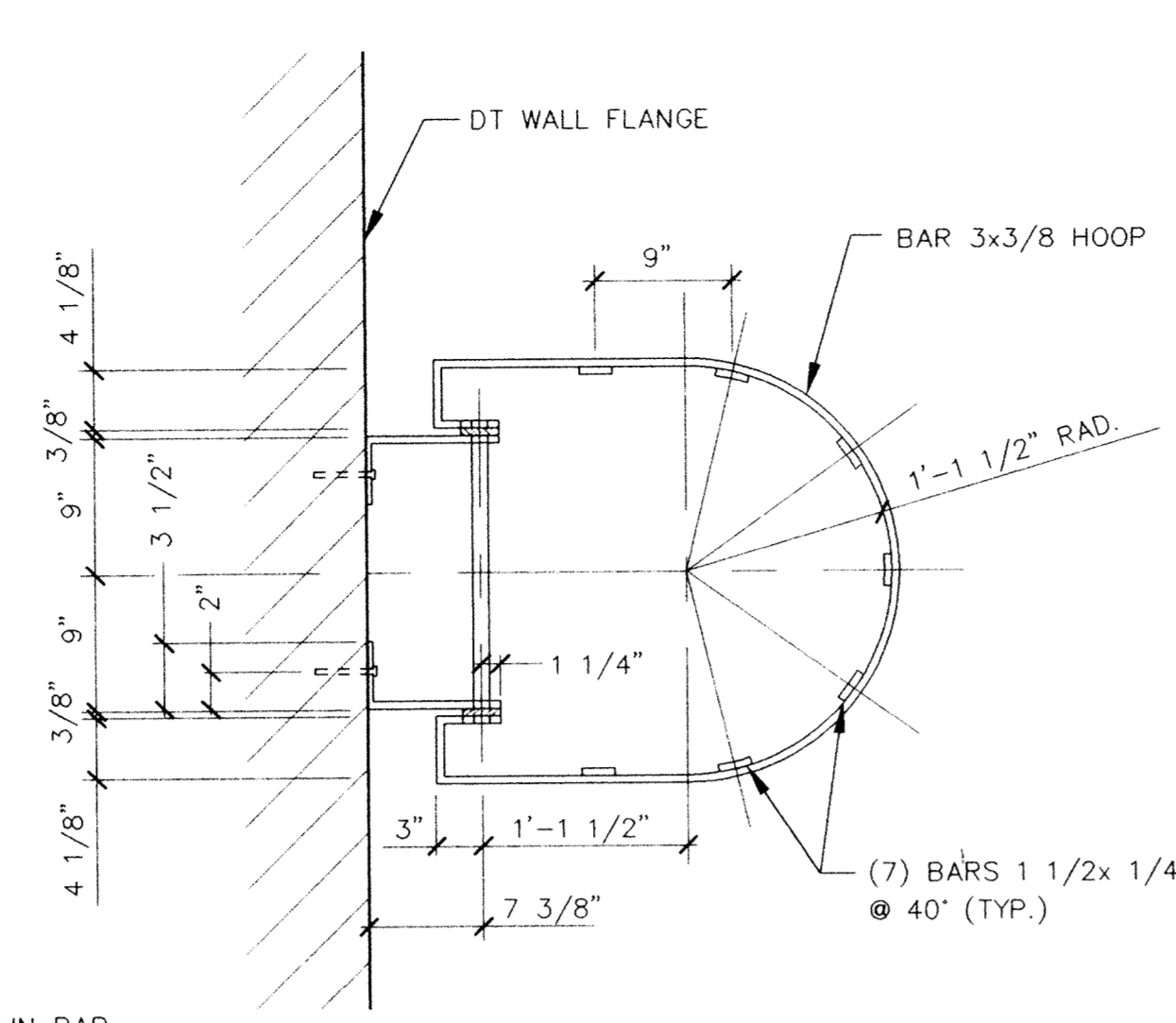
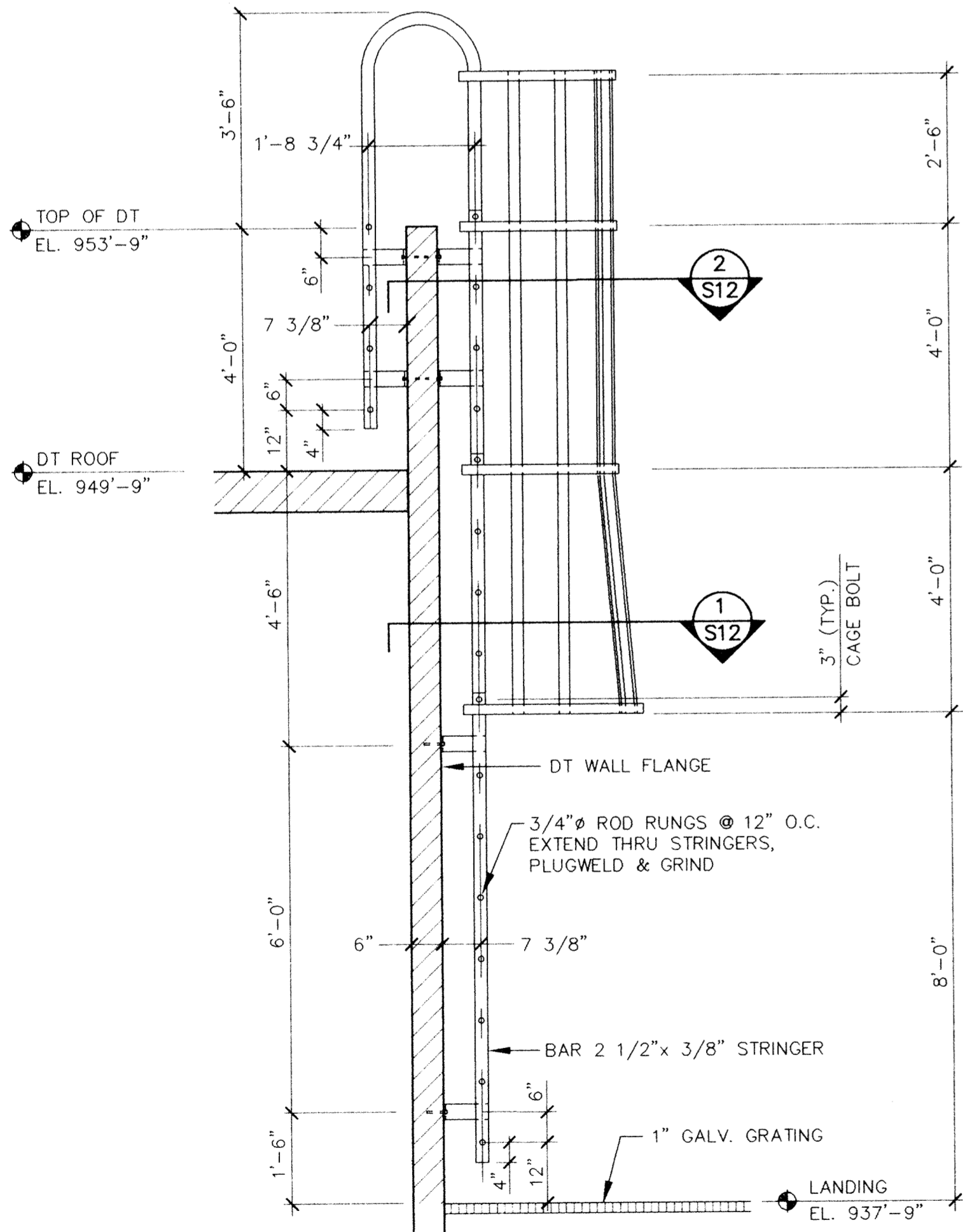


