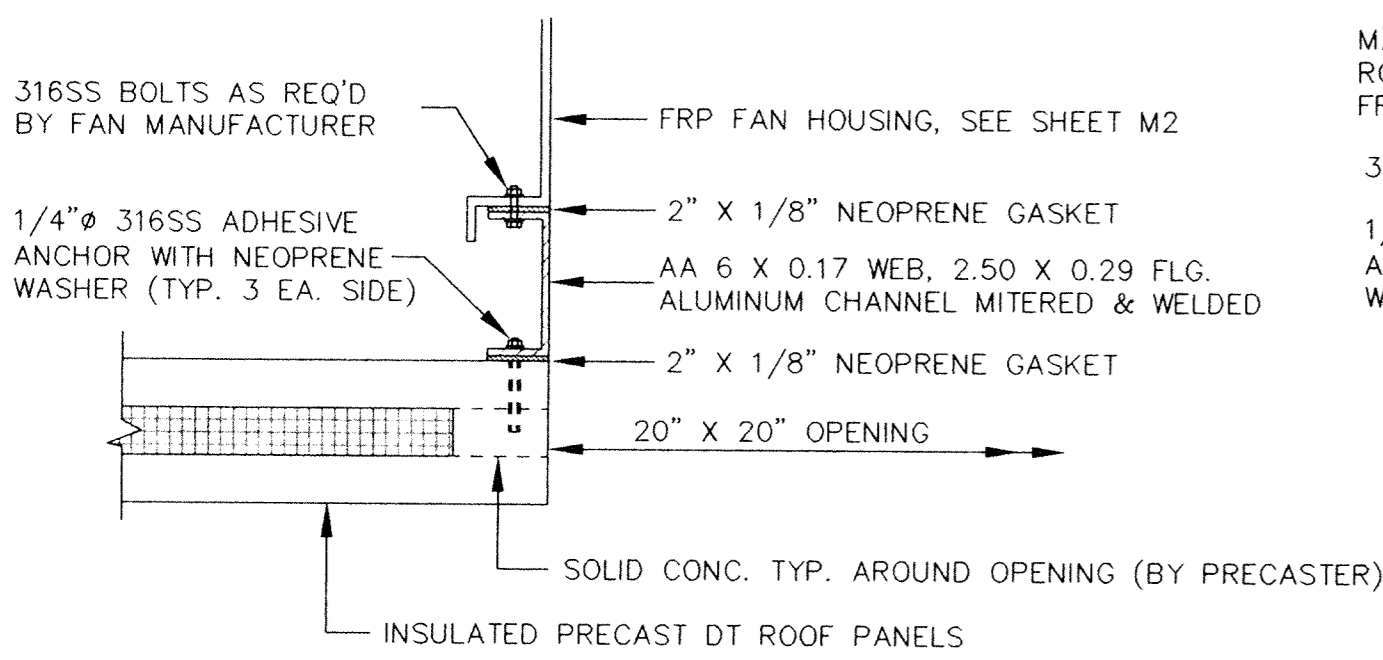
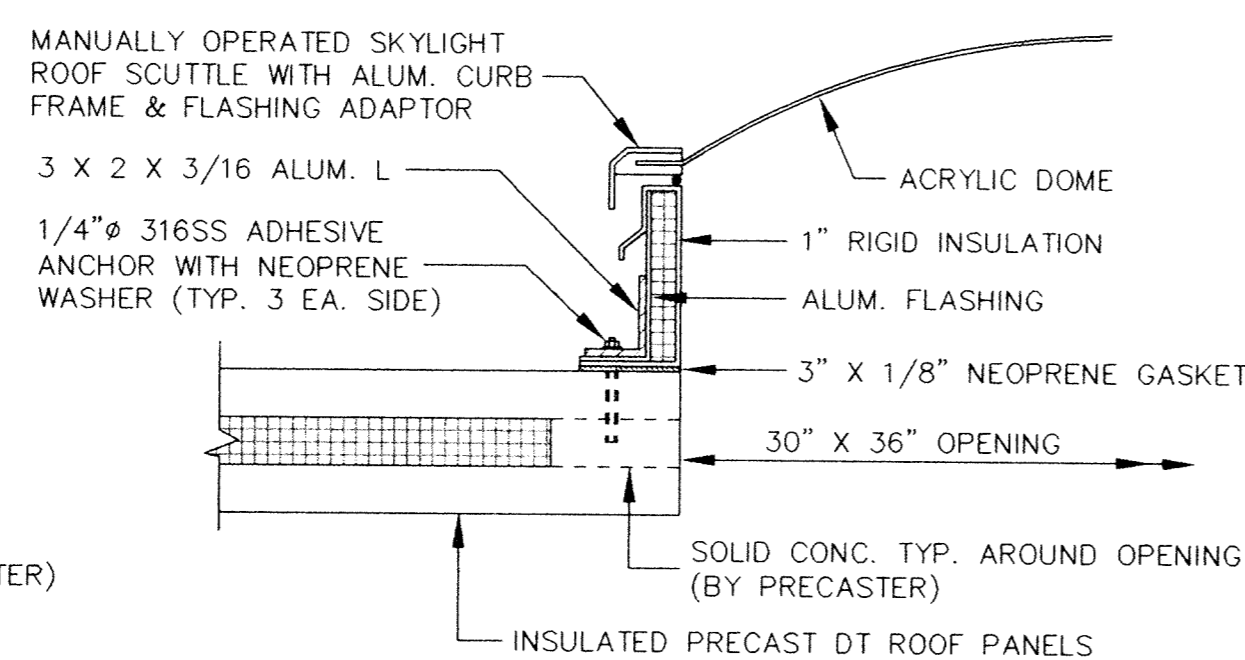


