

BRADIN 4.0 USERS GUIDE

Indiana Department of Transportation

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INTRODUCTION/BACKGROUND

The Bridge Rating Application Database of Indiana (BRADIN) is the authoritative source for load rating and posting data for all State- and Locally-owned bridges in the State of Indiana. Users may create, edit, and submit load ratings, as well as query, view, and export load ratings for all active State- and Locally-owned assets. Users may also modify coding for the National Bridge Inspection Standards (NBIS) items in regard to bridge open/posted/closed status.

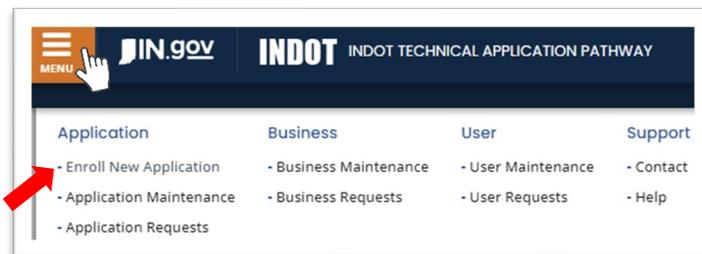
BRADIN data is passed to BIAS/AssetWise each night via an automated batch procedure. During this process, Load Rating asset values and open report values in BIAS are updated directly with BRADIN data. Each morning, the most current BRADIN data available is also sent to the State’s automated Oversize/Overweight Permitting System (IN OSOWPS).

ACCESSING BRADIN

Prospective BRADIN users must first apply for and obtain access to the Indiana [Bridge Inspection Application System \(BIAS\)](#). Users must complete and submit the Qualifying Form to INBridgeshelp@indot.in.gov to create a BIAS account.

Once BIAS access has been granted, the user may then request access to BRADIN through the [INDOT Technical Application Pathway \(ITAP\)](#).

1. From the Menu, select Enroll New Application.



2. Scroll through the available applications to find and select Bridge Rating Application Database of Indiana. Select Next to continue.



3. Select the requested User Role. The LRE (Load Rating Engineer) role will not be approved until appropriate credentials are submitted and approved by the INDOT BIAS Administrator. The Inspector role is only available to INDOT users. Choose Next to continue.

Application: Bridge Rating Application Database of Indiana - Select Role(s)

Select	Role
<input type="checkbox"/>	LRE: Read and Write Access
<input type="checkbox"/>	NONLRE: Read and Write Access (without Submit capability)
<input type="checkbox"/>	READONLY: Read Access

4. Choose Submit to complete the application for BRADIN access.

Application Enrollment - Review before Submit

Selected Applications (1)

+ Add New

	Name	Roles
	Bridge Rating Application Database of Indiana	- READONLY: Read Access

Cancel Submit

BRADIN Role	Permissions								
	View All Assets	Create New Rating ¹	Edit Rating ¹	Submit Rating ¹	Un-submit Rating ¹	Send Rating to BIAS ¹	Mass Import Ratings ¹	Mass Submit Ratings ¹	Merge Rating ¹
Read-Only	Yes	No	No	No	No	No	No	No	No
Non-Load Rating Engineer (NonLRE)	Yes	Yes	Yes	No	No	No	Yes	No	Yes
Load Rating Engineer (LRE)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inspector	Yes	Yes	Yes ^{2,3}	Yes ³	Yes ³	Yes ³	No	No	No

Notes:

¹ Permissions apply to only those assets assigned to a place of business and its employees.

² Applies to NBIS Item (41), Tons Posted, Date Posted/Closed, and Notes fields only.

³ Permissions apply to only those reports created by the specific user.

USER INTERFACE HEADER

The Interface Header is displayed at all times with the following options:

Selected Button	Description
	<ul style="list-style-type: none"> • Dashboard. Returns user to Dashboard. • Import Ratings. Opens the Import Ratings dialog box. The user can import a properly formatted and validated file containing ratings for multiple assets and submit those ratings.
	<p>Opens the in.gov Welcome screen in a new browser tab.</p>
	<p>Returns user to the Dashboard.</p>
	<p>Returns user to the Dashboard.</p>
	<p>Opens user's default email application to send an email to BRADINSupport@indot.IN.gov.</p>
	<p>Logs user out of the BRADIN application.</p>

DASHBOARD

Upon logging in to BRADIN, users will immediately land on the Homepage/Dashboard. Here, users can search for and view all in-service, superseded, and in-progress ratings for any bridge asset currently active in BIAS or planned in the Scheduling Project Management System (SPMS). An Announcements banner may be located at the top of the page to communicate important information as needed.

Search Criteria

- **Bridge # / NBI # / DES #.** Search field for the Bridge, NBI, or DES number. A dropdown list will automatically expand for assets that meet the criteria. User may select a specific asset from the dropdown list to limit the search or ignore to include all listed assets in the search. User may leave this field blank to search all active bridge assets for bridge ratings that also meet the other search criteria.
- **Rating ID.** Search field for the Rating ID to find a specific rating report. User may leave blank to search all active bridge ratings that also meet the other search criteria. *Rating ID is typically left blank for most searches.*
- **Parent Asset.** Search field for the Parent Asset of a county or district. One or more Parent Assets may be selected to include in the search results. User may leave blank to search all parent assets for bridge ratings that also meet the other search criteria. The list button  may be selected to view the entire list of Parent Assets available to include. Selections must be saved  to lock in.
- **Include Superseded Reports.** When checked, superseded rating reports are included in the search results. *In-service rating reports are always included in the search results.*
- **Include In-Progress Reports.** When checked, in-progress rating reports are included in the search results. *In-service rating reports are always included in the search results.*

Selected Button	Action	Description
	Search	Queries the database for rating reports that meet the selected criteria.
	Clear Search Criteria	Clears the current query results as well as any search criteria or applied filters.

