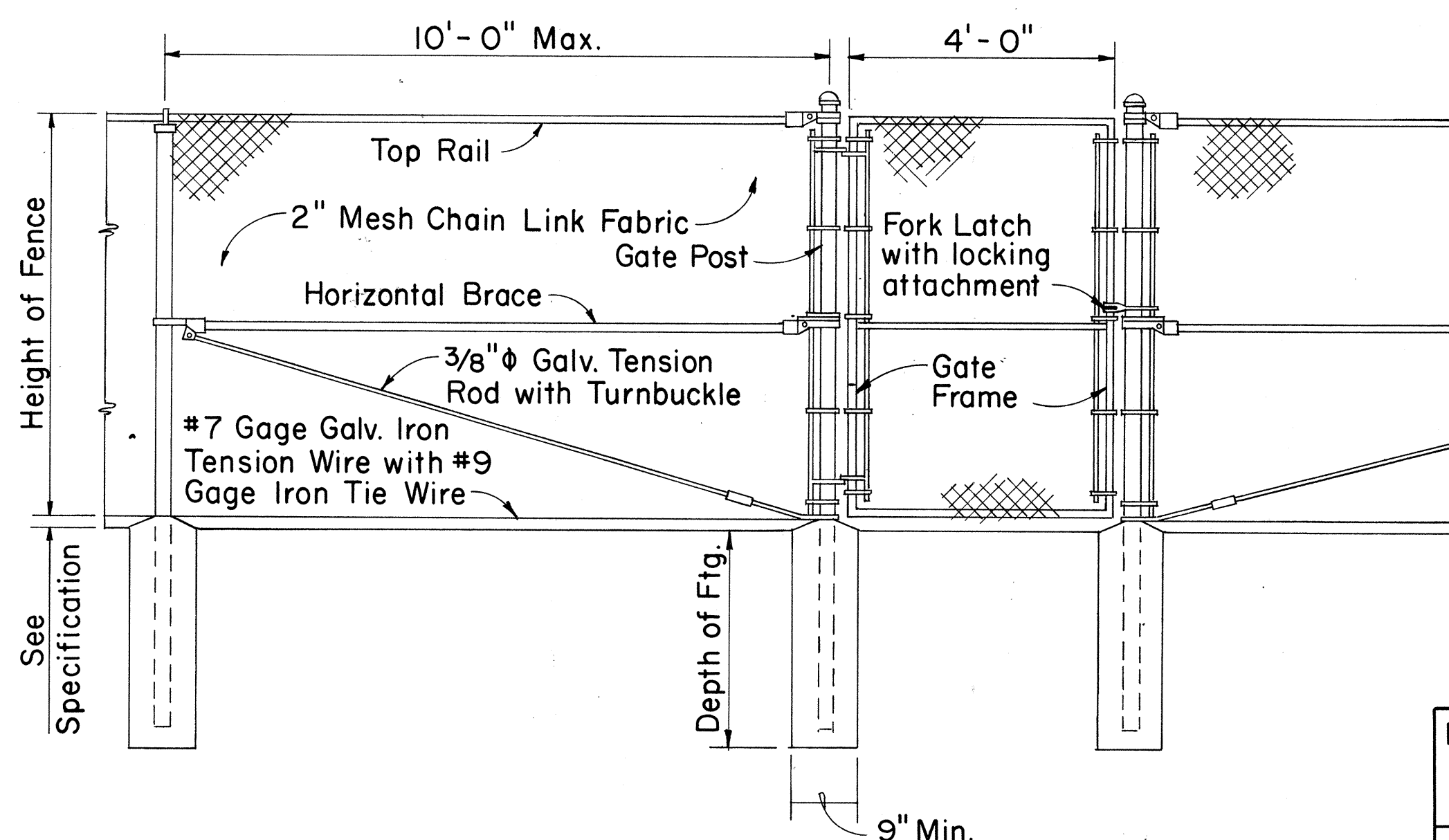
LINE POST

GATE POST

GATE POST

DETAIL OF CHAIN LINK GATE

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

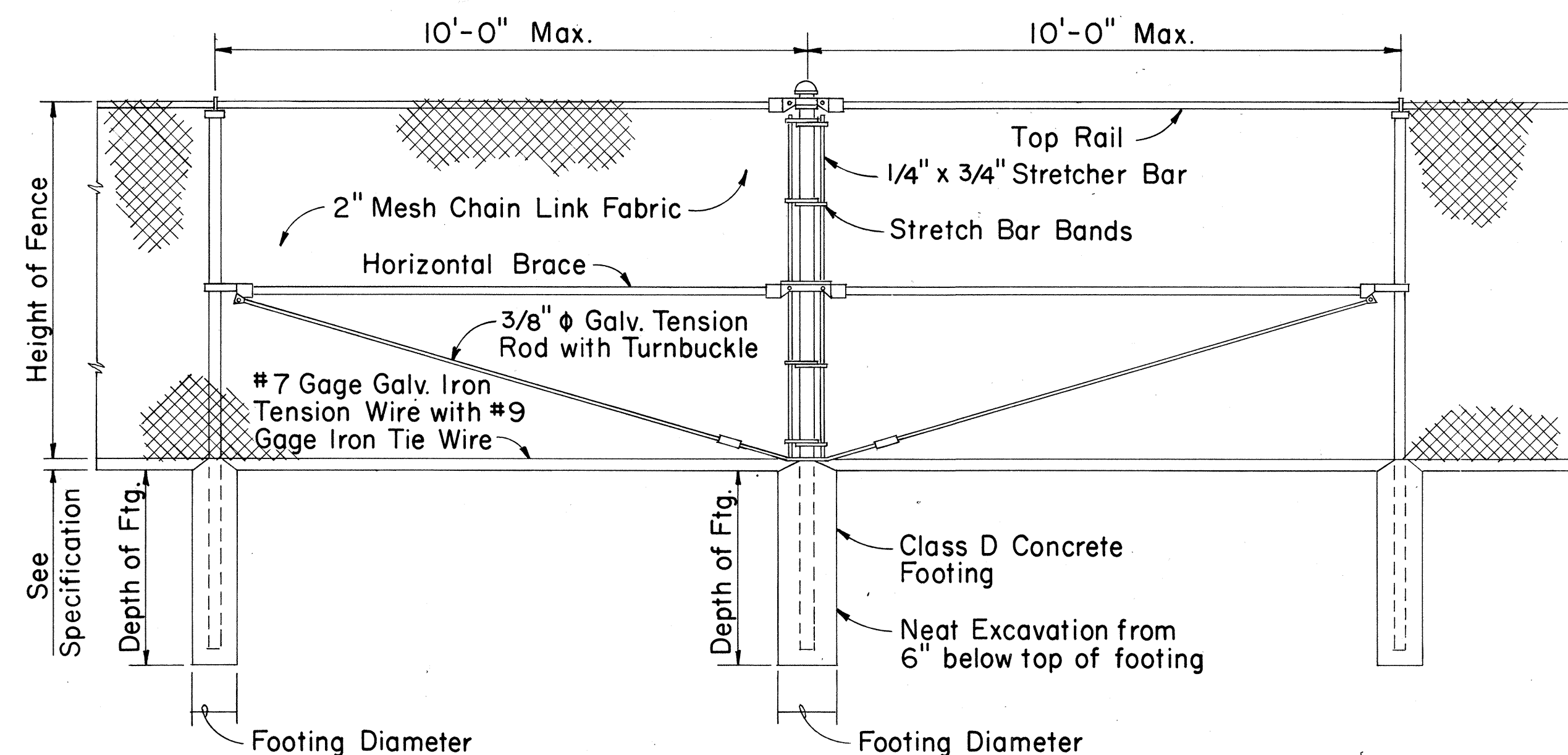


LINE POST

GATE POST

GATE POST

DETAIL OF 4 FT. CHAIN LINK GATE

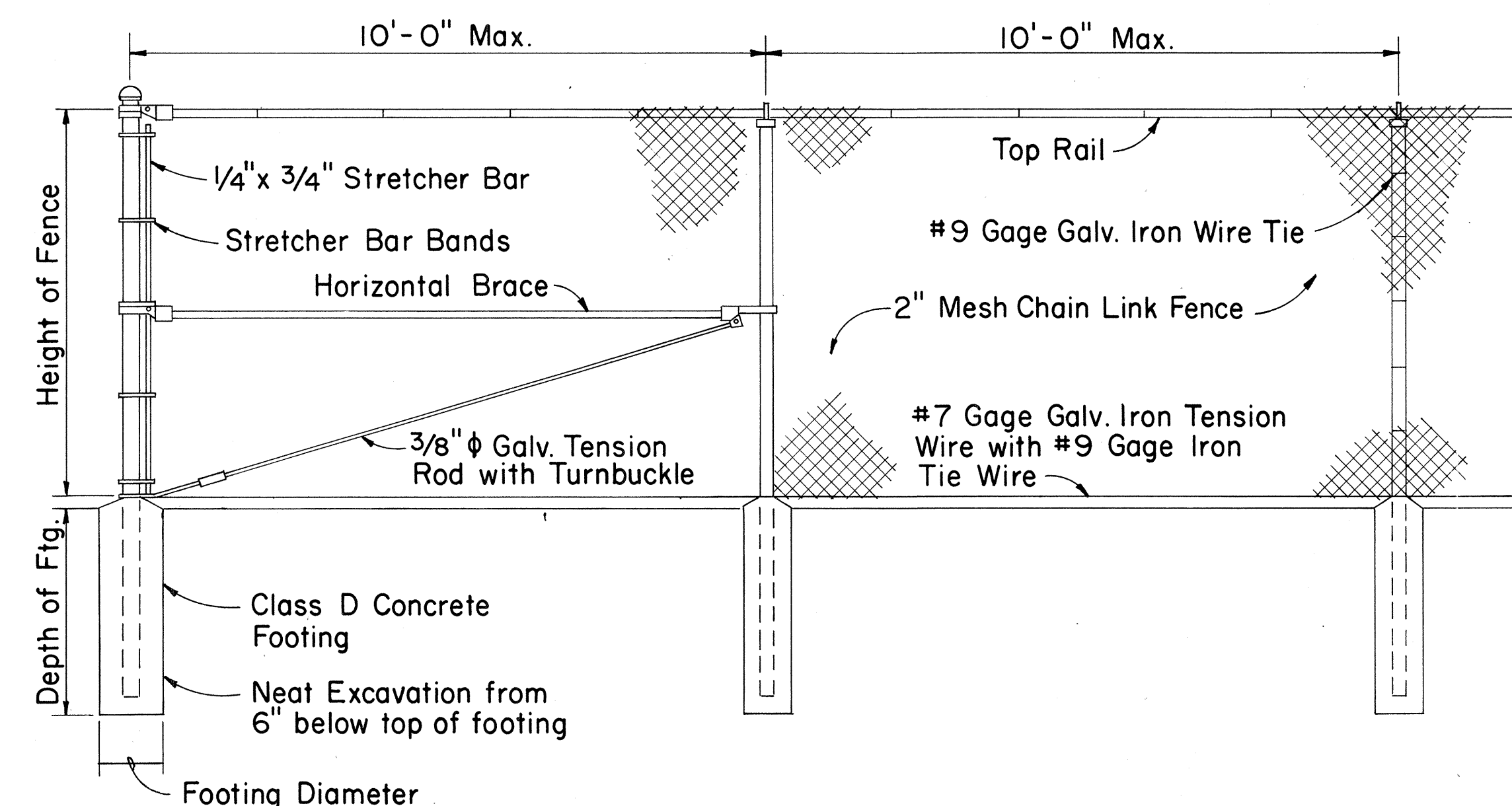


LINE POST

PULL POST

LINE POST

TYPICAL SECTION (WITH CONCRETE FOOTING)



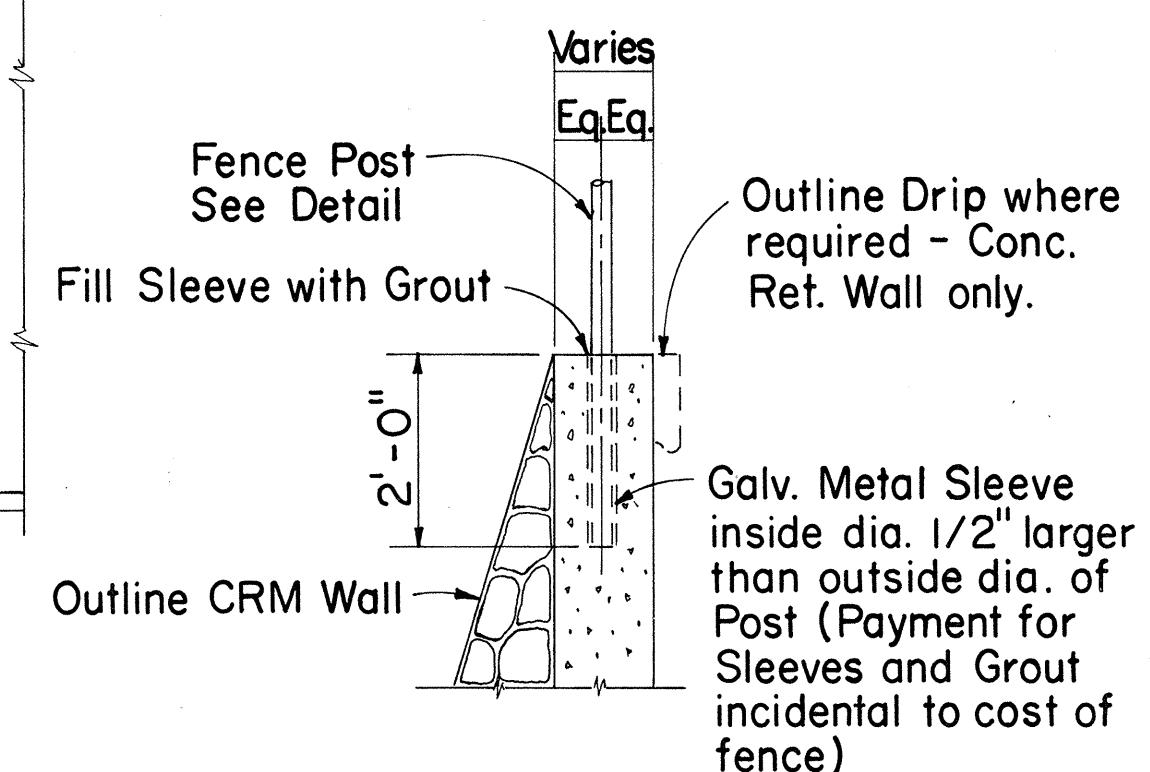
END POST

LINE POST

LINE POST

CHAIN LINK FENCE DETAILS

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



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

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

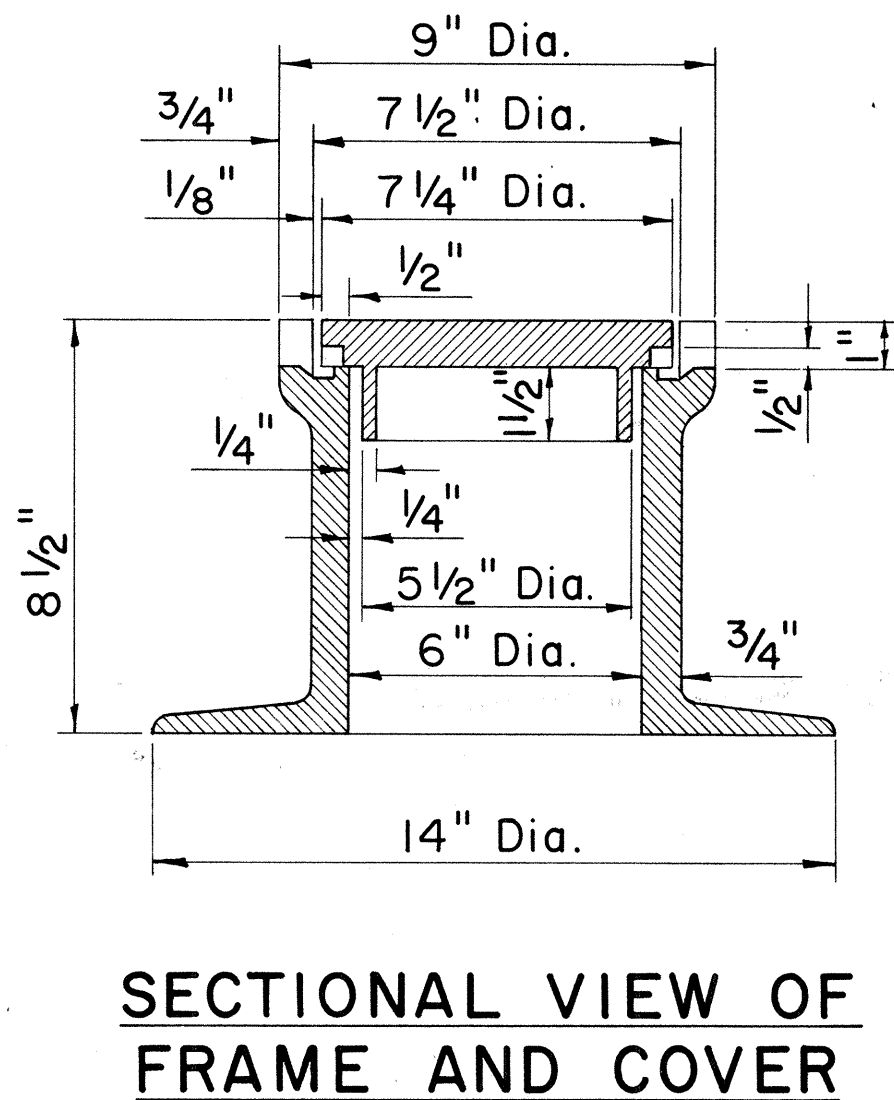
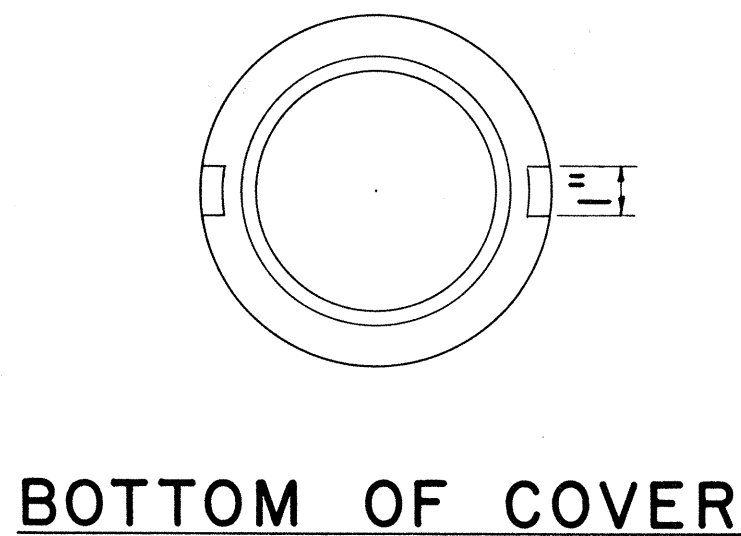
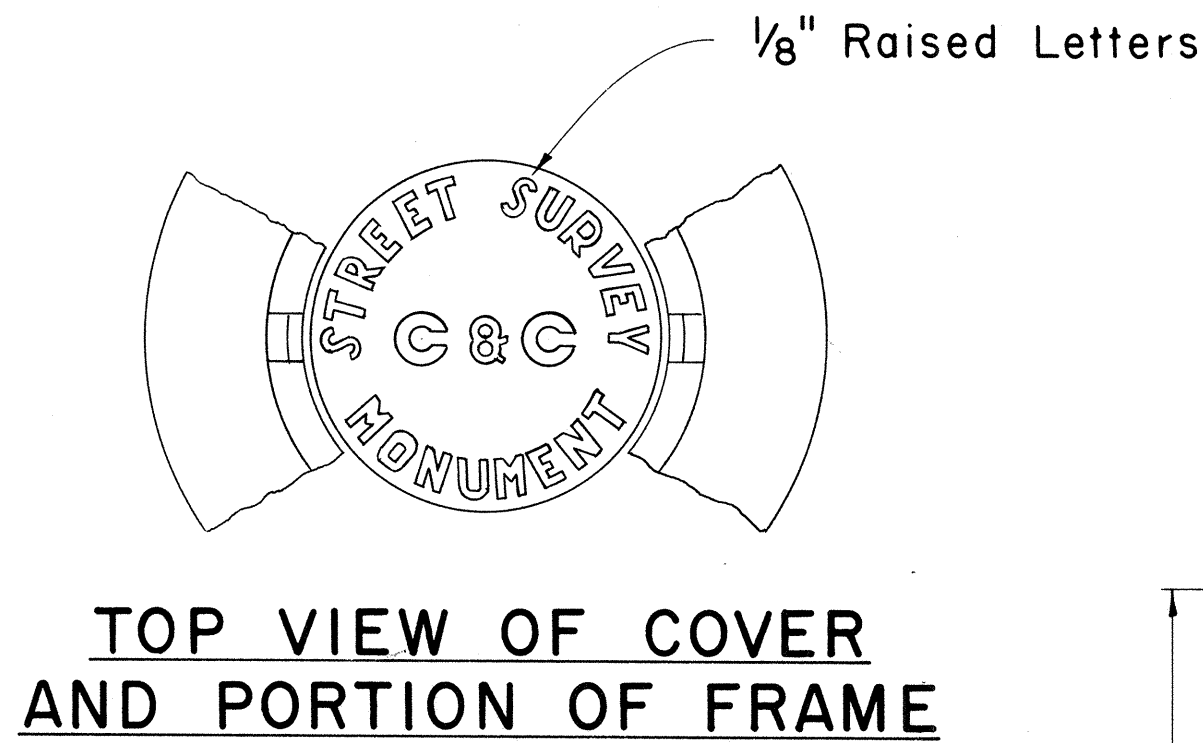
STANDARD DETAILS

CHAIN LINK FENCE
(WITH TOPRAIL)

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

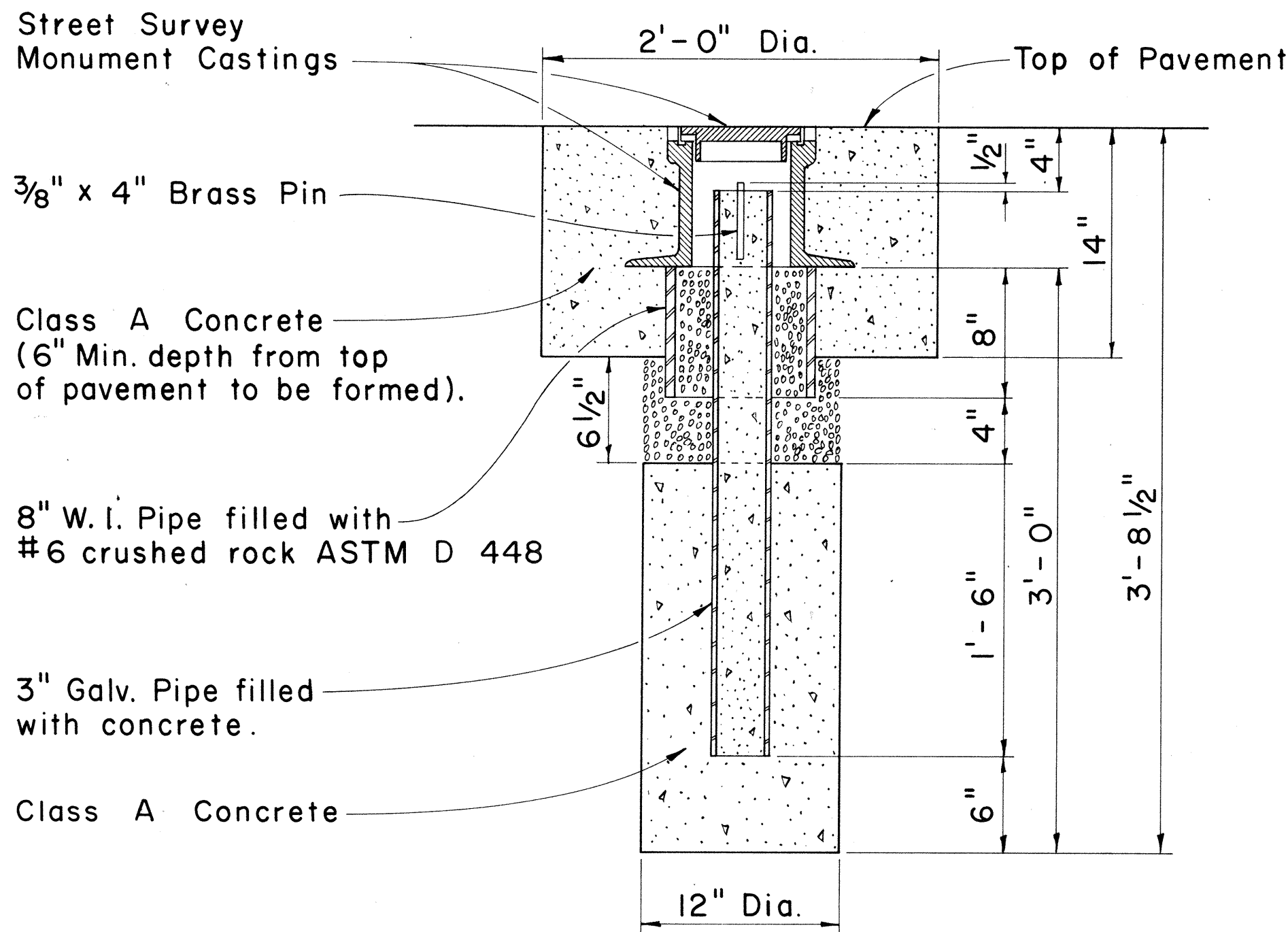
SHEET No. 1 OF 12 SHEETS DD 607.1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(11)14	1974	22	234



STREET SURVEY MONUMENT CASTINGS

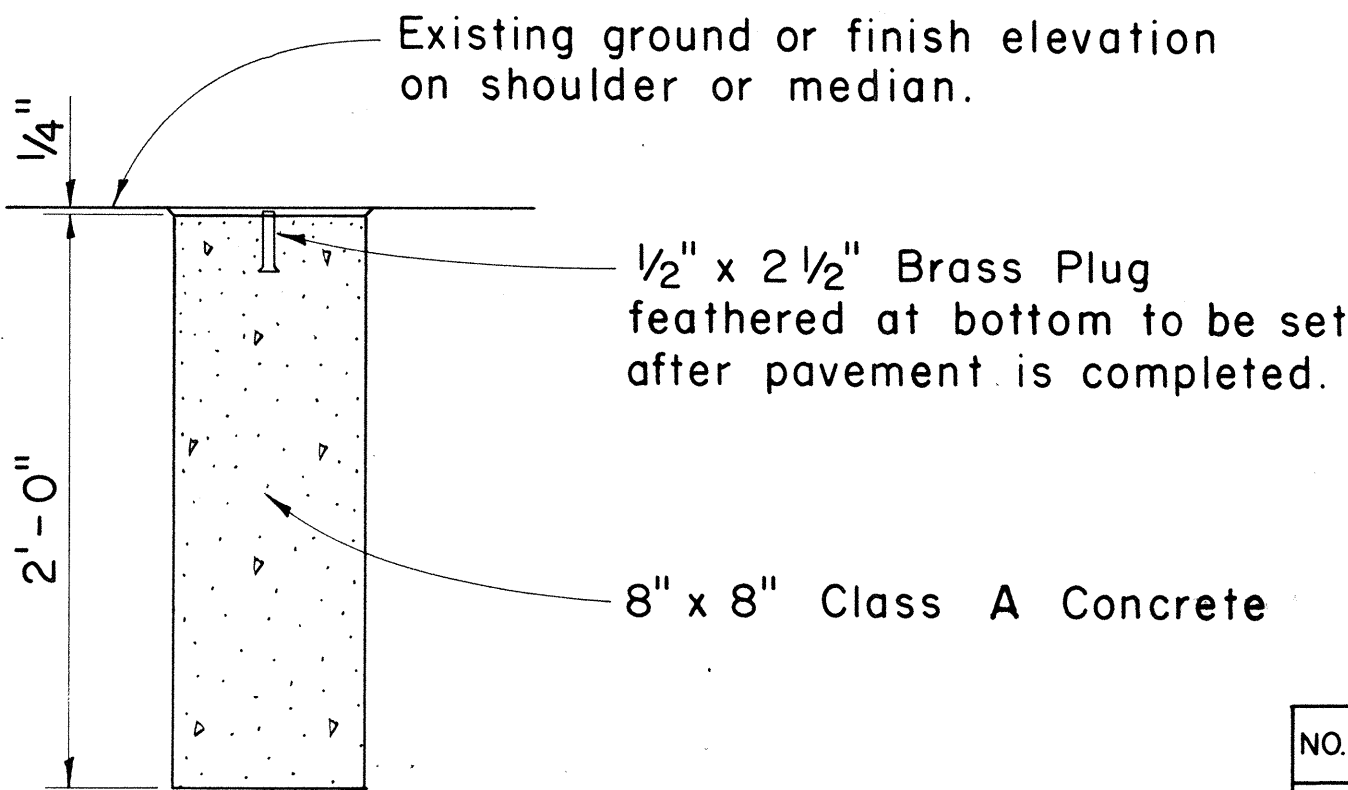
Scale: 3" = 1'-0"



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"

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER 12-4-69
DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING 12-10-69
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

