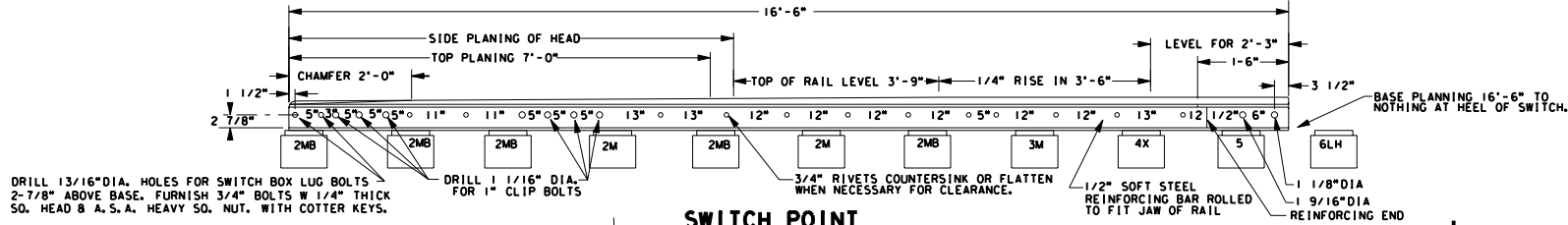
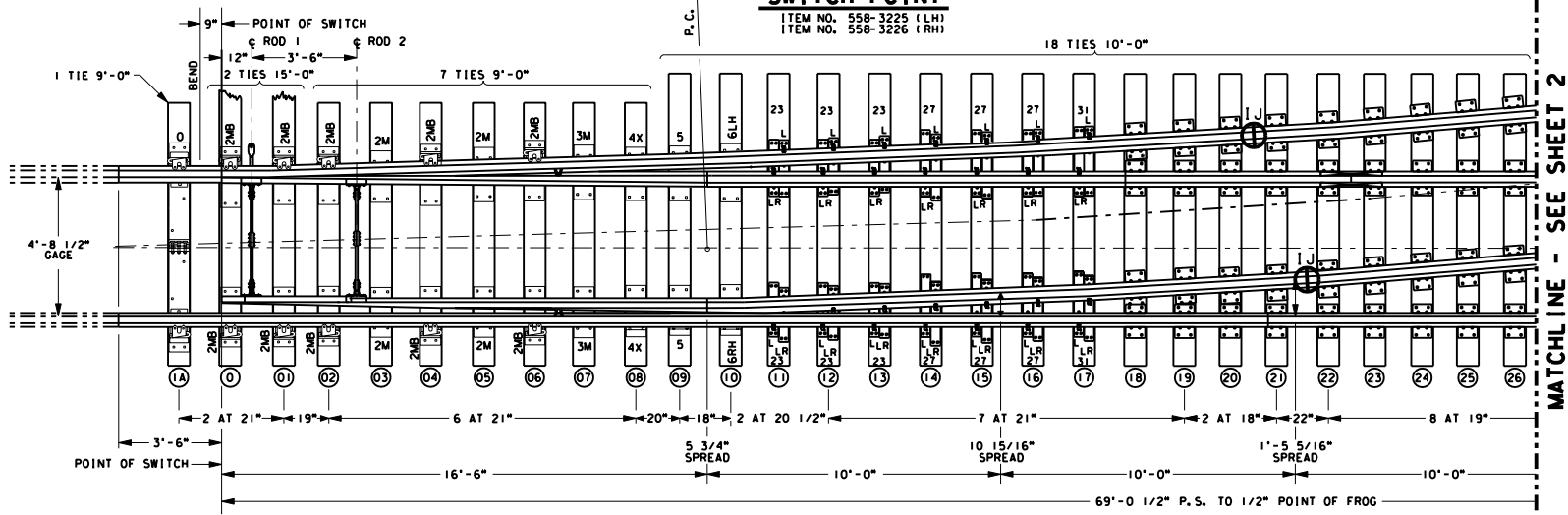


- ①A 1'-9"
- ① 0"
- ① 1'-9"
- ② 3'-4"
- ③ 5'-1"
- ④ 6'-10"
- ⑤ 8'-7"
- ⑥ 10'-4"
- ⑦ 12'-1"
- ⑧ 13'-10"
- ⑨ 15'-6"
- ⑩ 17'-0"
- ⑪ 18'-8 1/2"
- ⑫ 20'-5"
- ⑬ 22'-2"
- ⑭ 23'-11"
- ⑮ 25'-8"
- ⑯ 27'-5"
- ⑰ 29'-2"
- ⑱ 30'-11"
- ⑲ 32'-8"
- ⑳ 34'-2"
- ㉑ 35'-8"
- ㉒ 37'-6"
- ㉓ 39'-1"
- ㉔ 40'-8"
- ㉕ 42'-3"
- ㉖ 43'-10"

