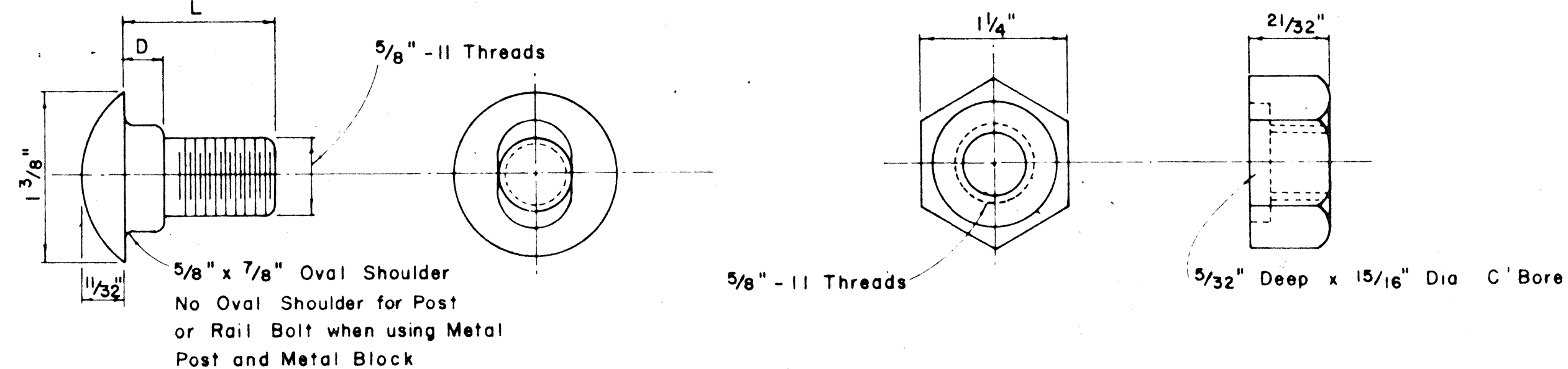
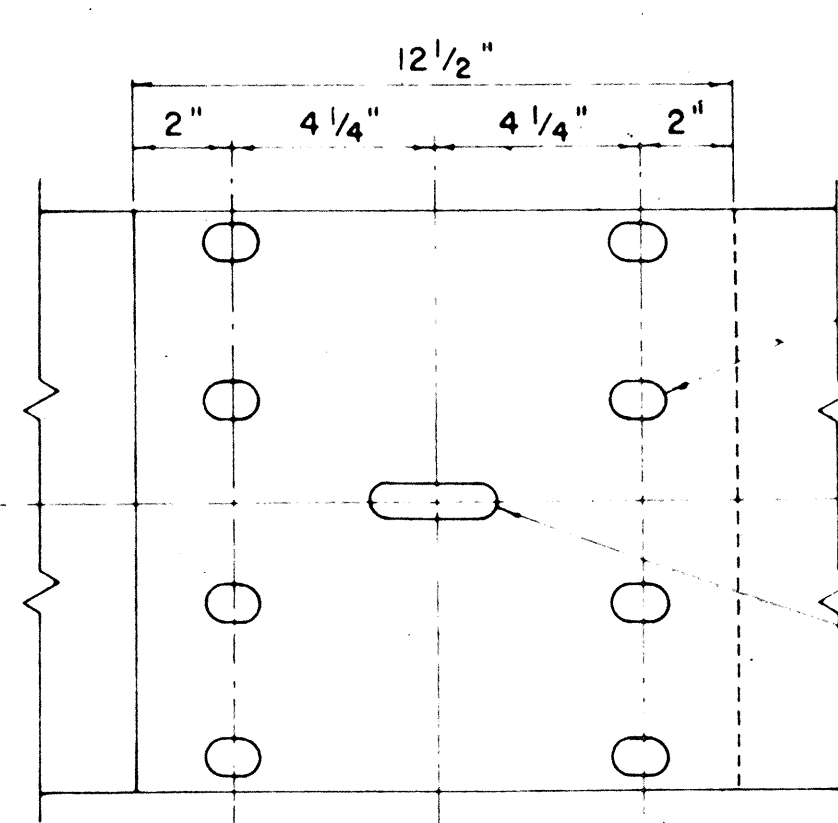


BOLT DIMENSIONS		
TYPE BOLT	D	L
Splice Bolt	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Double Wood Blocks	3/32"	25"
Rail Bolt for Metal Block	3/32"	2"
Post Bolt for Metal Post w/ Metal Block	0"	1 3/4"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	18"

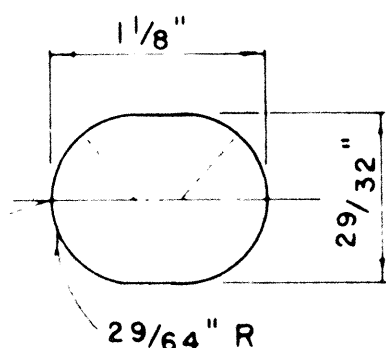


SPLICE RAIL AND POST BOLTS
Scale: Full Size

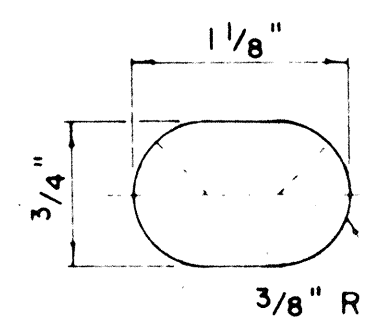
HEXAGON NUT
Scale: Full Size



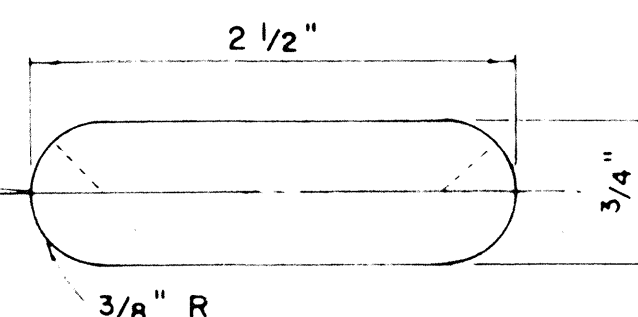
RAIL SPLICE
Scale: 3" = 1' - 0"