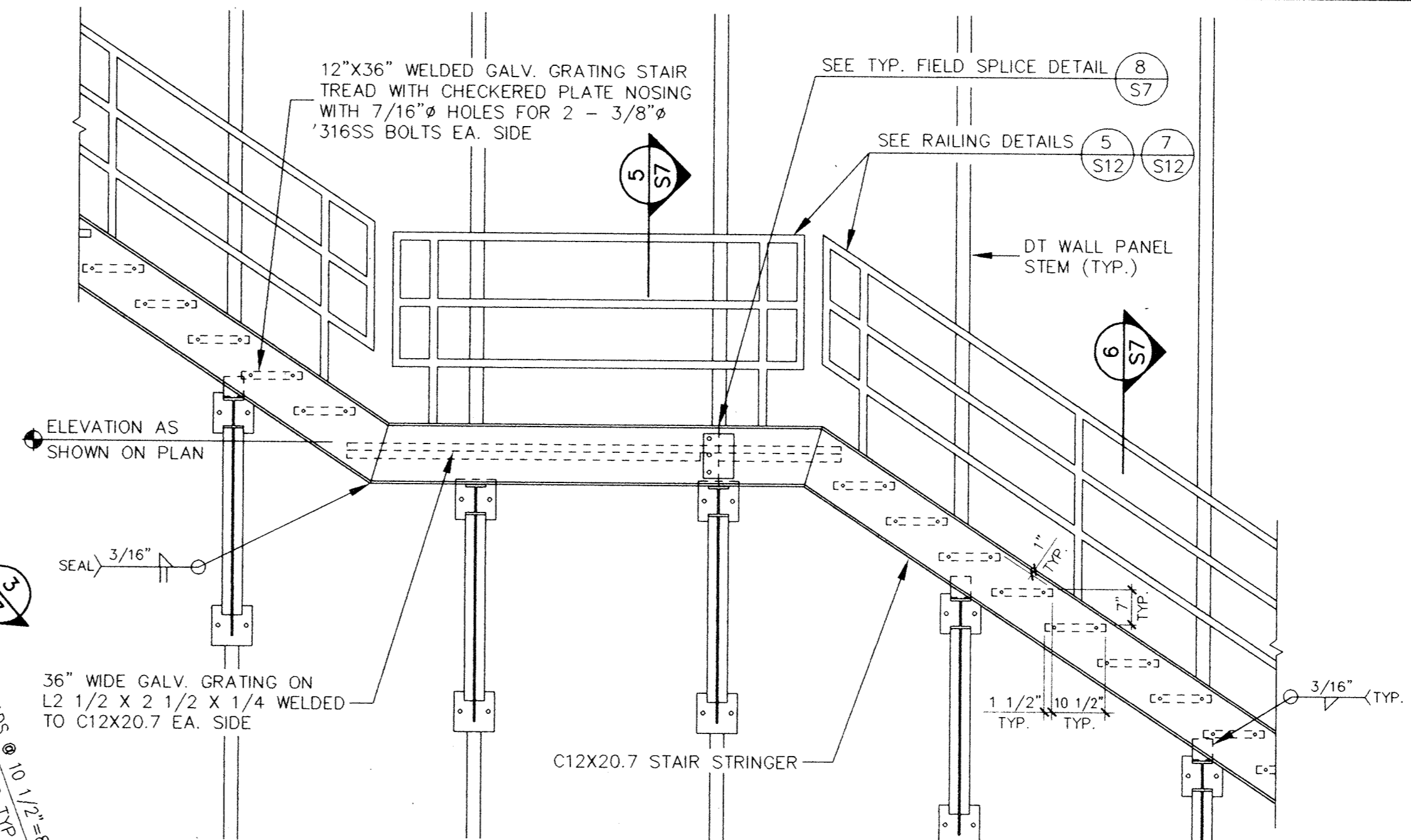
**TRICKLING FILTER ROOF AND STAIR PLAN**  
Scale: 1/4" = 1'-0"



