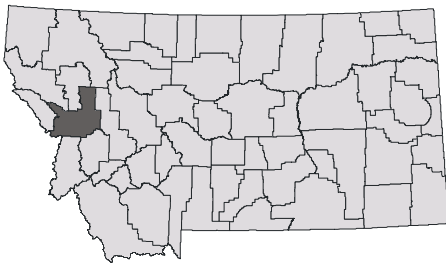
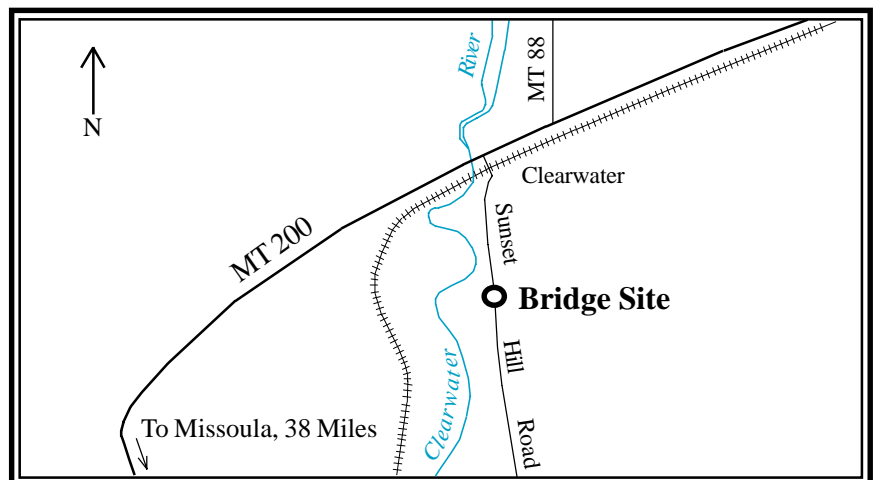


SUNSET HILL ROAD BRIDGE, Missoula County, Montana



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.



USDA Forest Service

The National Wood In
Transportation Program



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"
 longitudinal glulam panels
 Quantity: 7353 bf
 Preservative treatment: Pentachlorophenol
 Wearing surface: Asphalt overlay

GUIDERAIL POSTS

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

STIFFENER BEAMS

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

GUIDERAIL CURB (none)

GUIDERAIL

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

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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