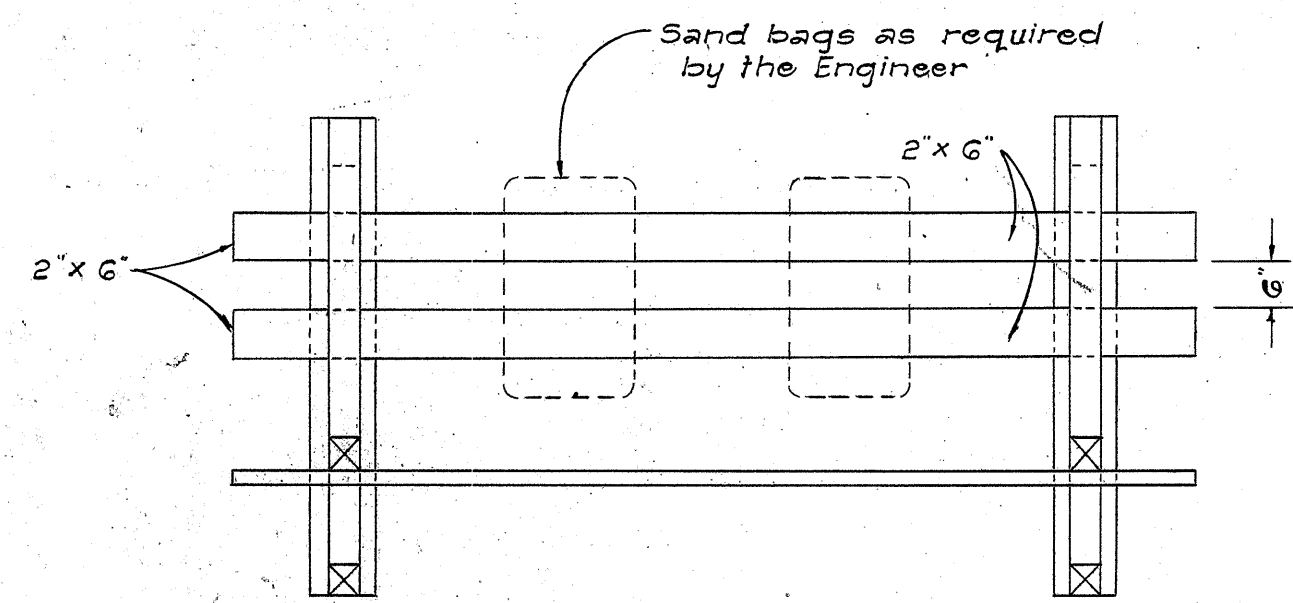
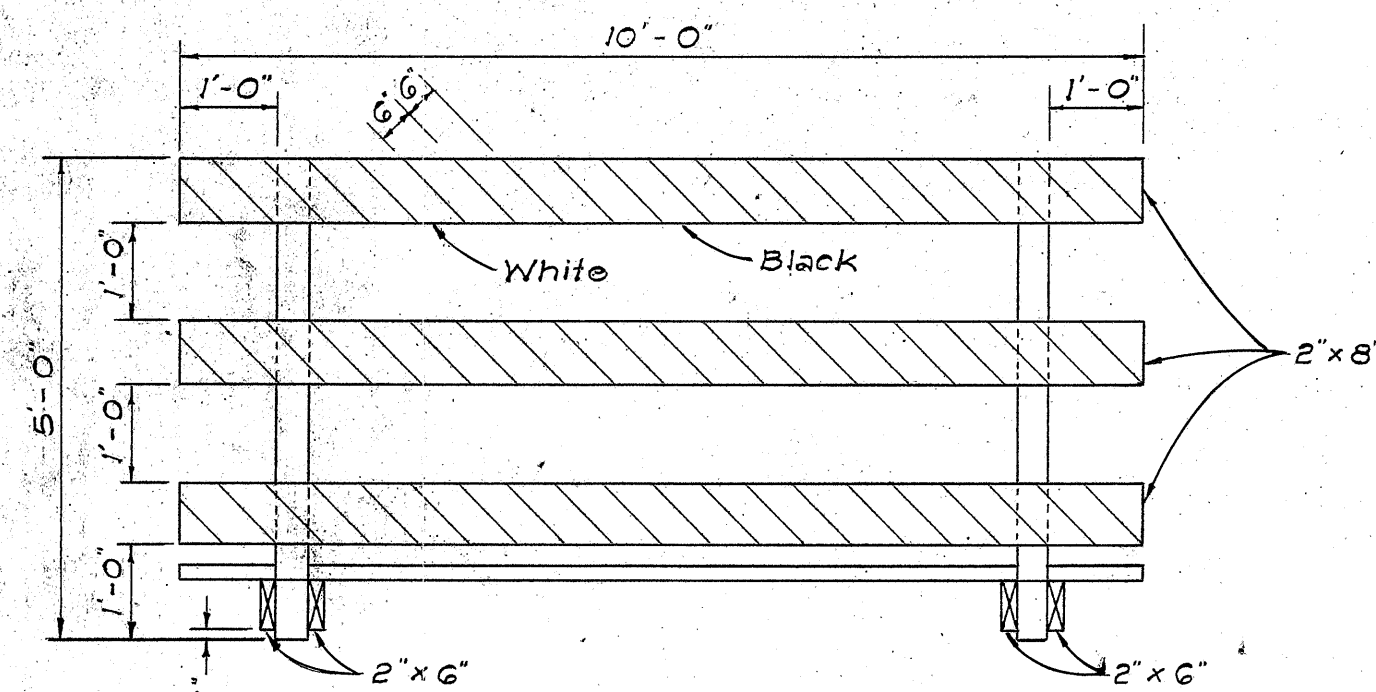


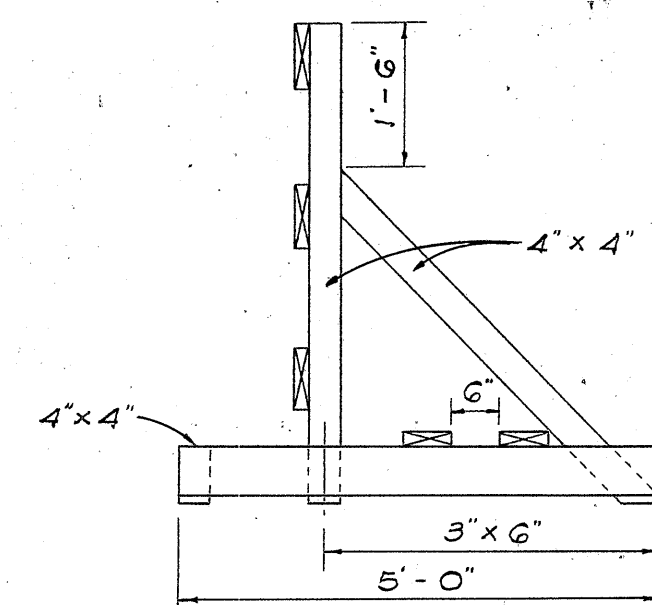


PLAN VIEW

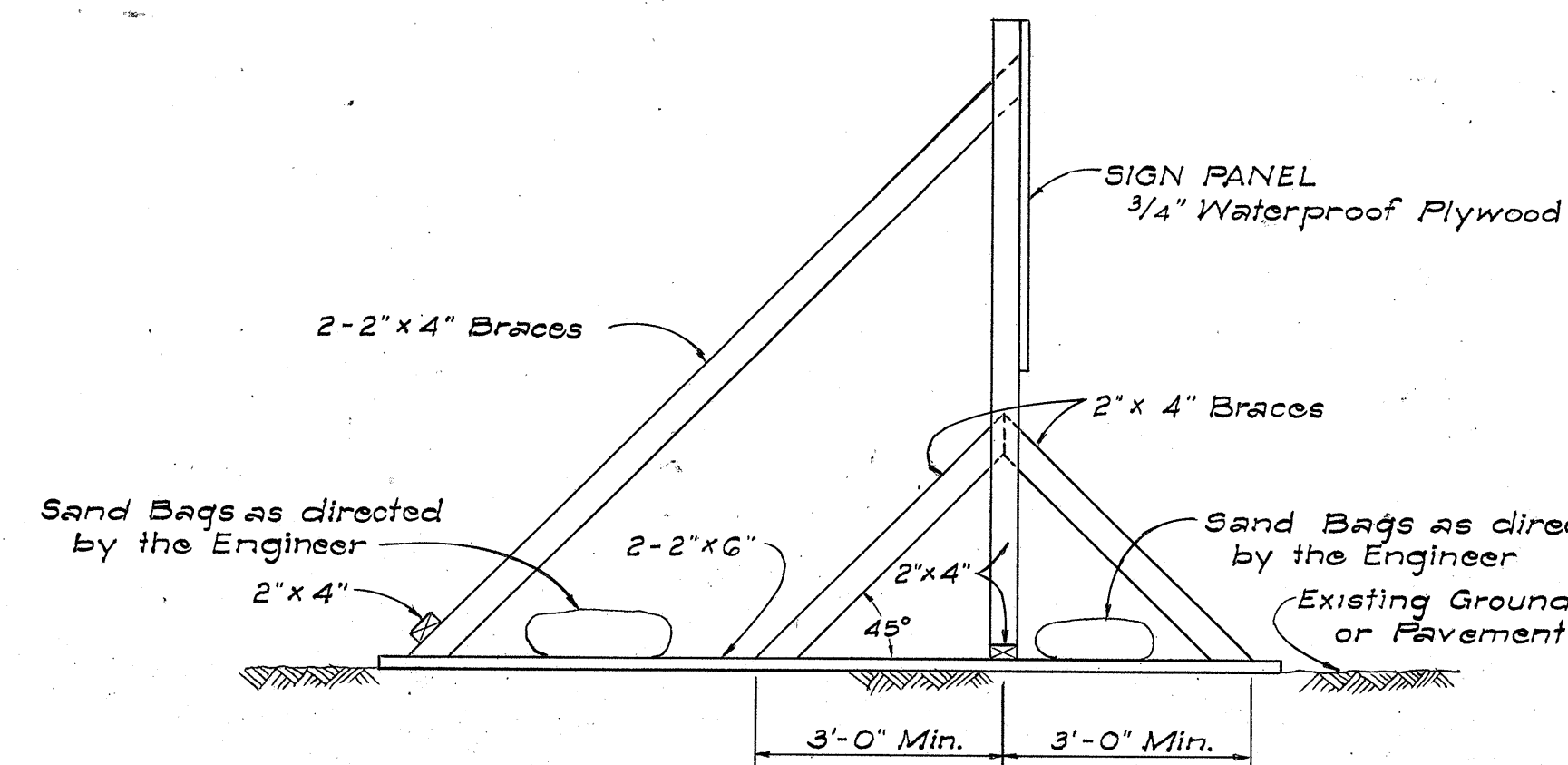


FRONT VIEW

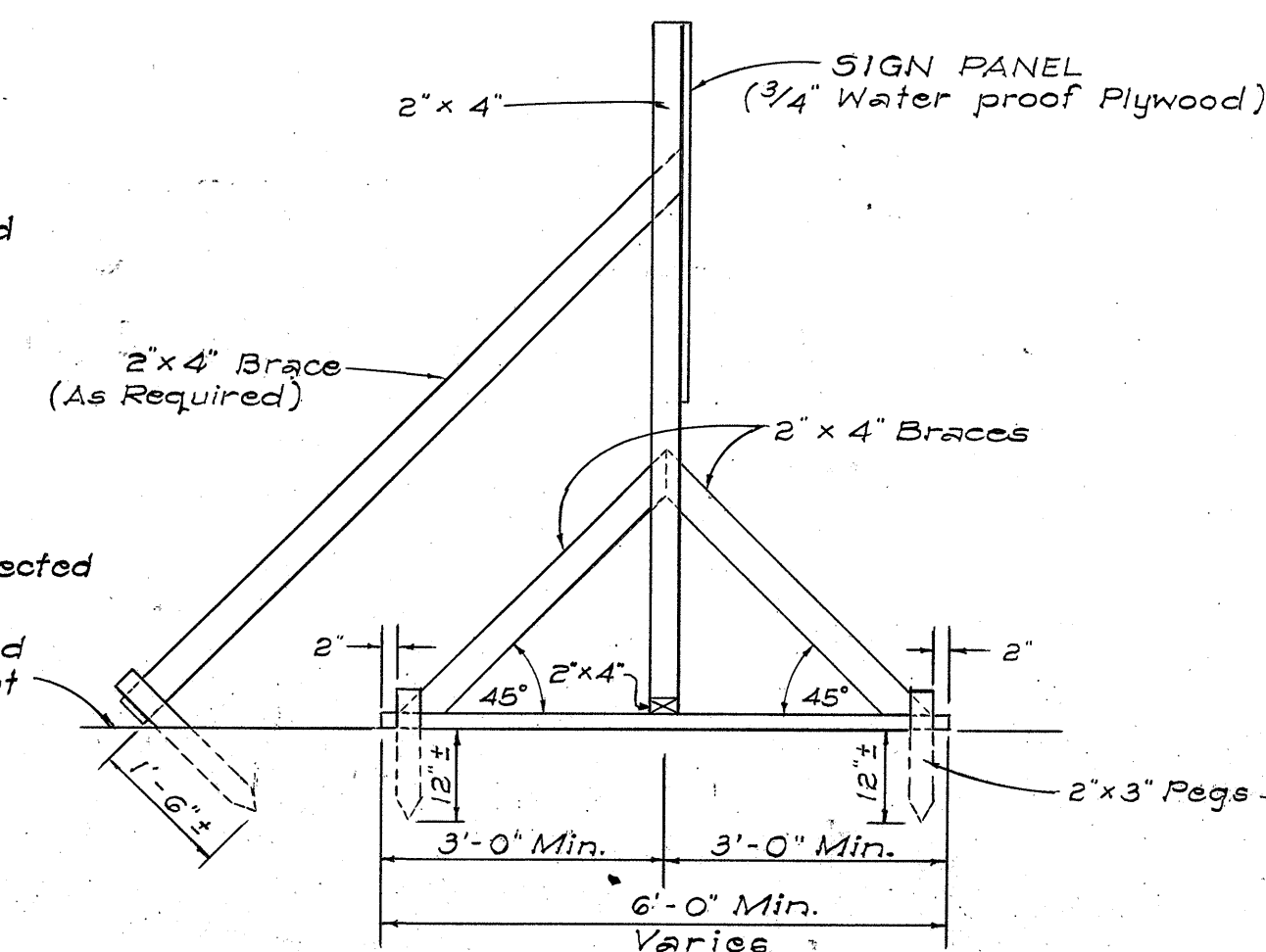
CLASS I BARRICADE



END VIEW



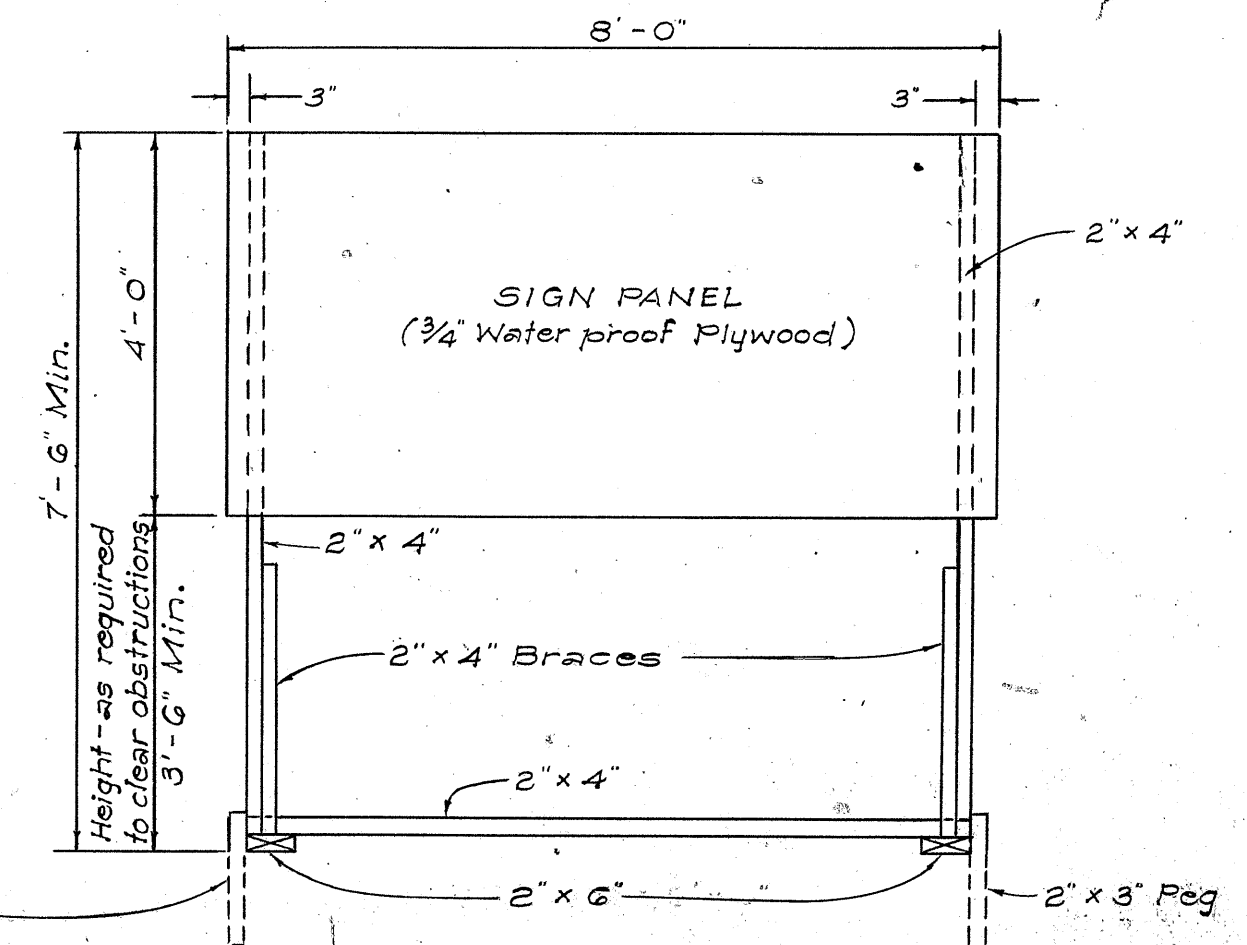
SIDE VIEW
(SIGN FRAME WEIGHTED DOWN)



SIDE VIEW
(SIGN FRAME ANCHORED IN GROUND)

ELEVATIONS

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

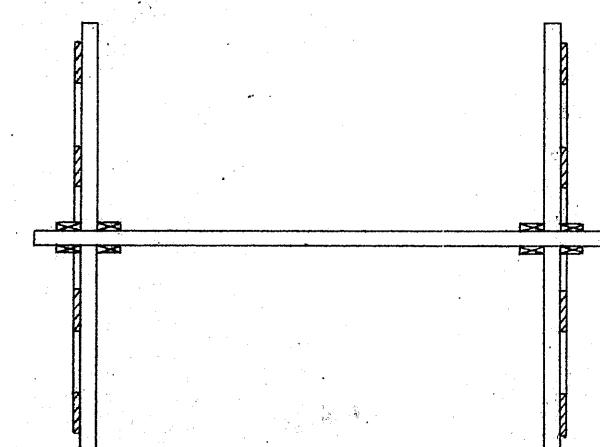


FRONT VIEW

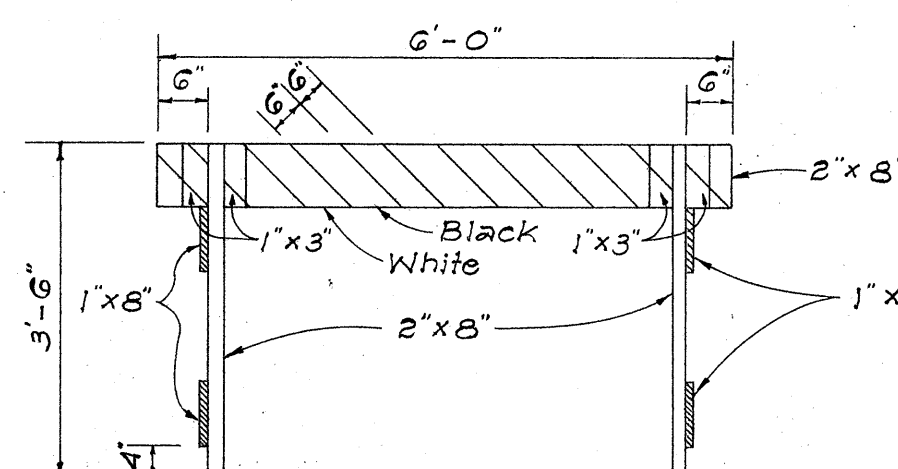
NOTES:

- A. CONSTRUCTION IDENTIFICATION SIGNS**
- 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.
 - The signs shall be removed and stock-piled upon completion of the project as ordered by the Engineer and are to become State property.
 - 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, 1952.
 - The Contractor shall fill in the proper numerals in place of eiphers as ordered by the Engineer.

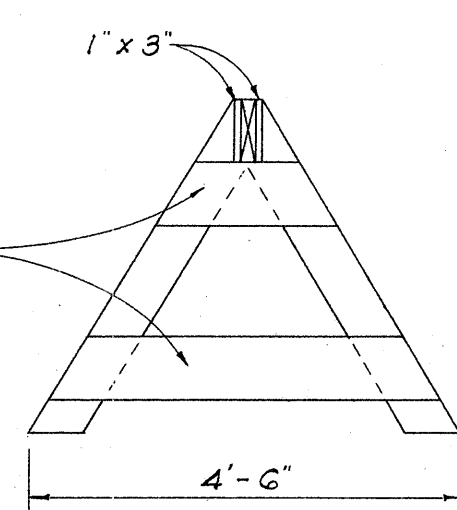
- B. WOOD BARRICADES**
- The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
 - The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.