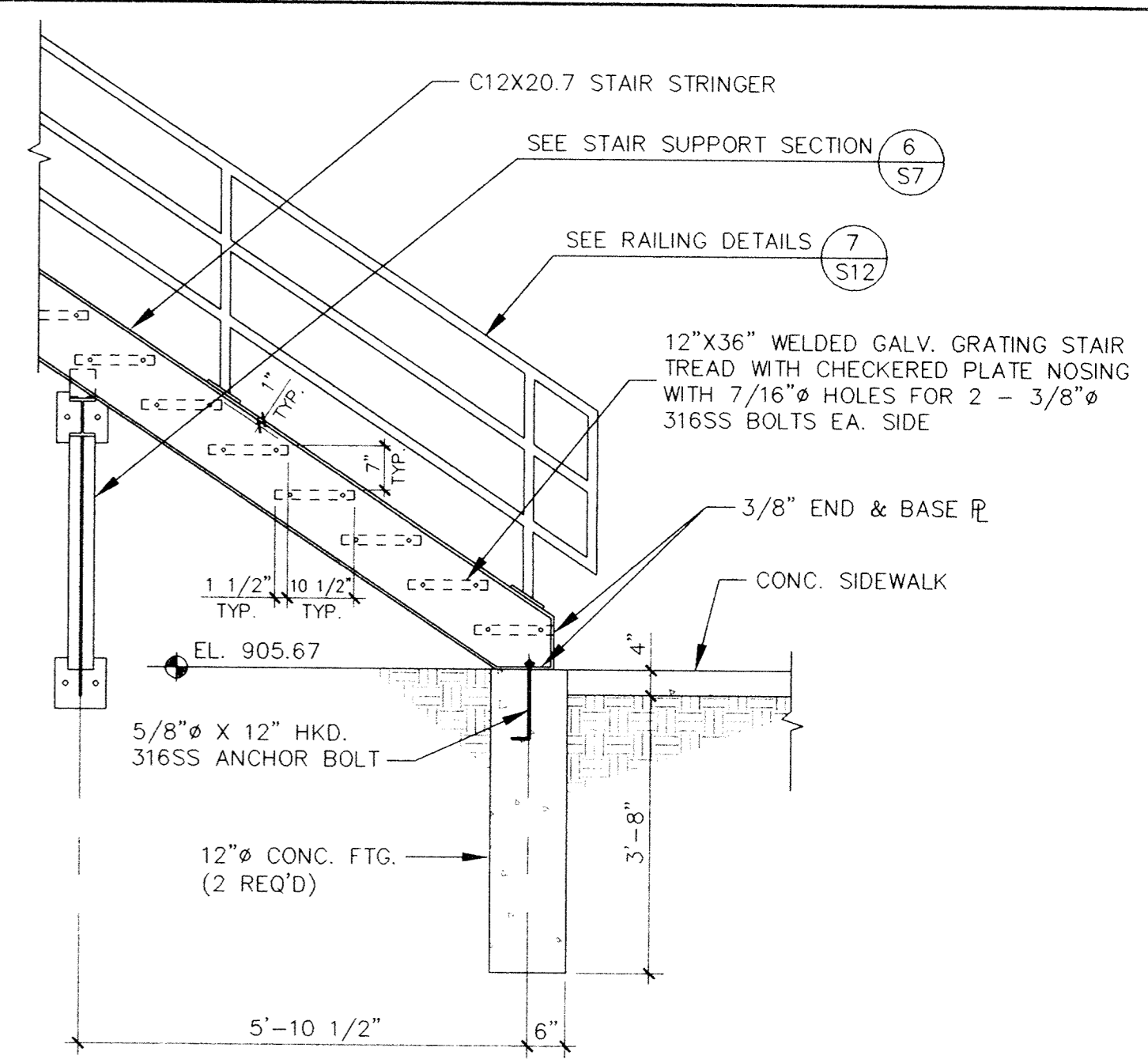
**TRICKLING FILTER SUPPLY FAN DETAIL** (1)  
Scale: 1 1/2" = 1'-0"



