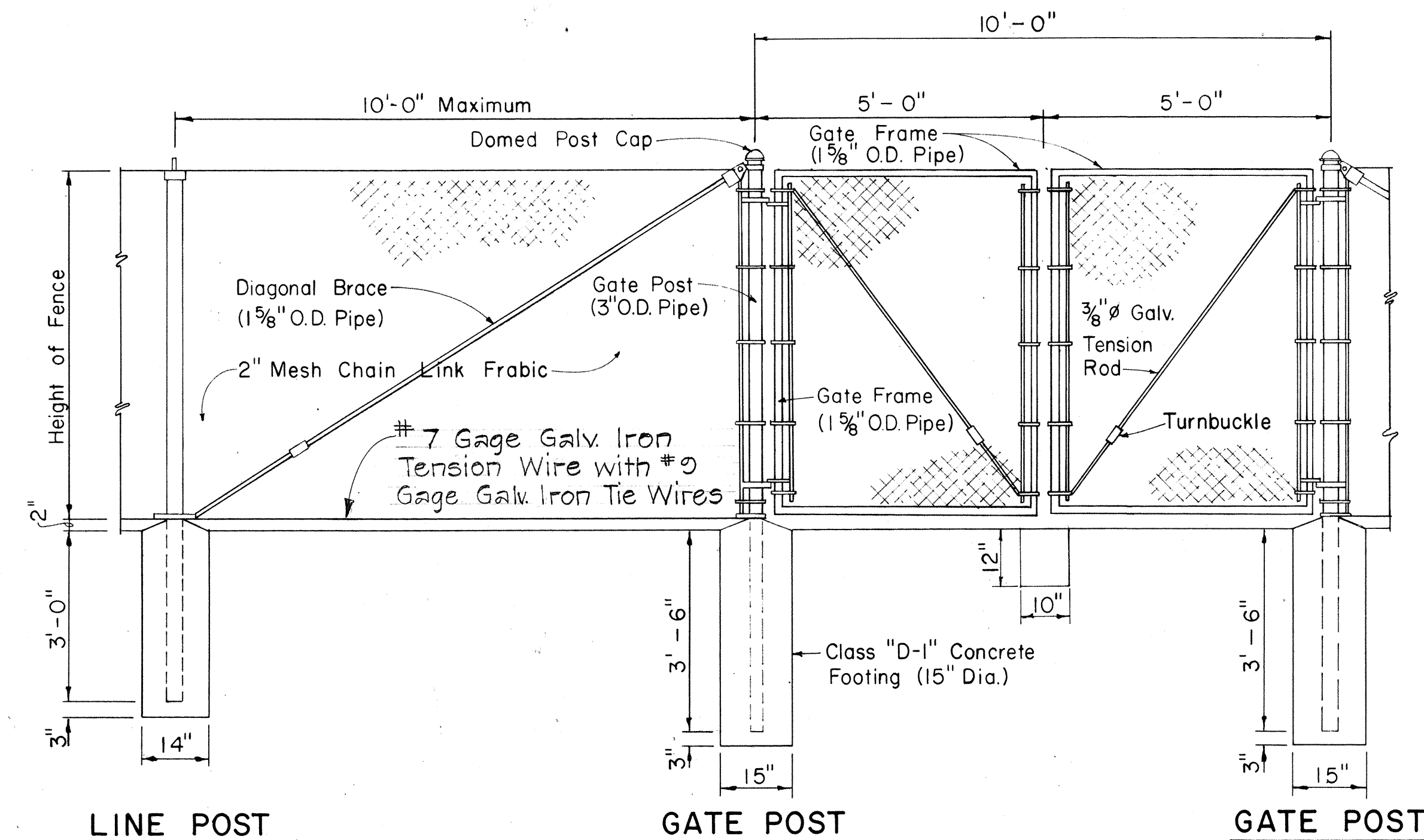


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(3)21 Unit 3	1968	7	47



LINE POST

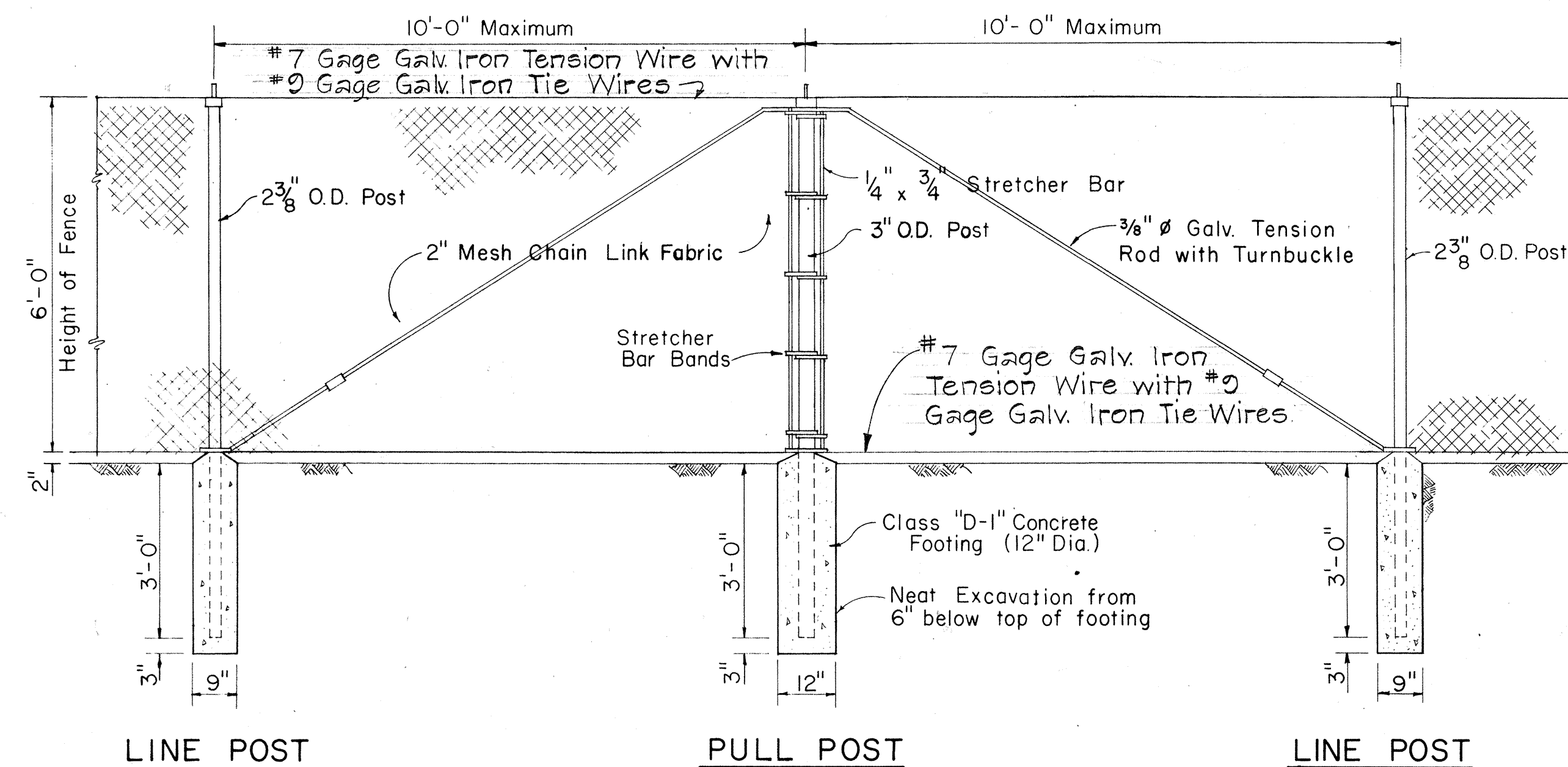
GATE POST

GATE POST

- 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 10 feet Chain Link Fence.
2. Gate frames shall be mitered and welded at corners.
3. Fence detail not shown shall be in accordance with the Standard Specifications.

DETAIL OF 10 FT. CHAIN LINK GATE

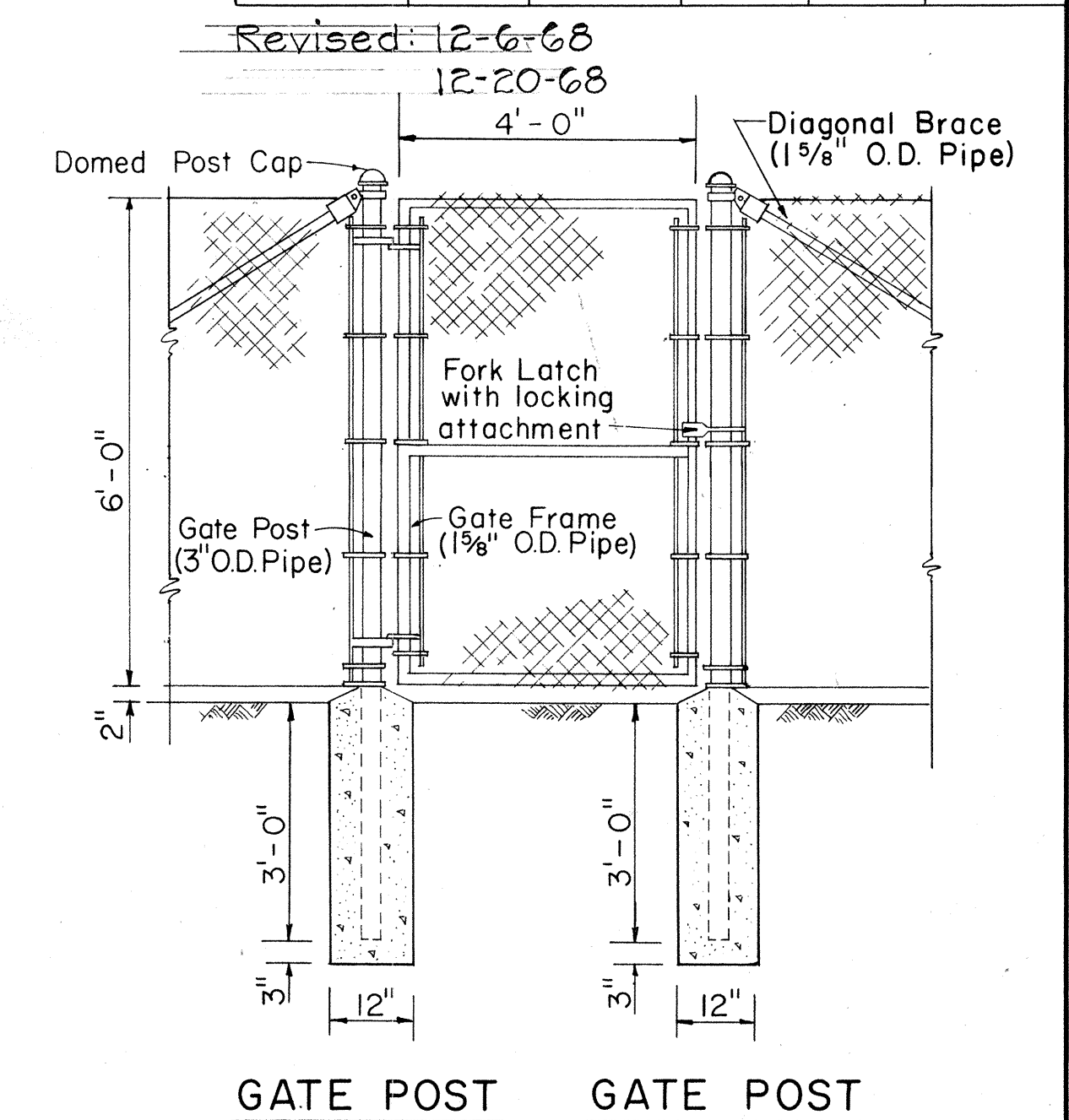
Scale: 1/2" = 1'-0"



LINE POST

PULL POST

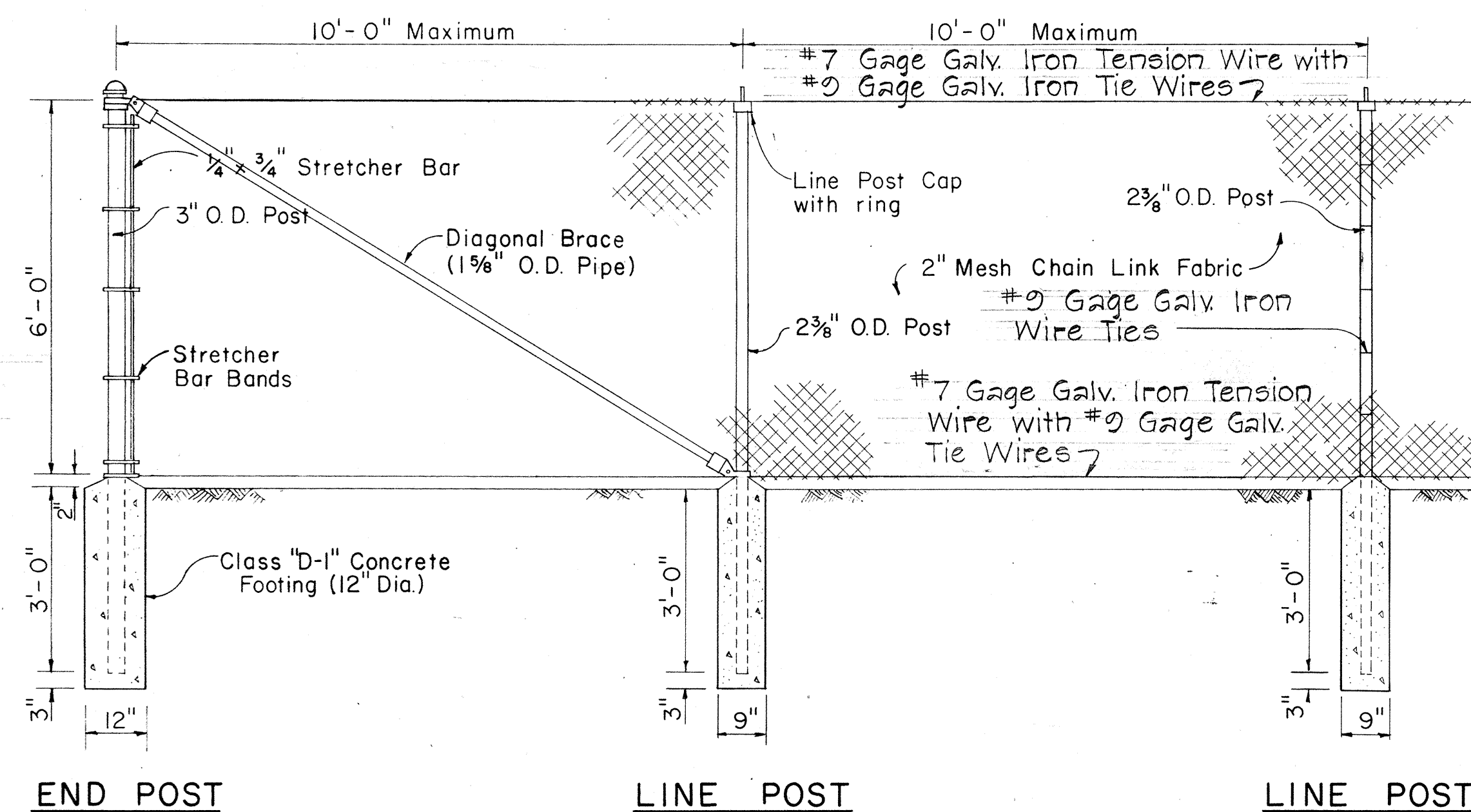
LINE POST



GATE POST GATE POST

DETAIL OF 4 FT. CH. LK. GATE

Note: Chain Link Fence Gate required along Ramp B-1 at Alapai St. will be measured and paid for as Chain Link Fencing, Contract Item No. 88.010 and will not be paid for separately.