LADDER SECTION 1
Scale: 1" = 1'-0" S12

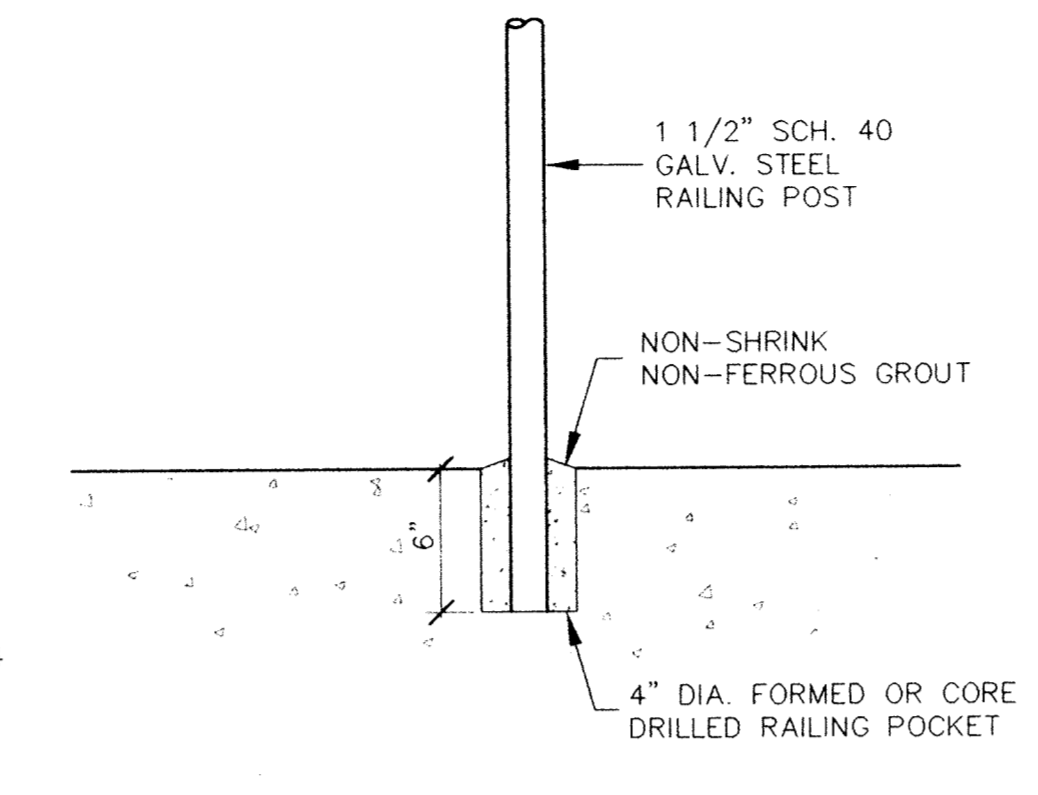


LADDER SECTION 2
Scale: 1" = 1'-0" S12

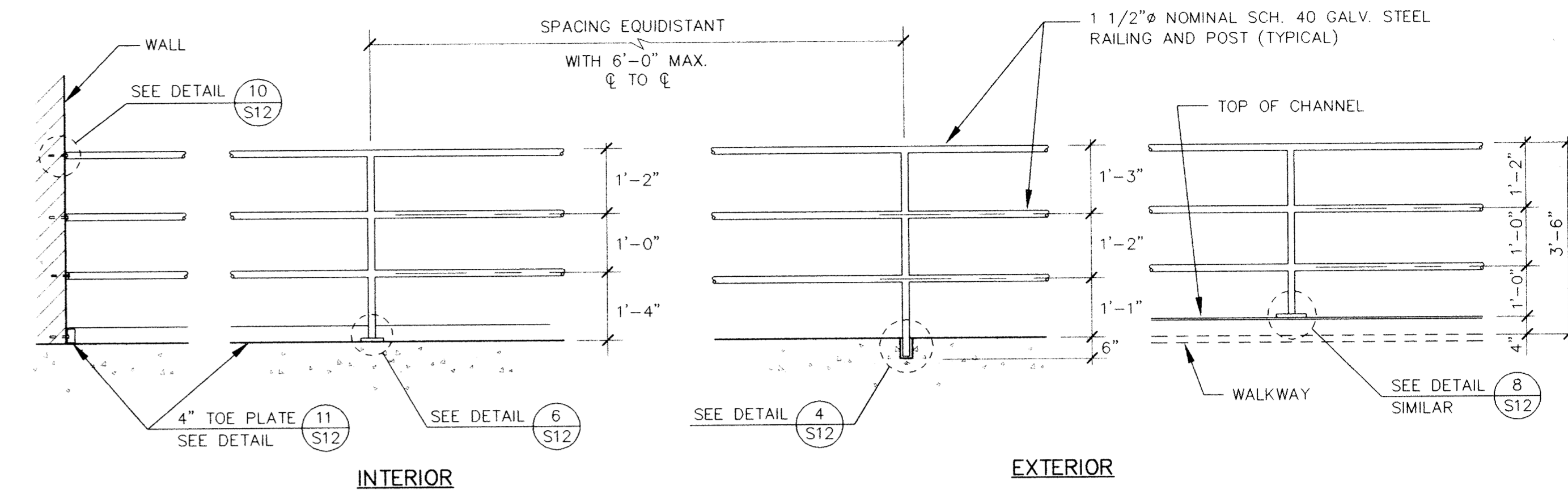
NOTE:
ALL LADDER MEMBERS SHALL BE HOT-DIP
GALVANIZED PER ASTM A123 FOLLOWING
FABRICATION. ALL FIELD CUTS & WELDS
SHALL BE BRUSHED TO BARE METAL AND
COLD GALVANIZED.