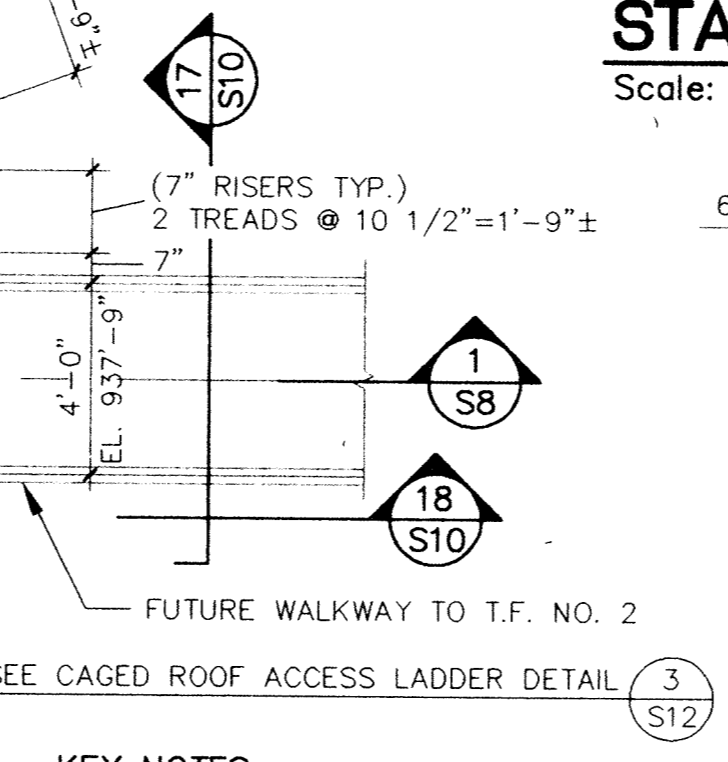
**TRICKLING FILTER SKYLIGHT ROOF SCUTTLE DETAIL** (2)  
Scale: 1 1/2" = 1'-0"