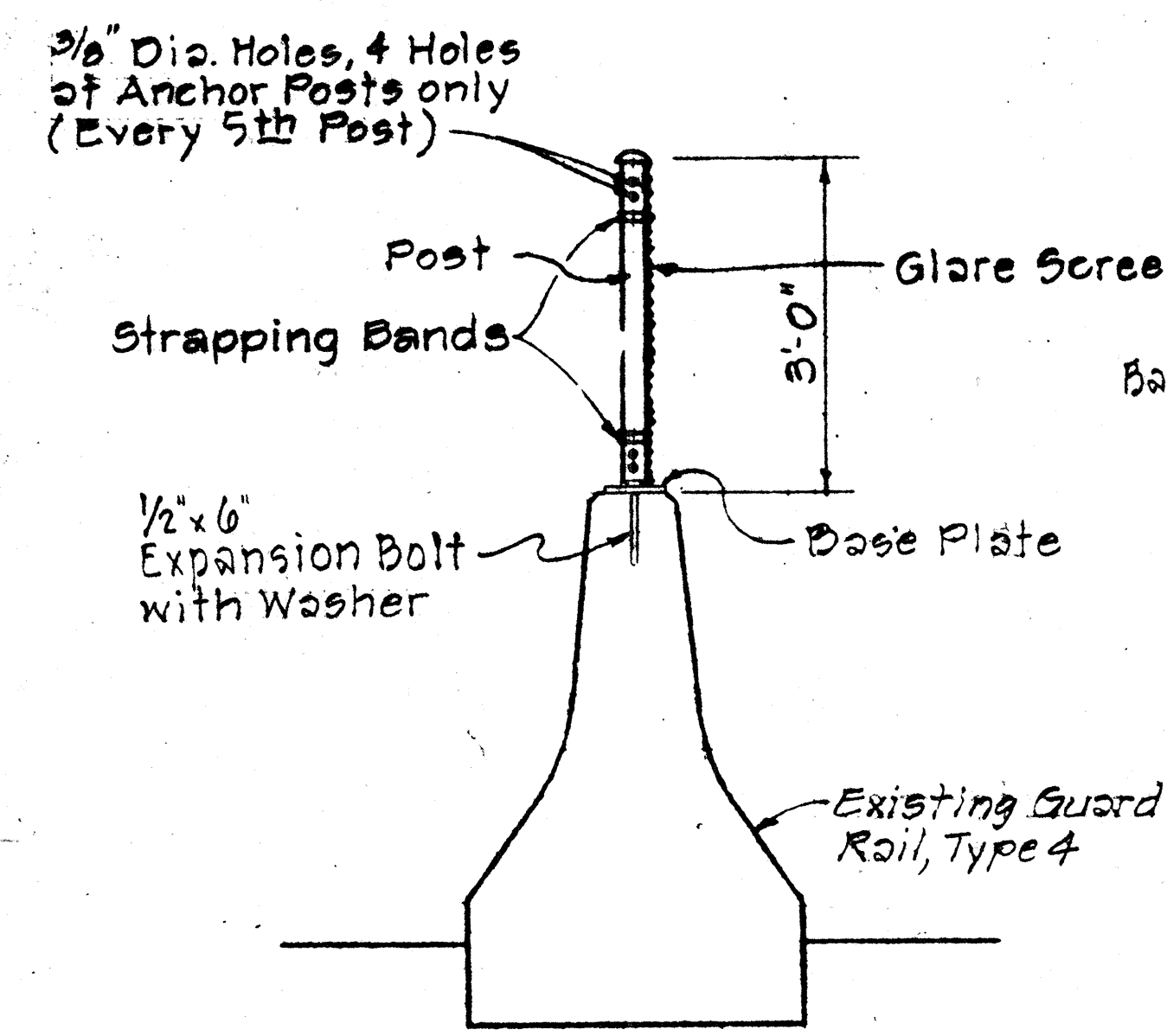
STANDARD DETAILS

CENTERLINE, REFERENCE SURVEY
AND C & C STREET SURVEY
MONUMENTS

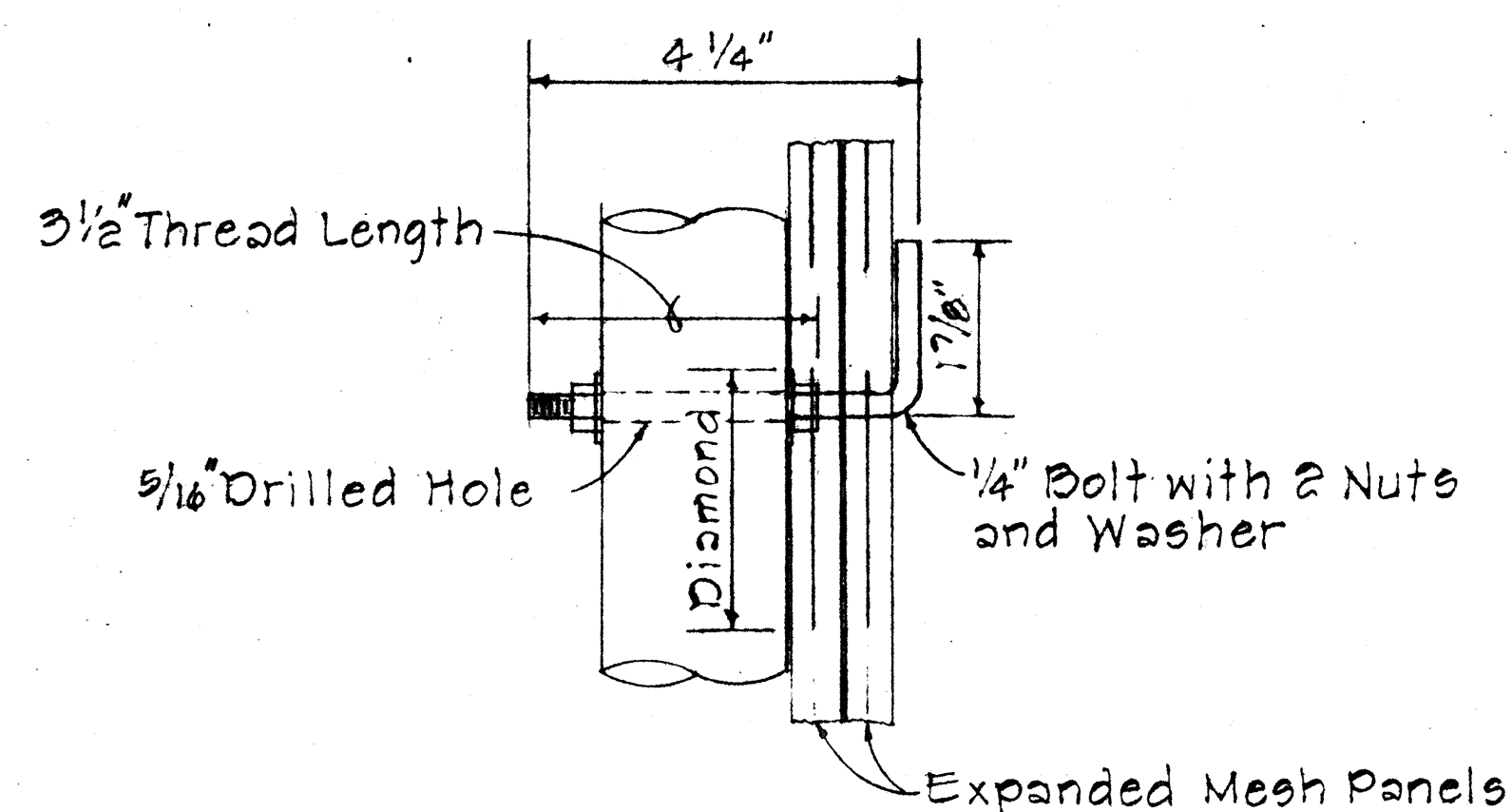
Scale: As Shown

SHEET No. 2 OF 12 SHEETS DD 613.1

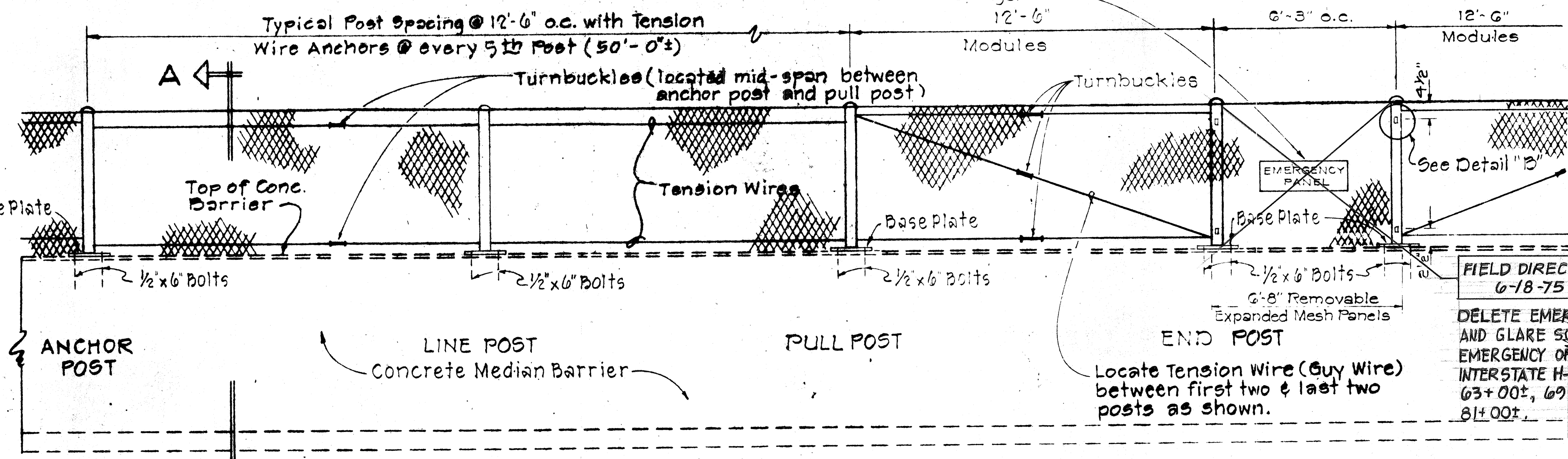
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(111)14	1974	23	234



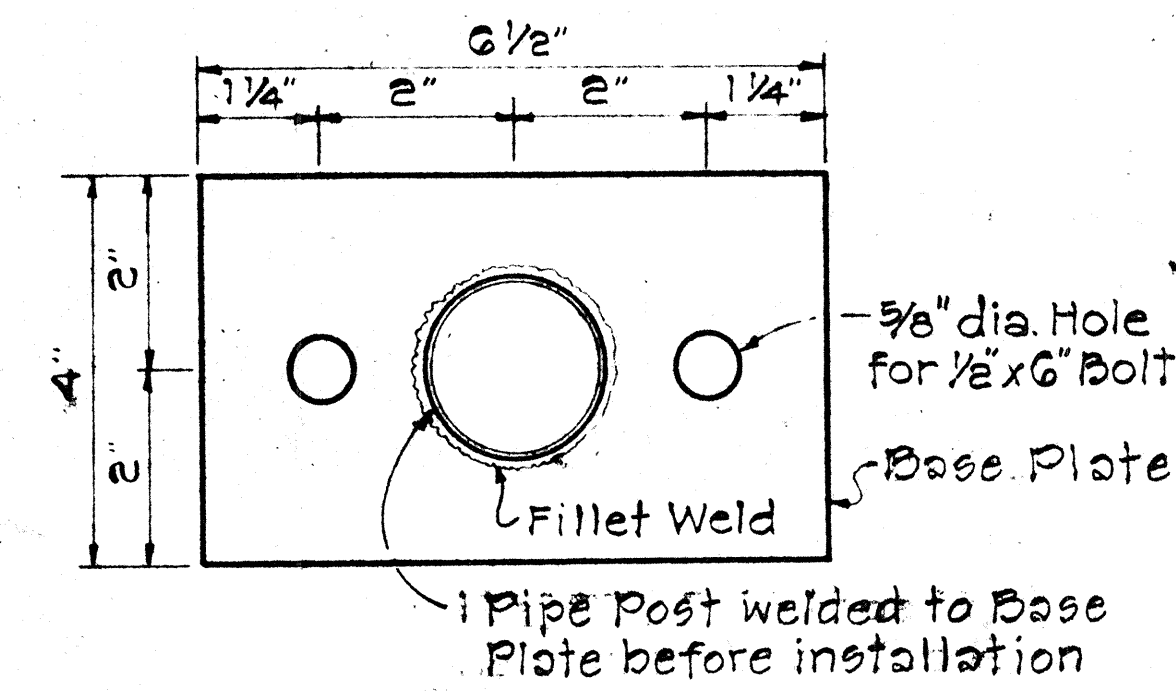
SECTION A-A
Not To Scale



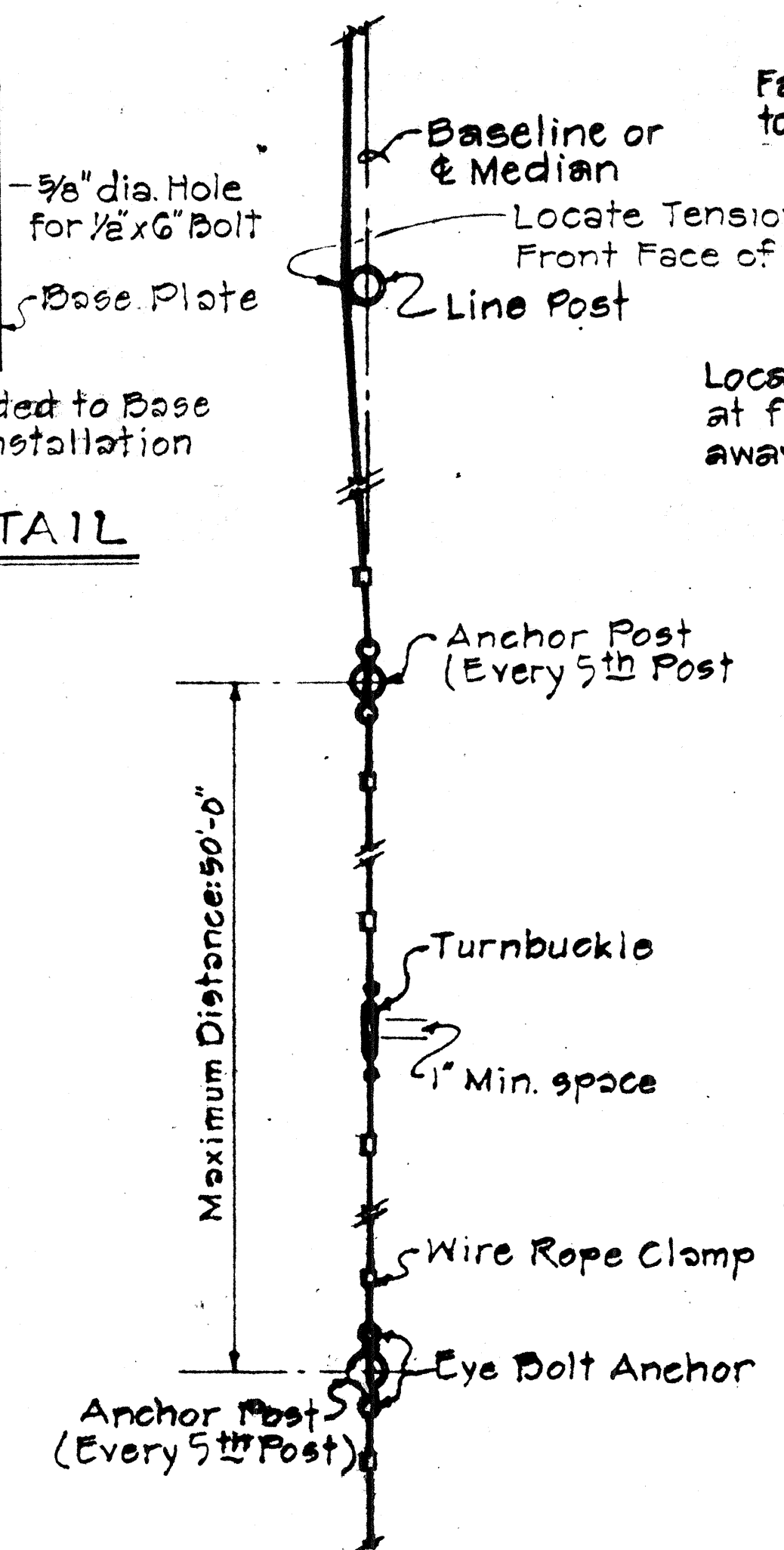
DETAIL B
Half Full Size



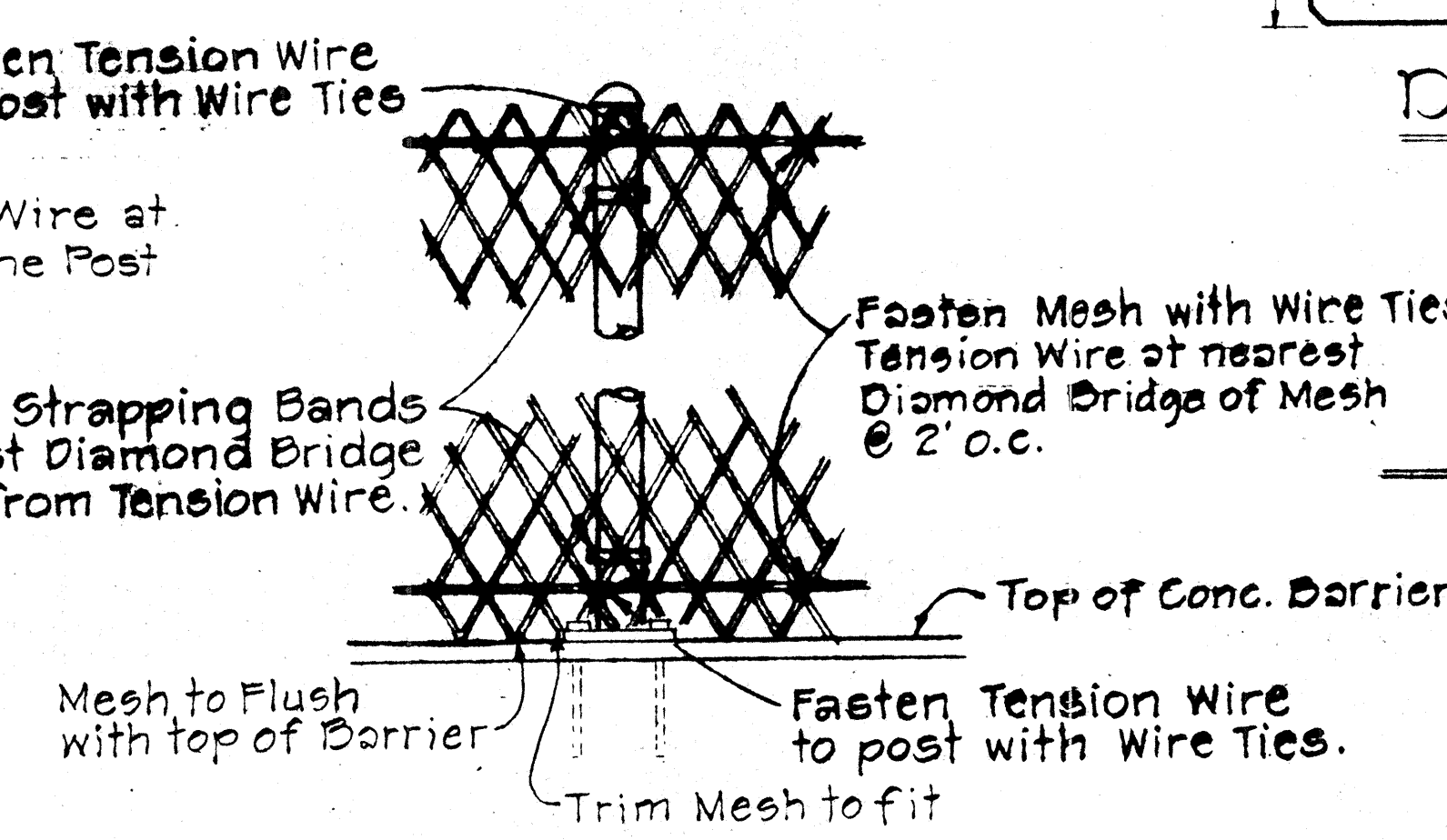
TYPICAL ELEVATION
Not to Scale



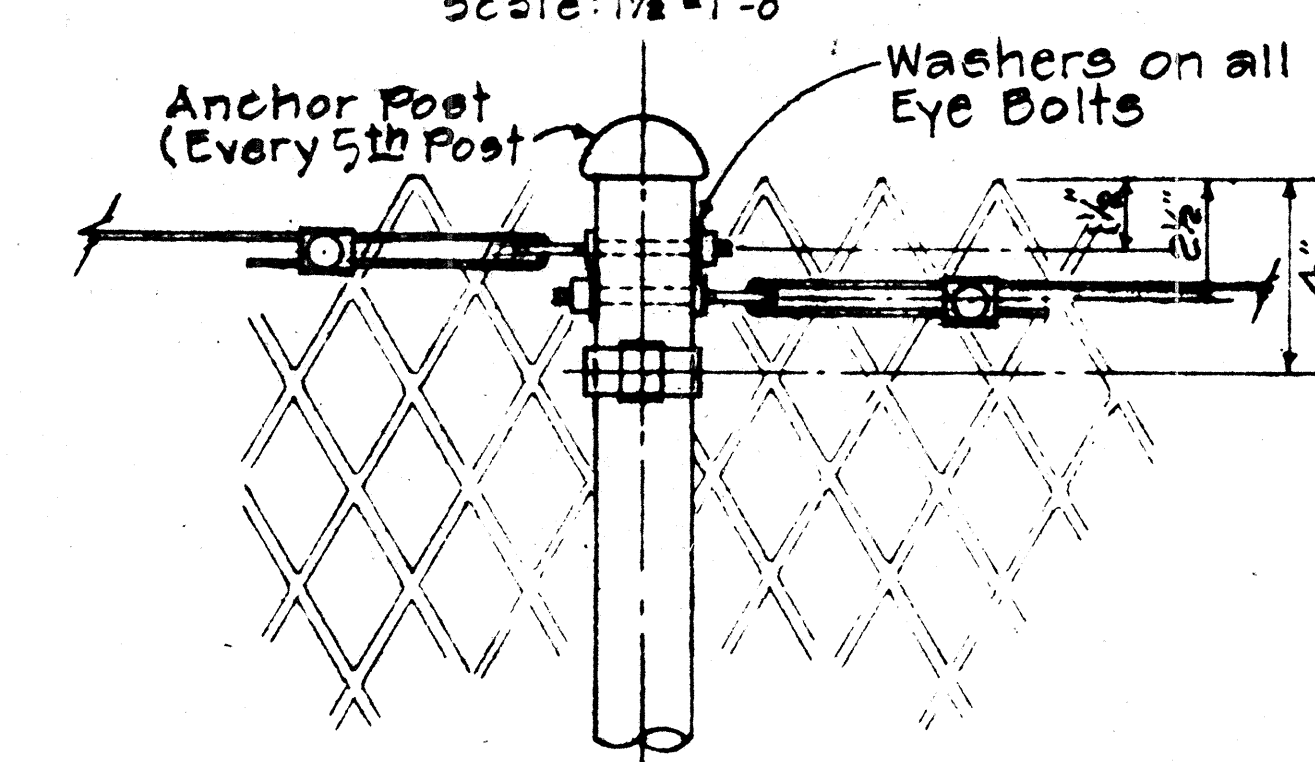
BASE PLATE DETAIL



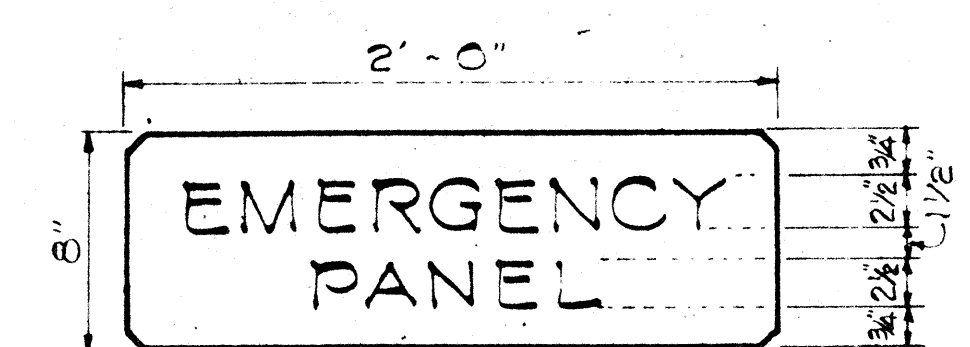
TENSION WIRE CONNECTIONS
Scale: 1 1/2"=1'-0"



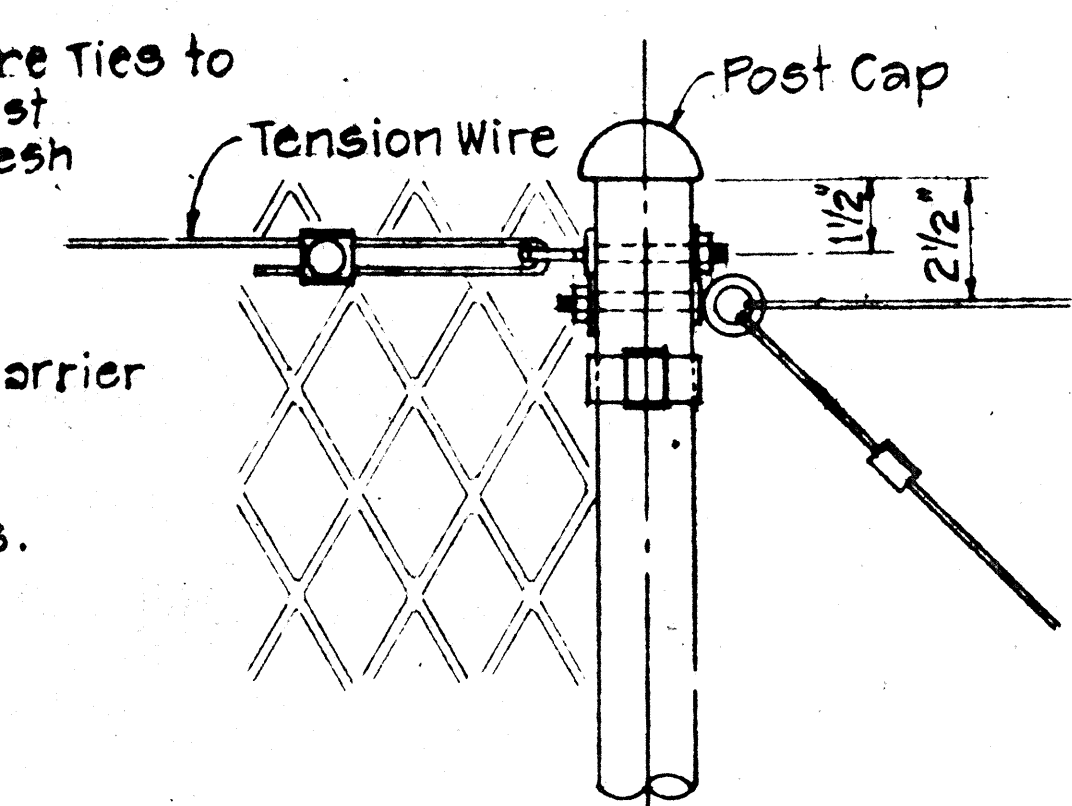
LINE POST CONNECTIONS
(Viewed From Mesh Side)
Scale: 1 1/2"=1'-0"



TENSION WIRE ANCHOR DETAIL
Scale: 3"=1'-0"



DETAIL "A"
NOT TO SCALE



PULL POST DETAIL
Scale: 3"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HEADLIGHT
GLARE SCREEN**

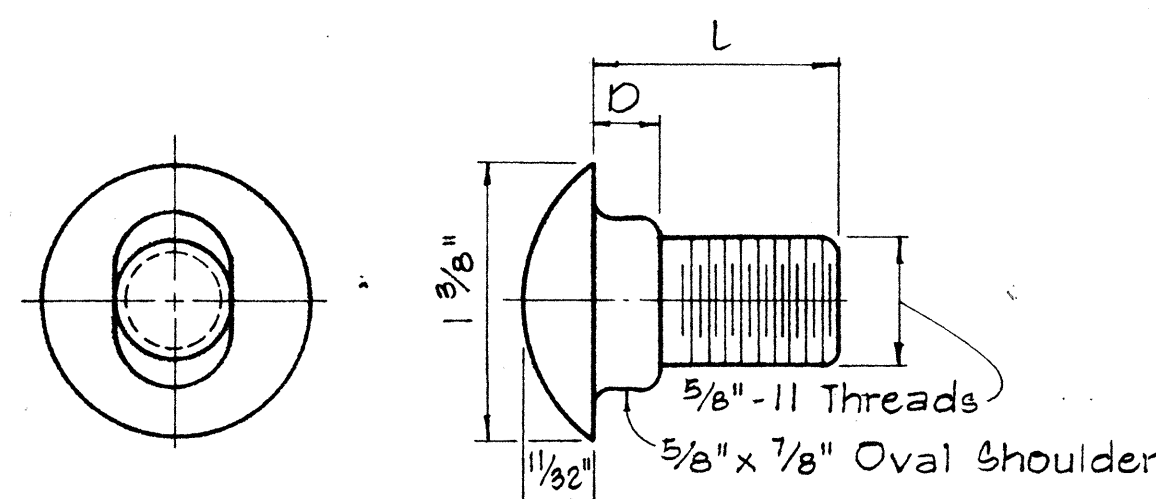
SCALE: AS NOTED
SHEET No. 3 OF 12 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	
NOTED BY	
REVISIONS	

