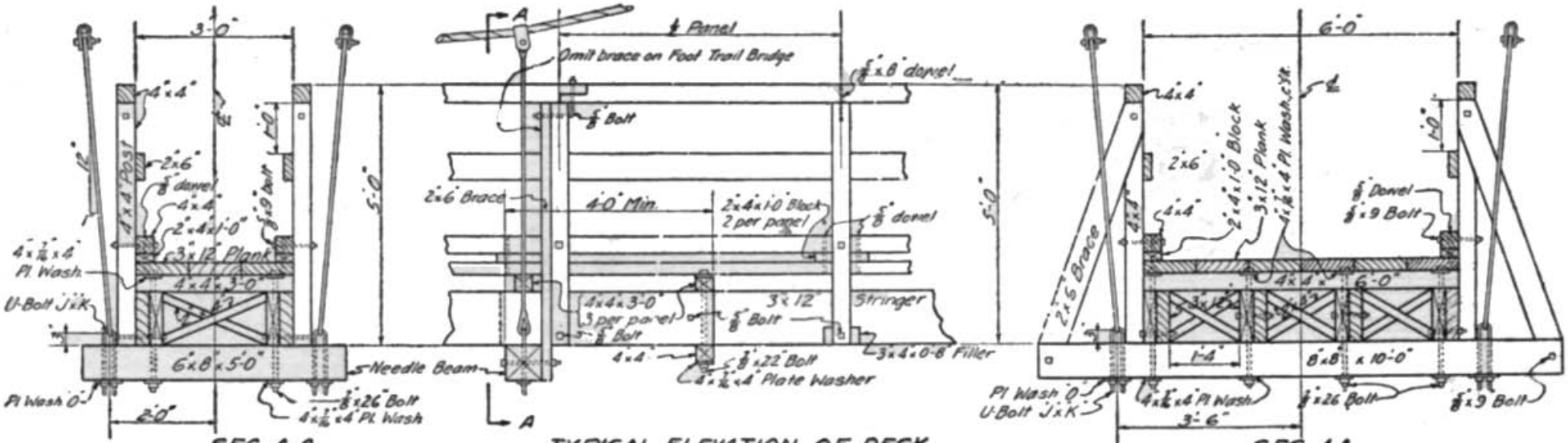
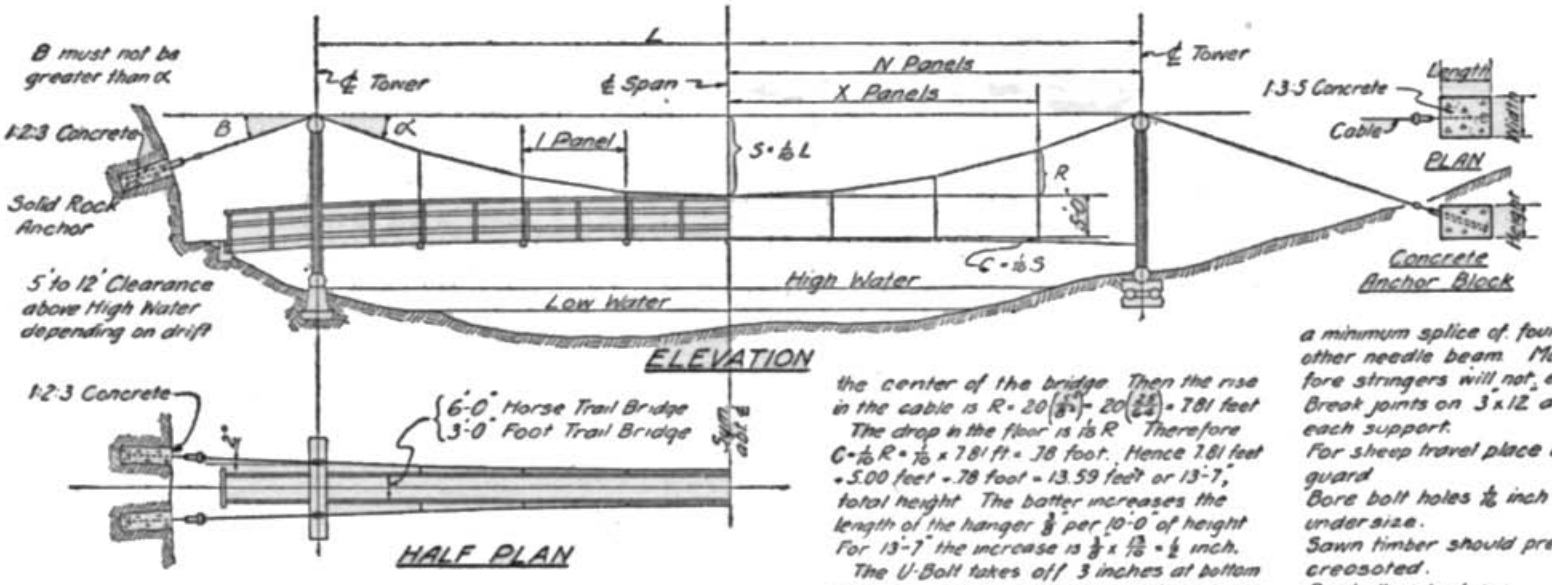