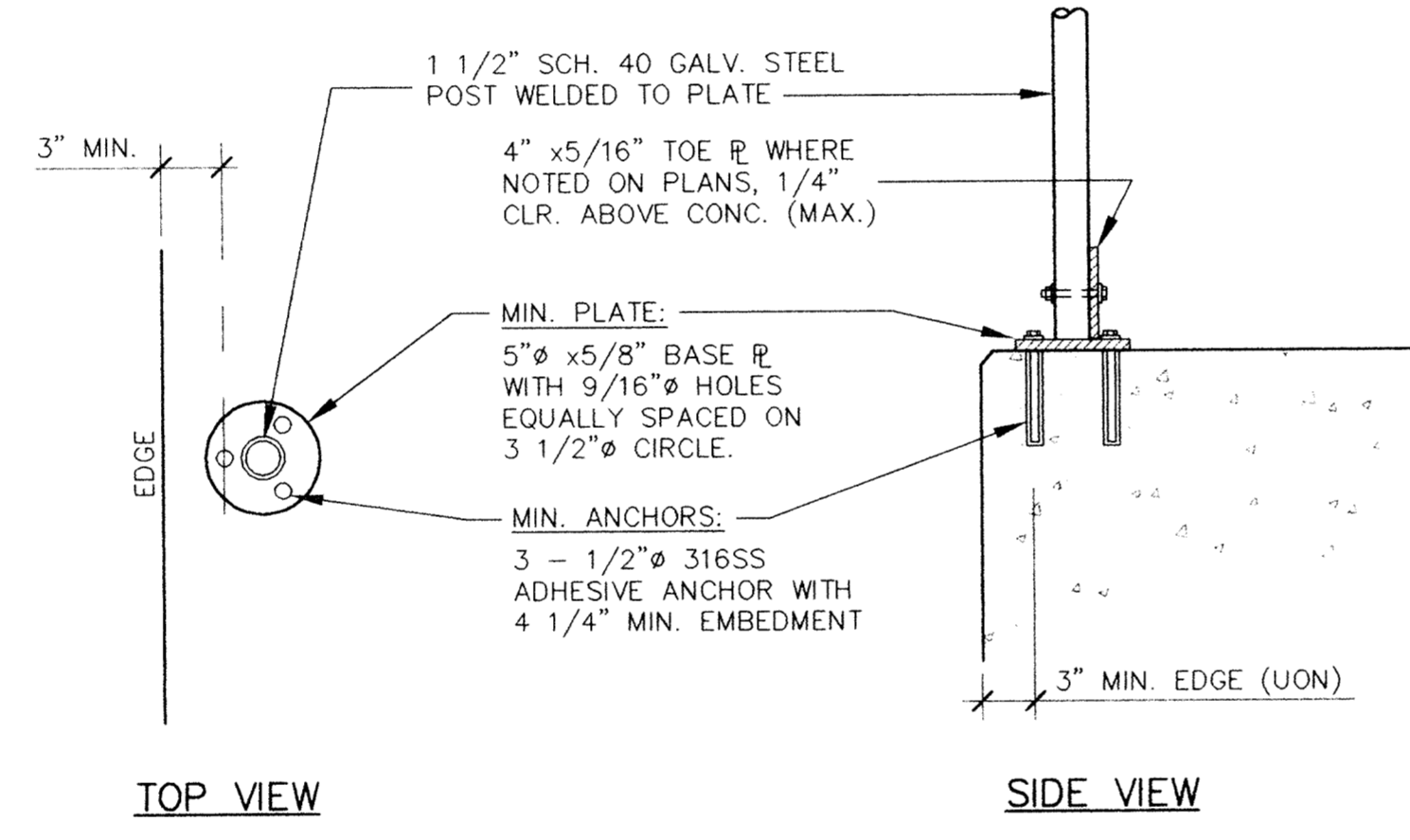
TRICKING FILTER ROOF ACCESS LADDER 3
Scale: 1/2" = 1'-0" S12



