National Bridge Inspection Standards (NBIS) & Specifications for the National Bridge Inventory (SNBI)

Overview and Q&A

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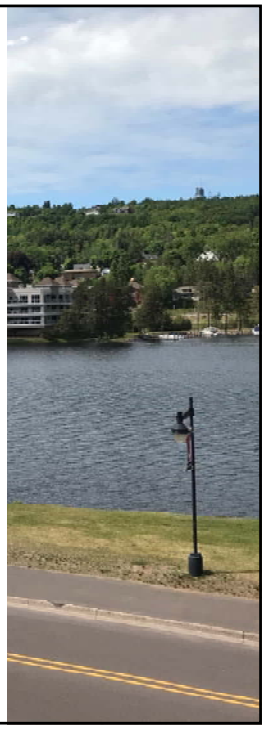


Introduction & Timeline

National Bridge Inspection Standards (NBIS)

- FHWA oversight of highway bridge safety

Target Date	Action
May 6, 2022	Regulation published in Federal Register
June 6, 2022	Regulation effective (unless noted otherwise)
June 6, 2024	Sections which allow up to 24 months to implement become effective

Specifications for the National Bridge Inventory (SNBI)

- Replaces the SI&A Coding Guide

Target Date	Action
March 2025	Last SI&A Coding Guide submittal
January 2025	Begin collecting data per the SNBI
March 2028	First complete SNBI data submittal

Side-by-Side Comparison of the NBIS

Purpose & Applicability

[Section 650.301 and 650.303]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
The NBIS apply to all structures defined as highway bridges located on all public roads.	The NBIS apply to all structures defined as highway bridges located on all public roads, including: • Private bridges that are connected to a public road on both ends of the bridge; • Temporary bridges; • Bridges under construction with portions open to traffic.

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Definitions

[Section 650.305]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
-	Inspection Date. The date on which the field portion of the bridge inspection is completed.
Fracture Critical Member (FCM). A steel member in tension, or with a tension element, whose failure would probably cause a portion of or the entire bridge to collapse.	Nonredundant Steel Tension Member (NSTM). A primary steel member fully or partially in tension, and without load path redundancy, system redundancy or internal redundancy, whose failure may cause a portion of or the entire bridge to collapse.

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Qualifications of Personnel

[Section 650.309]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Bridge Inspection Team Leader: • Comprehensive Course • Registered PE • Bachelor's Degree + FE + 2 years of experience • Associate's Degree + 4 years of experience • Level III or IV Bridge Inspector NICET certification • 5 years of experience	Bridge Inspection Team Leader: • Comprehensive Course • Registered PE + **6 months of experience** • Bachelor's Degree + FE + 2 years of experience • Associate's Degree + 4 years of experience • 5 years of experience

Reminder!

MDOT defines 'Bridge Inspection Experience' as:
- One year = 100 routine NBI inspections
- Technical experience in bridge design, bridge maintenance or bridge construction (3:1 ratio)

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Qualifications of Personnel

[Section 650.309]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Refresher Training: N/a – Each State determined Refresher Training requirements.	Refresher Training: Complete a cumulative total of 18 hours of FHWA-approved bridge inspection refresher training over each 60-month period. (NHI-130053)
Fracture Critical Training: N/a – Each State determined Refresher Training requirements.	NSTM Training: Meet team leader requirements and complete an FHWA-approved NSTM training course. (NHI-130078)

All team leaders must satisfy these requirement by June 6, 2024.

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Qualifications of Personnel

[Section 650.309]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Underwater Bridge Inspection Diver: An underwater bridge inspection diver must complete an FHWA approved comprehensive bridge inspection training course or other FHWA approved underwater diver bridge inspection training course. (NHI-130055 or NHI-130091)	Underwater Bridge Inspection Diver: An Underwater Bridge Inspection Diver must complete FHWA-approved underwater bridge inspection training (NHI-130091) *Note: Completion of FHWA-approved comprehensive bridge inspection training or FHWA-approved underwater bridge inspection training under prior FHWA regulations satisfies the intent of the requirement.*

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Interval

[Section 650.311]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Reduced Interval (Routine Inspections): Certain bridges require inspection at less than twenty-four-month intervals. Each State required to establish criteria to determine the level and frequency to which these bridges are inspected.	Reduced Interval (Routine Inspections): Certain bridges meeting any of the following criteria must be inspected at intervals not to exceed 12 months: (1) Deck, superstructure, substructure, or culvert components is rated in serious or worse condition (2) The observed scour condition is rated serious or worse *Note: When condition ratings are coded three (3) or less due to localized deficiencies, a special inspection can be utilized.*

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Interval

[Section 650.311]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Reduced Interval (Underwater Inspections): Certain underwater structural elements require inspection at less than sixty-month intervals. Each State required to establish criteria to determine the level and frequency to which these members are inspected.	Reduced Interval (Underwater Inspections): Certain bridges meeting any of the following criteria must be inspected at intervals not to exceed 24 months: (1) The underwater portions of the bridge are in serious or worse condition, as recorded by the Underwater Inspection Condition item (2) The channel or channel protection is in serious or worse condition (3) The observed scour condition is three (3) or less *Note: When condition ratings are coded three (3) or less due to localized deficiencies, a special inspection can be utilized.*