PLAN VIEW



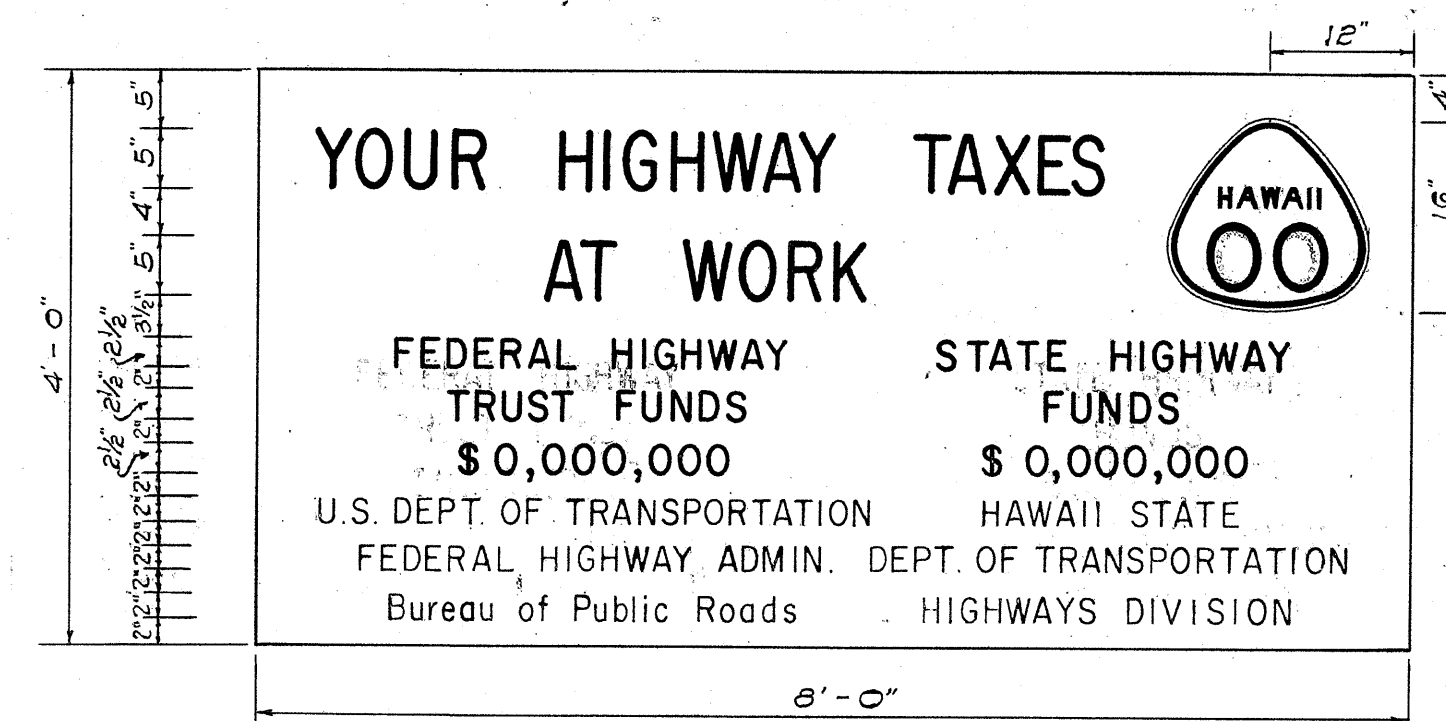
FRONT VIEW



END VIEW

CLASS II BARRICADE

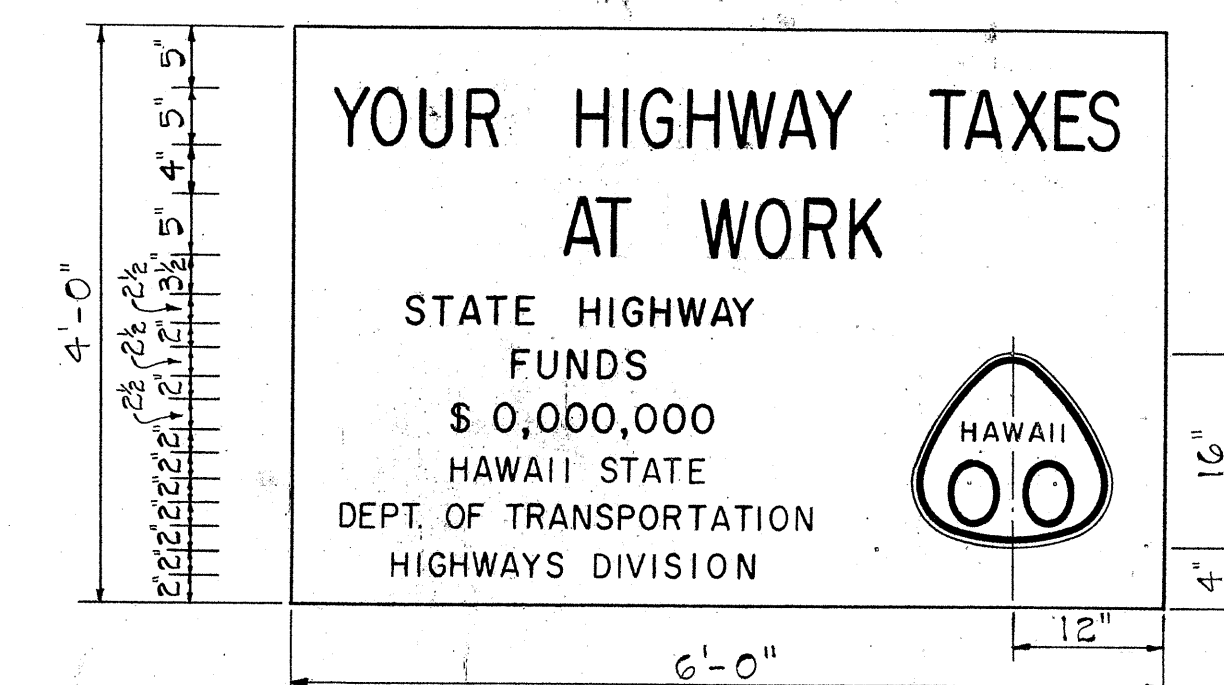
Scale: 1/2" = 1' - 0"



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

PRIMARY AND SECONDARY SYSTEMS CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown.



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

NON-FEDERAL AID PROJECT CONSTRUCTION IDENTIFICATION SIGN

REVISED: February 25, 1969
REVISED: October 2, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
CONSTRUCTION IDENTIFICATION SIGN
AND
WOOD BARRICADES

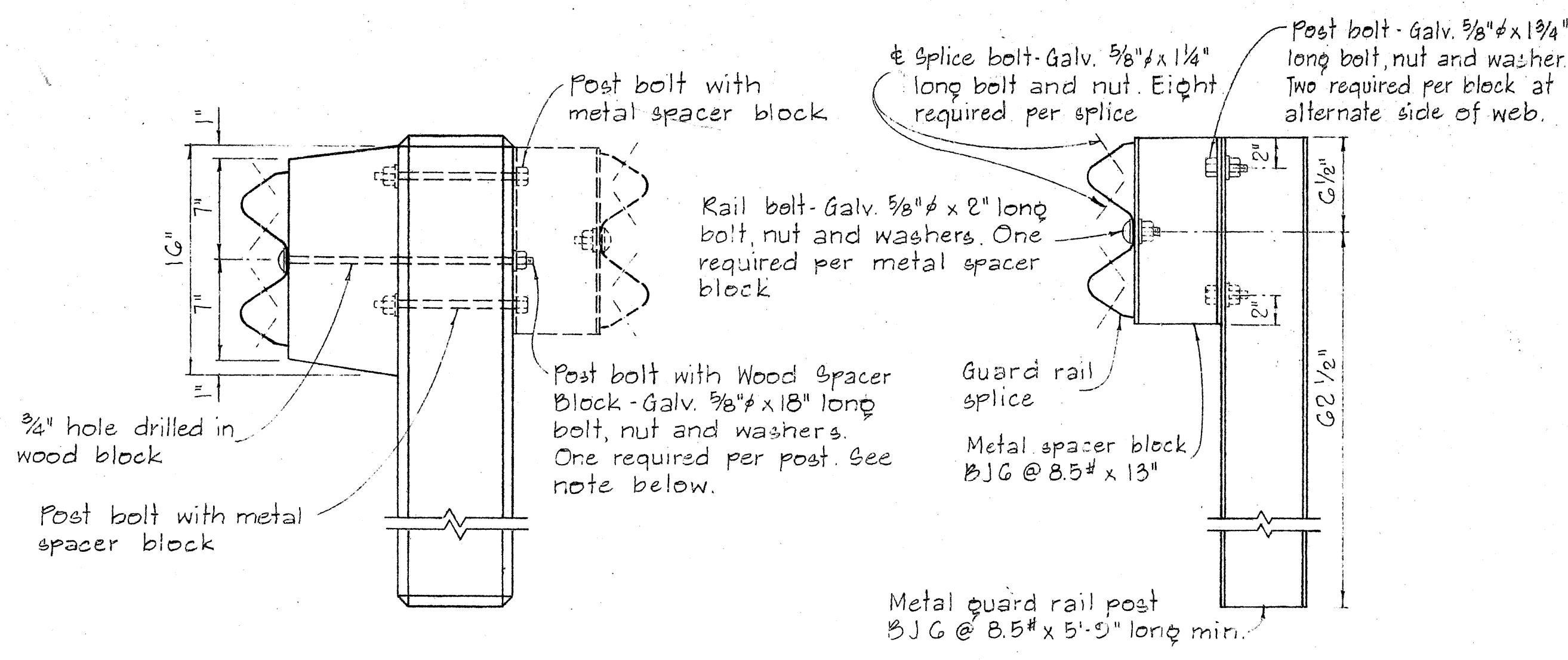
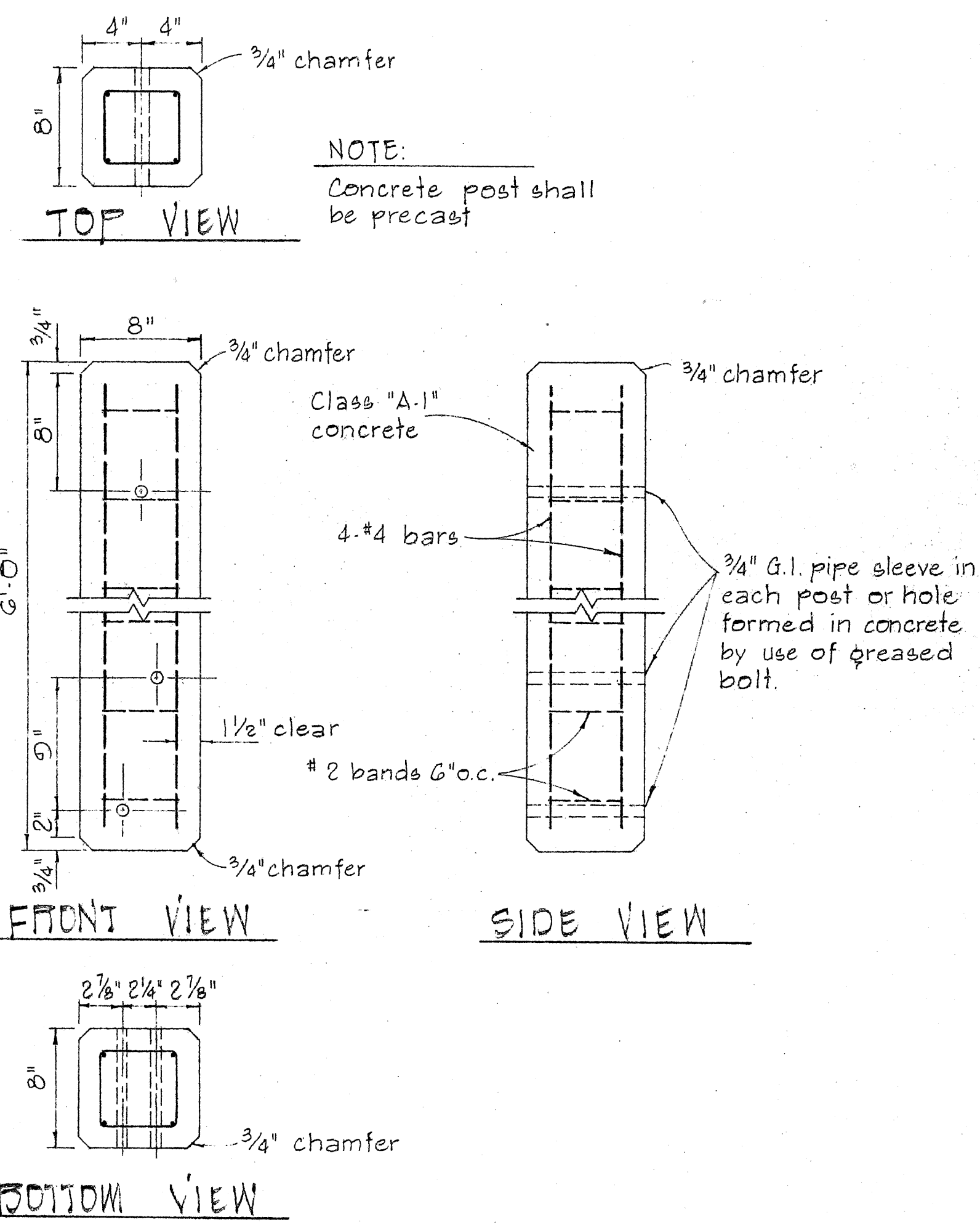
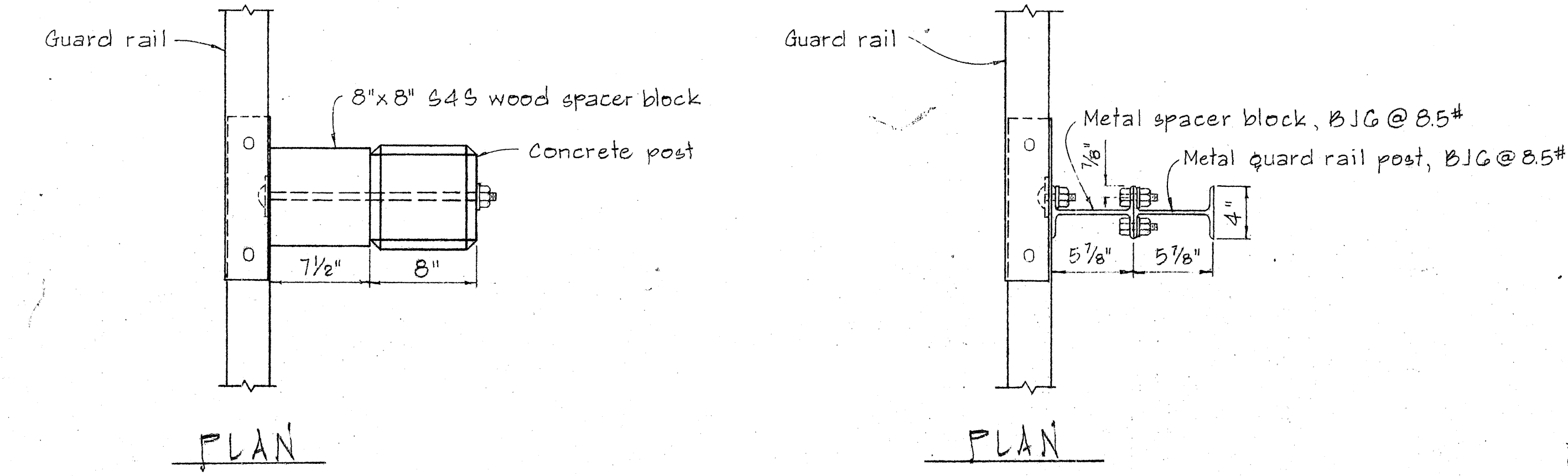
SCALE: As Shown DATE: Mar. 1969

SHEET No. 1 OF 10 SHEETS

25

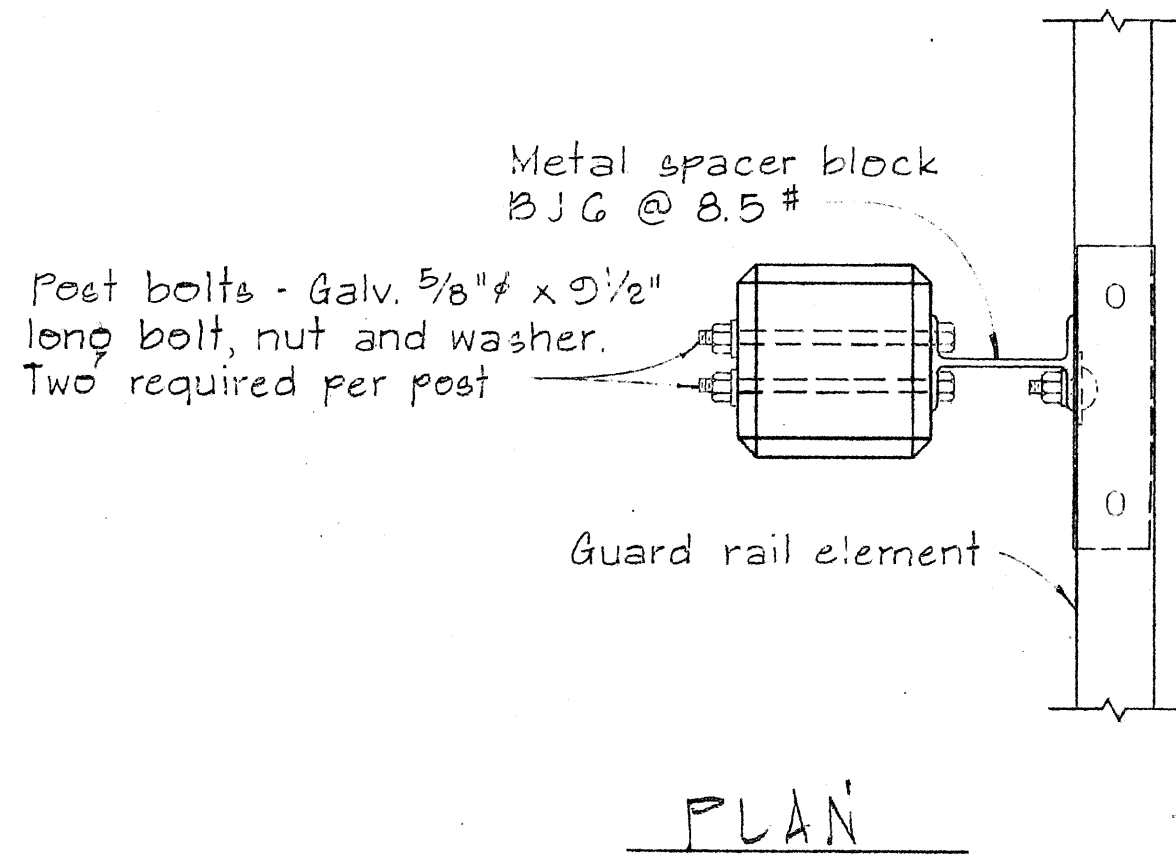
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BD 67-320	1969	26	108

REVISED: 12-11-68
REVISED: 2-26-69

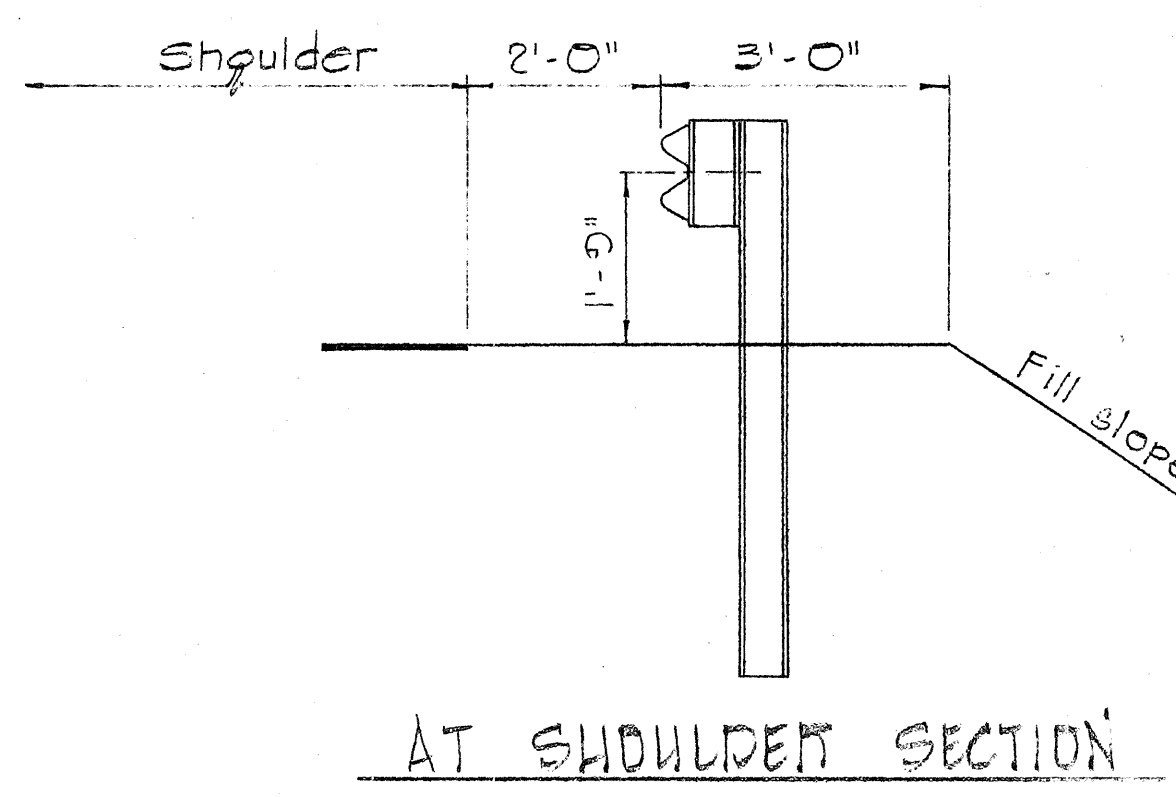


SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"