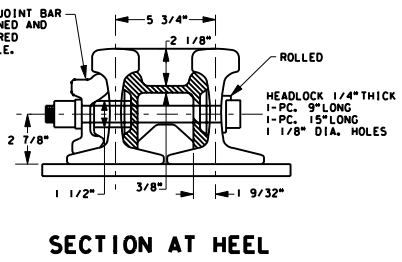
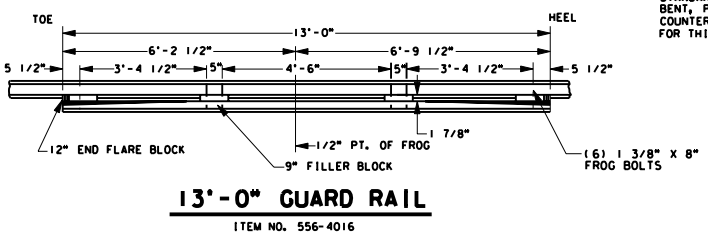


**SWITCH POINT**

ITEM NO. 558-3225 (LH)  
 ITEM NO. 558-3226 (RH)



MATCHLINE - SEE SHEET 2

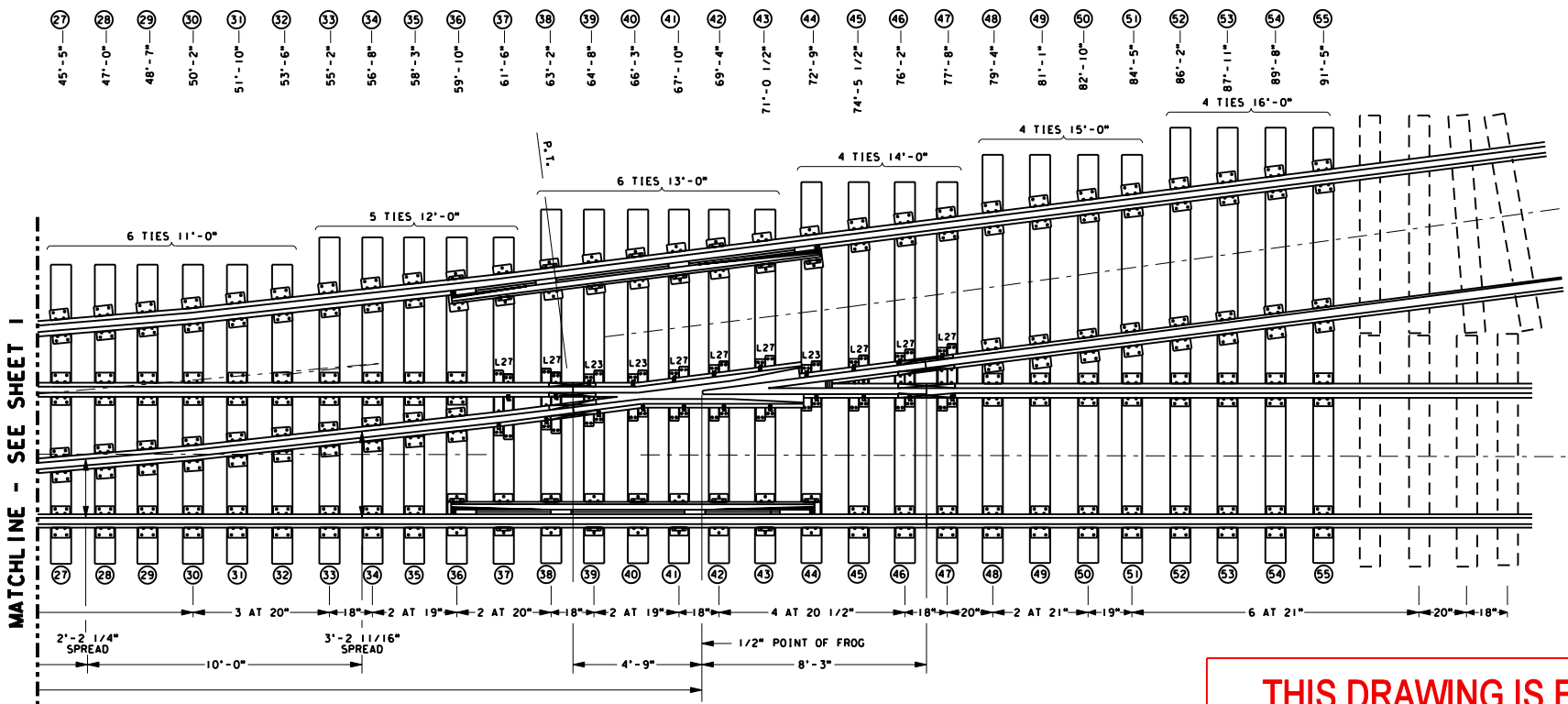


THIS DRAWING IS FOR REFERENCE PURPOSES ONLY. NOT TO BE USED FOR NEW CONSTRUCTION

	UNION PACIFIC RAILROAD Office of Chief Engineer Design
	INDUSTRY STANDARDS
NO. 8 TURNOUT SHEET 1 OF 2	