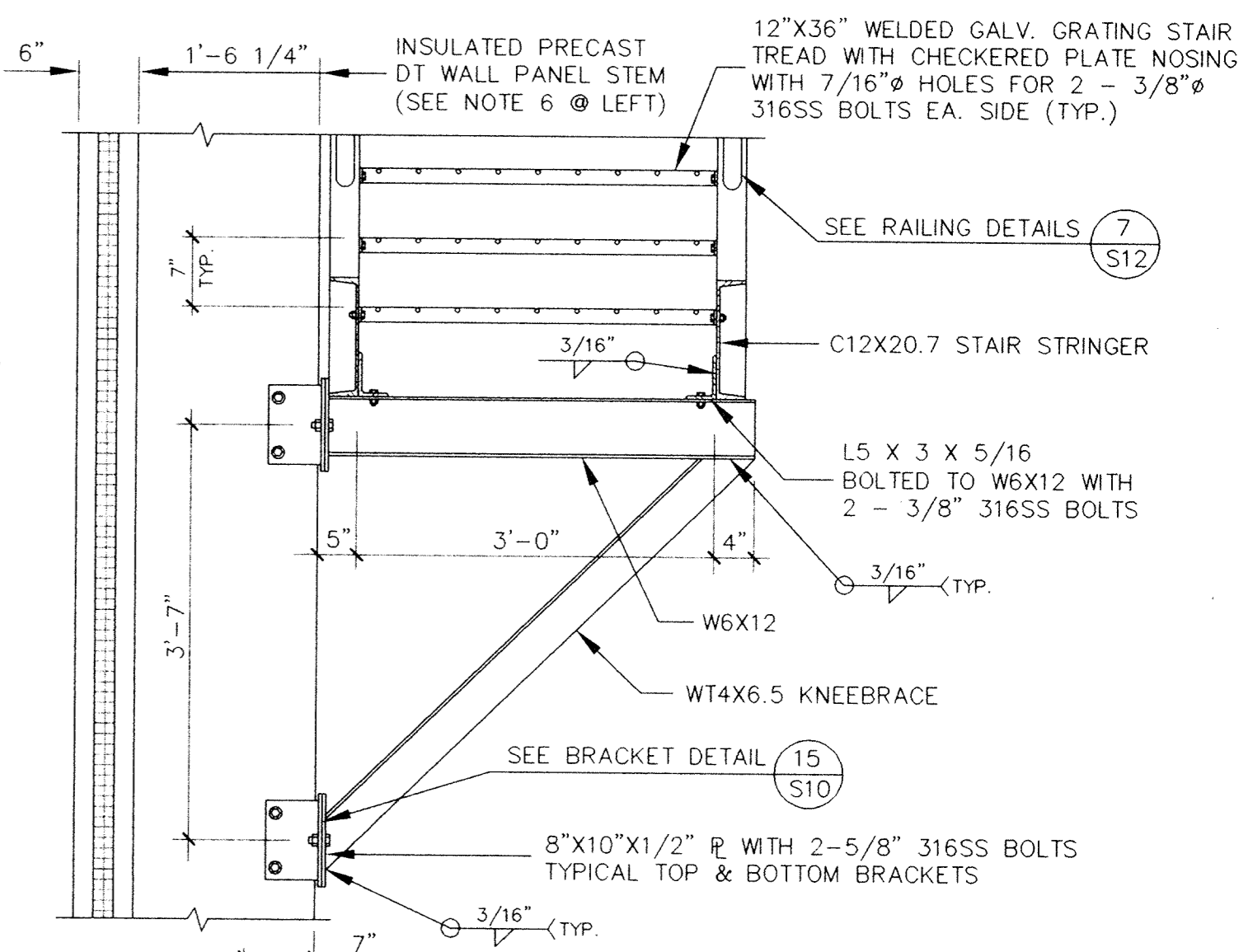
**STAIR AND LANDING ELEVATION** (3)  
Scale: 1/2" = 1'-0"