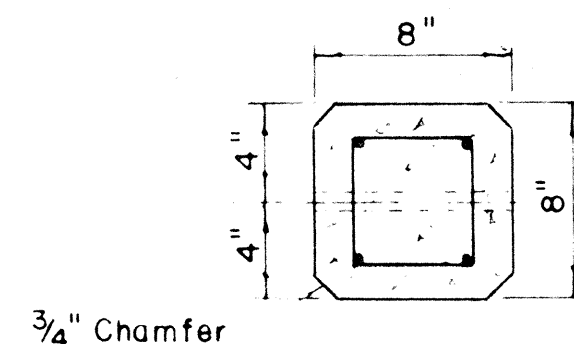
SPLICE BOLT SLOT



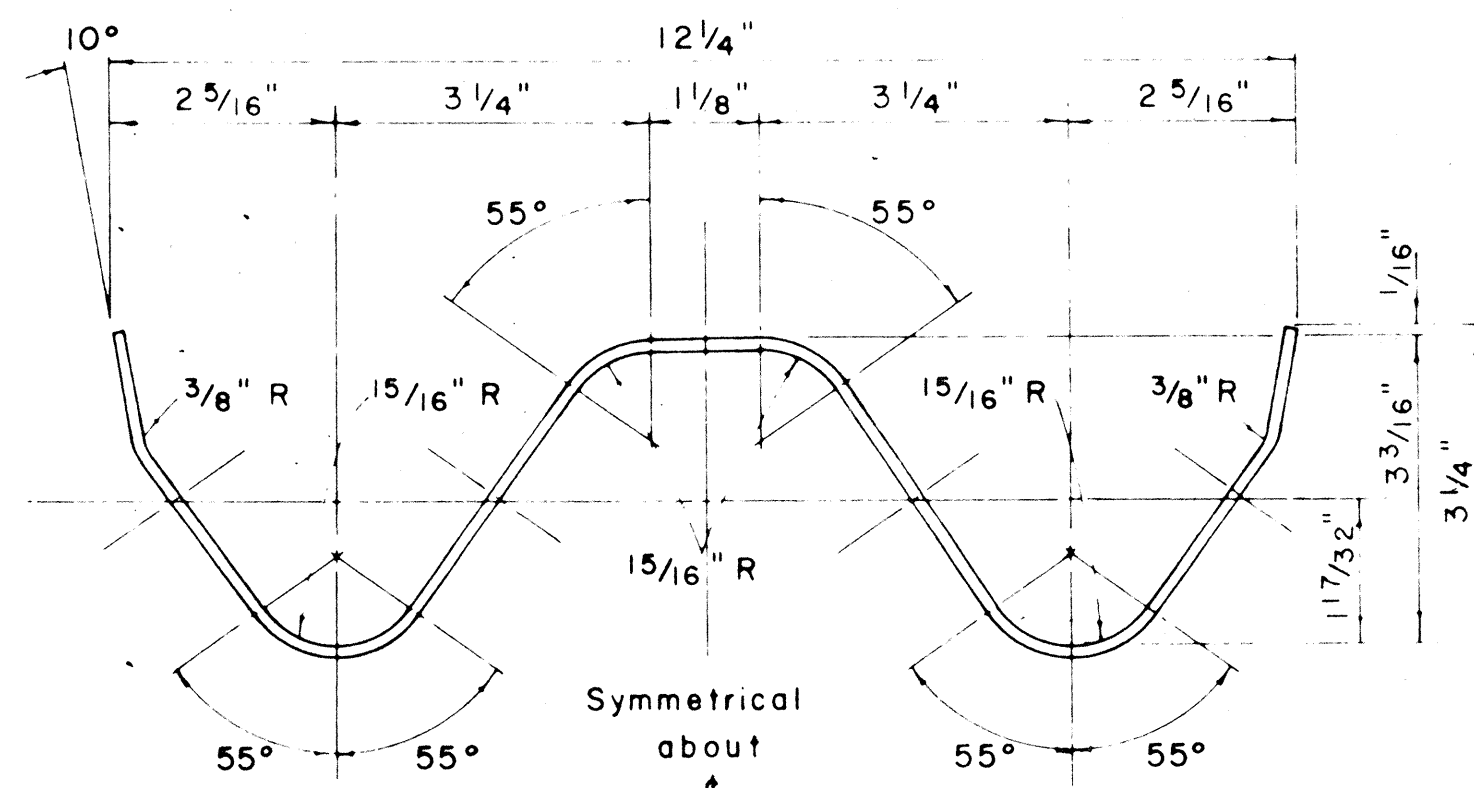
SPLICE BOLT SLOT FOR ALL ENDS



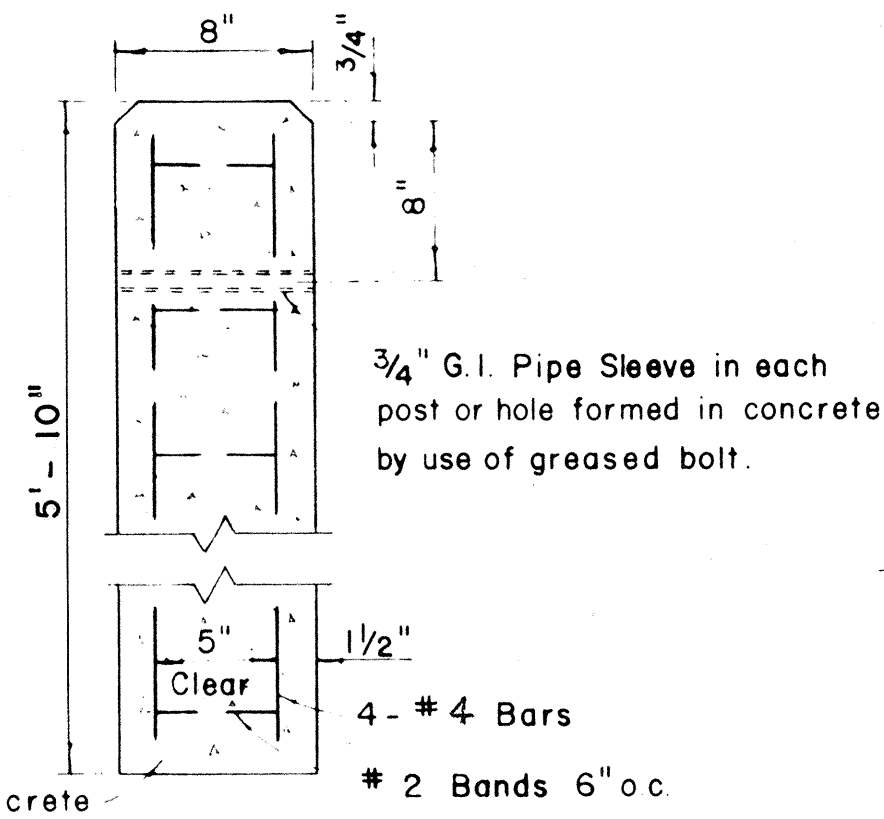
POST BOLT SLOT
Scale: Full Size



3/4" Chamfer

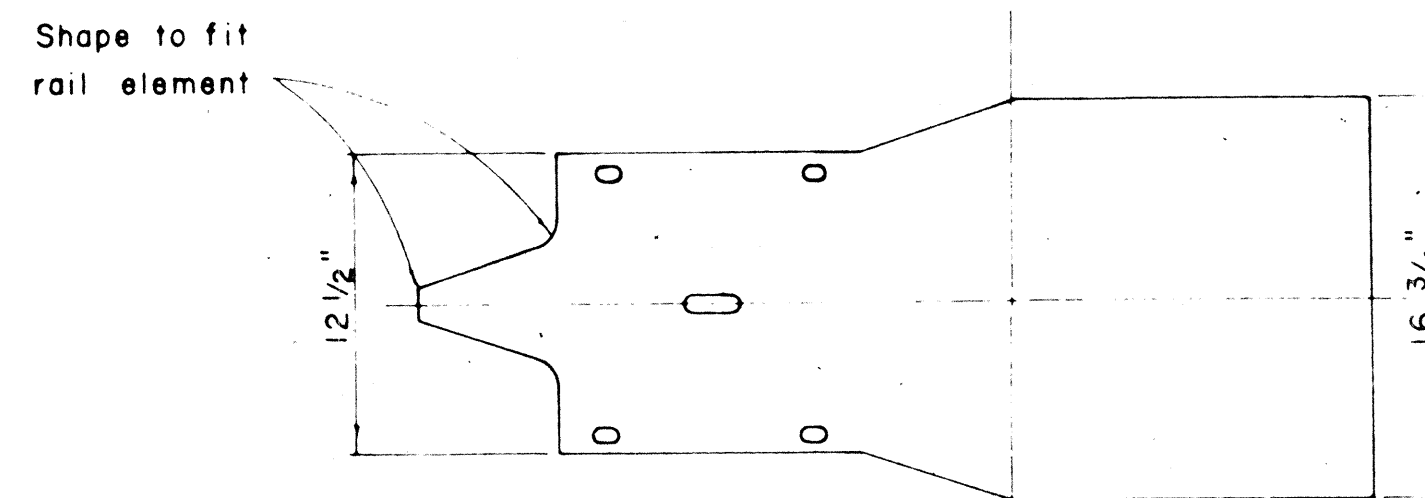