Search Results

Results will be displayed in the grid on this Dashboard. The in-service report for each bridge will always be displayed if available. The default display order of the reports in the search grid is as follows:

1. NBI Number in ascending order
2. Submitted, true before false
3. Submitted Date, newest to oldest
4. Revision Date, newest to oldest

If no rating report exists for a bridge that meets the search criteria, then only the NBI & Bridge # will be displayed in the grid.

Once the results are displayed, the user has a number of tools available to review and export the results:

- Columns may be rearranged by clicking and dragging left or right to the desired position.
- Column width may be adjusted by clicking and dragging on the right border of the column header.
- The table may be sorted on a single column in ascending or descending order by single-clicking on the column heading.
- Select the filter icon () in the heading of a column to display a filter criteria form for that column. A filter may be defined for one or more columns as desired. To remove a filter, open the filter criteria form for that column and select Clear.

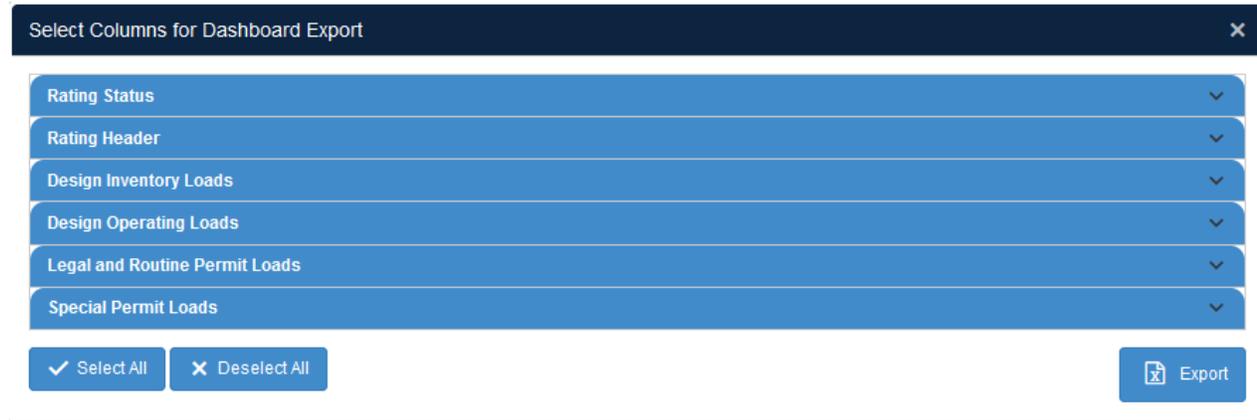
The following actions are available from the Search Results grid:

Icon	Action	User Roles	Description
	Bridge Page	LRE NONLRE INSPECTOR READONLY	Opens the Bridge Home for the selected asset. All active reports for the structure are accessible from the Bridge Home. This includes the in-service report as well as any superseded or in-progress reports available.
	Rating Page	LRE NONLRE INSPECTOR READONLY	<p>Opens the Rating Report page for the selected rating.</p> <ul style="list-style-type: none"> • Submitted reports will always open read-only. • For the READONLY user role, unsubmitted reports will open read-only • For the LRE, NONLRE, and INSPECTOR user roles, unsubmitted reports will open read-only if the user's place of business is not authorized for write privileges to the specific asset(s) • For the LRE, NONLRE, and INSPECTOR¹ user roles, unsubmitted reports will open as editable if the user's place of business is authorized for write privileges to the specific asset(s)
	Merge NBI	LRE NONLRE	Opens Merge NBI dialog box. Allows user to associate an NBI number to a rating report that is only associated with a DES number.
	Export to Excel	LRE NONLRE INSPECTOR READONLY	Opens the Query Tool.

¹ Only reports created by the same INSPECTOR, otherwise they will open read-only

Query Tool

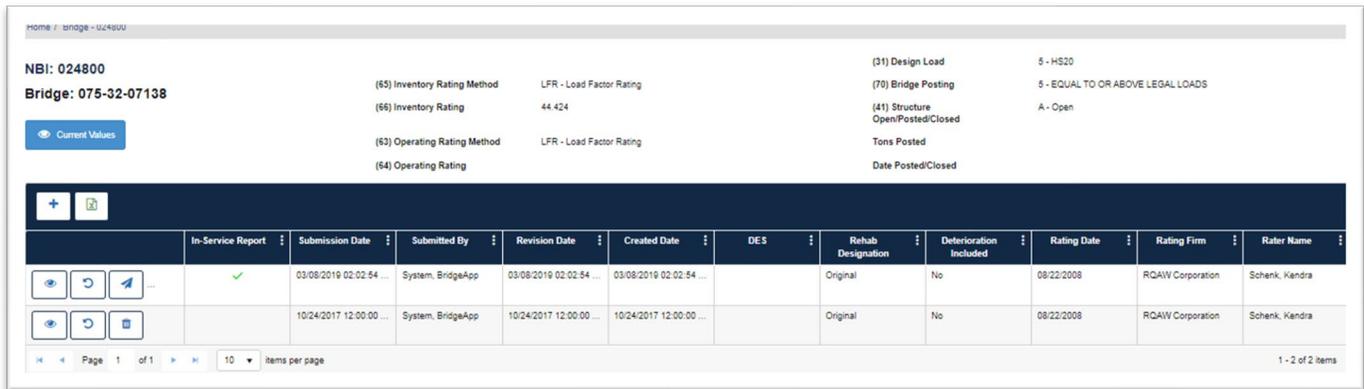
The query tool allows the user to select and export any data fields associated with load rating reports. The fields are grouped on tabs according to topic, and each tab can be opened or closed by selecting the tab header.



The following actions are available for designing a report for export:

Selected Button	Action	Description
	Select All	Selects all fields on tab. Selects all fields on all tabs when the Select All button at the bottom of the Query Tool dialog is chosen.
	Deselect All	Unchecks all fields on tab. Unchecks all fields on all tabs when the Deselect All button at the bottom of the Query Tool dialog is chosen.
	Export to Excel	Generates an XLSX file containing selected fields for all rating reports currently displayed on the Search Results grid.