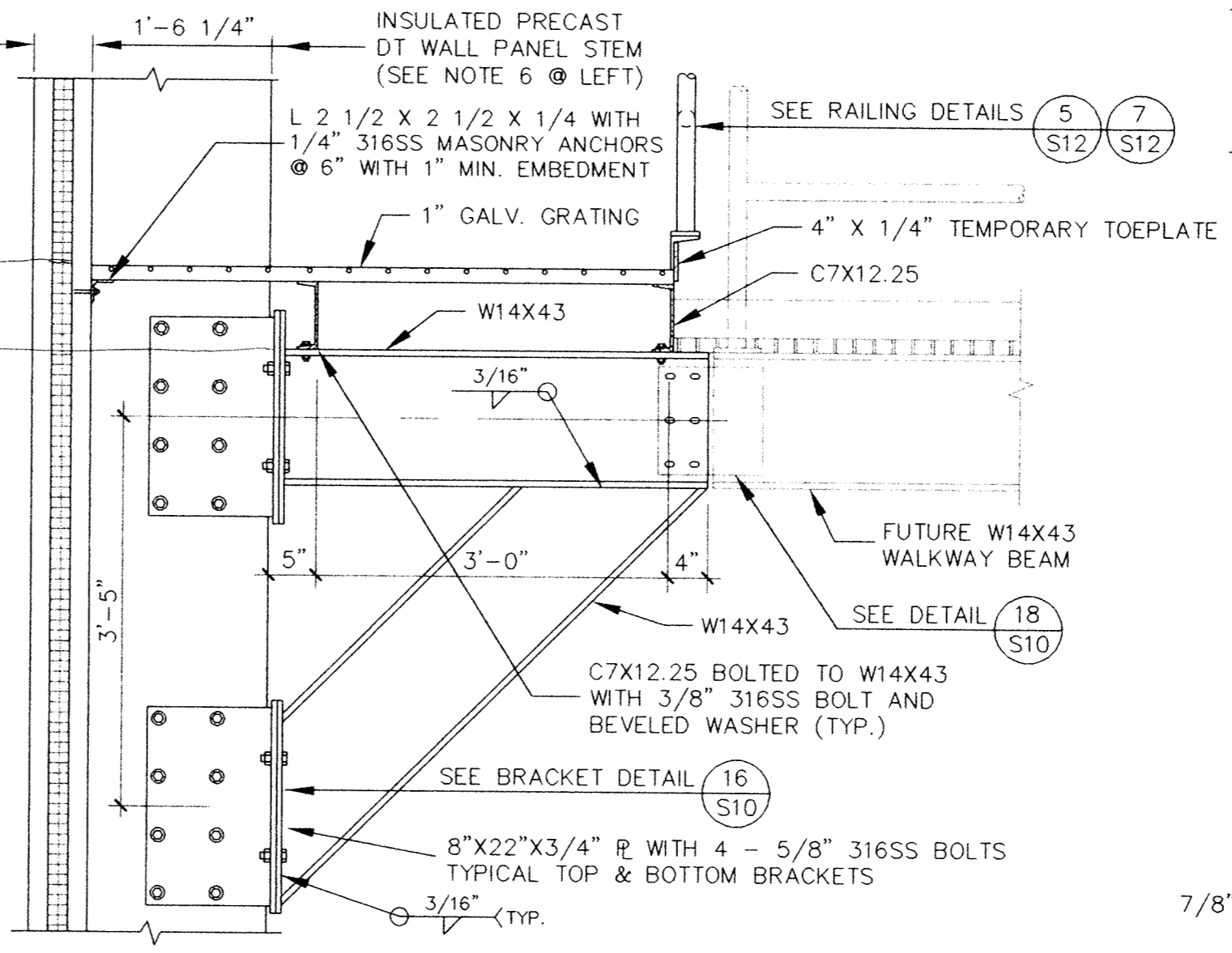
**STAIR FOOTING DETAIL** (4)  
Scale: 1/2" = 1'-0"