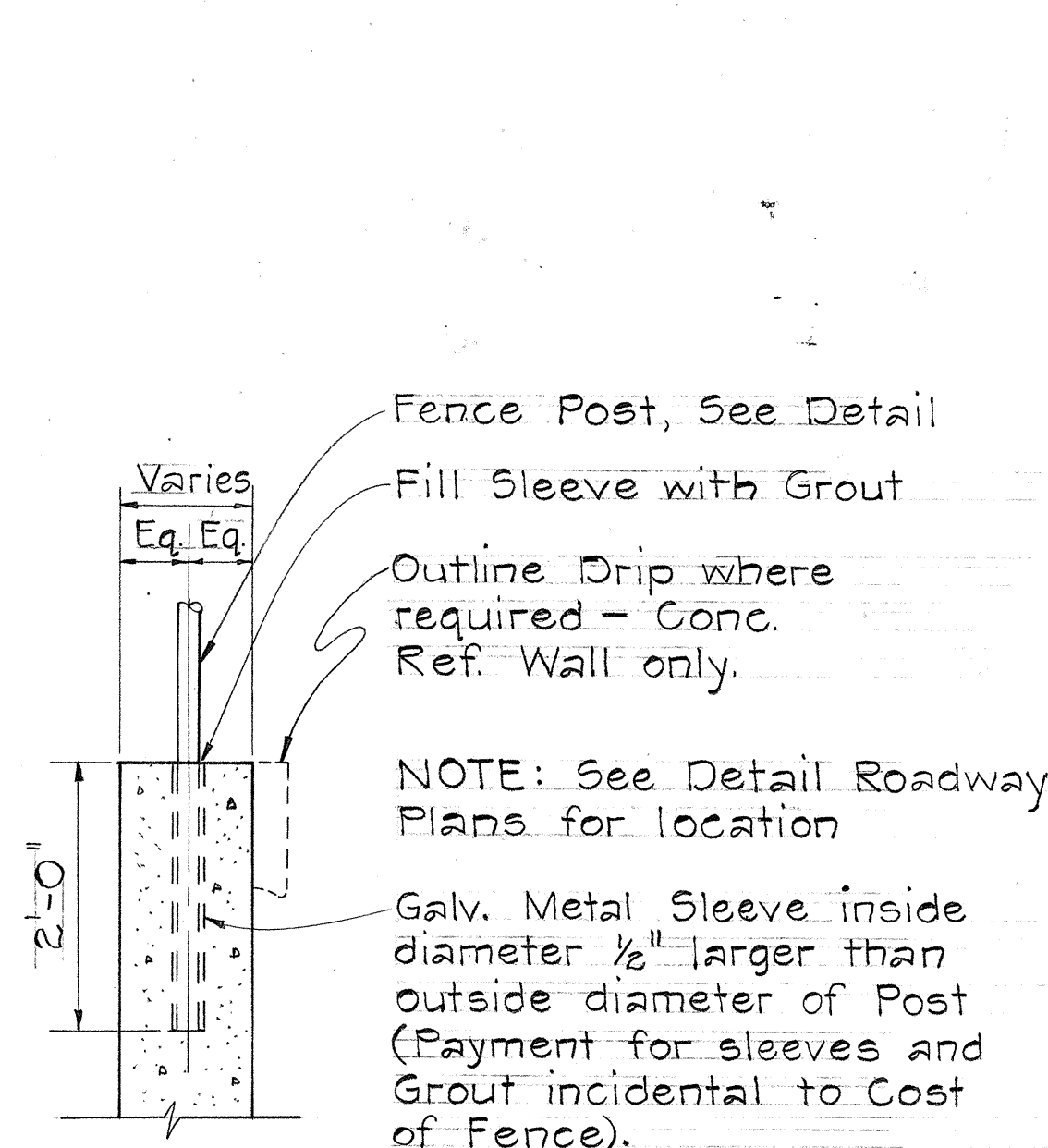
END POST

LINE POST

LINE POST

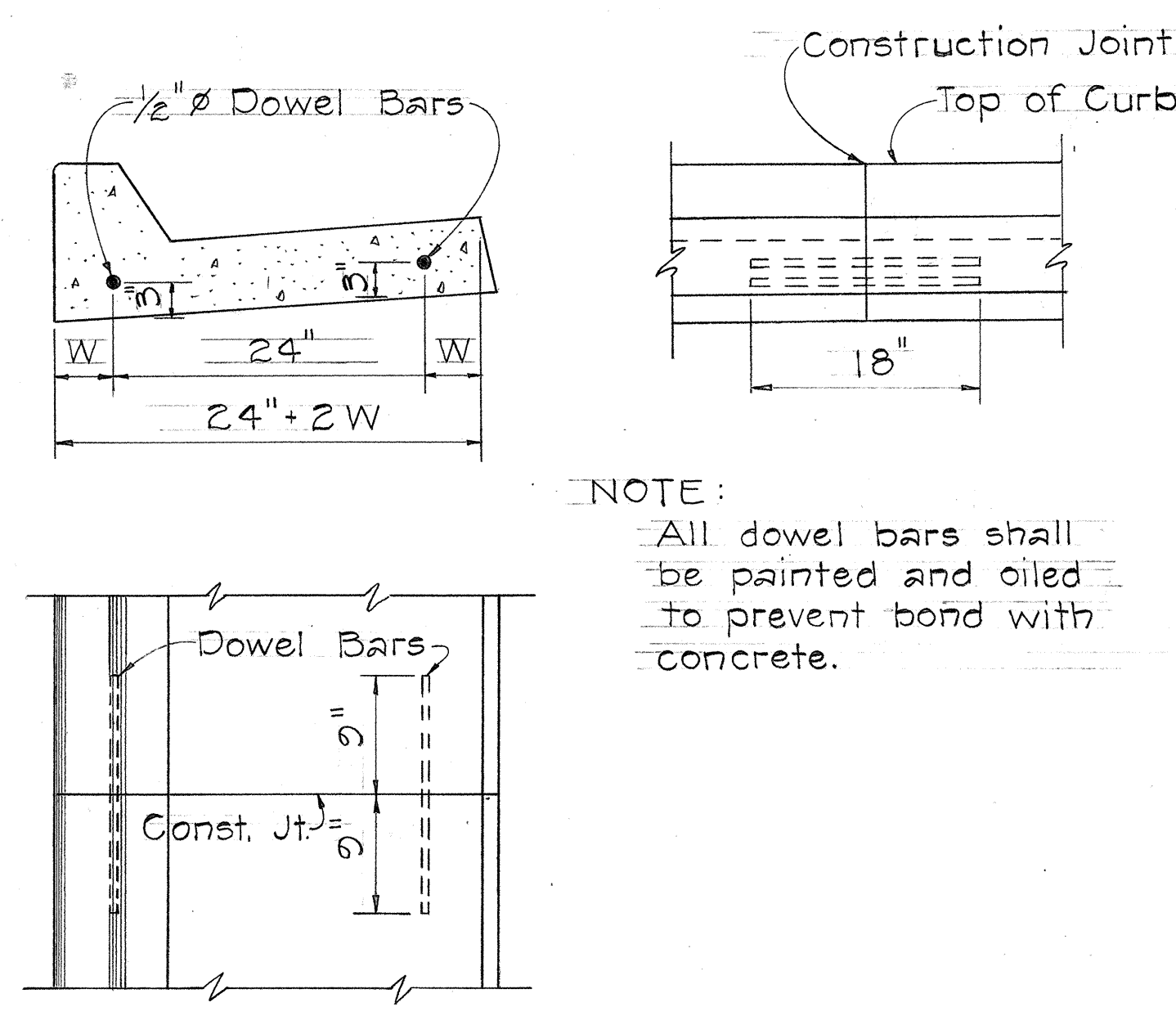
CHAIN LINK FENCE DETAILS

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



TYPICAL SECTION OF FENCE POST ON CONC. RETAINING WALL

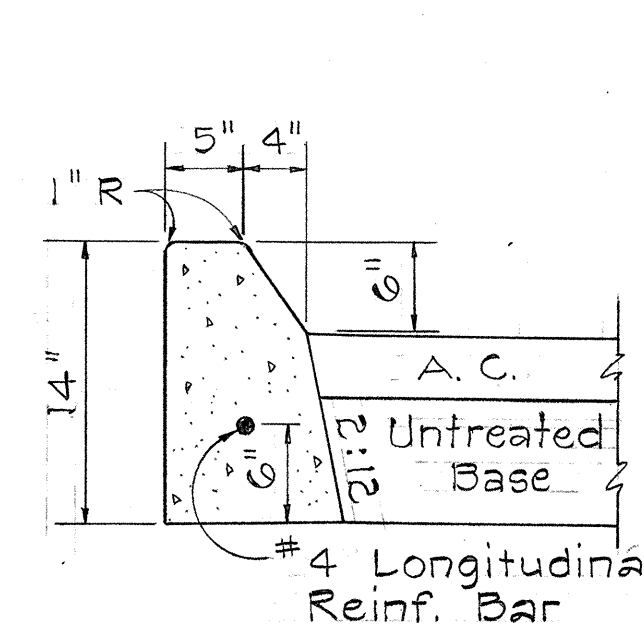
Scale: 1" = 1'-0"



TYPICAL CONSTRUCTION JOINT DETAIL FOR CAST-IN-PLACE CONC. CURB & GUTTER

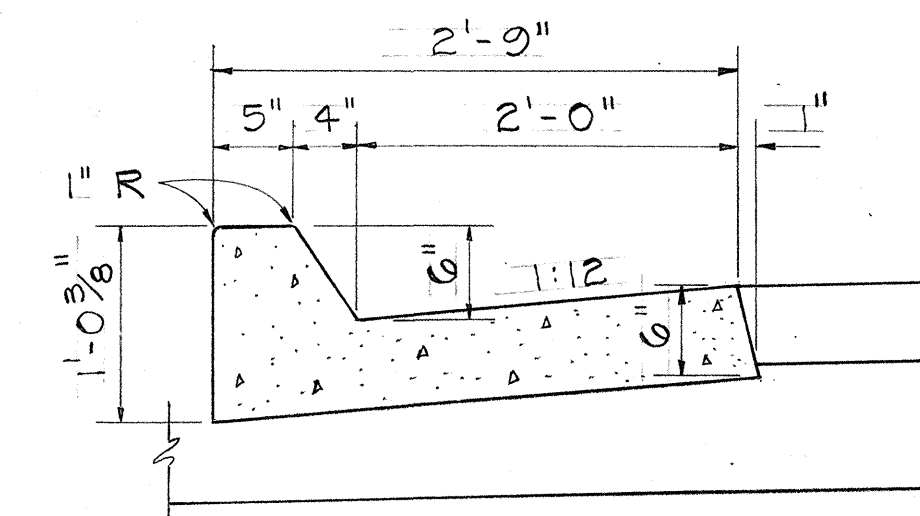
Scale: 1" = 1'-0"

NOTE: All dowel bars shall be painted and oiled to prevent bond with concrete.



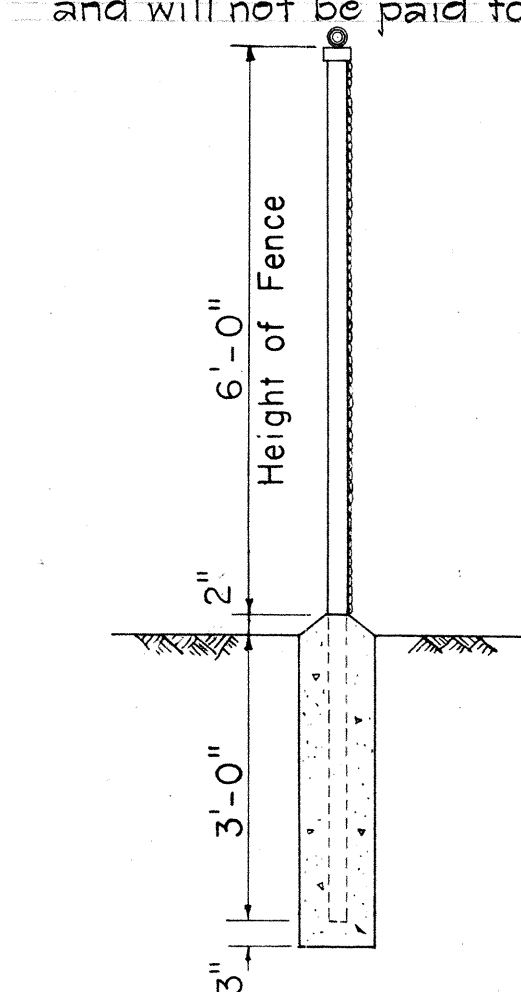
TYPE "A" CURB

Scale: 1" = 1'-0"



TYPE "AG" CURB & GUTTER

Scale: 1" = 1'-0"



TYPICAL SECTION

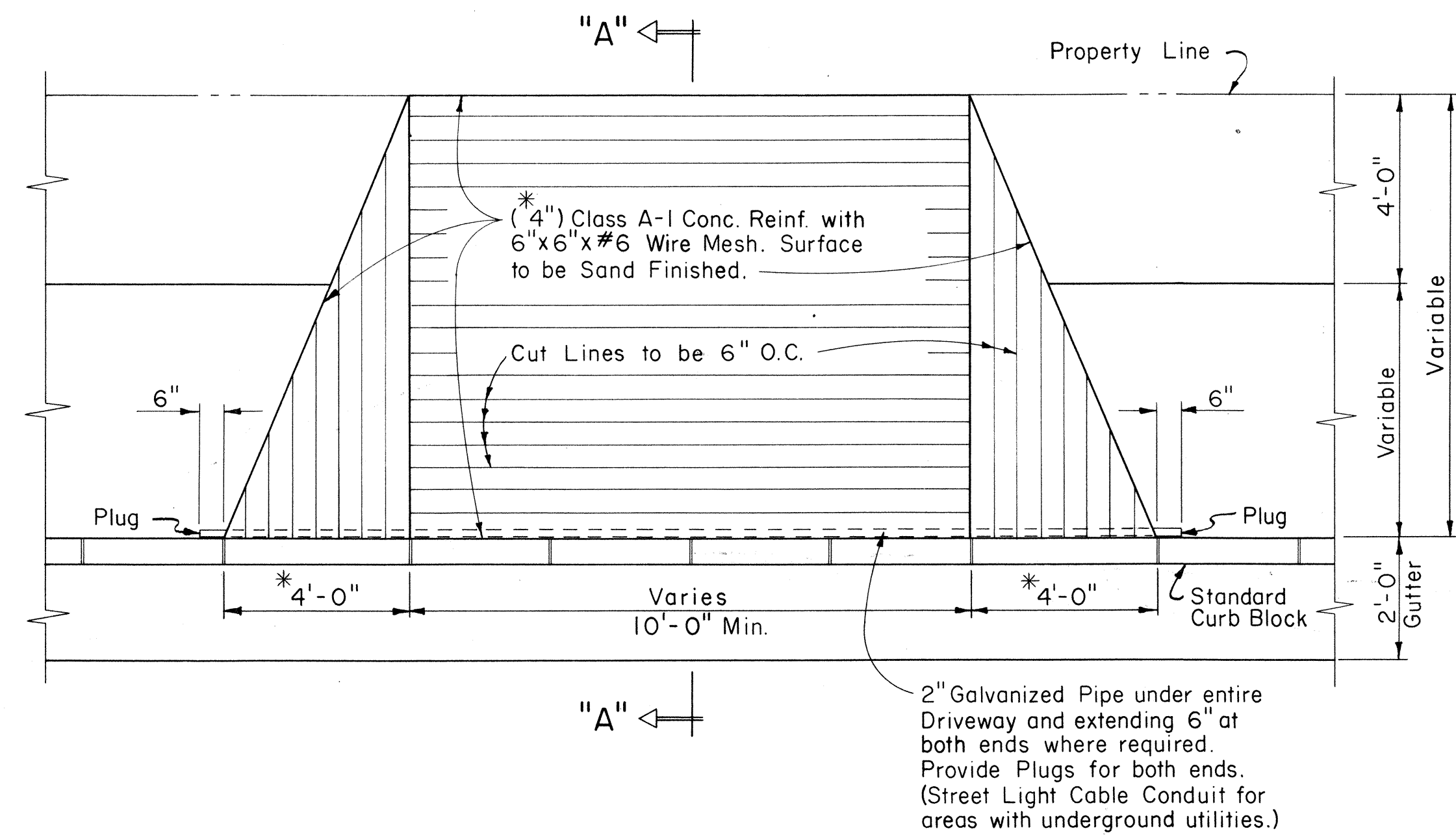
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MISC. ROADWAY DETAILS
INTERSTATE ROUTE H-1
PELE ST. TO VICTORIA ST.
F.A.I. Proj. No. I-HI-1(3)21, Unit 3

Scales: As Noted Date: Aug. 1968
SHEET NO. 1 OF 4 SHEETS

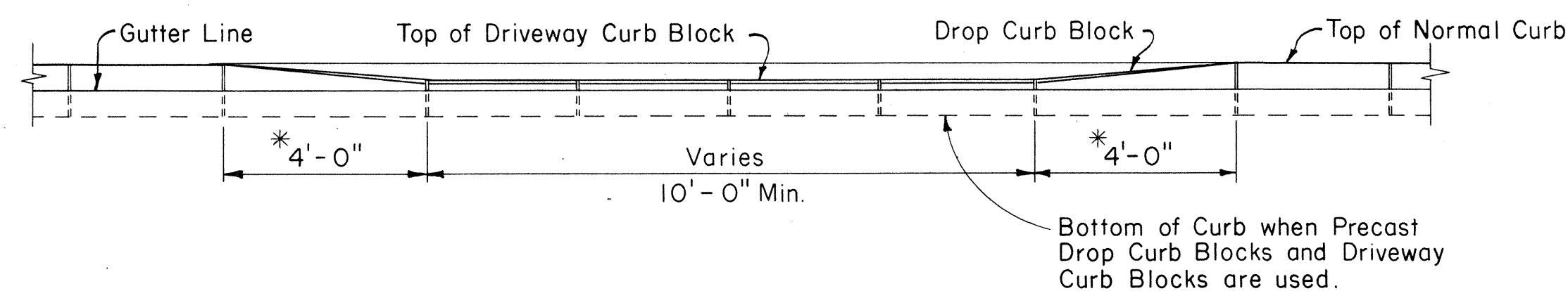
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	I-HI-(31)-21 Unit 3	1968	6	47

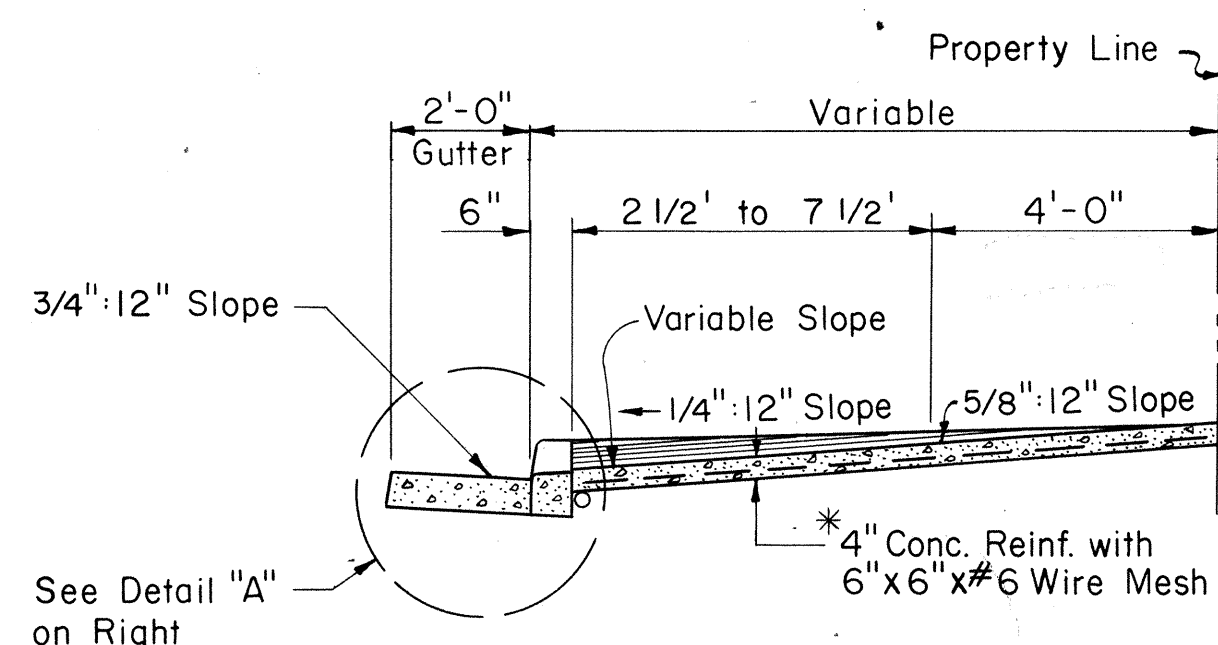
Revised: 12-6-68



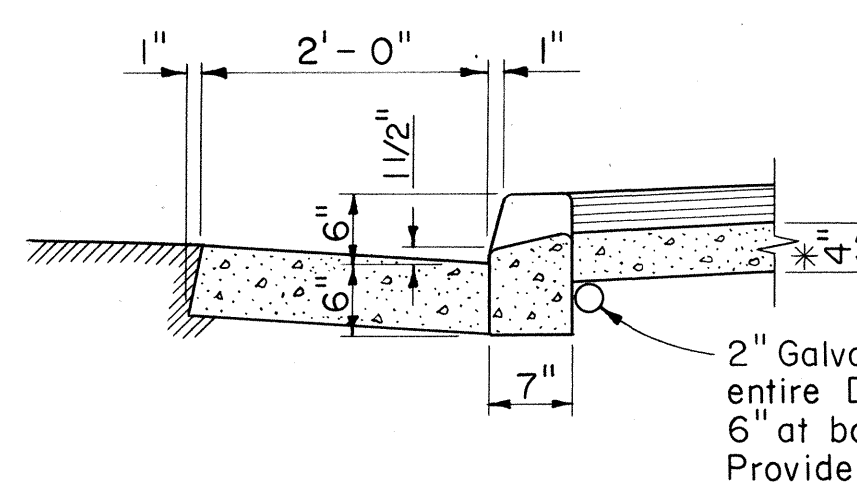
P L A N
Scale: 3/8" = 1'-0"