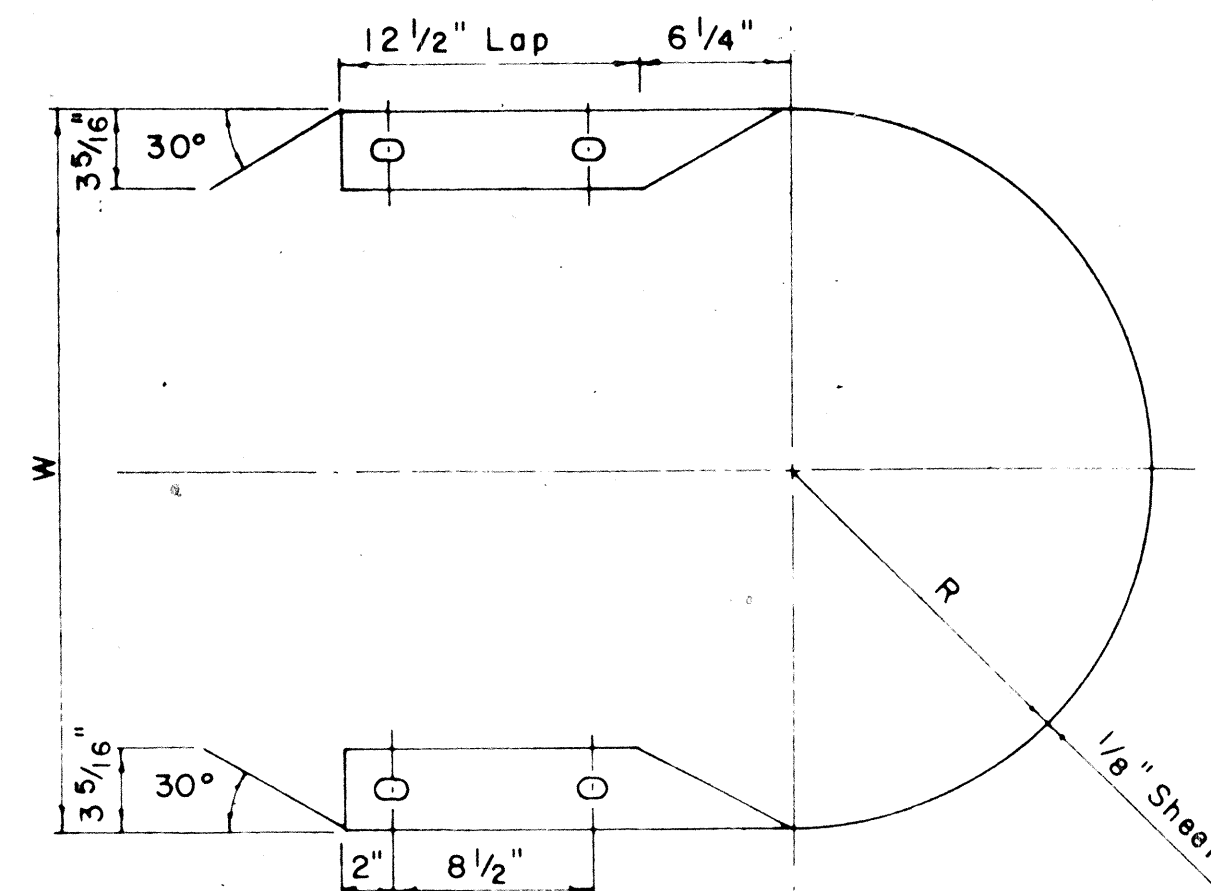


RAIL ELEMENT SECTION
Scale: 6" = 1' - 0"



Class "A-1" Concrete
NOTE: Concrete post shall be precast

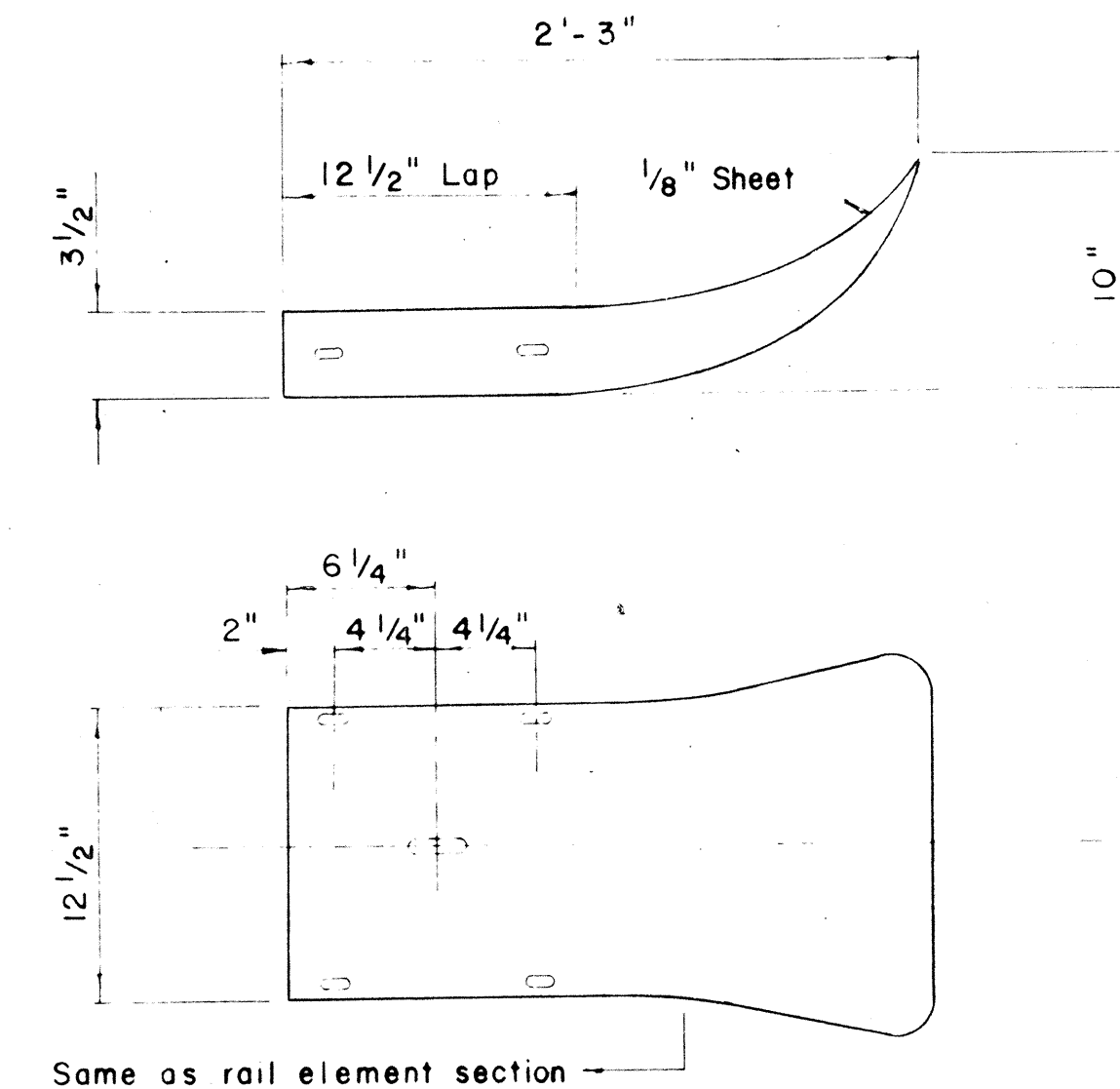
DETAIL OF CONCRETE POST
Scale: 1 1/2" = 1' - 0"