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Interval

[Section 650.311]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Reduced Interval (Fracture Critical Inspections): Certain FCMs require inspection at less than twenty-four-month intervals. Each State required to establish criteria to determine the level and frequency to which these members are inspected.	Reduced Interval (NSTM Inspections): Certain NSTMs meeting any of the following criteria must be inspected at intervals not to exceed 12 months: (1) The NSTMs are rated in poor or worse condition, as recorded by the NSTM Inspection Condition item, coded 4 or less

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Procedures

[Section 650.313]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
The initial inspection of newly constructed or replaced structures must be performed by a team leader within 90 days of opening the entire bridge to traffic for state owned bridges and 180 days for all others.	Initial inspection: Perform an initial inspection for each new, replaced, rehabilitated, and temporary bridge as soon as practical, but within 3 months of the bridge opening to traffic.
	Underwater inspection: Perform the first underwater inspection for each bridge and for each bridge with portions underwater that have been rehabilitated as soon as practical, but within 12 months of the bridge opening to traffic.
	NSTM inspection: Perform the first NSTM inspection for each bridge and for each bridge with rehabilitated NSTMs as soon as practical, but within 12 months of the bridge opening to traffic.

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Procedures: Load Rating

[Section 650.313]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Rate each bridge as to its safe load carrying capacity in accordance with the AASHTO Manual.	Rate each bridge as to its safe load capacity in accordance with the incorporated articles in Sections 6 and 8, AASHTO Manual.
-	Load ratings must be completed as soon as practical, but no later than 3 months after the initial inspection and when a chance in identified that warrants a re-rating such as, but not limited to, changes in condition, reconstruction, new construction, or changes in dead or live loads.
-	Analyze routine and special permit loads for each bridge that these loads cross to verify the bridge can safely carry the load.

PRO TIP

- MDOT recommends that load ratings be completed prior to letting
- Ensures that proposed work meets Michigan legal load requirements
- After the final inspection, simply verify that no changes occurred during construction that impacts the load rating, then update inventory

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Procedures: Load Posting

[Section 650.313]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Post or restrict the bridge in accordance with the AASHTO Manual or in accordance with State law, when the maximum unrestricted legal loads or State routine permit loads exceed that allowed under the operating rating or equivalent rating factor.	Implement load posting or restriction for a bridge in accordance with the incorporated articles in Section 6, AASHTO Manual, when the maximum unrestricted legal loads or State routine permit loads exceed that allowed under the operating rating, legal load rating, or permit load analysis.
-	Posting shall be made as soon as possible but not later than 30 days after a load rating determines a need for such a posting.

Per MDOT Bridge Advisory 2019-01, the following must occur within 30 days of the load rating "Checked By" date:

- Post weight limits signs
- Update Item 41 to "P – Posted for Load" in MiBRIDGE
- Save pictures of the signs in MiBRIDGE

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inspection Procedures: Load Posting

[Section 650.313]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
-	Missing or illegible posting signs shall be corrected as soon as possible but not later than 30 days after inspection or other notification determines a need.
-	Bridges must be closed when the gross live load capacity is less than 3 Tons.

Per MDOT Bridge Advisory 2019-01, the following must occur within 30 days of the date the inspection was first entered in MiBRIDGE:

- Post weight limits signs
- Update Item 41 to "P – Posted for Load" in MiBRIDGE
- Save pictures of the signs in MiBRIDGE

www.fhwa.dot.gov/bridge/inspection/

Side-by-Side Comparison of the NBIS

Inventory

[Section 650.315]

NBIS 2004 Regulation with 2009 Update	NBIS 2022
Enter the SI&A data within 90 days of the date of inspection for State or Federal agency bridges and within 180 days of the date of inspection for all other bridges.	Enter changes to inventory data within 3 months after the month when the field portion of the inspection is completed.
For changes in load restriction or closure status, enter the SI&A data into the State or Federal agency inventory within 90 days after the change in status of the structure for State or Federal agency bridges and within 180 days after the change in status of the structure for all other bridges.	For changes in load restriction or closure status, enter the revised inventory data into the State transportation department, Federal Agency, or Tribal government inventory within 3 months after the month the change in load restriction or closure status of the bridge is implemented.

MDOT policy is that all inspections must be entered into MiBRIDGE within 30 days.

www.fhwa.dot.gov/bridge/inspection/

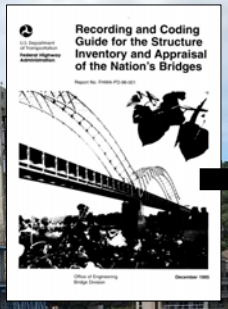
SNBI Data Entry

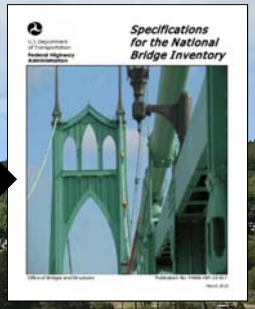
154 total SNBI items

- 54 new items
- 20 discontinued items

SNBI Frequency Categories

- Initial, Each Inspection, Calculated
- 113 items collected during initial inspection





