



## Wisconsin Department of Transportation

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TO: Wisconsin Bridge Inspection Team Leaders and Program Managers

FROM: Travis McDaniel, P.E.  
Statewide Structures Inspection Supervisor  
Bureau of Structures

SUBJECT: Technical Memorandum  
Fracture Critical Member Inspections

GUIDELINES: This memorandum describes the frequency requirements for Fracture Critical members and Gusset Plate inspections.

### Fracture Critical Members

Notice to all bridge owners that Fracture Critical Member (FCM) diagrams for trusses have been revised. **Structures with newly identified FCM's must have an arms-length inspection of these members during the fracture critical inspection.** For FCM inspections due in 2017, affected bridge owners will be notified by April 1, 2017. For FCM inspections due in 2018, affected bridge owners will be notified by April 1, 2018.

When any portion of a FCM is in condition state 4, the Fracture Critical inspection frequency shall not exceed 12 months.

### Gusset Plates

Notice to all bridge owners of the following clarification for Gusset Plate inspections:

- 1) Primary gusset plates connecting FCM's shall be considered an FCM and shall be noted as such on the inspection procedures **and the FCM diagrams.**
- 2) *Primary gusset plates, regardless of connecting FCM or compression elements, with **continuing** deterioration (active corrosion, distortion) are risk factors. The locations of these elements, as well as the amount of deterioration shall be measured and documented in the bridge inspection report. The frequency and methods of measurement shall be recorded in the inspection procedures. The BOS rating unit is available for support.*

# Steel Floor Beams

Notice to all bridge owners of the following clarification for Steel Floor Beam Inspections (October 2020):

WisDOT **requires** that all floor beams spaced greater than 14 feet apart shall have an **arms-length inspection** for the entire tension portion of the floor beam, including the floor beam connection(s) to the primary load carrying member. These floor beams will be inspected using the same techniques as fracture critical members. **These specific inspection procedures shall be documented in the Fracture Critical (arm's Length) Specific Procedures of the bridge inspection report.** The floor beams shall be inspected at the fracture critical inspection frequency for the bridge in question and be conducted by a certified fracture critical inspector.

In rare cases where arms-length access cannot be safely accomplished by traditional methods (reach-all, ladder, etc), alternative means of inspection are necessary. These methods require detailed inspection procedures that must be approved by BOS prior to use. Please coordinate with BOS Maintenance prior to developing these procedures.

## QUESTIONS:

For information on the technical contents of this memorandum, please contact Travis McDaniel at (608)-266-5097 or Matthew Coupar at (608)-266-5083.