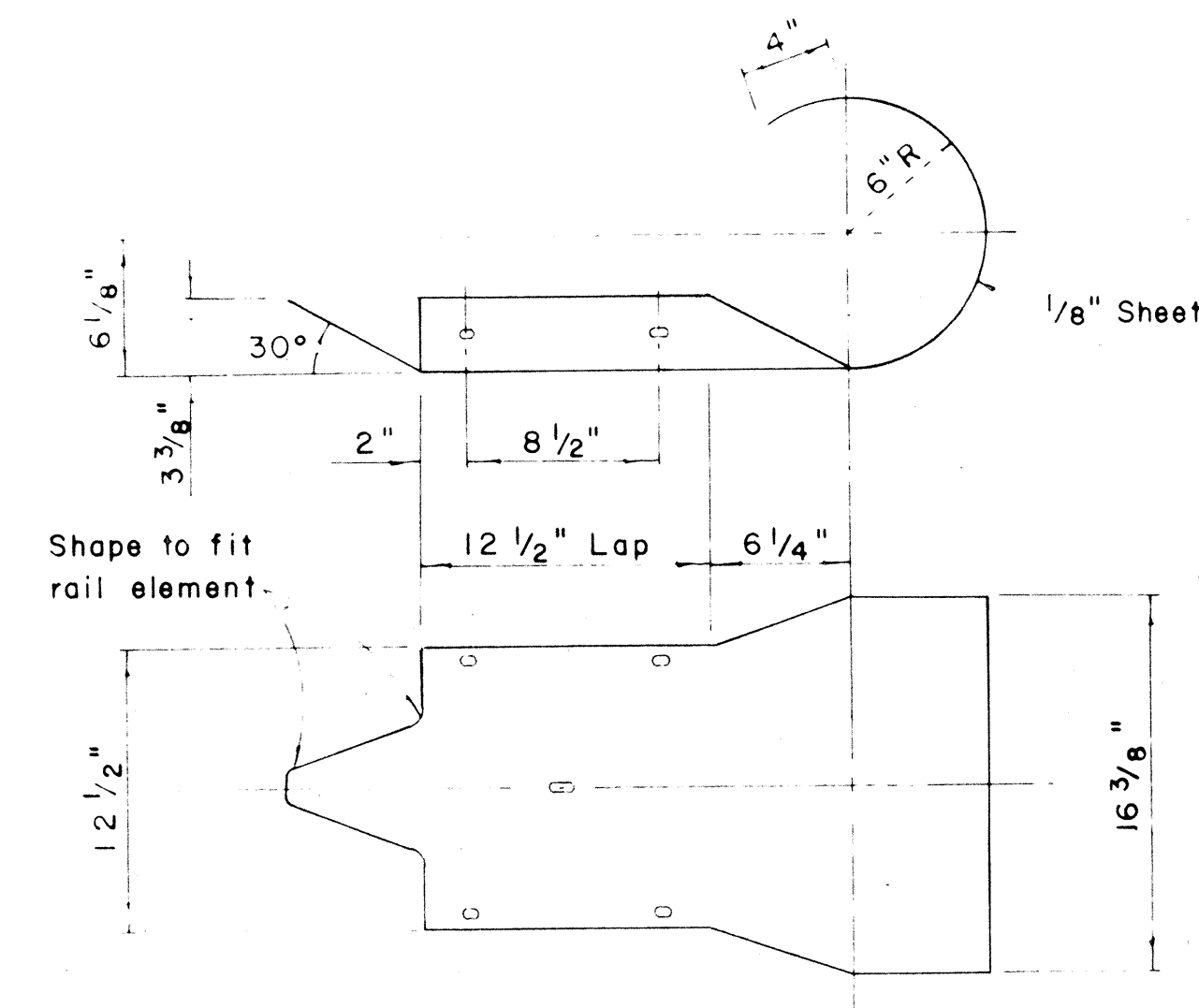
MEDIAN END
Scale: 1 1/2" = 1' - 0"

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 Metal Post with Metal Blocks (B J 6)	24 3/4"	12 3/8"

