

MDT Load Rating Report Requirements

Checklist (see *Additional Information* below for details about each report component)

- [Load Rating Summary Sheet](#)
- [Comments/Assumptions](#)
- [Calculations](#)
- [Bridge Rating Results](#)
- [Rating Results Summary Report](#)
- [Vehicle Analysis Template](#)
- [Measurements/Plans](#)

General Notes:

- All sheets included in the load rating report should be rotated to the appropriate viewing orientation
- Refer to the [Additional Load Rating Report Guidance](#) document on [MDT's Load Rating Website](#) for details about report modifications for specific structure types
 - *i.e. mixed material deck/superstructure, corrugated metal decks*
- Load rating reports are intended to serve as standalone documents for the structure in its current condition at the time of rating. Comments about SMS corrections that need to be made, or conditions that are not considered in the rating but are recommended for monitoring, should not go on the summary sheet; rather, they should be sent via email or discussed via phone.

MDT Load Rating Report Requirements

Additional Information:

- **Load Rating Summary Sheet**
 - See [MDT's Load Rating Website](#) for up-to-date template

- **Comments/Assumptions**

The space on the summary sheet is intended to flag attention to anything unique about the rating, such as the following:

- Reduced capacity for timber members
- EV live load factor (if different than default value 1.3)
- Removal of optional limit state checks
- Alternate superstructure created in BrR for xxx reason
- BrR limitations/workarounds
- Mixed materials or corrugated decks (see examples)

More detailed documentation of engineering judgement and calculations should be attached as additional pages. Reference additional pages on the summary sheet (i.e. Additional assumptions and calculations are detailed within the attached load rating report). Address the following, using similar headings:

- Analysis References (*include version and interims*)
 - *i.e. MBE, AASHTO LRFD, AASHTO Standard Specifications*
- Basis for Load Rating
 - *i.e. field measurements from xxx year, as-built plans/shop drawings/construction plans with MDT drawing numbers, if applicable*
- Material Properties
- Assumptions
 - Include what the assumption is, why it's required, and rationale/justification that shows the assumption is reasonable
 - ◆ *i.e. Appurtenances, Girders, Decks, Diaphragms*
- Members Rated
 - List all rated members, and include the basis for naming convention (i.e. numbering is based on plans, measurement sheet, etc). Indicate any members that are linked and explain rationale for grouping
- Live Load Distribution
 - Indicate if live load distribution factors are automatically calculated by BrR, or if limitations require manual calculations
- Defects
 - Address any defects identified in the inspection report that warrant a reduced condition factor or modification to section properties
- Analysis Workarounds
 - Include details about any 'workarounds' (*i.e. alternate rating, check for failed girder condition, JIRA bug/ticket*)
 - If a ticket affects the load rating, include the following documentation:
 - ◆ Reference ID (JIRA ticket number)
 - ◆ Brief statement of problem and model/rating is affected
 - ◆ Workaround procedure performed

MDT Load Rating Report Requirements

- Additional comments
 - Specific to the structure being load rated; generally warranted to bring attention to unique considerations
 - Include clear and concise documentation, and rationale if applicable
 - Indicate when additional refinement is performed
- **Copies of all calculations (hand or electronic) made outside of software**
 - This applies to any calculations not included in the rating program's analysis
 - i.e. LLDFs for certain structure types, dead loads, section loss, other input
 - Independent calculations are required to verify results for any unexpected low-rating members
 - Ensure that calculation sheets contain appropriate references to equations, relevant code articles, and source of information (i.e. *plan sheet number*).
 - Organize calculations in a format with enough detail to easily follow for checking purposes.
 - If excel sheets are utilized, include sample calculations that work through the sheet's functionality in an easily followed and fully referenced format
- **Bridge Rating Results**
 - PDF printout from BrR Bridge Explorer showing controlling ratings for entire structure
 - Scale to fit one page
 - "Single rating level per row"
- **Rating Results Summary Report for each rated member**
 - PDF printout from BrR Bridge Workspace showing ratings for each individual member
 - Scale to fit one page
 - "Single rating level per row"
 - Highlight controlling rating factors
 - Most member-specific rating summary reports include the member at the top, except for the deck. If the deck is rated (i.e. timber, corrugated steel), please add to clearly indicate which member the ratings are for (*see example below*)

Rating Results Summary Report

Name: Struct-Def: Span 1 and 3 - 19 ft Timber Girder Span Bridge ID: 03363 NBI: L25061001+02001
Member: Deck

Live Load	Live Load Type	Rating Method	Rating Level	Load Rating	Rating Factor	Location	Limit State	Member
EV2	Axle Load	ASS	Inventory	47.91	1.567		Flexure - One-lane	A: A1
EV2	Axle Load	ASS	Operating	63.74	2.217		Flexure - One-lane	A: A1
PVR	Axle Load	ASS	Inventory	77.61	1.811		Flexure - One-lane	A: A1

- **Screenshot of BrR Vehicle Analysis Template**
 - For LRFR vehicle analysis template, include additional agency-defined vehicle screenshots
 - See example on [MDT's Load Rating Website](#)
- **PDF copy of measurements or plan sheets used in analysis**
 - Plan sheets are only necessary for structures that do not have an MDT Drawing or Construction Project number (typically non State-owned structures)
 - To keep report sizes reasonable, it's acceptable to include only the relevant sheets used for analysis (i.e. general layout with notes, framing plan, cross-section, beam details, connection details, etc.)