NPRM Cost Response	MDOT Estimate for Local Agencies
1 Hour – 10 Hours per bridge	4 Hours per bridge • Field: Add 1 hour • File/Office: Add 3 hours
$40 - $100 per hour	$100 per hour
$234 per bridge	$400 per LA bridge

SNBI Data Entry

Data entered by Bridge Owners

- Section 1: Bridge Identification
- Section 2: Bridge Material & Type
- Section 3: Bridge Geometry
- Section 4: Features
- Section 5: Loads, Load Rating & Posting

Data entered by Bridge Inspectors

- Section 6: Inspections
- Section 7: Condition data

Michigan Bridge Week

- Day 2: SNBI Training

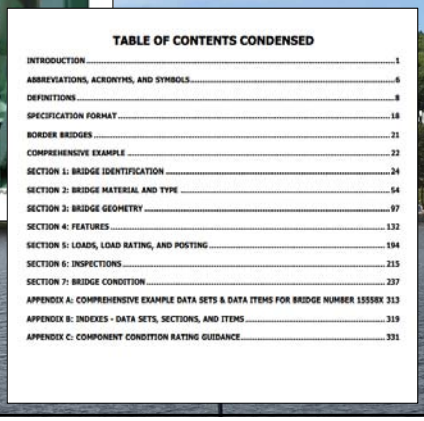


TABLE OF CONTENTS CONDENSED

SNBI Impacts: Inventory Items

New and expanded item codes

- **Span Material**
- Span Type

SI&A Item 43A Structure Material

Code	Description
1	Concrete
2	Concrete continuous
3	Steel
4	Steel continuous
5	Prestressed concrete *
6	Prestressed concrete continuous *
7	Wood or Timber
8	Masonry
9	Aluminum, Wrought Iron, or Cast Iron
0	Other

Specification

Report the principal span material type using one of the following codes.

Code	Description
A01	Aluminum
C01	Reinforced concrete – cast-in-place
C02	Reinforced concrete – precast
C03	Prestressed concrete – pre-tensioned
C04	Prestressed concrete – cast-in-place post-tensioned
C05	Prestressed concrete – precast post-tensioned
CX	Concrete – other
F01	FRP composite – aramid fiber
F02	FRP composite – carbon fiber
F03	FRP composite – glass fiber
FX	FRP composite – other
I01	Iron – cast
I02	Iron – wrought
M01	Masonry – block
M02	Masonry – stone
P01	Plastic – Polyethylene
PX	Plastic - other
S01	Steel – rolled shapes
S02	Steel – welded shapes
S03	Steel – bolted shapes
S04	Steel – riveted shapes
S05	Steel – bolted and riveted shapes
SX	Steel – other

Codes continued next page.

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Inventory Items

New and expanded item codes
- Span Material
- **Span Type**

SI&A Item 43B Structure Type

Code	Description
01	Slab
02	Stringer/Multi-beam or Girder
03	Girder and Floorbeam System
04	Tee Beam
05	Box Beam or Girders - Multiple
06	Box Beam or Girders - Single or Spread
07	Frame (except frame culverts)
08	Orthotropic
09	Truss - Deck
10	Truss - Thru
11	Arch - Deck
12	Arch - Thru
13	Suspension
14	Stayed Girder
15	Movable - Lift
16	Movable - Bascule
17	Movable - Swing
18	Tunnel
19	Culvert (includes frame culverts)
20 *	Mixed types
21	Segmental Box Girder
22	Channel Beam
00	Other

Specification

Report the span type using one of the following codes.

Code	Description
A01	Arch – under fill without spandrel
A02	Arch – open spandrel
A03	Arch – closed spandrel
A04	Arch – through
A05	Arch – tied
B01	Box girder/beam – single
B02	Box girder/beam – multiple adjacent
B03	Box girder/beam – multiple spread
B04	Box girder/beam – segmental
F01	Frame – three-sided
F02	Frame – four-sided
F03	Frame – K-shaped
F04	Frame – delta-shaped
G01	Girder/beam – I-shaped adjacent
G02	Girder/beam – I-shaped spread
G03	Girder/beam – tee-beam
G04	Girder/beam – inverted tee-beam
G05	Girder/beam – double-tee adjacent
G06	Girder/beam – double-tee spread
G07	Girder/beam – channel adjacent
G08	Girder/beam – channel spread
G09	Girder/beam – girder & floor beam
G10	Girder/beam – through girder
GX	Girder/beam – other

Codes continued next page.

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Bridge Length

Total Bridge Length
- Reference line to reference line

NBIS Bridge Length
- Y/N revised to numerical value
- Face of abutment to face of abutment
- Field measure when Total Bridge Length is less than 30 feet.

