

LENGTH OF HEAD BLOCK TIES
 13'-0" FOR HAND OPERATED
 14'-0" FOR HAND OPERATED WITH
 CIRCUIT CONTROLLER
 14'-0" FOR MACHINE OPERATED
 16'-0" FOR SPRING SWITCH

HORIZONTAL SWITCH RODS SHOWN
 USE VERTICAL RODS AND SMJ
 ADJUSTABLE SIDE JAW CLIPS
 WITH MACHINE OPERATED AND
 SPRING SWITCHES

PLAN OF RIGHT HAND SWITCH

SWITCH PLATES AND TIE LAYOUT ARRANGED
 FOR HAND OPERATED SWITCH

WORKMANSHIP AND MATERIALS, INCLUDING BEVELING AND HARDENING RAIL ENDS, SHALL BE PER CURRENT AREA SPECIFICATIONS

SINCE THE ALLOWABLE VARIATION IN STANDARD LENGTHS OF RAILS, FROGS AND SWITCH POINTS IS GREATER THAN THE NORMAL EXPANSION GAPS AT RAIL JOINTS AND THICKNESS OF FIBRE END POST IN INSULATED JOINTS, NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.

FOR STRAIGHT AND CURVED CLOSURE RAILS, AND STRAIGHT AND CURVED LEAD RAILS, SEE DRAWINGS 2306 & 2307. IF LONG RAIL SWITCH POINTS ARE USED, SEE DRAWING 2307.

SWITCH HAS ADJUSTABLE PANDROL BOLTLESS BRACES PER DRAWING 2317.

SGMS FROG USES TWIN HOOK TIE PLATES PER DRAWING 2408.

ALL TIES TO WHICH AN ANCHOR CAN BE APPLIED WILL BE BOX ANCHORED ON BOTH THE THROUGH TRACK AND DIVERGING TRACK, AND FOR A DISTANCE OF 234 FEET IN EACH DIRECTION. DO NOT PLACE ANCHORS WHERE THEY MAY INTERFERE WITH MOVING PARTS.