E L E V A T I O N
Scale: 3/8" = 1'-0"



SECTION "A-A"
Scale: 3/8" = 1'-0"

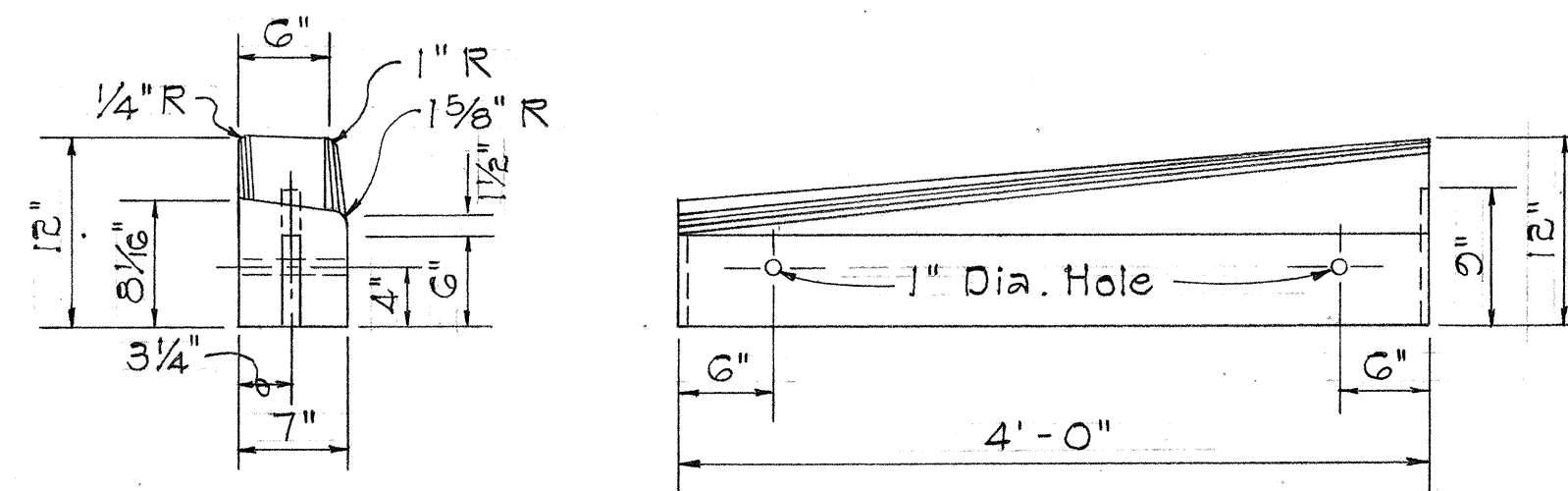


DETAIL "A"
Scale: 3/4" = 1'-0"

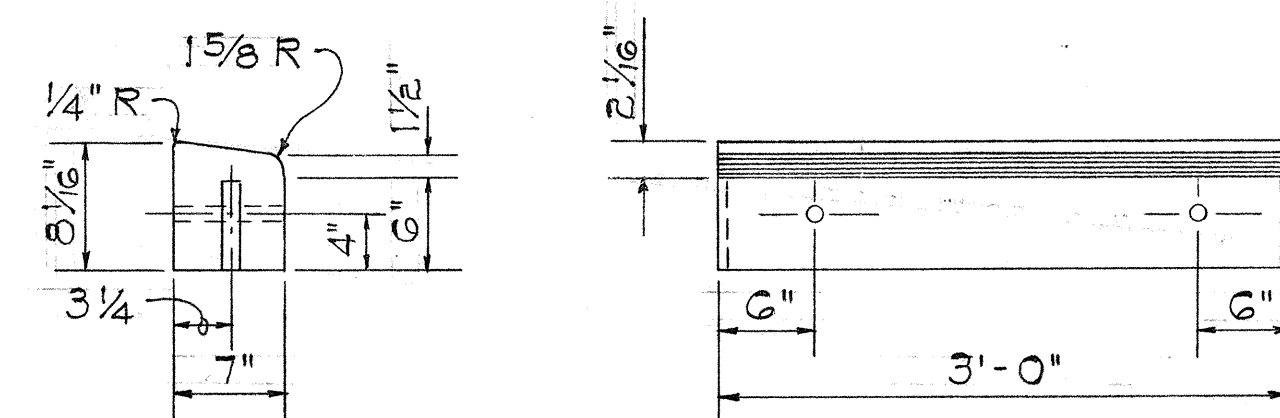
TYPICAL DETAIL OF REINF. CONC. DROP DRIVEWAY

Scale: As Noted

* Use dimension shown unless otherwise noted on the plans.



PRECAST CONCRETE DROP CURB

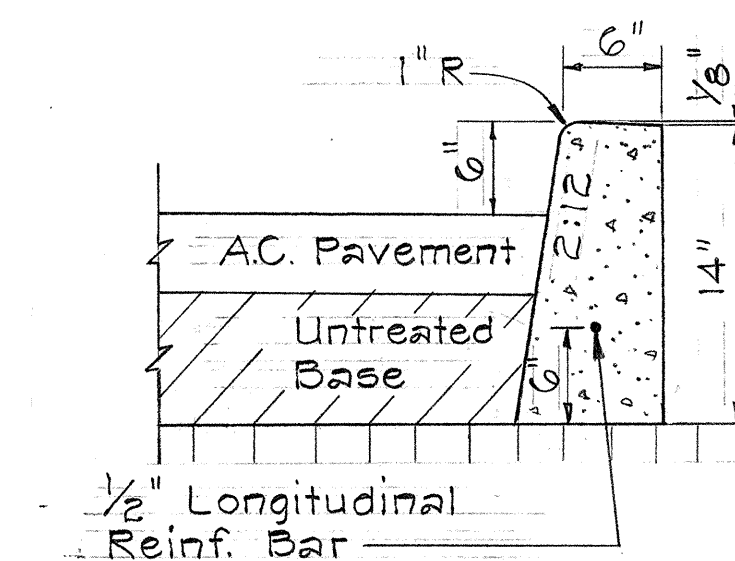


PRECAST CONCRETE DRIVEWAY CURB

PRECAST CONCRETE CURBS

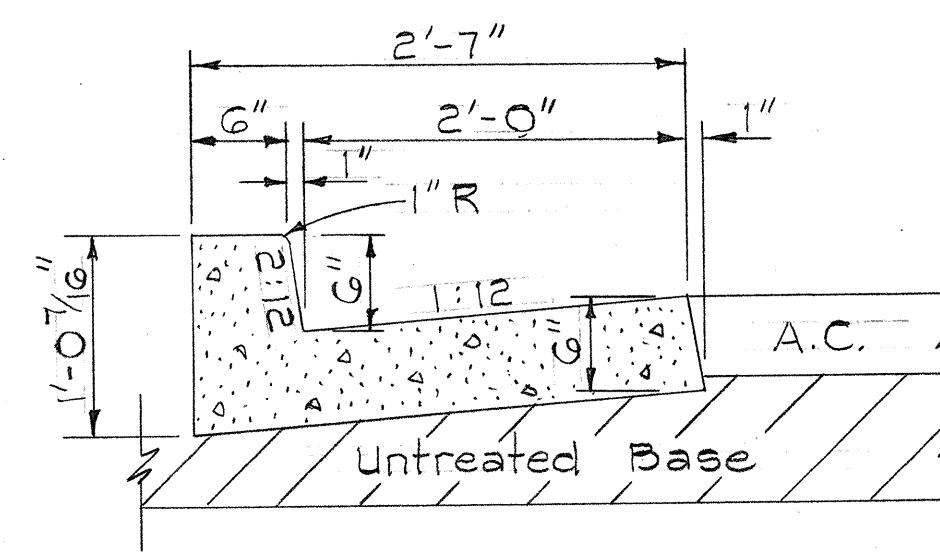
Scale: 1" = 1'-0"

NOTE: Cast-in-place curbs may be substituted for pre-cast curbs at driveways. All driveway curbs however will be paid for under Type D Curb, Item No. 70.24.



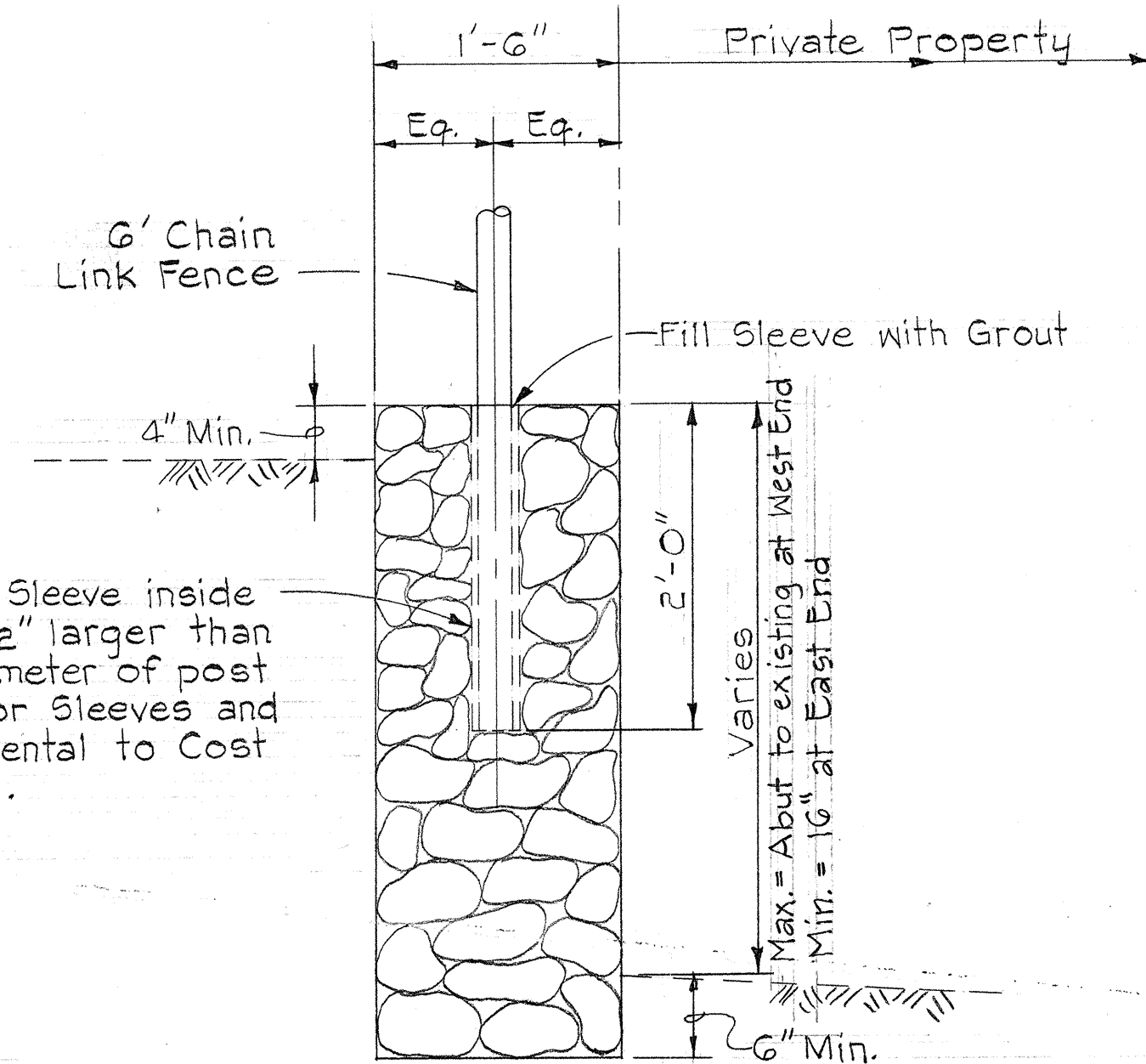
TYPE "D" CURB

Scale: 1" = 1'-0"



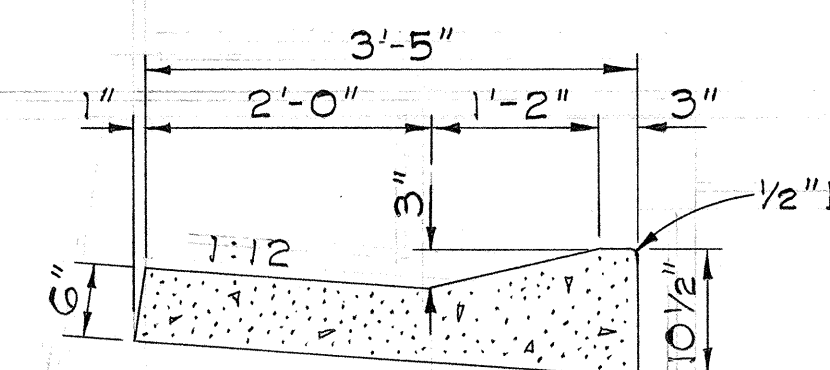
TYPE "DG" CURB & GUTTER

Scale: 1" = 1'-0"



TYPICAL CRM WALL SECTION
ALONG PROPERTY LINE AT ALAPAI ST.

Scale: 1" = 1'-0"



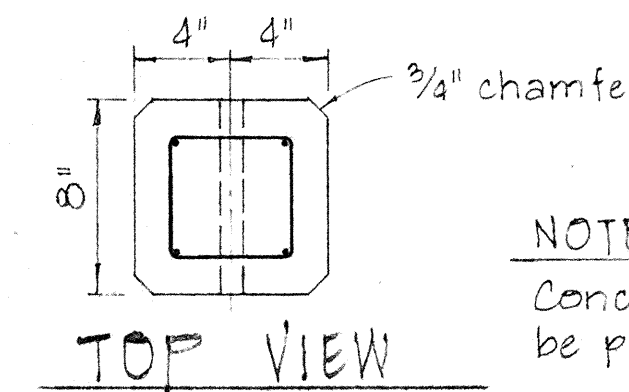
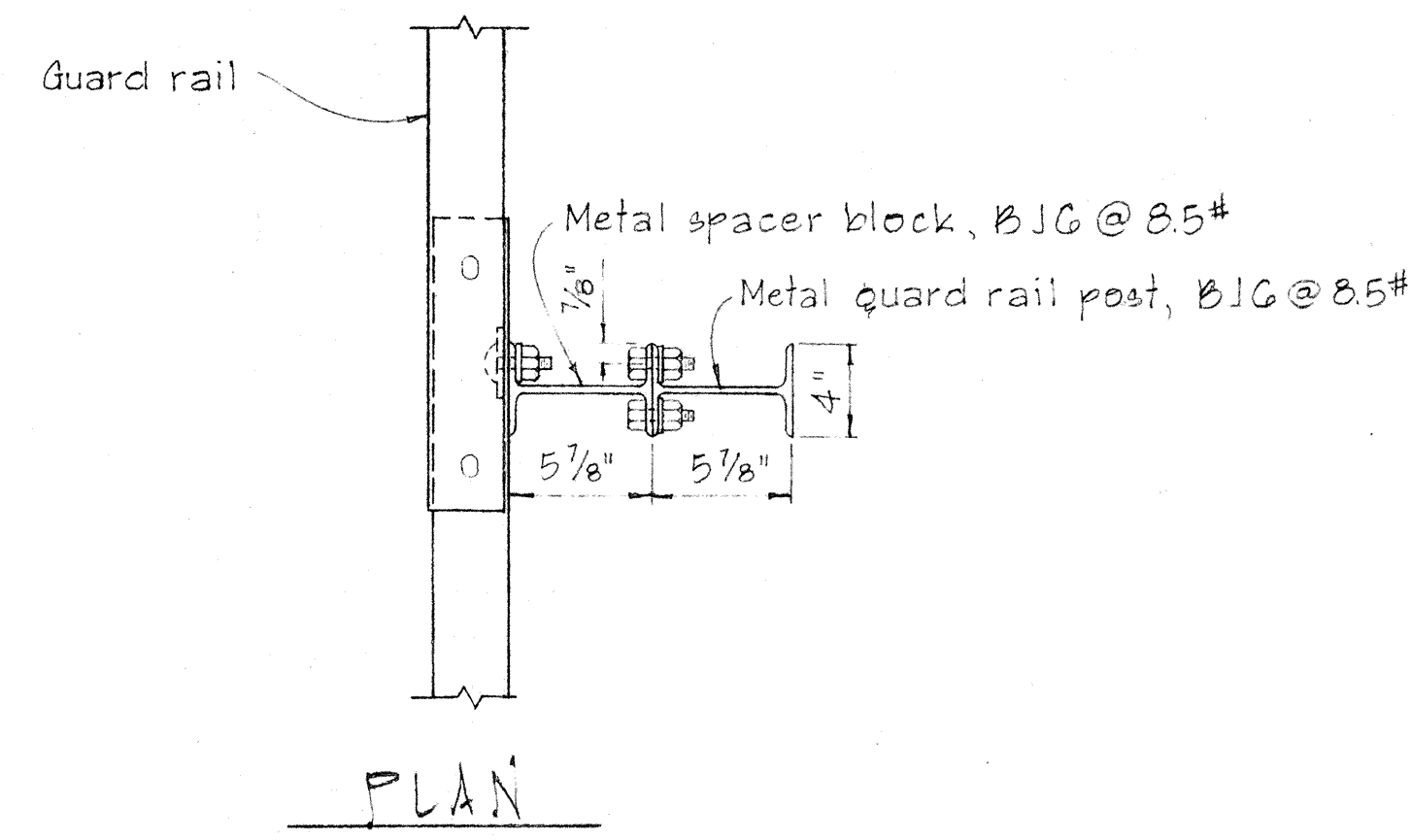
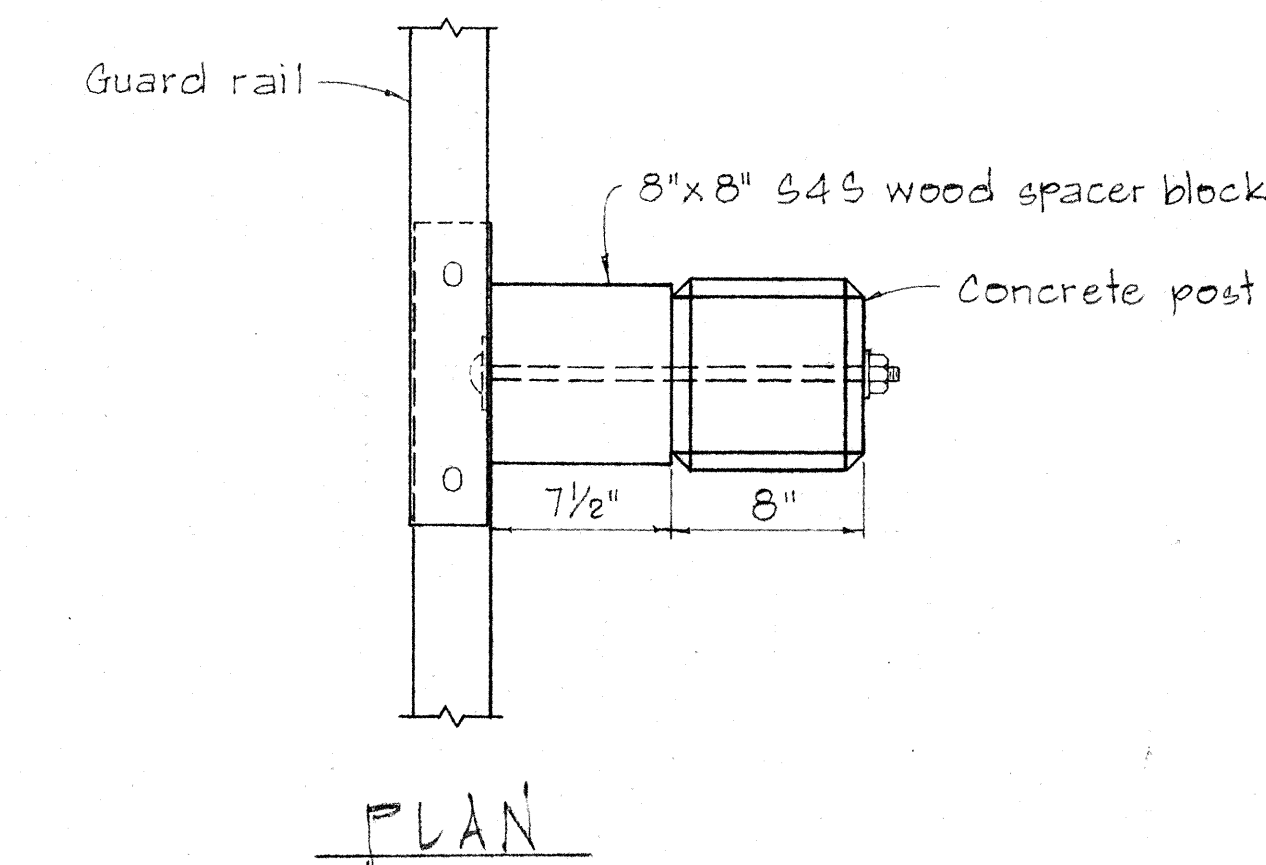
TYPE "EG-M" CURB & GUTTER