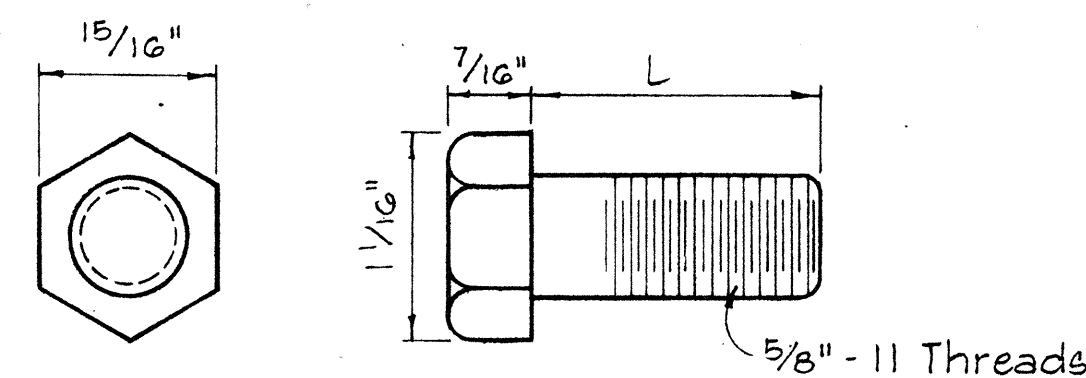
BOLT DIMENSIONS		
TYPE A BOLT		
Splice Bolt	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Double Wood Blocks	3/32"	24"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	18"
Rail Bolt for Metal Block	3/32"	2"

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"

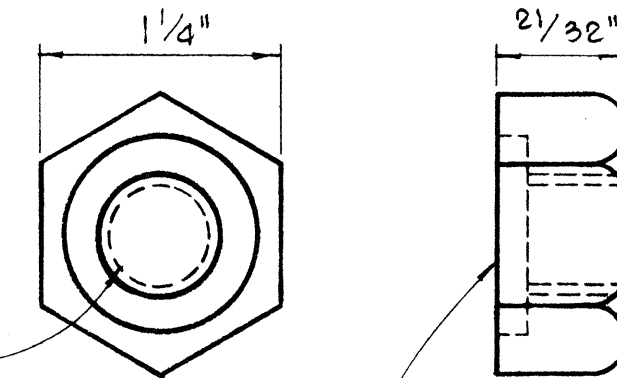
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1111-14	1974	26	234



TYPE A BOLT



TYPE B BOLT



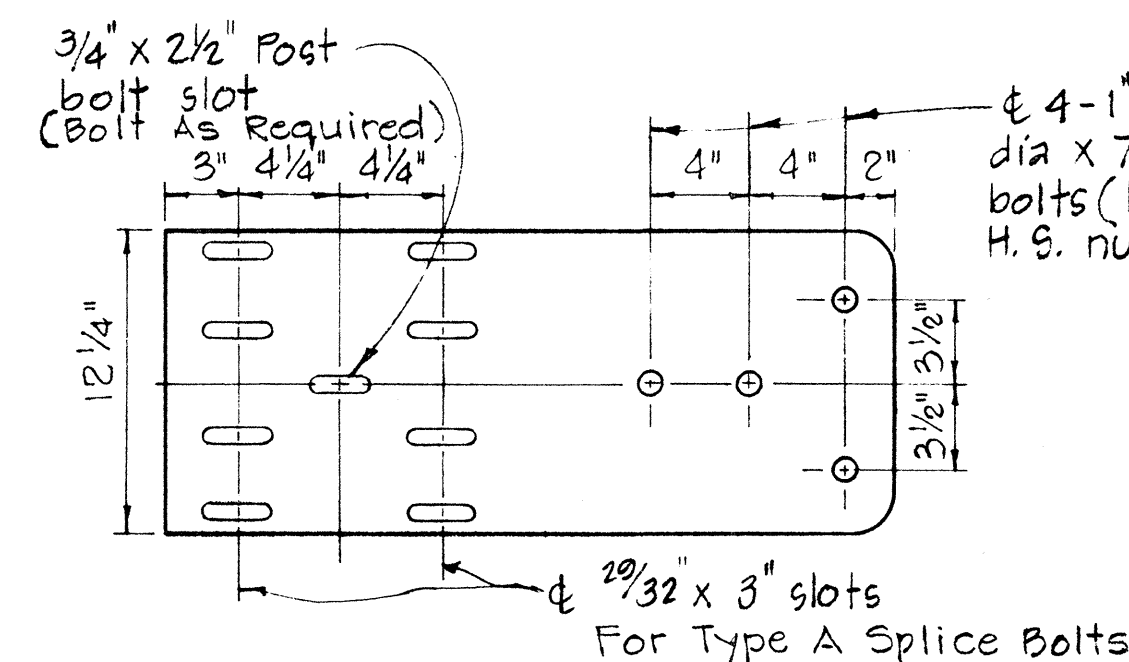
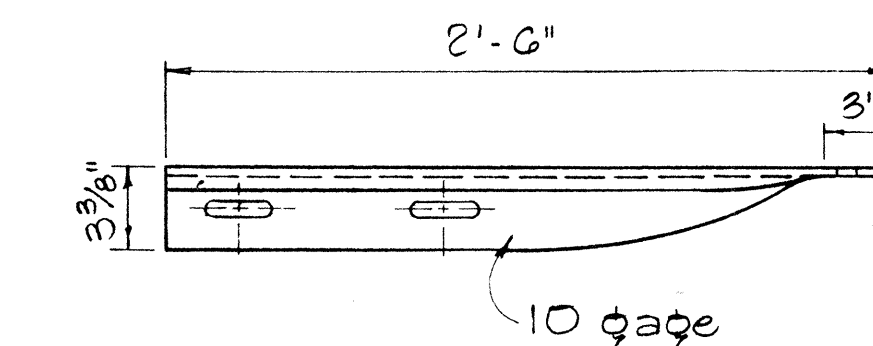
HEXAGON NUT

5/32" Deep x 1 5/16" Dia. C' Bore for Type A Bolt only. Plain nut for Type B Bolt.

SPlice RAIL AND POST BOLTS

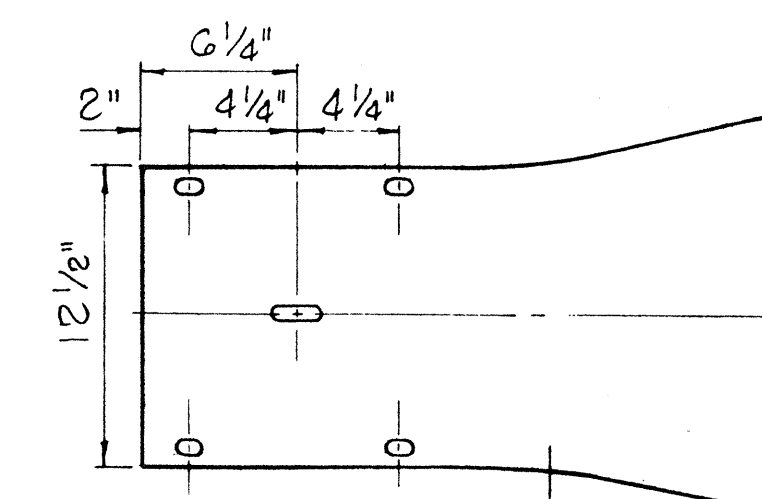
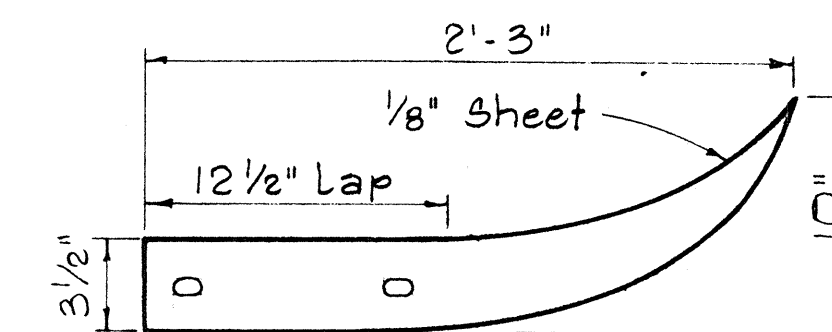
Scale: Full Size

Scale: Full Size



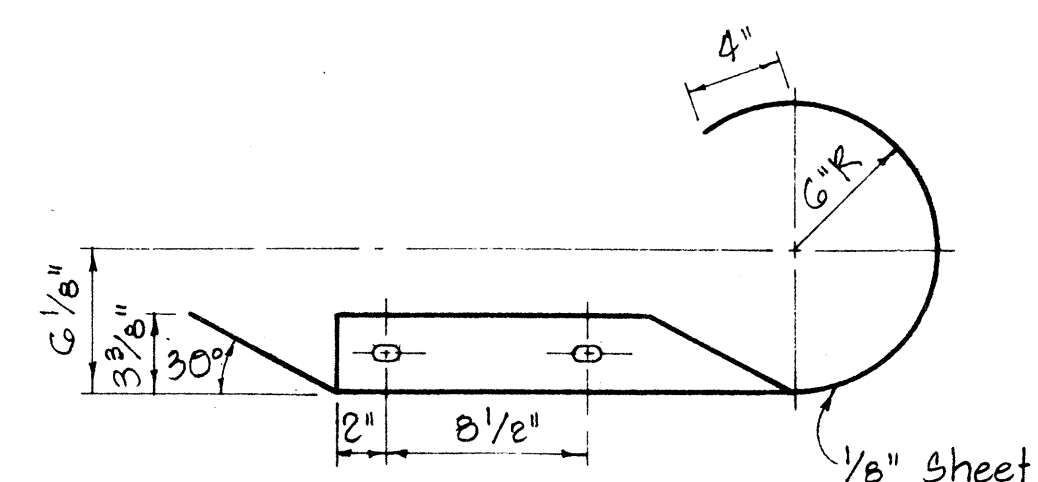
SPECIAL END SHOE

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



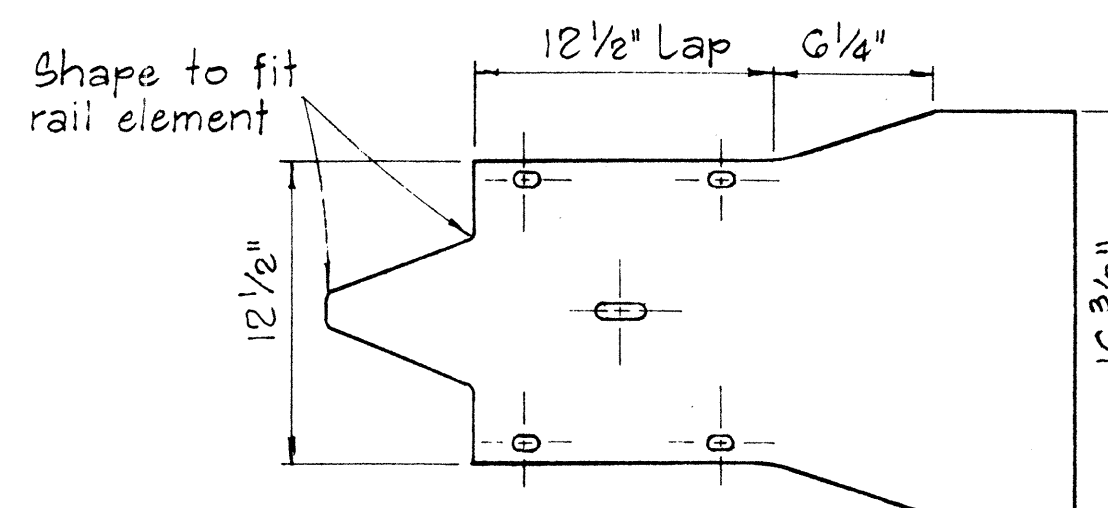
FLARED END

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



CURVED END

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



APPROVAL RECOMMENDED:

TRAFFIC ENGINEER

APPROVED:

ASSISTANT CHIEF, ENGINEERING

12/23/69

DATE

12-20-69

DATE

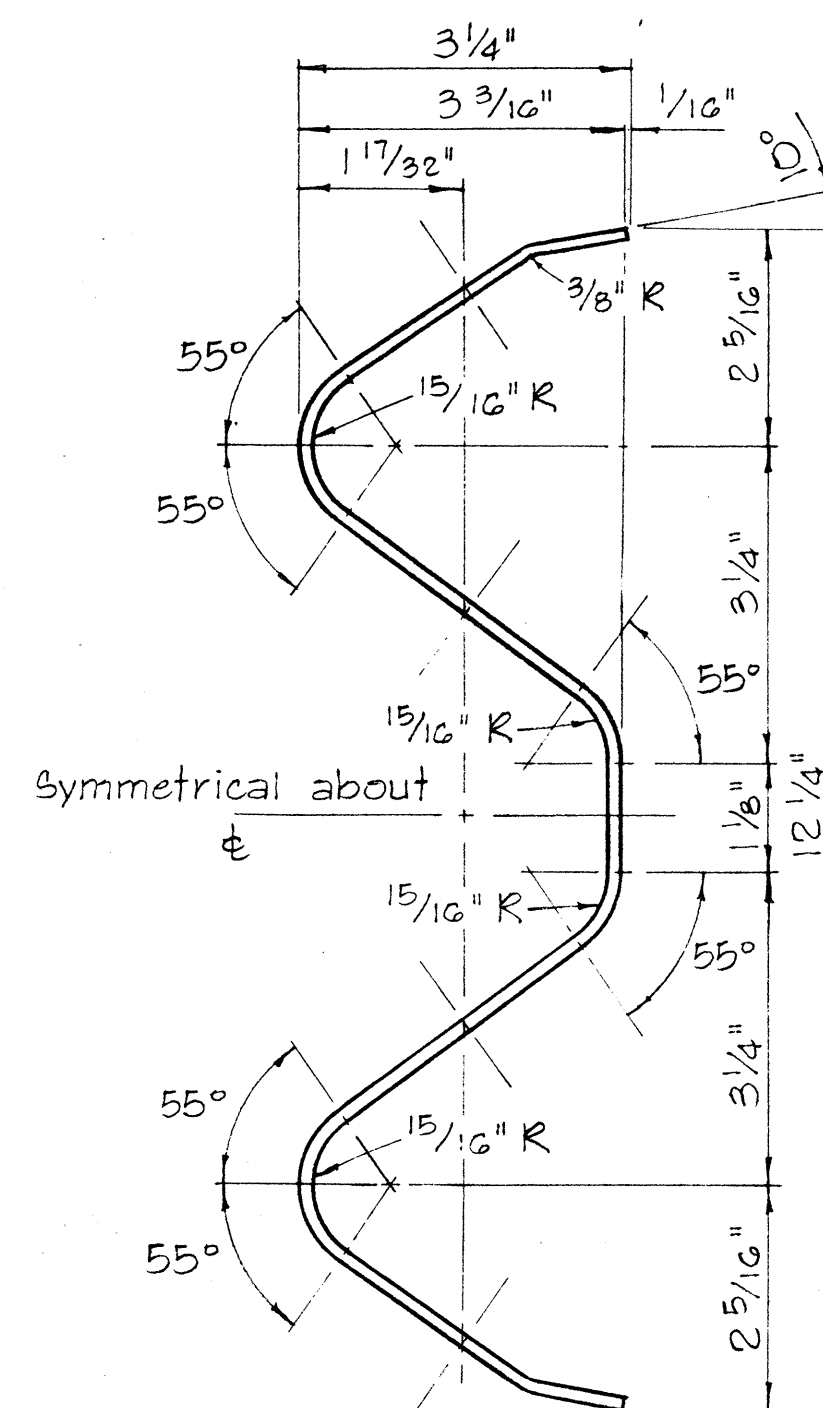
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted

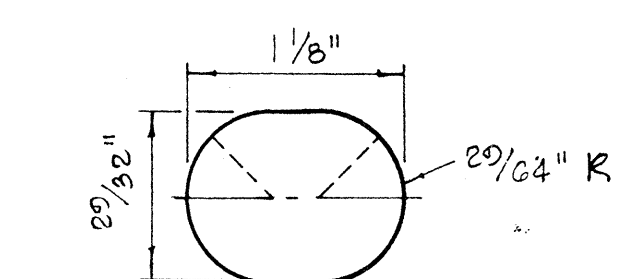
August, 1968

SHEET No. 6 OF 12 SHEETS DT 501



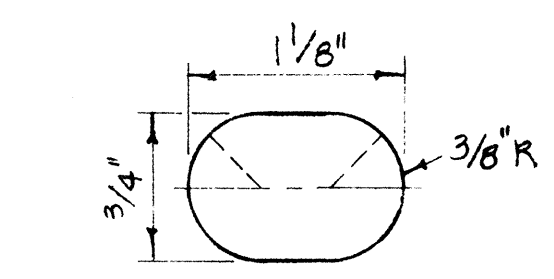
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

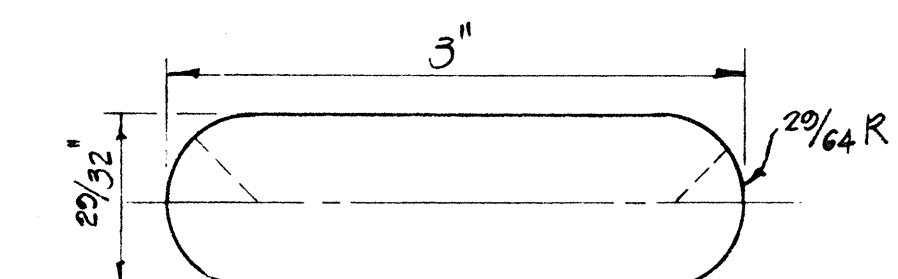


SPlice BOLT SLOT

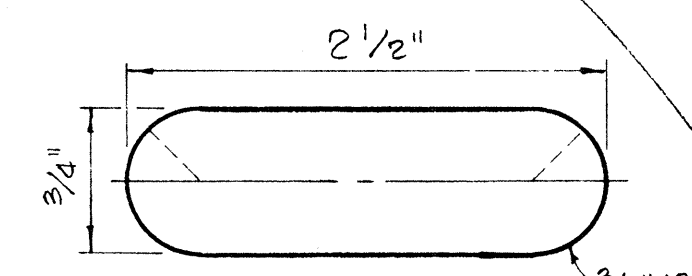
Scale: Full Size



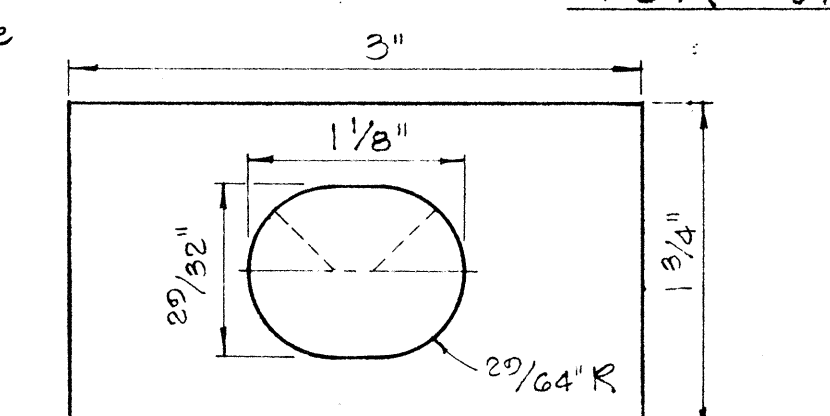
SPlice BOLT SLOT FOR ALL ENDS



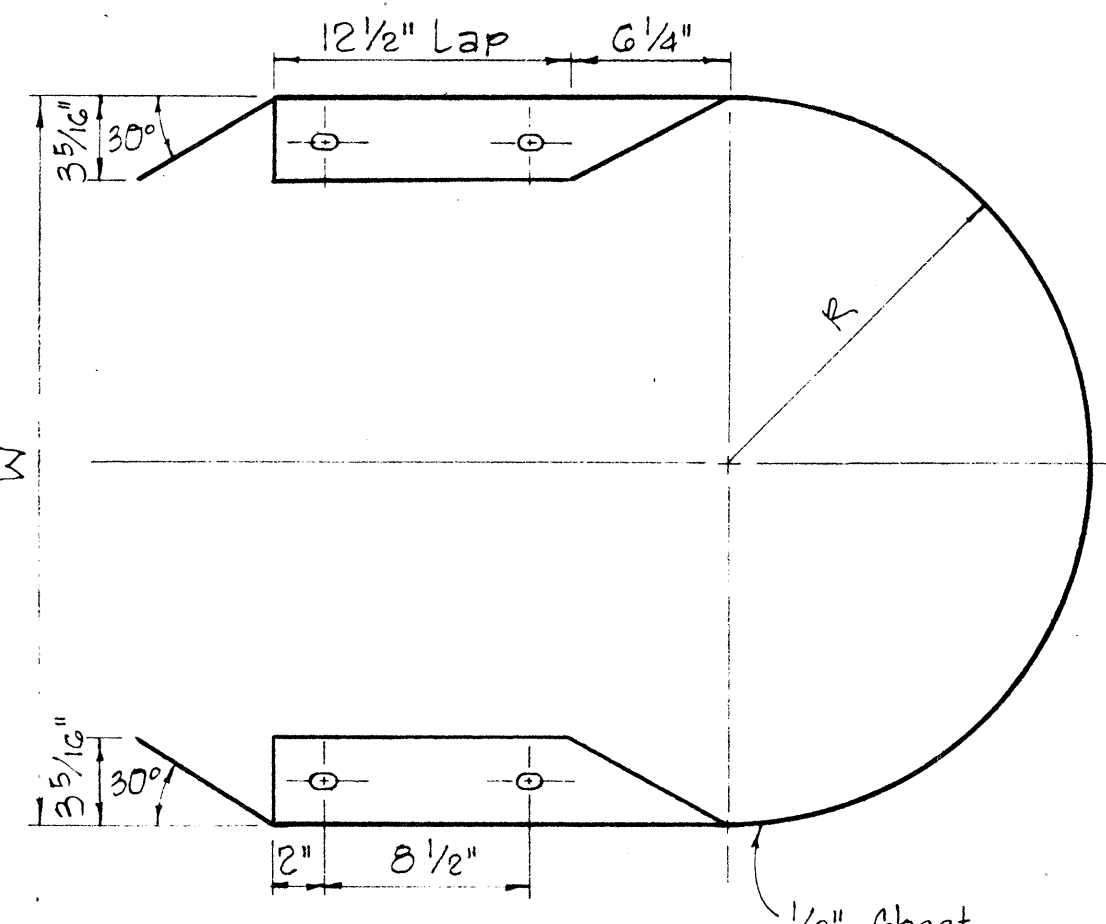
SPlice BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT



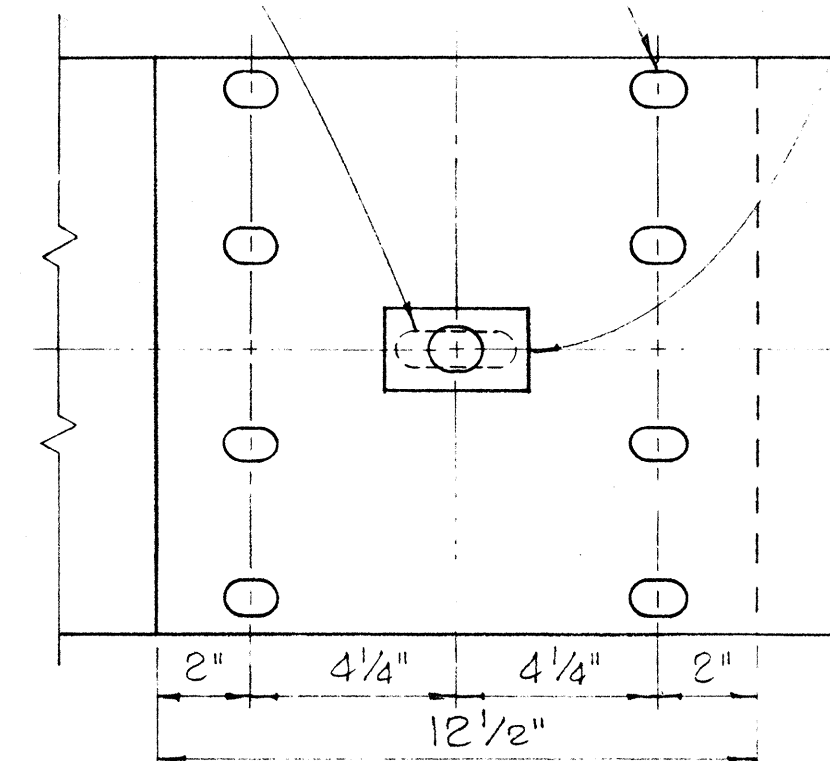
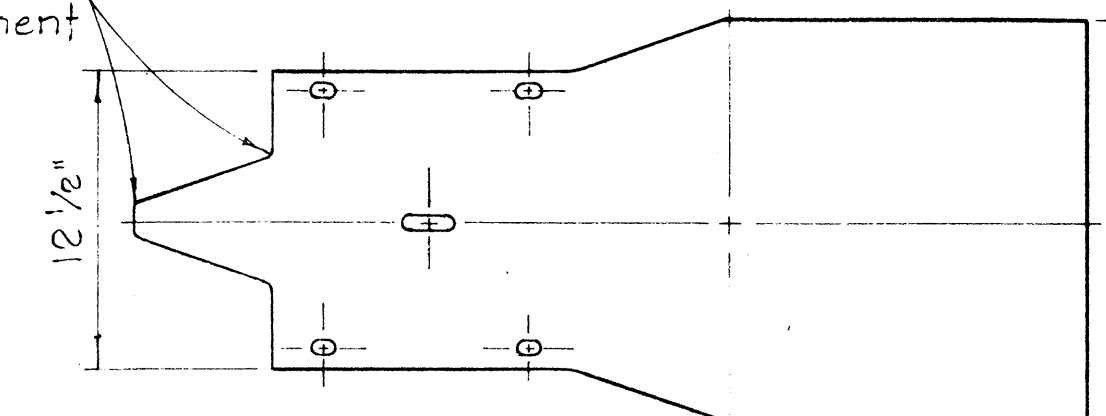
RAIL WASHER



MEDIAN END

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

Shape to fit rail element



RAIL SPlice

Scale: 3" = 1'-0"

