SIIMS

(Structure Inventory and Inspection Management System)

Bridges and Structures Bureau

Bridge Maintenance and Inspection

Overview of Bridge Inspection Data Collection

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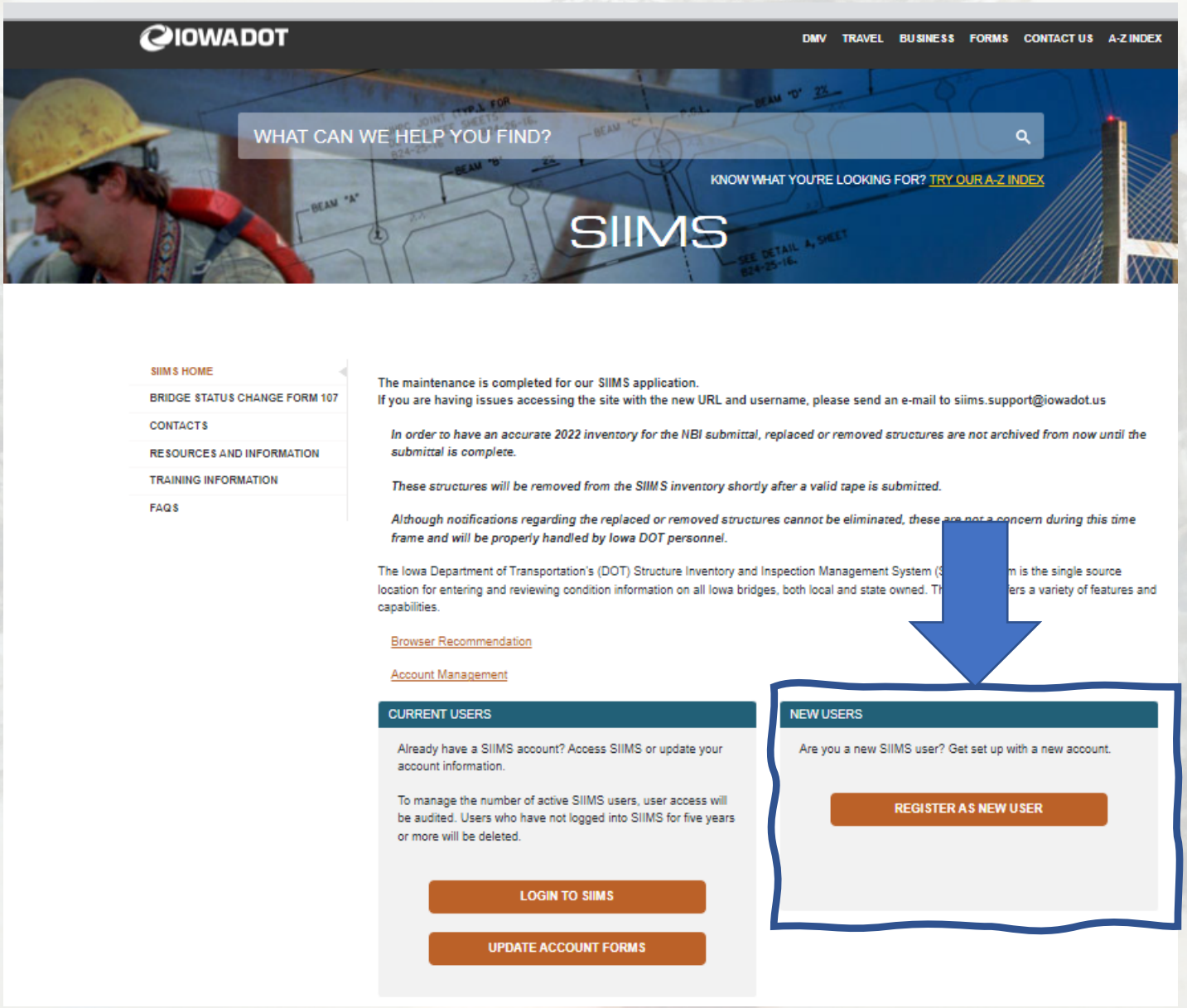
515-239-1165

Today's Agenda

- General SIIMS User Info
- Load Rating Form
- Rating Methods
- SIIMS Features and Use
- Report Types
- New NBIS
- FHWA Metric Review
- SNBI

https://siims.iowadot.gov/



IOWA DOT

NEW USERS - OBTAINING SYSTEM ACCESS

YOU MUST BE REGISTERED WITH SIIMS AS A NEW USER TO HAVE APPROPRIATE ACCESS.

After completing one of the following forms, you will receive a confirmation that your SIIMS account is active when access is available. You can then LOGIN TO SIIMS.

BRIDGE OWNER FORM

Bridge owners are asked to inform the Iowa DOT's Bridges and Structures Bureau if they are bridge owners by filling out the bridge owner form. This will also allow access to bridges in SIIMS.