BRIDGE HOME



The Bridge Home contains all active load rating reports for the specified structure. The current in-service rating report is listed at the top of the grid with superseded and in-progress reports listed below. The default sorting order of the grid is as follows:

1. NBI Number in ascending order
2. Submitted, true before false
3. Submitted Date, newest to oldest
4. Revision Date, newest to oldest

The in-service NBIS and Load Posting information is displayed in the rating header section of the Bridge Home page.

The following actions are available as appropriate for the user’s role. Some actions may be unavailable if the user’s place of business has not been authorized for write privileges to the asset.

Icon	Action	User Roles	Description
Current Values	View In-Service Rating Report	LRE NONLRE INSPECTOR READONLY	Opens a read-only version of the Rating Page for the In-Service Report.
	Create New Rating	LRE NONLRE INSPECTOR	Creates a new rating report and assigns a unique Rating ID. The report is opened for data entry. If available, the following fields are automatically carried forward from the existing in-service report: <ul style="list-style-type: none"> • (65) Inventory Rating Method • (31) Design Load • (41) Structure Open/Posted/Closed • Tons Posted • Date Posted/Closed • Notes (If INSPECTOR, all fields carry forward)

(Table continued on next page.)

Icon	Action	User Roles	Description
	Export to Excel	LRE NONLRE INSPECTOR READONLY	Opens Query Tool. <i>For additional details, refer to the Query Tool section under DASHBOARD in this guide.</i>
	View Rating	LRE NONLRE INSPECTOR READONLY	Opens a read-only version of the Rating Page for the selected rating.
	Unsubmit Rating	LRE INSPECTOR ¹	Unsubmits the selected rating. If the unsubmitted rating is also the In-Service rating, then the most recent previously submitted rating will become the In-Service rating. <i>This action is only available for ratings submitted on the same calendar day.</i>
	Edit Rating	LRE NONLRE INSPECTOR ¹	Opens the data entry version of the selected rating. <i>This action is not available for submitted ratings.</i>
	Send Rating to BIAS	LRE INSPECTOR ¹	Immediately sends the selected rating to BIAS to overwrite values as needed on the Load Rating form screen of the asset values and any open inspection reports. <i>This action is only available for the In-Service rating.</i>
	Delete Rating	LRE NONLRE INSPECTOR ¹	Removes rating from the BRADIN database. Once deleted, a rating cannot be restored through the user interface. <i>This action is not available for submitted ratings.</i>
	Merge NBI	LRE NONLRE	Opens Merge NBI dialog box. Allows user to associate an NBI number to a rating report that is only associated with a DES number.

¹ Only reports created by the same INSPECTOR

RATING REPORT

IBI: 024800 Bridge: 075-32-07138

Toll Road	No- Bridge does not carry or cross Indiana Toll and is not within a 15-mile radius of a gate	Extra Heavy Duty Highway	False		
Rehab Designation	Original			(31) Design Load	5 - HS20
Deterioration Included		(65) Inventory Rating Method	LFR - Load Factor Rating	(70) Bridge Posting	5 - EQUAL TO OR ABOVE LEGAL LOADS
DES		(66) Inventory Rating	44.424	(41) Structure Open/Posted/Closed	A - Open
SPMS Contract #		(63) Operating Rating Method	LFR - Load Factor Rating	Tons Posted	
Plans Available		(64) Operating Rating		Date Posted/Closed	
Shop Drawings Available		Notes			
Rating Program	AASHTO/WARE B/R				
Program Version	6.8.1.3003				
Rating Date	08/22/2008				
Rating Firm	RQAW Corporation				
Rater Name	Sohank, Kendra				
		Submission Date	3/8/2019 2:02:54 PM	Submitted By	System: BridgeApp

The Rating Report page contains rating factors, load capacities, and safe posting loads for the state’s suite of load rating vehicles. The rating header includes supporting information as well as related NBIS items. The load rating vehicles are subdivided into four tabs each corresponding to a different rating classification as described in the *Part 3, Indiana Bridge Inspection Manual* and the *Manual for Bridge Evaluation*. These are Design Inventory Loads, Design Operating Loads, Legal and Routine Permit Loads, and Special Permit Loads.



Each rating report is identified by a unique Rating ID. Each report is also associated with a structure’s NBI number; this action takes place when the report is first created and cannot be changed later. If at the time of the initial load rating, no NBI number for the structure exists, the rating report may be associated with a DES number. When the NBI number becomes available, the user may merge the existing DES based report with the NBI number; this action cannot be performed more than once. Until the report is associated with an NBI number, it cannot be submitted.

The following report actions are available when viewing a report.

Action	User Roles	Description
	LRE NONLRE INSPECTOR READONLY	Exits current rating and returns user to Bridge Home page for current asset.

The following additional actions are available when editing a report for applicable user roles with assigned write permissions.

Action	User Roles	Description
	LRE NONLRE INSPECTOR	Exits current rating and returns user to Bridge Home page for current asset. <u>Any changes since rating was last saved are discarded.</u>
	LRE NONLRE	Overwrites all fields with data from the in-service rating report. Rating remains open for additional editing.
	LRE NONLRE INSPECTOR ¹	Saves changes to rating. Rating remains open for additional editing.
	LRE INSPECTOR ¹	Saves changes to rating then initiates a data validation review. Any reported warnings/errors must be corrected before the rating submittal will be completed. If there are no errors, the rating is successfully submitted and immediately designated as the In-Service rating for the asset. Changes will automatically transfer to BIAS at 6:00 pm EST on the same day it is Submitted unless Unsubmitted prior to 6:00 pm EST.

¹ Only reports created by the same INSPECTOR



Tip: If there is an In-Service rating for the current asset, the user may choose to use Previous Report Values to help speed data entry.