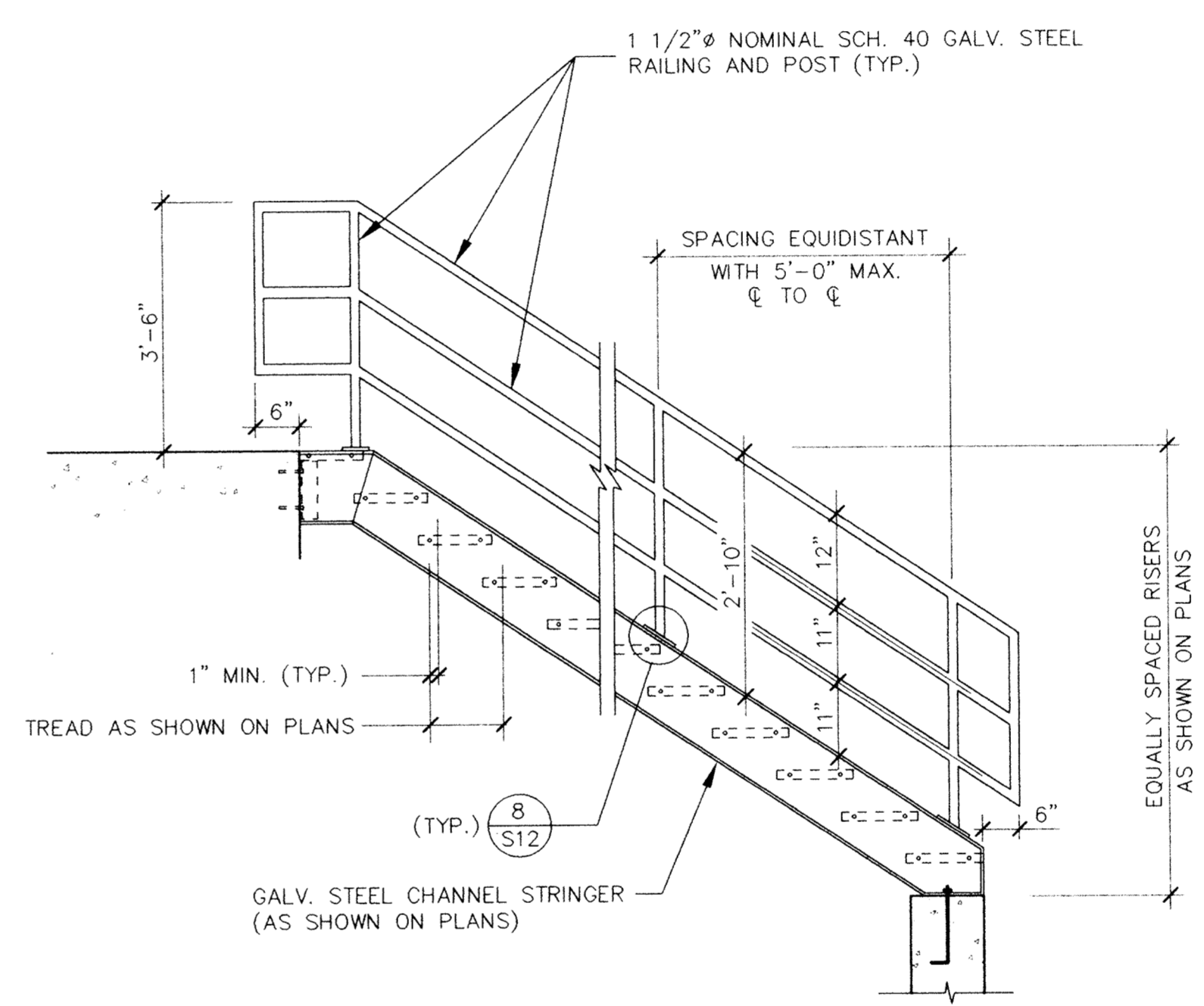
EXT. POST ANCHORAGE DETAIL 4
Scale: 1 1/2" = 1'-0" S12



