

## IOWA DEPARTMENT OF TRANSPORTATION

To Office Bridges and Structures Date August 17, 2006  
Attention All Employees Ref No. 521.1  
From Gary Novey  
Office Bridges and Structures  
Subject Method's Memo No. 131(Continuous Welded Plate Girder Butt-Welded Flange Splice Substitutions)

The Bridge Design Manual (Art. 5.5.1.4.1.6) states in negative moment regions of CWPG bridges, a butt-welded flange splice may be justified if a weight savings of 800 lbs. per flange splice can be achieved. If a butt-welded flange splice is used, the designer is also directed to consider another option by the fabricator of extending the larger flange plate throughout the negative moment region and eliminating the welded flange splice. A note is to be included on the plans either permitting or denying the larger flange plate option.

The current practice of weight savings of 800 lbs. per flange splice to justify a butt-welded flange splice will be maintained. The need to consider other options will be eliminated.

Designers need only consider flange plate sizes shown on the plan as the only option. This simplification will insure girder stresses and bolted field splices remain acceptable without having to check a number of other conditions. A plan note permitting or denying other flange plate options is therefore not required.

Instead the fabricators may request other flange plate options, but must submit design calculations by a registered professional engineer in the state of Iowa verifying the material substitution is satisfactory. This submittal shall include determining if bolted field splices are acceptable with other flange plate options. Information informing the fabricator of this option will be provided in the following plan note.

E/M 904

**“THE FABRICATOR MAY REQUEST THE SUBSTITUTION OF A SINGLE PLATE OPTION FOR THE TOP AND BOTTOM FLANGE IN THE NEGATIVE REGION BETWEEN FIELD BOLTED SPLICE PLATES. THE REQUEST SHALL INCLUDE DESIGN CALCULATIONS SIGNED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF IOWA VERIFYING THE PLATE SIZE SUBSTITUTION AND BOLTED FIELD SPLICE ARE SATISFACTORY.”**

Provide this note on steel bridges where butt-welded shop splices are used in the negative regions to change flange plate sizes.

This policy change shall apply to all continuous welded plate girder bridge projects let after December 2006.

GAN/dgb/bj