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

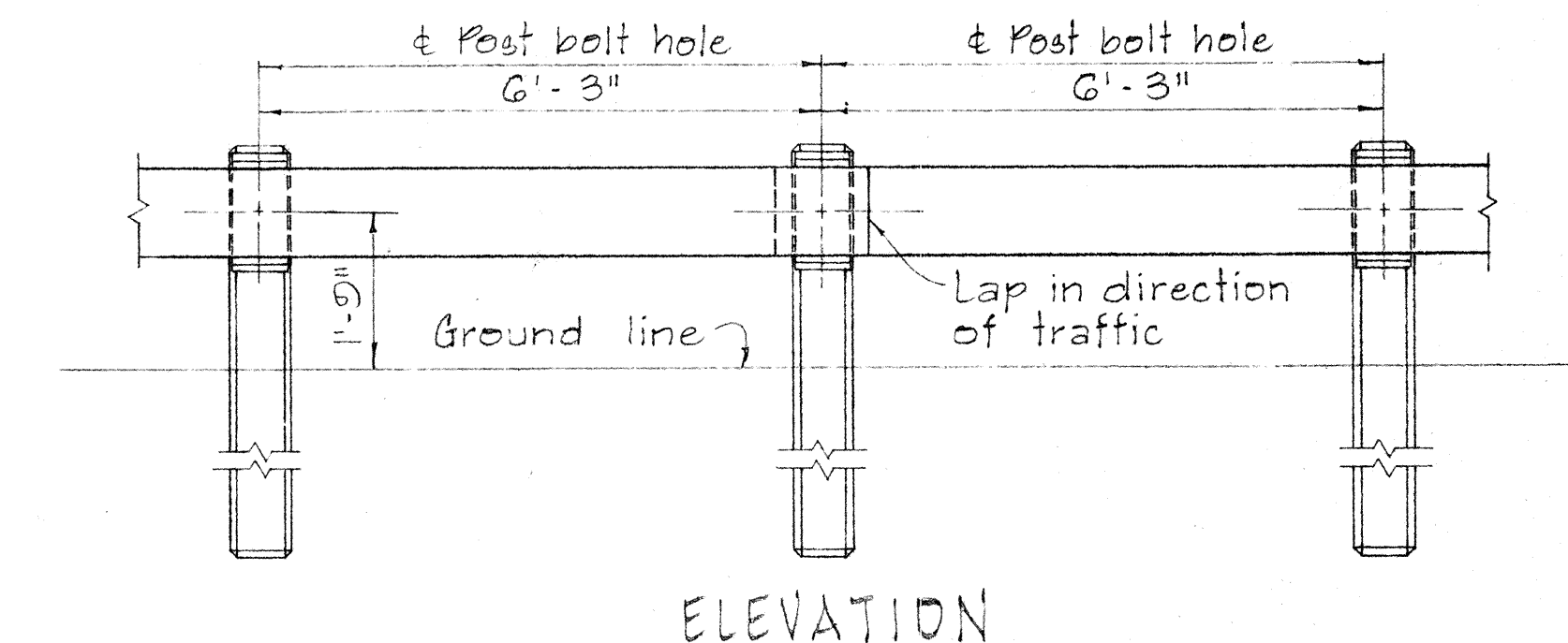
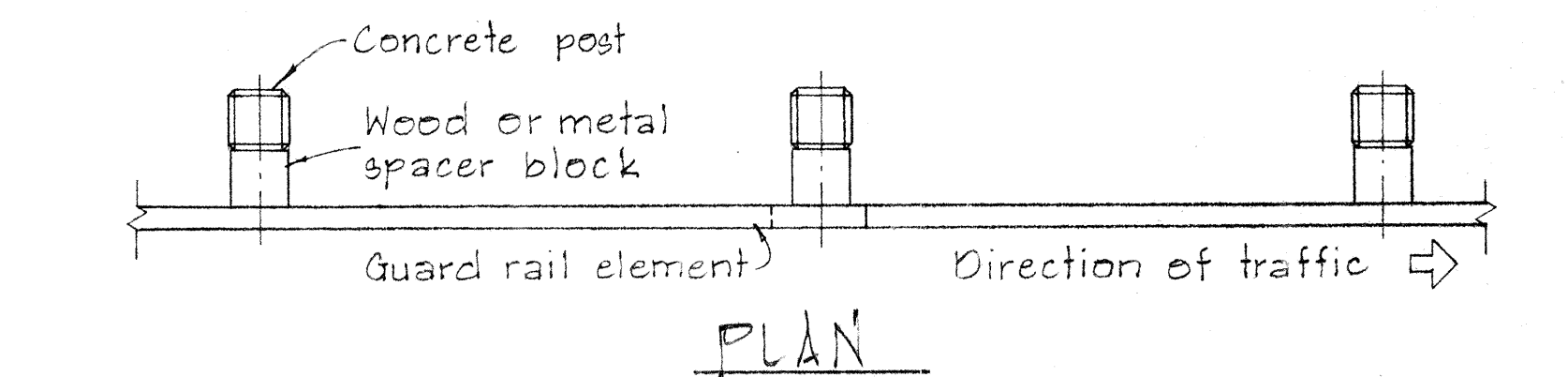
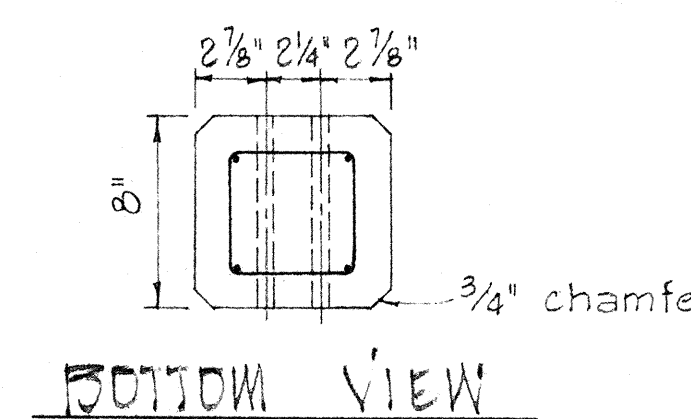
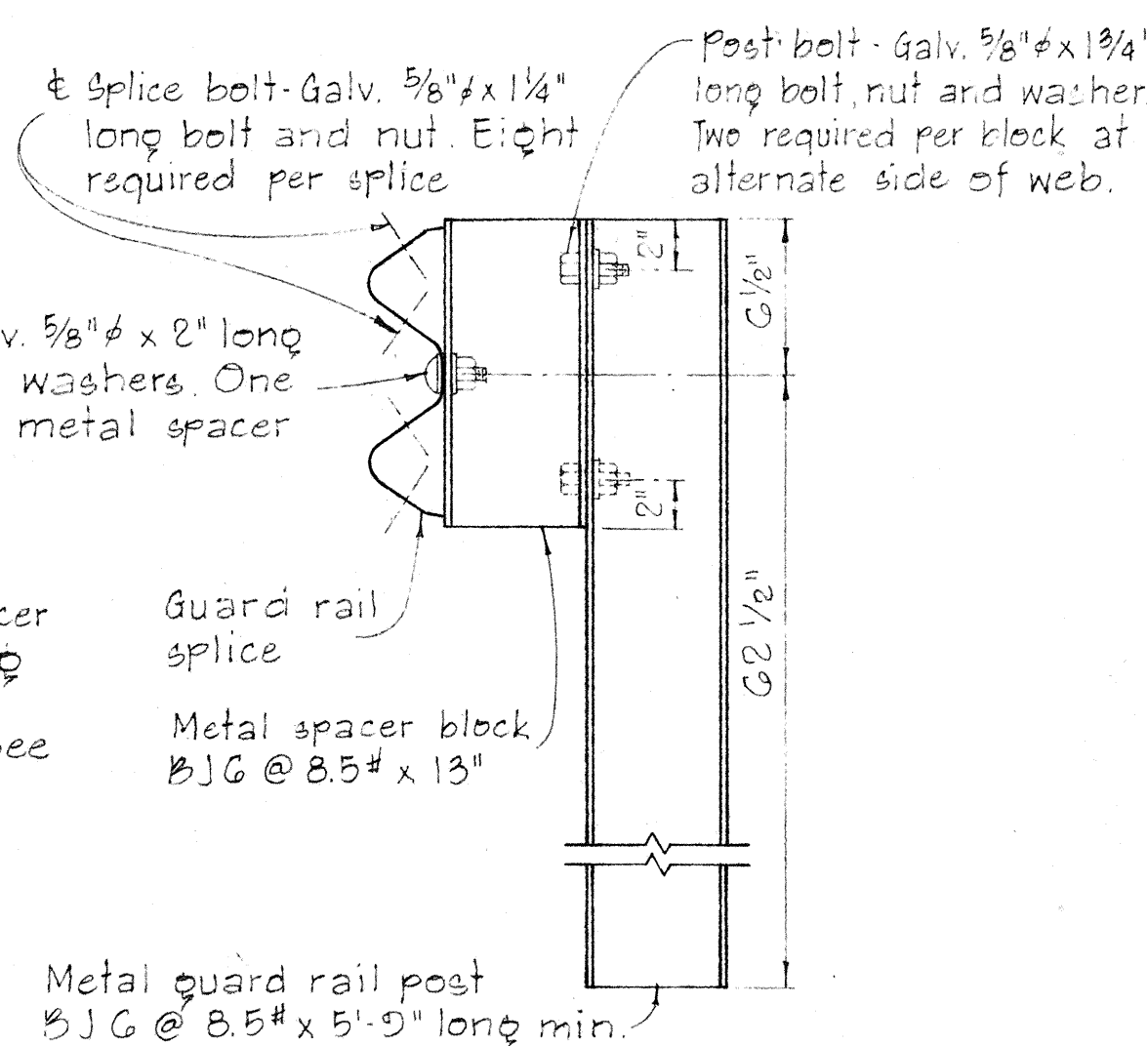
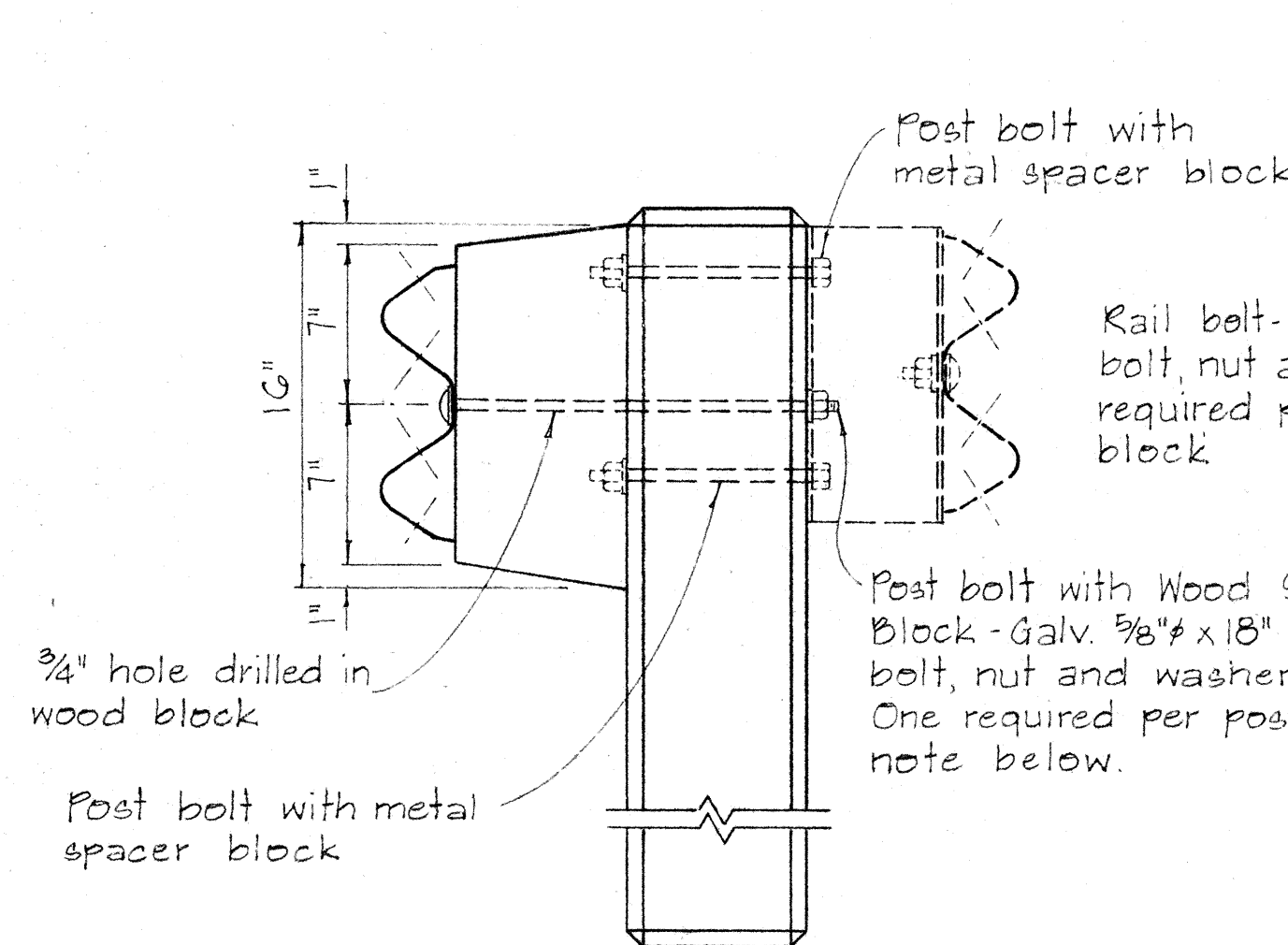
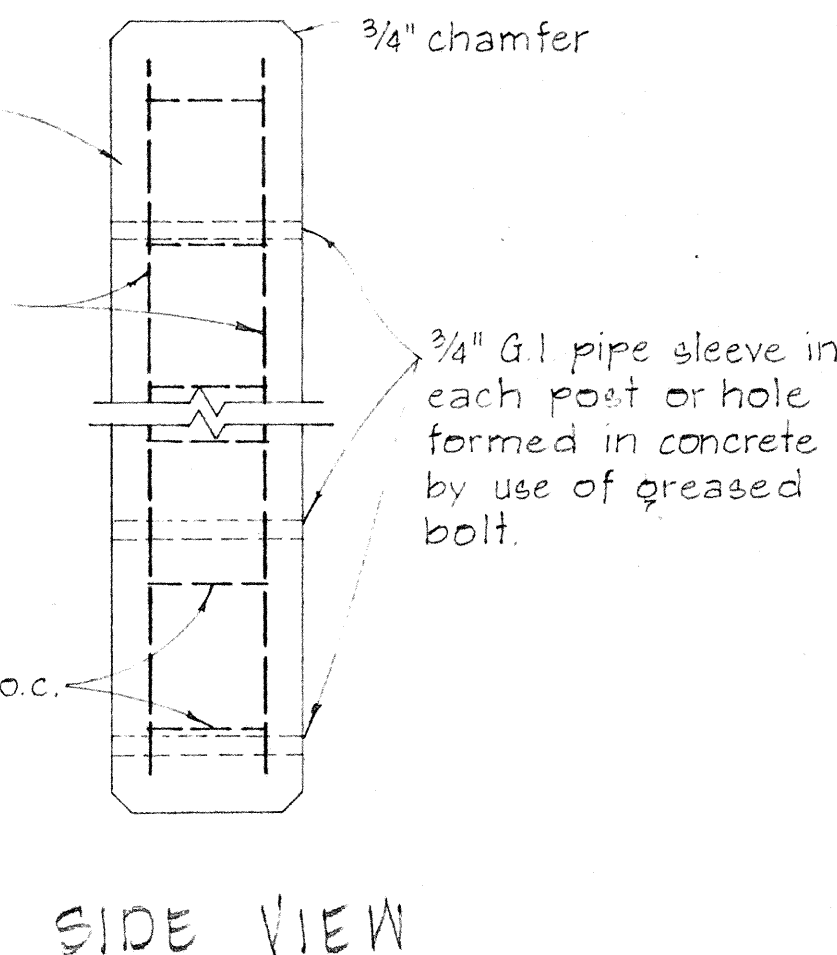
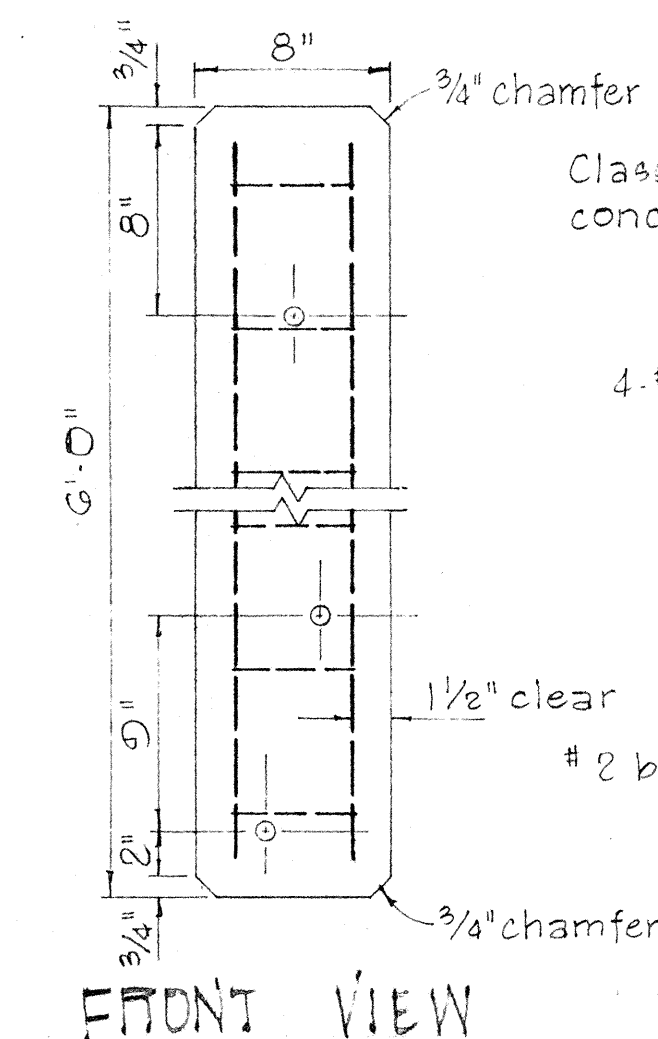
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
MISCELLANEOUS ROADWAY DETAILS
INTERSTATE ROUTE H-1
Pele Street to Victoria Street
F.A.I. Proj. No. I-HI-(31)-21 Unit 3
Scale: As Shown Date: Aug. 1968
SHEET No. 2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-(3)21 Unit 3	1968	9	47