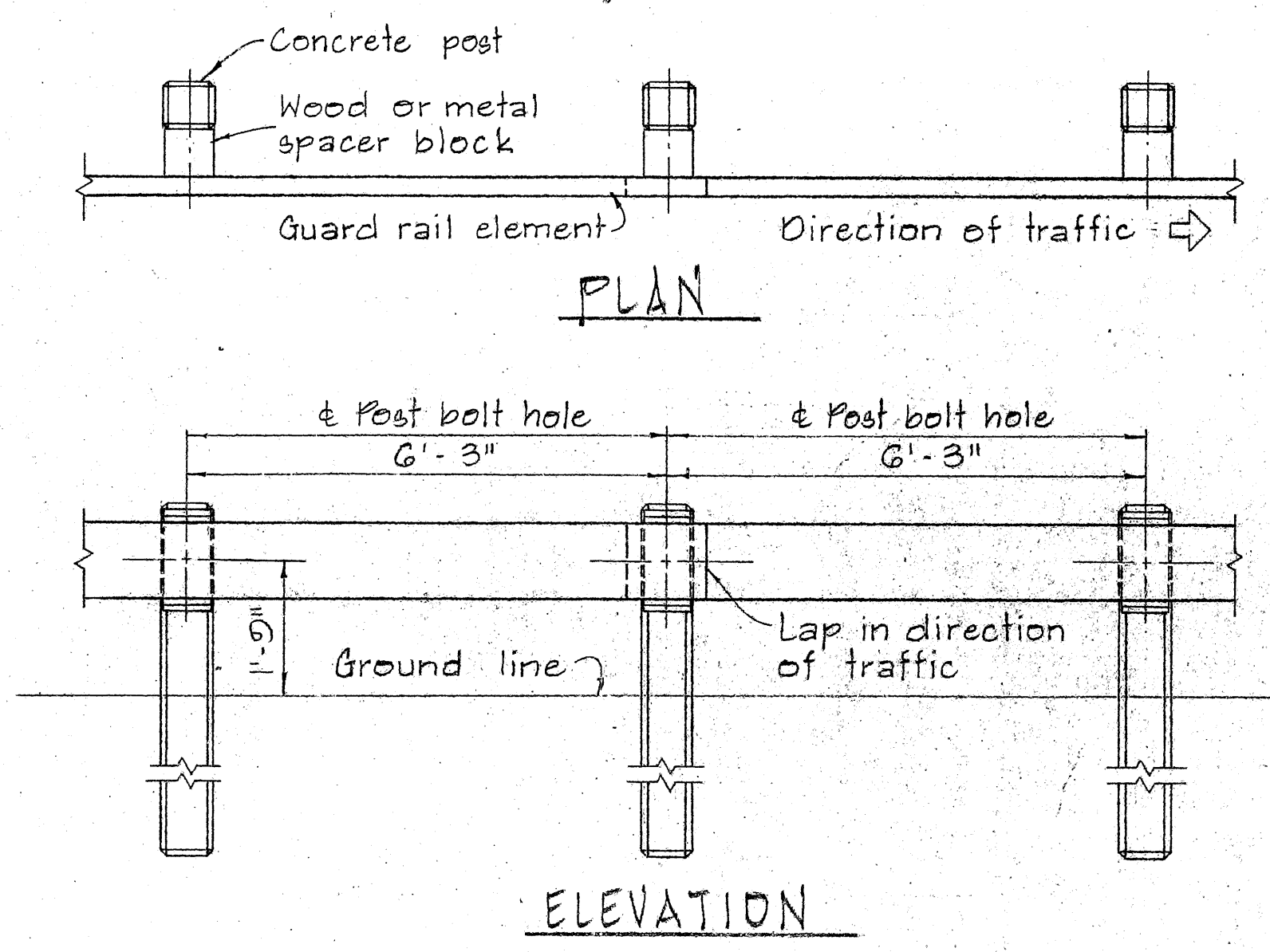
DETAIL OF CONCRETE POST
SCALE: 1 1/2" = 1'-0"



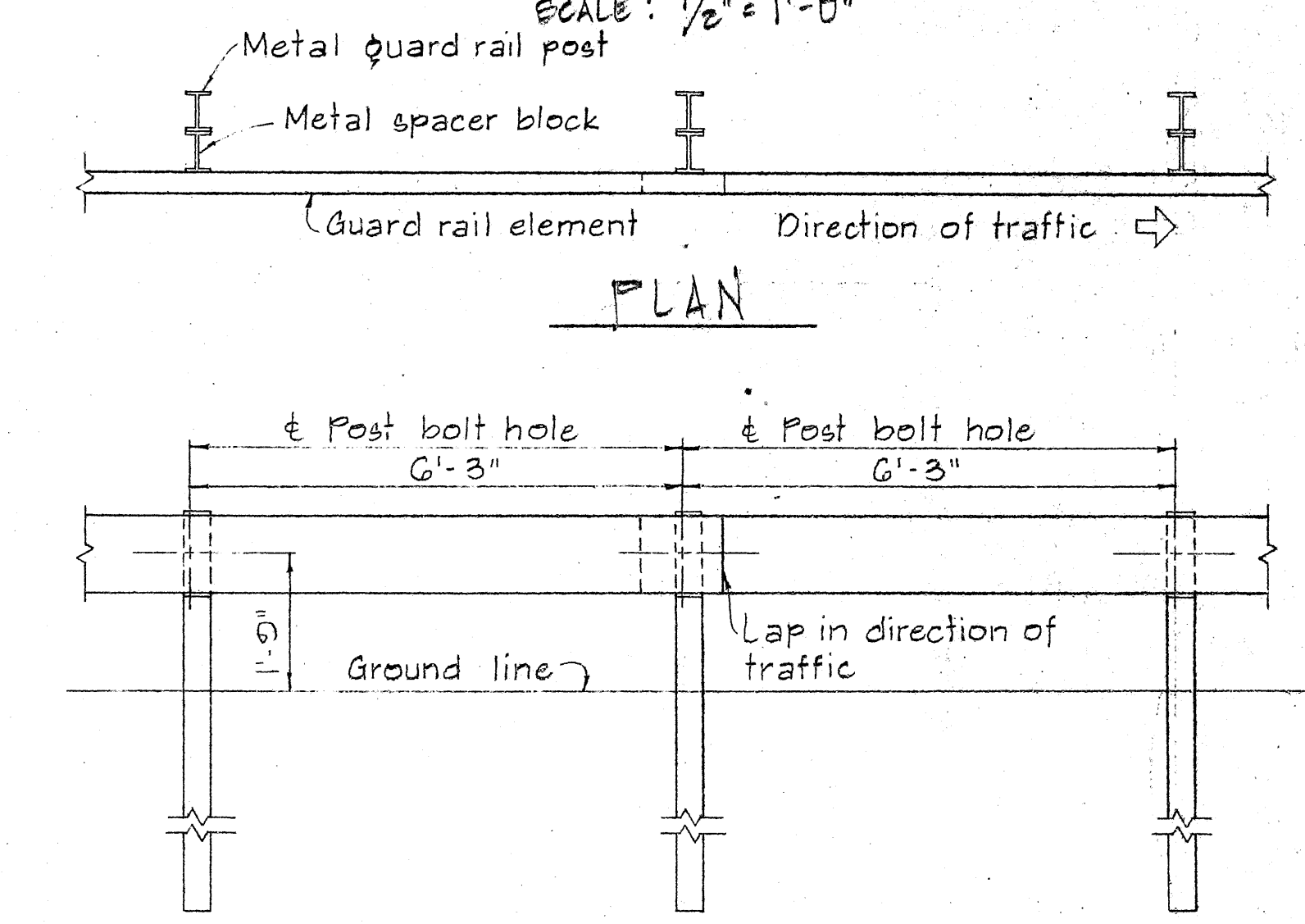
SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"



TYPICAL METAL GUARD RAIL DETAIL
SCALE: 1 1/2" = 1'-0"



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



METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN NOV. 1968

SHEET No. 2 OF 10 SHEETS DT 500

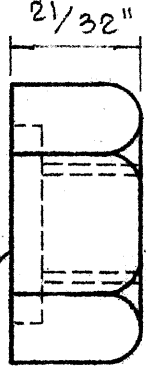
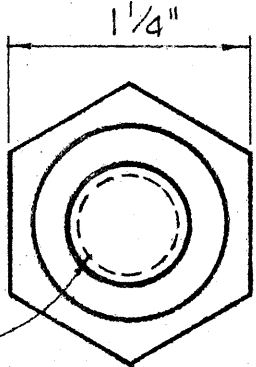
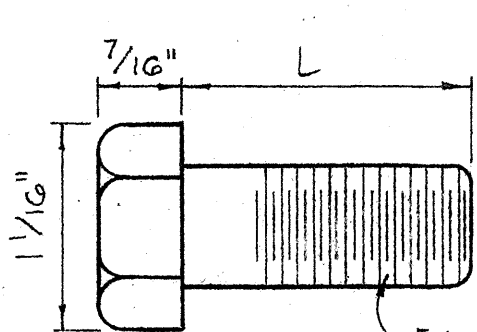
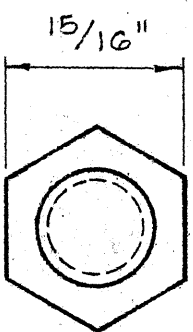
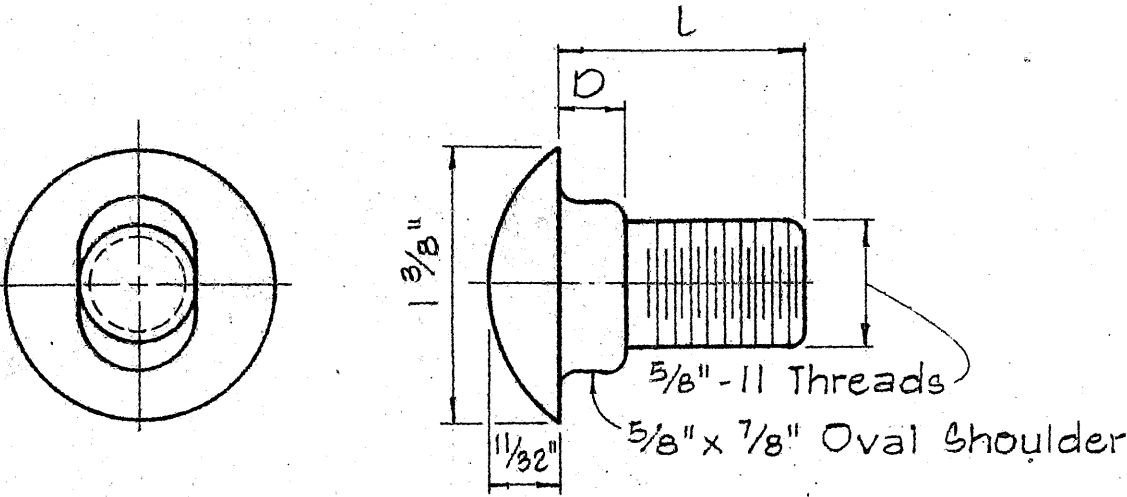
DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BD 67-320	1969	27	100

Revised: Dec. 11, 1968

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	5/16"
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

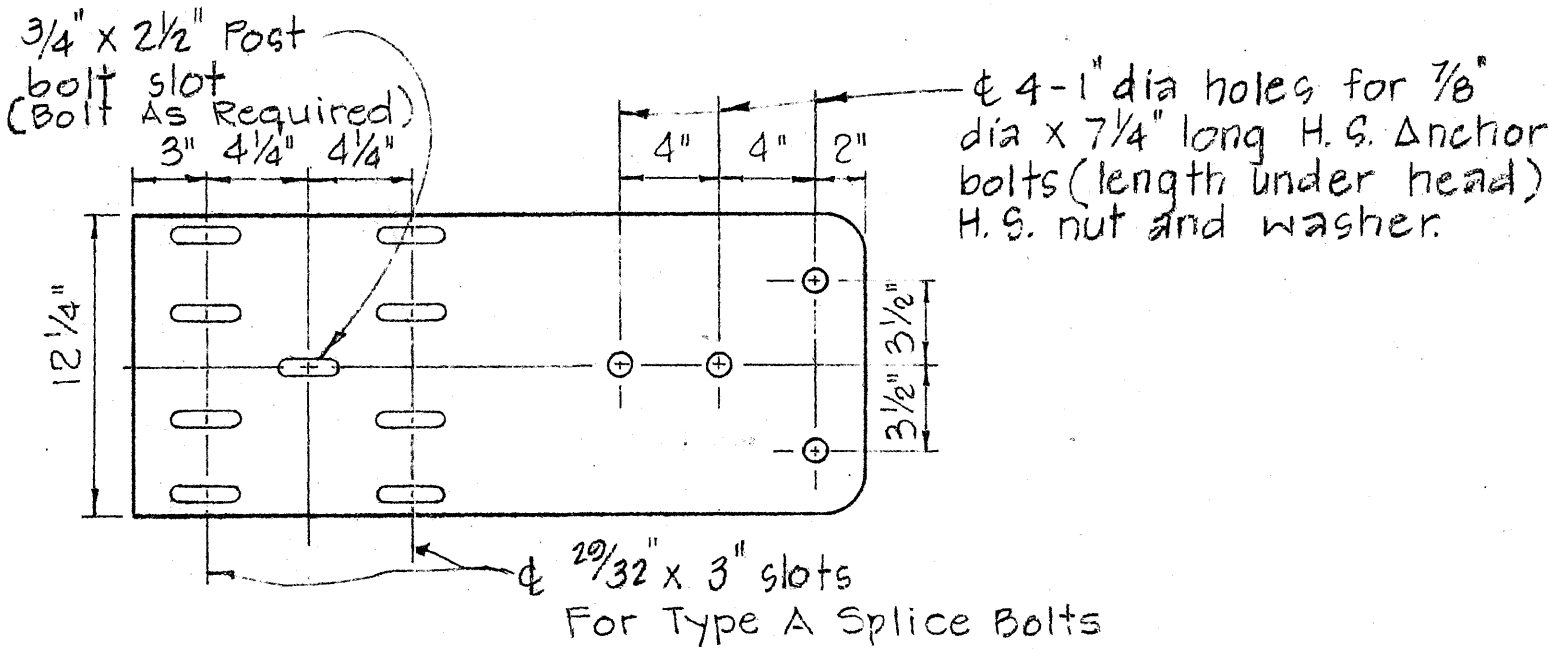
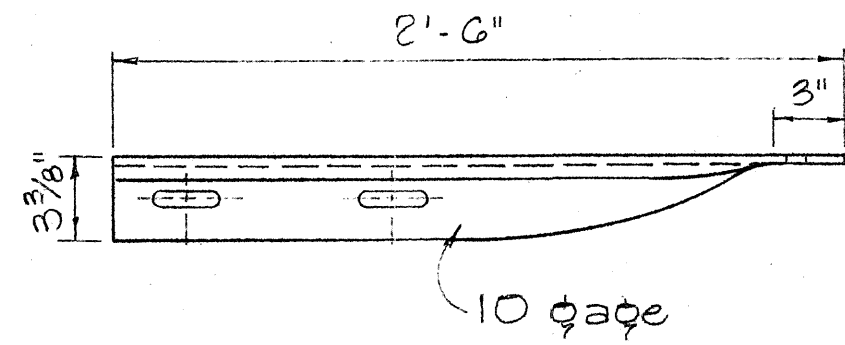
TYPE B BOLT

SPlice RAIL AND POST BOLTS

Scale: Full Size

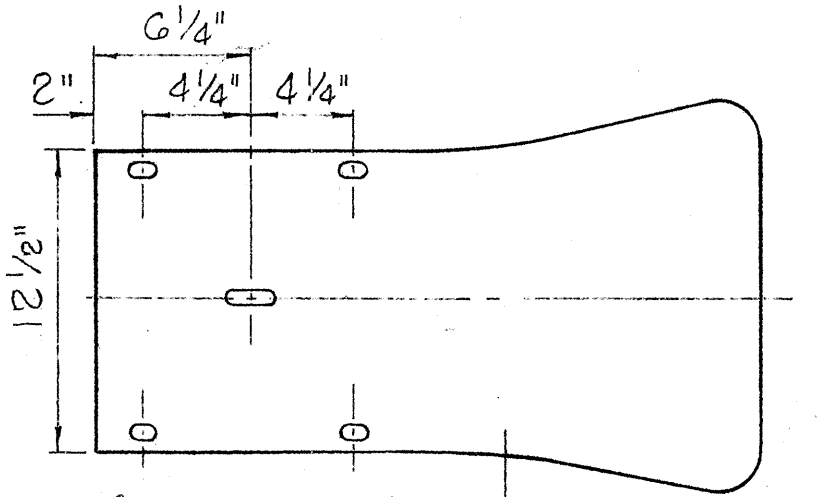
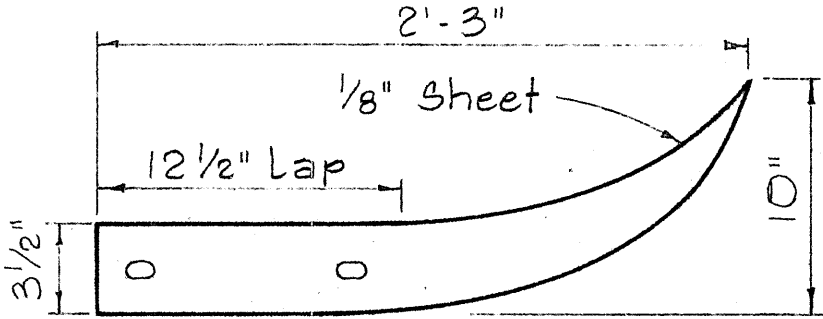
HEXAGON NUT

Scale: Full Size



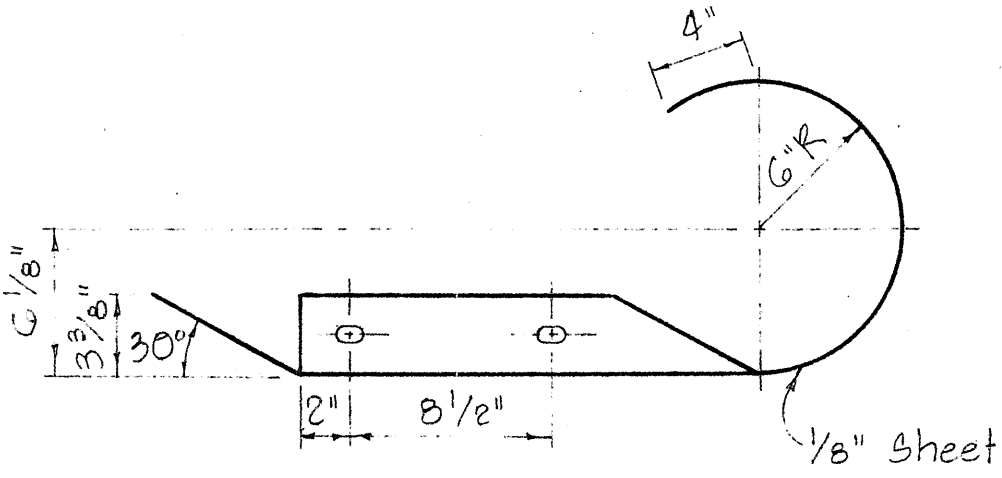
SPECIAL END SHOE

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



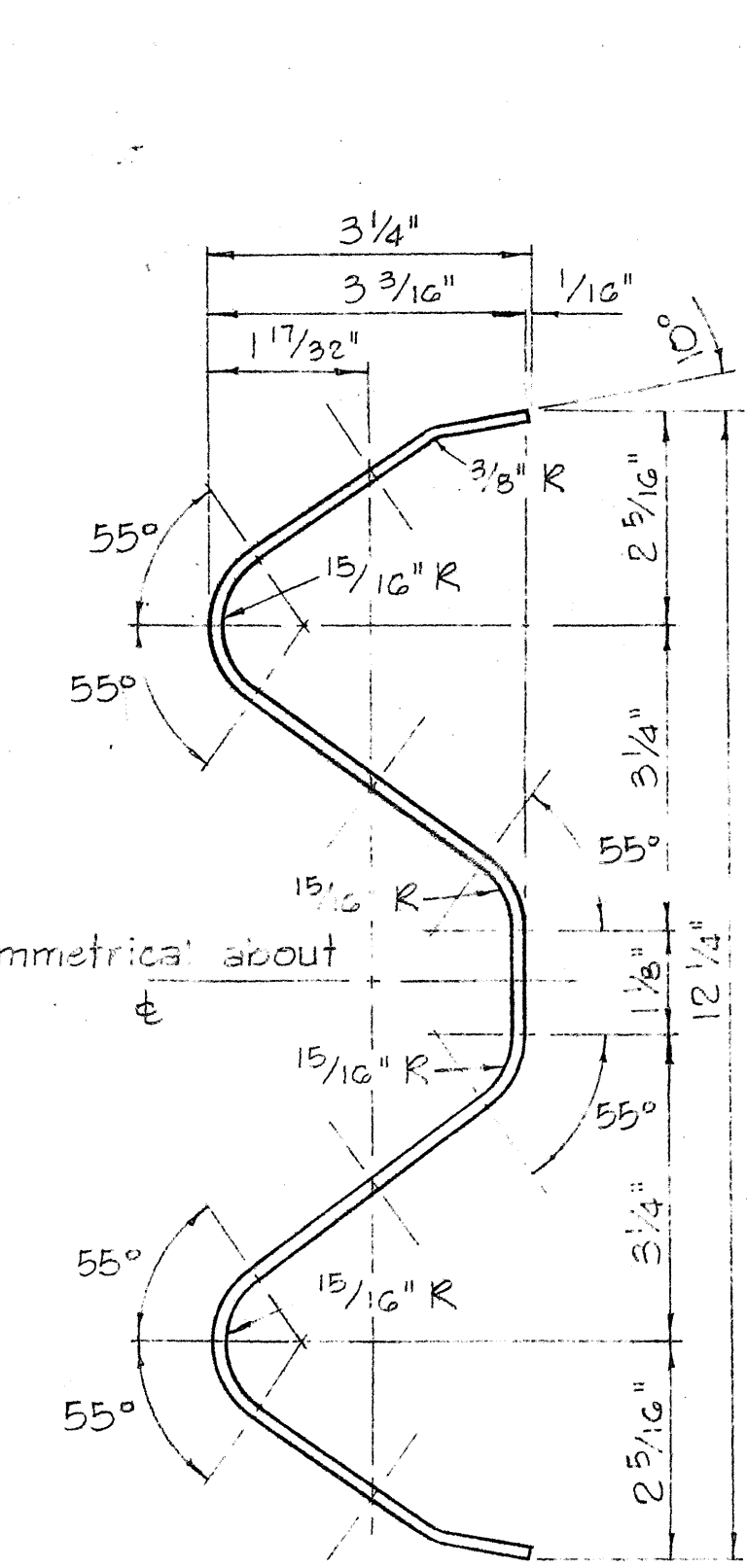
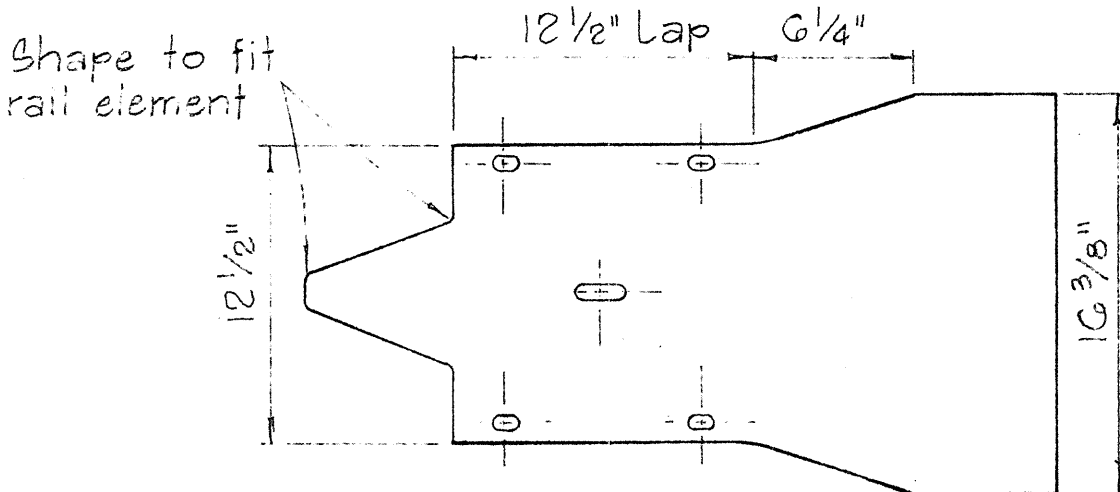
FLARED END