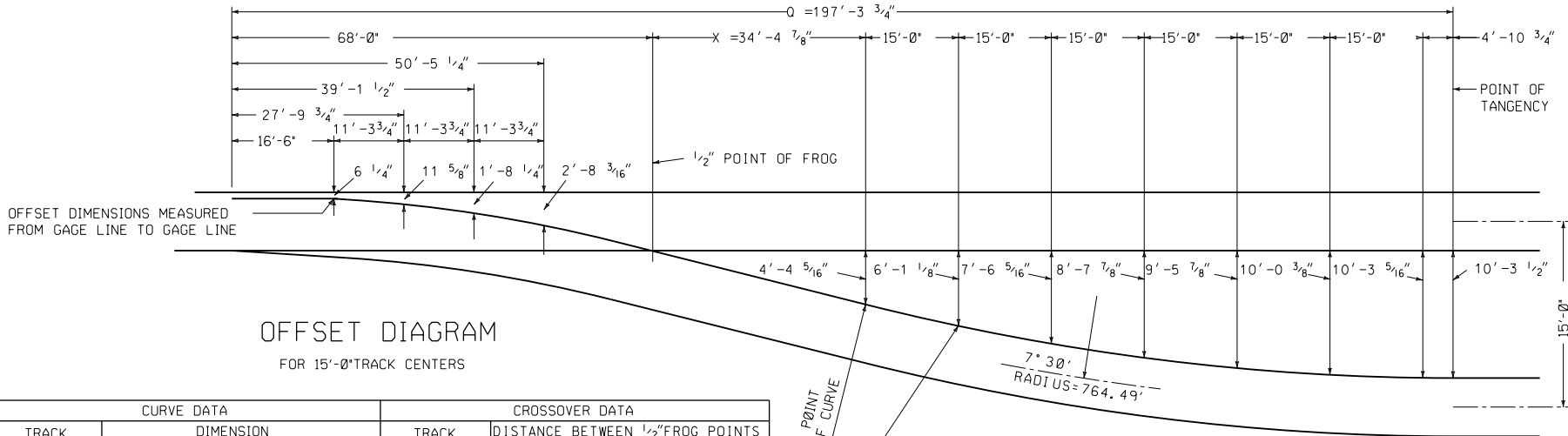
TURNOUT DATA		BILL OF SWITCH TIES			BILL OF TRACK MATERIAL		
SMGS		LENGTH	TURNOUT ONLY	CROSSOVER		QUANTITY	DESCRIPTION
NUMBER	8			14'-0"	15'-0"	1	SOLID MANGANESE STEEL SELF GUARDED FROG, COMPLETE, PER DRAWING 2402.
TOTAL LENGTH	8'-11"	9'-0"	8	16	16	1	39'-0" STRAIGHT STOCK RAIL PER DRAWING 2307.
TOE LENGTH	2'-11"	10'-0"	12	24	24	1	39'-0" BENT STOCK RAIL PER DRAWING 2307.
HEEL LENGTH	6'-0"	11'-0"	9	18	18	1	16'-6" STRAIGHT SPLIT SWITCH, COMPLETE, WITH UNIFORM RISERS, PER DRAWINGS 2302, 2307, 2310, 2311, 2314, 2315, 2316, & 2317.
TOE SPREAD	3 7/8"	12'-0"	5	10	10		
HEEL SPREAD	9 1/2"	13'-0"	7	14	16	134	TIE PLATES
ANGLE	7°-9'-10"	14'-0"	6	18	12	7	KEGS, TRACK SPIKES, 100 POUND KEGS
LENGTH OF SWITCH POINT	16'-6"	14'-0" (Dapped)*	0	0	0	10	JOINTS, COMPLETE
HEEL SPREAD	6 1/4"	15'-0"	4	8	8	2	INSULATED JOINTS, COMPLETE IF REQUIRED
SWITCH ANGLE	1°-44'-11"	16'-0"	5	0	9	12	PANDROL CLIPS, REGULAR
THICKNESS OF POINT	1/4"	16'-6"	4	0	0	24	SCREW SPIKES
VERTEX DISTANCE	8 1/4"	TOTAL NO.	60	108	113	284	ANCHORS
ACTUAL LEAD	68'-0"	BOARD MEAS.	3843	6594	7044,5		
RADIUS OF CENTERLINE	462.73	ALL SWITCH TIES ARE 7X 9"					
DEGREE OF CURVE	12°-24'-23"	* ADJUST THE NUMBER OF 13'-0" TIES IF LAYOUT REQUIRES THE USE OF 14'-0", 14'-0" DAPPED, OR 16'-0" HEAD BLOCK TIES.					
1/2 PT. TO PT. OF CURVE	6'-2 1/8"						
STRAIGHT CLOSURE LENGTH	48'-7"						
CURVED CLOSURE LENGTH	48'-9 7/16"						

FOR MAINTENANCE AND RELAY USE ONLY
 NUMBER 8 TURNOUT AND CROSSOVER
 SELF GUARDED MANGANESE STEEL FROG
 FOR 115RE, 122CB, 132RE, AND 136RE RAIL