Revised 12-6-68

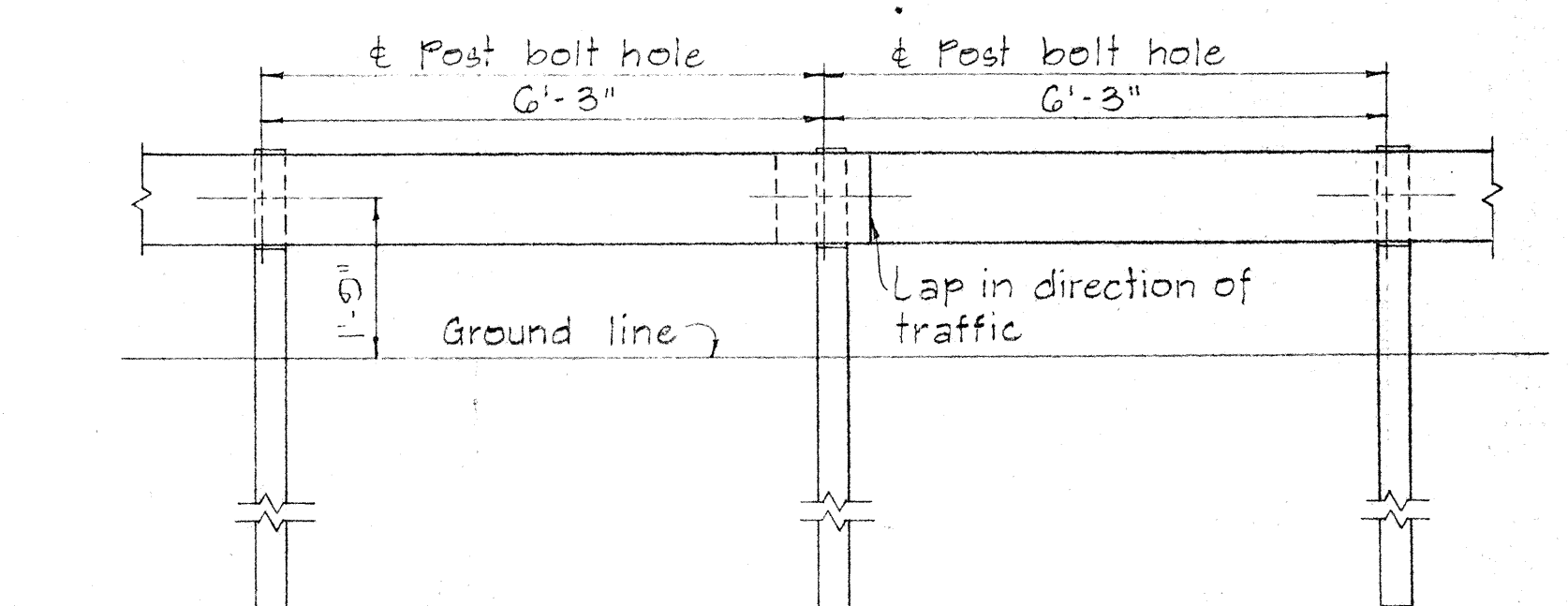
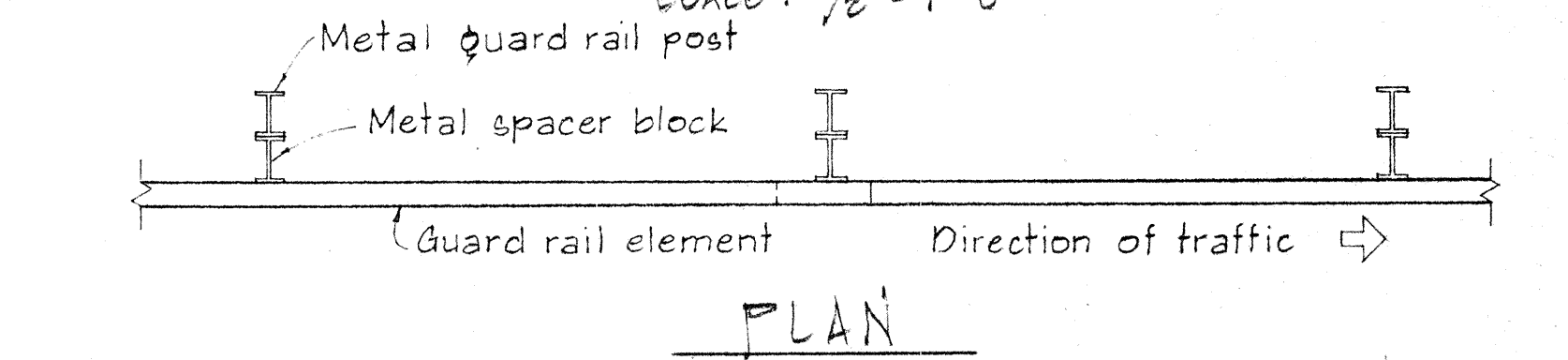


NOTE:
Concrete post shall be precast



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

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

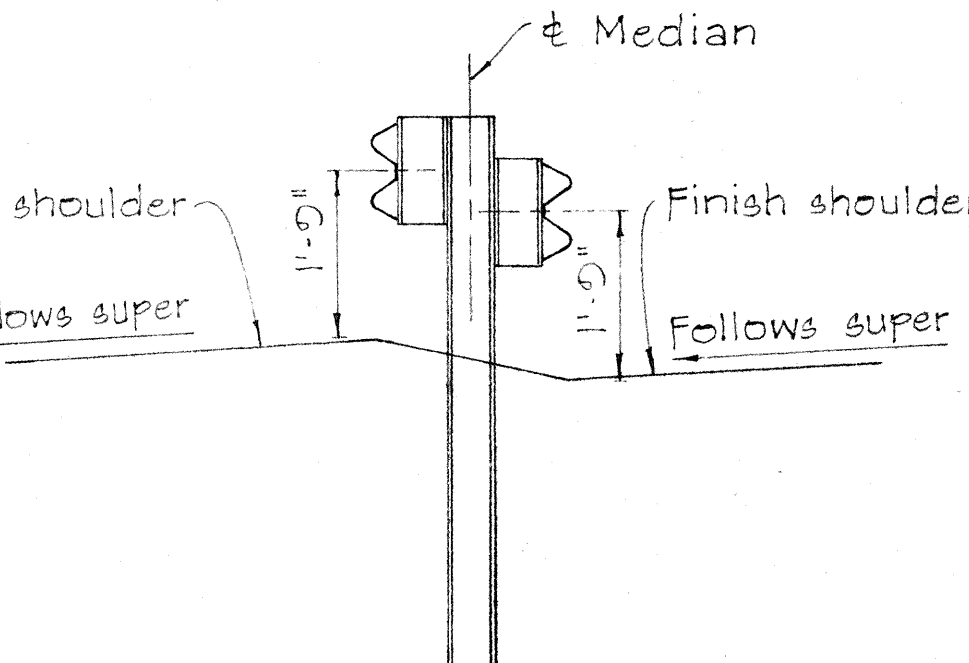
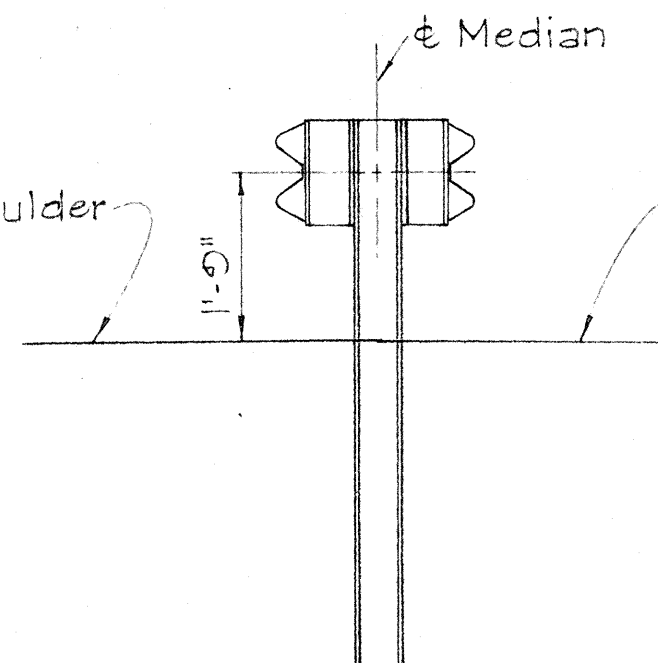
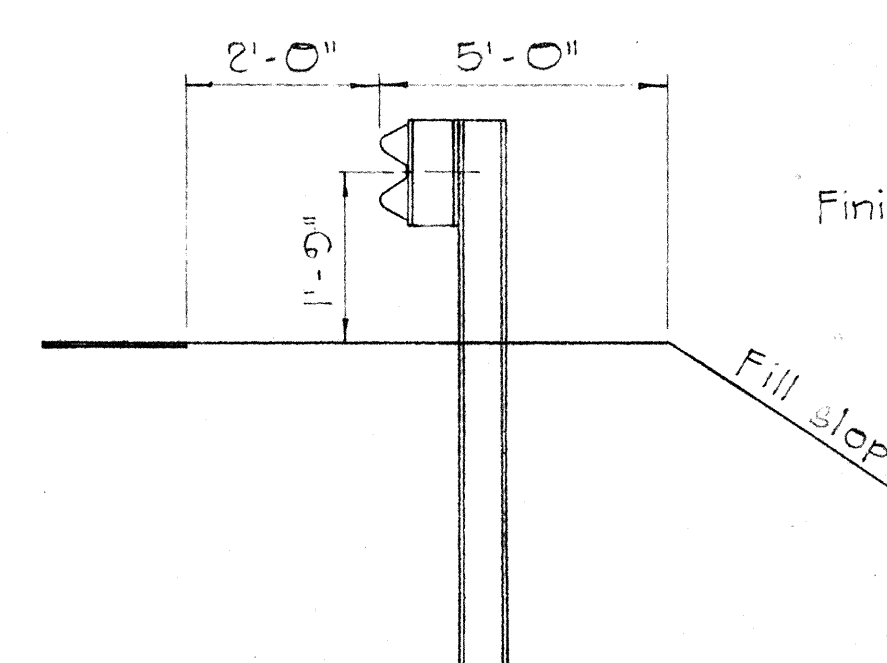
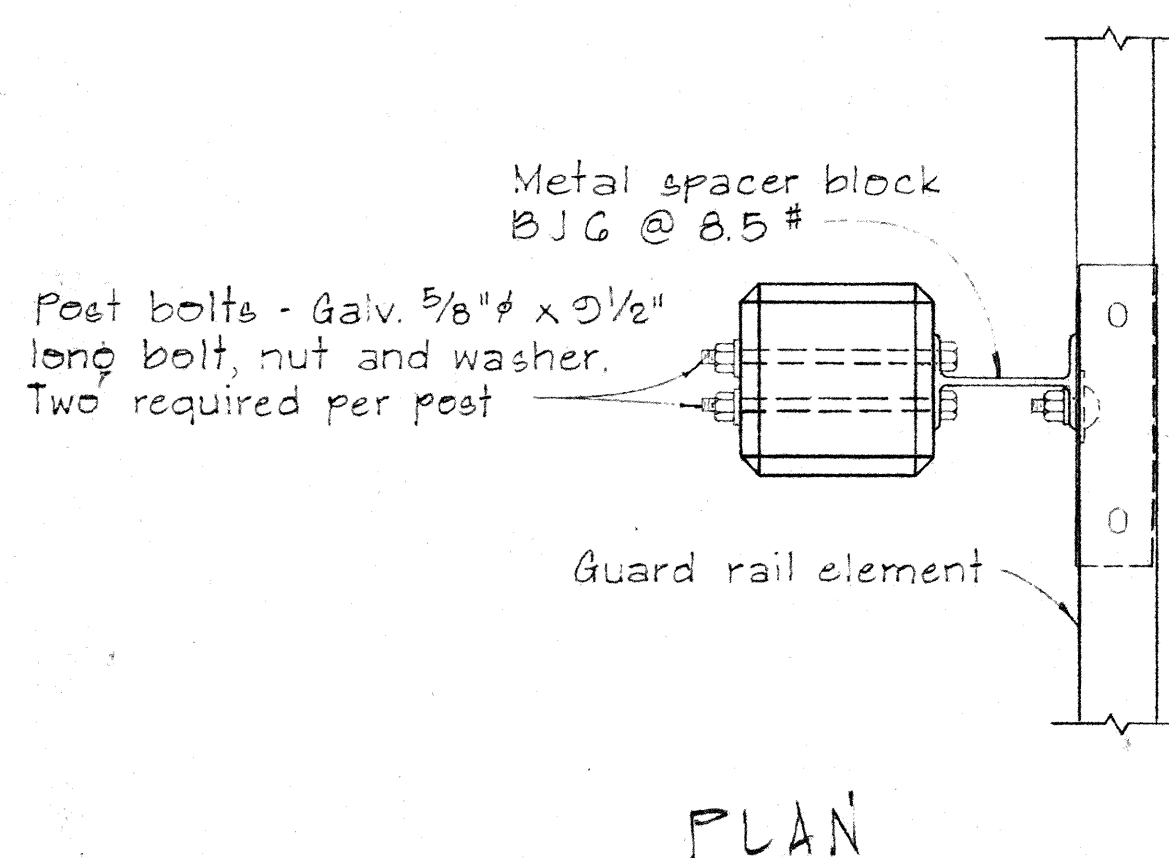


METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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

SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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



TYPICAL METAL GUARD RAIL DETAIL

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

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

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

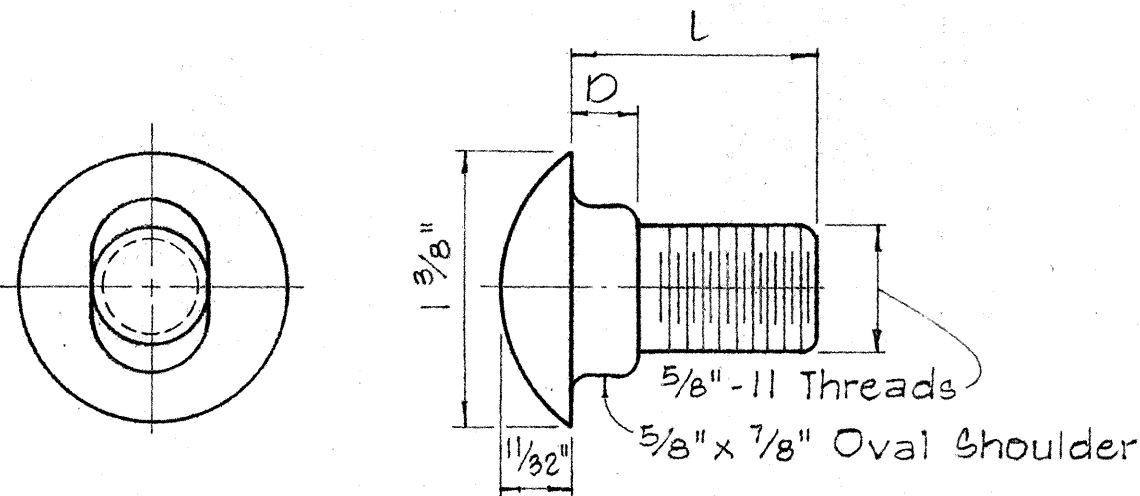
SCALE: AS SHOWN NOV. 1968

SHEET No. 3 OF 4 SHEETS DT 500

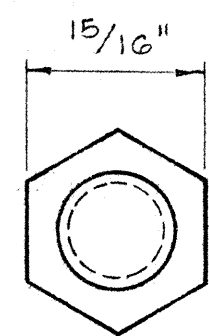
9

BOLT DIMENSIONS		
TYPE A BOLT		
	D	L
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"