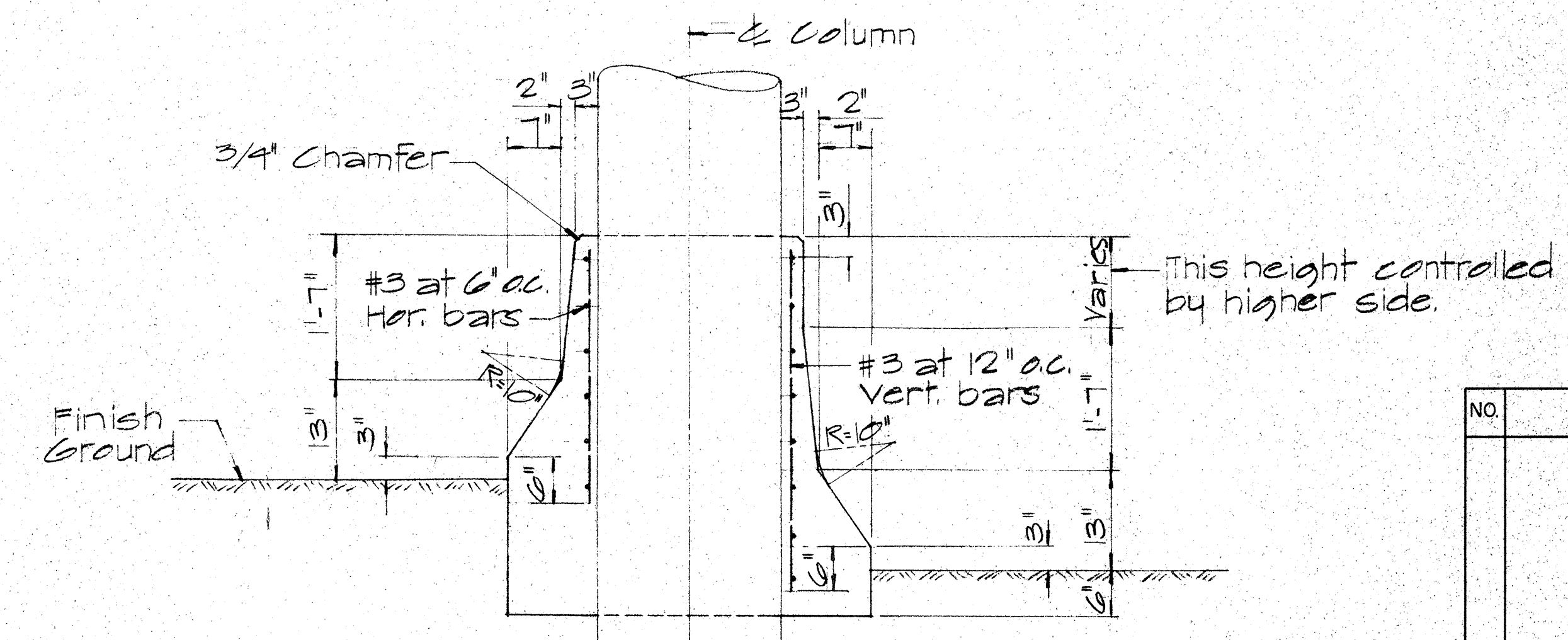
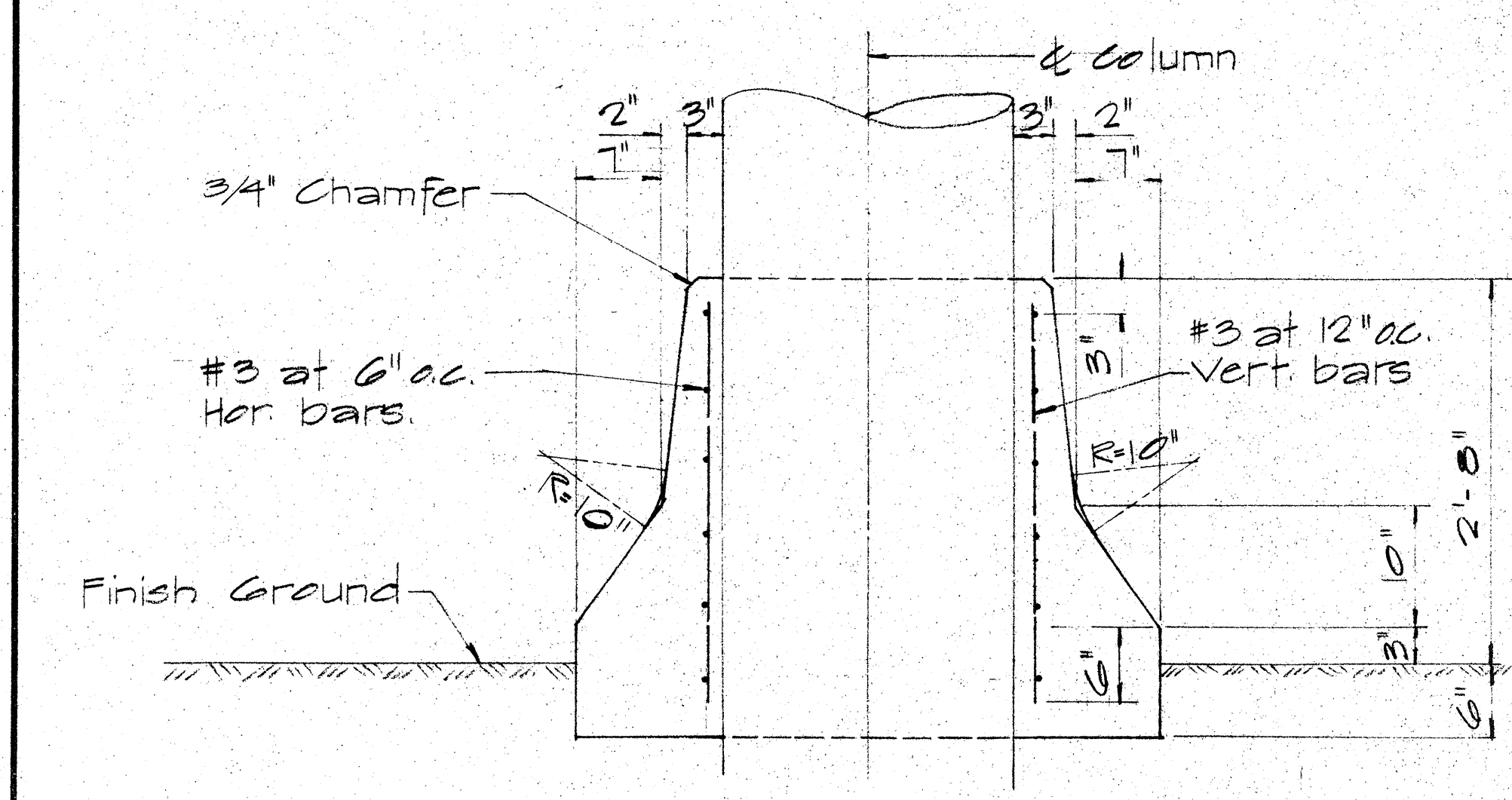
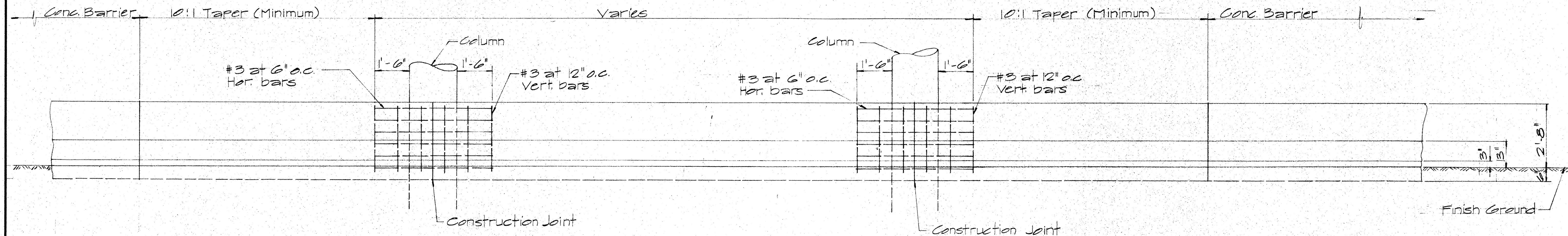
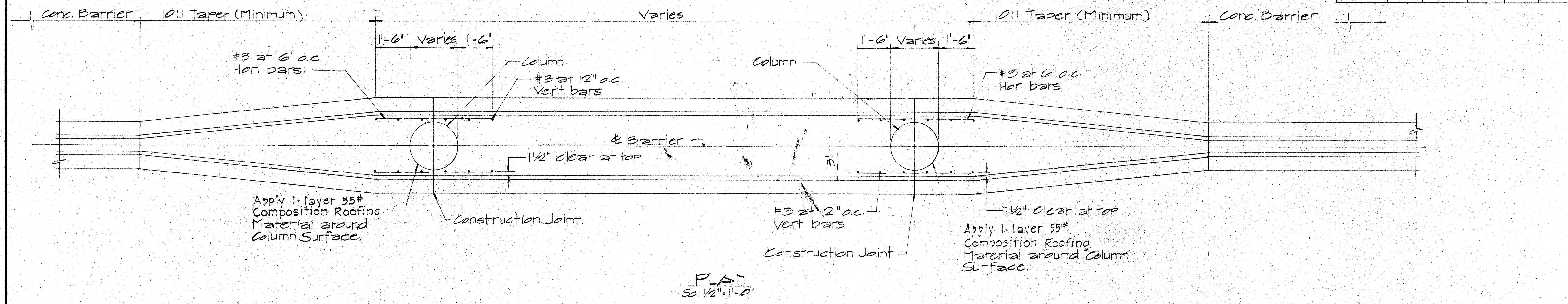
NOTES:

1. H.S. Bolts shall conform to the requirements of ASTM A 325.
2. 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 7/8"
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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	[H-111]14	1974	27	234



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

APPROVED:
William S. S. S.
 ASSISTANT CHIEF, ENGINEERING
 12-30-69
 DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

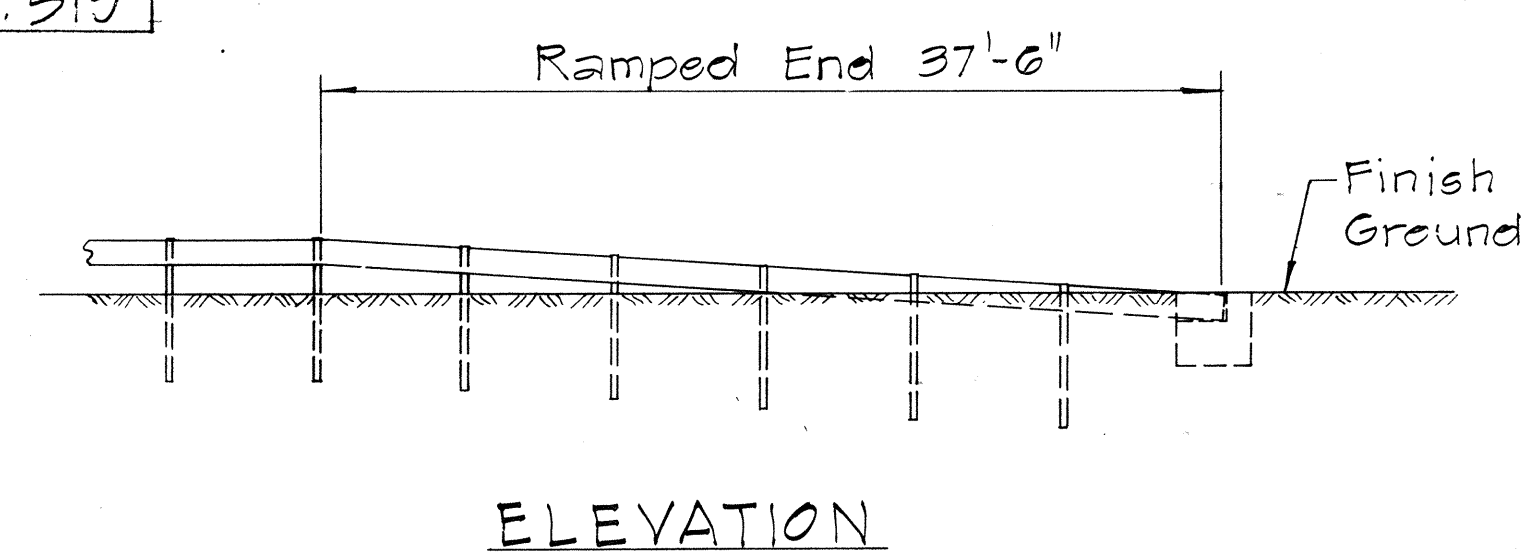
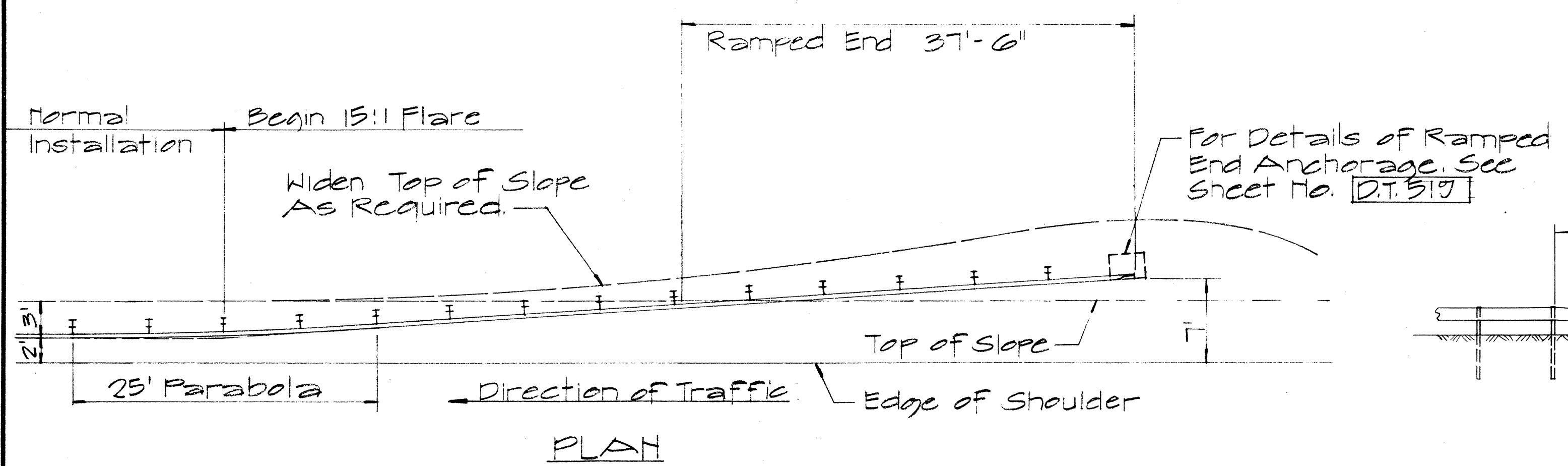
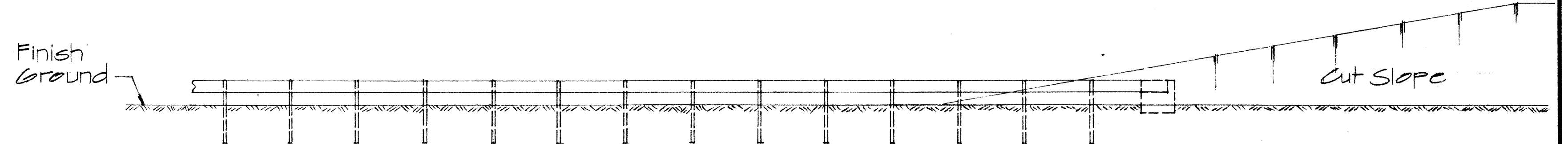
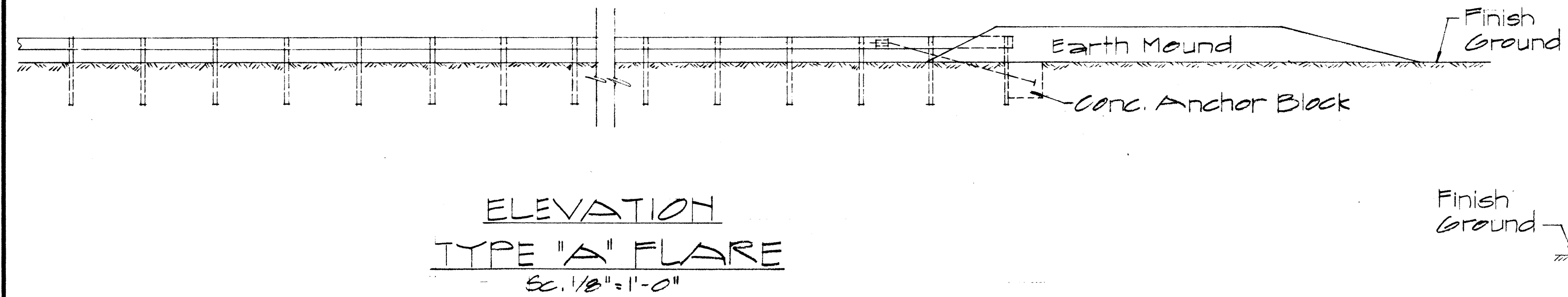
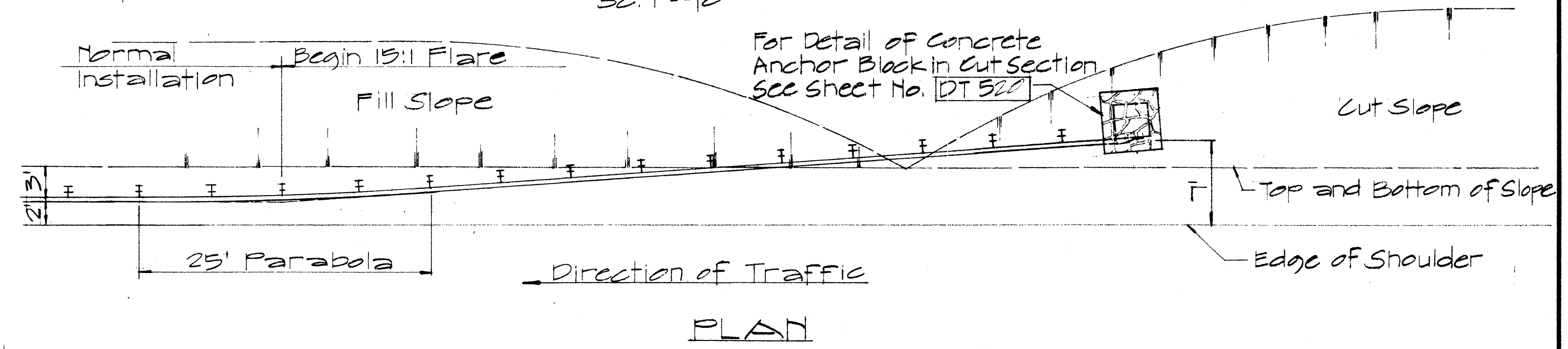
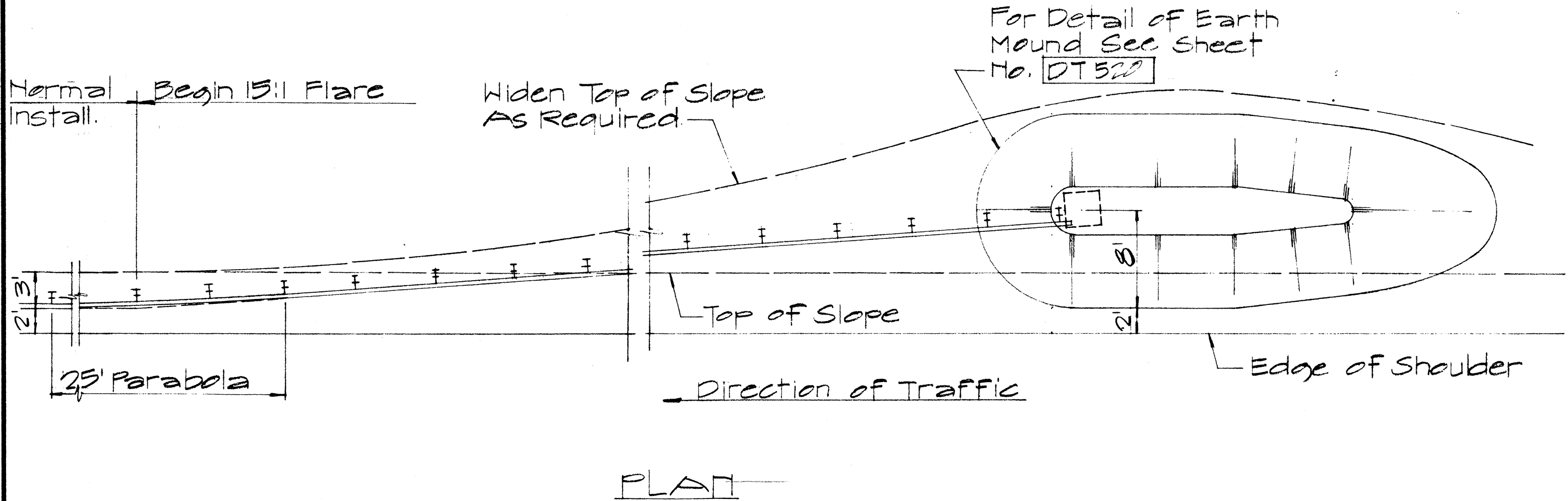
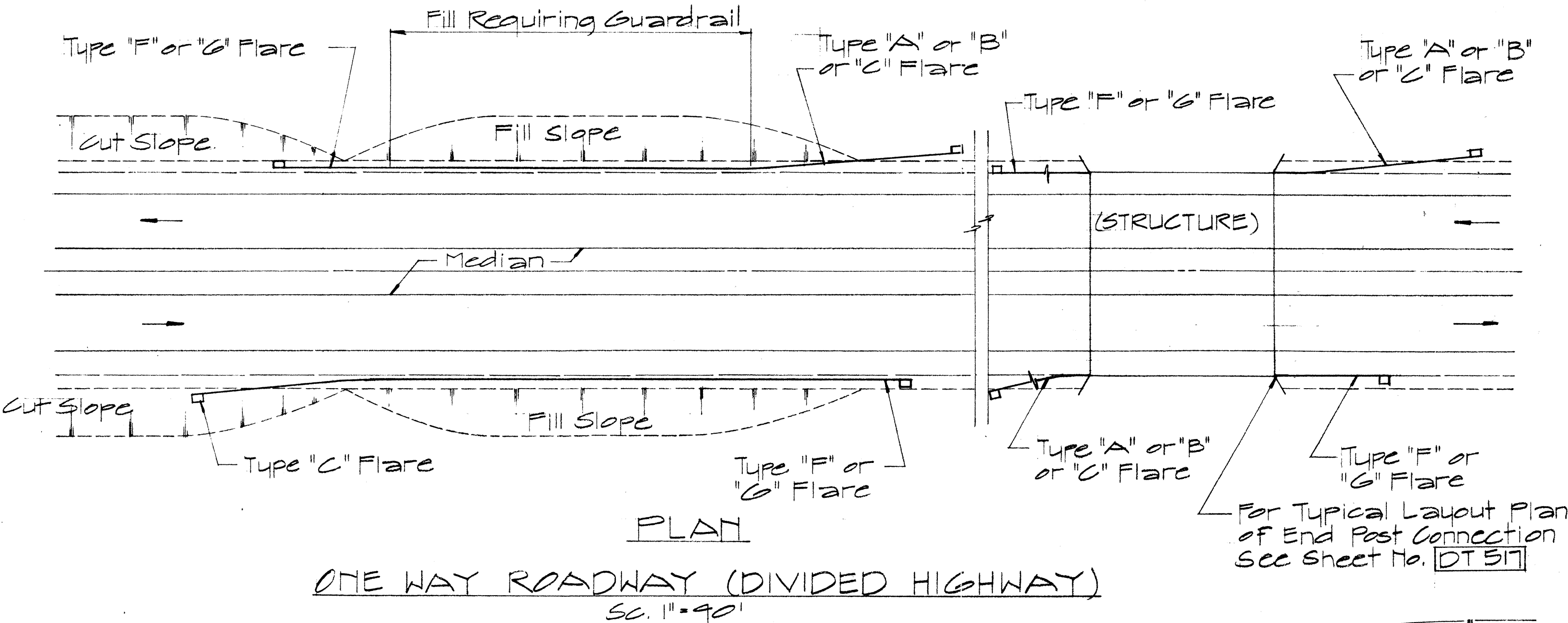
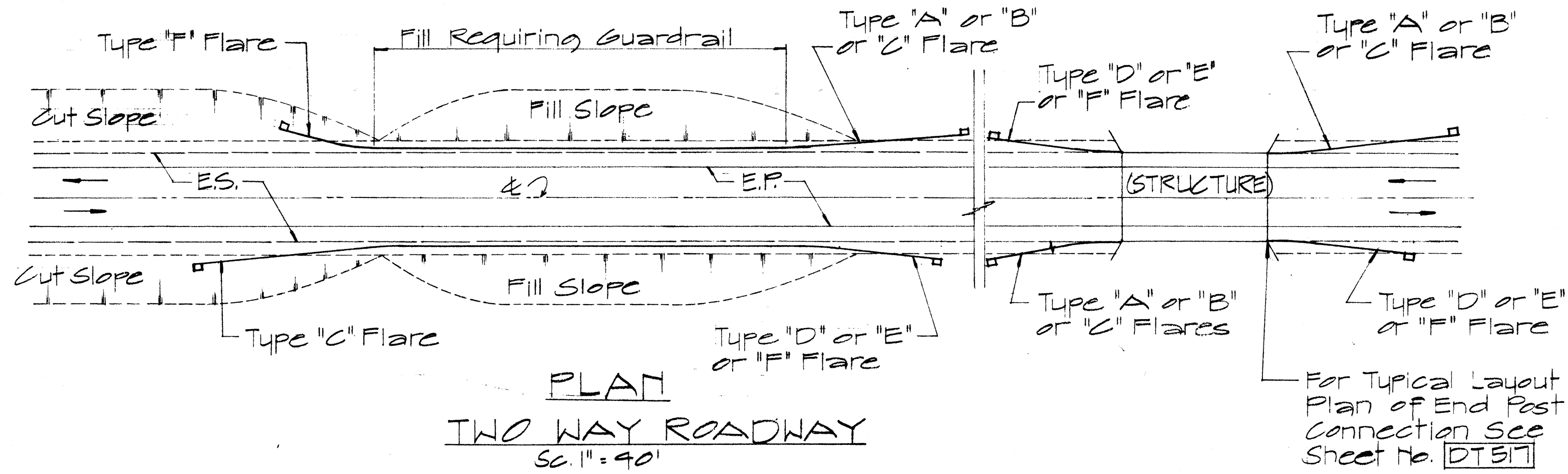
STANDARD DETAIL
CONCRETE BARRIER
TRANSITION

Scale As Noted Feb. 1969
 SHEET No. 7 OF 12 SHEETS DT 512

DATE
 DESIGNED BY
 TRACED BY
 NOTE BOOK
 CHECKED BY
 NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(10)14	1974	28	234

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:
TRAFFIC ENGINEER
12/29/69
DATE

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

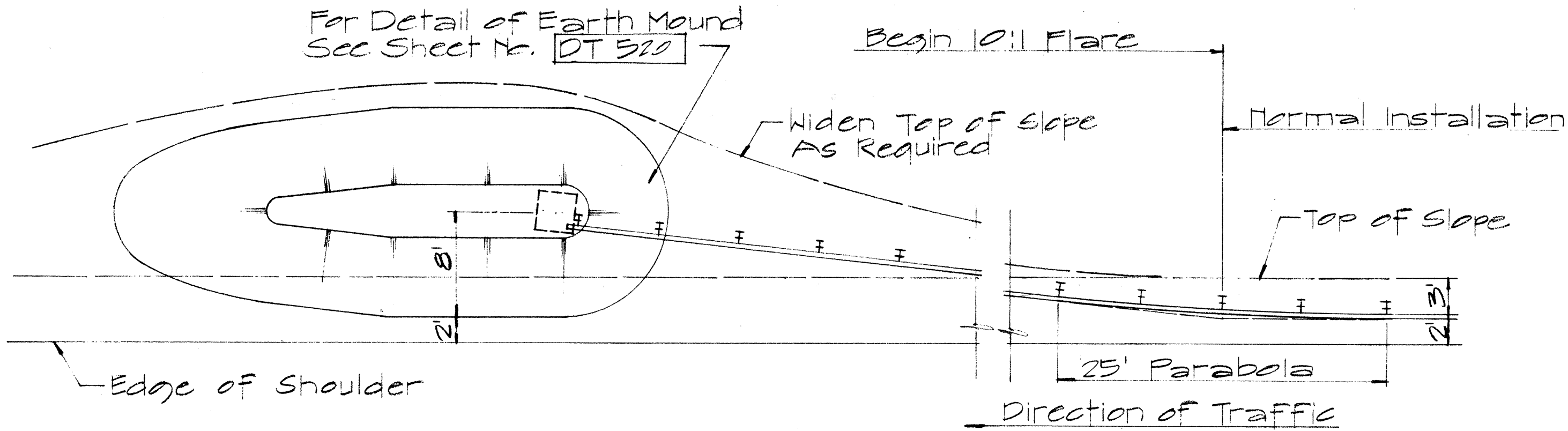
STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY

SC. As Noted April 1969

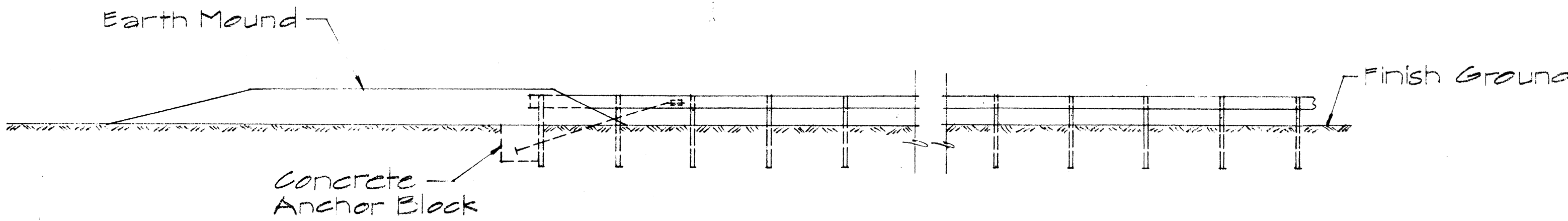
SHEET NO. 8 OF 12 SHEETS DT 516

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(11)/14	1974	20	234

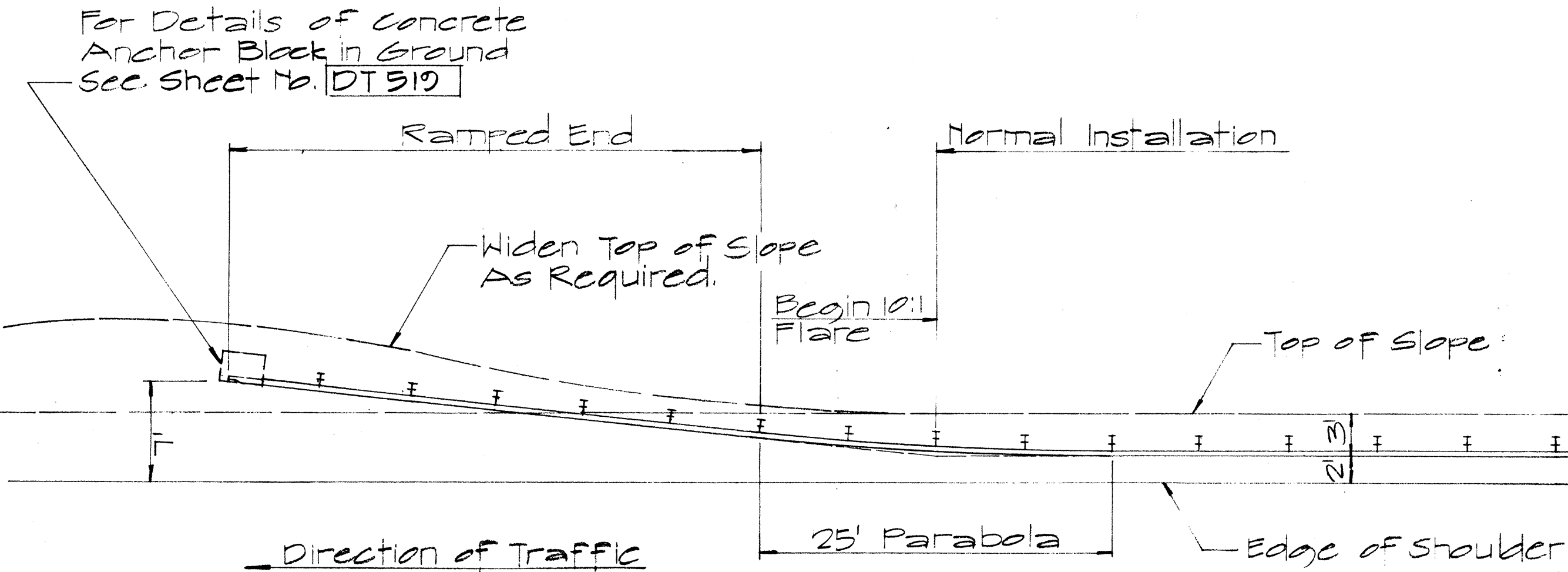


PLAN

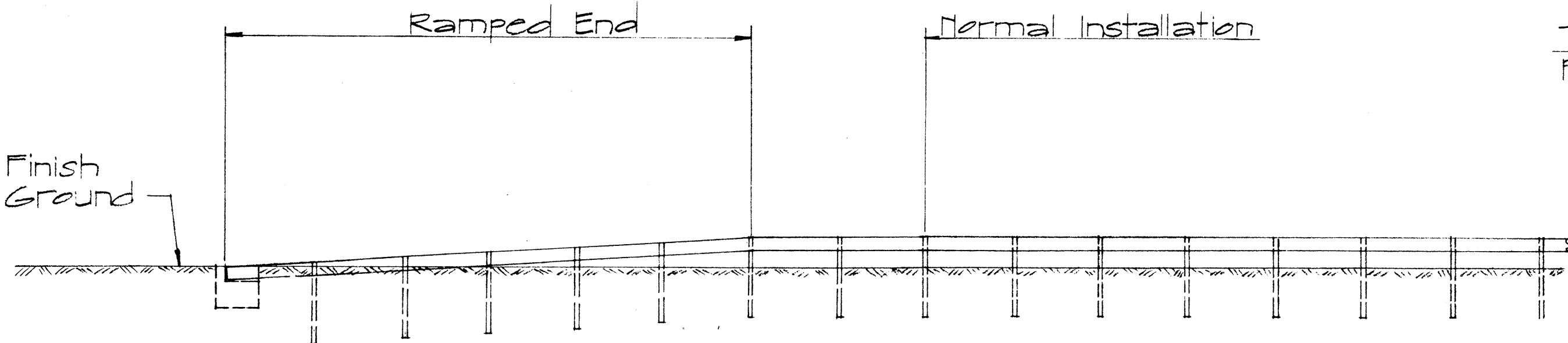


ELEVATION

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

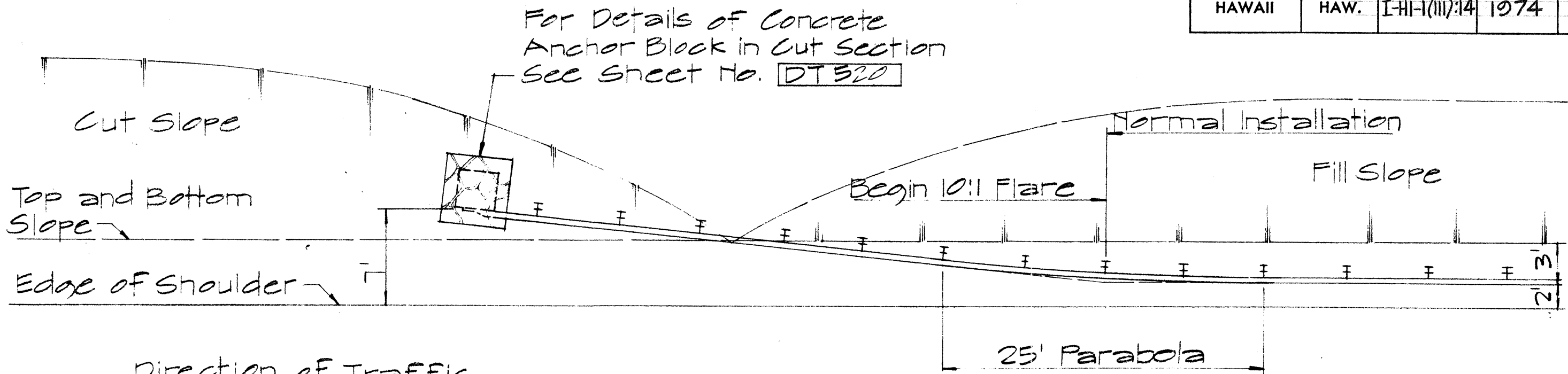


PLAN

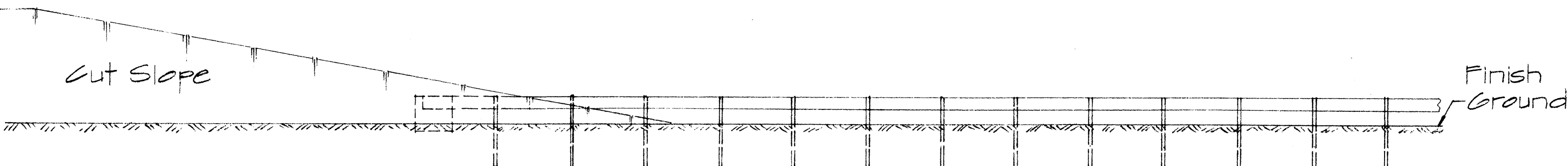


ELEVATION

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

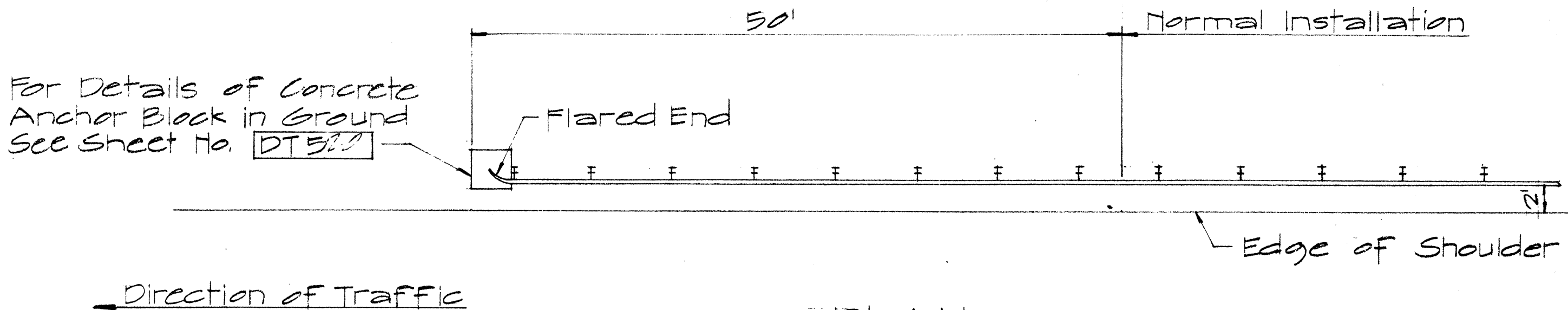


PLAN

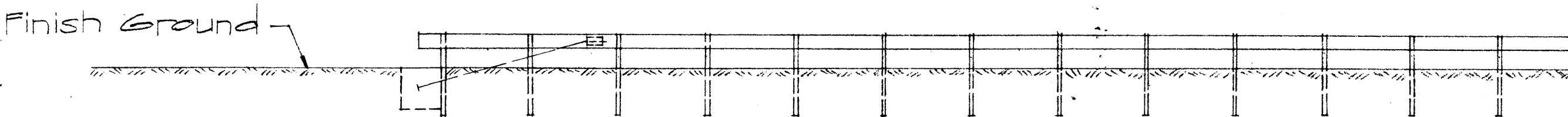


ELEVATION

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

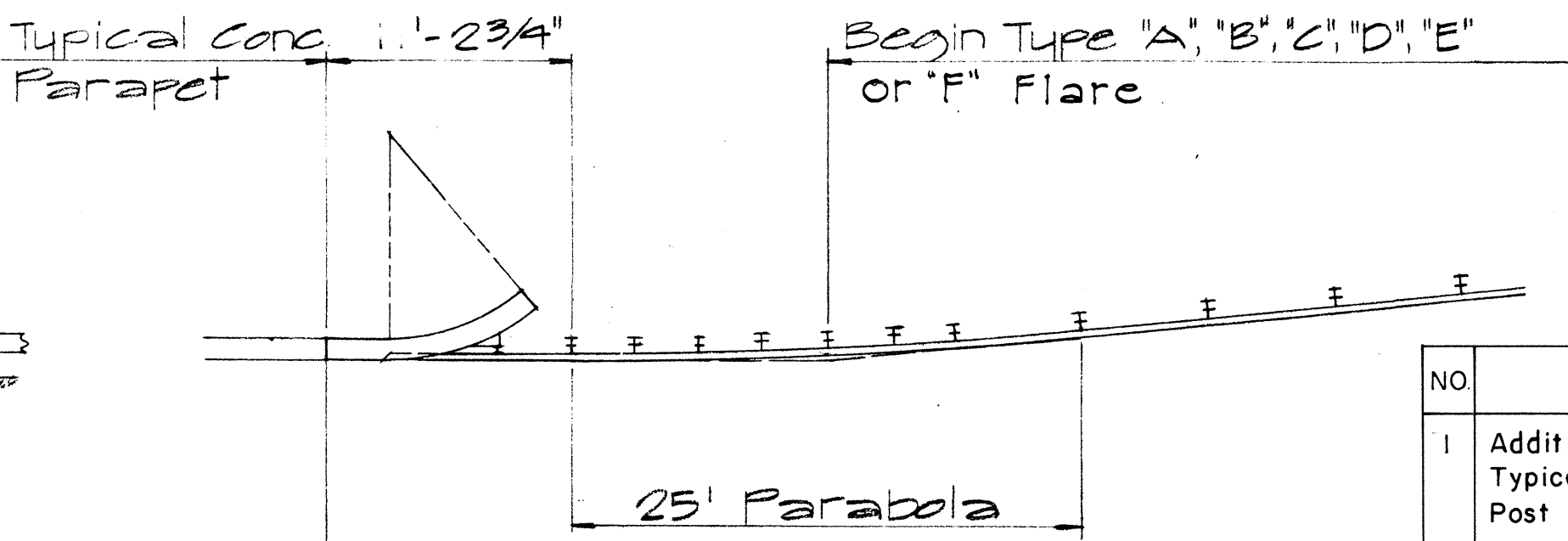


PLAN



ELEVATION

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



TYPICAL LAYOUT PLAN OF
END POST CONNECTION
Sc. 1/8" = 1'-0"

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

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

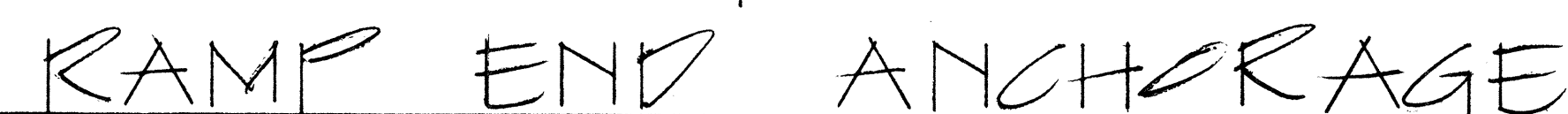
NO.	REVISION	APPROVED BY	DATE
1	Additional Posts Added to Typical Layout Plan Of End Post Connection	H.C.	4-12-72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

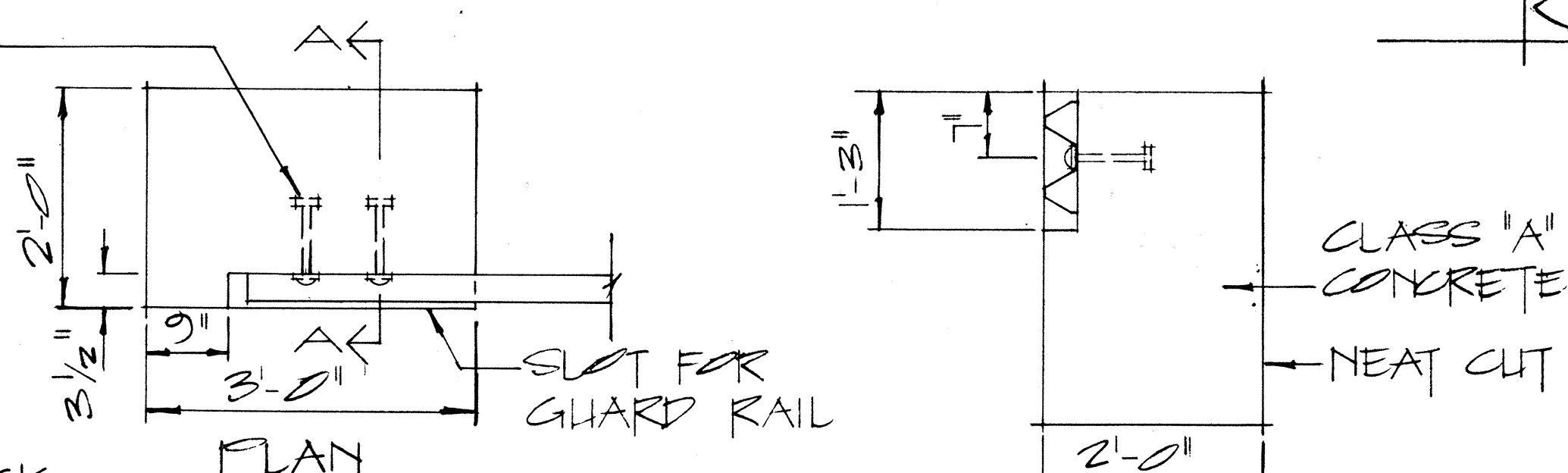
STANDARD DETAILS
TRAILING END
FLARE - ONE & TWO
WAY ROADWAY

Scale: As Noted APRIL 1969
SHEET No. 2 OF 12 SHEETS DT 517

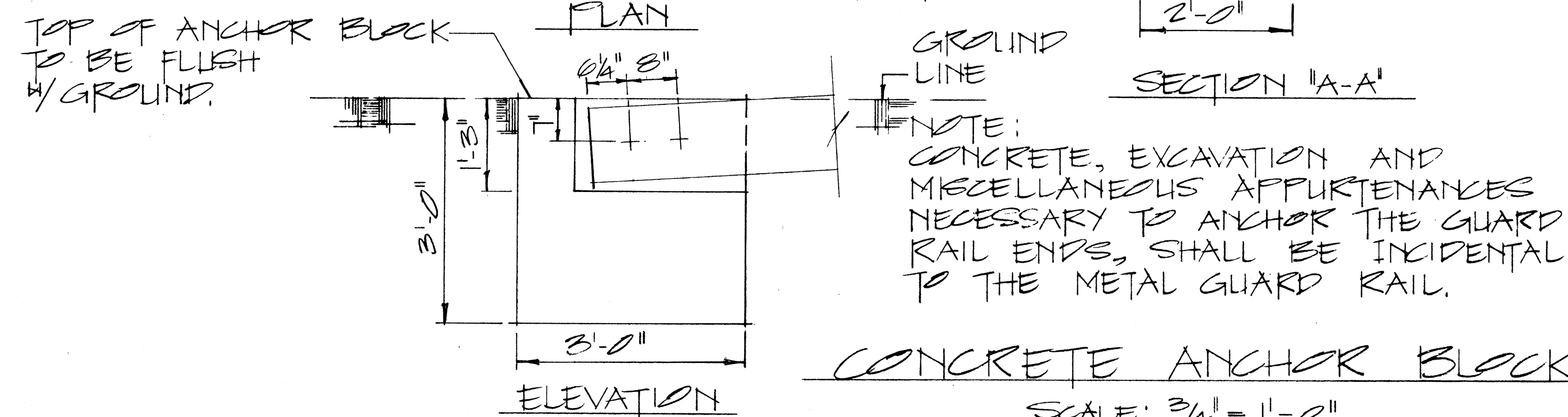
Hand-drawn plan view of a guard rail element. The diagram shows a series of vertical posts connected by a top rail and a bottom rail. The top rail is labeled with dimensions of 6'-3" between each post. The bottom rail is labeled with dimensions of 1'-0" between each post. The posts are labeled with dimensions of 1'-0" and 1'-6". The diagram includes labels for "GUARD RAIL POST", "SPACER BLOCK", and "GUARD RAIL ELEMENT PLAN".



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



CLASS "A"
- CONCRETE
- NEAT CUT



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: $3/4'' = 1' - 0''$

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

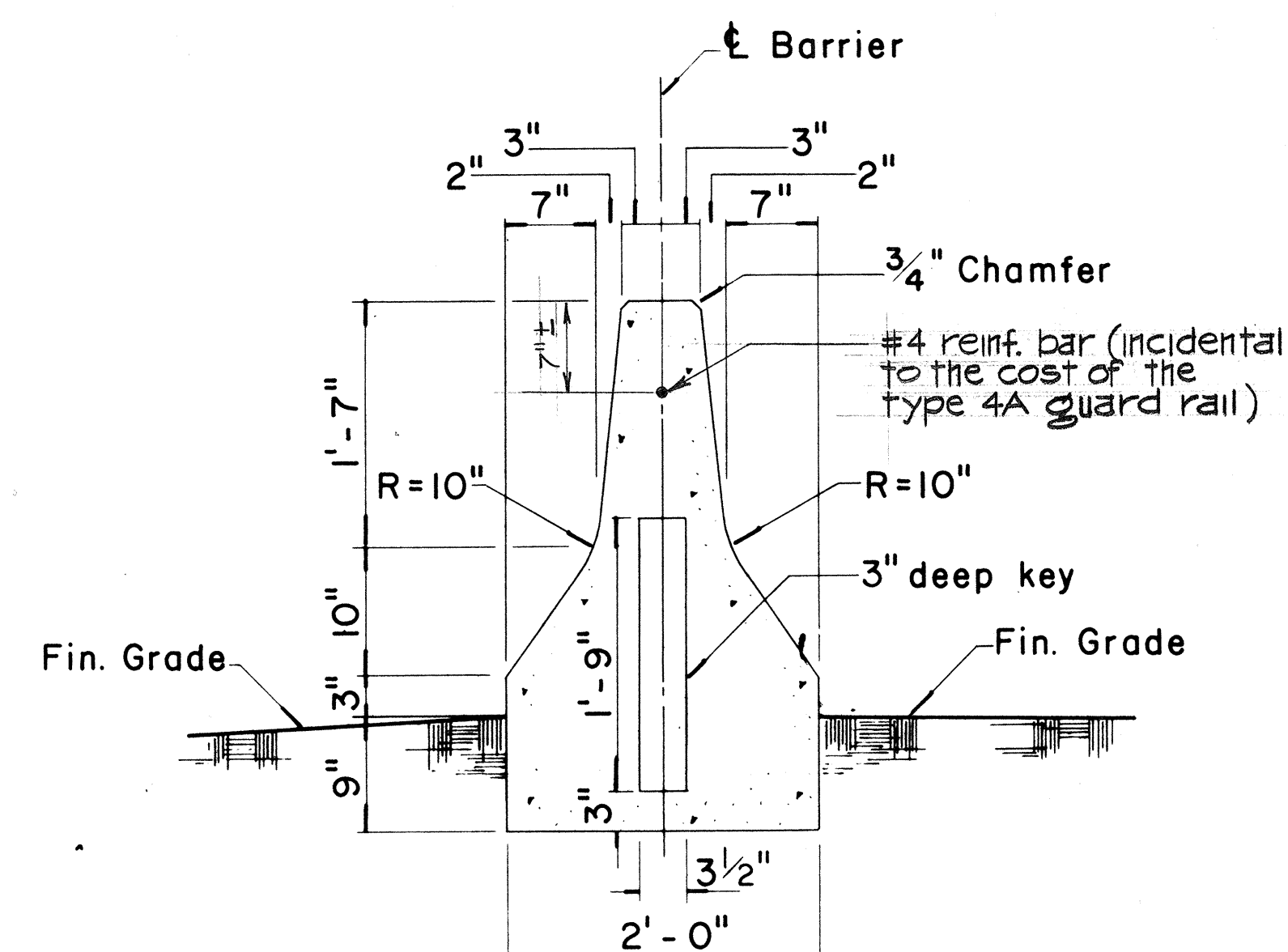
STANDARD DETAILS

GUARD RAIL, TYPE 3
RAMP END ANCHORAGE

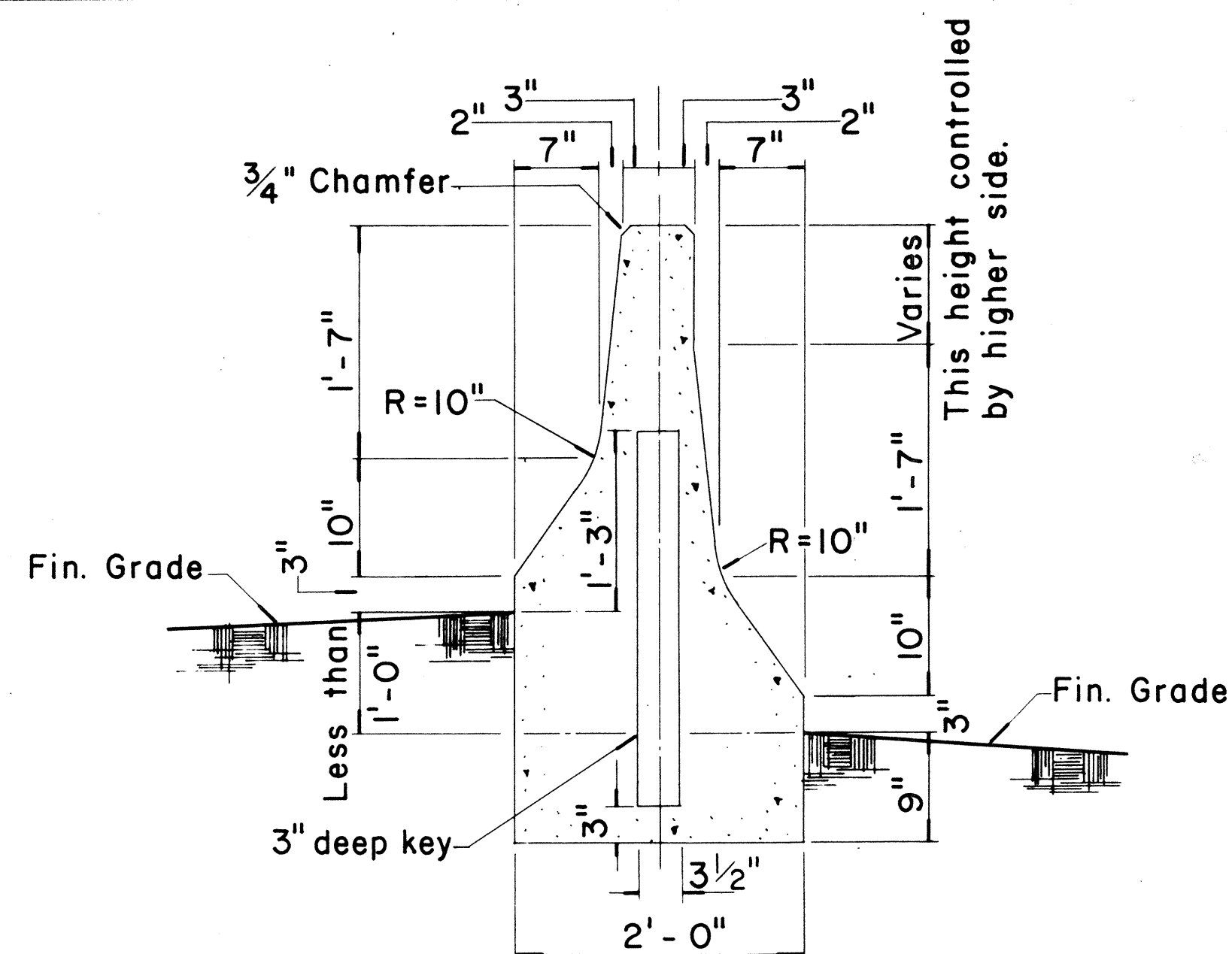
SCALE: AS SHOWN

SHEET No. 10 OF 12 SHEETS

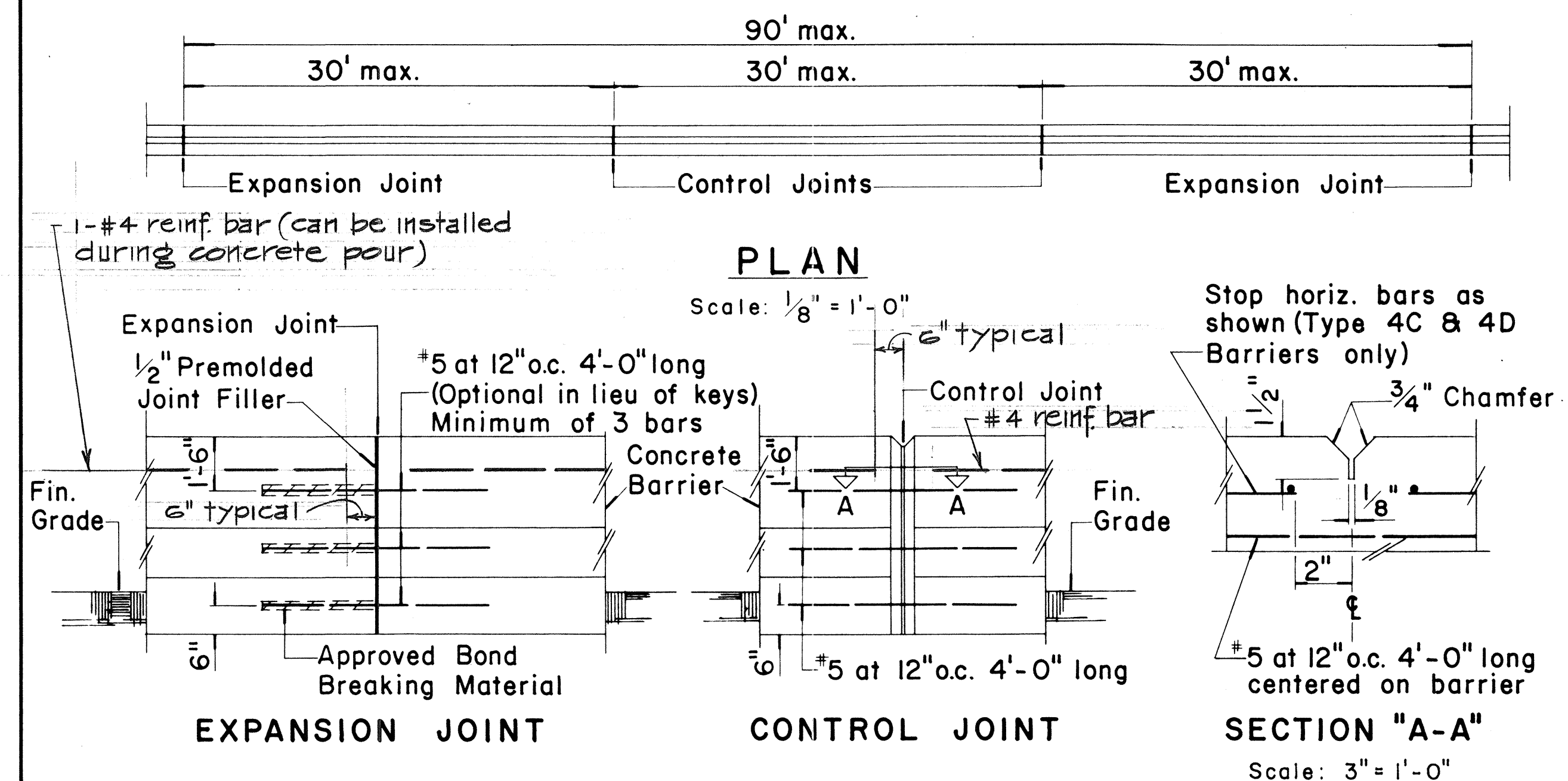
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-10114	1974	32	234



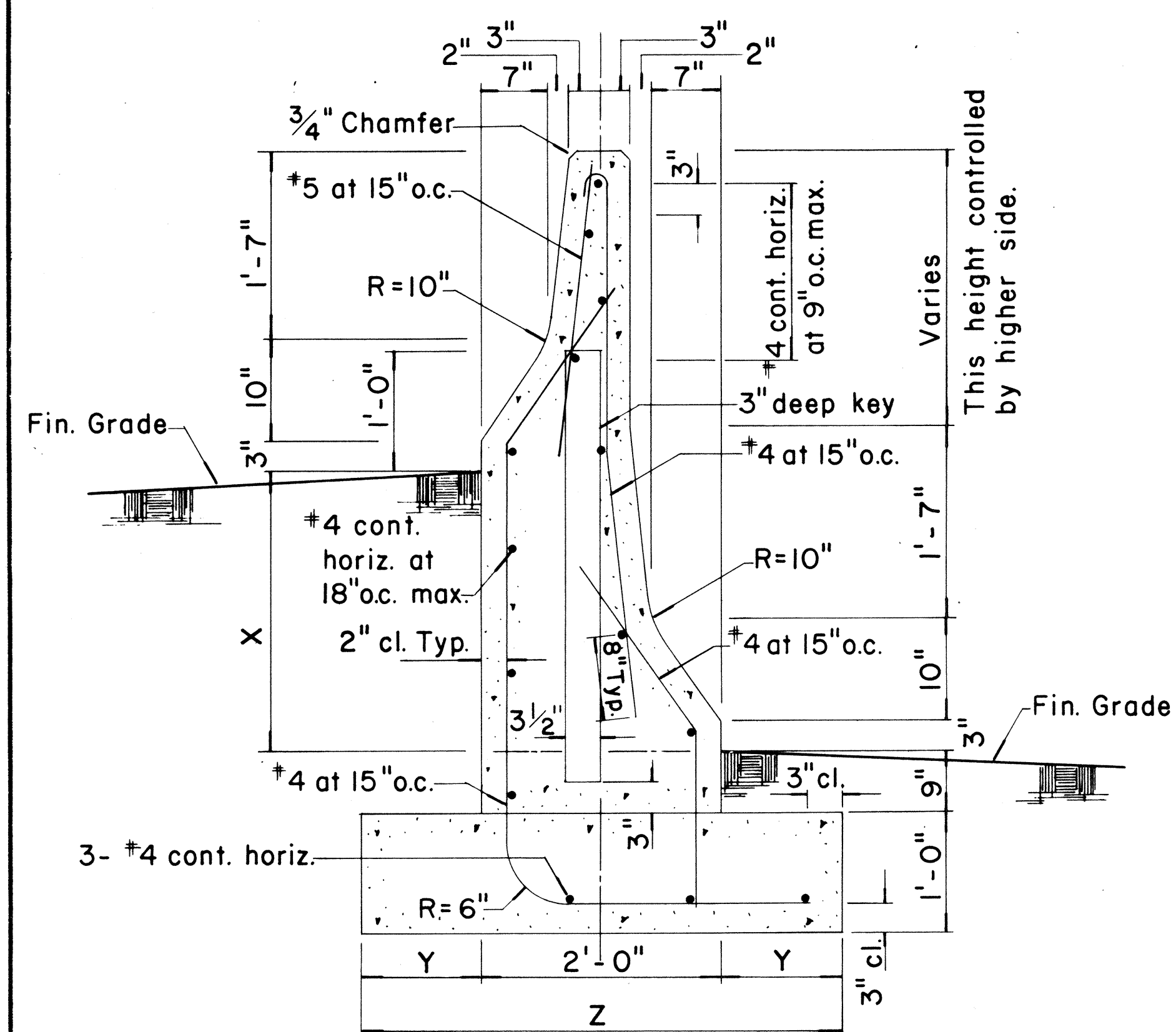
TYPE 4A
Scale: 1" = 1'-0"