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Scour

Scour Vulnerability

- Coding based on Scour Appraisal
- Scour Appraisal most unstable of:
  - Observed Scour (Scour Condition Rating)
  - Estimated Scour
    - Scour Assessment (Level I) OR
    - Scour Evaluation (Level II)

Scour Plan of Action

- "Scour critical or unknown foundations"
- Structures without designed countermeasures

7.4 – APPRAISA

Scour Vulnerability

Format	Frequency	Item ID
AN (1)	I	B.AP.03

Specification	Commentary
Report the scour vulnerability of the bridge using one of the following codes. Code — Description 0 — Scour appraisal has not been completed. A — Scour appraisal completed. Bridge determined to be stable for scour. B — Scour appraisal completed. Bridge determined to be stable for scour, dependent upon designed, and functioning countermeasures. C — Scour appraisal completed. Bridge could become unstable for scour. Temporary (not designed) countermeasure installed to mitigate scour. Bridge is scour critical. D — Scour appraisal completed. Bridge is, or may become, unstable for scour. Bridge is scour critical. E — Scour appraisal has not been completed. Temporary (not designed) countermeasure installed to mitigate scour. U — Scour appraisal has not been completed due to unknown foundations.	The intent of this item is to report the status and vulnerability determination from scour appraisals required by the NBIS. The codes for this item are based on the appraised scour vulnerability as described in HEC-18, Evaluating Scour at Bridges; HEC-23, Bridge Scour and Stream Instability Countermeasures; and HEC-20, Stream Stability at Highway Structures. Scour appraisals are typically performed by a multidisciplinary team of hydraulic, geotechnical, and structural engineers (Scour Appraisal Team). FHWA Hydraulic Technical Advisories, manuals, and software can be found at: http://www.fhwa.dot.gov/engineering/hydraulics/index.cfm. Refer to item B.C.11 *(Scour Condition Rating)* in the Component Condition Ratings subsection to address field observed scour conditions and the effect on bridge components. Use code B when designed, installed, and functioning countermeasures are used to address potential scour and to maintain bridge

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Open, Posted or Closed to Traffic

SI&A Item 41 Structure Open, Posted or Closed to Traffic

- Now "Load Posting Status" (Item B.PS.01)
- Based on if structure is permanent, temporary, or supported

Table 15. Load Posting Status Codes.

	No restriction			Posted or restricted				Closed
	New	Open	Needs Action	Weight	Other	Needs Reduction	Missing	
Permanent	N	PO	PA	PP	PR	PD	PM	C
Temporary		TO	TA	TP	TR	TD	TM	C
Supported		SO	SA	SP	SR	SD	SM	C

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Action Required

SNBI load rating compliance issues

- Agencies impacted will receive notification via email
- Approximately two years to resolve

Options to resolve SNBI load rating compliance issues

1. Enter or correct the data in MiBRIDGE
   - Associated documentation must be saved in MiBRIDGE
   - All current load rating requirements must be met
2. Perform an updated load rating

Conversion from SI&A Coding Guide to SNBI:

- Populate Item B.LR.03 with….
- Action required if…

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Load Rating Date

5.1 – LOADS AND LOAD RATING

Load Rating Date

Format	Frequency	Item ID
YYYYMMDD	I	B.LR.03

Specification	Commentary
Report the date of the most recent load rating. Do not report this item if no rating analysis or evaluation has been performed	This item reflects the date of the most recent calculation or reevaluation of the load rating. The load rating may be performed independently and at a different date than the inspection.

Conversion from SI&A Coding Guide to SNBI:

- Populate Item B.LR.03 with the "Checked By Date" from the load rating summary
- Action required if "Checked By Date" is blank

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SNBI Impacts: Load Rating Method

5.1 – LOADS AND LOAD RATING

Load Rating Method

Format	Frequency	Item ID
AN (4)	I	B.LR.04

Specification	Commentary
Report the method used to calculate the load rating using one of the following codes.	Whe rate ratir ratir For met mer

Code	Description
LFR	Load Factor Rating
ASR	Allowable Stress Rating
LRFR	Load and Resistance Factor Rating

CURRENT (SI&A) INVENTORY CODING:

NBI Item 63 - Operating Rating Method:
NBI Item 64F - Federal Operating Rating:

MDOT Item 64MA - Michigan Operating Method:
MDOT Item 64MB - Michigan Operating Rating:
MDOT Item 64MC - Michigan Operating Truck:

NBI Item 65 - Inventory Rating Method:
NBI Item 66 - Federal Inventory Rating:

Conversion from SI&A Coding Guide to SNBI:

- Populate Item B.LR.04 with NBI Item 63
- Action required if Items 63/64MA/65 are not equal

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SNBI Impacts: Inventory Load Rating Factor

5.1 – LOADS AND LOAD RATING

Inventory Load Rating Factor

Format	Frequency	Item ID
N (4,2)	I	B.LR.05

Specification
Report the inventory load rating factor, truncated to the hundredth, for the standard AASHTO HS-20 or HL-93 loadings, whichever is applicable based on the method reported in Item B.LR.04 *(Load Rating Method)*. When temporary or supported conditions exist, as indicated in Item B.PS.01 *(Load Posting Status)*, report the rating factor for the bridge including the temporary or supported conditions.