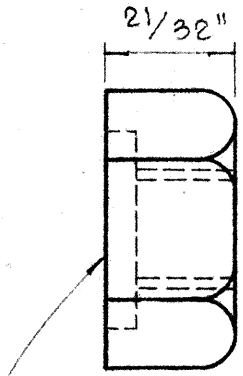
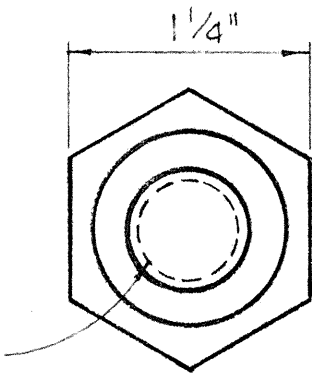
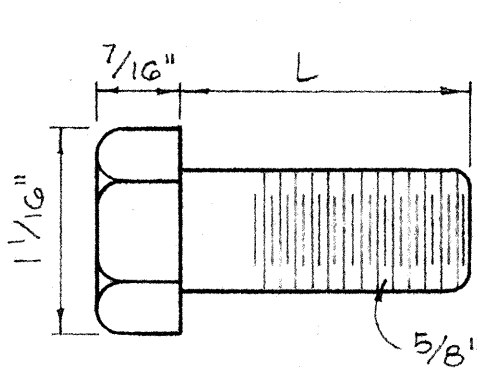
BOLT DIMENSIONS		
TYPE B BOLT		
		L
Post Bolt for Conc. Post w/ Metal Blocks		5 1/2"
Post Bolt for Metal Post w/ Metal Block		1 3/4"



TYPE A BOLT



TYPE B BOLT



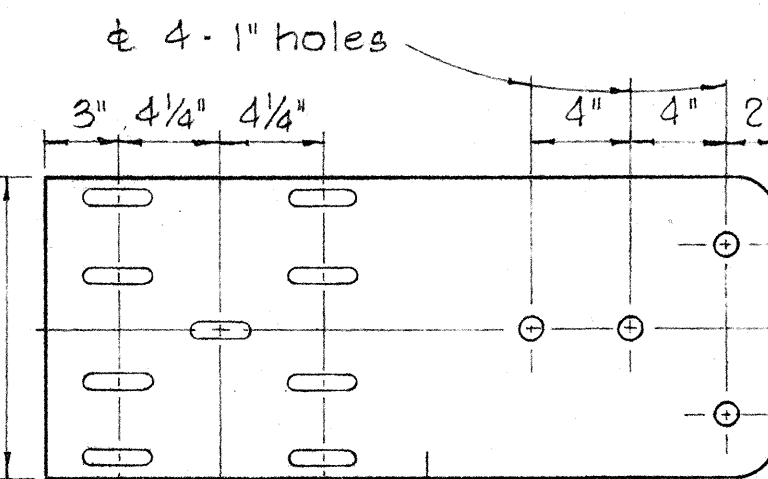
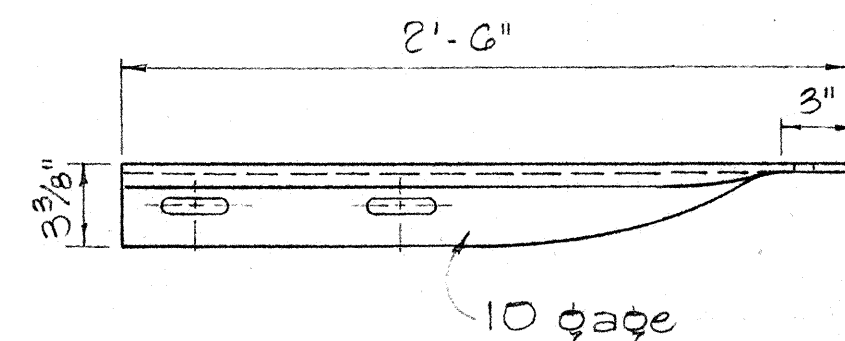
5/32" Deep x 15/16" Dia. C' Bore for Type A Bolt only.
Plain nut for Type B Bolt.

HEXAGON NUT

Scale: Full Size

SPICE RAIL AND POST BOLTS

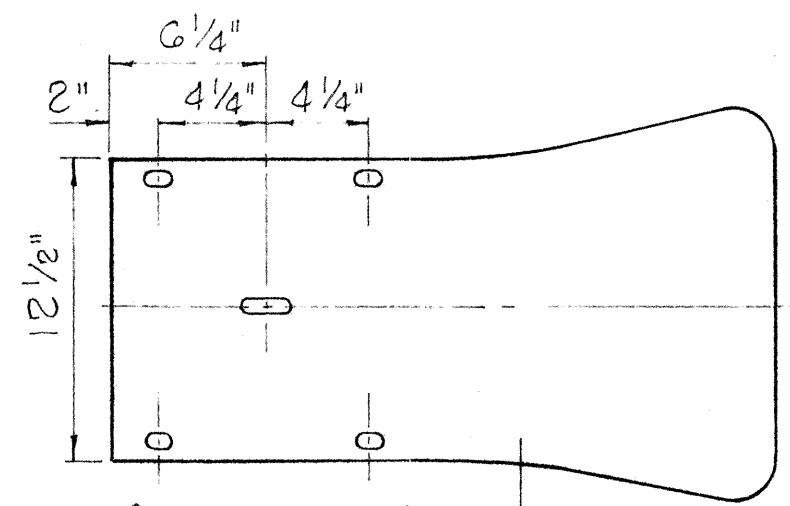
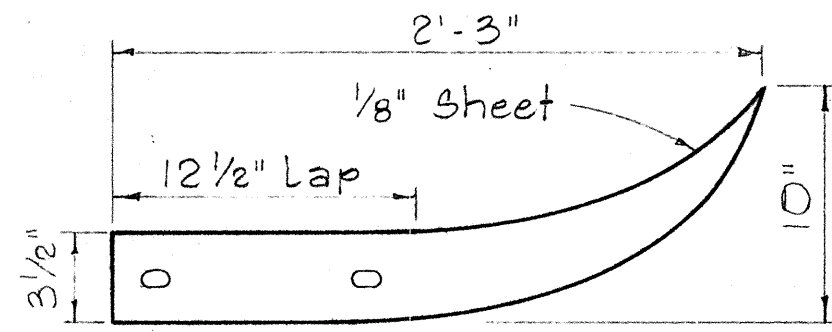
Scale: Full Size



Same as rail element section

SPECIAL END SHOE

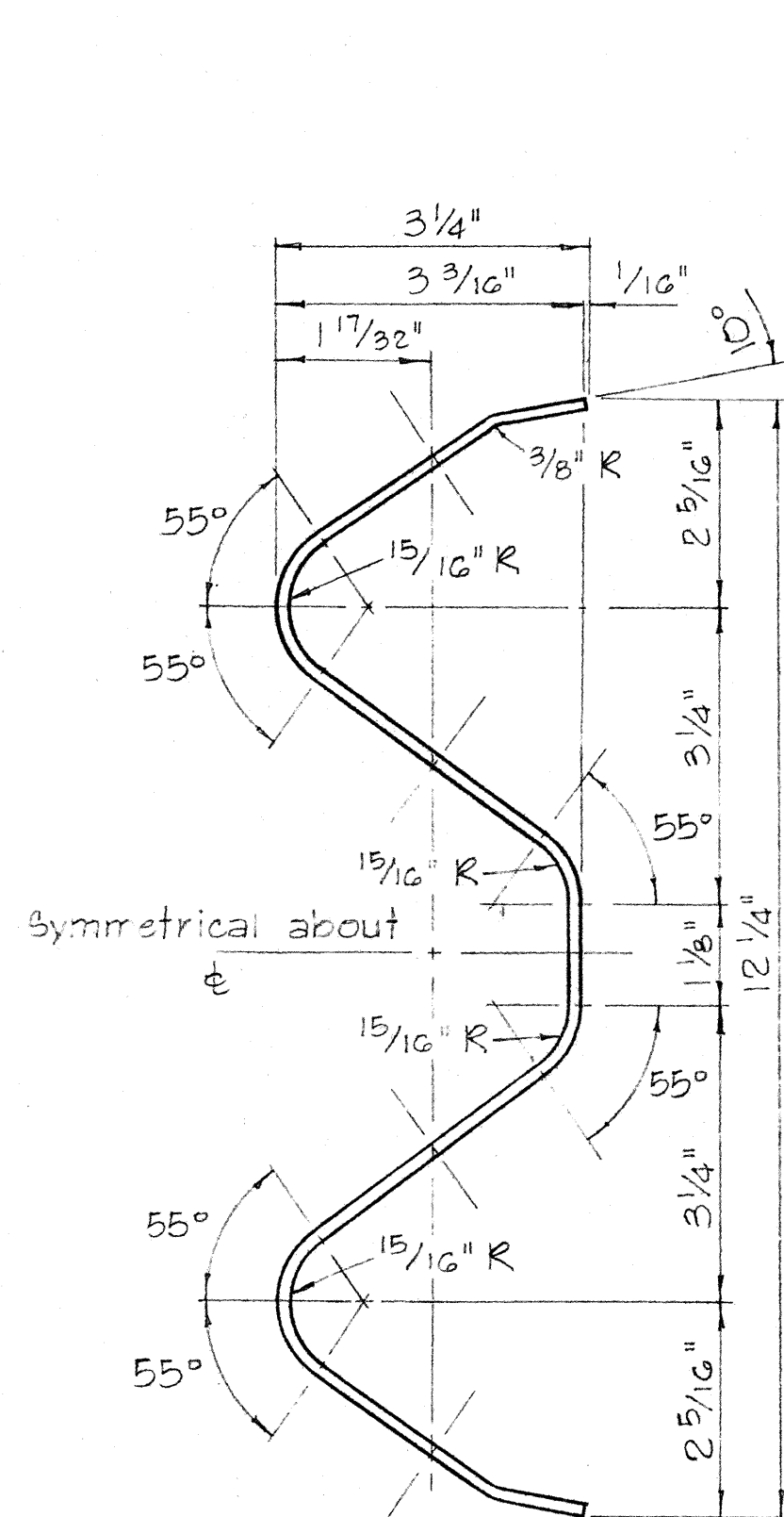
Scale: 1 1/2" = 1'-0"



Same as rail element section

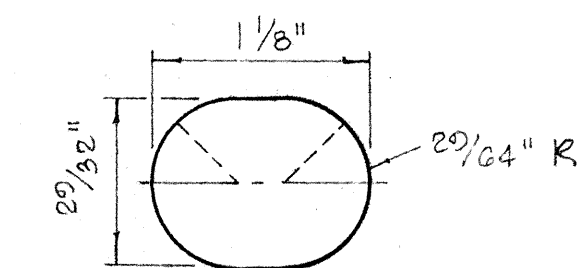
FLARED END

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



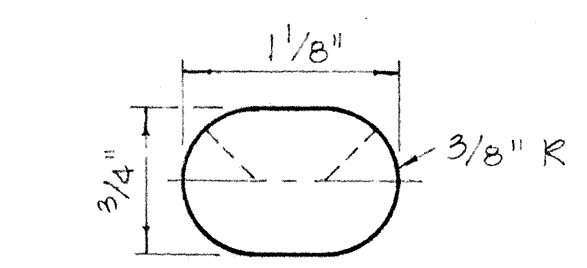
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

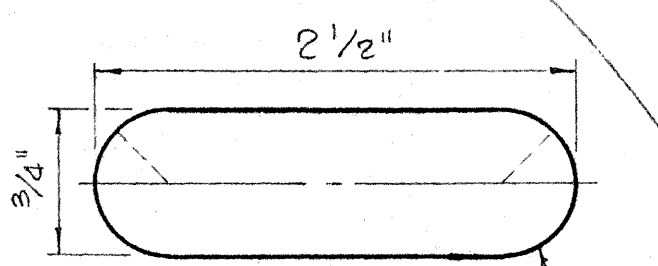


SPICE BOLT SLOT

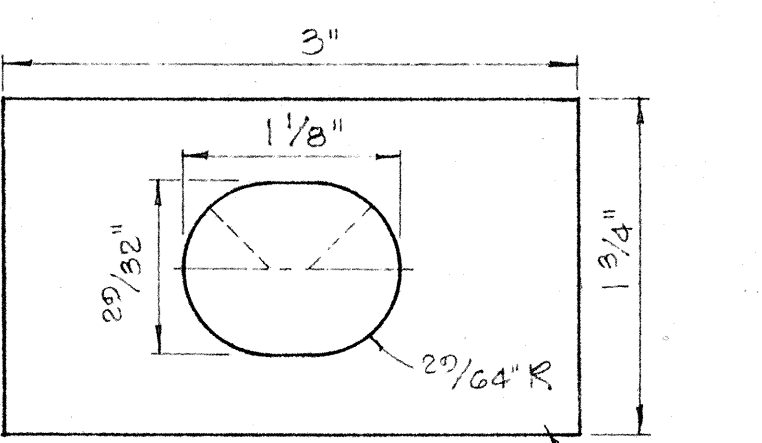
Scale: Full Size



SPICE BOLT SLOT FOR ALL ENDS



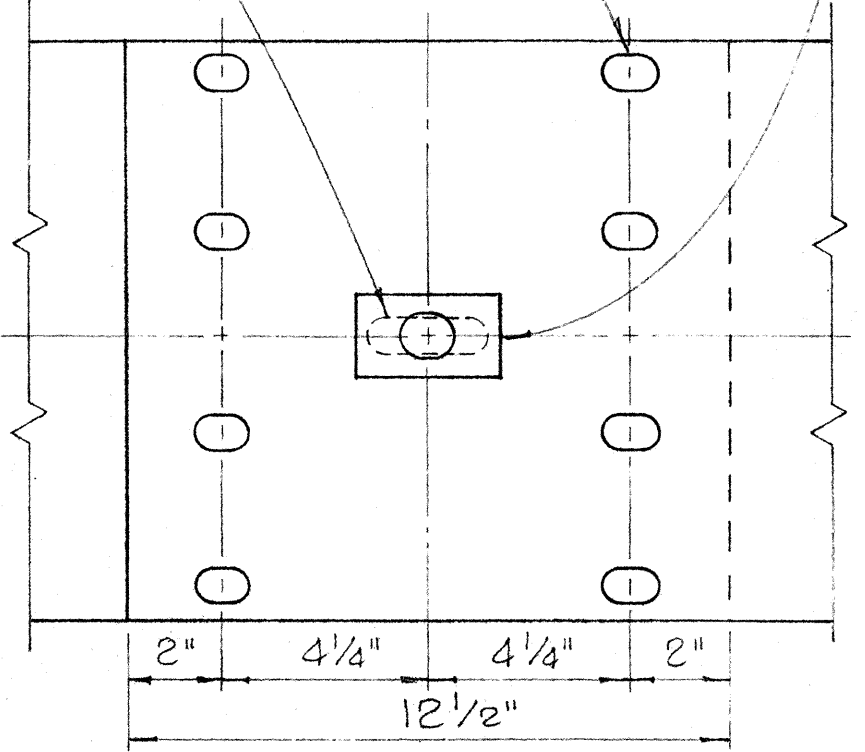
POST BOLT SLOT



RAIL WASHER

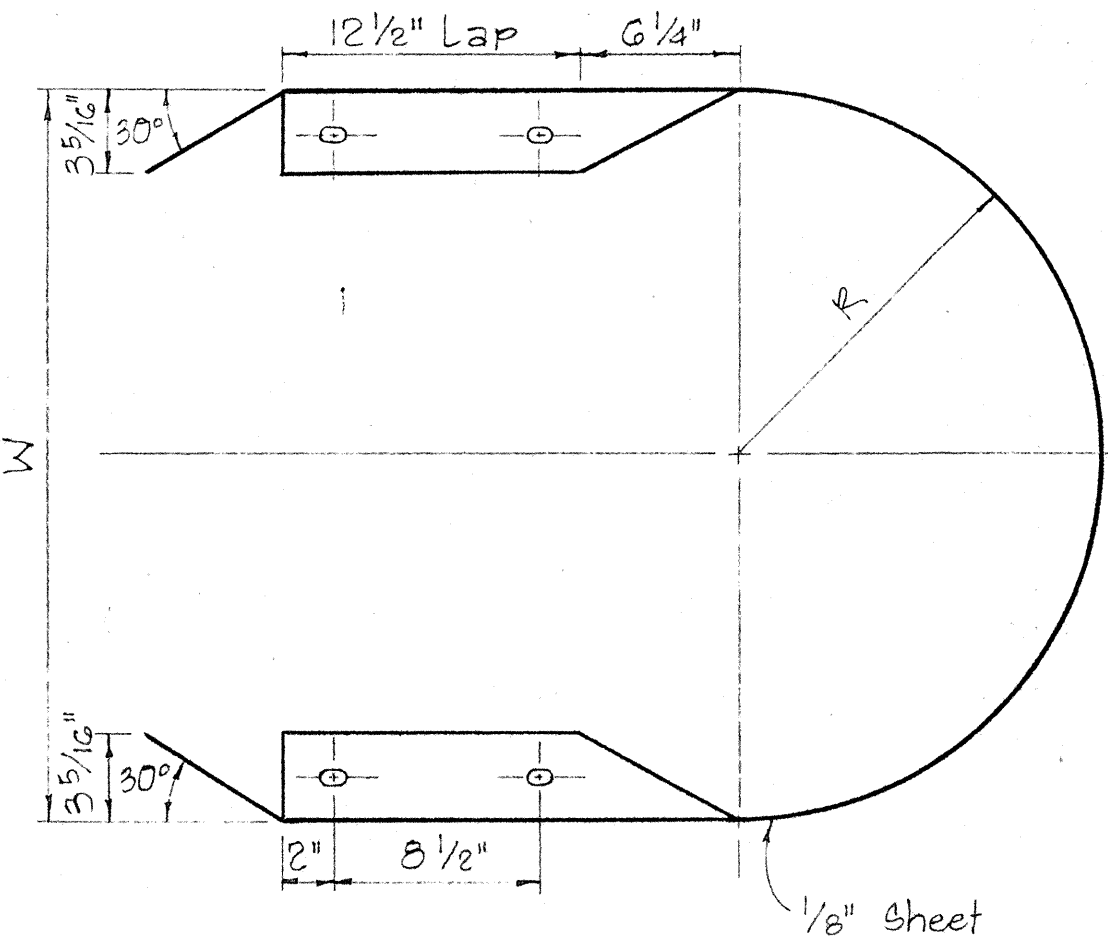
NOTES:

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 AASHO 180.