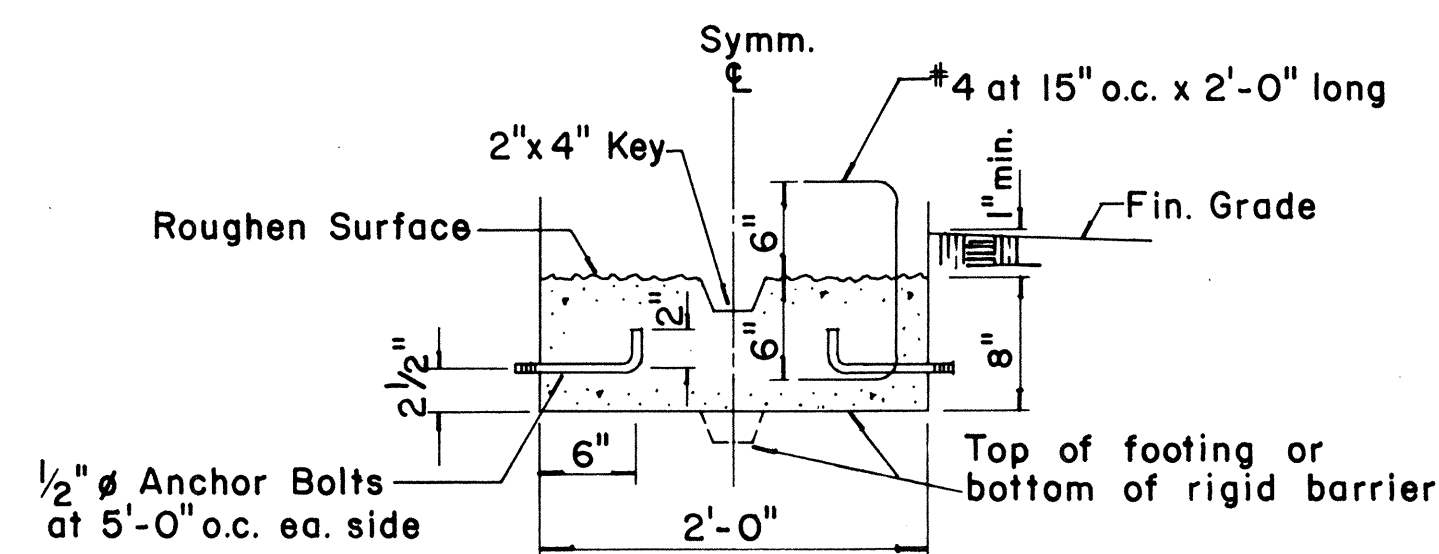
TYPE 4B
Scale: 1" = 1'-0"



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



TYPE 4C & TYPE 4D
Scale: 1" = 1'-0"

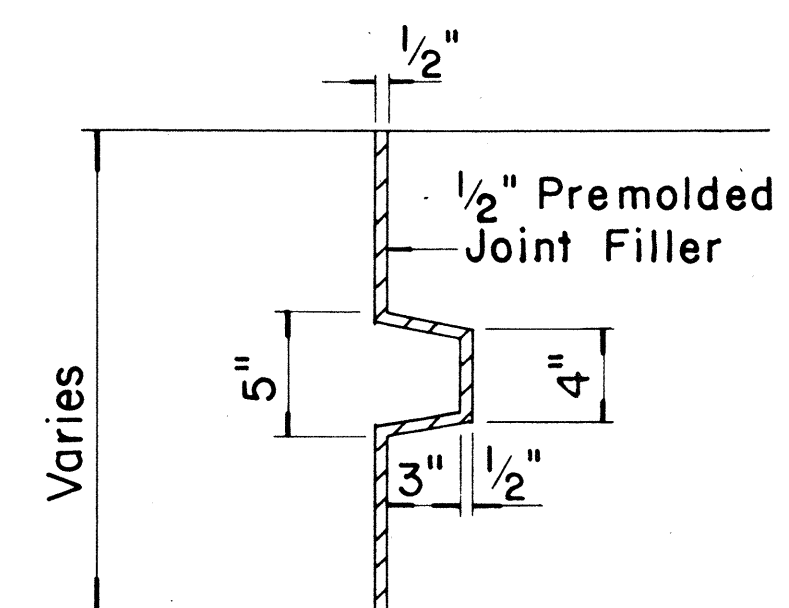


OPTIONAL CONSTRUCTION JOINT DETAILS
Scale: 1" = 1'-0"

NOTE:
The intent of the optional construction joint details for the Type 4 Rigid Barrier Guard Rail is to provide a method of securing the forms and preventing uplift so that the barrier will have a uniform and presentable appearance. The contractor may submit an alternate method of constructing the barrier for the approval of the Engineer and for use on a trial basis. Any unsatisfactory work shall be removed or corrected as directed by the Engineer and at the Contractor's expense.

GENERAL NOTES

- Precast Rigid Barrier Guard Rail may be installed as an option to cast-in-place Type 4 Rigid Barrier Guard Rail. Contractor shall submit shop drawings to Engineer for approval.
- Expansion Joints shall be constructed at ninety-foot (90 ft.) maximum intervals and at existing expansion joints of structures. (Use 1/2" premolded joint filler, incidental to Type 4 Rigid Barrier Guard Rail). Control Joints shall be placed between expansion joints at 30' maximum. Shear keys shall be required at all construction joints.
- The exterior surface and vertical alignment of the Type 4 Rigid Barrier Guard Rail shall be constructed to give a uniform and presentable appearance. Variation of more than 1/4" in 20' max. and 1/2" in 40' or more will be considered objectionable. The Engineer shall determine the acceptability of the work. During the course of the work, samples may be tested and measurements made to establish whether or not the specified values or dimensions are being met. If the specified values or dimensions are not being met, the Engineer shall determine the degree of the non-conformance, the effect on the serviceability of the project, whether the work be accepted and remain in place and, if so, the amount to be paid for such work, or whether the work shall be removed and replaced or otherwise corrected at the Contractor's expense.



SECTION THRU KEY AT EXPANSION JOINT
Scale: 1 1/2" = 1'-0"

TYPE	DIFFERENCE IN FIN. GRADE	FOOTING
	X	Y Z
4C	1'-0" min., 2'-4" max.	1'-0" 4'-0"
4D	Greater than 2'-4", 4'-4" max.	1'-3" 4'-6"

NOTE:
Except where noted all dimensions shall be the same for Type 4C and Type 4D.

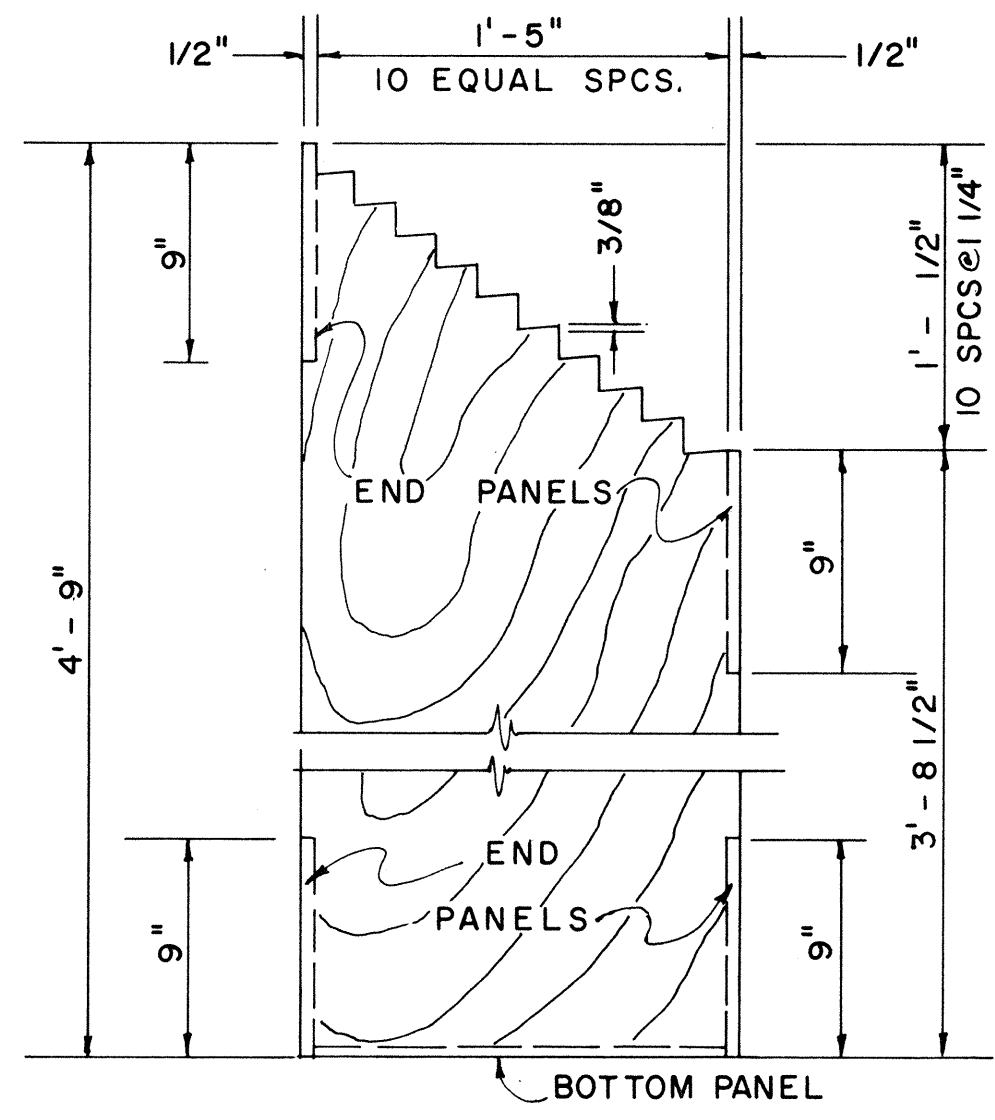
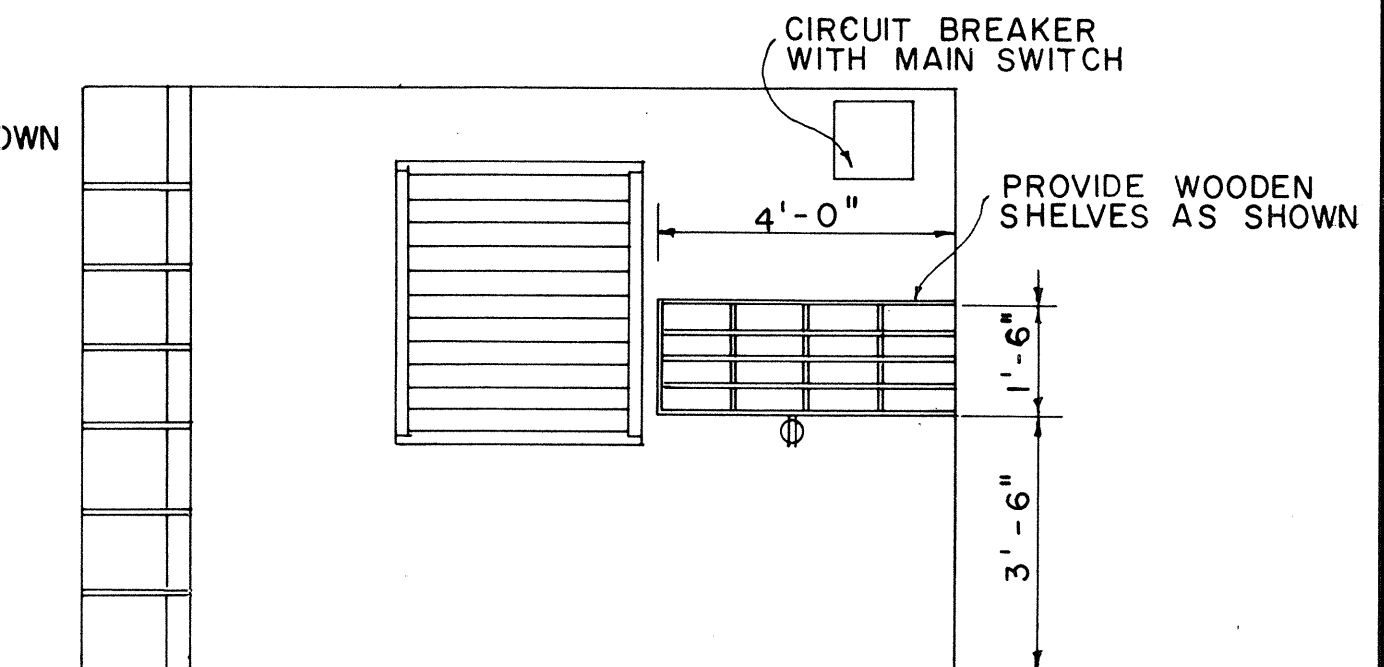
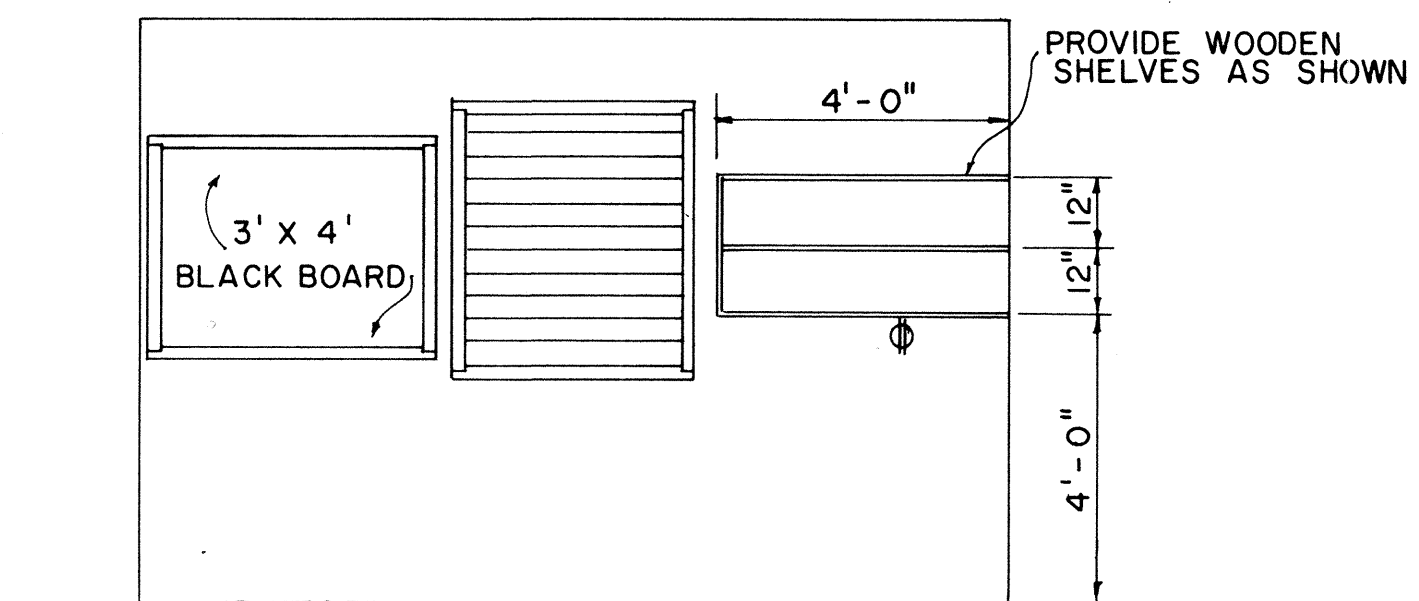
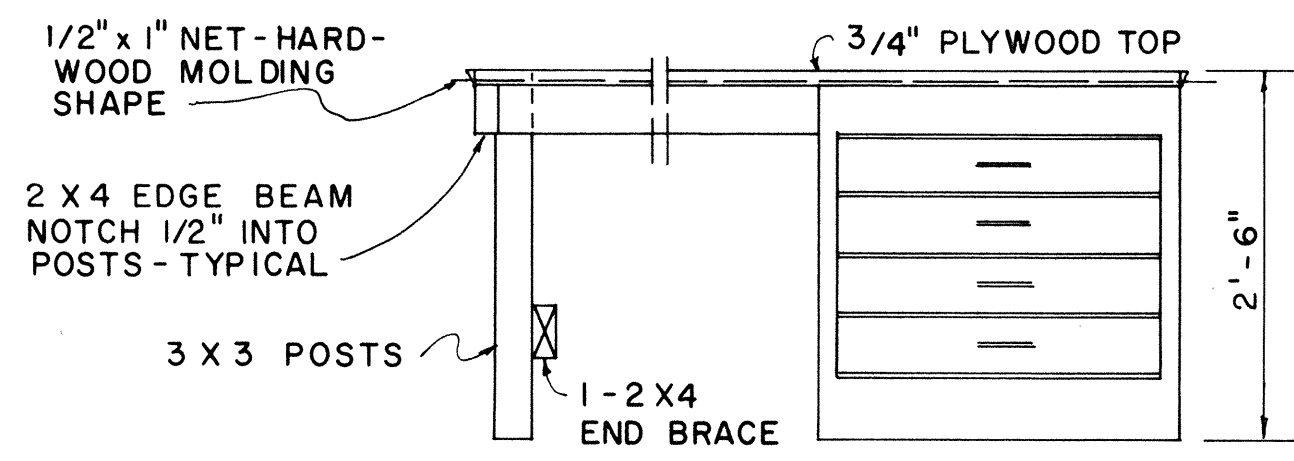
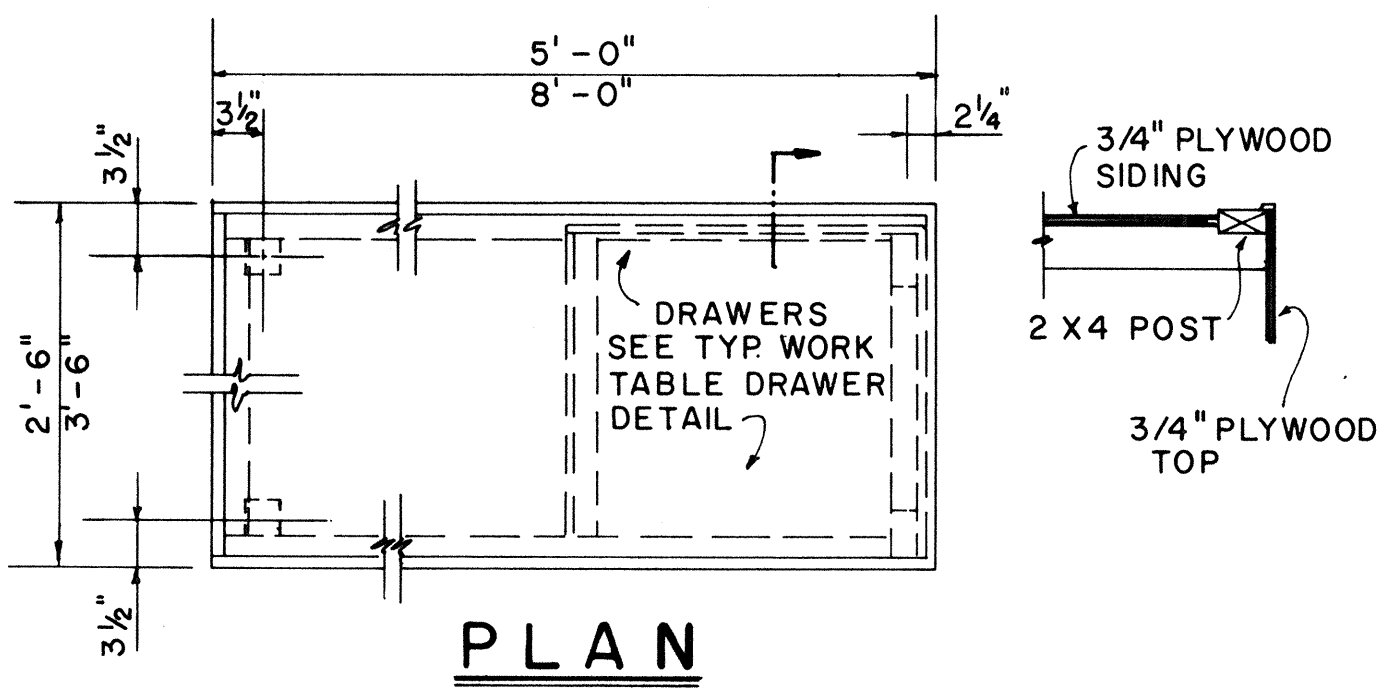
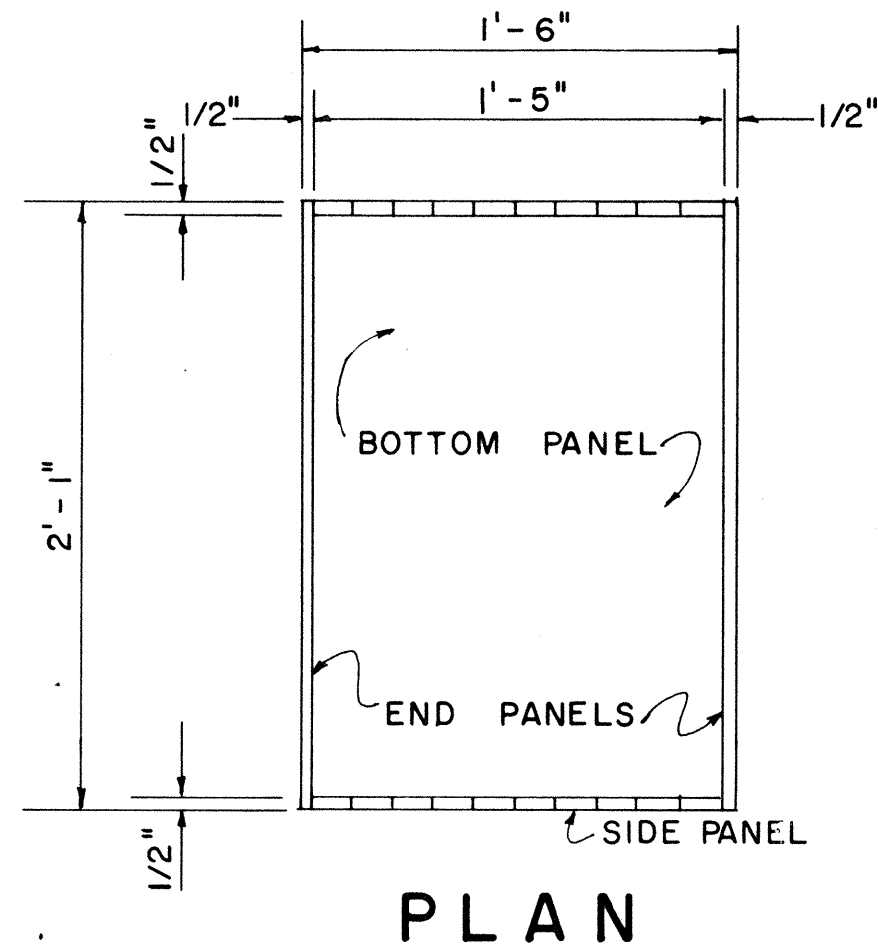
NO.	REVISION	APPROVED BY	DATE
1	Supersede Sht. DT 521 Approved 12-30-69	H.T.	2/10/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GUARD RAIL TYPE 4 (RIGID BARRIER)

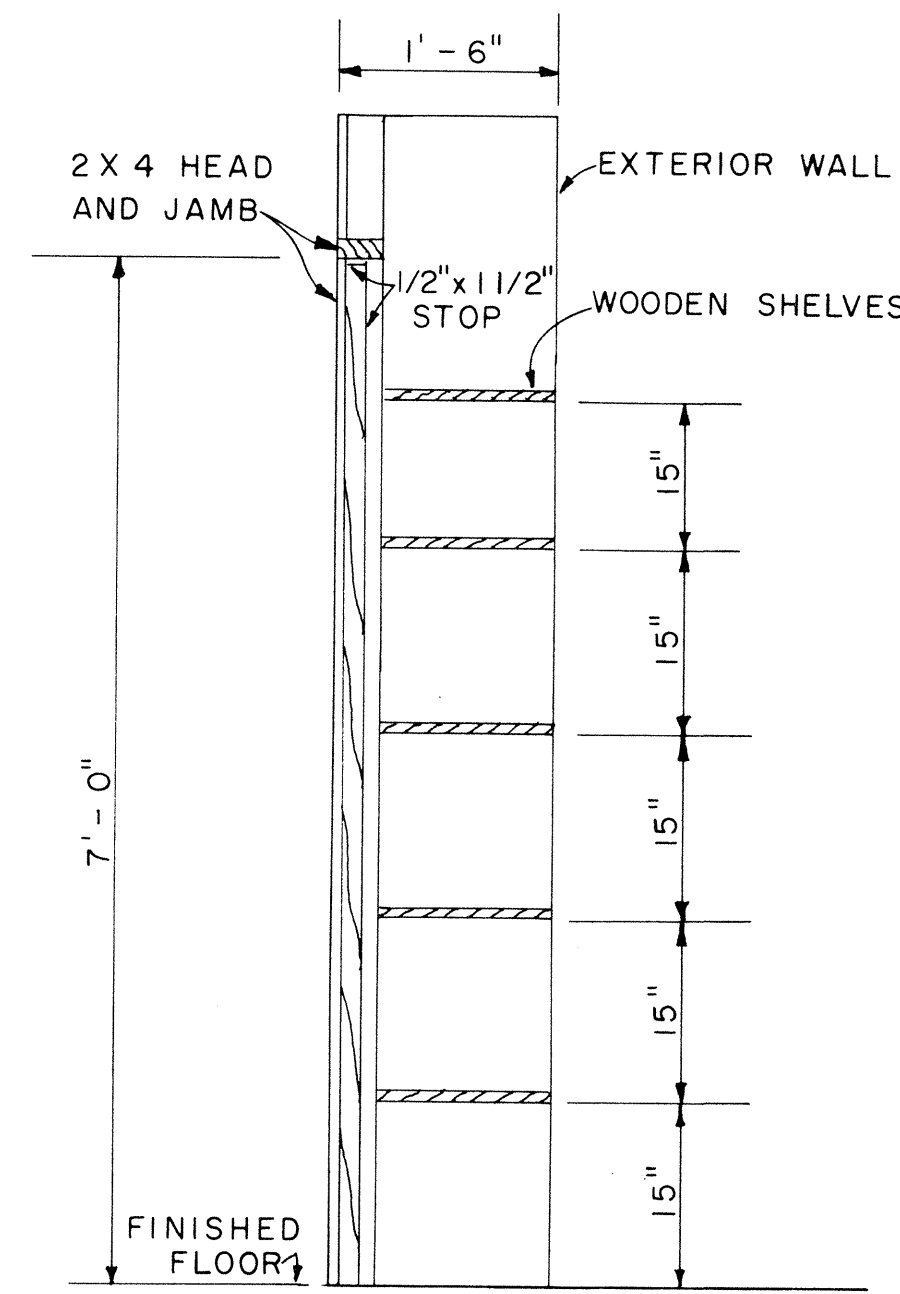
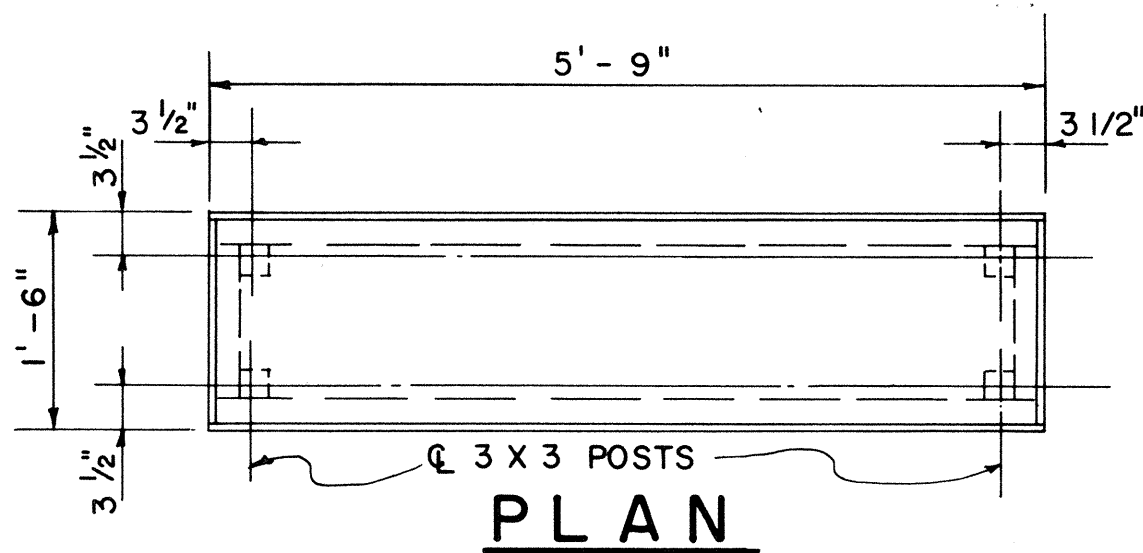
Scale: As Shown
SHEET No. 12 OF 12 SHEETS DT 521