ISSUED DATE

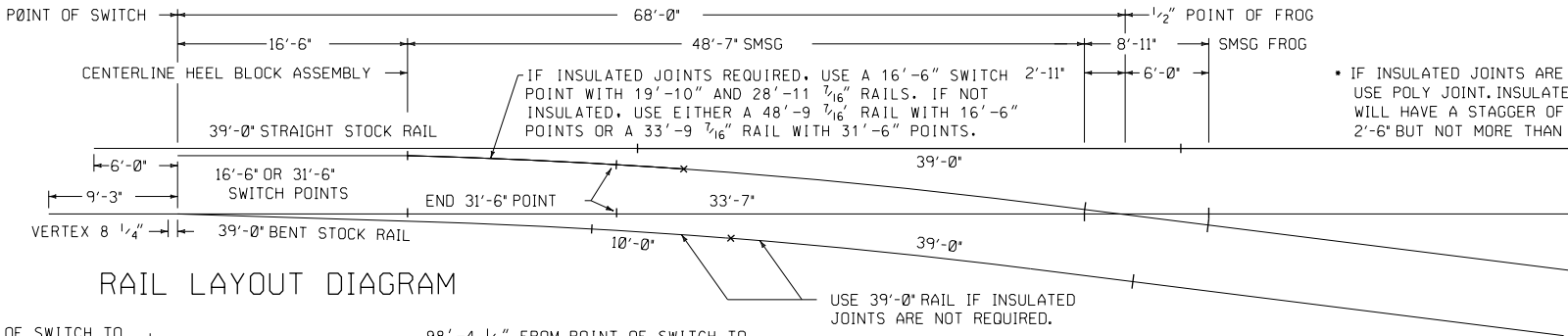
REVISED DATE



OFFSET DIAGRAM
FOR 15'-0" TRACK CENTERS

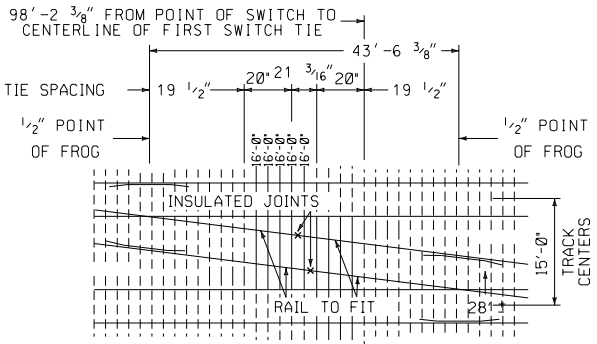
CURVE DATA			CROSSOVER DATA		
TRACK CENTERS	DIMENSION		TRACK CENTERS	DISTANCE BETWEEN 1/2" FROG POINTS	
	Q	X		MAIN TRACK	CROSSOVER
13'-0"	181'-4 3/8"	18'-5 5/8"	15'-0"	43'-6 3/8"	44'-5 5/8"
14'-0"	189'-4"	26'-5 1/4"	14'-0"	35'-6 3/4"	36'-5 1/4"
15'-0"	197'-3 5/8"	34'-4 7/8"	1'-0" CHANGE	7'-11 5/8"	8'-0 3/8"
16'-0"	205'-3 1/4"	42'-4 1/2"	1.0" CHANGE	7.9688"	8.0313"
1.0" CHANGE	7.9688"	7.9688"			

OFFSET DIMENSIONS MEASURED FROM GAGE LINE TO GAGE LINE. FOR TRACK CENTERS OTHER THAN 15'-0" REDUCE OR INCREASE OFFSET DIMENSIONS BY SAME AMOUNT THAT TRACK CENTERS ARE INCREASED OR DECREASED FROM 15'-0", AND ADJUST 'X' DISTANCE

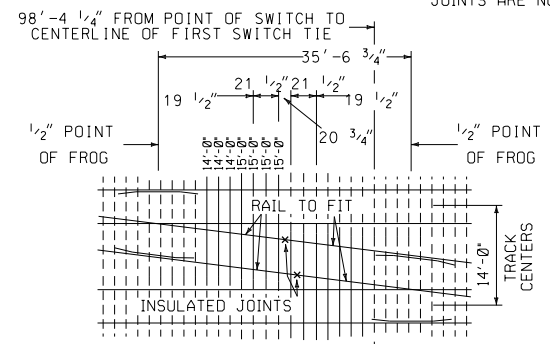


RAIL LAYOUT DIAGRAM

IF INSULATED JOINTS ARE REQUIRED, USE POLY JOINT. INSULATED JOINTS WILL HAVE A STAGGER OF AT LEAST 2'-6" BUT NOT MORE THAN 4'-6".