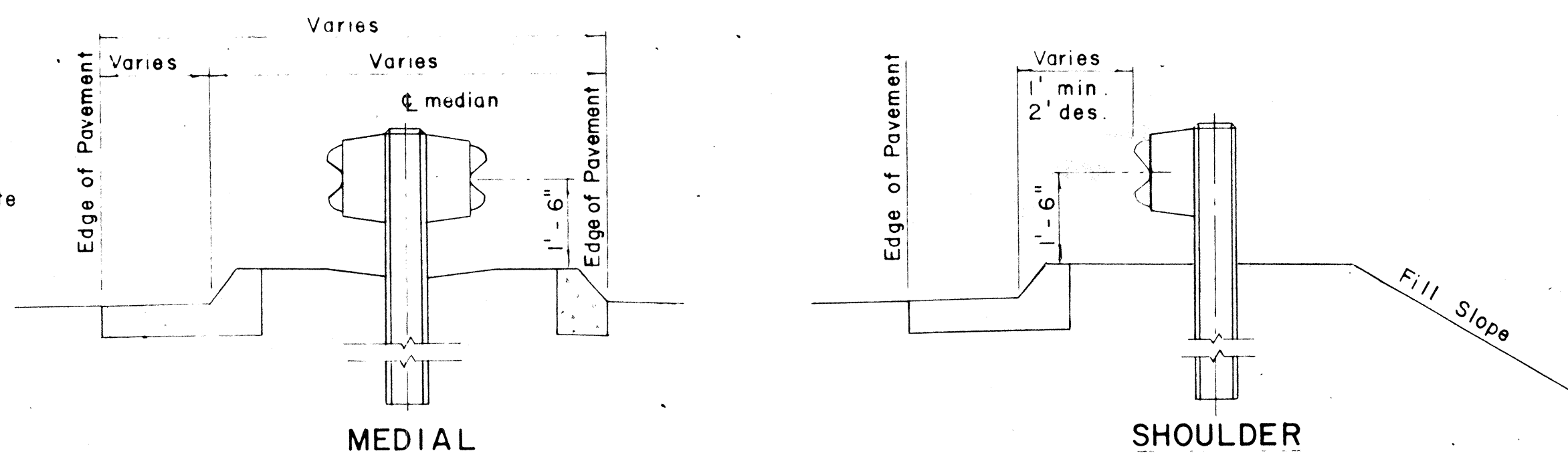
MEDIAN END DIMENSIONS



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



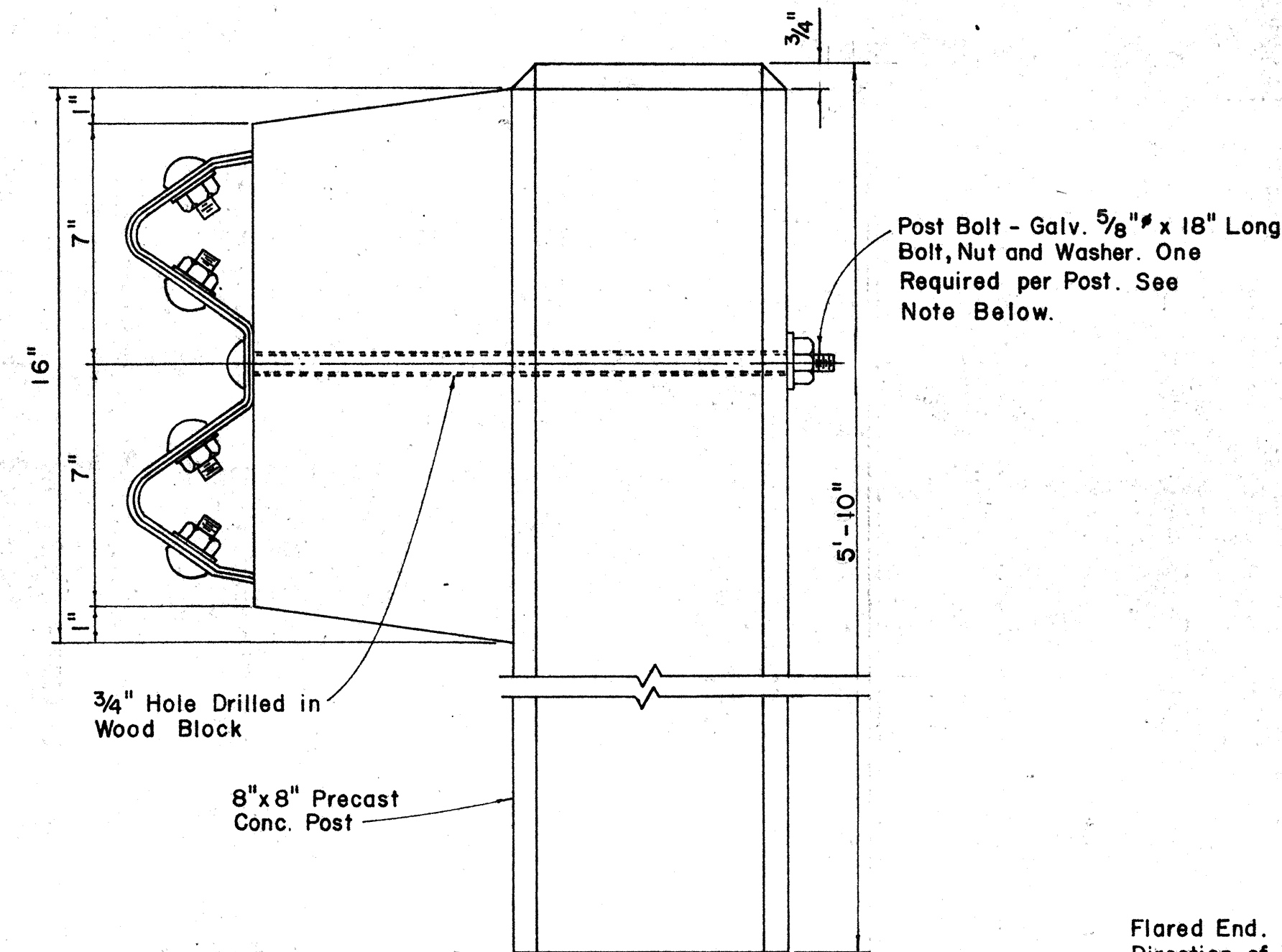