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-H-1(111):14	1974	34	234



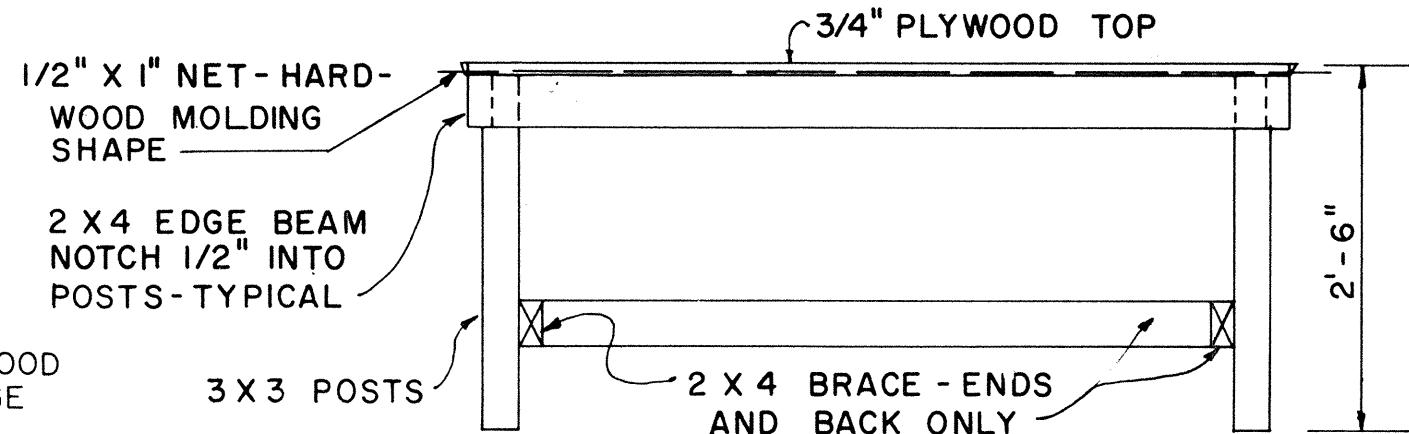
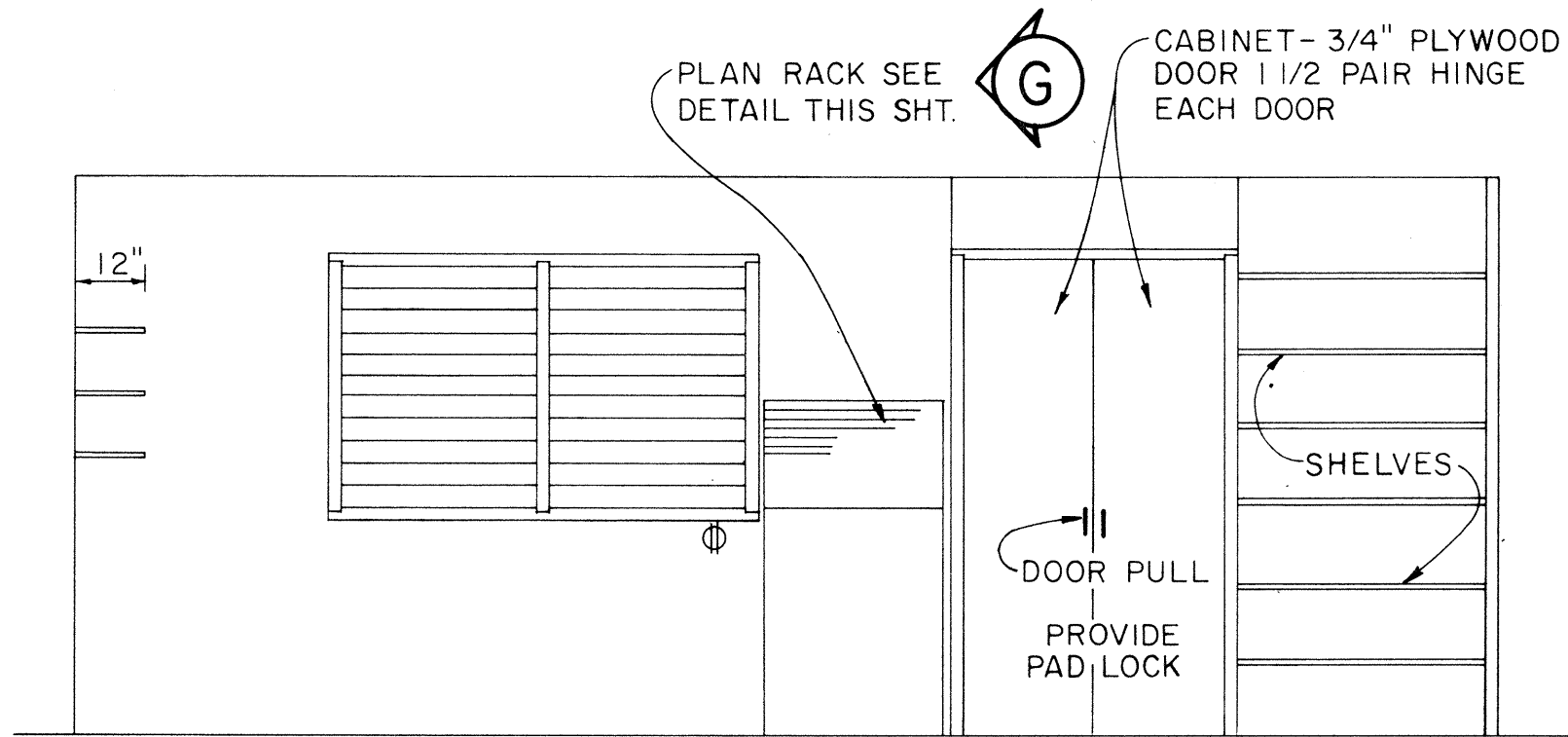
ELEVATION
 2'-6" x 5'-0" 2 REQ'D.
 3'-6" x 8'-0" 1 REQ'D
 2'-6" x 8'-0" 1 REQ'D

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



END ELEVATION

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



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

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

APPROVAL RECOMMENDED:
M. Hirose 12-4-69
 HIGHWAY DESIGN ENGINEER DATE

APPROVED:
Robert P. Sakai 12-10-69
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

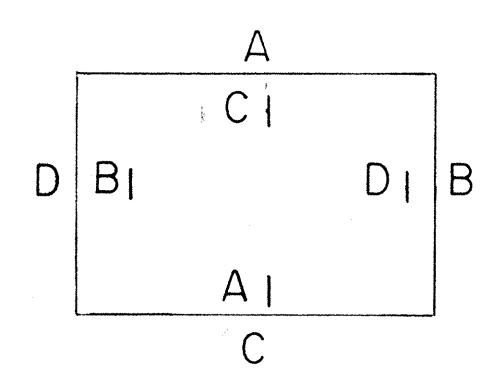
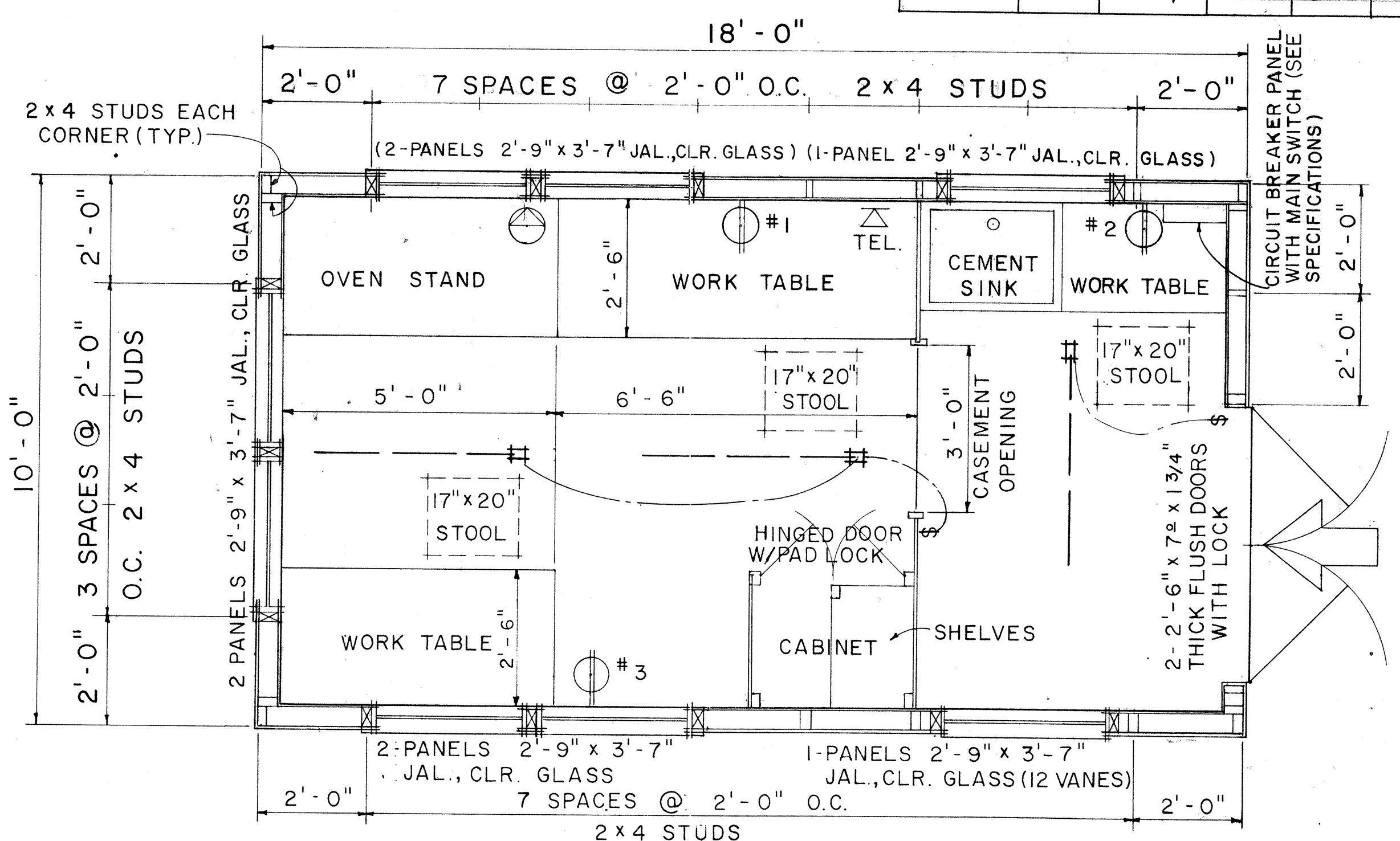
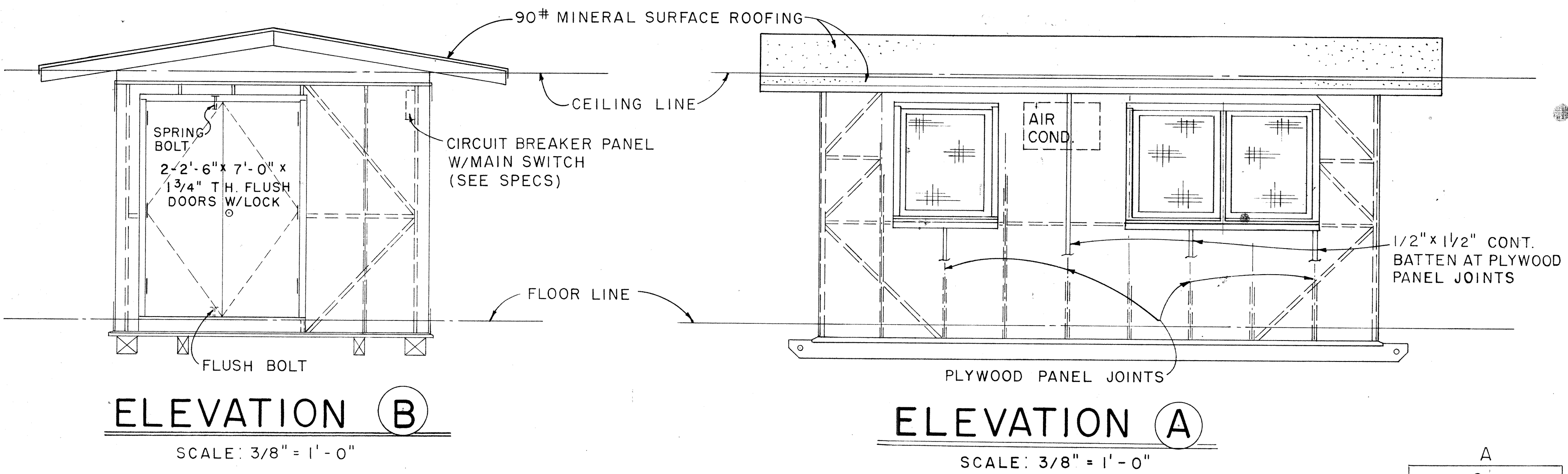
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

FIELD OFFICE

Scale: As Noted

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

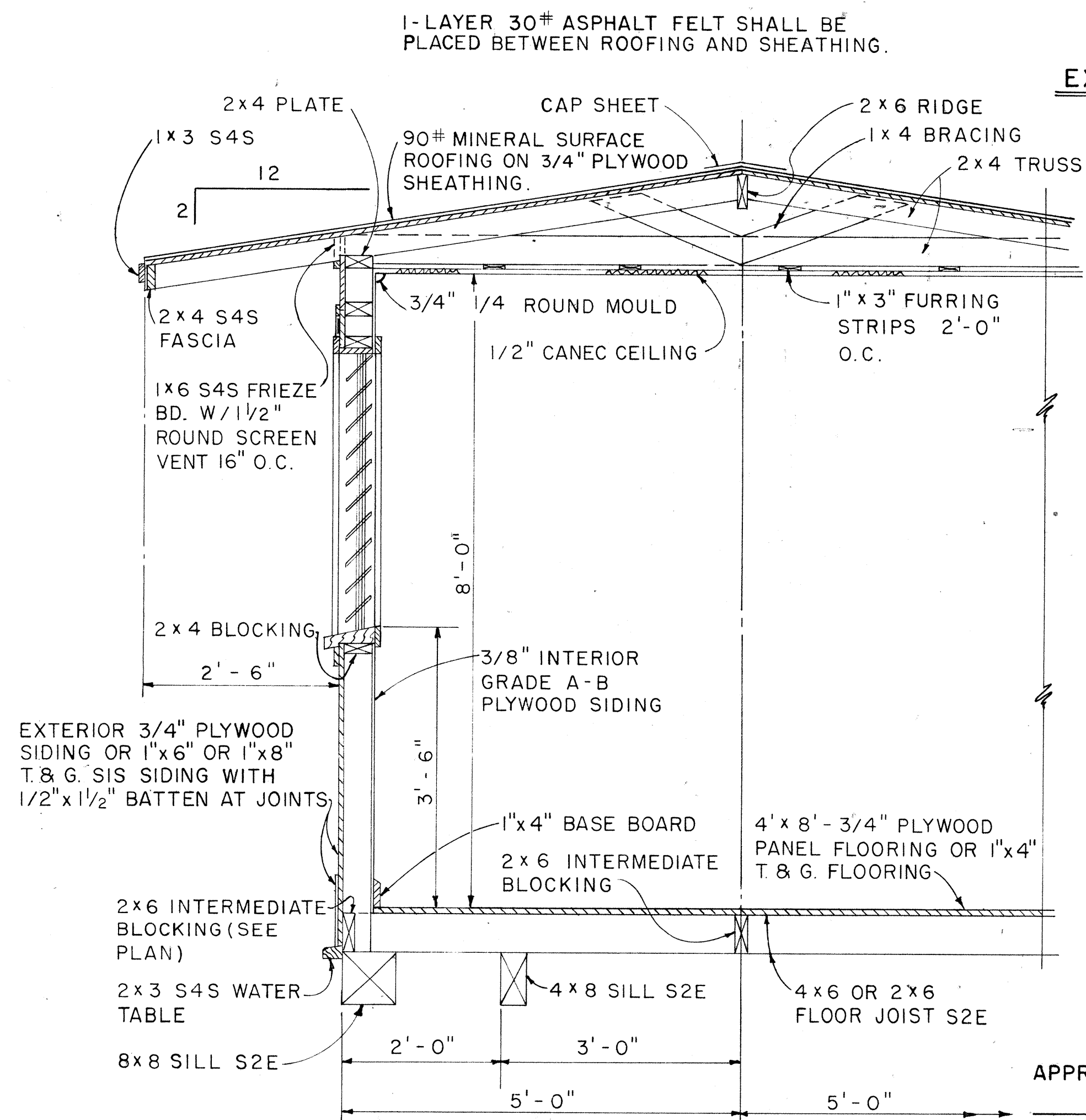
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	L-H-1(III)-14	1974	35	234



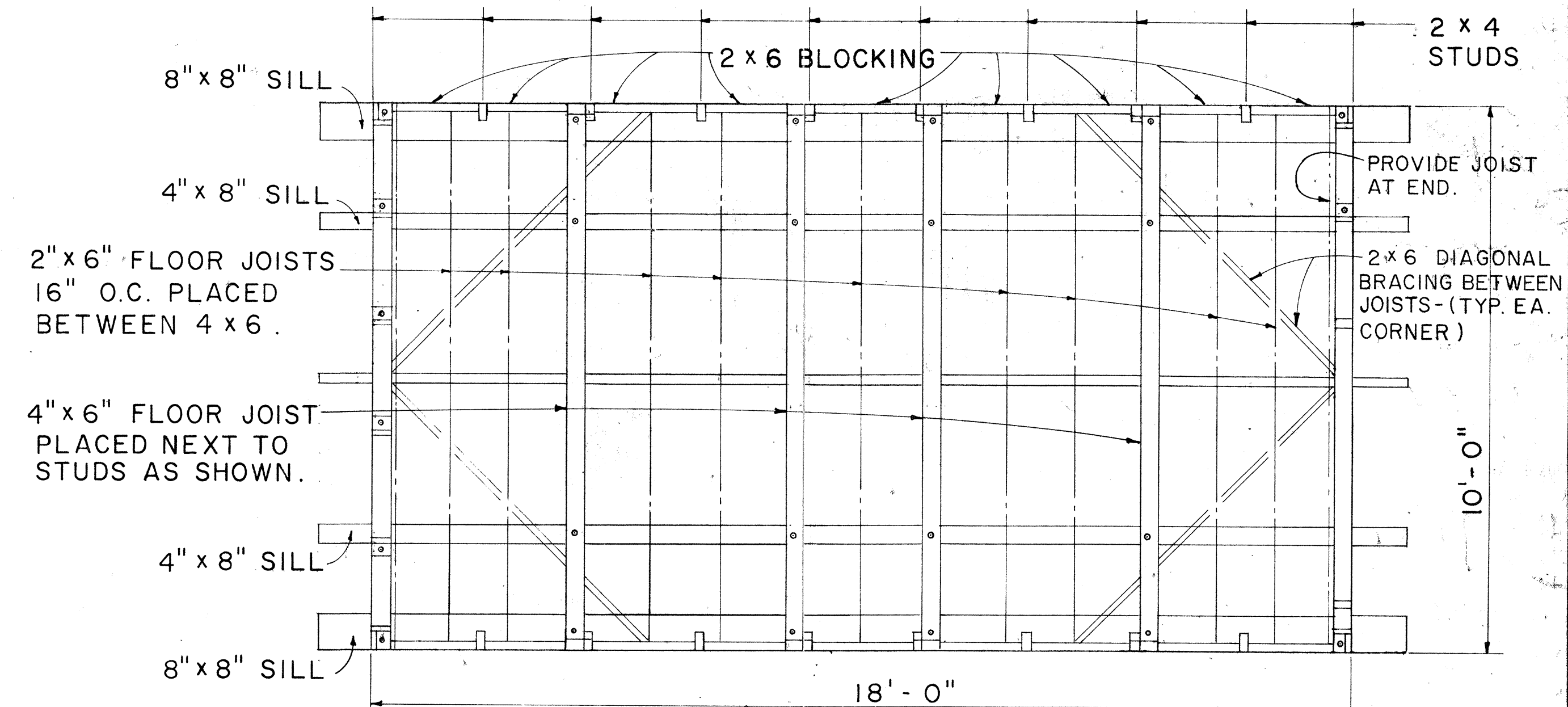
FLOOR PLAN
SCALE: 1/2" = 1'-0"

NOTE:

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



EXTERIOR & INTERIOR KEY



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

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

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

APPROVAL RECOMMENDED:
[Signature]
HIGHWAY DESIGN ENGINEER
12-4-69
DATE

APPROVED:
[Signature]
ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE

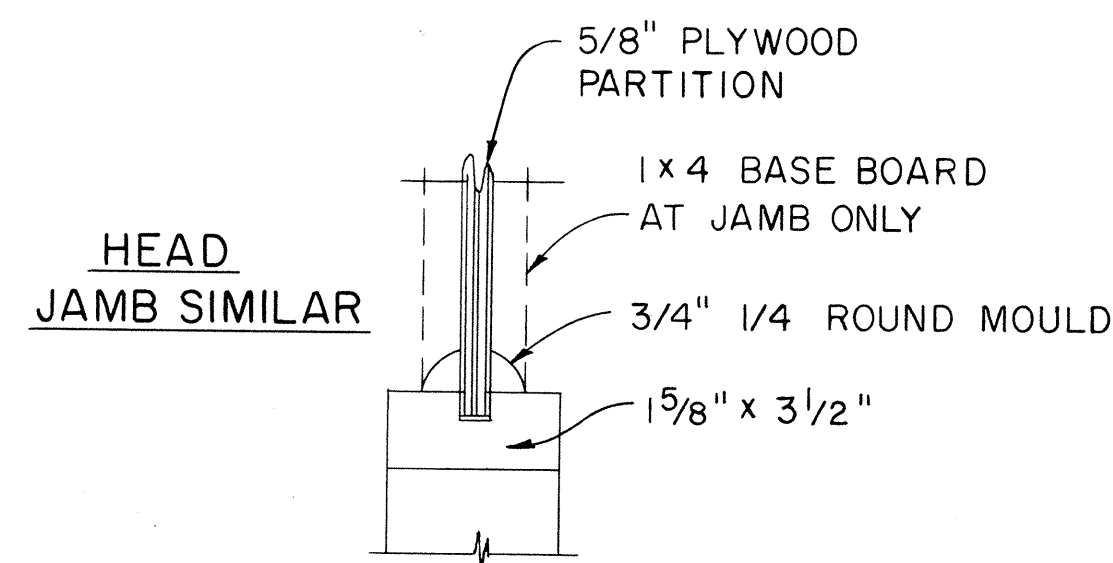
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

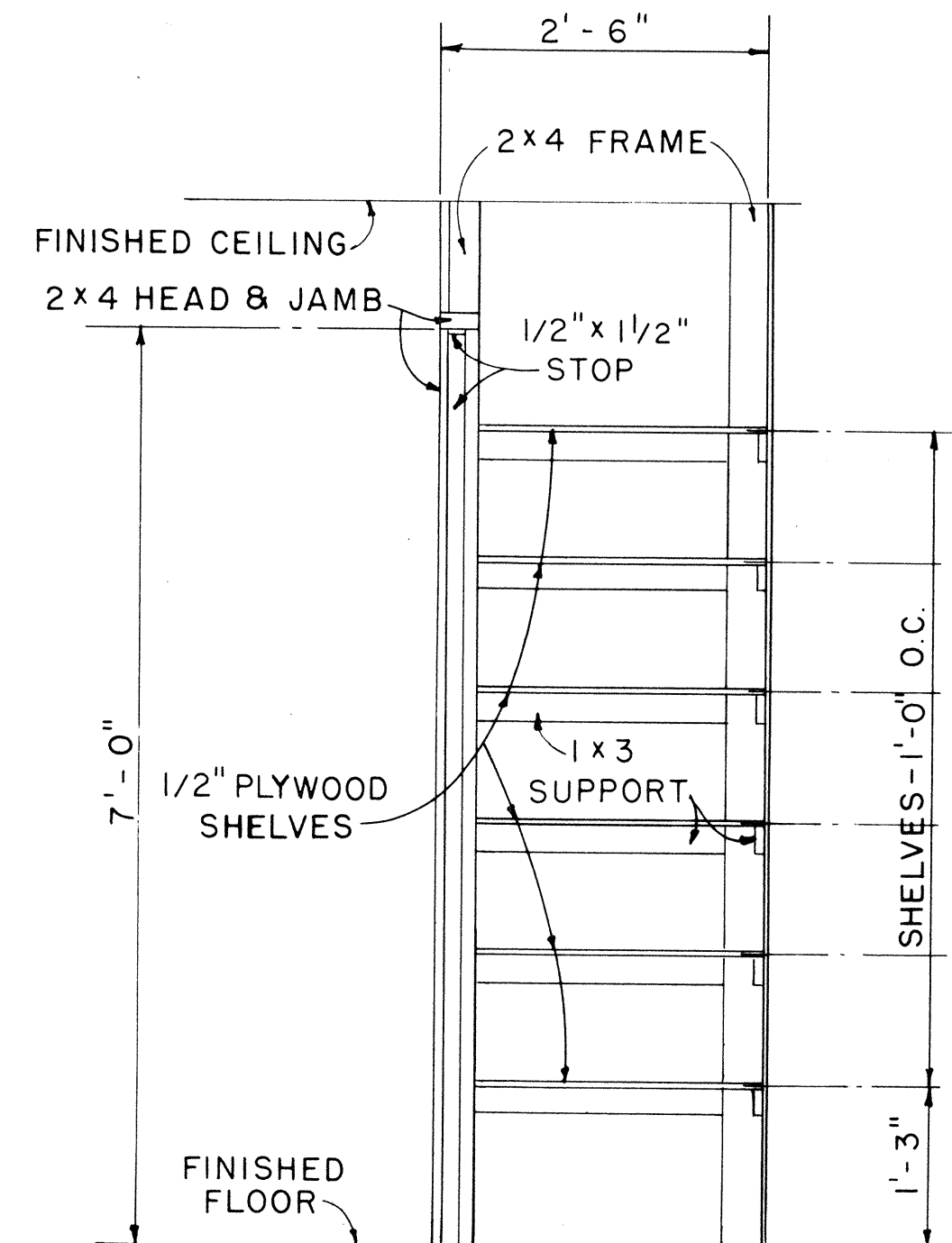
PROJECT SITE LABORATORY

Scale: As Noted

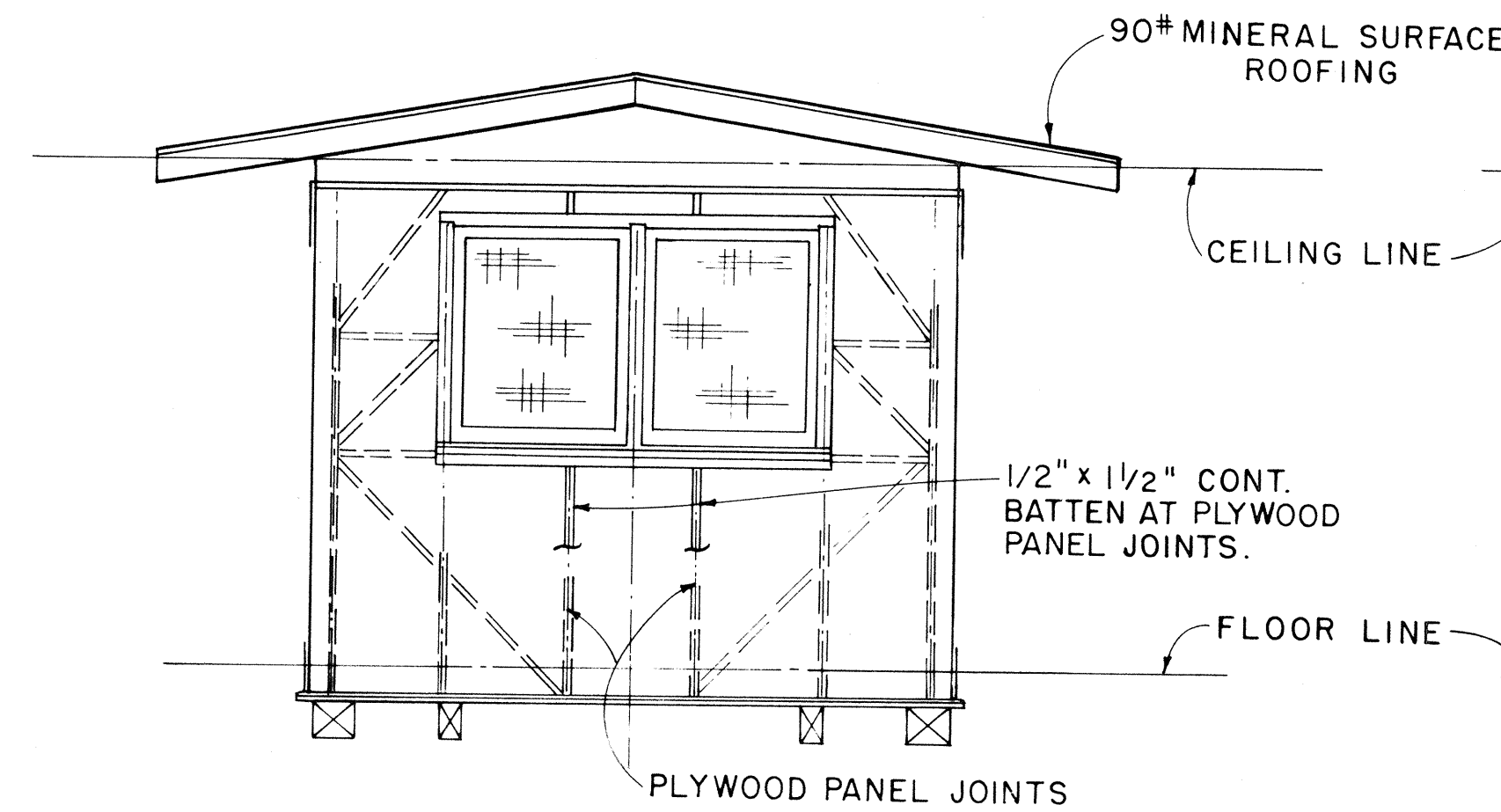
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(III)-14	1974	36	234