CROSSOVER - 15'-0" TRACK CENTERS

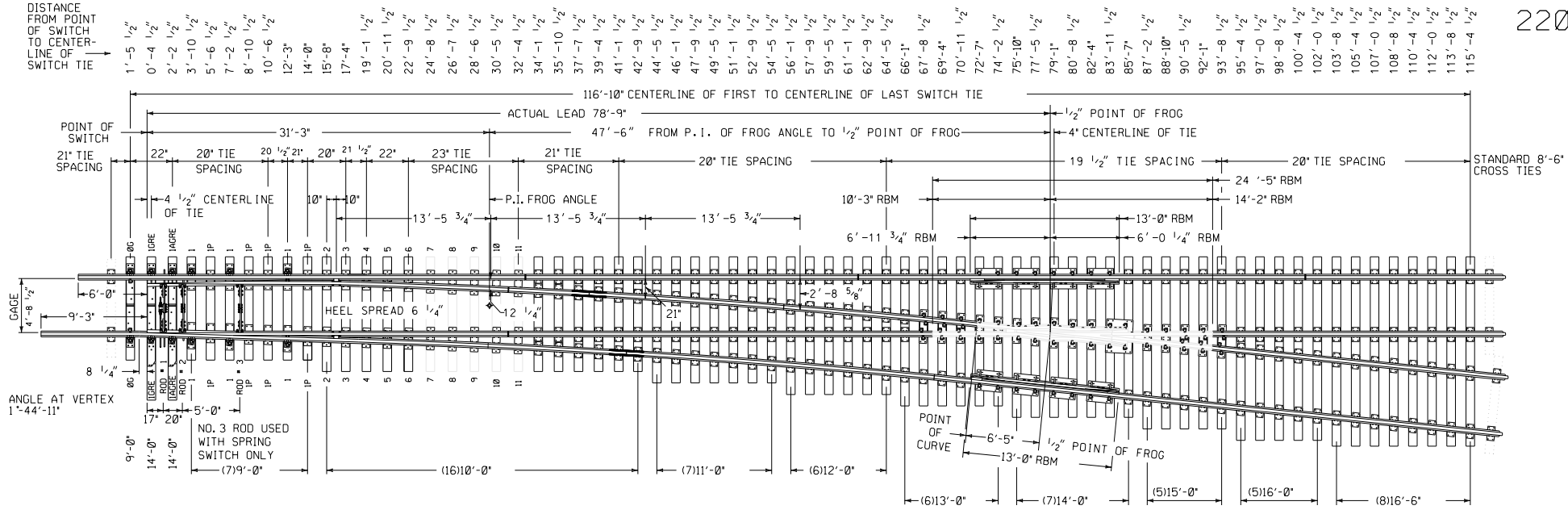


CROSSOVER - 14'-0" TRACK CENTERS

FOR MAINTENANCE AND RELAY USE ONLY
NUMBER 8 OFFSET AND LAYOUT DIAGRAMS
WITH SELF GUARDED MANGANESE FROG
FOR 115RE, 122CB, 132RE, AND 136RE RAIL

ISSUED DATE _____
REVISED DATE _____





LENGTH OF HEAD BLOCK TIES
 13'-0" FOR HAND OPERATED
 14'-0" FOR HAND OPERATED WITH
 CIRCUIT CONTROLLER
 14'-0" FOR MACHINE OPERATED
 16'-0" FOR SPRING SWITCH

VERTICAL SWITCH RODS SHOWN
 USE HORIZONTAL RODS AND
 ADJUSTABLE SIDE JAW CLIPS
 WITH HAND OPERATED SWITCHES.

PLAN OF
 RIGHT HAND SWITCH

SWITCH PLATE AND TIE LAYOUT ARRANGED
 FOR POWER THROW MECHANISM PER SIGNAL
 SECTION DRAWING NO. SD-1513

WORKMANSHIP AND MATERIALS SHALL BE PER CURRENT AREA SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.