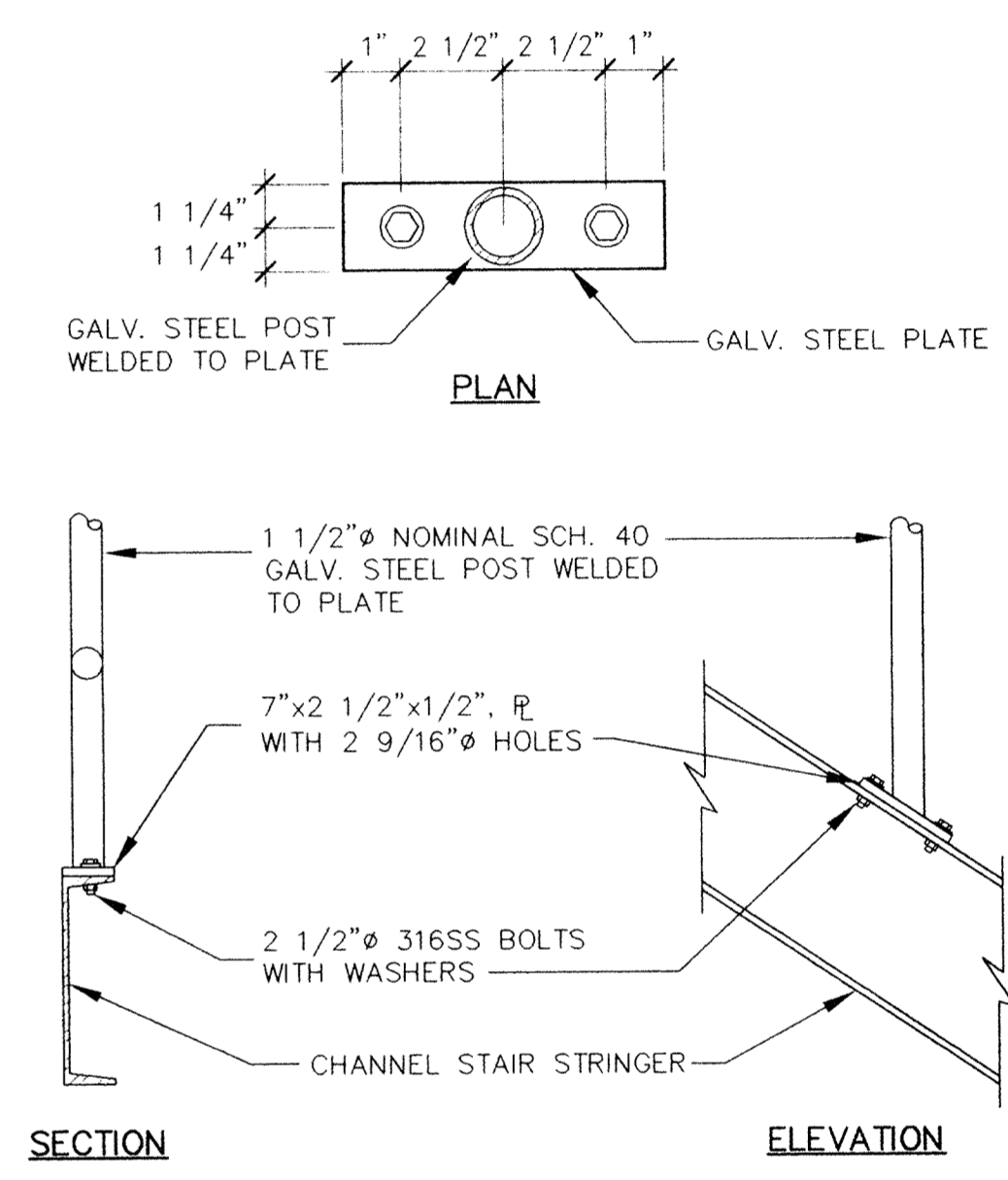
TYPICAL RAILING DETAILS 5
Scale: 1/2" = 1'-0" S12