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



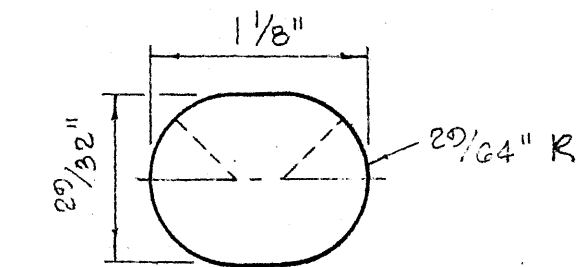
CURVED END

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



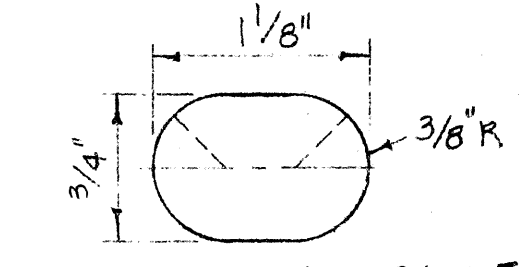
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

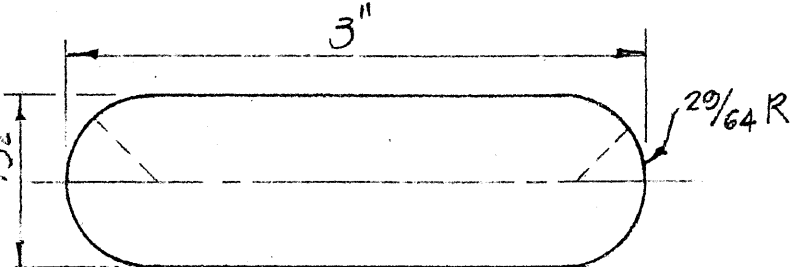


SPlice BOLT SLOT

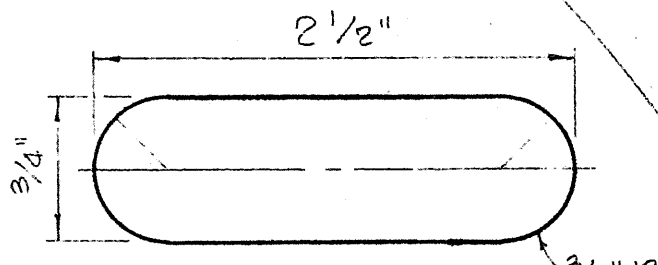
Scale: Full Size



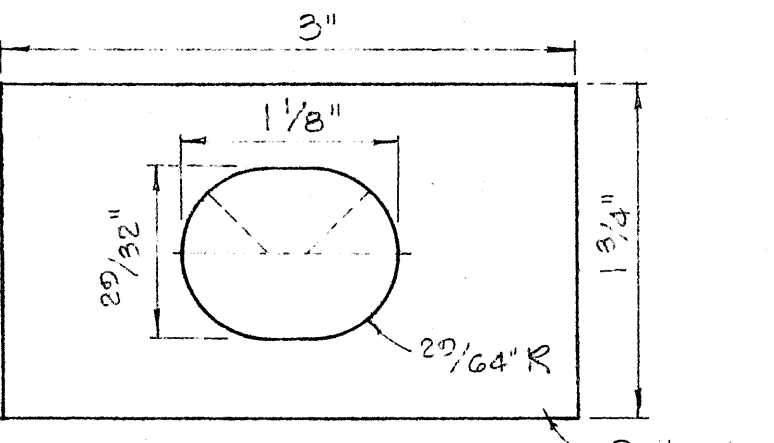
SPlice BOLT SLOT FOR ALL ENDS



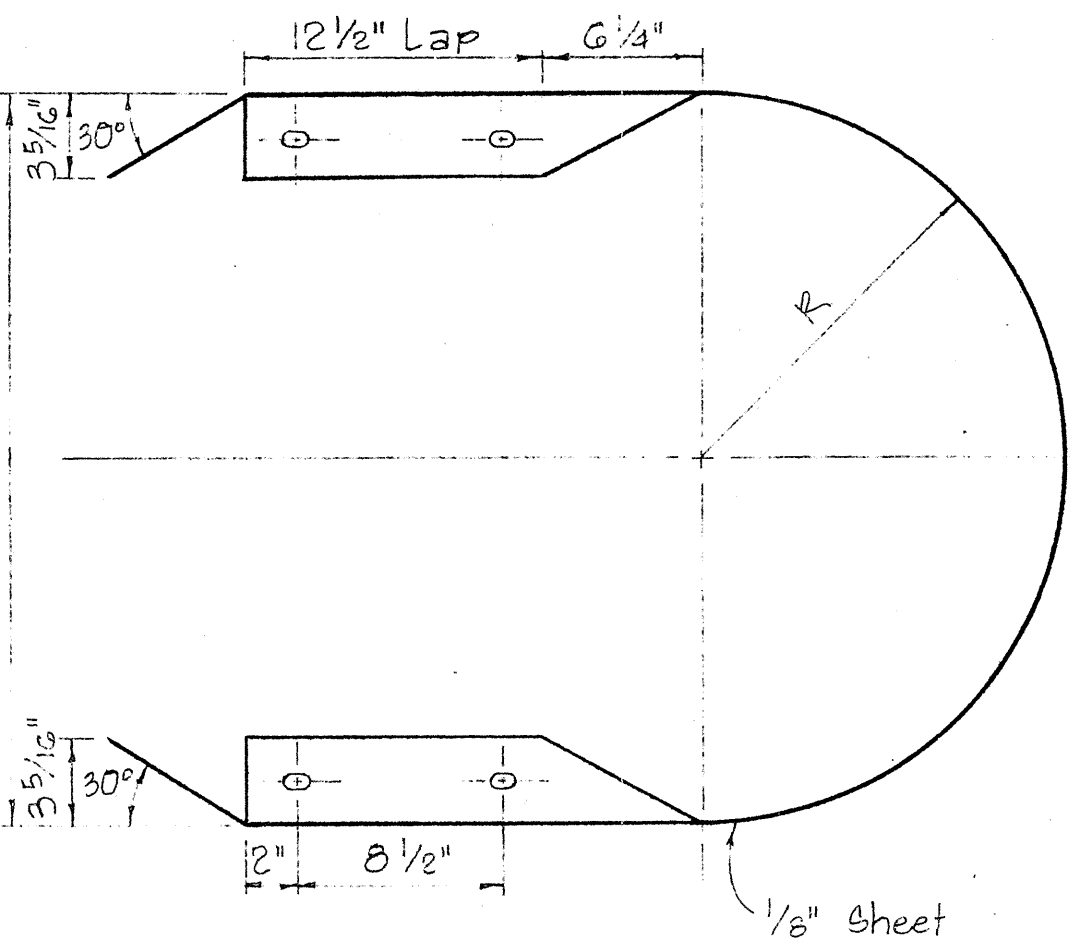
SPlice BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT

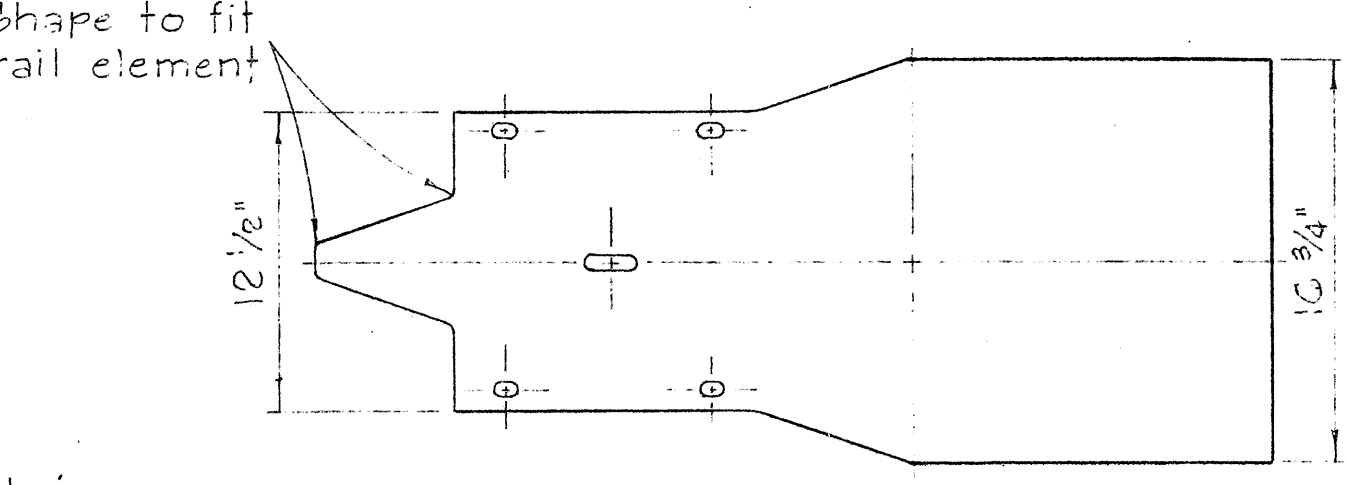


RAIL WASHER

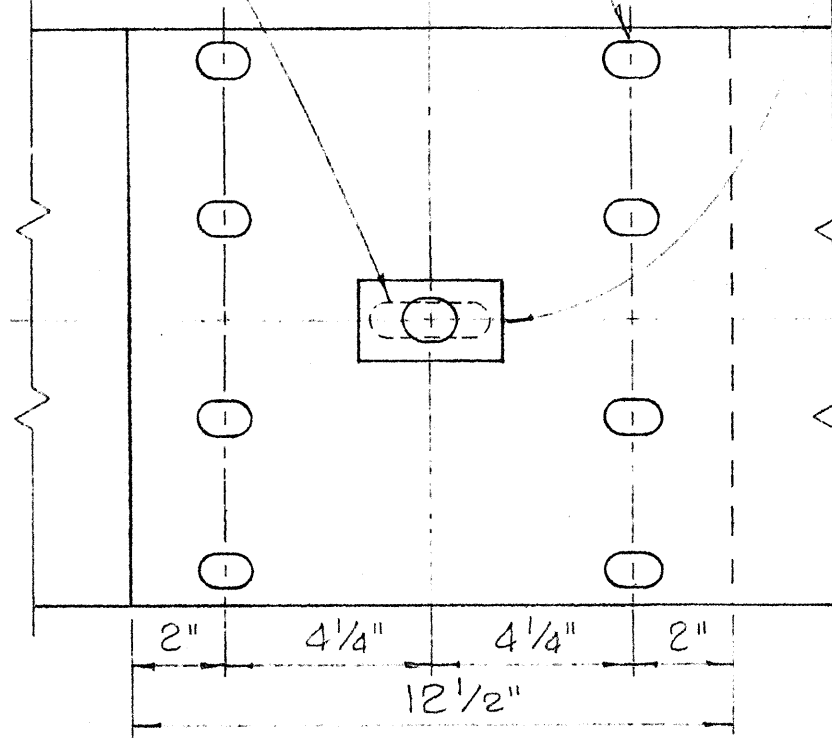


MEDIAN END

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



MEDIAN END DIMENSIONS		
TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	25 3/4"	14 1/8"
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"



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.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

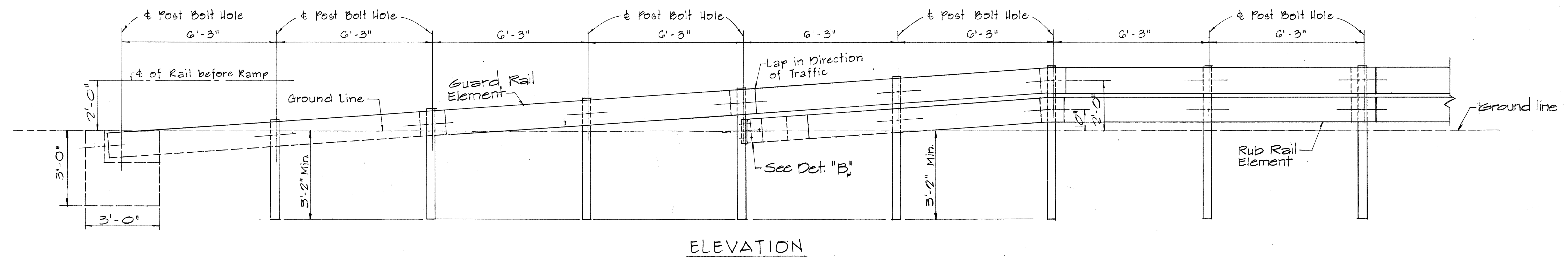
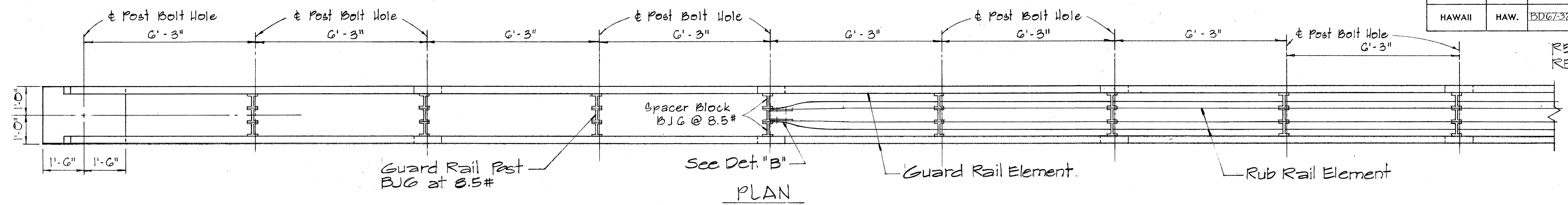
STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted August, 1968

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	B067-320	1969	28	109

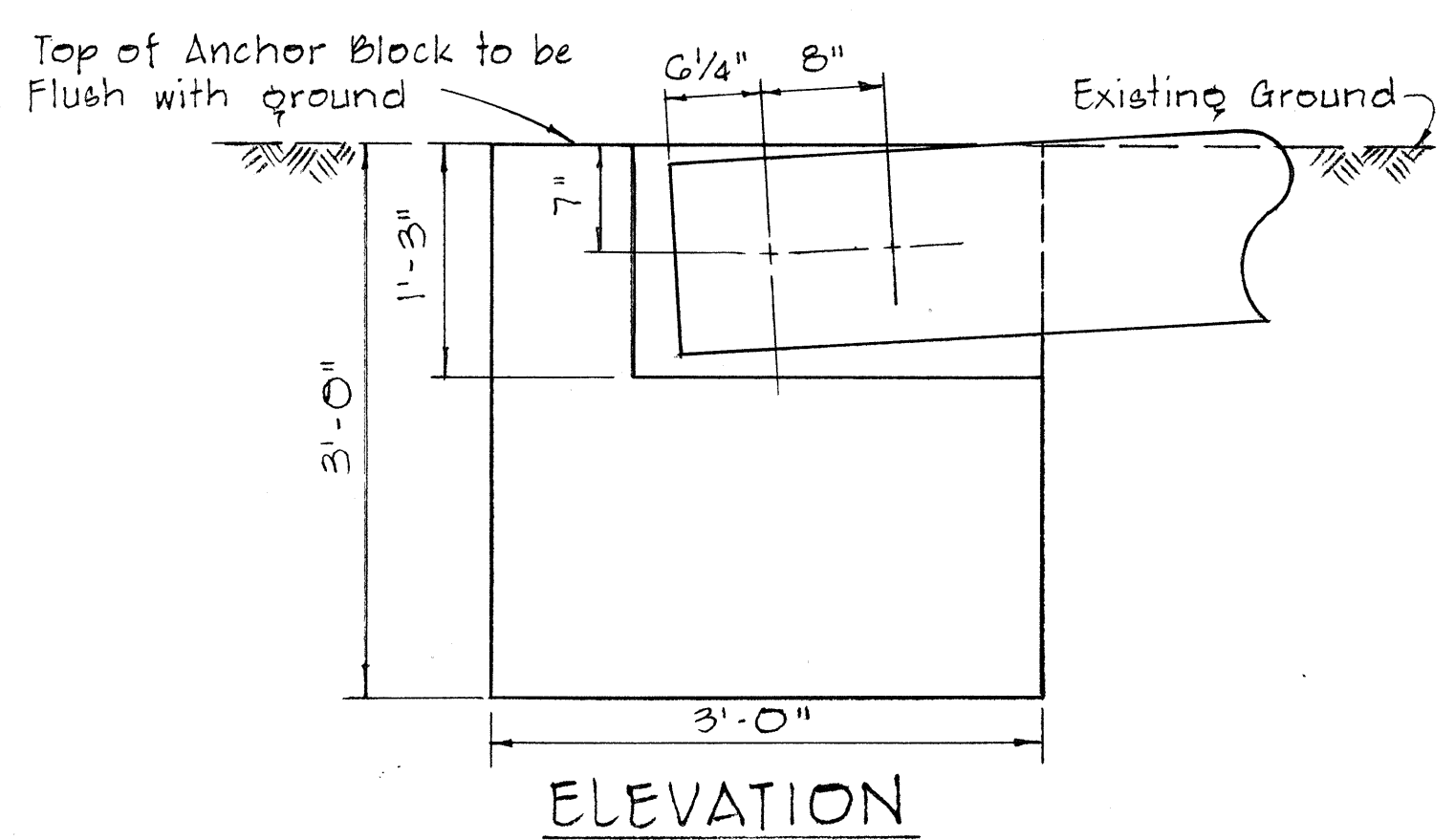
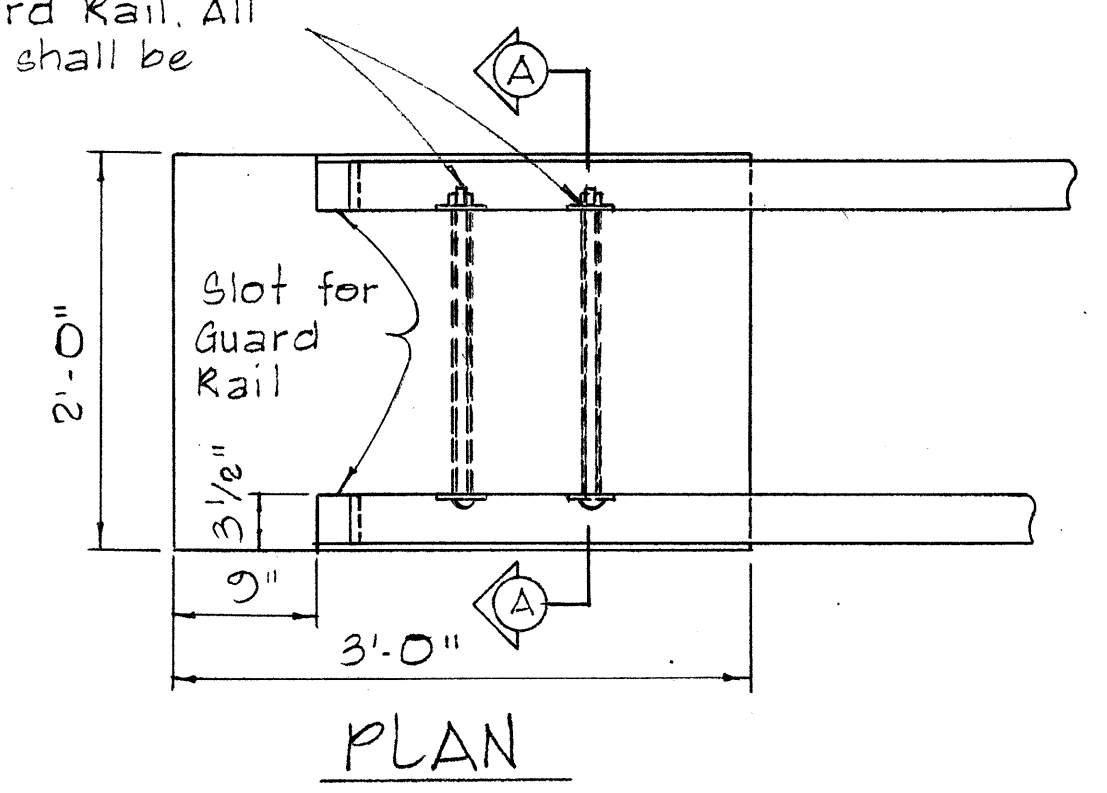
REVISED: 12-11-68
REVISED: 2-24-69



