Type: Longitudinal glued-laminated panel deck w/steel channel transverse stiffener beams
County: Missoula
Owner: Missoula County
Engineer: Fred Crisp, Missoula County Engineer
Spans over: Elk Creek
Bridge length: 23'-0"
Roadway width: 27'-7 1/2"

**Directions:** From Clearwater, take Sunset Hill Road approximately .5 miles to the bridge site.
GEOMETRY

Number of Spans: 1
Out-to-out length: 24'-0"
Center-of-bearing span lengths: 23'-0"
Skew: 0 degrees
Number of lanes: 2
Out-to-out width: 28'-6"
Rail-to-rail width: 27'-7 1/2"
Superstructure square footage: 684

Design load: AASHTO HS-20
Deadload: Approx. 80 lbs/sq. ft.
Averaged daily traffic: 56
Superstructure design by: Fred Crisp, Missoula County Engineer
Abutment material: Wood
Abutment type: Treated timber, Tensar
Geogrid™ tieback retaining wall
Abutment height (bottom of footing to top of deck): 8'-11"
Abutment design by: Fred Crisp, County Engineer

Total project cost: $80,140
Total superstructure cost: $38,720
Total superstructure cost /sq ft: $56.60

MATERIAL

DECK
Material: Wood
Species: Coast Douglas-fir
Allowable bending stress: 1920 psi
Sizes used: 6 - 10 3/4" x 57" x 24'-0"
 longitudal glulam panels
Quantity: 7353 bf
Preservative treatment: Pentachlorophenol
Wearing surface: Asphalt overlay

STIFFENER BEAMS
Material: Galvanized steel
Size: W6x12 galvanized A36 steel beam
No. and spacing: 4@6'-3"

GUIDERAIL
Bridge Material: 12 gauge
w-beam & steel tube (2" x 12" x 1/4")
Approach Material: 12 gauge steel w-beam

GUIDERAIL POSTS
Bridge Material: W6 x 25 steel posts
Approach Material: 6" x 8" and 10" x 10"
Coast Douglas-fir
Posts align with stiffner beams

GUIDERAIL CURB (none)

ABUTMENTS
Lumber greater than 8” in the least dimension:
glulam Coast Douglas-fir
Remaining lumber: Ponderosa pine, No. 2
grade
Hardware: A36 black steel, A307 uncoated
bolts & nuts
Tiebacks: High density polyethylene geogrid,
tensile strength 1,000 lbs/ft or greater

LOCAL IMPACT: This bridge carries Sunset Hill Road over Elk Creek in Missoula County. The bridge is used by logging, ranching, and recreational traffic.

BRIDGE PERFORMANCE: This two lane longitudinal glued-laminated panel bridge replaced a deteriorated single lane bridge. The transverse steel stiffener beams transfer vertical shear forces between deck panels as well as providing lateral support for the bridge rail posts. The retaining wall abutments resist lateral earth pressure through a polyethylene geogrid tieback system.

FUNDING SOURCES: USDA Forest Service; $34,925, Balance of funding from Missoula County, Montana

LOCAL CONTACT: Joe Jedrykowski, County Engineering
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Information provided by Merv Eriksson, USDA Forest Service

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Northeastern Area
State and Private Forestry