***Item 103* (Temporary Structure Designation), SI&A Coding Guide:**

If this item is coded T, then all data recorded for the structure shall be for the condition of the structure without temporary measures, except for the following items which shall be for the temporary structure:

Item 10 - Inventory Route, Minimum Vertical Clearance
41 - Structure Open, Posted, or Closed to Traffic
47 - Inventory Route, Total Horizontal Clearance
53 - Minimum Vertical Clearance Over Bridge Roadway
54 - Minimum Vertical Under clearance
55 - Minimum Lateral Under clearance on Right
56 - Minimum Lateral Under clearance on Left
70 - Bridge Posting

Conversion from SI&A Coding Guide to SNBI:

- Populate Item B.LR.05 with NBI Item 66, divided by 36 if reported in Tons
- Action required if NBI Item 66 reported for the unsupported condition

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SNBI Impacts: Operating Load Rating Factor

5.1 – LOADS AND LOAD RATING

Operating Load Rating Factor

Format	Frequency	Item ID
N (4,2)	I	B.LR.06

Specification

Report the operating load rating factor, truncated to the hundredth, for the standard AASHTO HS-20 or HL-93 loadings, whichever is applicable based on the method reported in Item B.LR.04 *(Load Rating Method)*.

When temporary or supported conditions exist, as indicated in Item B.PS.01 *(Load Posting Status)*, report the rating factor for the bridge including the temporary or supported conditions.

Item *103* (Temporary Structure Designation), SI&A Coding Guide:

If this item is coded T, then all data recorded for the structure shall be for the condition of the structure without temporary measures, except for the following items which shall be for the temporary structure:

Item 10 - Inventory Route, Minimum Vertical Clearance
41 - Structure Open, Posted, or Closed to Traffic
47 - Inventory Route, Total Horizontal Clearance
53 - Minimum Vertical Clearance Over Bridge Roadway
54 - Minimum Vertical Under clearance
55 - Minimum Lateral Under clearance on Right
56 - Minimum Lateral Under clearance on Left
70 - Bridge Posting

Conversion from SI&A Coding Guide to SNBI:

- Populate Item B.LR.06 with NBI Item 64F, divided by 36 if reported in Tons
- Action required if NBI Item 64F reported for the unsupported condition

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Controlling Legal Load Rating Factor

5.1 – LOADS AND LOAD RATING

Controlling Legal Load Rating Factor

Format	Frequency	Item ID
N (4,2)	I	B.LR.07

Specification

Report the lowest (controlling) rating factor for the State's and AASHTO legal loads truncated to the hundredth.

When temporary or supported conditions exist, as indicated in Item B.PS.01 *(Load Posting Status)*, report the rating factor for the bridge including the temporary or supported conditions.

Item *103* (Temporary Structure Designation), SI&A Coding Guide:

If this item is coded T, then all data recorded for the structure shall be for the condition of the structure without temporary measures, except for the following items which shall be for the temporary structure:

Item 10 - Inventory Route, Minimum Vertical Clearance
41 - Structure Open, Posted, or Closed to Traffic
47 - Inventory Route, Total Horizontal Clearance
53 - Minimum Vertical Clearance Over Bridge Roadway
54 - Minimum Vertical Under clearance
55 - Minimum Lateral Under clearance on Right
56 - Minimum Lateral Under clearance on Left
70 - Bridge Posting

Conversion from SI&A Coding Guide to SNBI:

- Populate Item B.LR.07 with MDOT Item 64MB
- Action required if MDOT Item 64MB reported for the unsupported condition
- Action required if MDOT Item 64MB reported in tons

www.fhwa.dot.gov/bridge/snbi.cfm

SNBI Impacts: Routine Permit Loads

5.1 – LOADS AND LOAD RATING

Routine Permit Loads

Format	Frequency	Item ID
AN (1)	I	B.LR.08

Specification	Commentary
Report whether the bridge carries routine permit loads or whether routine permit loads are restricted from the bridge using one of the following codes. Code Description	This item is used to identify bridges where State routine permit loads must be considered in load rating and posting evaluations and to identify bridges where routine permit loads are restricted due to bridge load capacity limitations.

Routine permit load: A live load, which has a gross weight, axle weight, or distance between axles not conforming with State statutes for legally configured vehicles, authorized for unlimited trips over an extended period of time to move alongside other heavy vehicles on a regular basis.

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SNBI Impacts: Routine Permit Loads

MAXIMUM ALLOWABLE GROSS AXLE LOADINGS

Spacing Between Axles	Normal Loadings When Seasonal Load Limitations Are Not In Force		Seasonal Load Limitations (Speed Limit 35 MPH)	
	Vehicles Exceeding 80,000 lbs. Gross Weight	† Vehicles 80,000 lbs. OR Under Gross Weight	Rigid	Flexible
			25% r…n	…duction
9 feet or over	18,000 lbs.	20,000 lbs.	13,…	…lbs.
More than or equal to 3 ½ feet but less than 9 feet	13,000 lbs.		9,750	…0 lbs.
When part of a tandem axle assembly	*16,000 lbs.	34,000 lbs. on tandem	**12,0…	…400 lbs.
When less than 3 ½ feet	9,000 lbs.		6,…	…lbs.
Maximum load on any wheel shall not exceed: (lbs. per inch of tire width)	700 lbs.	700 lbs.	525	…0 lbs.