INT. POST ANCHORAGE DETAIL 6
Scale: 1 1/2" = 1'-0" S12



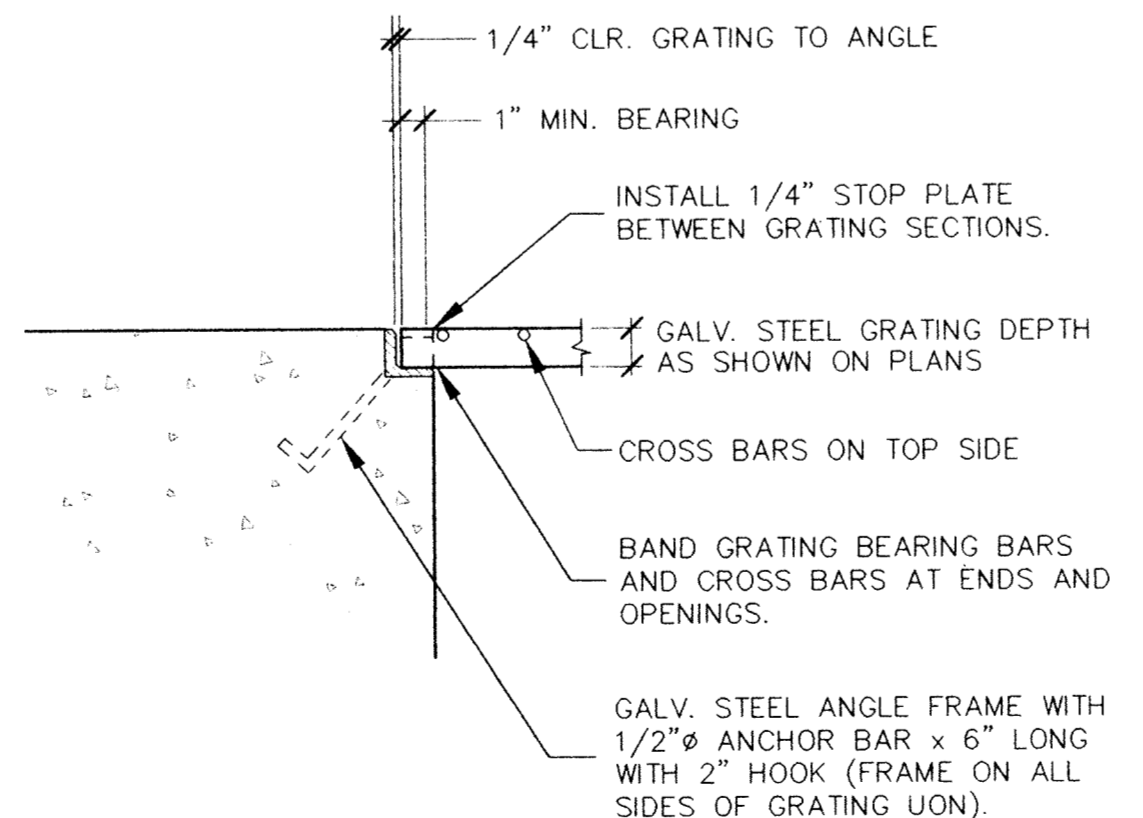
TYPICAL STAIRWAY SYSTEM 7
Scale: 1/2" = 1'-0" S12



