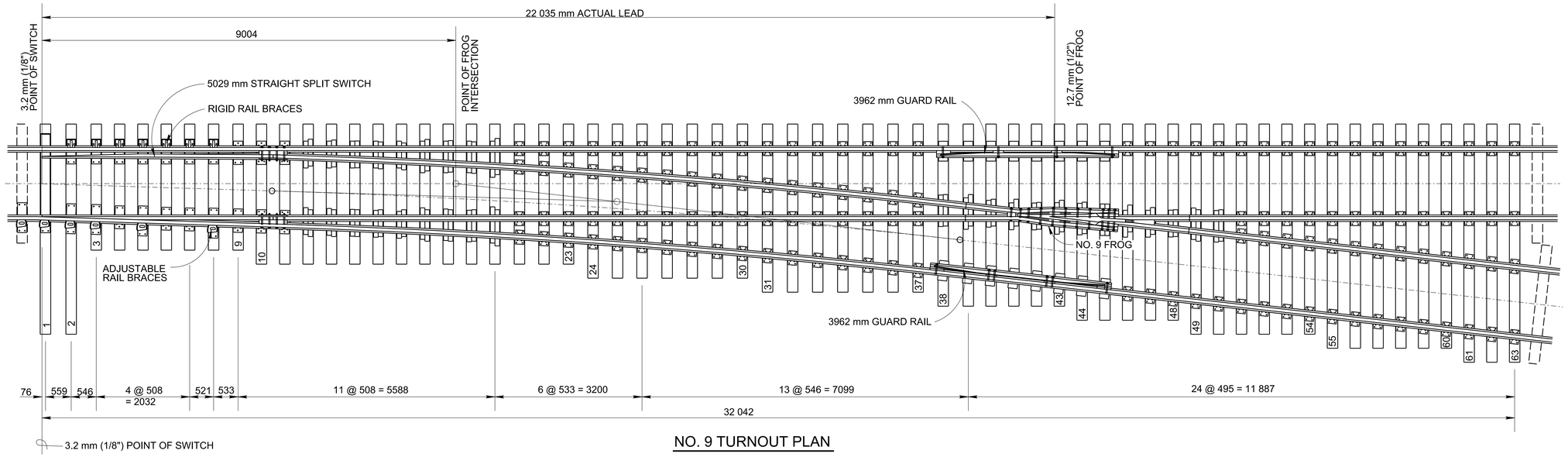
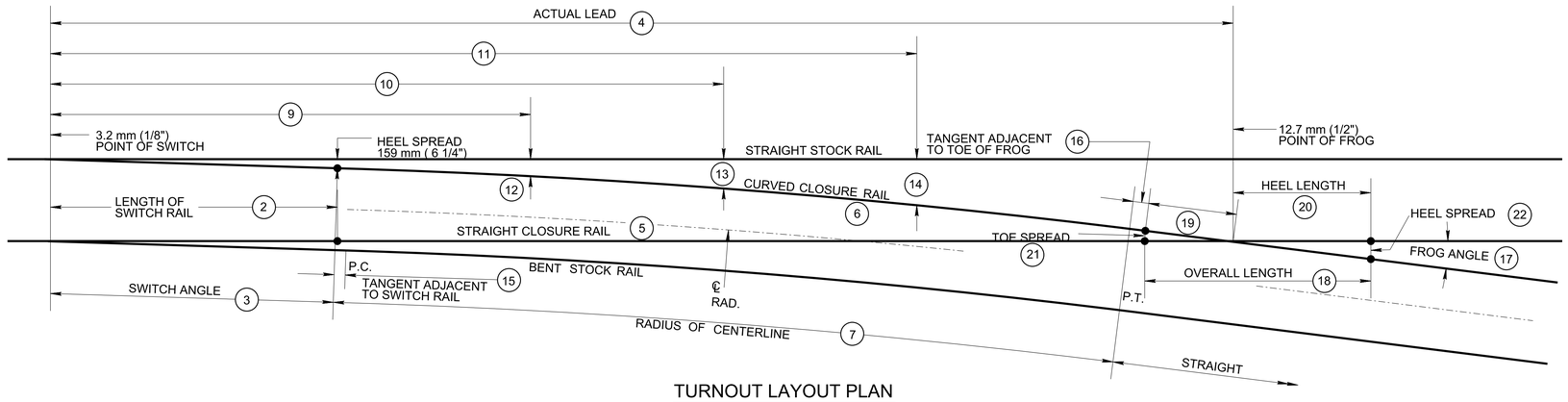


NO. 9 TURNOUT PLAN

NO SCALE



TURNOUT LAYOUT PLAN

NO SCALE

TURNOUT DATA

	PROPERTIES OF SWITCHES			CLOSURE DISTANCE		LEAD CURVE		GAGE LINE OFFSETS								PROPERTIES OF FROGS						
COL. 1	COL. 2	COL. 3	COL. 4	COL. 5	COL. 6	COL. 7	COL. 8	COL. 9	COL. 10	COL. 11	COL. 12	COL. 13	COL. 14	COL. 15	COL. 16	COL. 1	COL. 17	COL. 18	COL. 19	COL. 20	COL. 21	COL. 22
FROG NUMBER	LENGTH OF SWITCH RAIL	SWITCH ANGLE	ACTUAL LEAD	STRAIGHT CLOSURE RAIL	CURVED CLOSURE RAIL	RADIUS OF CENTER LINE	DEGREE OF CURVE							TANGENT ADJACENT TO SWITCH RAIL	TANGENT ADJACENT TO TOE OF FROG	FROG NUMBER	FROG ANGLE	OVERALL LENGTH	TOE LENGTH	HEEL LENGTH	TOE SPREAD	HEEL SPREAD
	mm	DEG.MIN.SEC.	mm	mm	mm	m	DEG.MIN.SEC.	mm	mm	mm	mm	mm	mm	mm	mm		DEG.MIN.SEC.	mm	mm	mm	mm	mm
9	5029	1-46-22	22 035	15 062	15 119	187.49	9-19-30	8795	12 560	16 326	313	543	849	0.00	52	9	6-21-35	4877	1943	2934	203	338

