

*“The load rater must determine if posting avoidance measures would be effective or if they would not significantly impact the need to post the bridge based on the initial results.” [19.3, 2<sup>nd</sup> paragraph]*

Ignore Service III

- Load rater will:
  - Submit documentation showing that flexural and shear distress is not present in beams (latest Inspection Report, Site Assessment Form/Notes, etc.).
  - Submit the controlling ratings with and without SVC III included.
- Michael Baker International (MBI) will:
  - Review the submitted documentation and present SCDOT with a recommendation of whether or not MBI believes ignoring the SVC III concrete stress check is appropriate.
  - Reject the request if salt is prevalent on bridge (coastal and mountain regions [19.2.2]).

Refined Analysis Proposed (FEM)

- Load rater will:
  - Submit draft plan for modeling and rating the bridge using refined analysis including a brief description of why the consultant expects a refined analysis will prevent posting the bridge.
  - Submit the estimated hours required to perform refined analysis.
  - Submit additional information as requested to verify approach.
- MBI will:
  - Review submitted documentation and present SCDOT with a recommendation of whether or not MBI believes a refined analysis may be appropriate.

Material Test Proposed

- Load rater will:
  - Submit rating results and BrR model using assumed material strengths (LRGD 6.8).
  - Determine if material testing may be needed to establish material strengths higher than those assumed [Option A] or lower than those assumed based on deterioration [Option B] (LRGD 6.12).
  - To determine if a test will be beneficial, submit results and BrR model using material strengths:
    - Option A: greater than assumed values.
    - Option B: lower than assumed values due to deterioration.
  - Example: If 2.5 ksi concrete is used based on year built; does increasing to 4 ksi concrete benefit the ratings enough to avoid posting?
- MBI will:
  - Compare rating results and present SCDOT with a recommendation of whether or not MBI believes material testing may be appropriate.

Load Test Proposed:

- Load rater will:
  - Submit a summary of all controlling girder(s) and limit states for the legal load ratings in BrR.
  - Document prior avoidance measures and detail how a test will benefit legal load rating results.
- MBI will:
  - Review submitted documentation and present SCDOT with a recommendation of whether or not MBI believes load testing may be appropriate. *(Is the only failing rating moment at mid-span? Shear at support? Can the bridge be strengthened easily to avoid posting? Can material testing be performed to increase capacity? Is it only one girder which controls; or do most/all girders have failing ratings? Is it only a few legal trucks which control; or are all legal vehicles failing?)*