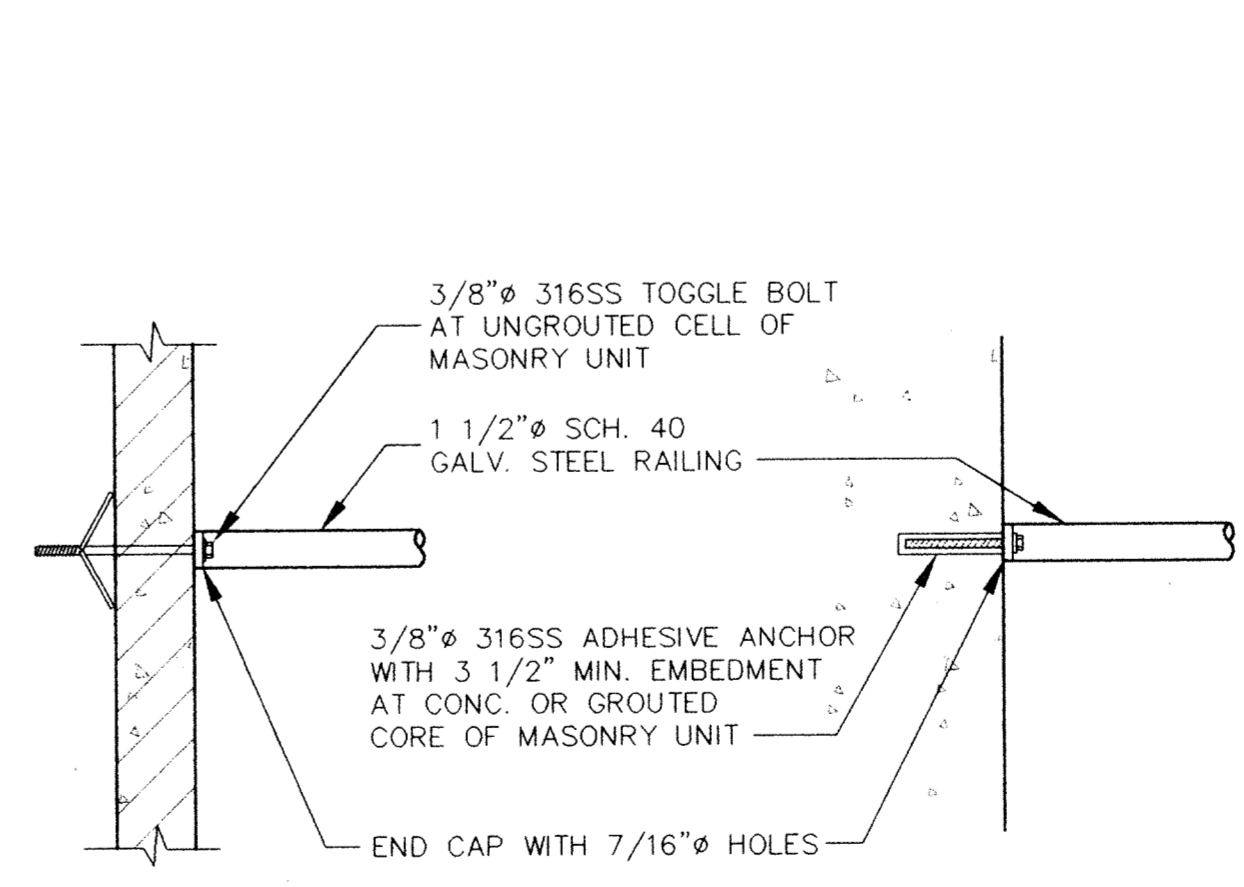
STAIR STRINGER POST ANCHORAGE DETAIL 8
No Scale S12

FRAME TABLE	
GRATING DEPTH	ANGLE SIZE
1"	1 1/2" x 1 1/4" x 1/4"
1 1/4"	1 1/2" x 1 1/2" x 1/4"
1 1/2"	1 3/4" x 1 3/4" x 1/4"
1 3/4"	2" x 2" x 1/4"
2"	2 1/4" x 2 1/4" x 1/4"
2 1/4"	2 1/2" x 2 1/2" x 1/4"
2 1/2"	2 3/4" x 2 3/4" x 1/4"