STRAIGHT APPROACH - RAMP END ANCHORAGE (MEDIAN)

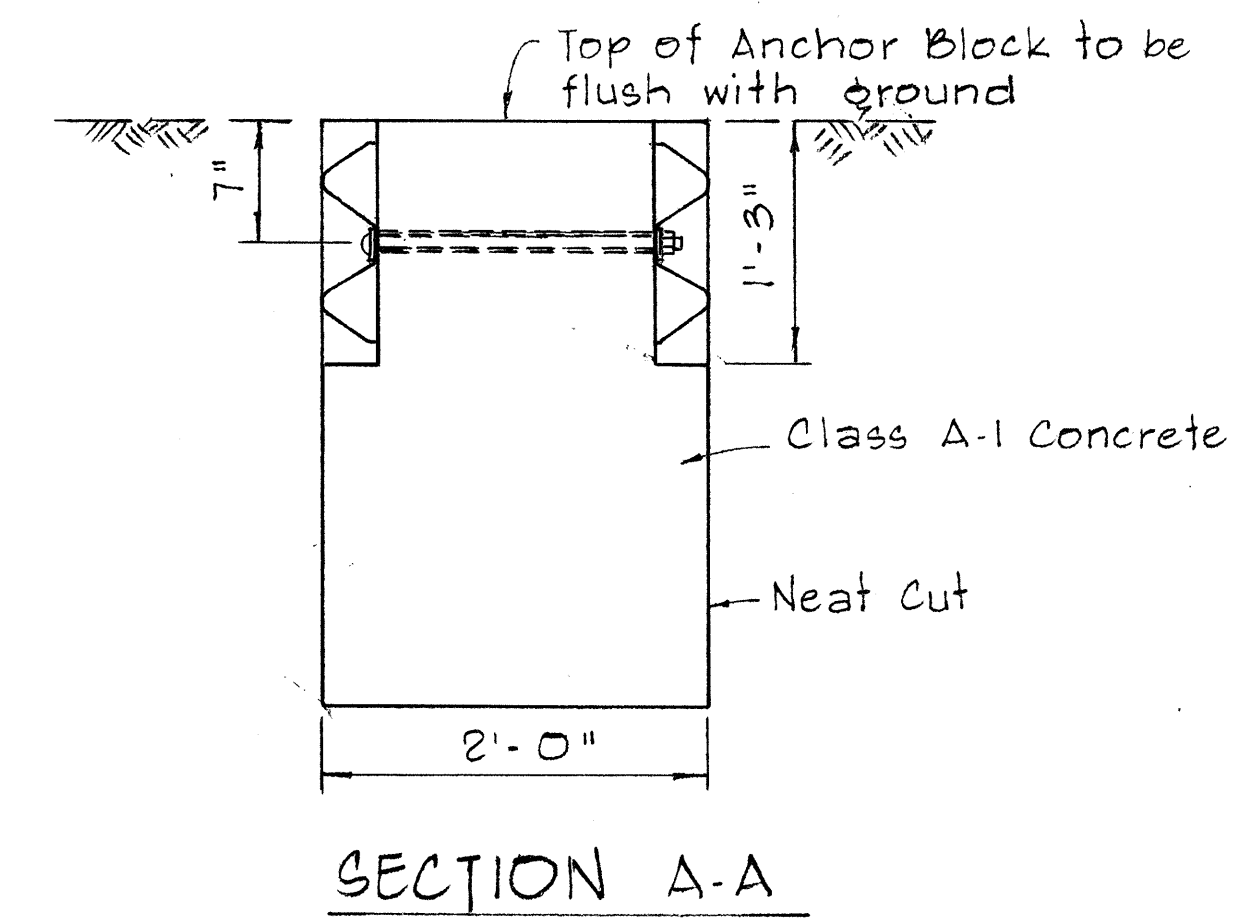
Scale: 1/2" = 1'-0"

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

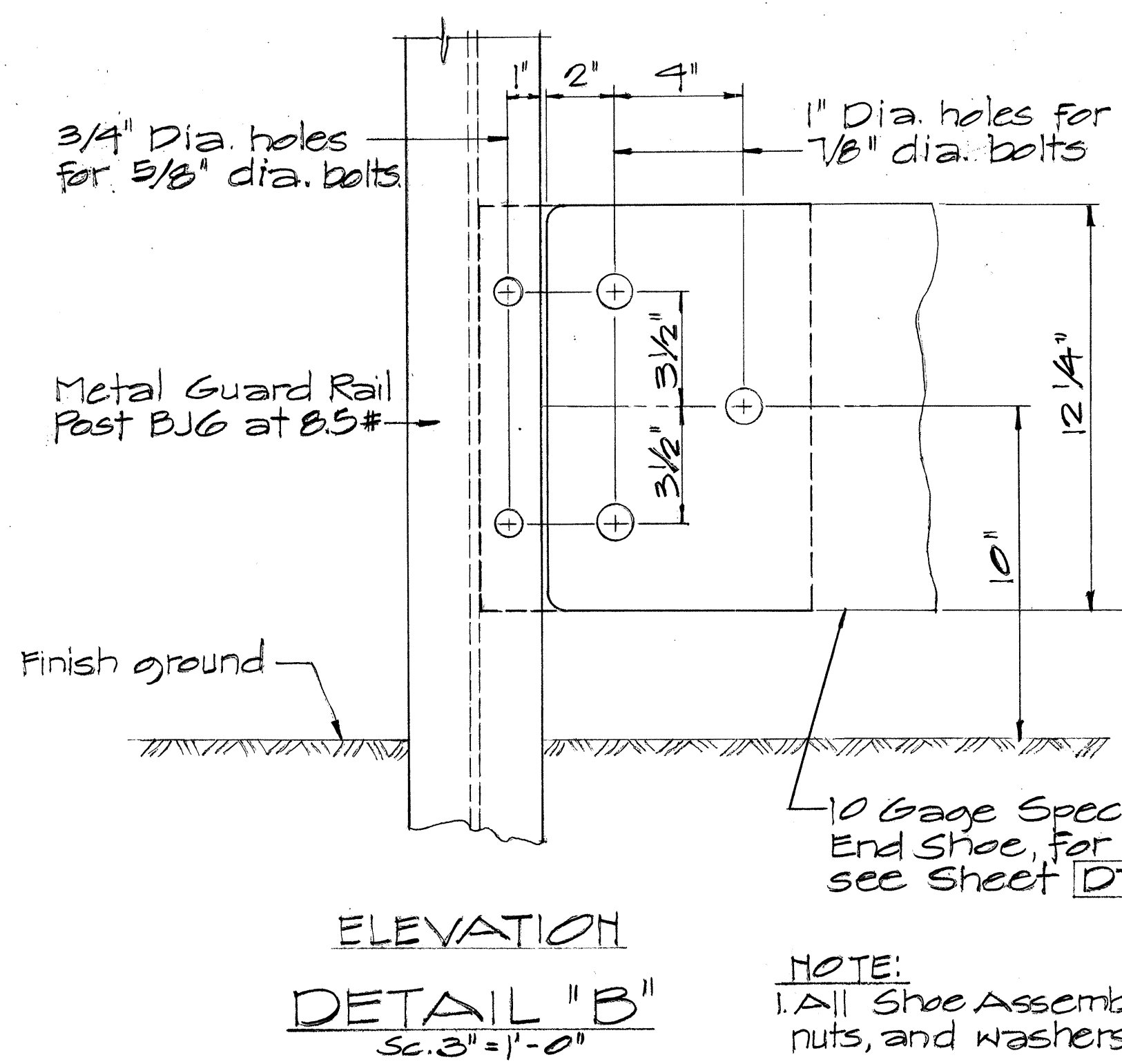


CONCRETE ANCHOR BLOCK FOR RAMP END

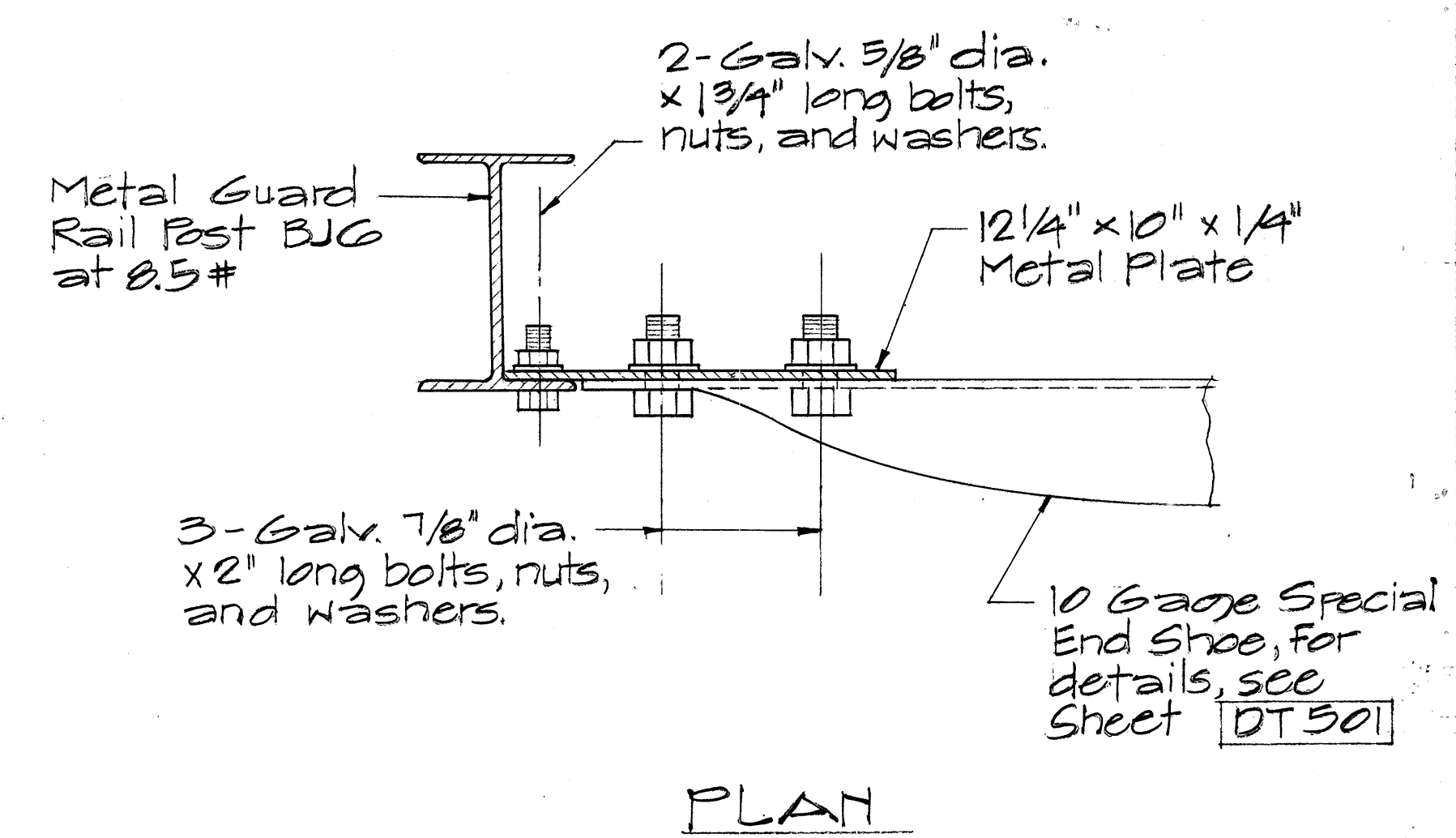
Scale: 1" = 1'-0"



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



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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAIL
GUARD RAIL
RAMP END ANCHORAGE

Scale: as Noted

August, 1968

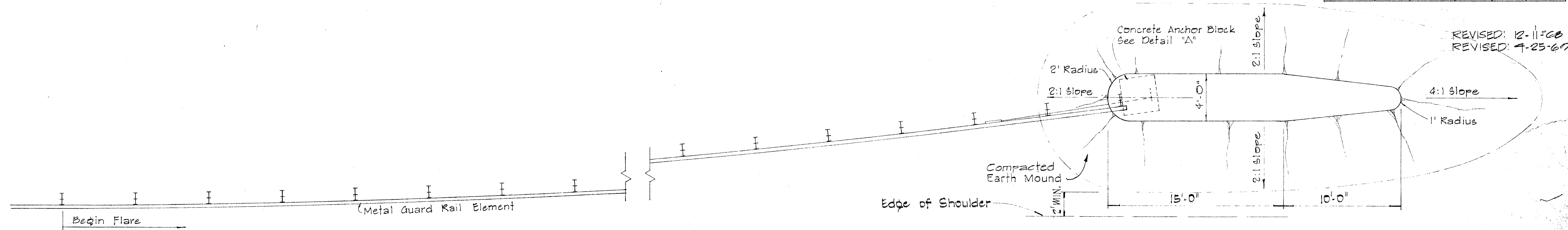
SHEET No. 4 OF 10 SHEETS

DT 501

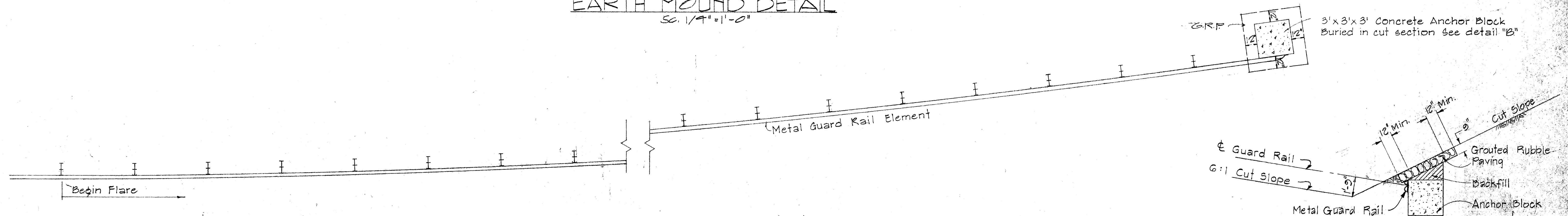
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	No.

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BD67-320	1967	27	100

REVISED: 12-11-68
REVISED: 7-25-67

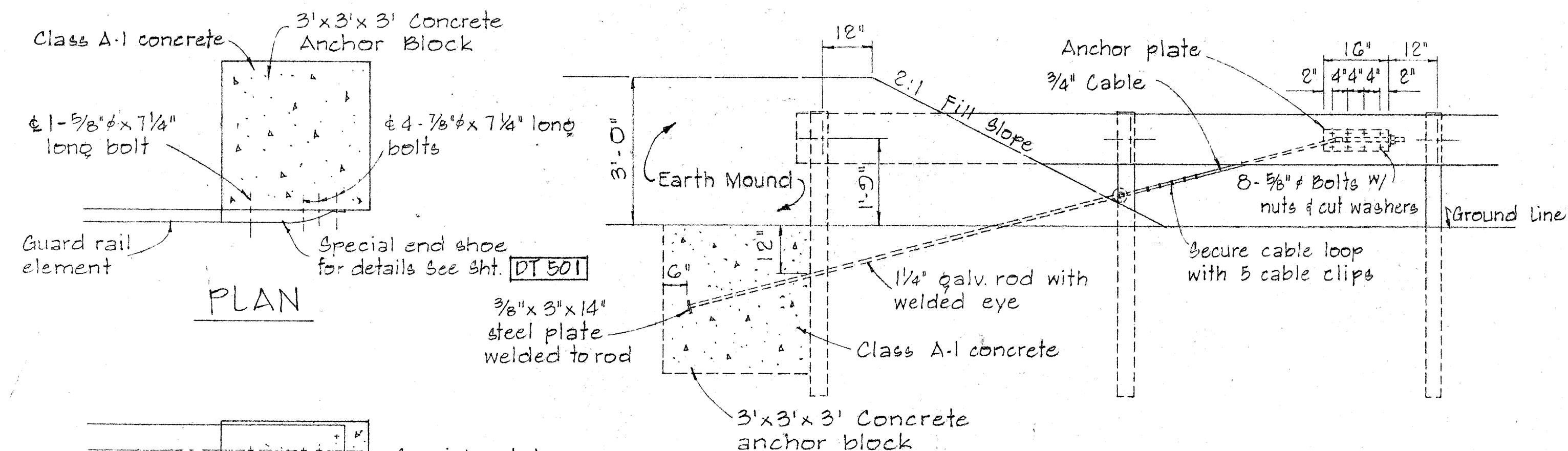


EARTH MOUND DETAIL
Scale: 1/4" = 1'-0"

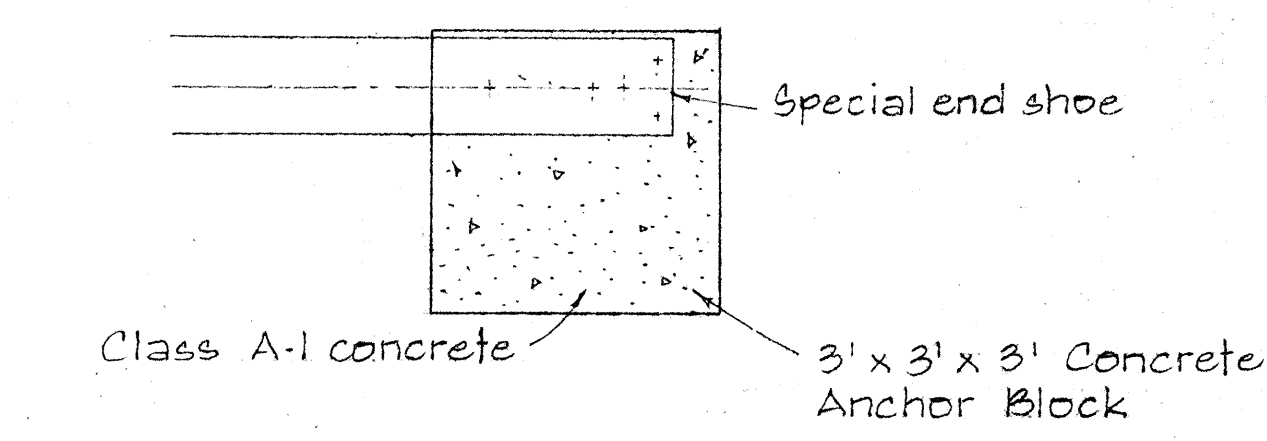


ANCHOR BLOCK IN CUT SECTION
Scale: 1/4" = 1'-0"

DETAIL "B"
Not to Scale



PLAN

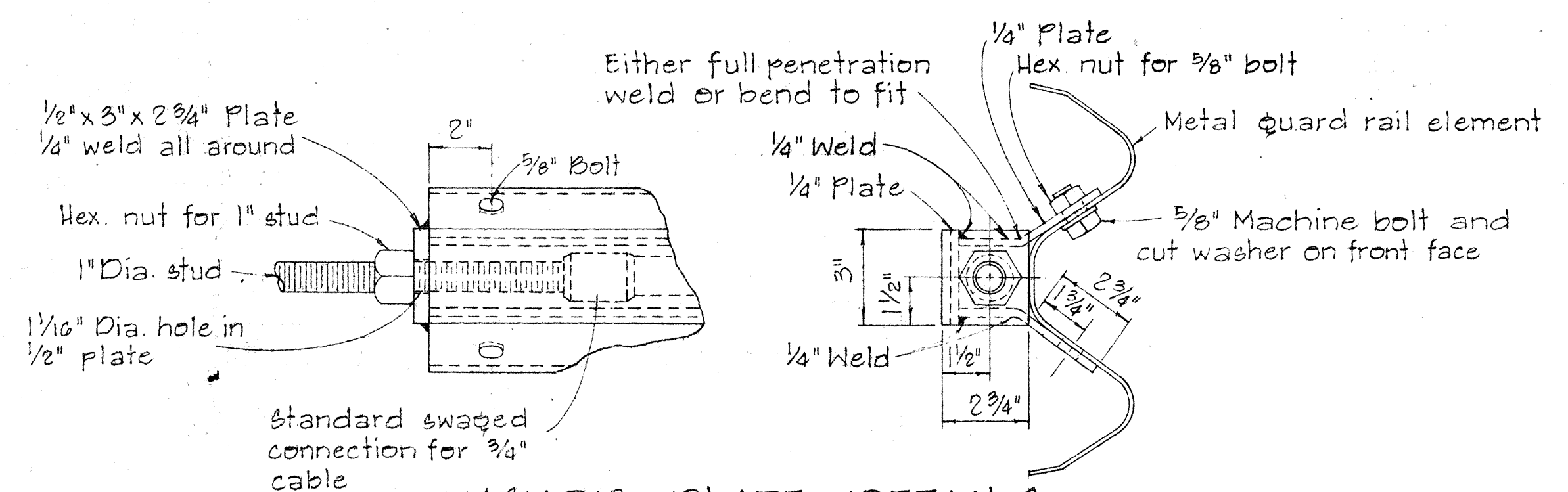


ELEVATION

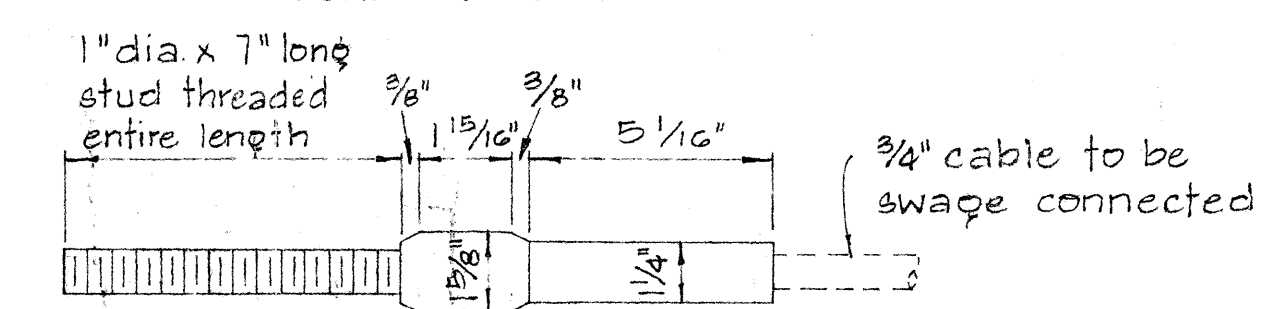
ANCHOR BLOCK DETAIL
Scale: 1/2" = 1'-0"

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

- NOTE:**
- Galvanized Anchor Rod, Metal Guard Rail and Post buried in ground shall be covered with coat of coal tar enamel
 - 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.



