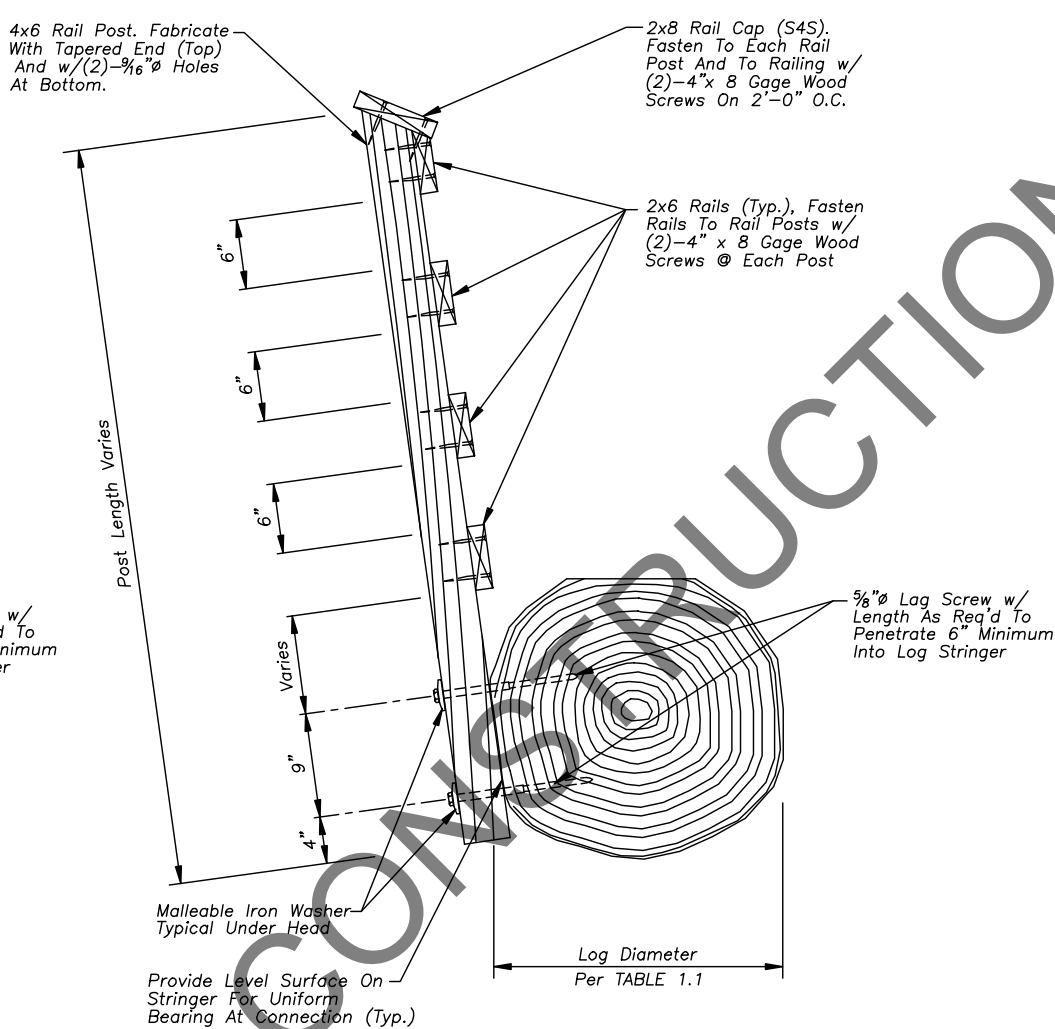


POLE HANDRAIL DETAILS

Scale: 3/4" = 1'-0"



SOLID SAWN HANDRAIL DETAILS

Scale: 3/4" = 1'-0"

TABLE 1.1: SINGLE ROUND LOG STRINGER SIZE REQUIREMENTS

STRINGER SPAN (Feet)	TIMBER SPECIES - Douglas Fir (Coastal Or Interior North) And Western Larch				
	DESIGN LOADING IN POUNDS PER SQUARE FOOT				
	PEDESTRIAN LOAD		GROUND SNOW LOAD		
	65	85	120	150	200
10	16"	16"	16"	16"	16"
15	16"	16"	16"	16"	16"
20	16"	16"	16"	16"	16"
25	16"	16"	16"	16"	17"
30	16"	17"	16"	17"	18"
35	18"	19"	17"	18"	20"
40	20"	21"	19"	20"	23"
45	21"	23"	21"	22"	24"

GENERAL NOTES:

**SPECIFICATIONS:** Materials And Construction Of This Structure Shall Be In Accordance With The Current Adopted USDA Forest Service Specifications For Construction Of Roads And Bridges, As Modified For This Contract.