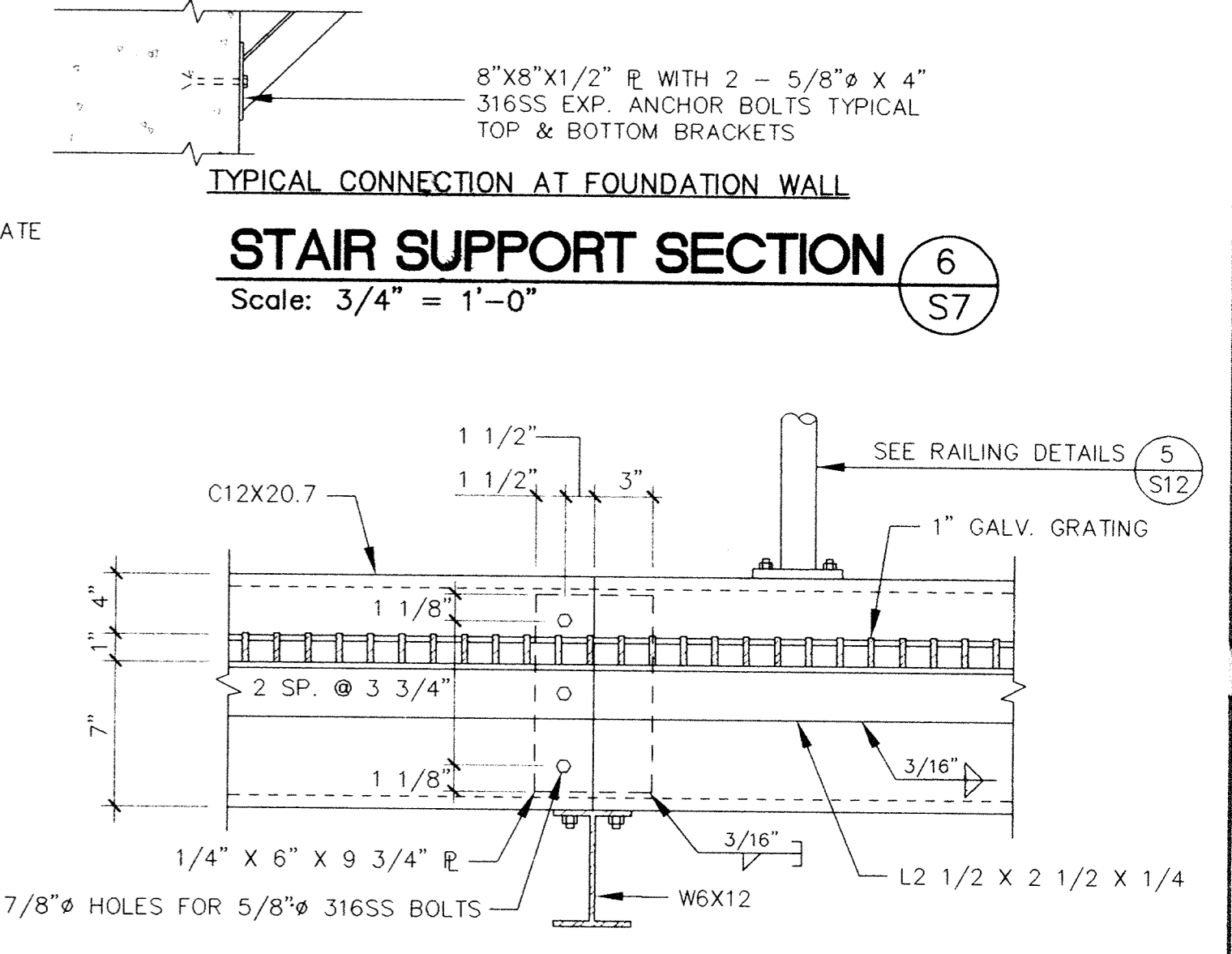
**LANDING SUPPORT SECTION** (5)  
Scale: 3/4" = 1'-0"