SINCE THE ALLOWABLE VARIATION IN STANDARD LENGTHS OF RAILS, FROGS AND SWITCH POINTS IS GREATER THAN THE NORMAL EXPANSION GAPS AT RAIL JOINTS AND THICKNESS OF FIBRE END POST IN INSULATED JOINTS, NO ALLOWANCE HAS BEEN MADE FOR EXPANSION GAPS AND FIBRE END POSTS IN COMPUTING LENGTHS OF RAIL SHOWN.

FOR STRAIGHT AND CURVED CLOSURE RAILS, AND STRAIGHT AND CURVED LEAD RAILS, SEE DRAWING 2307.

SWITCH HAS ADJUSTABLE PANDROL BOLTLESS BRACES PER DRAWING 2317.

RBM FROG USES MILLED SEAT AND FLAT PLATES WITH WELDED PANDROL SHOULDERS PER DRAWING 2409.

ALL TIES TO WHICH AN ANCHOR CAN BE APPLIED WILL BE BOX ANCHORED ON BOTH THE THROUGH TRACK AND DIVERGING TRACK, AND FOR A DISTANCE OF 234 FEET IN EACH DIRECTION. DO NOT PLACE ANCHORS WHERE THEY MAY INTERFERE WITH MOVING PARTS.

FOR MAINTENANCE AND RELAY USE ONLY

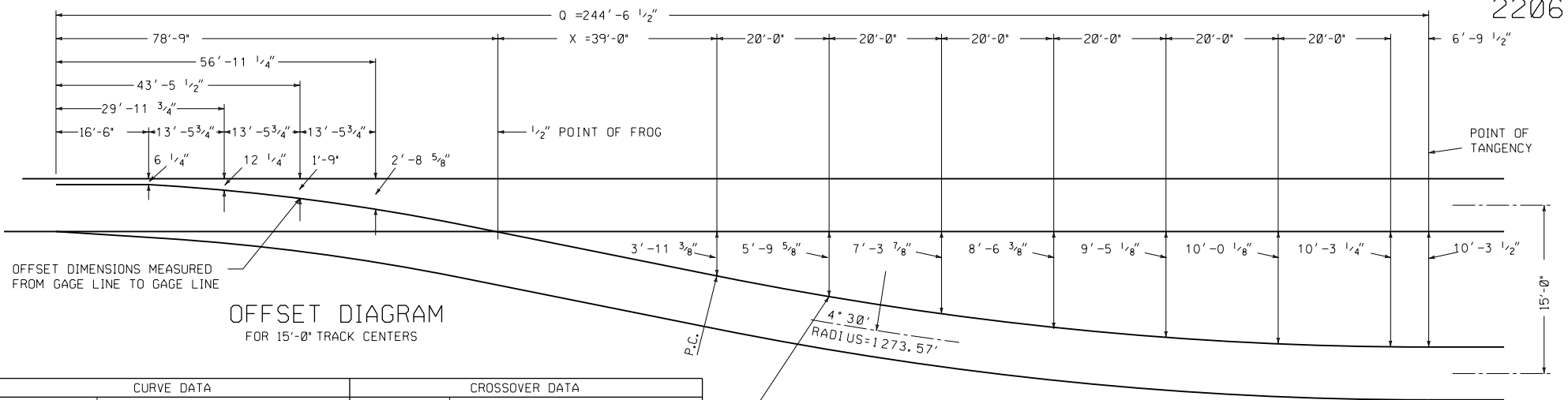
NUMBER 10 TURNOUT AND CROSSOVER
 RAILBOUND MANGANESE FROG
 FOR 115RE, 122CB, 132RE, AND 136RE RAIL

