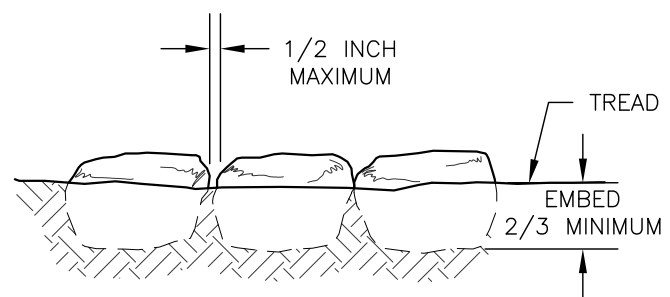


TYPICAL RETAINER TYPE

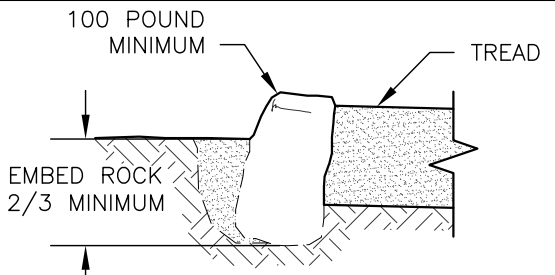
RETAINER TYPE	MATERIAL	SIZE	SPECIES/ GRADE	PRESERV. TYPE	JOINT TYPE	COMMENTS
R1	ROCK			P	L	
R2a	LOG					
R2b	LOG					
R2c	LOG					
R3a	SAWN TIMBER					
R3b	SAWN TIMBER					
R3c	RAIL ROAD TIES					