**LOG MEMBERS:** Logs Used For Stringers Shall Be One Of The Species Listed In TABLE 1.1 With Minimum, Peeled, Mid-Span Log Diameters As Noted For The Various Spans And Design Loading. Native Trees To Be Used For Bridge Stringers Shall Be Straight, Sound, And Free Of Boles, Rot, Infestation Or Disease. Stringers Shall Be Chosen From Trees With Relatively Few Limbs, And Have No Knot Greater Than 3" In Diameter. Logs Shall Be Notched At Ends To Create A Level Bearing Surface At Supports Taking Care To Avoid Overcutting. Notch Upper Surface Of Logs To Provide A Level Bearing Surface For Deck Planks. Refer To PLANS For Notching Details.

**TIMBER & LUMBER:** Solid Sawn Timber Members Shall Conform To The Requirements Of The Grading Rules Agency For The Species, Type, And Grade Specified Below.

DECK PLANKS, SILLS, AND BACKING PLANKS

- Coastal Region Douglas Fir-Larch Rough Sawn, No. 1 Grade Grading Rules Agency - WWPA, WCLIB

BRIDGE RAILS & POSTS (See PROJECT CRITERIA)

SAWN - UNTREATED

- Redwood, S4S, No. 1 Grade Grading Rules Agency - RIS
- Western Red Cedar, S4S, Select Structural Grade Grading Rules Agency - WWPA, WCLIB

SAWN - TREATED

- Hem-Fir/Douglas Fir, S4S, No. 1 Grade Grading Rules Agency - WWPA, WCLIB

POLES

- Lodgepole Pine, Peeled And Dried. Grading Rules Agency - NLGA

**TREATMENT:** See PROJECT CRITERIA For Members Identified To Be Treated And For Treatment Type. Preservative Treatment Shall Be In Accordance With The Current AWP Specifications Using The Treatment Materials Listed Below. Treatment Will Comply With The Requirements Of The Current Edition Of WWPI's "Best Management Practices For The Use Of Treated Wood In Aquatic Environments".

LOG STRINGERS

- AWPA C4
- Pentachlorophenol In Light Oil (Type C Solvent)
- Copper Naphthenate In Light Oil (Type C Solvent)

SOLID SAWN LUMBER

- AWPA C2, (Above Ground Use)
- Pentachlorophenol In Light Oil (Type C Solvent)
- Copper Naphthenate In Light Oil (Type C Solvent)

SOLID SAWN LUMBER AND POLES USED FOR BRIDGE RAILS & POSTS

- AWPA C2, (Above Ground Use)
- Pentachlorophenol In Light Oil (Type C Solvent)
- Copper Naphthenate In Light Oil (Type C Solvent)
- Oxine Copper In Light Oil (Type C Solvent)
- CCA, ACZA, ACQ

**FIELD TREATMENT:** Copper Naphthenate (2% Solution) Shall Be Furnished For Field Treating Of Wood. All Abrasions And Field Cuts -Approved By The C.O.- Shall Be Carefully Trimmed And Given Three Brush Coats Of The Field Treatment Solution. Where Approved Field Drilling Of Bolt Or Nail Holes Is Required, The Holes Shall Be Poured Full Of Preservative Prior To Inserting The Fasteners.

The Ends Of Untreated Log Stringers (Refer To The PROJECT DESIGN CRITERIA), Shall Also Receive Three Brush Coats Of The Field Treatment Prior To Installation Of The Backing Planks.

**HARDWARE AND STRUCTURAL STEEL:** See PROJECT DESIGN CRITERIA For Steel Hardware Finish. Galvanized Or Unfinished Hardware Shall Meet The Requirements Of AASHTO M270, Grade 36, With Nuts And Bolts Conforming To ASTM A307, Grade A. Weathering Steel And Hardware Shall Meet The Requirements Of AASHTO M270, Grade 50W, With Bolts And Nuts Conforming To ASTM A325, Type 3. Use Malleable Iron Washers Against Wood Unless Otherwise Noted.

When Structural Steel Is To Be Welded, The Welding Procedure Shall Be In Accordance With AWS D1.1 And Shall Be Suitable For The Grade Of Steel And Intended Use Or Service.

**FABRICATION:** Submit Shop Drawings For All Manufactured Bridge Components (Except Sawn Deck Planks). Show All Dimensions And Fabrication Details For All Cut Or Bored Timber. Field Drilling Of Holes Shall Not Be Allowed Unless Otherwise Noted On The PLANS.

Native Trees To Be Used For Stringers Shall Be Peeled And Then Have An Additional 1/2" Of The Outer Sapwood Removed Prior To Being Used For Stringers.

NORTHERN REGION (R1) AND NORTHWEST REGION (R6)

DESIGN AID  
SINGLE LOG STRINGER TRAIL BRIDGE



DRAWING NO. R1924

SHEET 3 Of 4