ADOPTED: JAN. 1, 1980 REVISED: AUG. 4, 2003 FILE NO.: EXHIBIT F-5	EXHIBIT "F-5"
---	------------------

Copyright © 2003 by Union Pacific Railroad



**THIS DRAWING IS FOR REFERENCE PURPOSES ONLY. NOT TO BE USED FOR NEW CONSTRUCTION**

THEORETICAL TURNOUT DESIGN DATA TABLE	
NUMBER	8
ANGLE	7°-09'-10"
TOE LENGTH	4'-9"
HEEL LENGTH	8'-3"
TOTAL LENGTH	13'-0"
LENGTH OF SWITCH (POINTS)	16'-6"
SWITCH ANGLE	1°-37'-40"
HEEL SPREAD	5 3/4"
STRAIGHT STOCK RAIL	39'-0"
BENT/CURVED STOCK RAIL	39'-0"
ACTUAL LEAD	69'-0 1/2"
STRAIGHT CLOSURE RAIL LENGTH	47'-6 1/2"
CENTRAL ANGLE - CLOSURE CURVE	5°-33'-40"
DEGREE OF CLOSURE CURVE ON $\phi$	11°-43'-34"
RADIUS OF CLOSURE CURVE ON $\phi$	489,4759'

BILL OF TIES	
QTY	DESCRIPTION
8	7" x 9" x 9'
18	7" x 9" x 10'
6	7" x 9" x 11'
5	7" x 9" x 12'
6	7" x 9" x 13'
4	7" x 9" x 14'
4	7" x 9" x 15'
4	7" x 9" x 16'
55	TOTAL BOARD FEET 3496.5

TURNOUT BILL OF MATERIAL	
QTY.	DESCRIPTION
1	16'-6" L.H. SWITCH POINT
1	16'-6" R.H. SWITCH POINT
1	13'-0" RIGID BOLTED FROG
2	13'-0" FROG GUARD RAIL WITH PLATES
1	39'-0" STRAIGHT STOCK RAIL
1	39'-0" BENT STOCK RAIL
229 FT.	115 LB. RAIL
1	SWITCH PACKAGE
1	HOOK PLATE PACKAGE

**NOTES:**  
 THIS PLAN IS BASED ON 115 LB. R.E. MATERIAL BUT MAY ALSO BE USED ON OTHER RAIL SECTIONS, SLIGHT DIFFERENCES WILL OCCUR IN FROG AND SWITCH PLATE DESIGNATIONS, FROG AND SWITCH TIE CENTERS, FROG LENGTHS, ECT., DEPENDING ON RAIL SECTION EMPLOYED.

ADJUSTABLE RAIL BRACES SHOWN ARE SYMBOLIC ILLUSTRATIONS ONLY. ACTUAL RAIL BRACES EMPLOYED ARE DEPENDENT ON THE MANUFACTURER.

INSTALL INSULATED JOINTS WHERE INDICATED ONLY WHEN REQUIRED BY SIGNAL CIRCUITS. ALL INSULATED JOINTS ARE TO BE SUSPENDED. THE LOCATION OF INSULATED JOINTS ON CROSSOVER RAILS AS SHOWN ARE BASED ON A MINIMUM 13' TRACK CENTERS. WHERE TRACK CENTERS ARE GREATER, CROSSOVER RAILS ARE TO BE EXTENDED, BUT INSULATED JOINTS MUST NOT BE STAGGERED OVER 4'-3".

ALL SWITCH RODS AND GAGE PLATES TO BE FURNISHED WITH SWITCH PACKAGE.

A MINIMUM 1" GAP MUST BE MAINTAINED BETWEEN THE ENDS OF METAL TIE PLATES LOCATED BEYOND THE CENTER OF INSULATED JOINTS IN THE SWITCH HEEL AREA TO PROVIDE PROPER TRACK CIRCUIT SEPERATION.

THE SETTING OF THE GUARD RAIL MUST BE 54 5/8" FROM GAGE SIDE OF THE FROG POINT TO THE STRAIGHT GUARDING FACE OF THE GUARD RAIL.

SELF GUARDED FROGS EQUALLY ACCEPTED IN YARDS.

	<b>UNION PACIFIC RAILROAD</b> Office of Chief Engineer Design
	<b>INDUSTRY STANDARDS</b>
<b>NO. 8 TURNOUT</b> SHEET 2 OF 2	
ADOPTED: JAN. 1, 1980 REVISED: AUG. 4, 2003 FILE NO.: EXHIBIT F-5	EXHIBIT <b>"F-5"</b>