† Gross vehicle weight may not exceed 80,000 lbs. and the Bridge Gross Weight Formula as follows: An overall gross weight on a group of 2 or more consecutive axles equaling: $W = 500 [(LN /(N – 1))+ 12N + 36]$

MDOT Form T-1: Maximum Legal Truck Loadings and Dimensions

Michigan Vehicle Code: http://www.legislature.mi.gov/documents/mcl/pdf/mcl-act-300-of-1949.pdf

mdotcf.state.mi.us/public/webforms/public/T-1.pdf

SNBI Impacts: Routine Permit Loads

SNBI Item B.LR.08 Coding:

Code	Description
A	Bridge carries routine permit loads. Load capacity is adequate for all routine permit loads; no routine permit loads are restricted.
B	Bridge carries routine permit loads. Load capacity is adequate for some routine permit loads but some routine permit loads are restricted.
C	Bridge does not carry routine permit loads. Routine permit loads are restricted from the bridge.
N	Bridge does not carry routine permit loads. Agency does not issue routine permits.

Conversion from SI&A Coding Guide to SNBI:

- None
- Action required for every bridge in inventory

Does your Agency issue routine permits?

- Exceed maximum allowable axle loading
- Unlimited number of trips, extended time
- Unrestricted travel with other vehicles

www.fhwa.dot.gov/bridge/snbi.cfm

Load Rating Resources

Center for Technology & Training

Michigan Department of Transportation

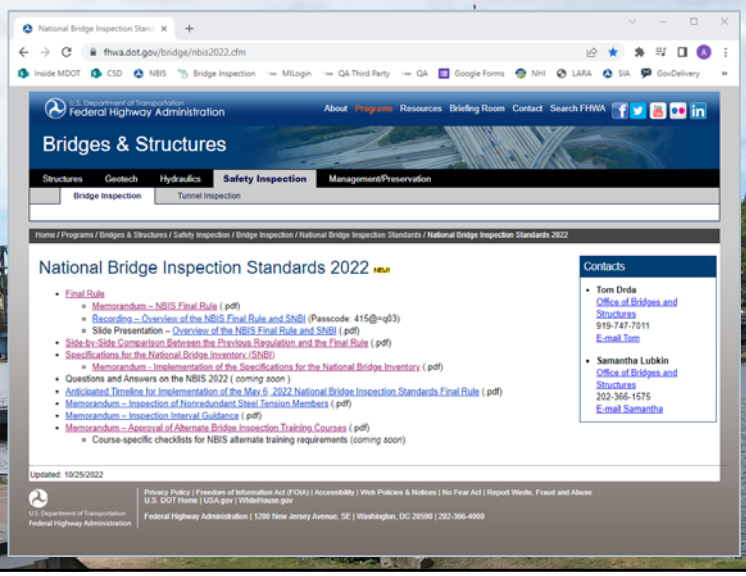
U.S. Department of Transportation Federal Highway Administration

CTT:
http://loadrating.michiganltap.org/

MDOT:
https://www.michigan.gov/mdot/programs/bridges-and-structures/structure-preservation-and-management/load-rating

FHWA:
https://www.fhwa.dot.gov/bridge/loadrating

Q&A – Resources



NBIS:
https://www.fhwa.dot.gov/bridge/nbis2022.cfm

SNBI:
https://www.fhwa.dot.gov/bridge/snbi.cfm

Submit questions to:
MDOT-MiBRIDGE-Admin@michigan.gov

Responses posted at:
www.michigan.gov/BridgeInspect

Q&A – Private Bridges

Can you clarify the private bridge definition? Who is responsible for adding private bridges to the NBIS? The bridge owner or the agency that owns that adjacent road?

The NBIS defines a private bridge as a bridge open to public travel and not owned by a public authority. The NBIS only apply to any private bridge that is connected to a public road on each end. Ultimately, the bridge owner is responsible for all NBIS data unless the agency who owns the roadway also performs the inspections.

We are asking for your assistance. If you are aware of any private bridges within your jurisdiction that the NBIS now apply to – please let us know!