TURNOUT DATA		BILL OF SWITCH TIES					BILL OF TRACK MATERIAL	
NUMBER	RBM	LENGTH	TURNOUT ONLY	CROSSOVER		QUANTITY	DESCRIPTION	
10	10	24'-5"	14'-0"	14'-0"	15'-0"	1	NO.10 RAILBOUND MANGANESE STEEL FROG, COMPLETE, PER DRAWINGS 2403 AND 2409.	
TOTAL LENGTH	24'-5"		8	16	16	2	GUARD RAILS COMPLETE, WITH A 7'-0" MINIMUM STRAIGHT GUARDING FACE.	
TOE LENGTH	10'-3"	9'-0"	7	14	14	1	39'-0" STRAIGHT STOCK RAIL PER DRAWING 2307.	
HEEL LENGTH	14'-2"	10'-0"	6	12	12	1	39'-0" BENT STOCK RAIL PER DRAWING 2307.	
TOE SPREAD	11 13/16"	11'-0"	7	14	14	1	16'-6" LONG RAIL STRAIGHT SPLIT SWITCH, COMPLETE, WITH UNIFORM RISERS, PER DRAWINGS 2302, 2307, 2310, 2311, 2314, 2315, 2316, 2317.	
HEEL SPREAD	17 1/2"	12'-0"	6	12	12	1	39'-0" RAIL W/INSULATED JT. 12'-1"-26-11" LEGS	
ANGLE	5 -43'-29"	13'-0" *	7	22	14	1	37'-2" RAIL W/INSULATED JT. 7'-0"-30'-2" LEGS	
LENGTH OF SWITCH POINT	16'-6"	14'-0"	2	4	4	11	JOINTS, COMPLETE	
HEEL SPREAD	6 1/4"	14'-0" (Dapped)	5	10	17	8	KEGS, TRACK SPIKES, 100 POUND KEGS	
SWITCH ANGLE	1°44'-11"	15'-0"	5	0	7	150	TIE PLATES	
THICKNESS OF POINT	1/4"	16'-0" *	8	0	0	74	PANDROL CLIPS, REGULAR	
VERTEX DISTANCE	8 1/4"	16'-6"	8	0	0	26	SCREW SPIKES	
ACTUAL LEAD	78'-9"	TOTAL NO.	70	122	128	26	ANCHORS	
RADIUS OF CENTERLINE	779.39	BOARD MEAS.	4588.5	7539	8090.25	352		
DEGREE OF CURVE	7°-21'-24"	ALL SWITCH TIES ARE 7" X 9"						
1/2 PT. TO PT. OF CURVE	6'-5"	* ADJUST THE NUMBER OF 14'-0" DAPPED TIES IF LAYOUT REQUIRES THE USE OF 13'-0", 14'-0", OR 16'-0" HEAD BLOCK TIES.						
STRAIGHT CLOSURE LENGTH	52'-0"							
CURVED CLOSURE LENGTH	52'-2"							