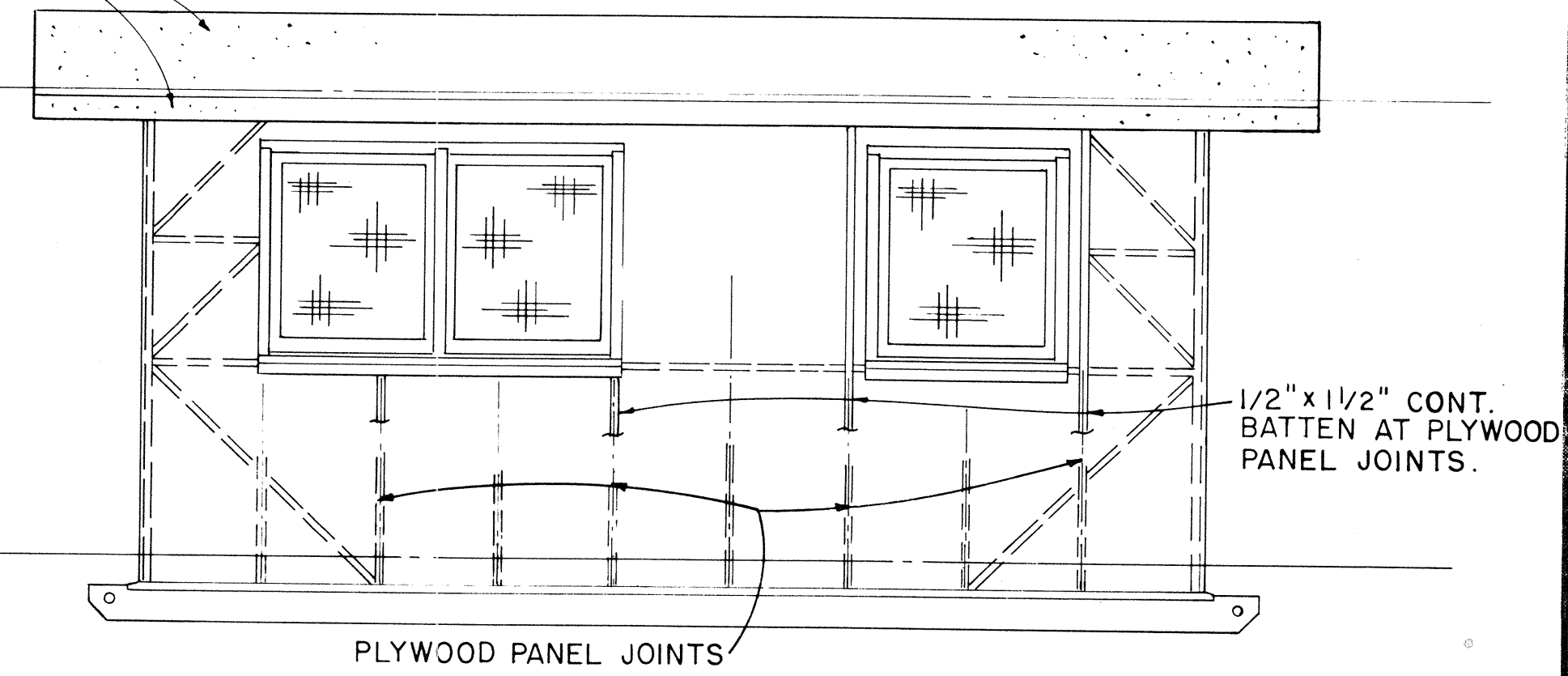
CASEMENT DETAIL
SCALE: 3" = 1'-0"



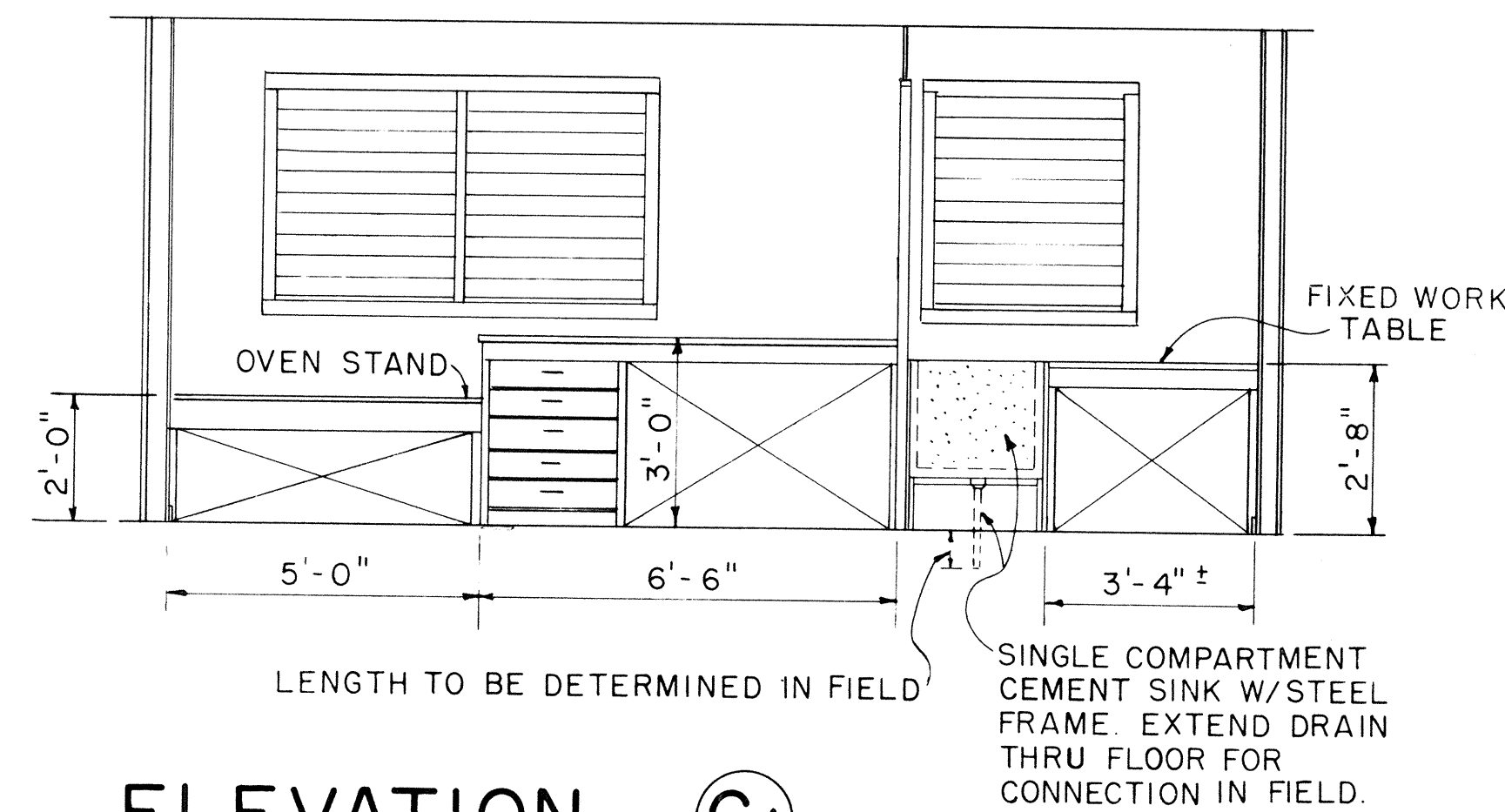
CABINET DETAIL
SCALE: 3/4" = 1'-0"



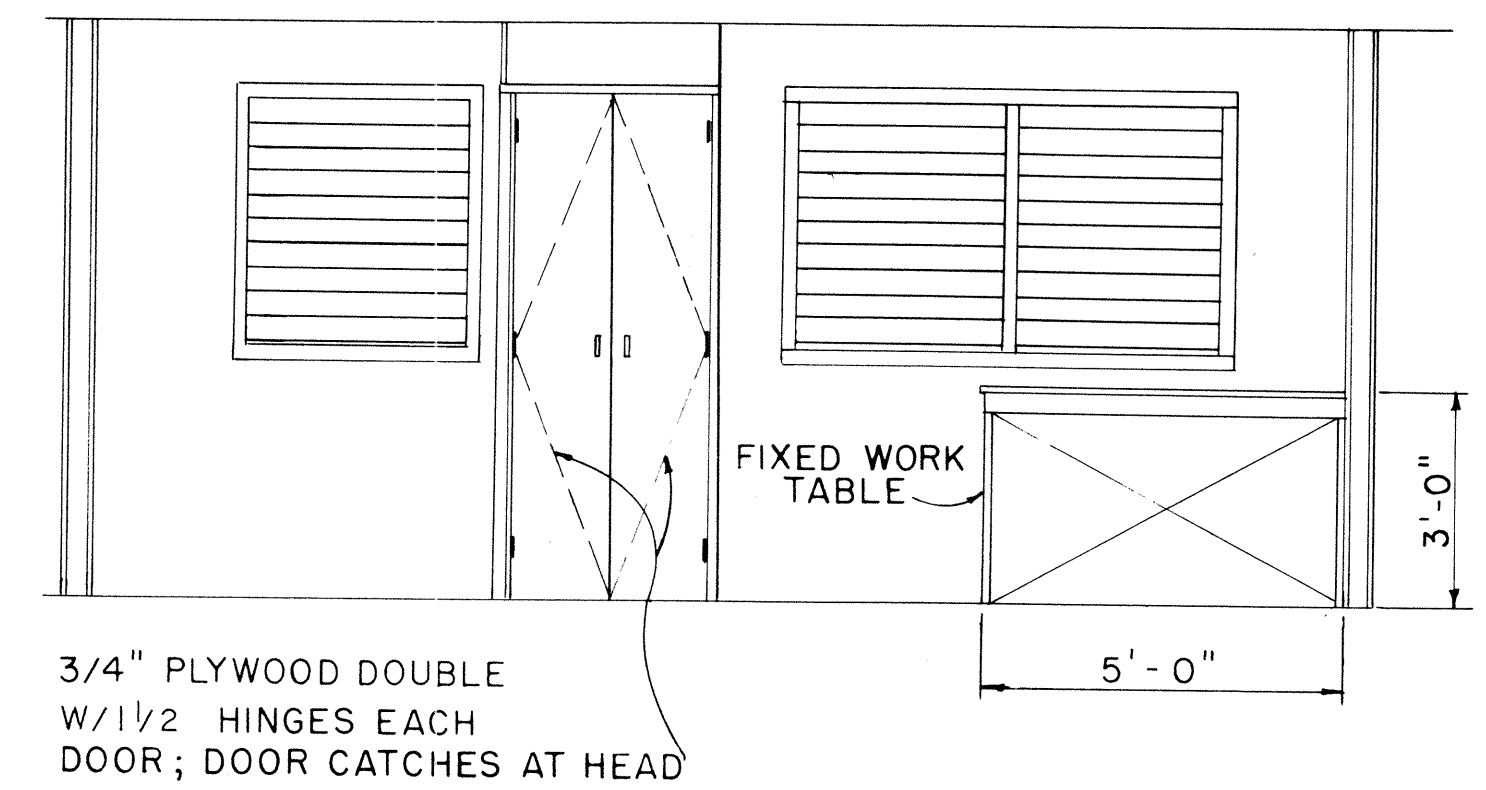
ELEVATION D
SCALE: 3/8" = 1'-0"



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

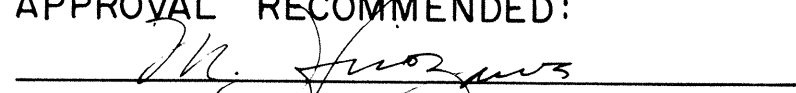


ELEVATION C1
SCALE: 3/8" = 1'-0"



ELEVATION A1
SCALE: 3/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE
1	AS NOTED		

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER
12-4-69
DATE

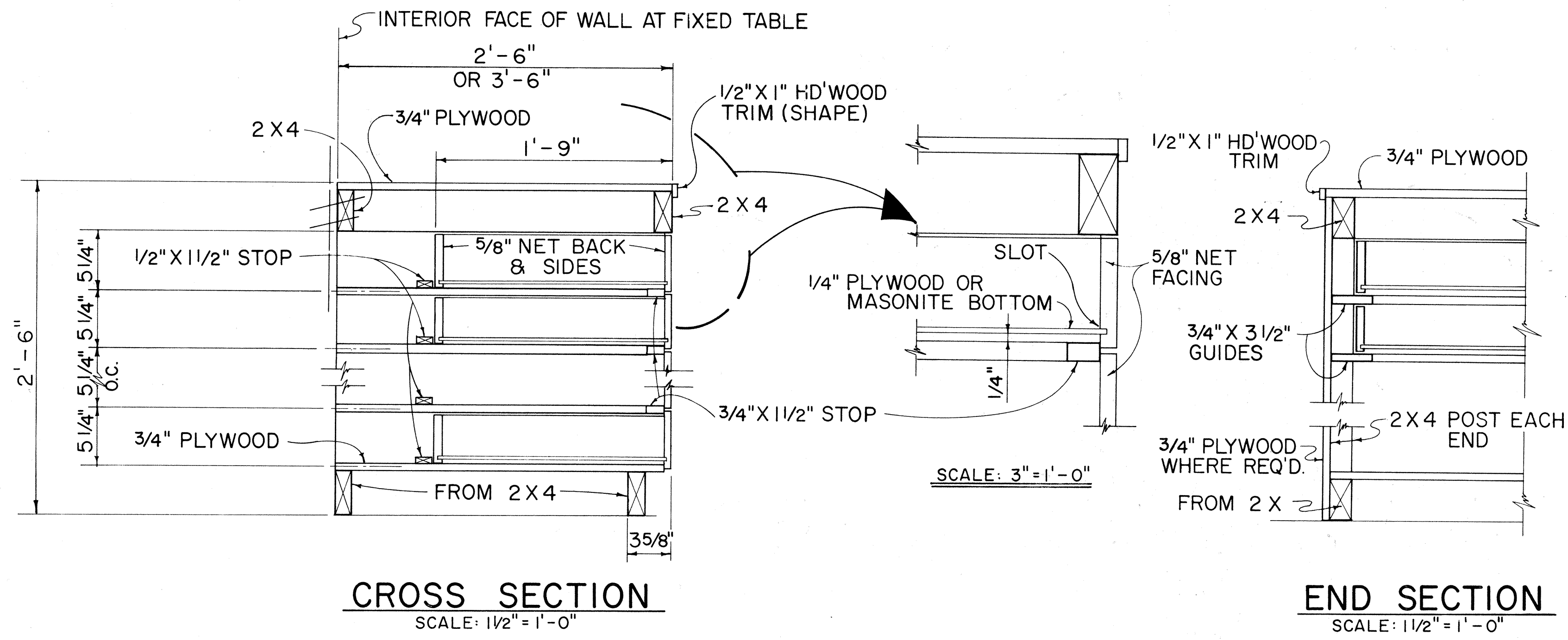
APPROVED:

ASSISTANT CHIEF, ENGINEERING
12-10-69
DATE

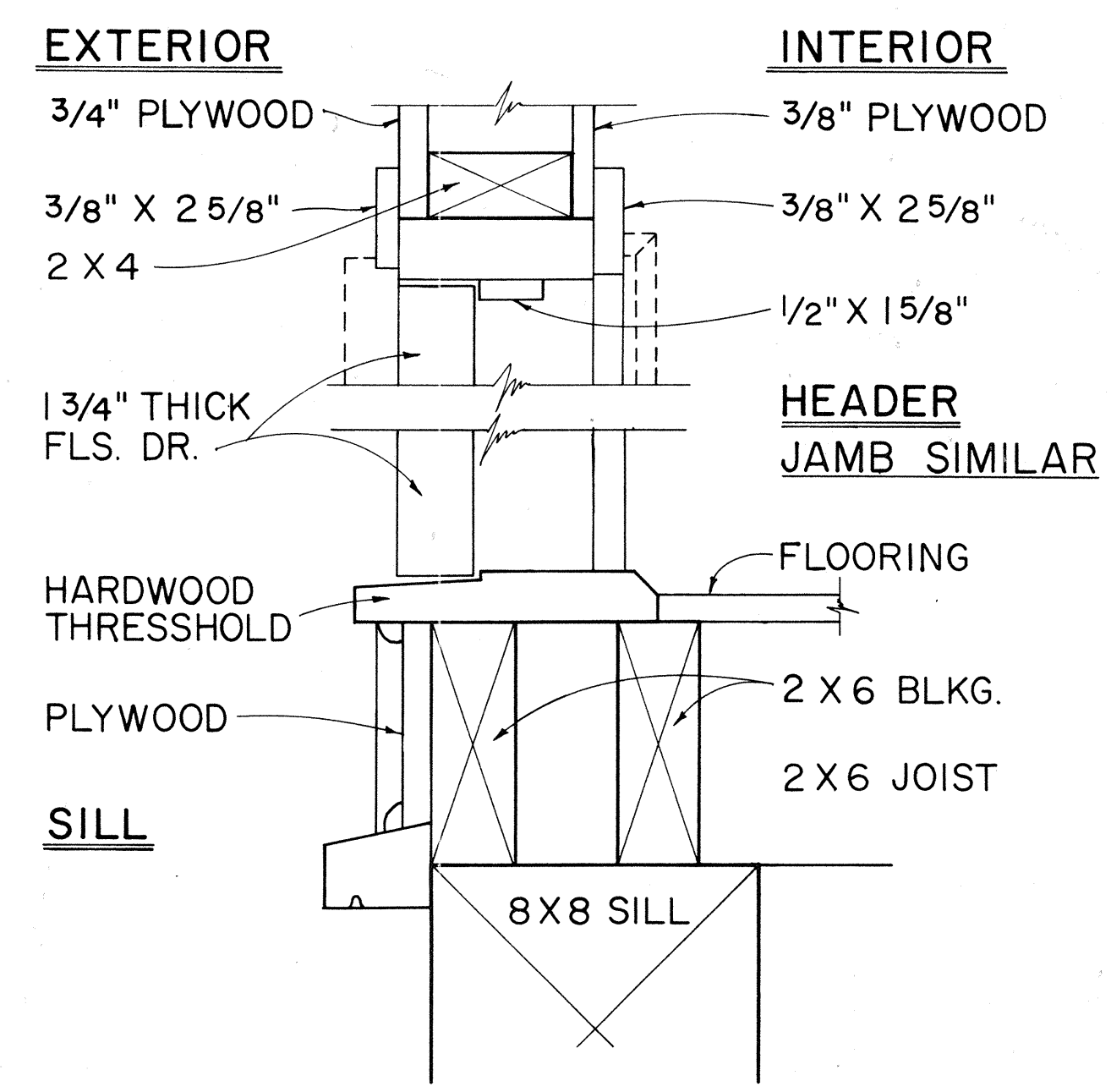
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PROJECT SITE LABORATORY
Scale: As Noted

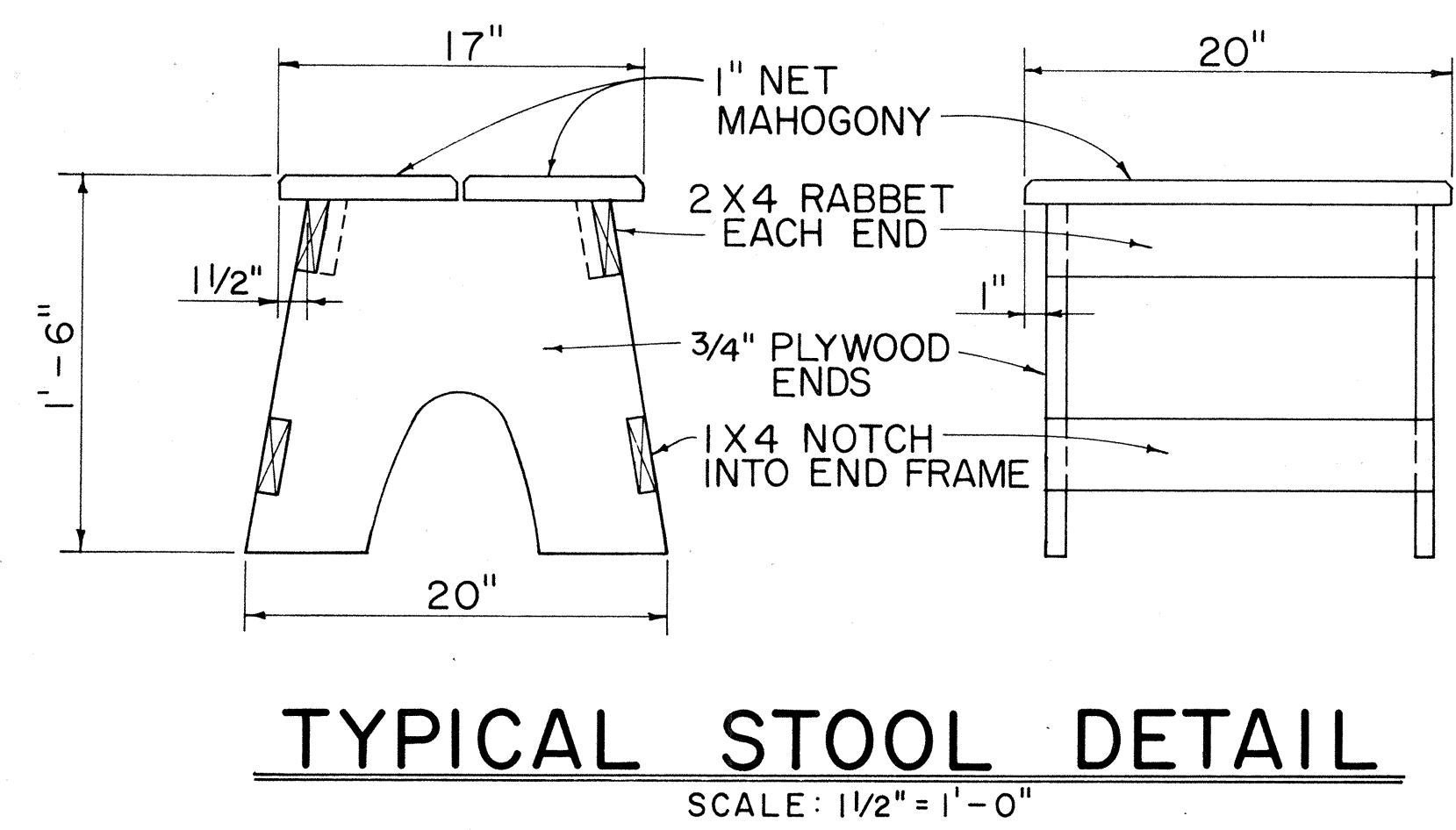
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-HH(III)34	1974	37	234



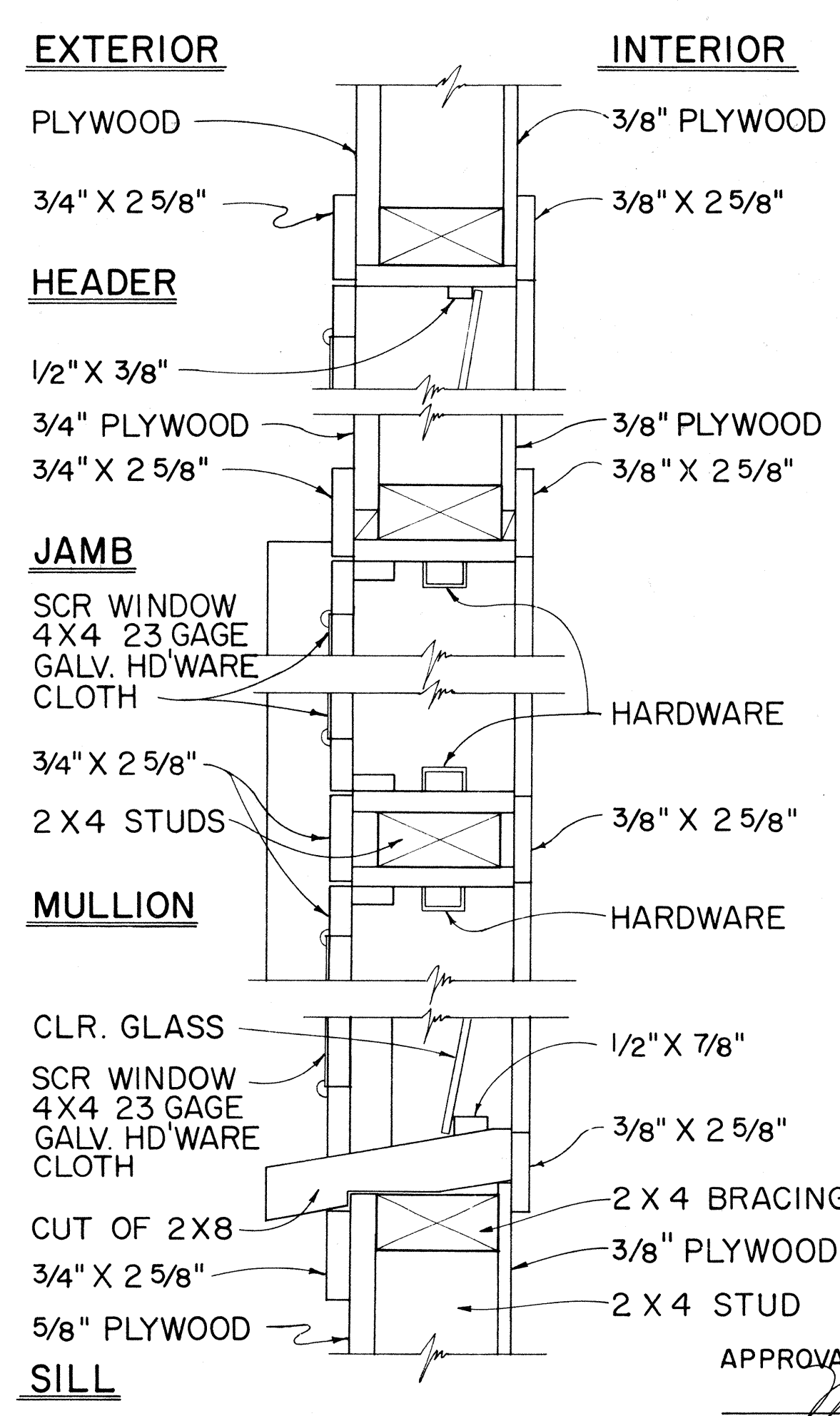
TYPICAL WORK TABLE DRAWER DETAIL



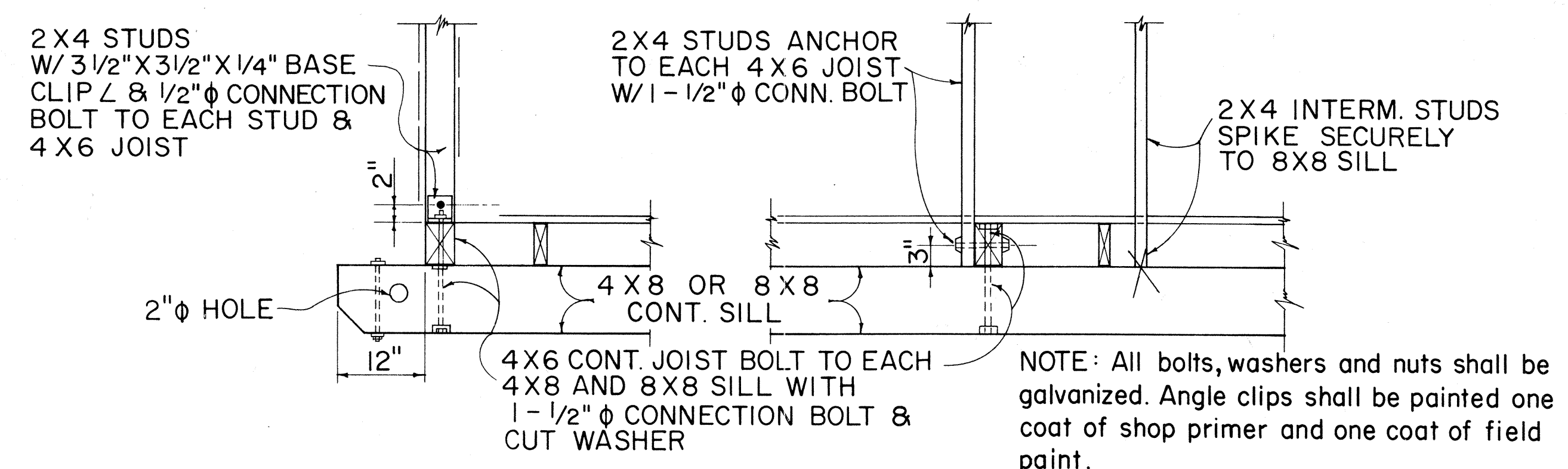
TYPICAL SINGLE OR DOUBLE EXTERIOR DOOR DETAIL



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



TYPICAL DETAIL JALOUSIES WINDOWS



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

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

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

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

FIELD OFFICE
 &
 PROJECT SITE LABORATORY

Scale: As Noted

SHEET No. 5 OF 5 SHEETS DD 636.5