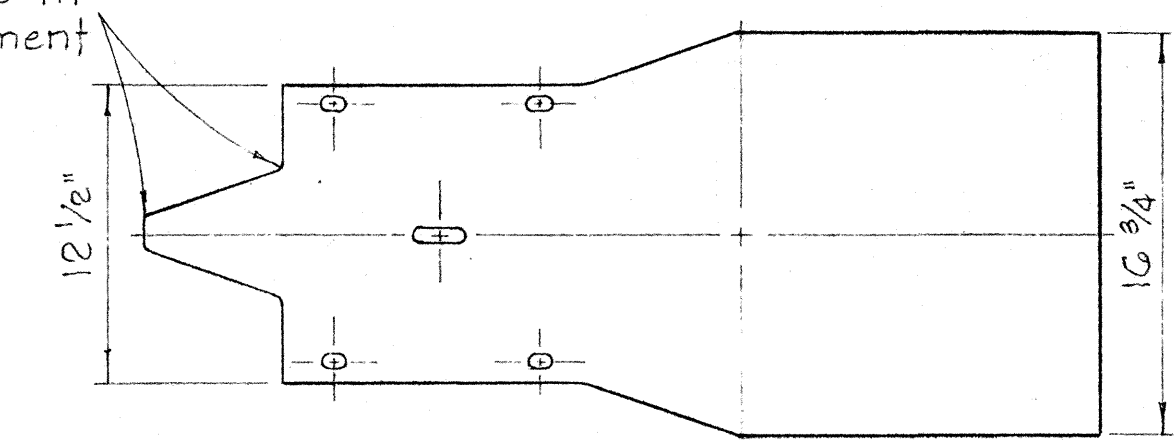


RAIL SPLICE

Scale: 3" = 1'-0"



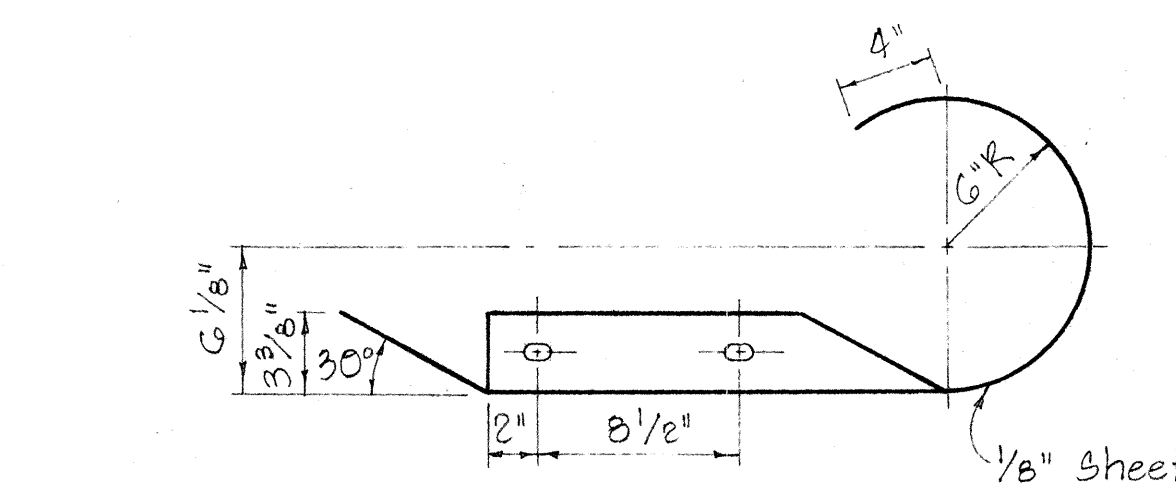
Shape to fit rail element



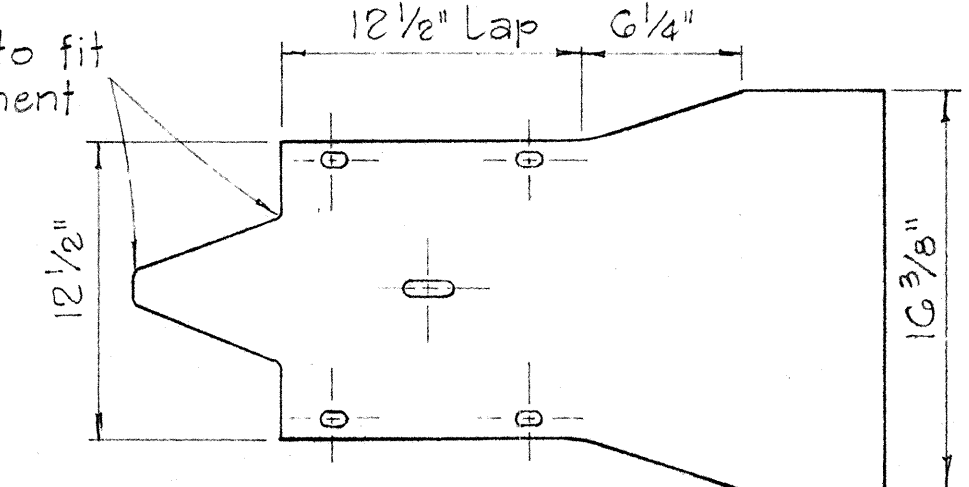
MEDIAN END

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 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"



Shape to fit rail element



CURVED END

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

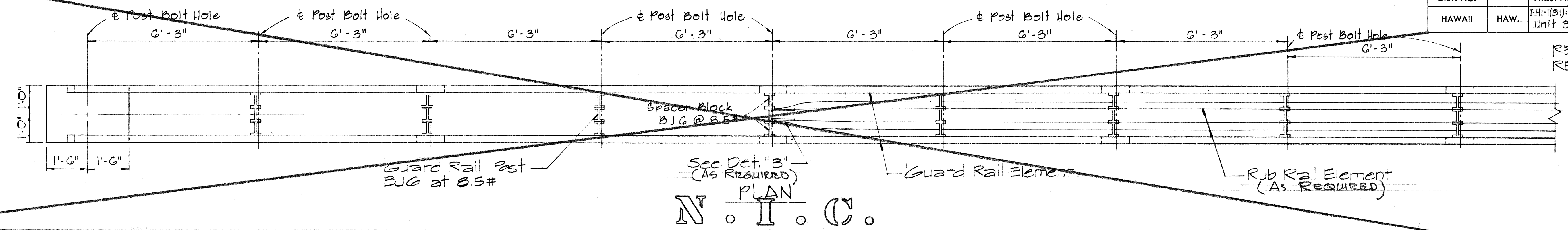
STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted August, 1968

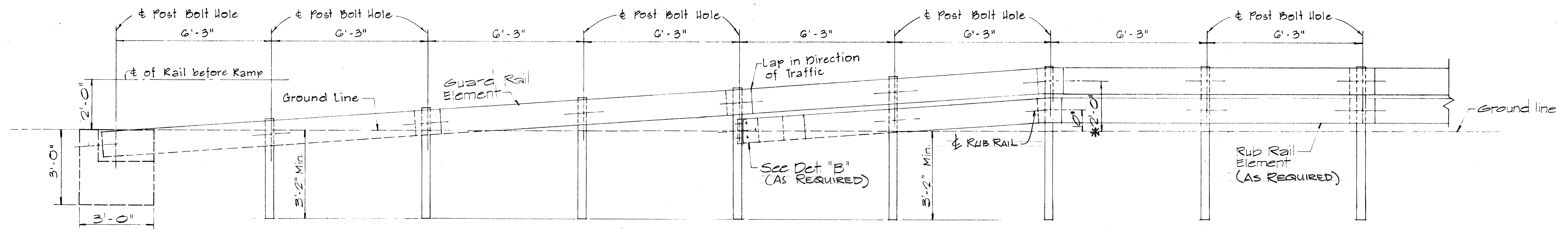
SHEET No. 4 OF 4 SHEETS DT 501

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(31)-21, Unit 3	1968	00105-1	47

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



N . I . C .



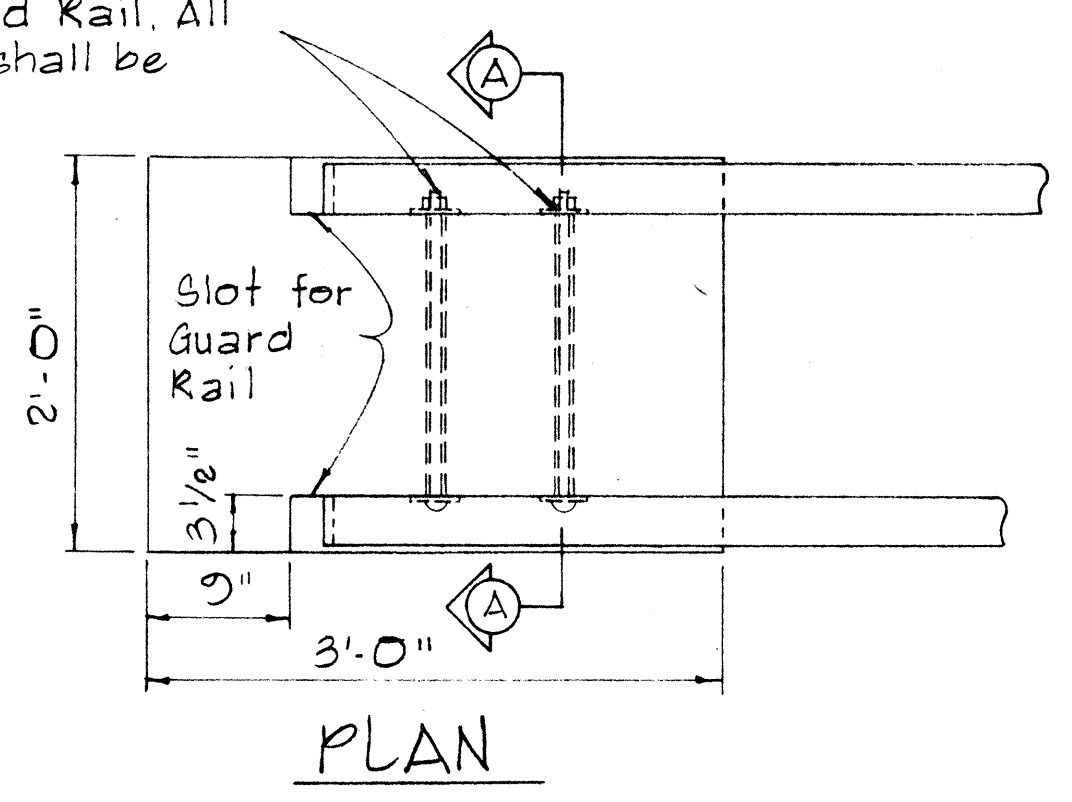
ELEVATION

STRAIGHT APPROACH - RAMP END ANCHORAGE (MEDIAN)

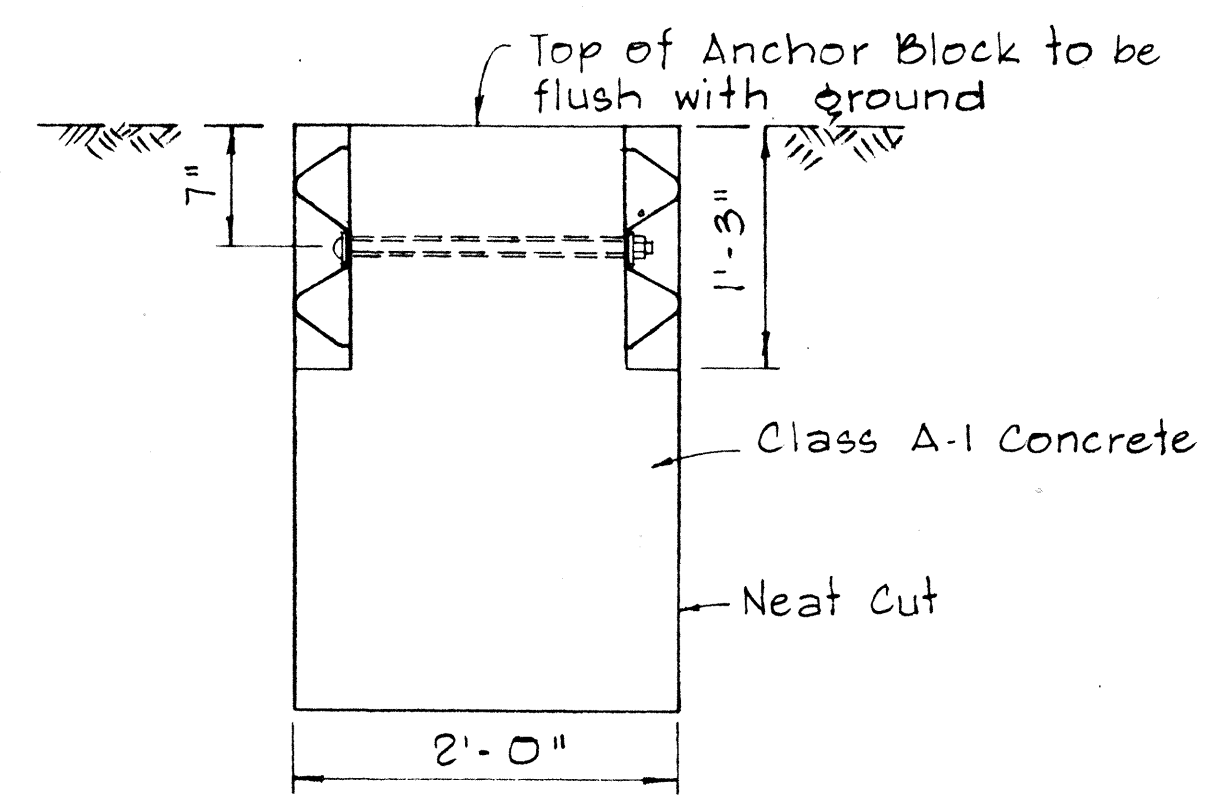
Scale: 1/2" = 1'-0"

* NOTES 1'-9" WHEN INSTALLED WITHOUT RUB RAIL

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

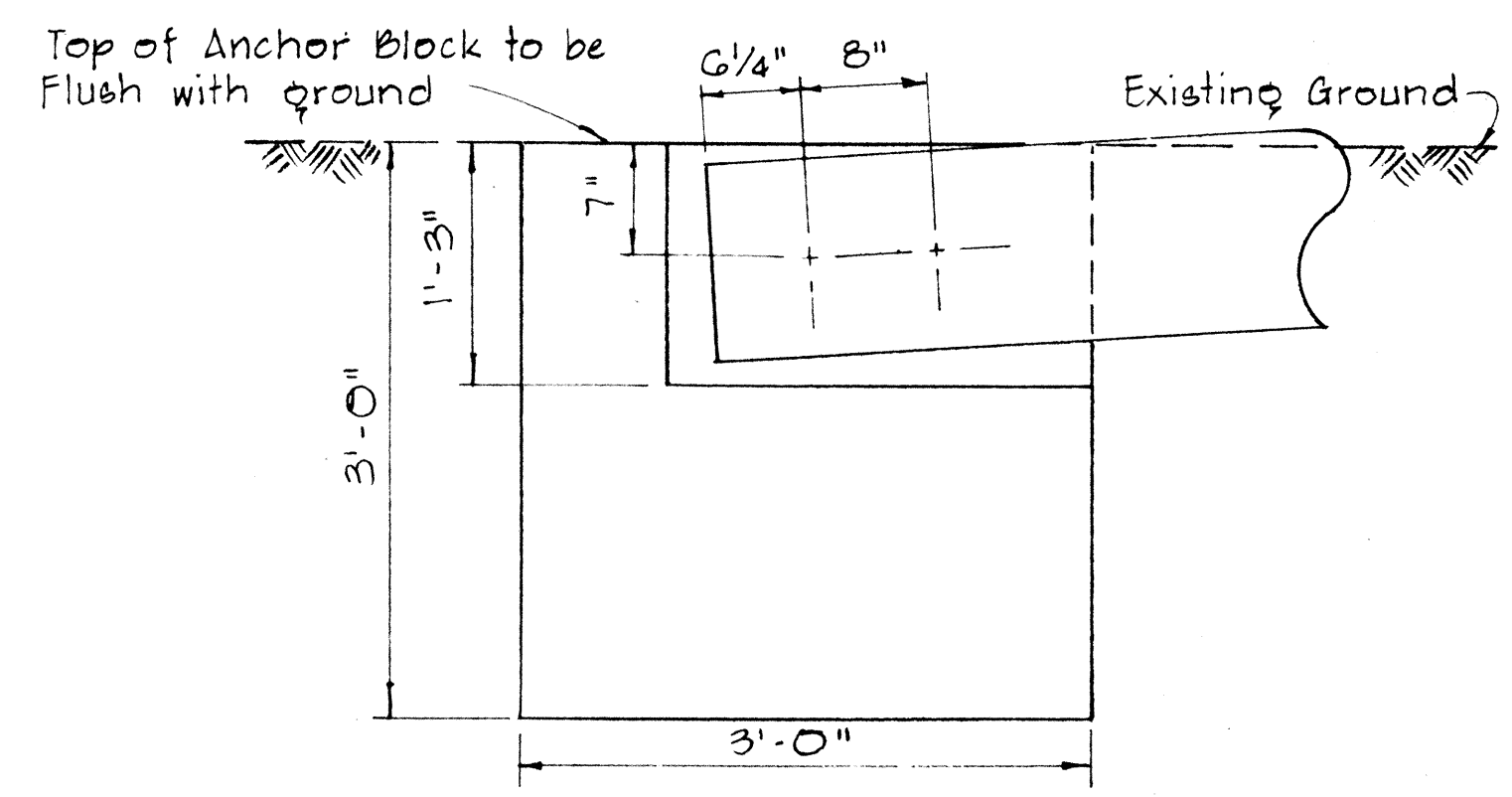


PLAN



SECTION A-A

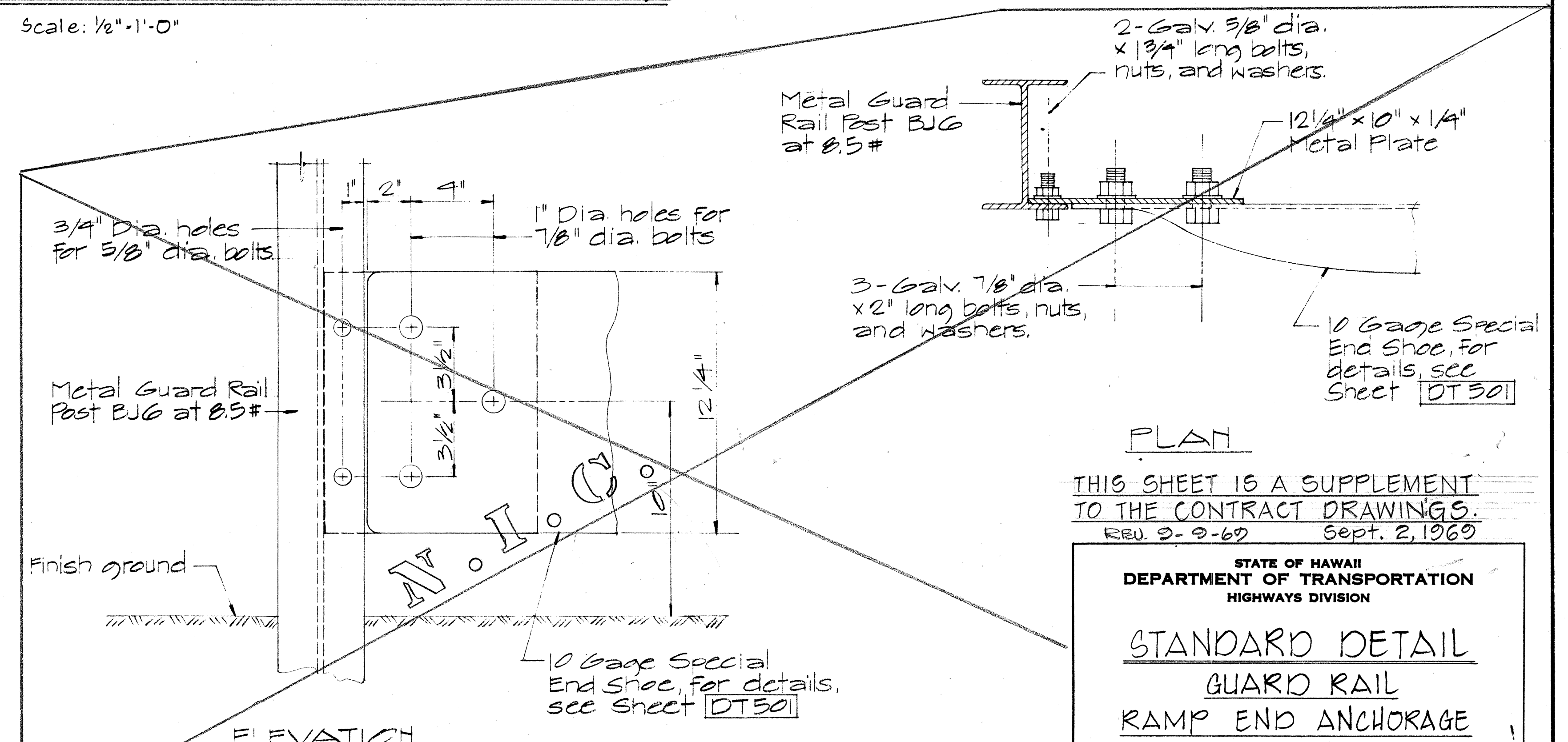
NOTE: Concrete, Excavation, and Miscellaneous Appurtenances necessary to anchor the Guard Rail Ends, shall be incidental to the Metal Guard Rail.