In addition to storing data, this page contains data validation logic to ensure all required information has been provided when attempting to submit. These data validation checks will be discussed in each subsection below.

Header

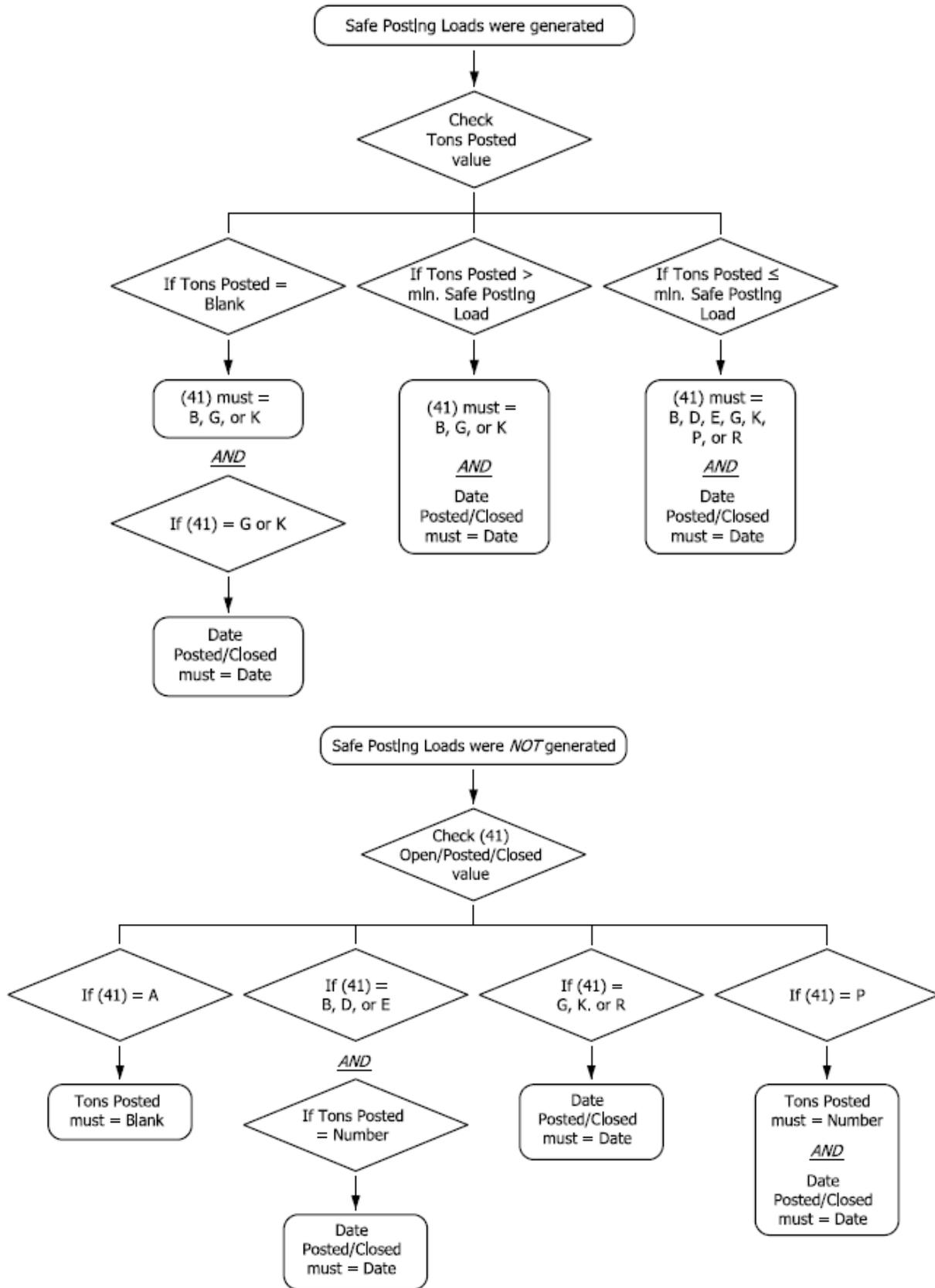
The following table provides information about data entry in each field of the Rating Header.

List of editable fields and associated requirements:

Field	Required When	Data Entry Format	Notes
Rehab Designation	Always Required	Free Text	For State Bridges – “Original”, “A”, “B”, “C”, etc. For LPA Bridges – “Original”, “Rehab yyyy” (“yyyy” is year of most recent rehab project considered in the load rating)

(Table continued on next page.)

Field	Required When	Data Entry Format	Notes
Deterioration Included	See Note	Check Box	Check only when deterioration was included in load rating model.
DES	See Note	Number	Represents the specific rehab or plan set for which the bridge was rated. This is <u>NOT</u> the consultant load rating or inspection contract Des No.
Plans Available	See Note	Check Box	Check only when all necessary plan details were available to load rate.
Shop Drawings Available	Always Required	Dropdown List	<ul style="list-style-type: none"> • “N/A” if shop drawings were not necessary to load rate the bridge. • “Yes” if shop drawings were required to load rate AND were available. • “No” if shop drawings were required to load rate AND were not available.
Rating Program	If (65) Inventory Rating Method ≠ “EJ – Engineering Judgement”	Dropdown List	Select “Other” and type in program name if not available in the drop-down list
Program Version	If (65) Inventory Rating Method ≠ “EJ – Engineering Judgement”	Dropdown List	Select “Other” and type in program version if not available in the drop-down list
Rating Date	Always Required	mm/dd/yyyy	
Rating Firm	Always Required	Dropdown List	Must match organization registered in ITAP.
Rater Name	Always Required	Dropdown List	<ul style="list-style-type: none"> • This is the PE who stamped the Load Rating Summary Report. • Select “Other” and type in the rater name if not available in the dropdown list • <i>Last Name, First Name</i>
(65) Inventory Rating Method	Always Required	Dropdown List	
(31) Design Load	Always Required	Dropdown List	
(41) Structure Open/Posted/Closed	Always Required	Dropdown List	See flowcharts below.
Tons Posted	See flowcharts below.	Whole Number	See flowcharts below.
Date Posted/Closed	See flowcharts below.	mm/dd/yyyy	See flowcharts below.
Notes		Free text	4,000 character limit.