ISSUED DATE

REVISED DATE

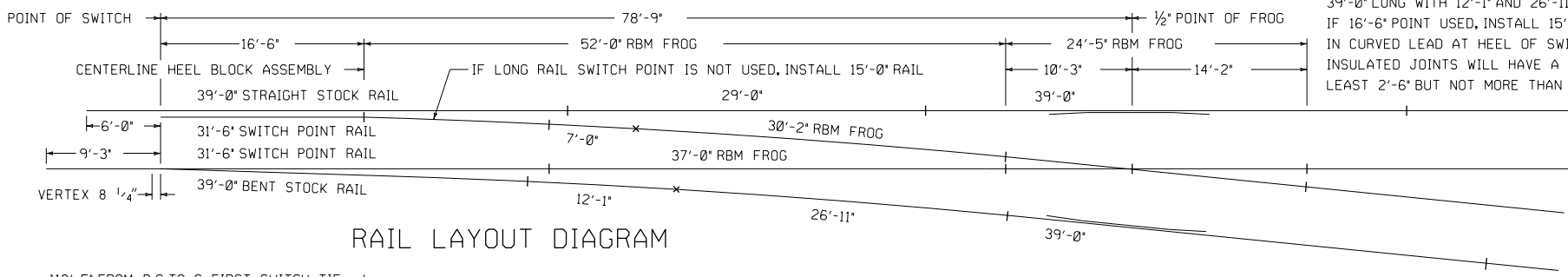


OFFSET DIAGRAM
FOR 15'-0" TRACK CENTERS

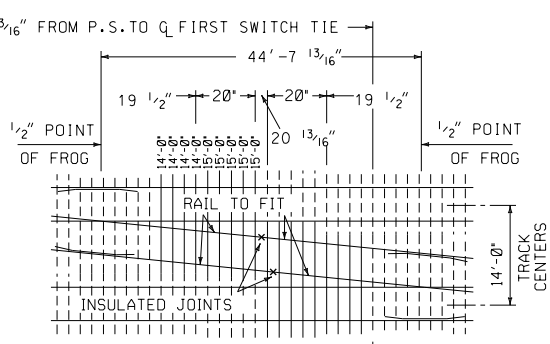
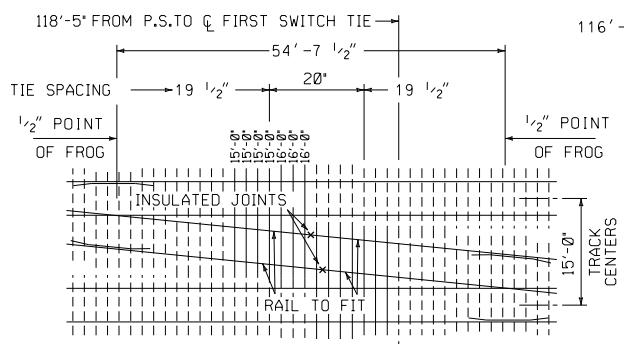
CURVE DATA			CROSSOVER DATA		
TRACK CENTERS	DIMENSION		TRACK CENTERS	DISTANCE BETWEEN 1/2" FROG POINTS	
	O	X		MAIN TRACK	CROSSOVER
13'-0"	224' - 7 1/8"	19' - 0 5/8"	15'-0"	54' - 7 1/2"	55' - 4 1/2"
14'-0"	234' - 6 7/8"	29' - 0 3/8"	14'-0"	44' - 7 13/16"	45' - 4 3/16"
15'-0"	244' - 6 1/2"	39' - 0"	1'-0" CHANGE	9' - 11 1/16"	10' - 0 5/16"
16'-0"	254' - 6 1/4"	48' - 11 3/4"	1.0" CHANGE	9.974'	10.026'
1.0" CHANGE	9.974'	9.974'			

OFFSET DIMENSIONS MEASURED FROM GAGE LINE TO GAGE LINE. FOR TRACK CENTERS OTHER THAN 15'-0" REDUCE OR INCREASE OFFSET DIMENSIONS BY SAME AMOUNT THAT TRACK CENTERS ARE INCREASED OR DECREASED FROM 15'-0", AND ADJUST 'X' DISTANCE.

IF INSULATED JOINTS ARE REQUIRED WITH 31'-6" LONG SWITCH POINT RAILS, USE EPOXY GLUED JOINTS IN THE FOLLOWING LENGTH RAILS. FOR RAILBOUND MANGANESE FROGS (DWG 2403), 37'-2" LONG WITH 7'-0" AND 30'-2" LEGS 39'-0" LONG WITH 12'-1" AND 26'-11" LEGS IF 16'-6" POINT USED, INSTALL 15'-0" RAIL IN CURVED LEAD AT HEEL OF SWITCH. INSULATED JOINTS WILL HAVE A STAGGER OF AT LEAST 2'-6" BUT NOT MORE THAN 4'-6".



RAIL LAYOUT DIAGRAM



FOR MAINTENANCE AND RELAY USE ONLY
NUMBER 10 OFFSET AND LAYOUT DIAGRAMS
WITH RAILBOUND MANGANESE FROG
FOR 115RE, 122CB, 132RE, AND 136RE RAIL

STANDARD 8'-6" CROSS TIES TURNOUT TIES
CROSSOVER - 15'-0" TRACK CENTERS

STANDARD 8'-6" CROSS TIES TURNOUT TIES
CROSSOVER - 14'-0" TRACK CENTERS

ISSUED DATE _____
REVISED DATE _____