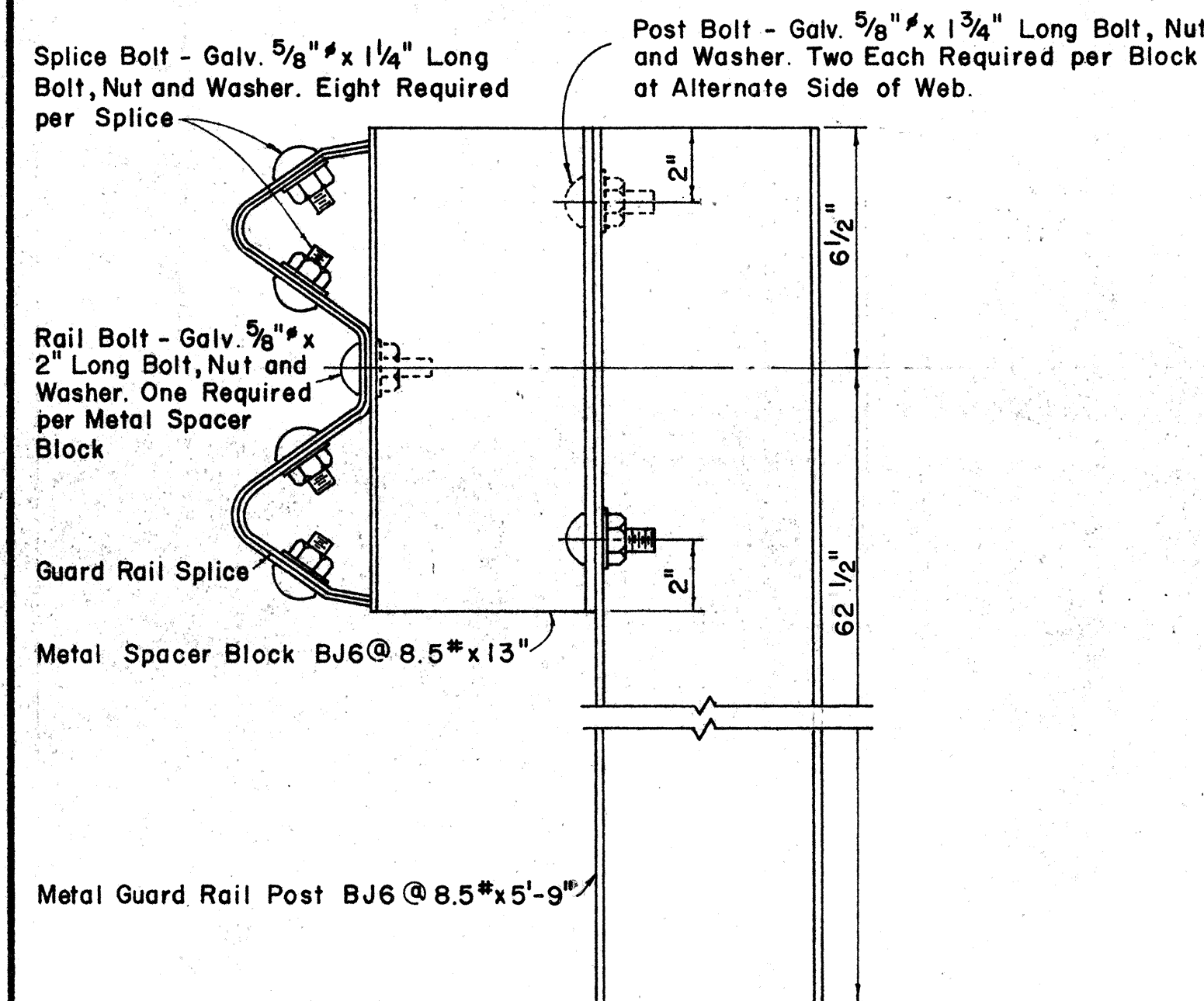
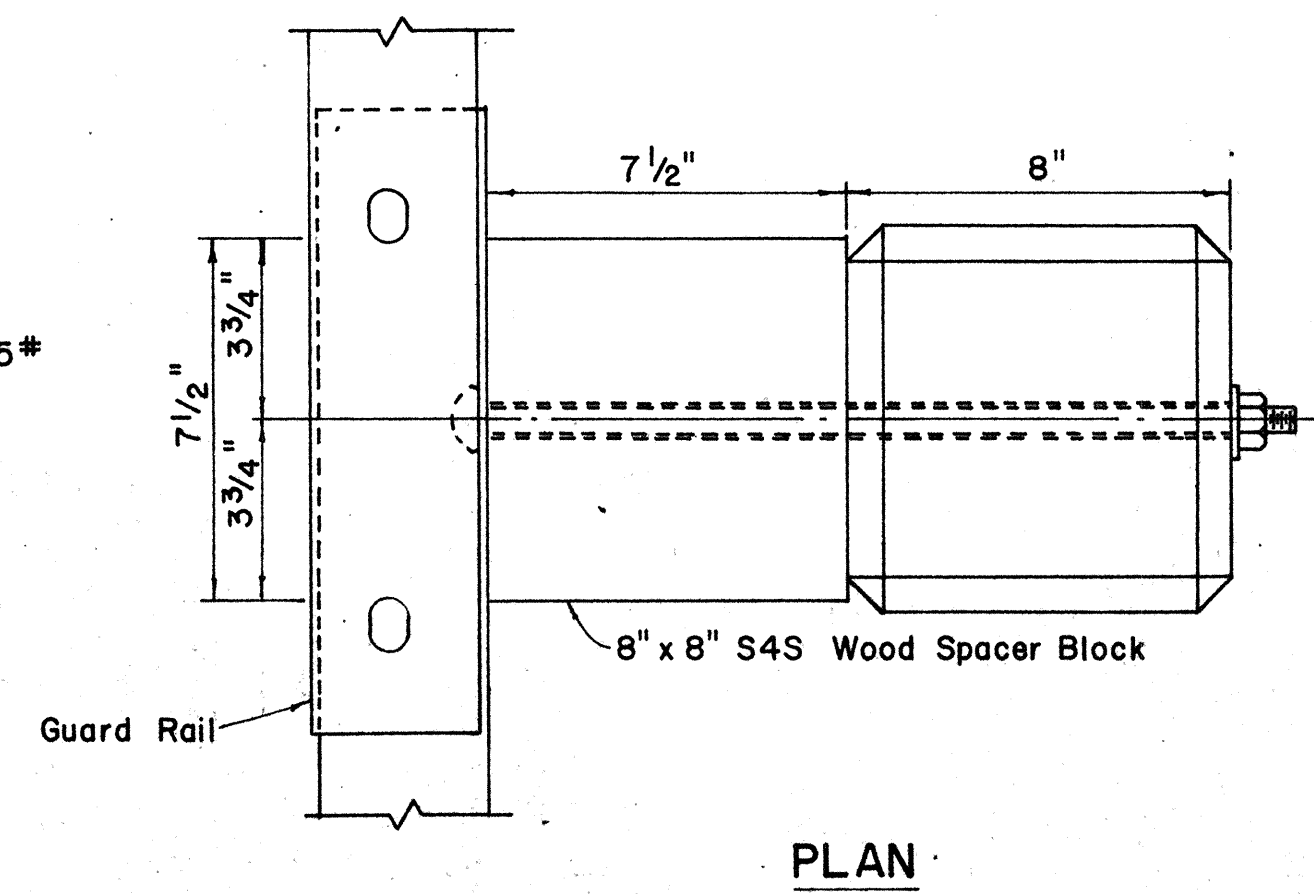
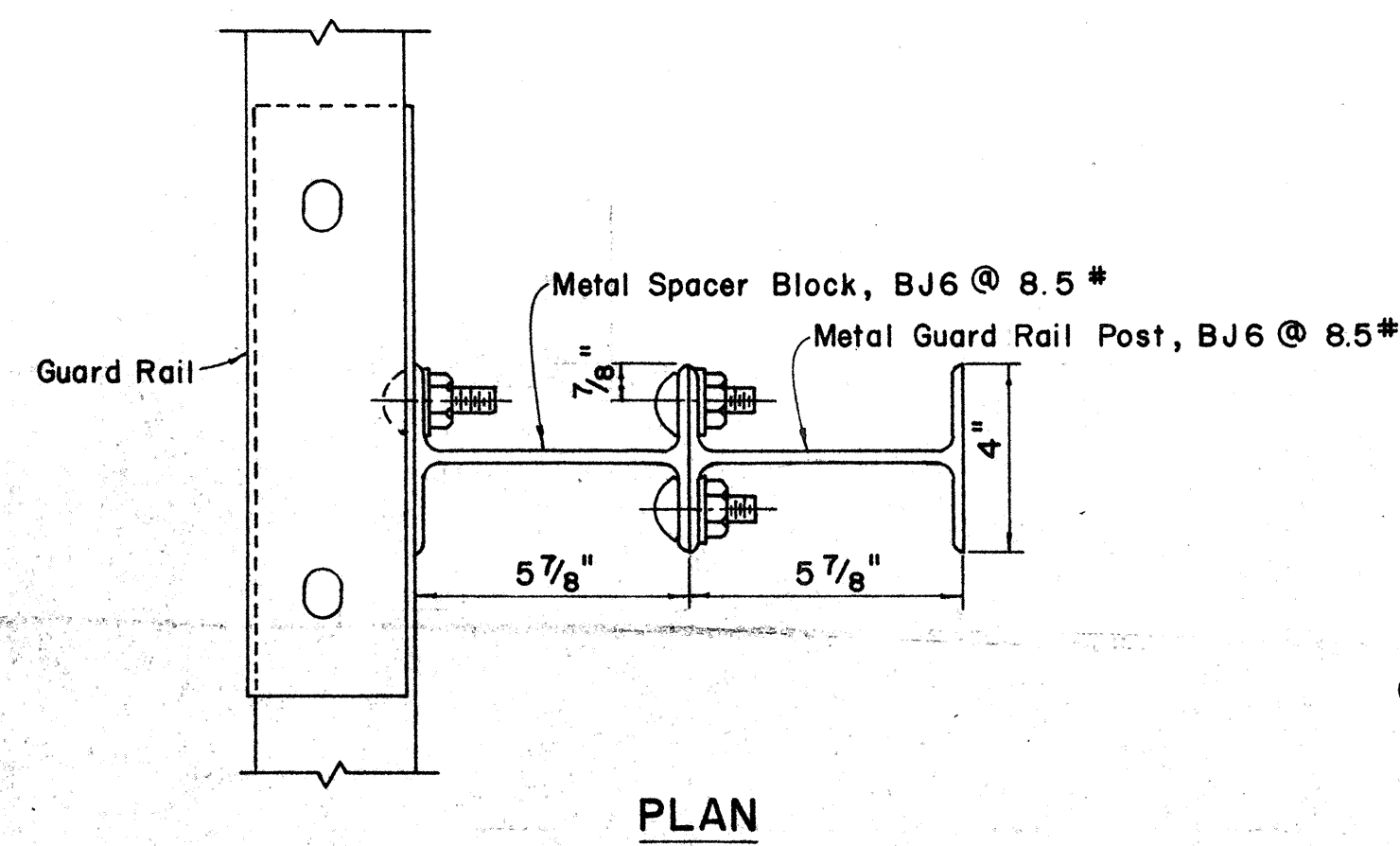
CURVED END
Scale: 1 1/2" = 1' - 0"