List of read-only fields and sources:

Field	Source	Notes
NBI	BIAS	
Bridge #	BIAS	
Toll Road	BIAS	
Extra Heavy Duty Highway	BIAS	
SPMS Contract #	SPMS	Corresponds to DES
(66) Inventory Rating	Current BRADIN Rating	<ul style="list-style-type: none"> • If (65) Inventory Rating Method = "LRFR – Load and Resistance Factor Rating", then (66) Inventory Rating = HL-93 Design Inventory Rating Factor • If (65) Inventory Rating Method ≠ "LRFR – Load and Resistance Factor Rating", then (66) Inventory Rating = HS20-44 Design Inventory Load Capacity
(63) Operating Rating Method	Current BRADIN Rating	<ul style="list-style-type: none"> • Equals (65) Inventory Rating Method.
(64) Operating Rating	Current BRADIN Rating	<ul style="list-style-type: none"> • If (63) Operating Rating Method = "LRFR – Load and Resistance Factor Rating", then (64) Operating Rating = HL-93 Design Operating Rating Factor • If (63) Operating Rating Method ≠ "LRFR – Load and Resistance Factor Rating", then (64) Operating Rating = HS20-44 Design Operating Load Capacity
(70) Bridge Posting	Current BRADIN Rating	<ul style="list-style-type: none"> • Based on lowest entered rating factor from Legal and Routine Permit Loads tab (excluding NRL): <ul style="list-style-type: none"> ○ 0 – $RF \leq 0.6$ ○ 1 – $0.6 < RF \leq 0.7$ ○ 2 – $0.7 < RF \leq 0.8$ ○ 3 – $0.8 < RF \leq 0.9$ ○ 4 – $0.9 < RF < 1.0$ ○ 5 – $RF \geq 1.0$

Design Inventory Loads

The Design Inventory Loads tab contains fields for rating factors and load capacities for each of the design vehicles discussed in *Part 3, Indiana Bridge Inspection Manual*.

Rating factors are manually input by the user with a maximum four-digit precision left and right of the decimal, i.e. XXXX.XXXX. BRADIN will accept rating factors from 0 to 9999.9999. Data entry is required according to the following logic:

Field	Rating Factor Required When
HL-93 (36 T)	(31) Design Load = "A – HL93" OR (65) Inventory Rating Method = "LRFR – Load and Resistance Factor Rating"
Fatigue (36 T)	Not Required
H20-44 (20 T)	(31) Design Load = "4 – H20"
HS20-44 (36 T)	(31) Design Load = "5 – HS20" OR (31) Design Load = "6 – HS20 + MOD" OR (65) Inventory Rating Method ≠ "LRFR – Load and Resistance Factor Rating"
HS25-44 (45 T)	(31) Design Load = "9 – HS25 or greater"
Alternate Military (24 T)	(31) Design Load = "6 – HS20 + MOD"
Toll Road Loading NO. 2 (45 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate AND Bridge is State owned or maintained
Toll Road Loading NO. 1 (45 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate AND Bridge is State owned or maintained
Special Toll Road Truck (63 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate AND Bridge is State owned or maintained
Michigan Train Truck NO. 5 (67 T)	Bridge is on the Extra Heavy Duty Highway
Michigan Train Truck NO. 8 (67.1 T)	Bridge is on the Extra Heavy Duty Highway

Load capacities are automatically generated by BRADIN using the following equation:

$$\text{Load Capacity} = \text{Gross Vehicle Weight} \times \text{Rating Factor}$$

Design Operating Loads

The Design Operating Loads tab contains fields for rating factors and load capacities for each of the design vehicles discussed in *Part 3, Indiana Bridge Inspection Manual*.

Rating factors are manually input by the user with a maximum four-digit precision left and right of the decimal, i.e. XXXX.XXXX. BRADIN will accept rating factors from 0 to 9999.9999. Data entry is required according to the following logic:

Field	Rating Factor Required When
HL-93 (36 T)	(31) Design Load = "A – HL93" OR (63) Operating Rating Method = "LRFR – Load and Resistance Factor Rating"
Fatigue (36 T)	Not Required
H20-44 (20 T)	(31) Design Load = "4 – H20"
HS20-44 (36 T)	(31) Design Load = "5 – HS20" OR (31) Design Load = "6 – HS20 + MOD" OR (63) Operating Rating Method ≠ "LRFR – Load and Resistance Factor Rating"
HS25-44 (45 T)	(31) Design Load = "9 – HS25 or greater"
Alternate Military (24 T)	(31) Design Load = "6 – HS20 + MOD"
Toll Road Loading NO. 2 (45 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate AND Bridge is State owned or maintained
Toll Road Loading NO. 1 (45 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate AND Bridge is State owned or maintained
Special Toll Road Truck (63 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate AND Bridge is State owned or maintained
Michigan Train Truck NO. 5 (67 T)	Bridge is on the Extra Heavy Duty Highway
Michigan Train Truck NO. 8 (67.1 T)	Bridge is on the Extra Heavy Duty Highway

Load capacities are automatically generated by BRADIN using the following equation:

$$\text{Load Capacity} = \text{Gross Vehicle Weight} \times \text{Rating Factor}$$

Legal and Routine Permit Loads

The Legal and Routine Permit Loads tab contains fields for rating factors, load capacities, and safe posting loads for each of the legal and routine permit vehicles discussed in *Part 3, Indiana Bridge Inspection Manual*.