ELEVATION

CONCRETE ANCHOR BLOCK FOR RAMP END

Scale: 1" = 1'-0"



ELEVATION

DETAIL "B"

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

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

THIS SHEET IS A SUPPLEMENT TO THE CONTRACT DRAWINGS.
REV. 9-9-69 Sept. 2, 1969

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAIL
GUARD RAIL
RAMP END ANCHORAGE

Scale: as Noted

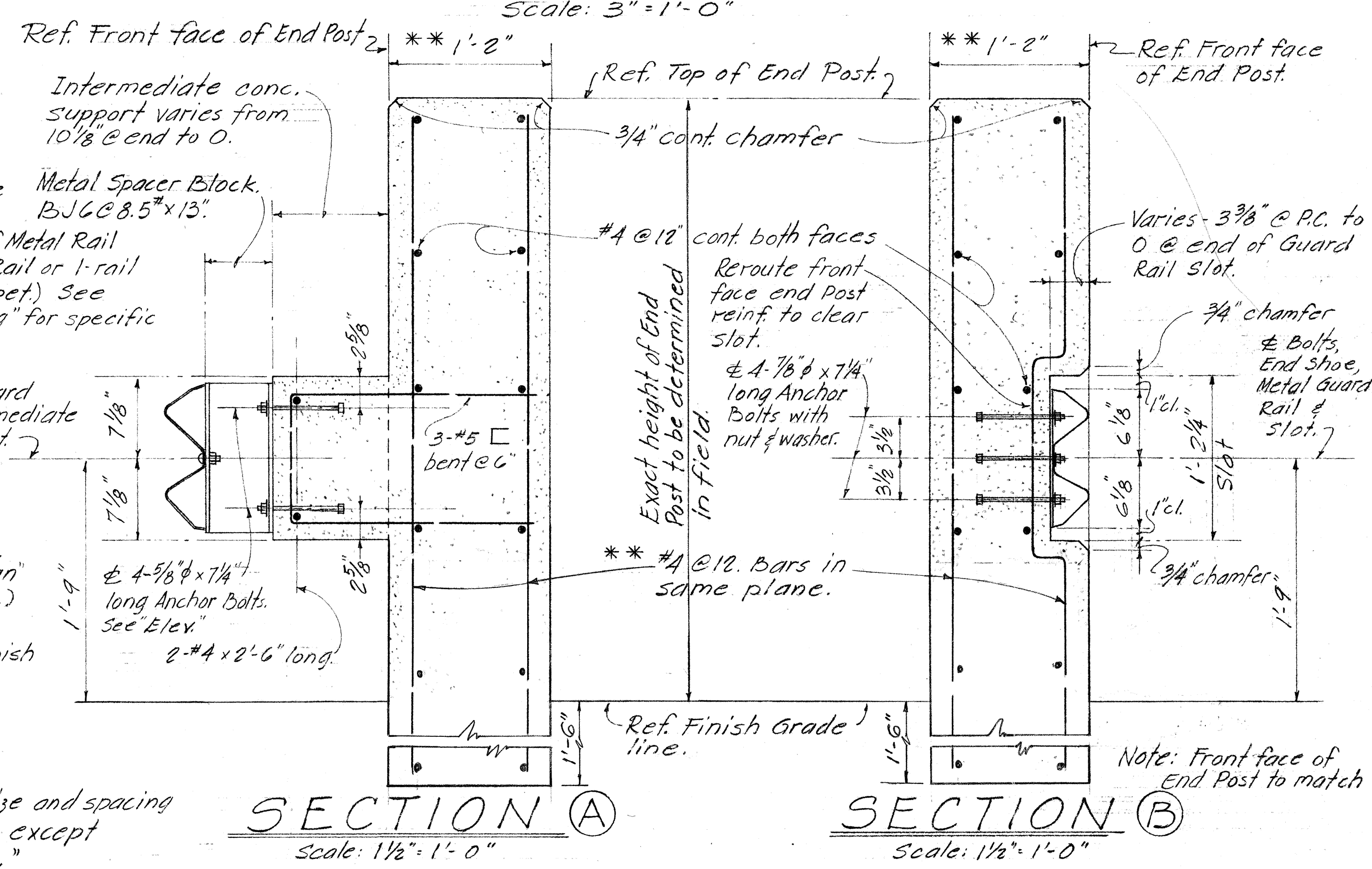
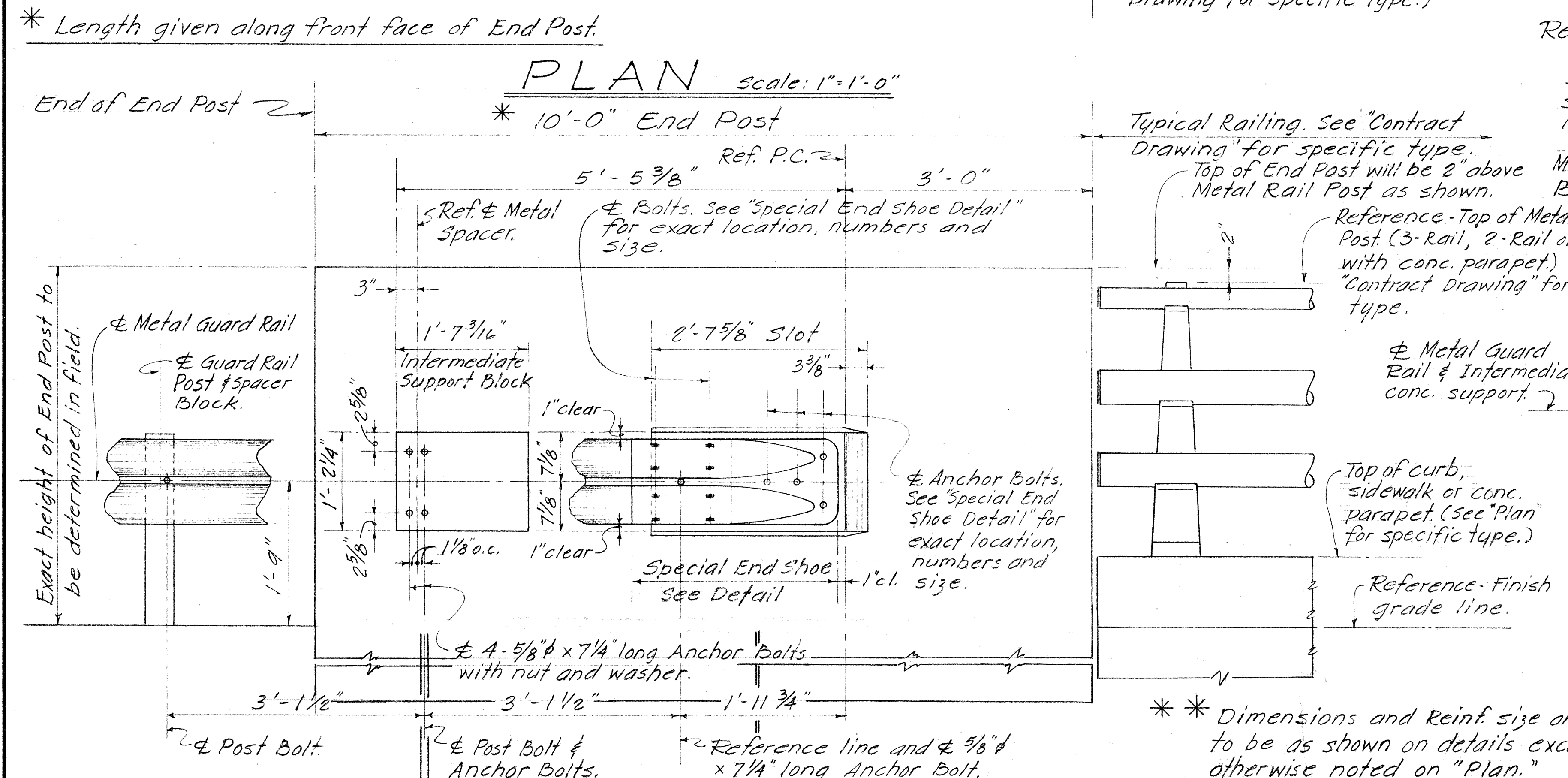
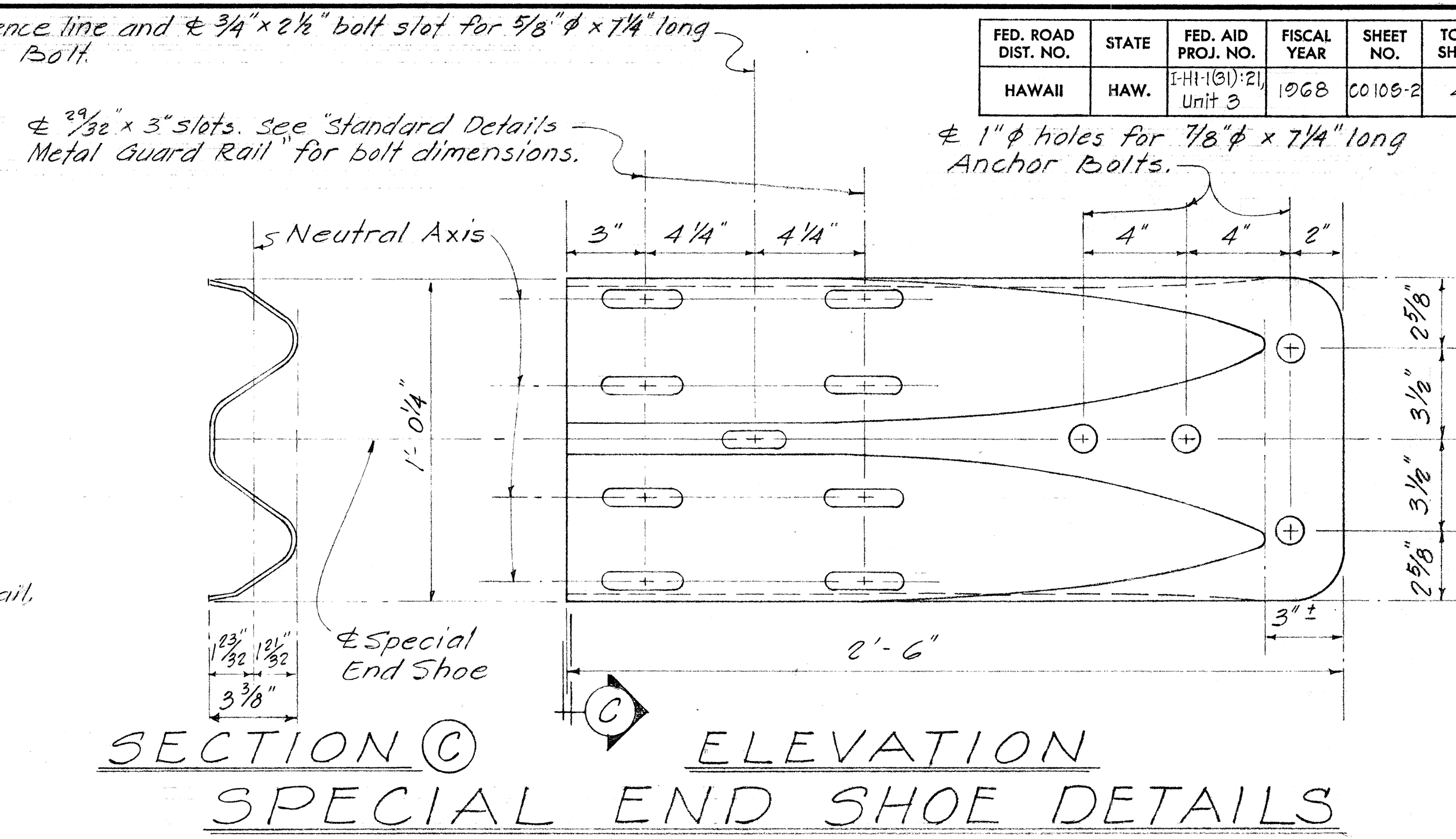
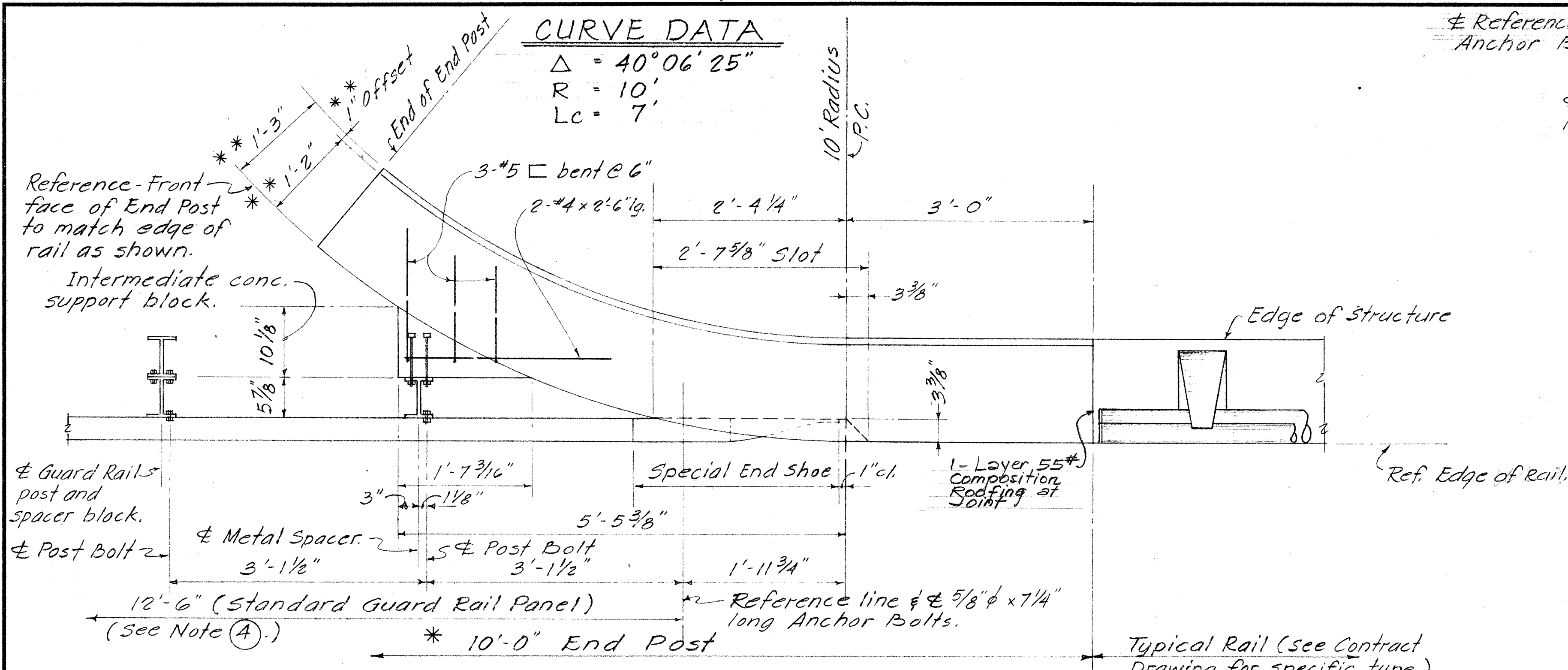
August, 1968

SHEET No. OF SHEETS DT 502

00105-1

DATE	
DESIGNED BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	
NOTE BOOK	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(31):21 Unit 3	1968	CO109-2	47



NOTES

- ① All Anchor Bolts shall be High Strength bolts conforming to the requirements of ASTM A-325.
 - ② All Shoe assembly, including anchor bolts, nuts and washers, shall be galvanized.
 - ③ Special End Shoe shall be fabricated from 10 gage steel conforming to the requirements of AASHTO 180.
 - ④ First Guard Rail Panel adjoining "Special End Shoe" shall be of galvanized steel. See Special Provisions for requirements.
 - ⑤ Anchor Bolt length given under bolt head.
 - ⑥ These details are applicable for connections to Retaining Walls also.
- THIS SHEET IS A SUPPLEMENT

THIS SHEET IS A SUPPLEMENT
TO THE CONTRACT DRAWINGS.
REV. 7-7-67 Sept. 2, 1969

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONNECTION DETAIL OF
METAL GUARD RAIL TO
VERTICAL FACED END POST

SCALE AS SHOWN
DATE: MARCH, 1969

SHEET No. OF SHEETS

COLOS-2