SEC. A-A
FOOT TRAIL BRIDGE

TYPICAL ELEVATION OF DECK
FOOT TRAIL & HORSE TRAIL BRIDGE

SEC. AA
HORSE TRAIL BRIDGE



ELEVATION

HALF PLAN

GENERAL NOTES:

This design should, in general, be used for spans over 100 feet.
All drift bolts ⅝" unless otherwise noted.
All bolts ½" unless otherwise noted.
Cedar is preferred for towers. The deck is designed for Douglas Fir. If any other lumber is used, make the stringers 3"x14".
Stringers to be two panels long with a minimum splice of four feet. Splices occur only at every other needle beam. Maximum panel length is 13 feet. Therefore stringers will not exceed 30 feet.
Break joints on 3"x12" decking. Fasten with 2-60d spikes at each support.
For sheep travel place an extra 2"x4" railing 4" above hub guard.
Bore bolt holes ⅛ inch oversize and drift holes ⅛ inch undersize.
Sawn timber should preferably be pretreated and pressure creosoted.
Paint all contact surfaces of untreated lumber with heavy grade of hot creosote oil or similar material.

INSTRUCTIONS FOR DETERMINING LENGTH OF HANGERS

Divide clear span "L" into an even number of panels as 12, 14, or 16. The length of hanger rod will consist of three parts as follows: (1) the rise "R" in the cable from the low point (center of span) to the place where hanger is located (at a panel point), (2) the constant (distance between center of cable and top of needle beam at center of span) five feet and (3) the camber "C" (drop in floor line from the high point at the center).

The amount of rise in the supporting cable is figured by the formulae, $R = 5\frac{x^2}{N^2}$. For example suppose the bridge to have a span of 200 feet consisting of 16 panels of 12'-6" each, "N" thus becoming eight. Then the sag "S" = 1/8 of the span or 20 ft. "X" becomes 5 for the panel 62'-6" from the center of the bridge. Then the rise in the cable is $R = 20\left(\frac{5}{8}\right)^2 = 20\left(\frac{25}{64}\right) = 7.81$ feet.

The drop in the floor is 1/8 R. Therefore C = 1/10 R = 1/10 x 7.81 ft. = .78 foot. Hence 7.81 feet + 5.00 feet + .78 foot = 13.59 feet or 13'-7", total height. The batter increases the length of the hanger ⅜" per 10'-0" of height. For 13'-7" the increase is ⅜ x 13/10 = ½ inch.

The U-Bolt takes off 3 inches at bottom and the cable clamps take off an average of 2 inches at the top. Hence net length of hanger = (13'-7") + ½" - 3" - 2" = 13'-2½" between inside of eyes.

Where the hangers are over 18 feet long, ⅞ inch and ½ inch cable may be substituted, respectively, for the ⅝ inch and ¾ inch rods. Use two clips and thimble on each end of cable hanger.

S-M-3'7

FIG. 41
SHEET 1 OF 2 SHEETS

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
REGION-6

SUSPENSION BRIDGES
FOOT AND HORSE TRAIL
60 FT. TO 400 FT. SPAN
MARCH 1935

DESIGNED BY RWL DRAWN BY AQP