ANCHOR PLATE DETAILS
Scale: 1" = 3"



STANDARD SWAGED FITTING AND STUD
Scale: 1" = 3"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
EARTH MOUND AND
ANCHOR BLOCK DET.

Scale: As Shown Nov. 1968

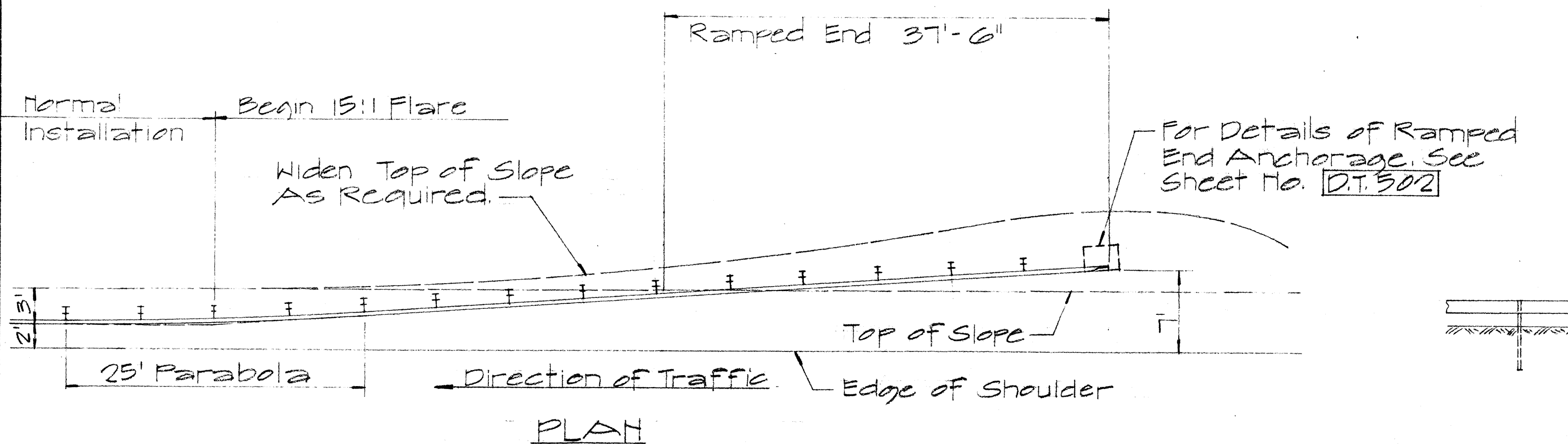
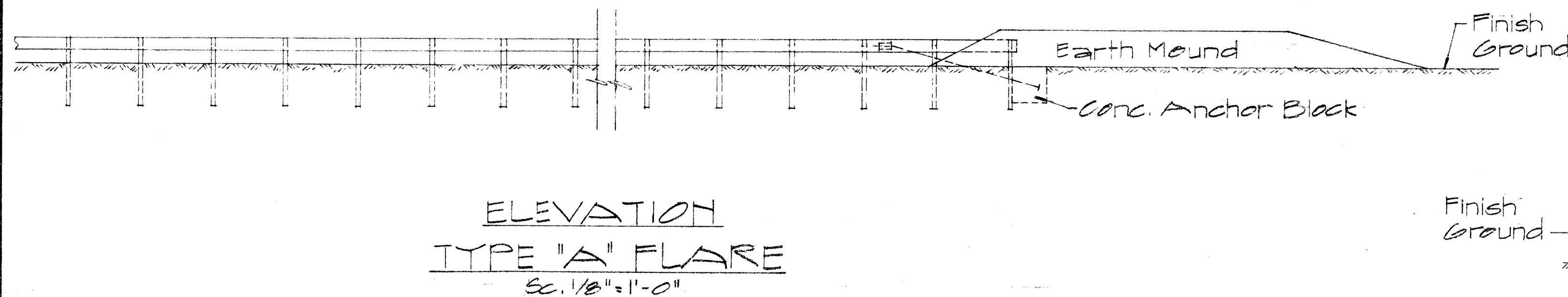
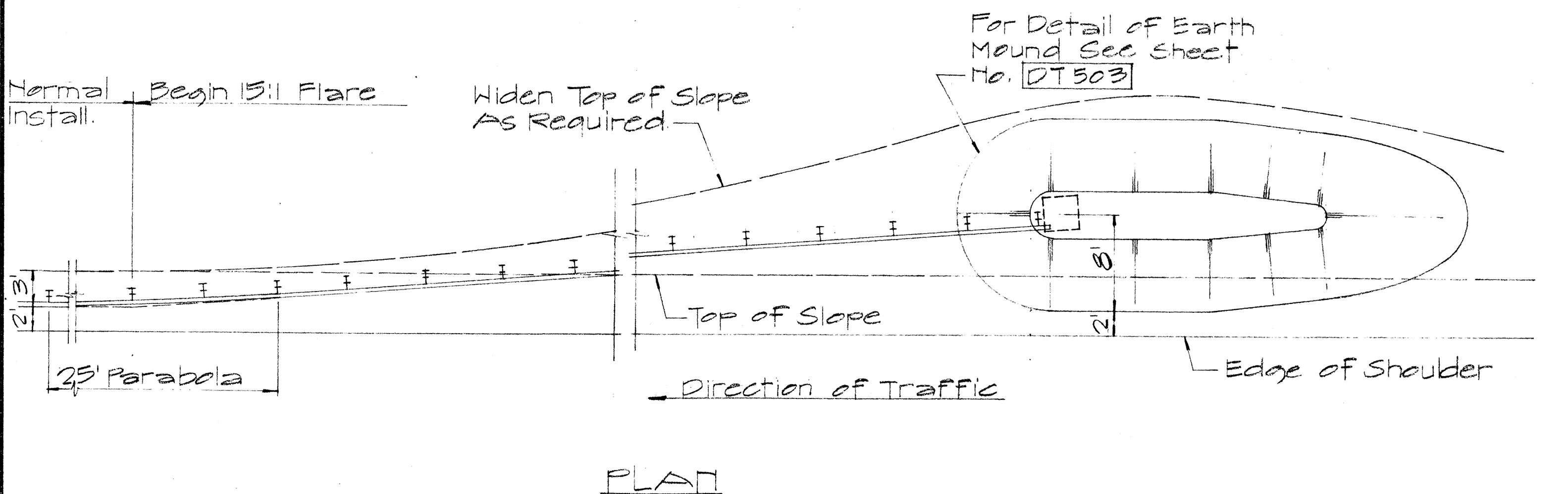
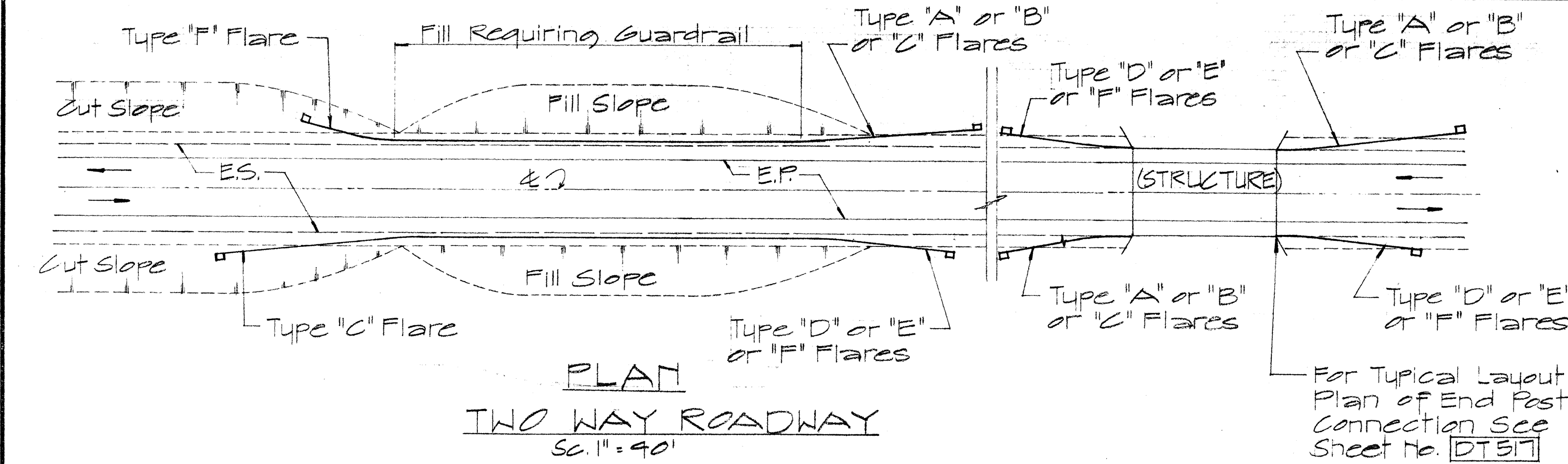
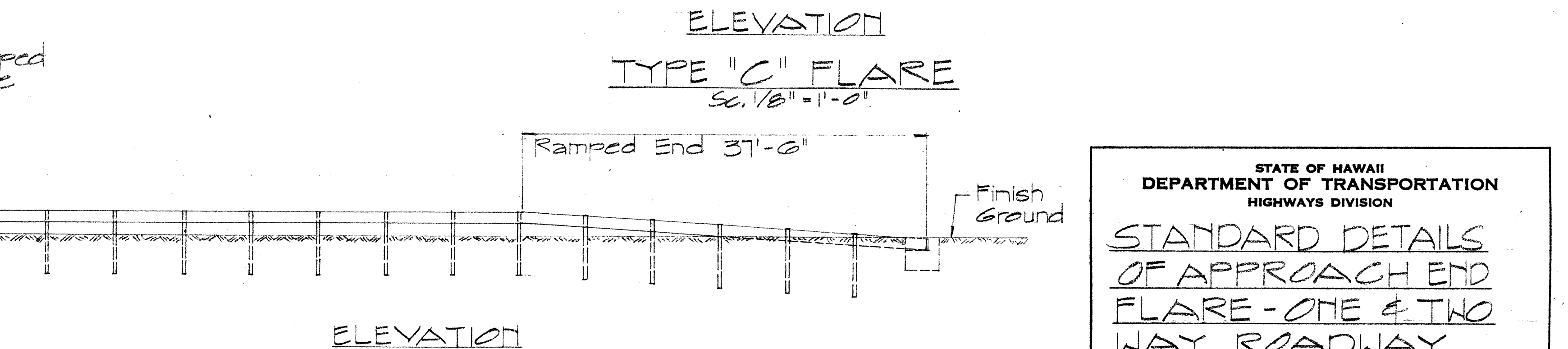
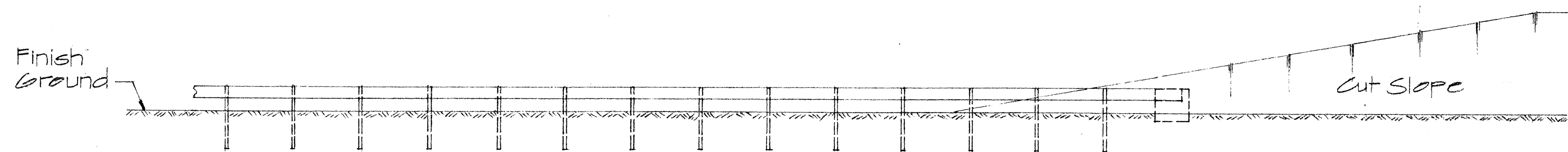
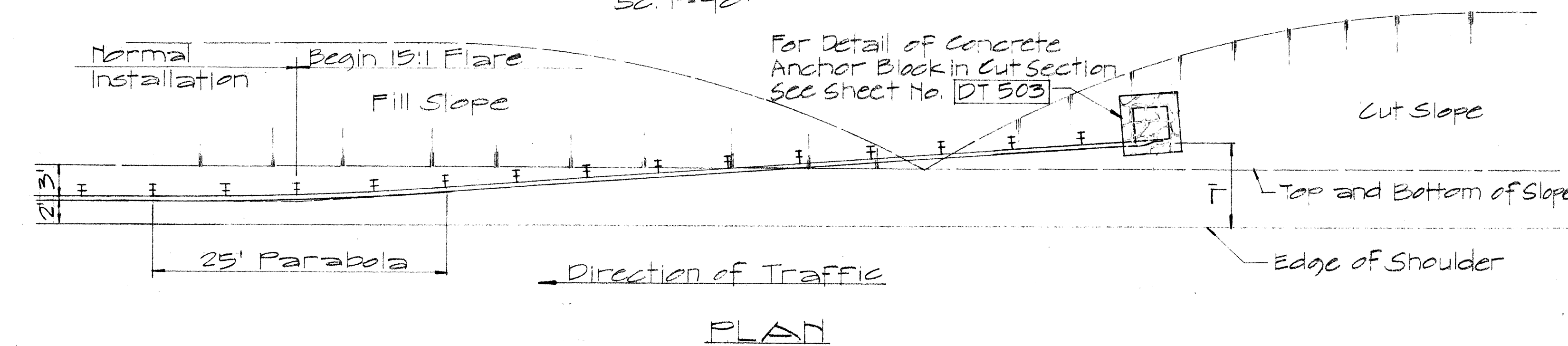
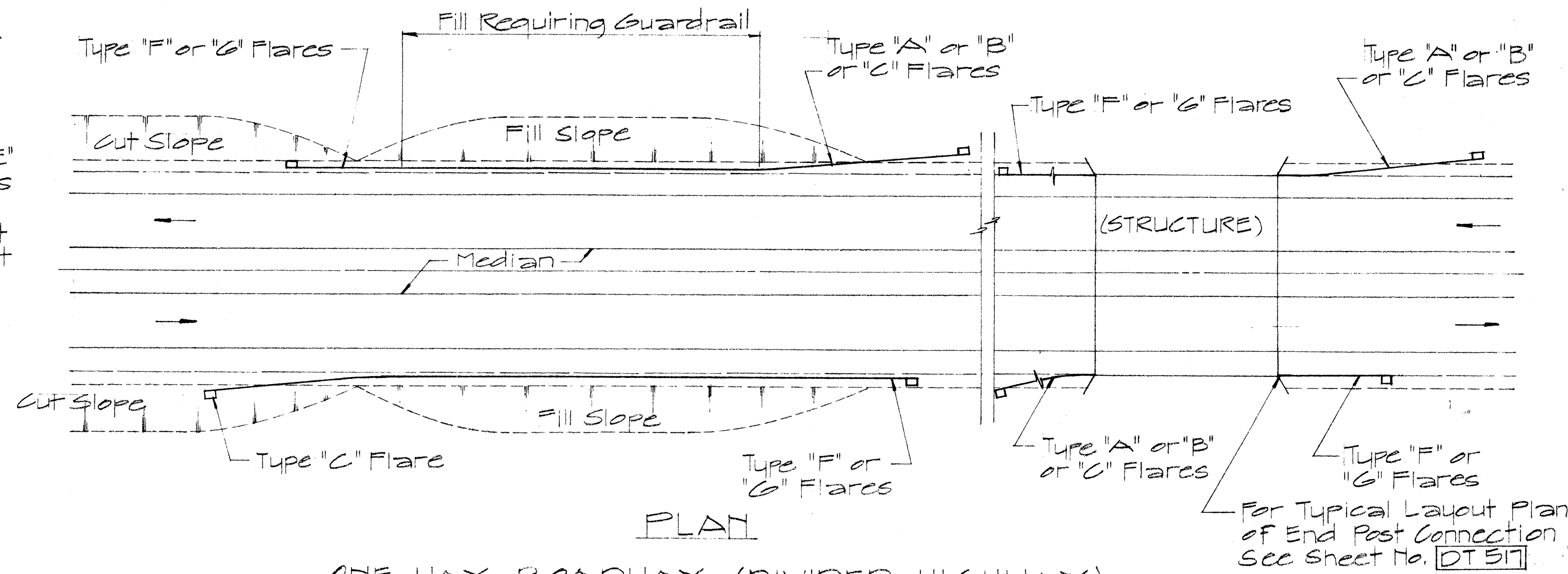
SHEET No. 5 OF 10 SHEETS DT 503

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BDGT-320	1969	30	109

NOTE:

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

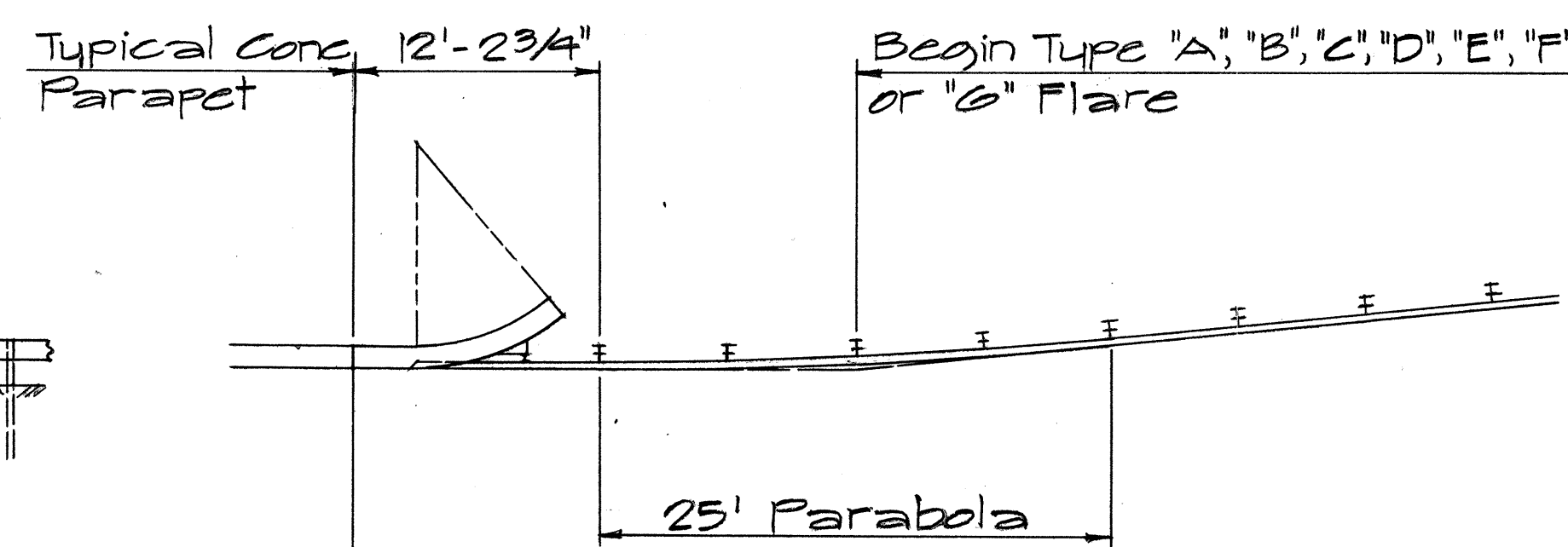
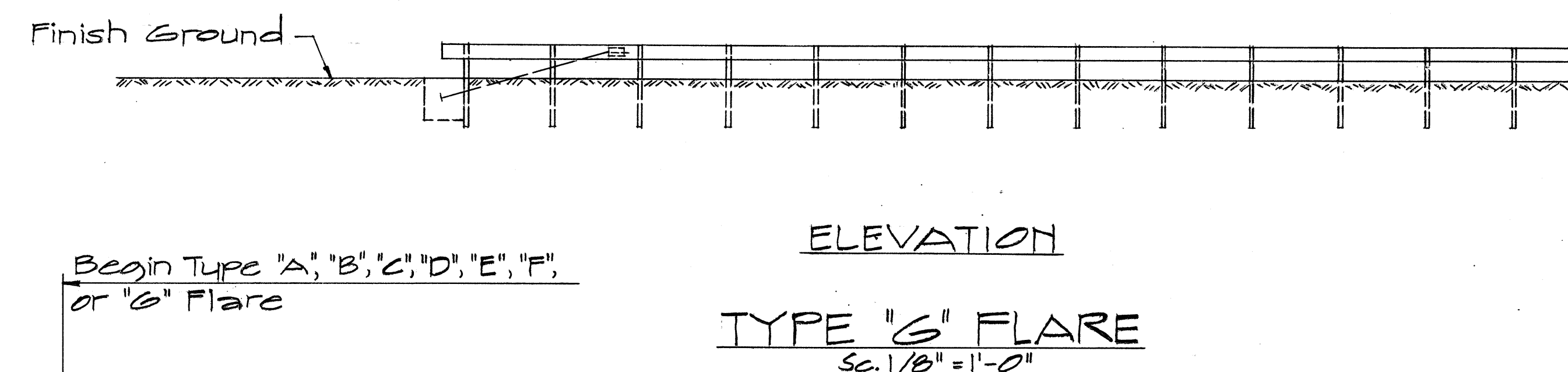
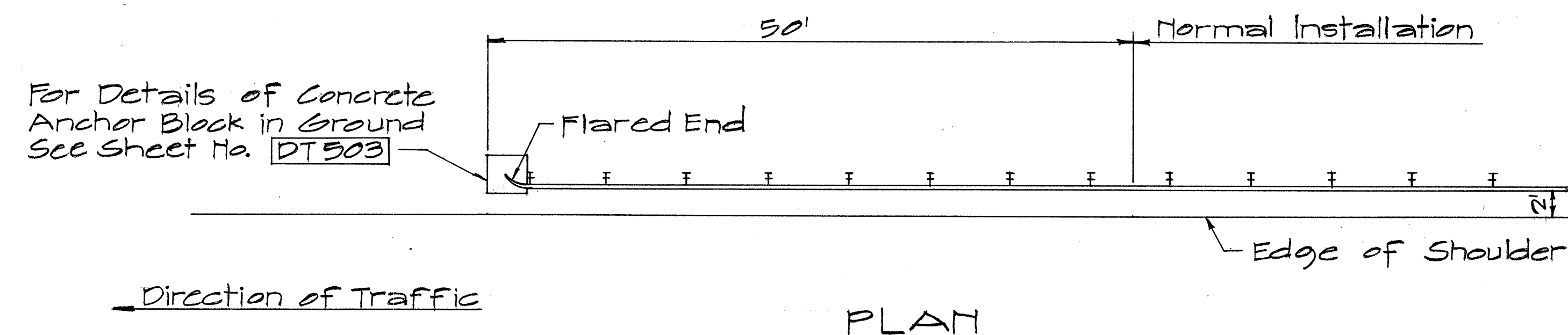
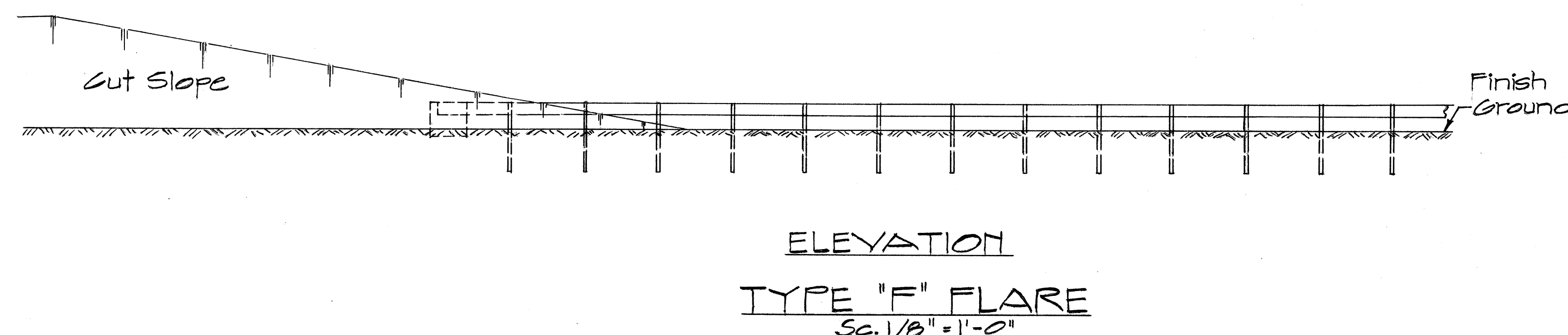
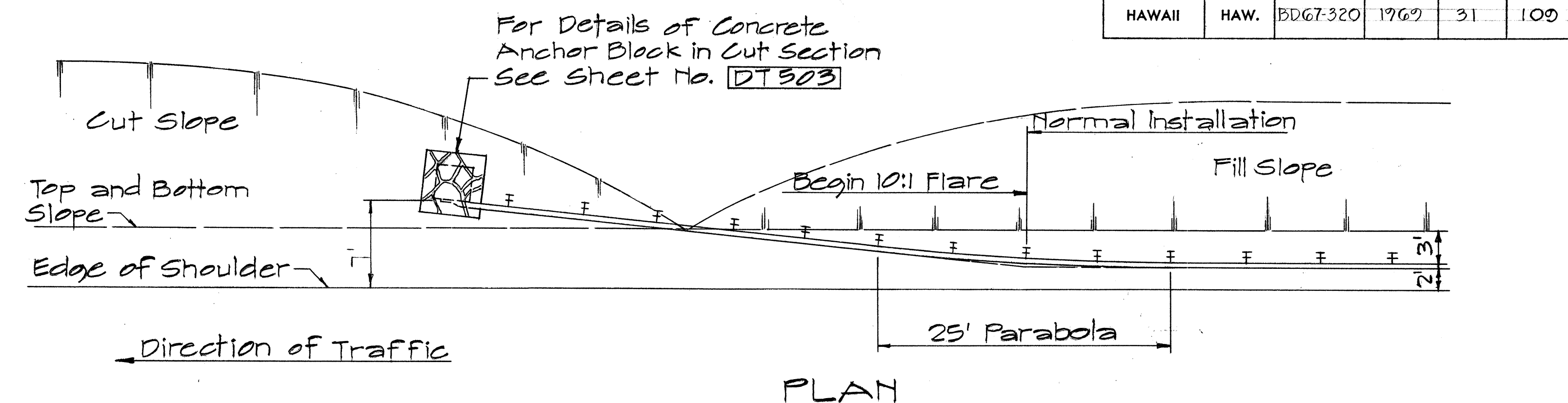
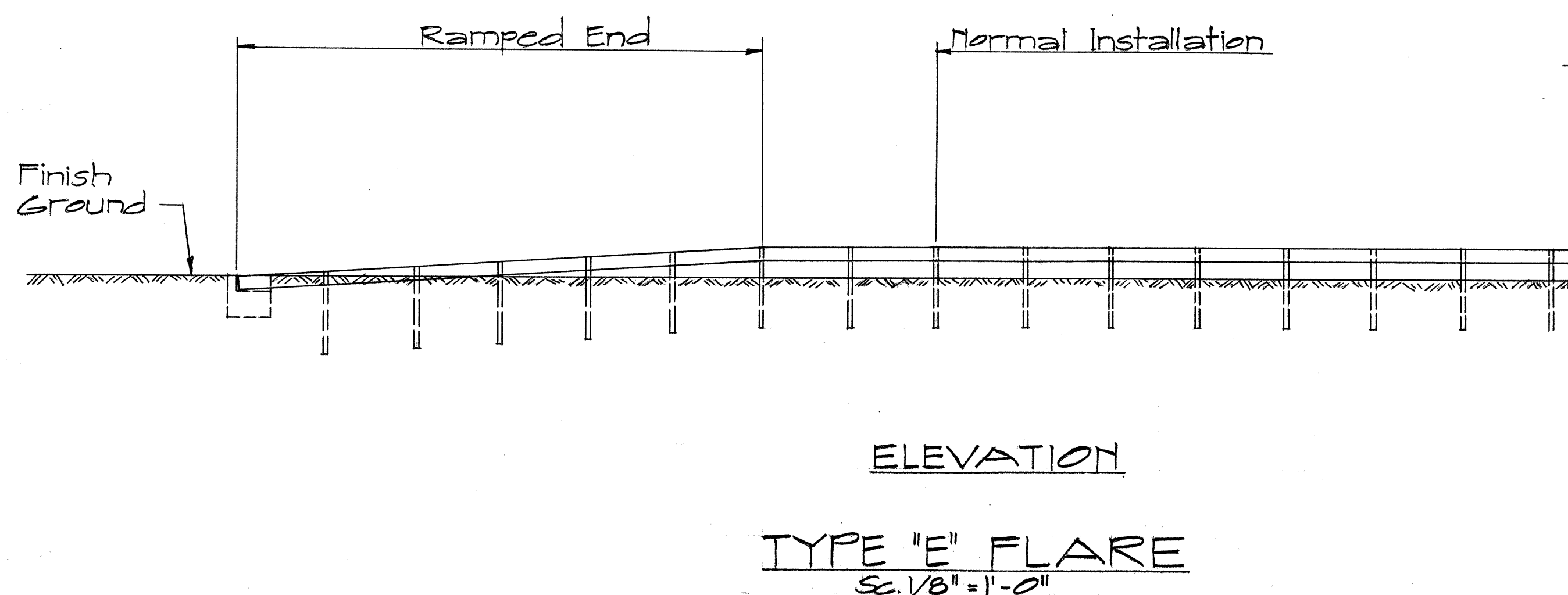
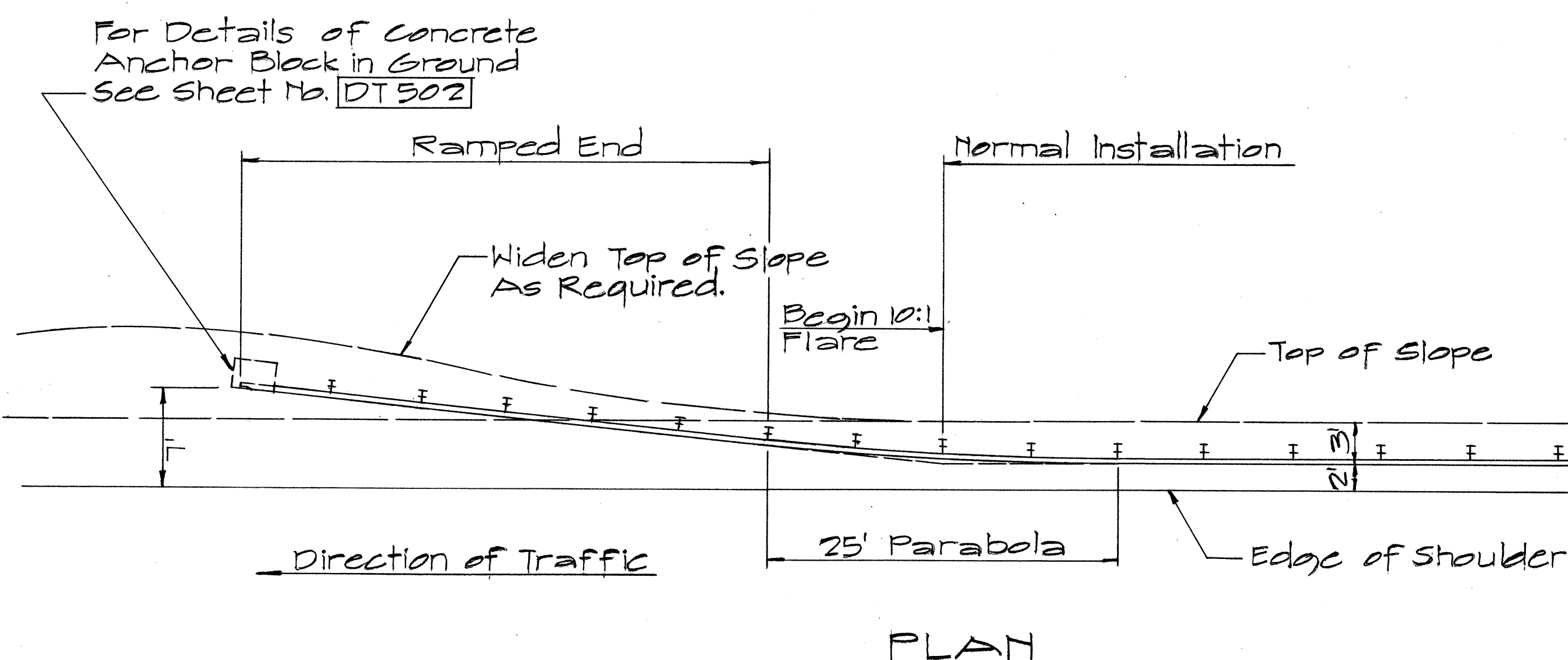
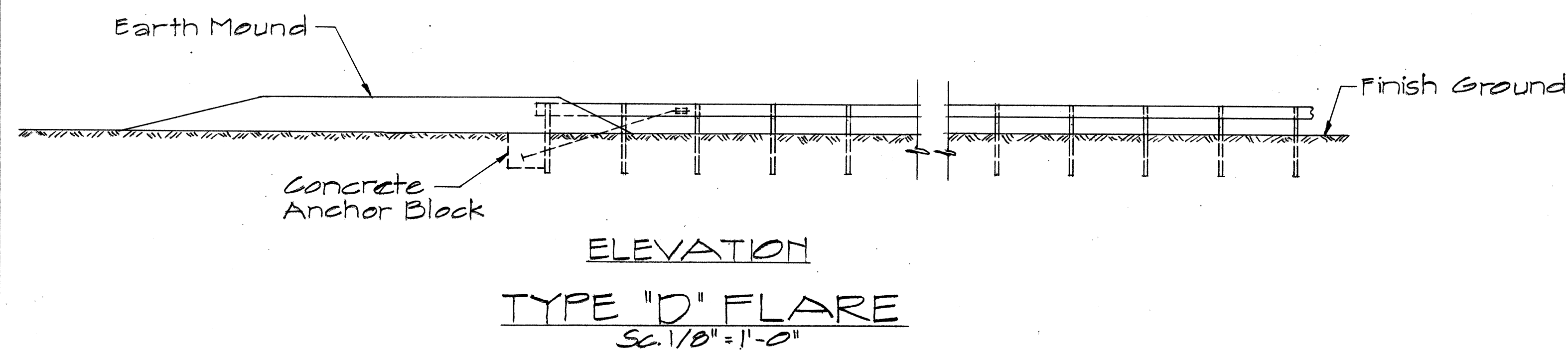
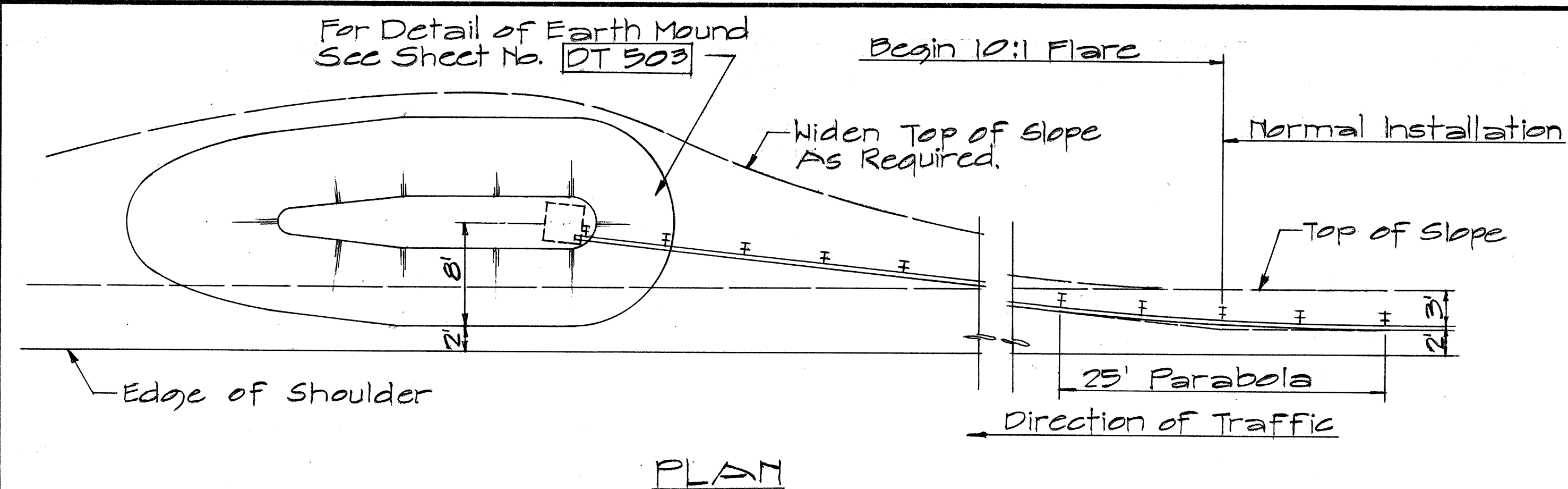


TYPE "B" FLARE
Sc. 1/8" = 1'-0"

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. 6 OF 10 SHEETS [DT 516]

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BD67-320	1967	31	109



TYPICAL LAYOUT PLAN OF END POST CONNECTION

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

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

Sc. As Noted April 1967

SHEET No. 7 OF 10 SHEETS DT 517

DATE	BY
CHECKED BY	DESIGNED BY
APPROVED BY	REVIEWED BY
NOTED BY	DATE
DATE	DATE

SHEET NO. 3 OF 3 SHEETS

Scales: As Noted Date: Mar. 1960

PROJ. NO. BD 67-350

KAHAKULI HIGHWAY

STANDARD DETAILS

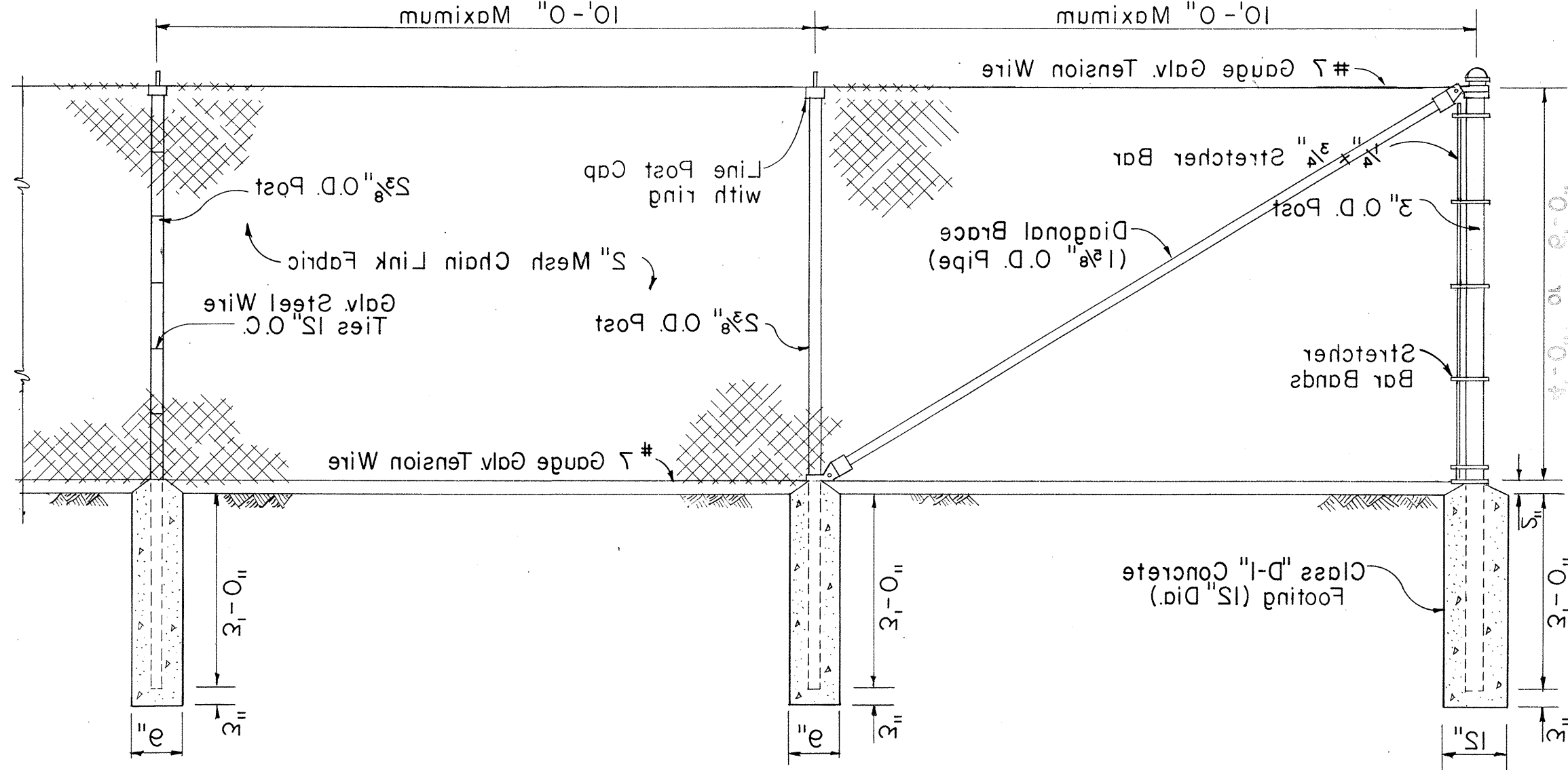
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STATE OF HAWAII

CHAIN LINK FENCE DETAILS

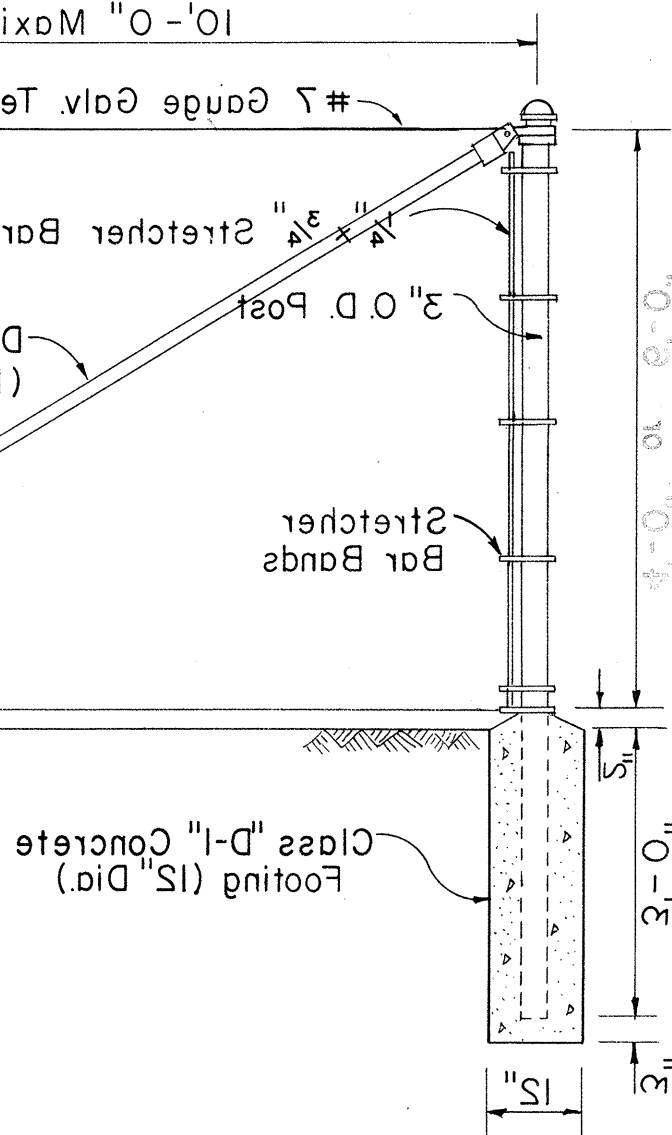
Scale: 1/2" = 1'-0"

NOTE: O.D. refers to outside diameter.