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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL



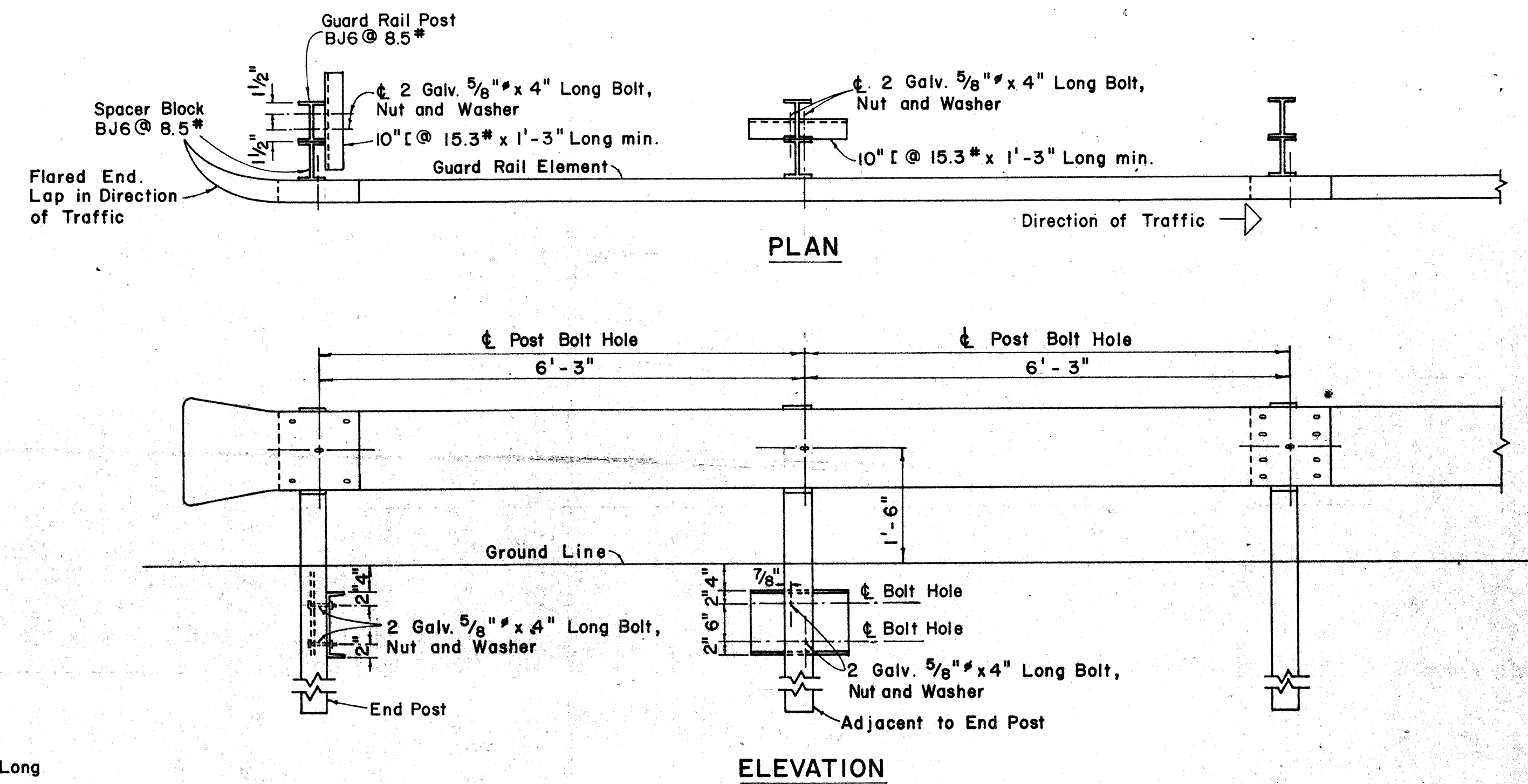
Wood Blocks shall be Douglas Fir, "Construction Grade - Posts and Timbers," 1200c, Pressure Treated with Preservative as called for in the Special Provisions.

SINGLE GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
Scale: 3" = 1' - 0"

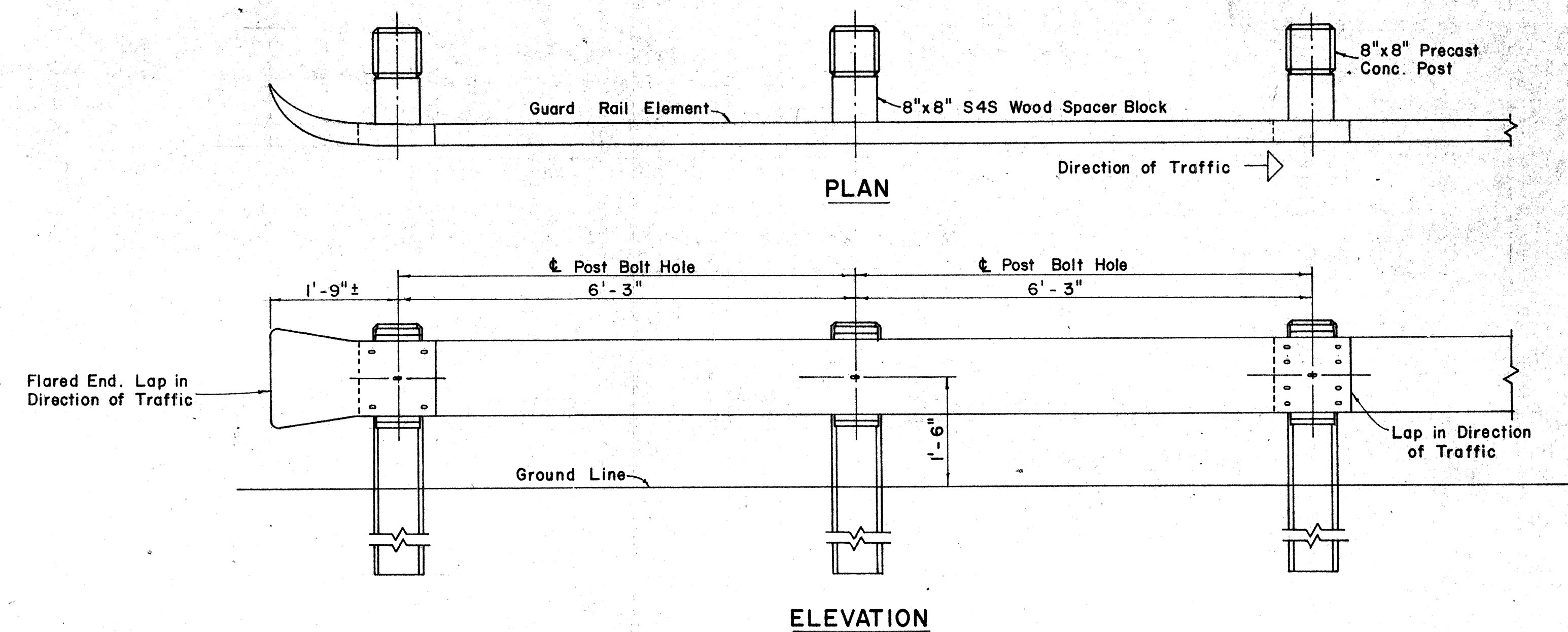
SINGLE GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD SPACER BLOCK
Scale: 3" = 1' - 0"

NOTE:
Single Guard Rails Shown. For Double Guard Rails Additional Spacer Blocks and Rail Elements Required on Opposite Side of Posts. See Bolt Schedule for Required Bolt Lengths.

DETAILS FOR SINGLE GUARD RAIL
Scale: As Shown



METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
Scale: 3/4" = 1' - 0"

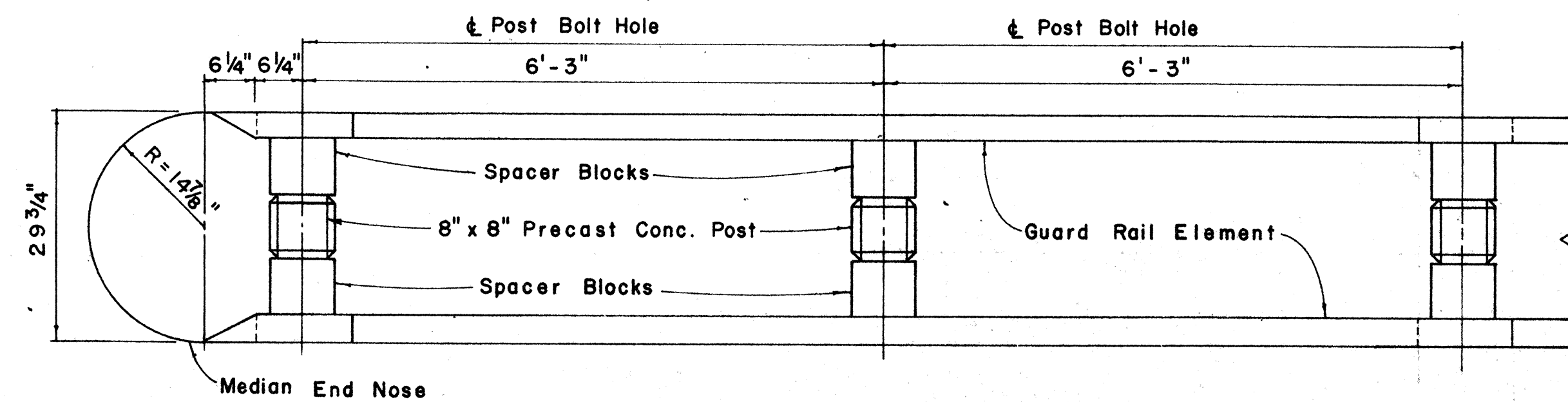


METAL GUARD RAIL ON CONCRETE POST WITH WOOD SPACER BLOCK
Scale: 3/4" = 1' - 0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