N/A WHEN NOT APPLICABLE

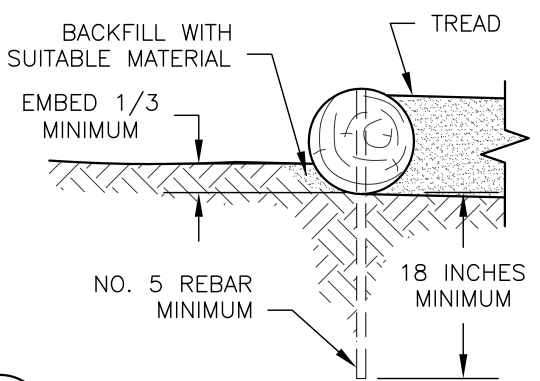


TYPICAL ROCK SPACING

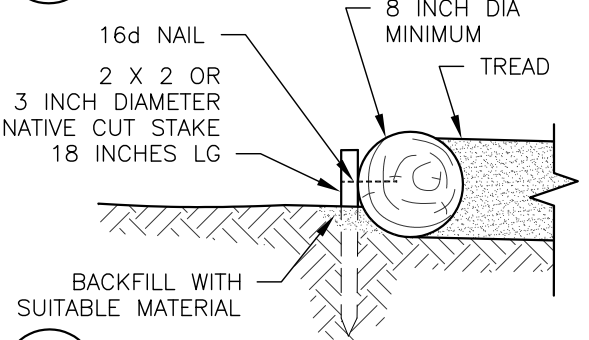
R1 TYPICAL ROCK RETAINER



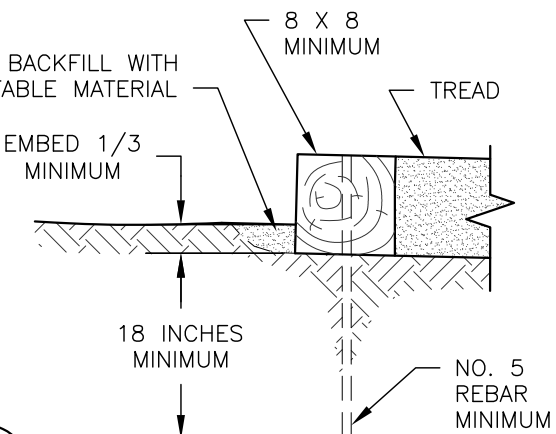
R2a TYPICAL LOG RETAINER



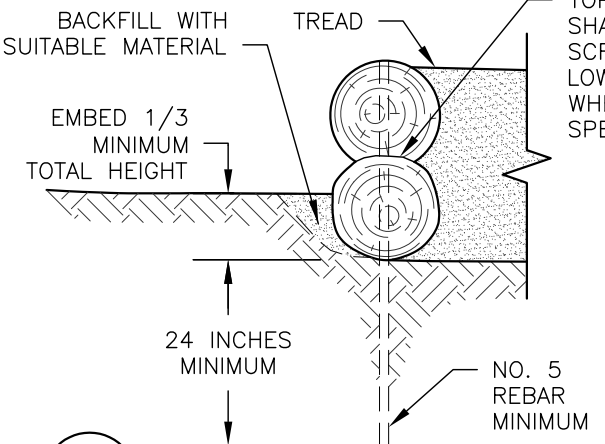
R2b TYPICAL LOG RETAINER



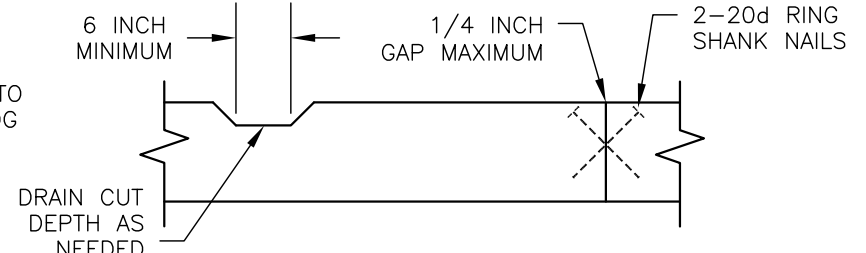
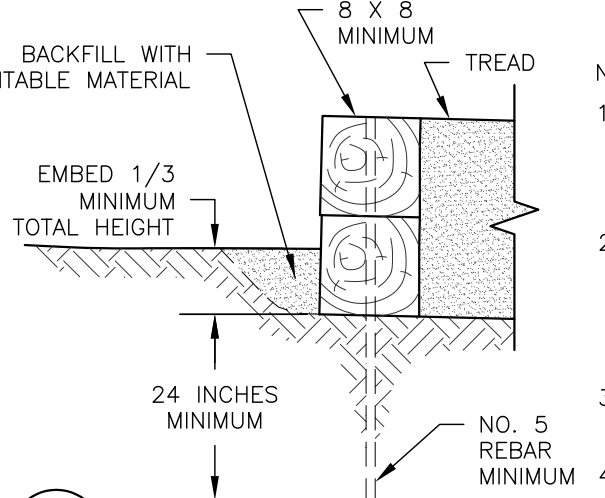
R3a TYPICAL TIMBER RETAINER



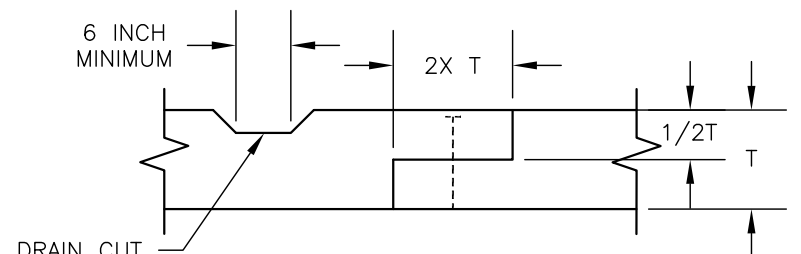
R2c TYPICAL STACKED LOG RETAINER



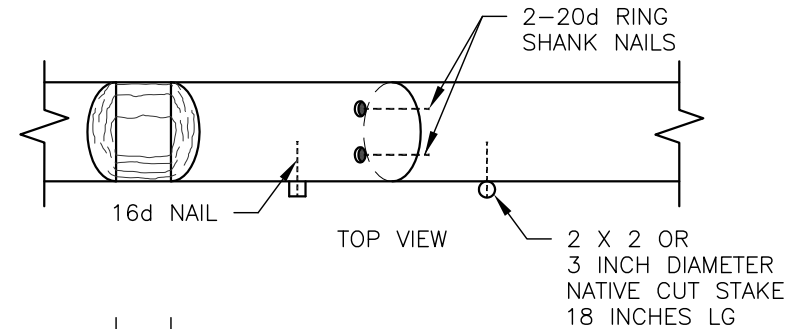
R3b TYPICAL STACKED TIMBER RETAINER



L1 TYPICAL BUTT JOINT



L2 TYPICAL LAP JOINT
T = THICKNESS OF RETAINER



L3 TYPICAL SCARF JOINT
T = THICKNESS OF RETAINER

NOTES:

1. PRE-DRILL HOLES FOR REBAR TO PREVENT SPLITTING OF LOGS OR SAWN TIMBERS. RECESS END OF REBAR 1/2 INCH BELOW TOP OF TIMBER.
2. PLACE REBAR, ANCHOR BOLT OR STAKE 6 INCHES FROM EACH END OF TIMBER WITH MAXIMUM SPACING OF 36 INCHES. FOR STACKED RETAINERS STAGGER JOINTS 24 INCHES MINIMUM.
3. COMPACT BACKFILL IN 6 INCH LIFTS UNTIL NO VISUAL DISPLACEMENT.
4. ALL FIELD DRILLED HOLES AND CUTS SHALL BE FIELD TREATED.
5. REMOVE AND DISPOSE OF DUFF AND TOP ORGANIC LAYERS DOWN TO MINERAL SOIL.

PRESERVATIVE TREATMENT - (REFER TO AWPA USE CATEGORY SYSTEM)			
PRESERVATIVE TYPE	TREATMENT TYPE	USE CATEGORY	COMMENTS
P1	WB	UC4A	
P2	WB	UC3B	
P3			

TREATMENT TYPE: WB = WATERBORNE, OT = OIL-BORNE
 USE CATEGORY: UC3B = ABOVE GROUND - EXPOSED, UC4A = GROUND CONTACT - GENERAL USE, UC4B = GROUND CONTACT - HEAVY DUTY

U.S. DEPARTMENT OF AGRICULTURE
 FOREST SERVICE
STANDARD TRAIL PLAN

PROJECT NAME & LOCATION

DRAWING NAME: **TYPICAL RETAINERS**
 SECTION: **911 - TREAD AND PRISM**
 TYPICAL ID: **TRT**

REVISION DATE: **XX/XX/XX**
NO SCALE

DRAWING NO.: **STD_911-03**
 SHEET OF