Rating factors are manually input by the user with a maximum four-digit precision left and right of the decimal, i.e. XXXX.XXXX. BRADIN will accept rating factors from 0 to 9999.9999. Data entry is required according to the following logic:

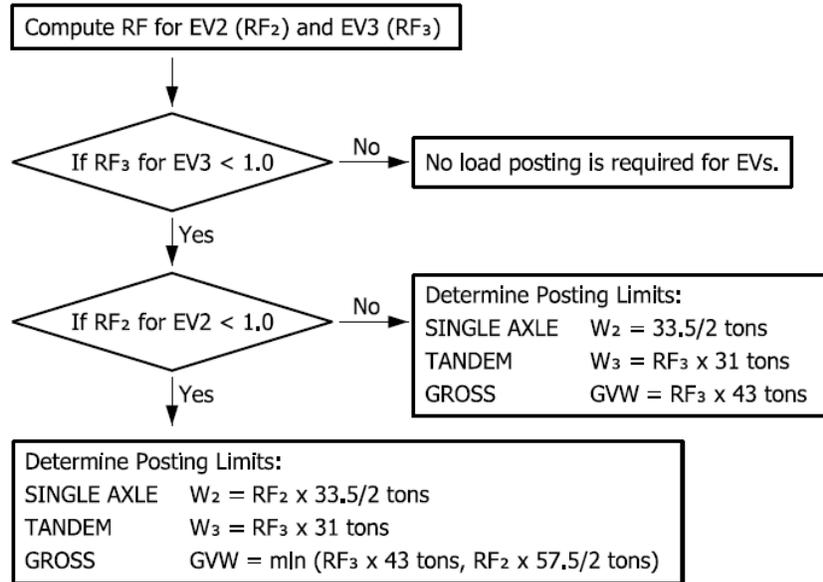
Field	Rating Factor Required When
EV2 (28.75 T)	Always Required
EV3 (43 T)	Always Required
NRL	(65) Inventory Rating Method ≠ "EJ – Engineering Judgement"
H20-44 (20 T)	Always Required
Alternate Military (24 T)	Always Required
HS20-44 (36 T)	Always Required
AASHTO Type 3 (25 T)	Always Required
SU4 (27 T)	Always Required
Toll Road Loading NO. 2 (45 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate <i>AND</i> Bridge is State owned or maintained
AASHTO Type 3S2 (36 T)	Always Required
SU5 (31 T)	Always Required
Toll Road Loading NO. 1 (45 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate <i>AND</i> Bridge is State owned or maintained
AASHTO Type 3-3 (40 T)	Always Required
Lane-Type (40 T)	(65) Inventory Rating Method = "LRFR – Load and Resistance Factor Rating"
SU6 (34.75 T)	Always Required
Special Toll Road Truck (63 T)	Bridge is on a Toll Road or within 15 miles of a Toll Road Gate <i>AND</i> Bridge is State owned or maintained
SU7 (38.75 T)	Always Required
Michigan Train Truck NO. 5 (67 T)	Bridge is on the Extra Heavy Duty Highway
Michigan Train Truck NO. 8 (67.1 T)	Bridge is on the Extra Heavy Duty Highway

Load capacities are automatically generated by BRADIN using the following equation. *No load capacity is generated for the NRL vehicle as it is a notional load.*

$$\text{Load Capacity} = \text{Gross Vehicle Weight} \times \text{Rating Factor}$$

Safe Posting Loads are automatically generated by BRADIN according to the following logic.

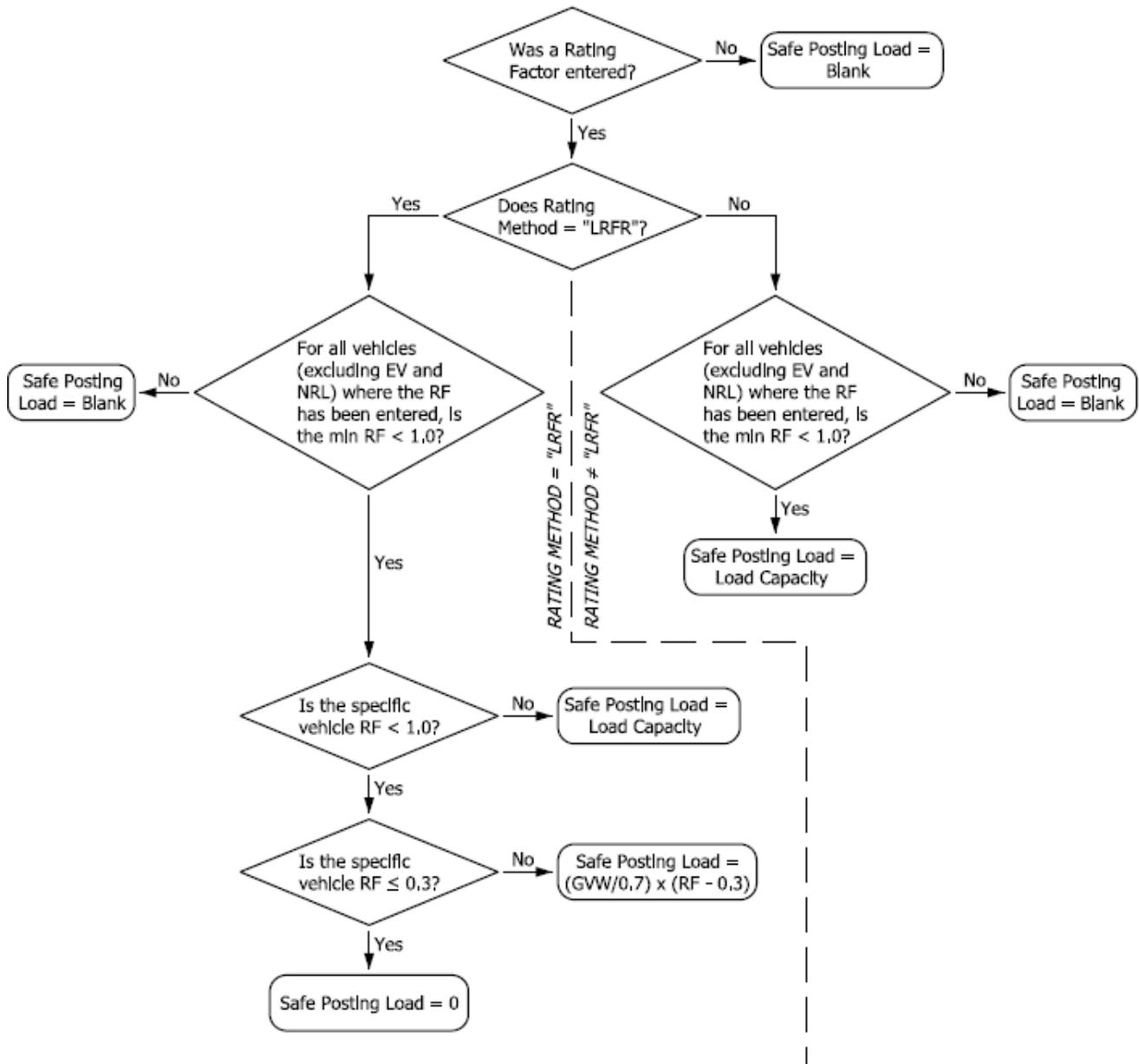
For emergency vehicles EV2 and EV3:



Example:

EV2 (28.75 T)	EV3 (43 T)	Safe Posting Loads
Rating Factor: 1.189	Rating Factor: 0.985	Single Axle: 19.9157
Load Capacity: 34.1837	Load Capacity: 41.495	Tandem: 29.915
		Gross: 41.495

For all other vehicles on the Legal and Routine Permit Loads tab (excluding NRL as it is a notional load):



Example (LRFR):

HS20-44 (36 T)	
Rating Factor:	1.2
Load Capacity:	43.2
Safe Posting:	43.2

AASHTO Type 3 (25 T)	
Rating Factor:	0.877
Load Capacity:	21.925
Safe Posting:	20.6071

Special Permit Loads

The Special Permit Loads tab contains fields for rating factors and load capacities for each of the special permit vehicles discussed in *Part 3, Indiana Bridge Inspection Manual*.

Rating factors are manually input by the user with a maximum four-digit precision left and right of the decimal, i.e. XXXX.XXXX. BRADIN will accept rating factors from 0 to 9999.9999. Data entry is required according to the following logic:

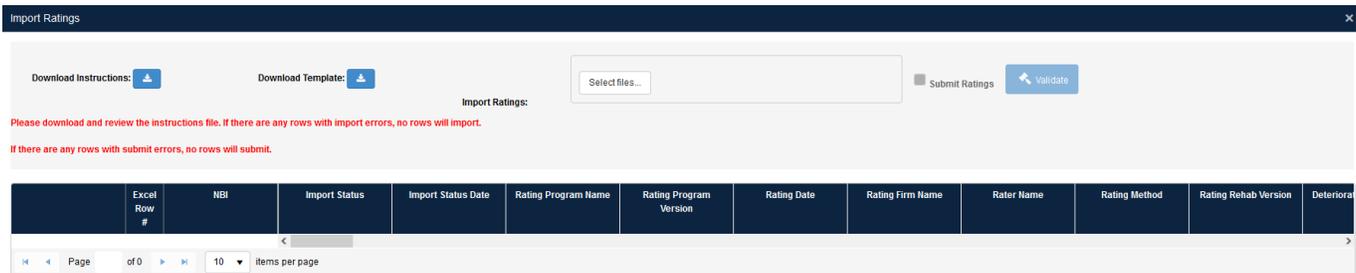
Field	Rating Factor Required When
Superload-11 Axles (129 T)	Bridge is State owned or maintained
Superload-13 Axles (133.5 T)	Bridge is State owned or maintained
Superload-14 Axles (175 T)	Bridge is State owned or maintained
Superload-19 Axles (152.5 T)	Bridge is State owned or maintained
Superload-19 Axles (240.045 T)	Bridge is State owned or maintained

Load capacities are automatically generated by BRADIN using the following equation:

$$\text{Load Capacity} = \text{Gross Vehicle Weight} \times \text{Rating Factor}$$

IMPORT PAGE

Users with an appropriate role and whose place of business has been authorized for write privileges to the necessary assets have the option to mass import rating reports for multiple assets using the Import Ratings dialog. Additionally, the user may choose to have these reports submitted in mass as well. To import, ratings must be in a properly formatted XLSX file and its data validated consistent with the same requirements as manually inputted reports. A detailed listing of these requirements is downloadable from this page. Up to 998 records may be included per import file.



The following actions are available from this page.

Action	User Roles	Description
Download Instructions: 	LRE NONLRE	Downloads the instructions file. Instructions contain requirements for building the import spreadsheet as well as all data validation requirements to successfully import and submit.
Download Template: 	LRE NONLRE	Downloads a blank import template to be filled out by the user.
<input type="text" value="Select files..."/>	LRE NONLRE	Opens dialog box to navigate to and select the file to be imported.
	LRE NONLRE	Validates data in selected import file. Once complete, any errors are reported in the chart.
	LRE NONLRE	Imports and saves the displayed reports into BRADIN. This button will be hidden if any import errors were detected in the Validate step.
<input type="checkbox"/> Submit Ratings	LRE	When checked, reports will also be submitted when the Import button is pressed. This checkbox will be unavailable if any submit errors were detected in the Validate step.

Once the import file is validated, a chart showing the data and any identified errors is displayed. For any detected Import or Submit errors, those records will be highlighted red or orange respectively. If no errors are detected, those records are highlighted green.

