



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

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GOVERNOR

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SECRETARY

MEMORANDUM TO: Project Engineers
Project Design Engineers

FROM: B.C. Hanks, P.E. (NAP for BCH)
State Structures Engineer

DATE: November 19, 2024

SUBJECT: STANDARD TIMBER BRIDGE PLANS

To assist with timely plan development for temporary and permanent bridge replacements, in response to the recovery efforts from Tropical Storm Helene, draft versions of the following documents are available on the Structures Management Unit website:

1. The In-Kind Timber Bridge Manual
<https://connect.ncdot.gov/resources/Structures/Pages/Design-Manual.aspx>
2. The In-Kind Timber Bridge Standard Design Plans
<https://connect.ncdot.gov/resources/Structures/Pages/Standard-Design-Plans.aspx>

The draft Timber Bridge Standard Design superstructure plans meet the following design criteria:

- Out to out bridge width = 20'-0"
- Steel Beam Span Lengths = 20 to 50 feet (in 10ft. increments)
- Bridge skew = 90 degrees
- Asphalt Overlay
- Timber Bridge Rail

For beam lengths between the standard increments, use the beam sized for the larger span length increment. Standard superstructure and substructure plans for skewed bridges are still in development and will be published when finalized.

There will be instances when the standard plans must be modified to include special details, such as alternate bridge rails. For these situations, modify the standards to meet the unique site requirements in lieu of redesigning the bridge and developing alternate plans.

All standard Timber Bridge Plans will require customized General Drawing sheets showing the following as applicable:

- Plan and Elevation
- Long Chord Layout

- Foundation Layout
- Location Sketch and Total Bill of Material.

The LRFR summary sheets are available for beams highlighted in green in Figure 5-2 of the manual. When the other commonly available beams shown in the figure are utilized, prepare an LRFR summary sheet for inclusion in the contract plans.

BCH/NAP

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