NO. 9 TURNOUT BILL OF SWITCH TIES

NUMBER	DESCRIPTION	SIZE
2 PCS	NO'S 1 AND 2	178X229X4572
7 PCS	3 TO 9 INCL.	178X229X2743
14 PCS	10 TO 23 INCL.	178X229X3048
7 PCS	24 TO 30 INCL.	178X229X3353
7 PCS	31 TO 37 INCL.	178X229X3658
6 PCS	38 TO 43 INCL.	178X229X3962
5 PCS	44 TO 48 INCL.	178X229X4267
6 PCS	49 TO 54 INCL.	178X229X4572
6 PCS	55 TO 60 INCL.	178X229X4877
3 PCS	61 TO 63 INCL.	178X229X5182
63 PCS		

NOTES:

1. AREA PLANS REFERENCED BELOW REFER TO THE AMERICAN RAILWAY ENGINEERING ASSOCIATION'S PORTFOLIO OF TRACKWORK PLANS.
2. FOR SOLID MANGANESE FROGS, THE STRAIGHT AND CURVED CLOSURES SHALL BE LENGTHENED TO CONFORM.
3. SWITCHES, CLOSURE RAILS, AND STOCK RAILS ADJACENT TO SWITCHES SHALL BE NEW IN TURNOUTS WITH USED RAIL.
4. SWITCHES SHALL BE 5029 mm REINFORCED STRAIGHT SPLIT SWITCHES WITH GRADUATED RISERS CONFORMING TO AREA PLAN NO. 112.
5. SWITCH POINTS SHALL CONFORM TO AREA PLAN NO. 221, DETAIL 4000 OR 6100. MANGANESE STEEL TIPS ARE NOT REQUIRED.
6. RAIL BRACES SHALL BE EITHER FIXED OR ADJUSTABLE TYPE AND SHALL BE OF STANDARD MANUFACTURE. RIGID RAIL BRACES AND SWITCH PLATES SHALL CONFORM TO AREA PLAN NO. 223. ADJUSTABLE RAIL BRACES AND SWITCH PLATES SHALL CONFORM TO AREA PLAN NO. 224.
7. FROGS SHALL BE RAILBOUND MANGANESE OR SOLID MANGANESE SELF-GUARDED TYPE. GUARD RAILS SHOWN ARE REQUIRED ONLY IF RAILBOUND MANGANESE FROGS ARE PROVIDED.
8. NUMBER AND LOCATION OF HOOK TWIN PLATES SHALL CONFORM TO AREA PLAN NO. 112 AND PLAN NO. 241. HOOK TWIN PLATES SHALL CONFORM TO AREA PLAN NO. 241.
9. SETTING FOR GUARD RAILS SHALL CONFORM TO AREA PLAN NO. 502. GUARD RAILS SHALL CONFORM TO AREA PLAN NO. 504.
10. IN NO CASE MAY THE END OF A SWITCH TIE BE WITHIN 356 mm OF A SPIKE.
11. A TOTAL OF 130 STANDARD TIE PLATES ARE REQUIRED WITHIN TIE NUMBERS 1-63. SEE THE AMERICAN RAILWAY ENGINEERING ASSOCIATION'S PORTFOLIO OF TRACKWORK PLANS FOR TYPE AND NUMBER OF OTHER TIE PLATES WITHIN TURNOUT.
12. A TOTAL OF 652 SPIKES ARE REQUIRED WITHIN TIE NUMBERS 1-63. SEE SHEET C-X FOR TURNOUT SPIKING PATTERN.
13. ALL TIES WITHIN TIE NUMBERS 1-63 SHALL BE BOX-ANCHORED TO THE EXTENT POSSIBLE (APPROXIMATELY 316 TOTAL). A TIE SHALL NOT BE ANCHORED UNLESS ANCHORS CAN BE APPLIED TO EACH SIDE OF THE TIE AT ALL RAILS.
14. QUANTITIES FOR STANDARD TIE PLATES, SPIKES, AND RAIL ANCHORS ARE APPLICABLE IF A RAILBOUND MANGANESE FROG IS PROVIDED. IF A SOLID MANGANESE SELF-GUARDED TYPE FROG IS PROVIDED, QUANTITIES SHOULD BE ADJUSTED ACCORDINGLY.

ALL DIMENSIONS SHOWN IN MILLIMETRES UNLESS OTHERWISE NOTED

US Army Corps of Engineers
Omaha District

Symbol	Description	Date	Approved

Designed by: X	Date: DECEMBER 1997	Rev.	
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Reviewed by: X	Plot Scale Ratio: 50 : 1	Contract No. DACA 45	
Submitted by: X Chief: X	Drawing code: X		

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NO. 9 TURNOUT DETAILS

Sheet reference number:
C2.08