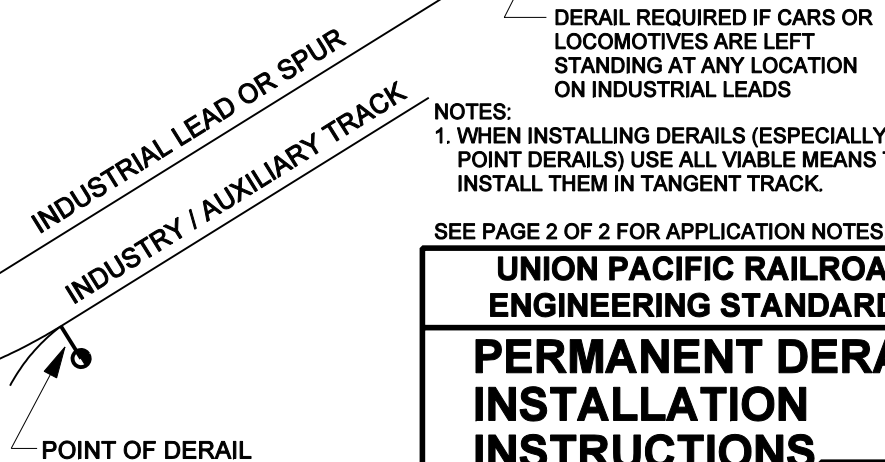
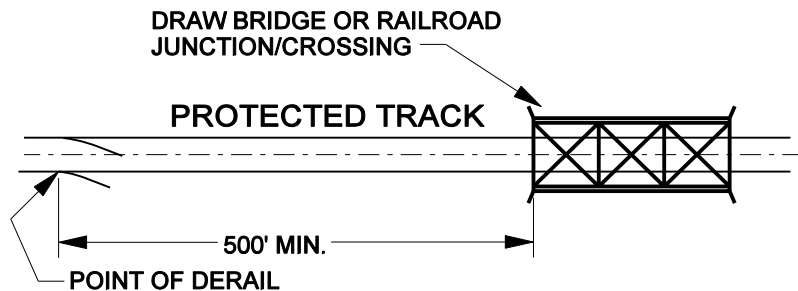
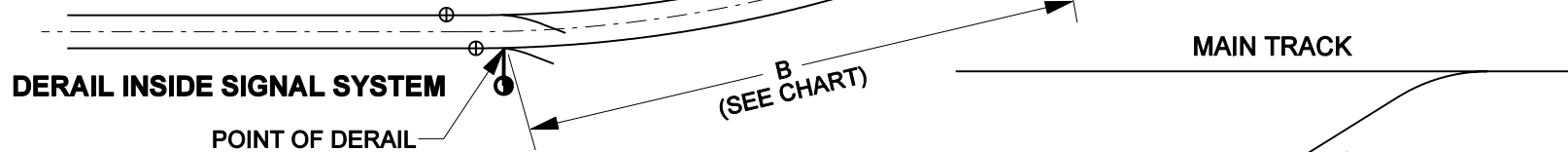


DERAIL SETBACK CHART		
KIND / DESCRIPTION	A	B
HINGE OR SLIDING	15'	50'
DOUBLE SWITCH POINT	55'	90'
SINGLE SWITCH POINT	50'	85'
RUNAWAY TRACK	85'	120'

NOTE: SYMBOL ⊕ INDICATES AN INSULATED JOINT.



NOTES:  
1. WHEN INSTALLING DERAILS (ESPECIALLY SWITCH POINT DERAILS) USE ALL VIABLE MEANS TO INSTALL THEM IN TANGENT TRACK.

SEE PAGE 2 OF 2 FOR APPLICATION NOTES.

## UNION PACIFIC RAILROAD ENGINEERING STANDARDS

# PERMANENT DERAIL INSTALLATION INSTRUCTIONS



ADOPTED: JAN. 27, 1997  
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## DERAIL APPLICATIONS

APPLICATION	DESCRIPTION	TYPE
INDUSTRY/ AUXILIARY TRACK	ASCENDING GRADE AWAY FROM MAIN TRACK OR SIDING	2
INDUSTRY/ AUXILIARY TRACK	ASCENDING GRADE GREATER THAN 1% AWAY FROM MAIN TRACK OR SIDING	3 (NOTE A)
INDUSTRY/ AUXILIARY TRACK	LEVEL OR DESCENDING GRADE AWAY FROM MAIN TRACK OR SIDING	1
INDUSTRY/ AUXILIARY TRACK	LEADING TO AN INDUSTRIAL LEAD	1
INDUSTRIAL LEAD	LEADING TO MAIN TRACK OR SIDING IF CARS OR LOCOMOTIVES ARE LEFT STANDING	2
INDUSTRY/ AUXILIARY TRACK	INDUSTRY UTILIZES MOTIVE POWER / CAR MOVER ON TRACKS LEADING TO MAIN TRACK, SIDING, INDUSTRIAL LEAD	2
SIDING	ASCENDING GRADE AWAY FROM MAIN TRACK	2 (NOTE B)
SIDING	LEVEL OR DESCENDING GRADE AWAY FROM MAIN TRACK	NONE (NOTE B & C)
YARD LEAD/TRACK	LEADING TO MAIN TRACK, SIDING, OR INDUSTRIAL LEAD	2
MAIN TRACK	IF PROTECTION IS REQUIRED FOR DRAW BRIDGES OR RAILROAD JUNCTIONS / CROSSINGS	2
RIP TRACK/ LOCOMOTIVE FACILITY	USED IN CONJUNCTION WITH BLUE FLAG REQUIREMENTS	2