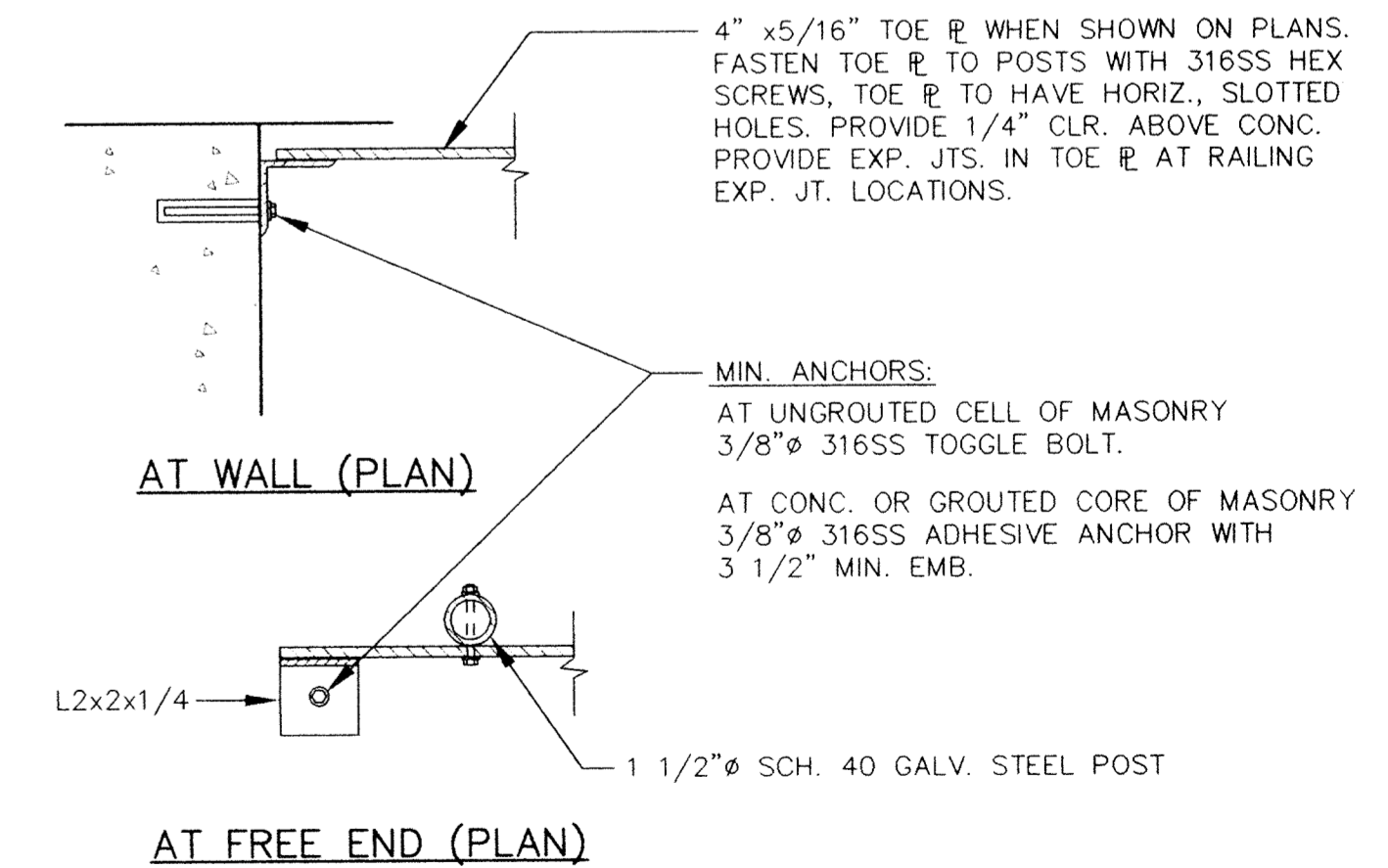
NOTE:
PROVIDE 316SS BOLTS & CLIPS FOR
FASTENING GRATING TO FRAME UON.



GRATING AND FRAME 9
Scale: 1 1/2" = 1'-0" S12



WALL MOUNTED HANDRAIL 10
Scale: 1 1/2" = 1'-0" S12



TOE PLATE DETAIL 11
Scale: 1 1/2" = 1'-0" S12

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION,
OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT
SUPERVISION AND THAT I AM A DULY REGISTERED
PROFESSIONAL ENGINEER UNDER THE LAWS OF THE
STATE OF MINNESOTA.
David & Carol
DATE 3/27/94 REG. NO. 23222

MSA
CONSULTING ENGINEERS

1326 ENERGY PARK DRIVE
ST. PAUL, MINNESOTA 55108
(612) 644-4389
9800 SHELARD PARKWAY
MINNEAPOLIS, MINNESOTA 55441
(612) 546-0432

DATE	DESCRIPTION	DESIGNED DLG GG
		CHECKED LUL
		DRAWN TB GG
		GRAPHIC SCALE
		0 HORIZ. 2
		0 VERT. 2

CITY OF ELK RIVER
WASTEWATER TREATMENT FACILITIES
STAIR & WALKWAY GRATING & RAILING
TYPICAL DETAILS
DATE DEC. 1993 SHEET 19 OF 41 SHEETS PROJECT NO. 230-151

S12