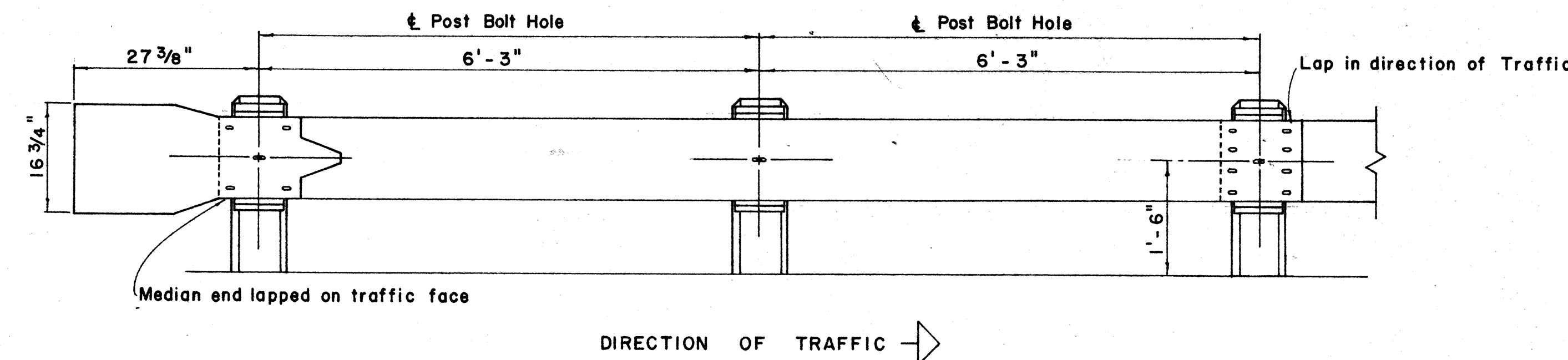
STANDARD DETAILS
METAL GUARD RAIL

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-216-2(2)	1966	9	22



PLAN

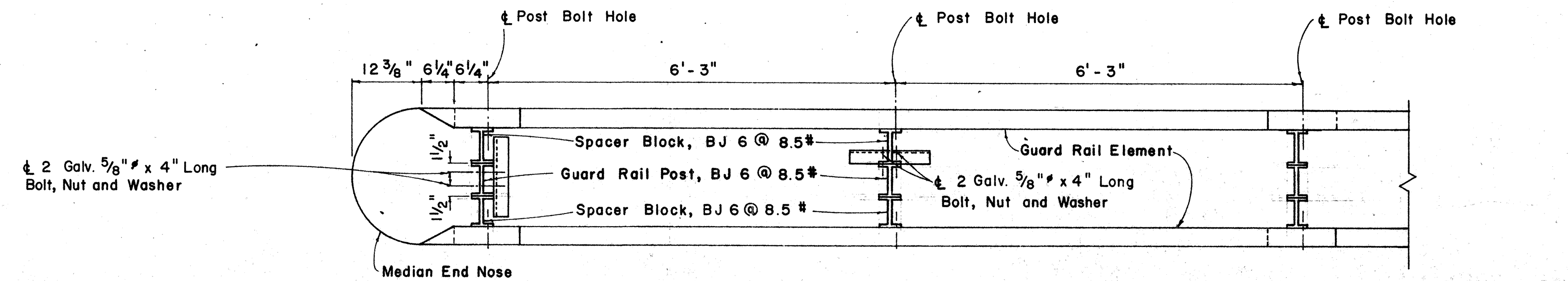
Scale: $\frac{3}{4}$ " = 1' - 0"



ELEVATION

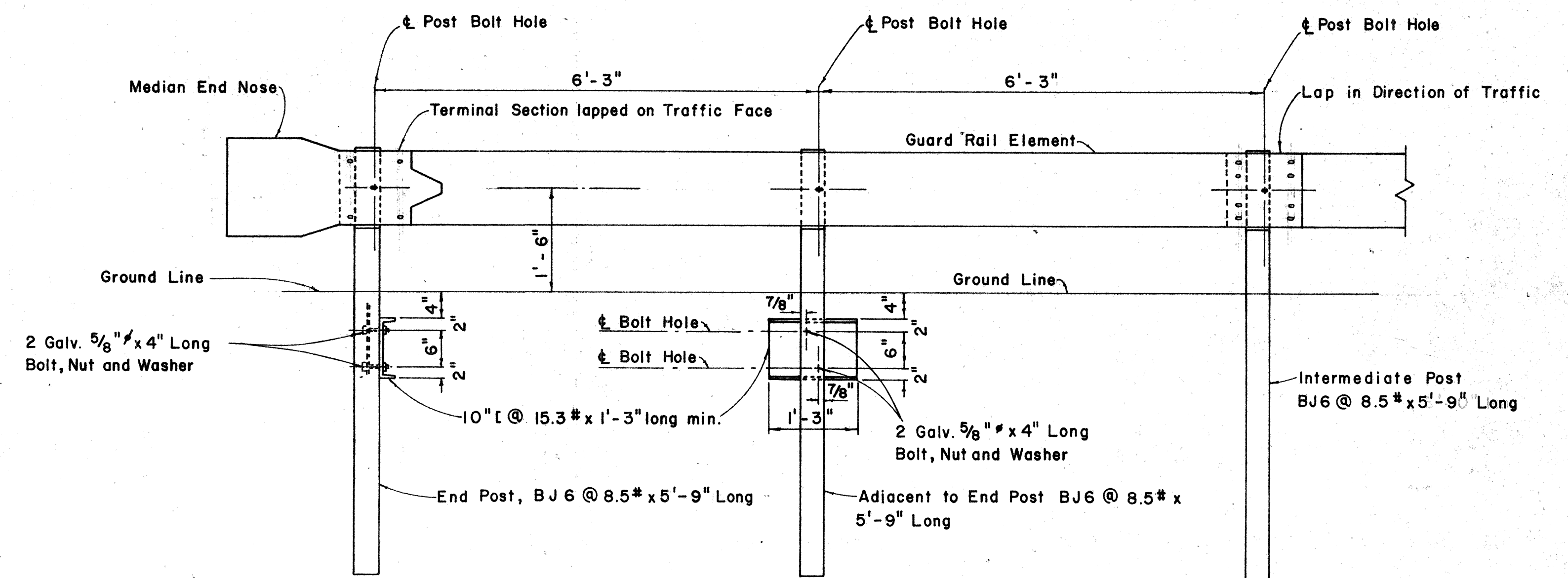
METAL GUARD RAIL ON CONCRETE POSTS AND WOOD SPACER BLOCKS

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



PLAN

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



ELEVATION

METAL GUARD RAIL ON METAL POSTS AND METAL SPACER BLOCKS

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

DETAIL FOR DOUBLE METAL GUARD RAIL IN MEDIAN

Scale: As Shown

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

SHEET No. 9 OF 22 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	