**NOTE A:** FOR EXISTING TRACKS THAT MEET THIS CRITERIA, THE CHIEF ENGINEER SHALL EVALUATE THE POTENTIAL FOR ROLL OUTS AND DETERMINE THE APPROPRIATE LEVEL OF PROTECTION.

**NOTE B:** INCLUDES ONLY SIDINGS DESIGNATED BY SUPERINTENDENT AS A SETOUT LOCATION. DERAILS SHALL REMAIN IN NON-DERAILING POSITION UNLESS CARS ARE PRESENT (REFERENCE GCOR 8.2).

**NOTE C:** IF SIDING IS IN A DESIGNATED SEALED CORRIDOR, LEVEL 1 WILL APPLY. SEALED CORRIDORS ARE ROUTES DESIGNATED AS PASSENGER, CRITICAL, OR PREMIUM.

TYPE	KIND / DESCRIPTION
1	*SLIDING OR SINGLE SWITCH POINT
2	SLIDING W/ CROWDER, DOUBLE SWITCH POINT, TYPE 2 SINGLE SWITCH POINT
3	RUNAWAY TRACK (#7 TURNOUT W/ PANEL)

\* USE OF HINGED DERAILS SHALL BE LIMITED TO CURRENT INSTALLATIONS OF TYPE 1 PROTECTION OR WHERE THERE IS INSUFFICIENT CLEARANCE TO INSTALL A SLIDING DERAIL.

### NOTES:

1. AUXILIARY TRACK IS ANY TRACK NOT OTHERWISE SPECIFIED IN THIS STANDARD THAT DIRECTLY CONNECTS TO ANY MAIN TRACK, SIDING, OR INDUSTRIAL LEAD WHERE CARS OR LOCOMOTIVES ARE LEFT STANDING.
2. WHENEVER POSSIBLE, DERAILS SHOULD BE PLACED IN TANGENT TRACK. TO DETERMINE GRADE AND THE LIKELIHOOD OF CARS ROLLING OUT OF A TRACK, ALL GRADES MUST BE EVALUATED FOR AT LEAST 1/2 MILE FROM PROPOSED DERAIL LOCATION IF TRACK LENGTH PERMITS. LEVEL GRADE IS DEFINED AS PLUS OR MINUS 0.25% (3" RISE OR FALL IN 100'-0" OF TRACK).
3. TO MEASURE THE GRADE IF SURVEYORS ARE NOT AVAILABLE, USE A 200'-0" STRING WITH A STRING LEVEL IN THE CENTER. AFTER LEVELING THE STRING WITH ONE END FIXED TO THE TOP OF THE RAIL, MEASURE THE DISTANCE BETWEEN THE STRING AND THE RAIL AT THE FREE END. 0.25% GRADE EQUALS 6" OF SEPARATION. CARE MUST BE TAKEN TO AVOID TRACK PROFILE IRREGULARITIES NEAR THE STRING ENDS.
4. INSTALLATION OF DERAIL SHOULD BE SUCH THAT CAR OR LOCOMOTIVE WILL DERAIL AWAY FROM PROTECTED ADJACENT TRACK OR STRUCTURE.
5. IF EXISTING DERAIL DESIGN IS OF A HIGHER TYPE THAN SPECIFIED IN THE MATRIX, IT WILL SUFFICE.
6. POINT OF DERAIL MUST BE A MINIMUM OF 50'-0" FROM 13'-0" CLEARANCE POINT WHERE PRACTICAL. SEE CHART ON PAGE 1 FOR MINIMUMS BY DERAIL KIND.
7. IF DERAIL IS TO BE PLACED ON A CURVE AND THE DESIRED DIRECTION TO DERAIL IS TO THE INSIDE OF THE CURVE, USE A TYPE 2 OR 3 DERAIL.
8. DERAIL WILL BE EQUIPPED WITH DUAL CONTROL POWER SWITCH MACHINE AT LOCATIONS DETERMINED BY CHIEF ENGINEER. DERAIL INSTALLATIONS REQUIRED IN CONTROLLED SIGNALIZED TRACK MUST BE APPROVED BY DIRECTOR OF SIGNAL DESIGN.
9. EXCEPTIONS DUE TO LOCAL CONDITIONS MAY BE AUTHORIZED BY CHIEF ENGINEER.
10. REFERENCE UPRR STD DWGS 2005, 2006, AND 2007.

## UNION PACIFIC RAILROAD ENGINEERING STANDARDS

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