Once the data is validated, the following actions may be available in the displayed chart:

Icon	Action	User Roles	Description
	View Errors	LRE NONLRE	Describes any identified Import and/or Submit errors with the record.
	View Imported Report	LRE NONLRE	

USING BRADIN

The following subsections establish a quick reference guide for performing common actions. For a more detailed explanation of buttons, user permissions, and overall application behavior, please refer to the applicable sections elsewhere in this document.

Finding Bridge Reports

Step 1: From the Dashboard page, fill in any desired search criteria

Step 2: Click 

Any or all search criteria may be left blank. Applying search criteria only serves to restrict the number of records that are returned in the query. Once complete, the user may export data () , navigate to the Bridge Home () , open a report () , or merge a report () as needed.

Exporting Data

Step 1: See section *Finding Bridge Reports*

From the Dashboard page:

Step 2: Click the Excel Export button 

Step 3: Expand each subsection and select data fields to be included, then click 

The resulting XLSX file will contain data for only the records returned from the query in Step 1.

OR

From the Bridge Home page:

Step 2: Click the Excel Export button 

Step 3: Expand each subsection and select data fields to be included, then click 

The resulting XLSX file will contain data for only the records listed in the chart on the Bridge Home page.

For either method, when the file is ready, your browser will prompt an action or save the file consistent with your browser's settings. The export may take a few minutes to generate and download depending on the number of records or data fields included.

Viewing a Report

Step 1: See section *Finding Bridge Reports*

From the Dashboard page:

Step 2: Click the Rating button 

The selected load rating report will open either read-only or editable depending on its submission status and the user's role and assigned write permissions. See the *DASHBOARD* section of this user guide for more information about user permissions.

OR

From the Bridge Home page:

Step 2: Click the View Rating button



The selected load rating report will open read-only.

Creating a Report

Step 1: Navigate to the Bridge Home page, see section *Finding Bridge Reports*

Step 2: Click the Create New Rating button



See the *BRIDGE HOME* section of this user guide for information about user permissions. See the *RATING REPORT* section for information regarding data entry, data validation requirements, and additional actions.

Editing a Report

Step 1: See section *Finding Bridge Reports*

From the Dashboard page:

Step 2: Click the Rating button



The selected load rating report will open either read-only or editable depending on its submission status and the user's role and assigned write permissions. See the *DASHBOARD* section of this user guide for more information about user permissions. See the *RATING REPORT* section for information regarding data entry, data validation requirements, and additional actions.

OR

From the Bridge Home page:

Step 2: Click the Edit Rating button



See the *BRIDGE HOME* section of this user guide for information about user permissions. See the *RATING REPORT* section for information regarding data entry, data validation requirements, and additional actions.

Saving a Report

Step 1: See section *Creating a Report* or section *Editing a Report*

Step 2: Edit data as necessary

Step 3: Click



See the *RATING REPORT* section for additional information regarding data entry, data validation requirements, and additional actions.

Submitting a Report

Step 1: See section *Creating a Report* or section *Editing a Report*

Step 2: Edit data as necessary

Step 3: Click 

Any warning or error messages must be resolved in order to successfully submit. Once successful, the report will remain open but as read-only. See the *RATING REPORT* section for additional information regarding data entry, data validation requirements, and additional actions.

Unsubmitting a Report

Step 1: Navigate to the Bridge Home page, see section *Finding Bridge Reports*

Step 2: Click the Unsubmit Rating button 

See the *BRIDGE HOME* section of this user guide for information about availability and user permissions.

Sending Load Rating Values to BIAS

Step 1: Navigate to the Bridge Home page, see section *Finding Bridge Reports*

Step 2: Click the Send Rating to BIAS button 

See the *BRIDGE HOME* section of this user guide for information about user permissions.

Merging a Report

This action is only available for rating reports associated with a DES number AND not an NBI number.

Step 1: See section *Finding Bridge Reports*. Include In-Progress Reports with the search criteria.

Step 2: From either the Dashboard or Bridge Home pages, click the Merge NBI button 

Step 3: Enter the NBI number for the structure

Step 4: Click 

See the *DASHBOARD* or *BRIDGE HOME* sections of this user guide for more information about user permissions.

Importing a Report

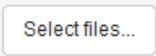
Step 1: From any page, click 

Step 2: Click Import Ratings

Step 3: Download instructions and review

Step 4: Download a blank import template

Step 5: Add data to the import template per the downloaded instructions

Step 6: Click  and choose the import file

Step 7: Click 

Step 8: Review the chart for errors or warnings, resolve as necessary.

Step 9: Check **Submit Ratings** if desirable to import AND submit at Step 10

Step 10: Click  **Import**

See the *IMPORT PAGE* section of this user guide for information about user permissions and data validation requirements. All import errors must be resolved to import. All submit errors must be resolved to submit.

ADDITIONAL RESOURCES

For questions about the BRADIN application:

BRADIN Support and Administration

Email: BRADINSupport@indot.in.gov

For questions related to load rating bridges in Indiana:

INDOT Bridge Design and Load Rating

Email: INDOTLoadRating@indot.in.gov

Web page:

https://www.in.gov/dot/div/contracts/standards/bridges/Bridge_Design_and_Load_Rating.htm

Bridge Design and Load Rating publications:

Indiana Design Manual (IDM). See Chapter 403, Load Analysis and Application:

<https://www.in.gov/indot/design-manual/>

Indiana Bridge Inspection Manual (BIM). See Part 3, Load Rating:

https://www.in.gov/dot/div/contracts/standards/bridge_inspection/inspector_manual/index.htm

For questions related to bridge inspection in Indiana:

INDOT Bridge Inspection

Email: INBridgesHelp@indot.in.gov

Web page: <https://www.in.gov/indot/div/public/bridgeinspect/>

For access to INDOT bridge applications:

Indiana Bridge Inspection Application System (BIAS):

Email: INBridgesHelp@indot.in.gov

Web page: <https://www.in.gov/indot/div/public/bridgeinspect/biasinfo.htm>

Indiana Technical Applications Pathway:

<https://itap.indot.in.gov/Dashboard>