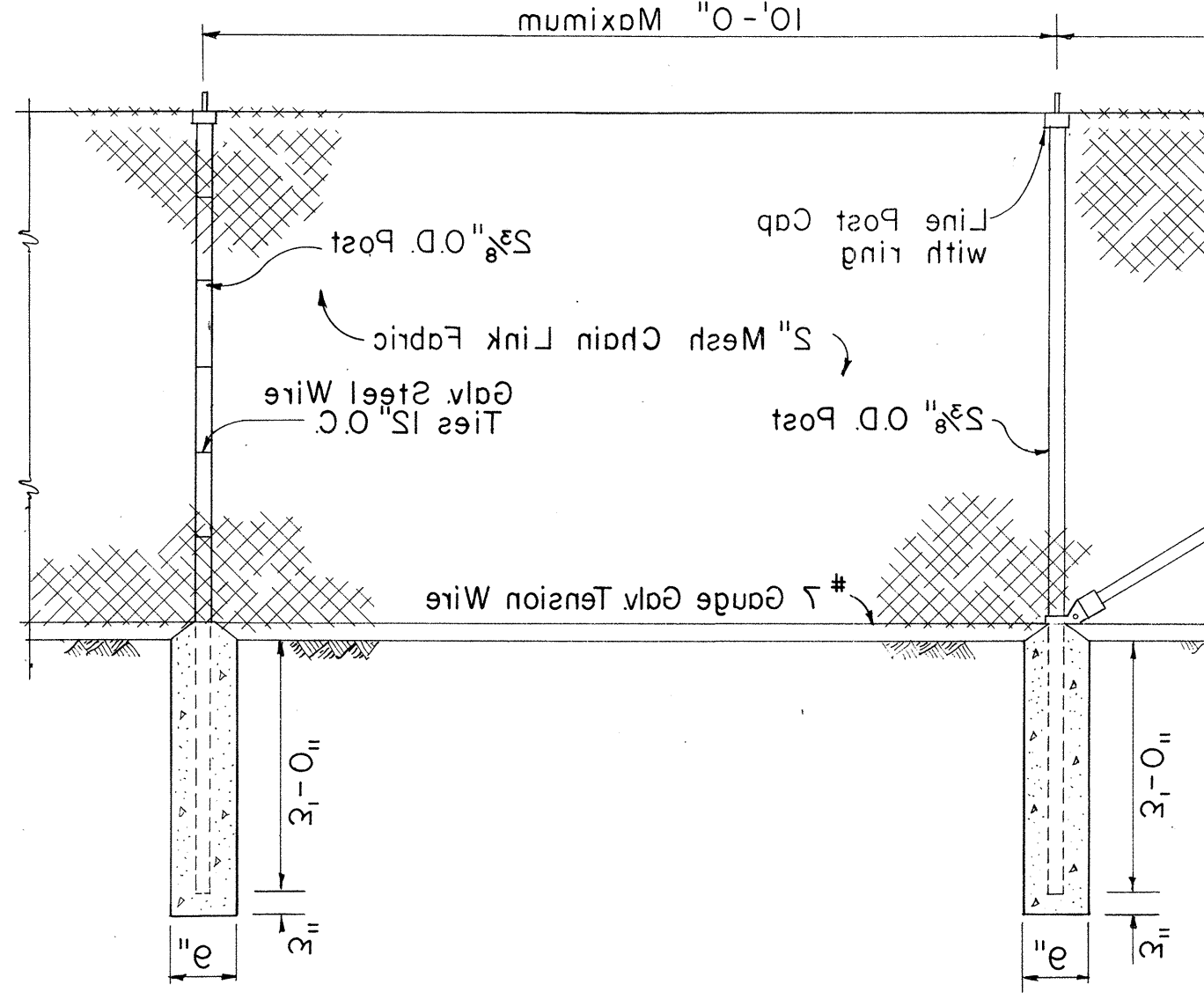
LINE POST



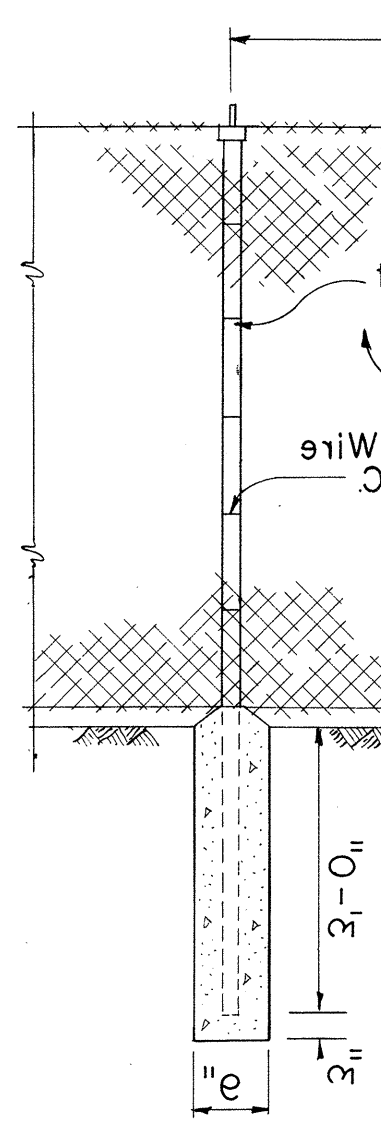
END POST



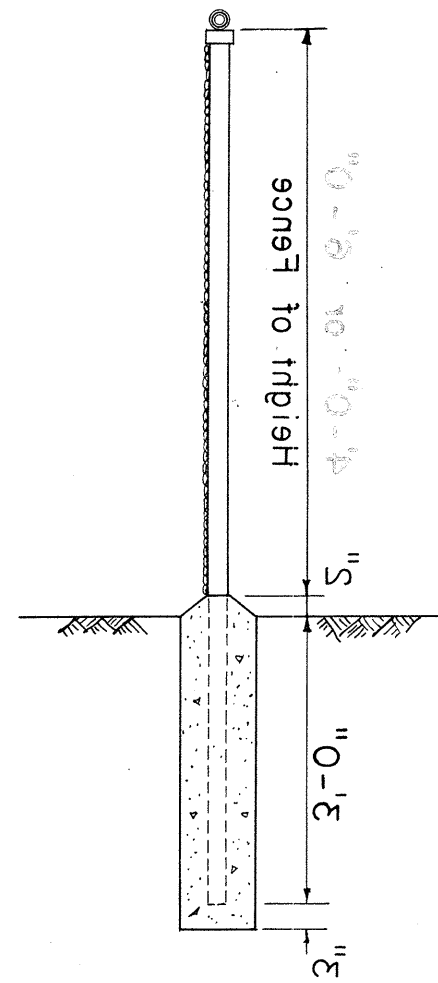
LINE POST



LINE POST



TYPICAL SECTION



DETAIL OF 10 FT. CHAIN LINK GATE

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

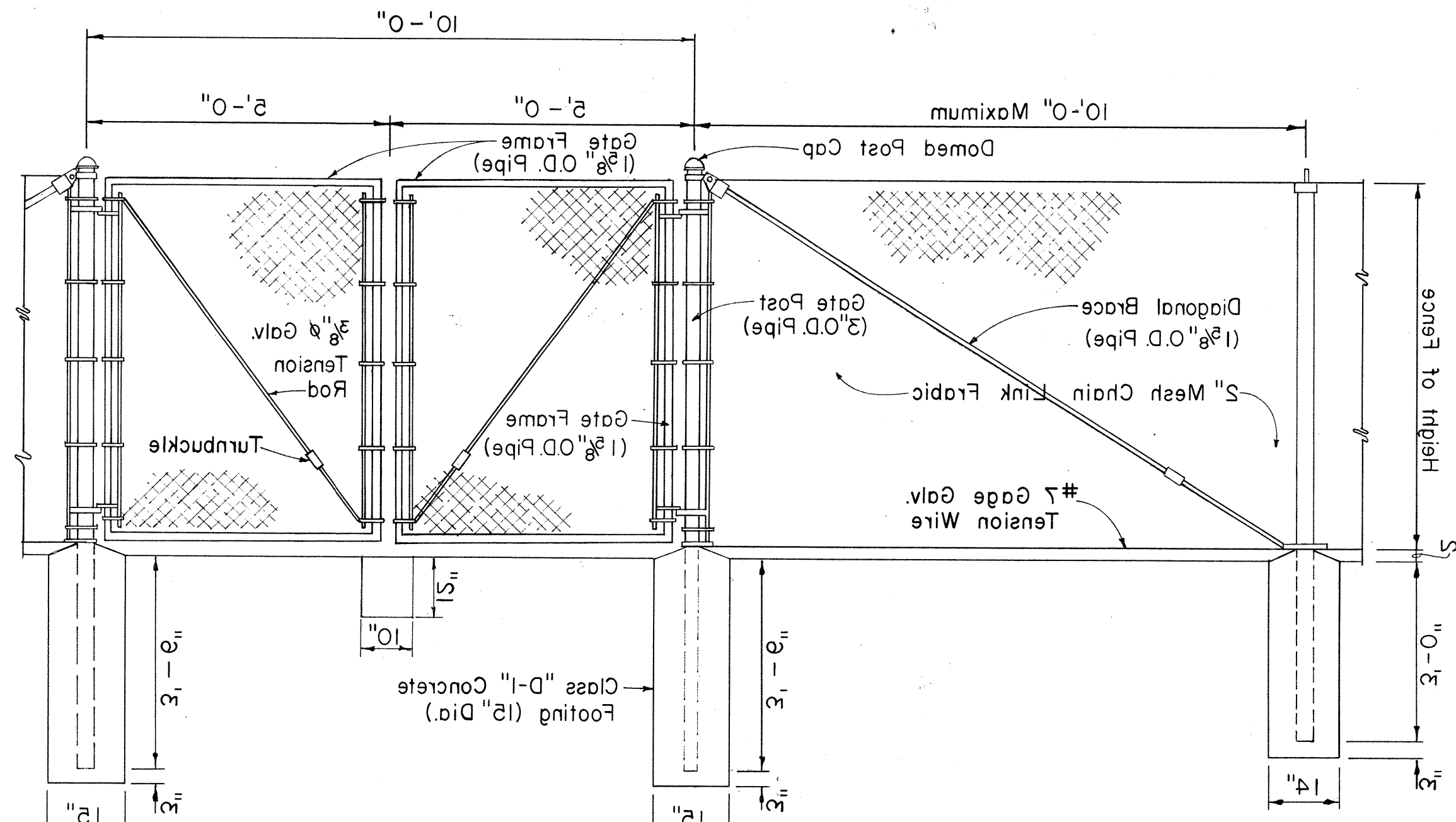
3. Fence detail not shown shall be in accordance with the Standard Specifications.

2. Gate frames shall be mitered and welded at corners.

be considered as incidental to 10 foot Chain Link Fence.

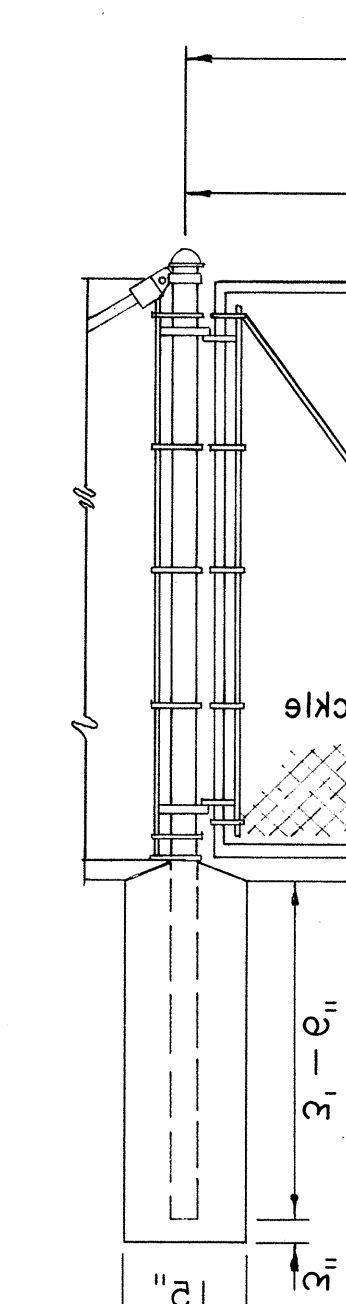
NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall

LINE POST

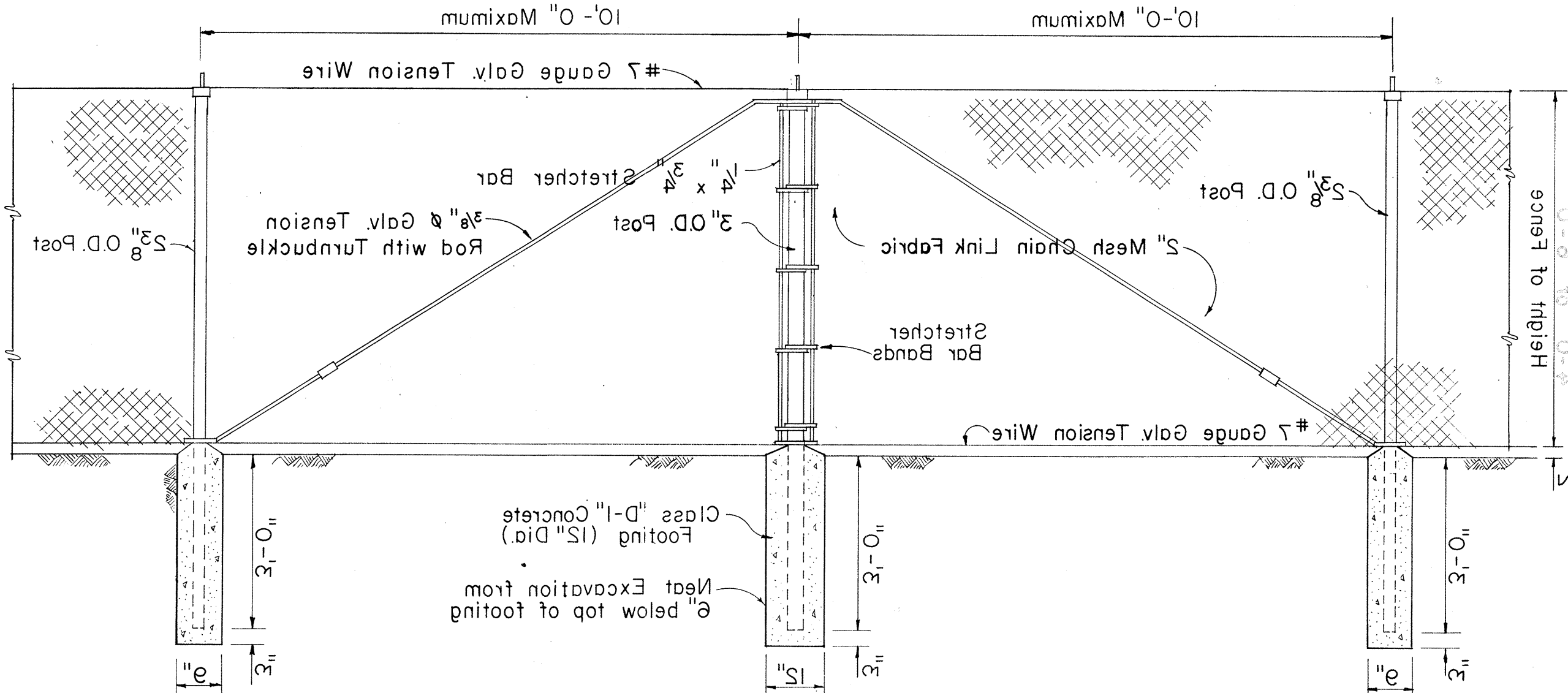


GATE POST

GATE POST

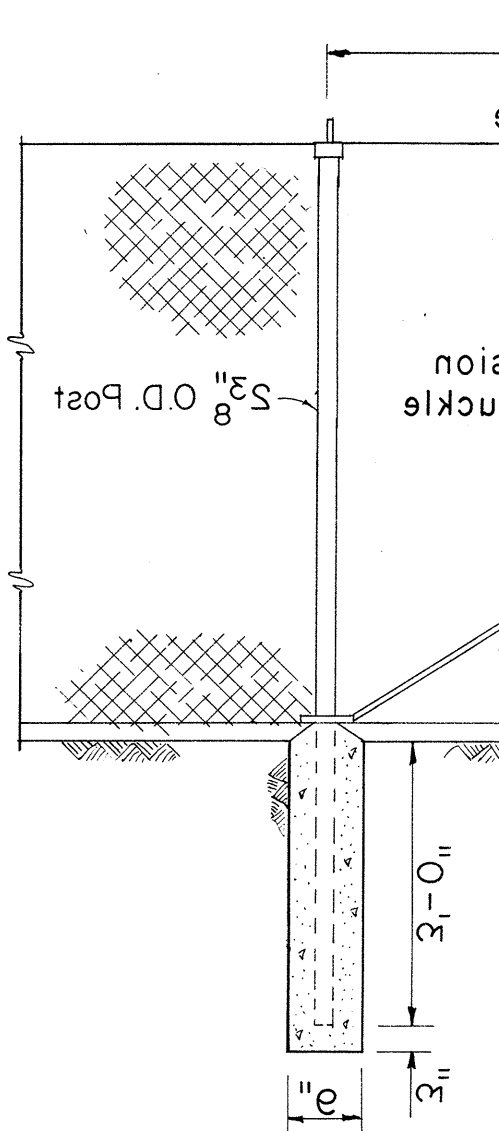


LINE POST



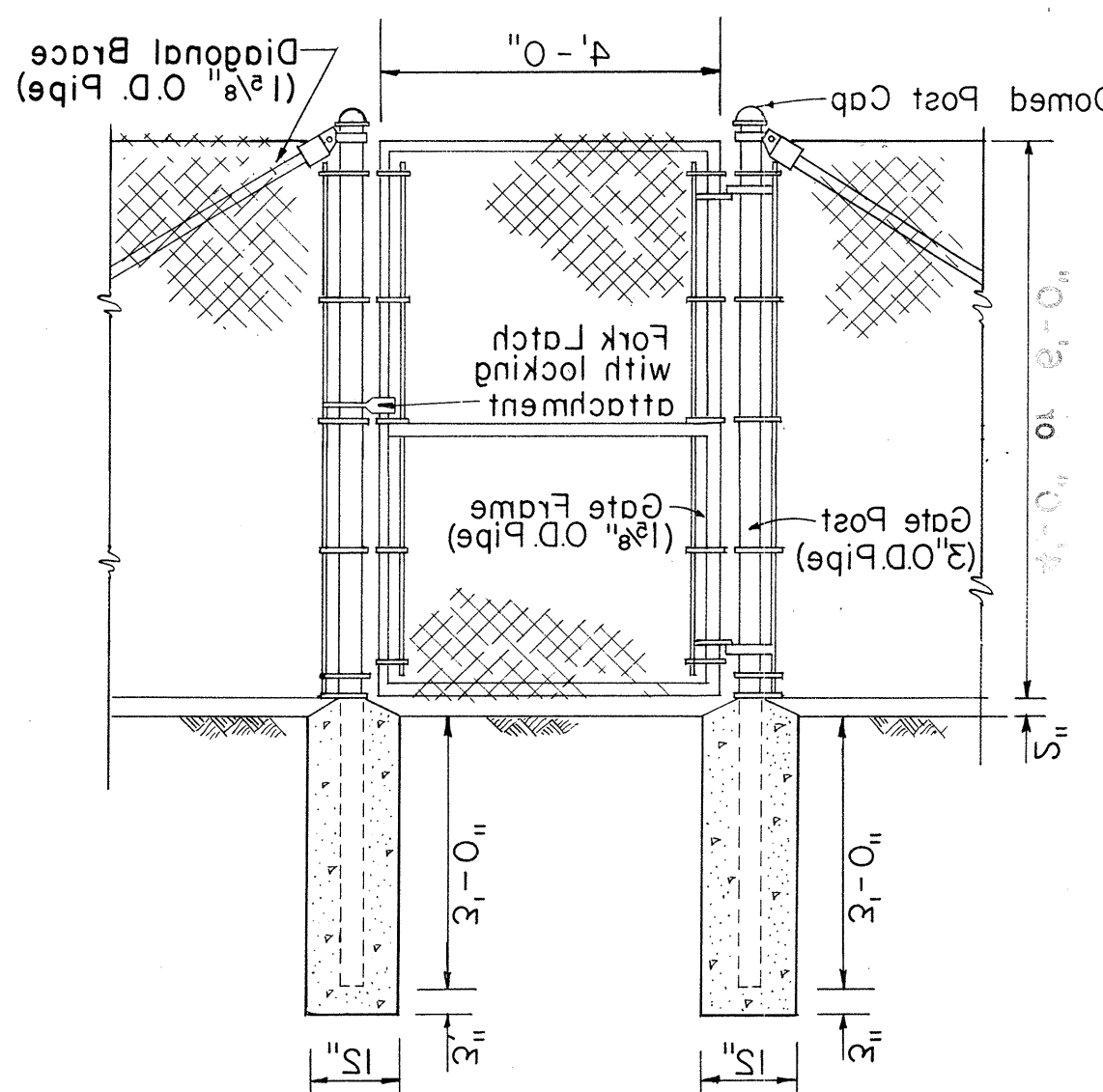
PULL POST

LINE POST



GATE POST

DETAIL OF 4 FT. CH. LK. GATE



FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BD 67-350	1960	35	100

SCALE : AS NOTED

HAWAII	HAWAII	BD 67-350	1969	33	100
STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	

Scale: As Noted
Date: Mar. 1963