**STAIR SUPPORT SECTION** (6)  
Scale: 3/4" = 1'-0"



**WALKWAY LANDING SUPPORT SECTION** (7)  
Scale: 3/4" = 1'-0"



**TYP. FIELD SPLICE DETAIL** (8)  
Scale: 1 1/2" = 1'-0"

- KEY NOTES:**
- (A) 316 STAINLESS STEEL EMBEDDED WELD & CONNECTION PLATES FOR RING TENSION AT DT WALL PANEL JOINT DESIGNED & PROVIDED BY PRECASTER.
  - (B) ADDITIONAL DIAGONAL BARS SHALL BE CAST IN DT FLANGE AT PENETRATION CORNERS, TYP. ALL PENETRATIONS.
  - (C) REMOVABLE DT ROOF PANELS. ALL CONNECTIONS BETWEEN ROOF DT AND WALL DT PANELS SHALL BE DESIGNED & PROVIDED BY THE PRECASTER. ALL CONNECTION HARDWARE SHALL BE 316 STAINLESS STEEL. THE PRECASTER SHALL ALSO DESIGN & PROVIDE 316 STAINLESS STEEL HANDLING HOOKS FOR ALL REMOVABLE DT ROOF PANELS.
  - (D) FIXED DT ROOF PANELS. ALL CONNECTIONS BETWEEN ROOF DT AND WALL DT PANELS SHALL BE DESIGNED & PROVIDED BY PRECASTER. ALL CONNECTION HARDWARE SHALL BE 316 STAINLESS STEEL.
  - (E) 20" X 20" OPENING FOR FAN (TO BE VERIFIED) FAN WT. = 315 LB. (2 THUS)
  - (F) 30" X 36" OPENING FOR SKYLIGHT ROOF SCUTTLE (TO BE VERIFIED) SKYLIGHT WT. = 100 LB. (5 THUS)
  - (G) 1'-4"W X 9 1/2"H OPENING IN DT WALL PANEL FLANGE FOR OVERFLOW SCUPPER AT INVERT 949'-9" (4 THUS)
  - (H) SEAL DT ROOF PANEL JOINT WITH FOAM BACKER ROD AND SEALANT TOP & BOTTOM (TYP.)
  - (I) PEDESTAL BASE FOR PORTABLE DAVIT CRANE (1500 LB. LOAD RATING @ 46" ARM, 900 LB. LOAD RATING @ 70" ARM). ANCHOR PER MANUFACTURER.

- STAIR AND LANDING NOTES:**
1. DETAILED FABRICATION DRAWINGS CERTIFIED BY A MINNESOTA REGISTERED STRUCTURAL ENGINEER SHALL BE SUBMITTED TO THE ENGINEER FOR PRIOR APPROVAL.
  2. ALL STAIR & WALKWAY MEMBERS & BRACKETS SHALL BE HOT-DIP GALVANIZED PER ASTM A123 FOLLOWING FABRICATION. ALL FIELD CUTS & WELDS SHALL BE BRUSHED TO BARE METAL AND COLD GALVANIZED.
  3. ALL BOLTS & CONNECTING HARDWARE SHALL BE 316 STAINLESS STEEL.
  4. ALL GRATING SHALL BE 1" GALV. STEEL WITH BRG. BARS SPACED TO SUPPORT A SUPERIMPOSED UNIFORM LOAD OF 150 P.S.F. AND MAX. DEFLECTION OF 1/4" @ 100 P.S.F.
  5. ALL STAIR TREADS SHALL BE 1" GALV. STEEL WITH CHECKERED PLATE NOSING WITH BRG. BARS SPACED TO SUPPORT A CONCENTRATED LOAD OF 300 LBS. @ CENTER OF SPAN.
  6. ALL PRECAST CONCRETE DIMENSIONS SHALL BE VERIFIED PRIOR TO FABRICATION.

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DAILY SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

*David L. Cochran*  
DATE: 3/17/94 REG. NO. 23322

**MSA**  
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DATE	DESCRIPTION	DESIGNED	DLC	GG
		CHECKED	LJL	
		DRAWN	GG	
REVISIONS		GRAPHIC SCALE		
		0	HORIZ.	4
		0	VERT.	4

CITY OF ELK RIVER  
WASTEWATER TREATMENT FACILITIES  
TRICKLING FILTER  
ROOF & STAIR PLAN & DETAILS

DATE: DEC. 1993 SHEET 14 OF 41 SHEETS PROJECT NO. 230-151