



STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION

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 SECRETARY

**MEMORANDUM TO:** Project Engineers  
 Project Design Engineers

**FROM:** W. J. Rogers, P.E.  
 State Bridge Design Engineer

**DATE:** January 13, 1998

**SUBJECT:** BEARING STIFFENERS DOUBLING AS CONNECTOR PLATES

There have been inconsistencies throughout the Structure Design Unit regarding detailing of bearing stiffeners which are also used as connector plates for bent diaphragms.

Due to the potential for out of plane bending in the girder web induced by wind or other transverse loads, the bearing stiffener must be welded to the top and bottom flanges. Detail bearing stiffeners used as connector plates mill to bear at the bottom flange and provide fillet welds at both top and bottom flanges. Do not detail a tight fit at the top flange.

Since the top flange at a continuous bent is in tension, it must be checked for fatigue stress range for a category C fatigue detail as follows:

- If lane loading controls the girder design, the fatigue stress range due to lane loading must be checked against the appropriate allowable values given in AASHTO Table 10.3.1A. The fatigue stress range for truck loading must also be checked in accordance with footnote b Table 13.3.2A

-If truck loading controls the girder design, the fatigue stress range due to truck loading must be checked.

This policy is effective immediately.

The Design Manual will be revised to reflect this policy at a later date.

WJR/RGW/ap



[Back to Structures Main Page](#)

Last Updated: 8/11/98 by: Steven Rackley

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