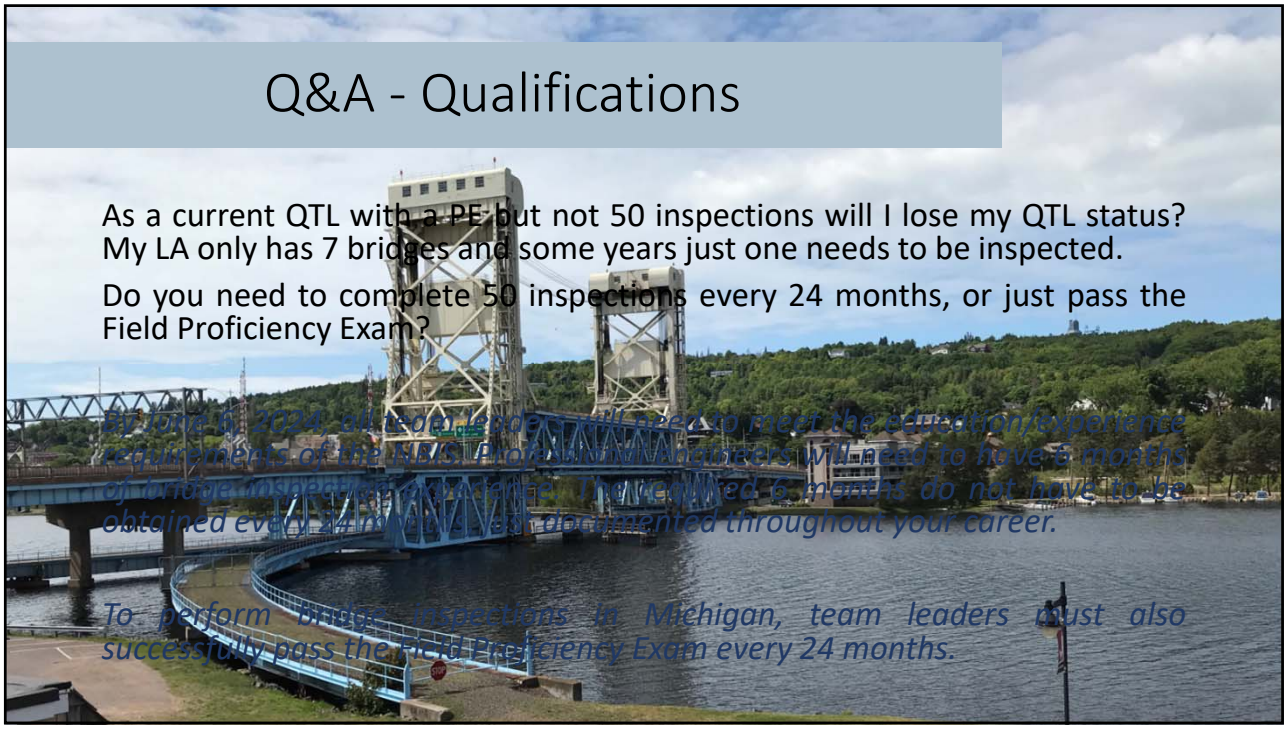
Q&A - Qualifications

I am a registered PE with minimal bridge inspection experience. Will I be required to inspect 50 bridges before I can become a QTL?

Effective June 6th, 2022, a registered professional engineer must also have 6 months of bridge inspection experience to meet FHWA team leader requirements. Team leaders who were NBIS qualified under prior FHWA regulation have 24 months to satisfy the requirements.

MDOT defines 6 months as 50 NBI bridge inspections OR technical experience in bridge design, bridge maintenance or bridge construction (3:1 ratio).

Q&A - Qualifications



As a current QTL with a PE but not 50 inspections will I lose my QTL status? My LA only has 7 bridges and some years just one needs to be inspected.

Do you need to complete 50 inspections every 24 months, or just pass the Field Proficiency Exam?

By June 6, 2024, all team leaders will need to meet the education/experience requirements of the NBIS. Professional Engineers will need to have 6 months of bridge inspection experience. The required 6 months do not have to be obtained every 24 months. Can be documented throughout your career.

To perform bridge inspections in Michigan, team leaders must also successfully pass the Field Proficiency Exam every 24 months.

Q&A - Qualifications

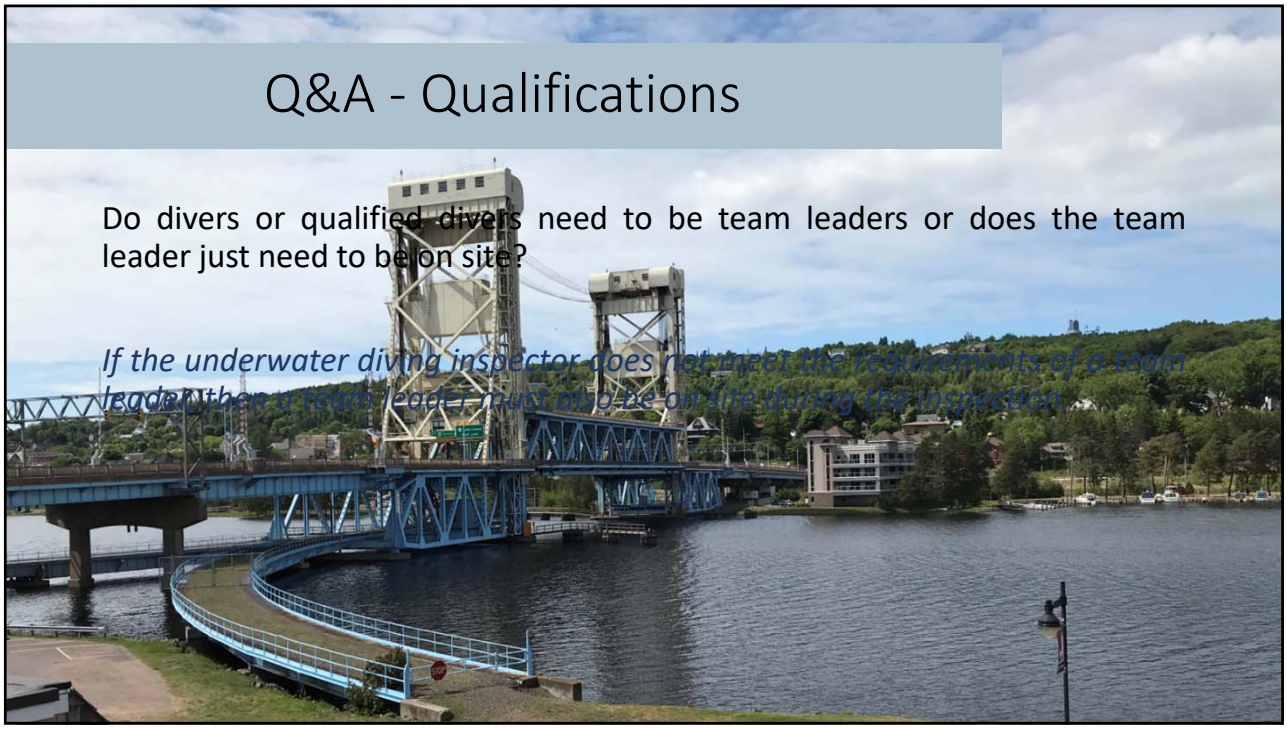
Is FHWA refresher training required every five years for bridge inspectors? If so, would the NSTM class qualify as a refresher during that five-year period, or does it specifically need to be refresher training?

The NBIS now requires all team leaders to complete a cumulative total of 18 hours of bridge inspection refresher training every 60 months. Currently, the only FHWA approved bridge inspection refresher training is NHI-130053.

Q&A - Qualifications

I took the Bridge Inspection Refresher last year to maintain my Team Leader status. Does this mean I have to also complete the NSTM course by June 6, 2024 to continue my status?

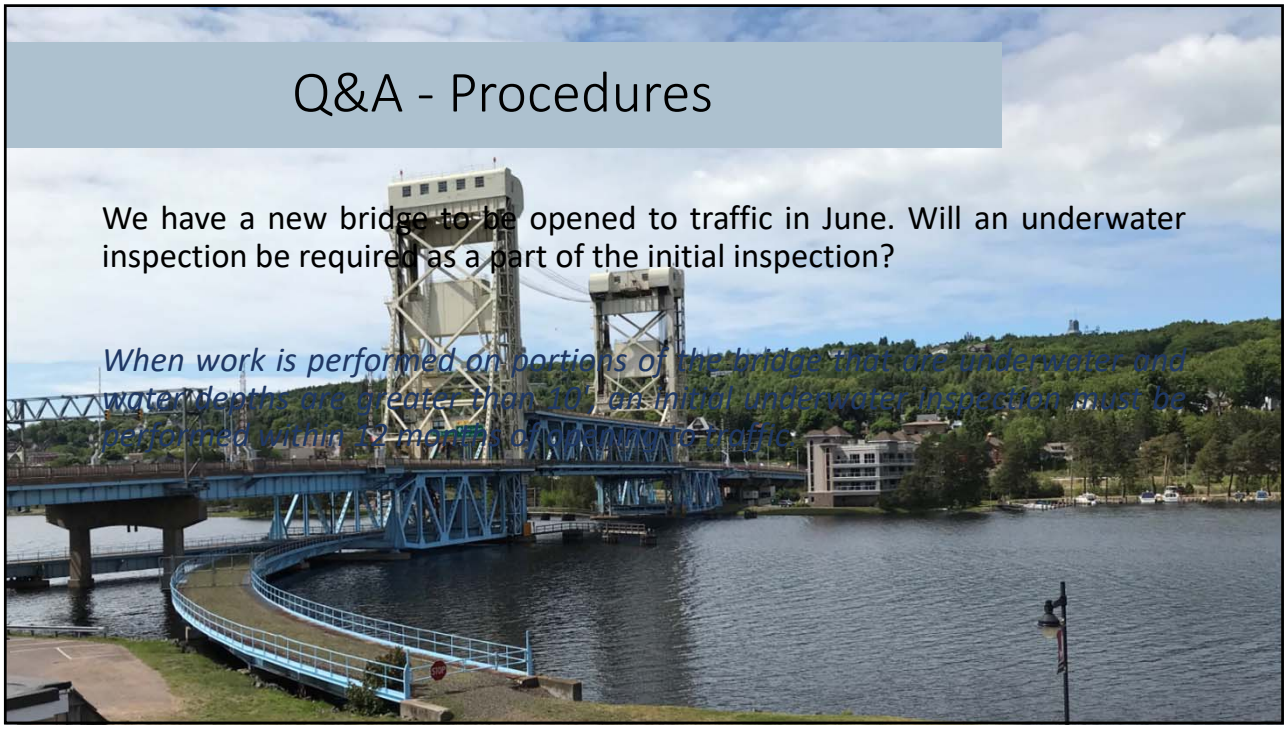
Team leaders that perform NSTM inspections must complete NHI-130078 by June 6, 2024 to continue to be qualified to perform NSTM inspections.



Q&A - Qualifications

Do divers or qualified divers need to be team leaders or does the team leader just need to be on site?

If the underwater diving inspector does not meet the requirements of a team leader then a team leader must also be on site during the inspection.



Q&A - Procedures

We have a new bridge to be opened to traffic in June. Will an underwater inspection be required as a part of the initial inspection?

When work is performed on portions of the bridge that are underwater and water depths are greater than 10', an initial underwater inspection must be performed within 12 months of opening to traffic.

Questions?

MDOT-MiBRIDGE-Admin@michigan.gov

www.Michigan.gov/bridgeinspect