BRIDGE INSPECTOR FORMS

PROGRAM MANAGERS

TEAM LEADERS

Bridge inspection program managers and team leaders may now apply for accreditation by the Iowa DOT's Bridges and Structures Bureau, to lead/conduct NBIS inspections. Certification, by the DOT, is mandatory to access SIIMS for the purpose of performing bridge inspections in Iowa. Complete the bridge inspector form. The form is available to, and may be used by staff members with county, city, state and the federal government in addition to consulting firms and private practices. A program manager is also granted load rating access.

BRIDGE LOAD RATING FORM

A professional engineer, registered in Iowa, is required to register to gain access to SIIMS for the purpose of load rating bridges. Complete the load rating form. The form is available to, and may be used by engineers with county, city, state and the federal government in addition to consulting firms and private practices.

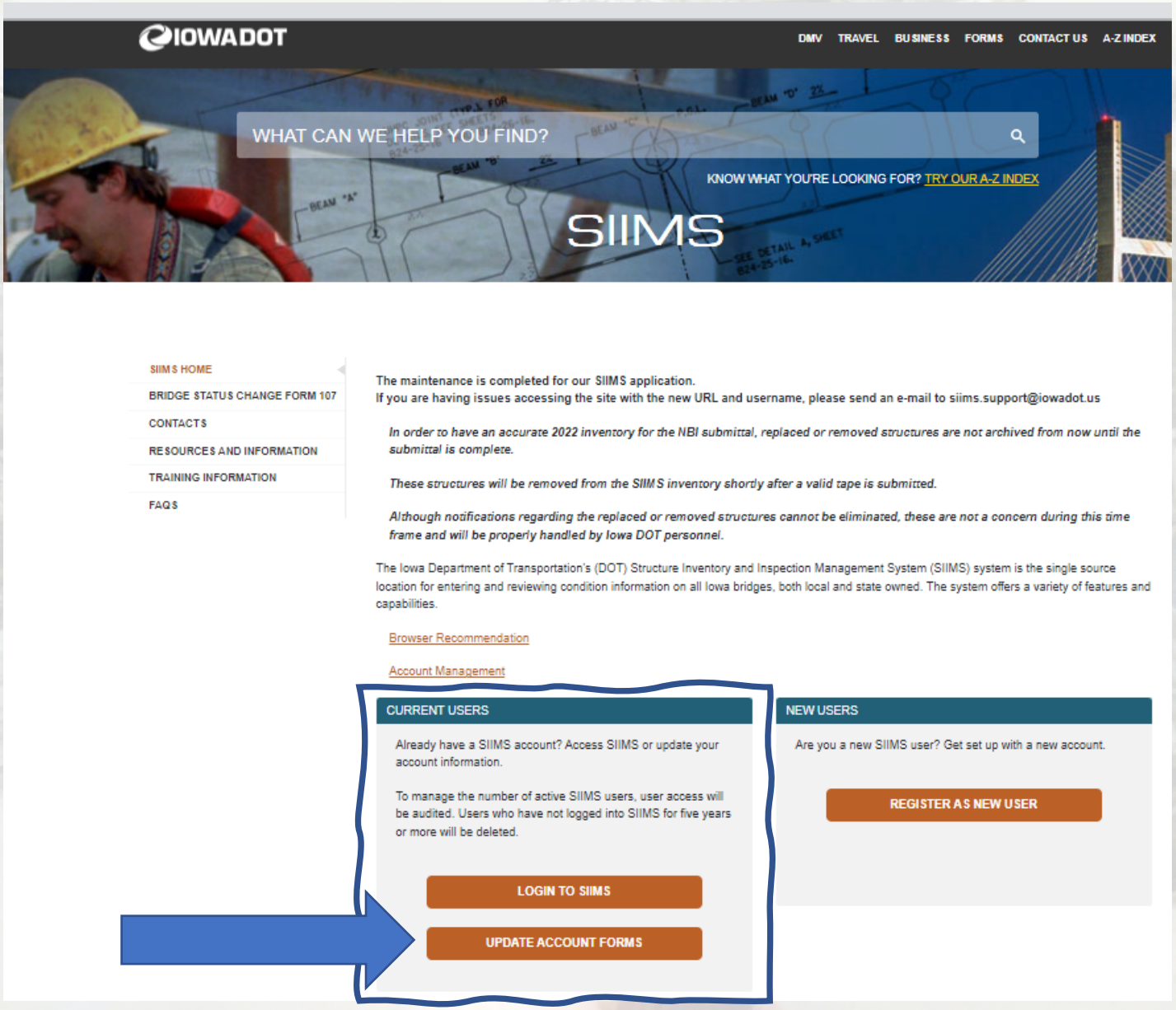
BRIDGE INSPECTION DATA ENTRY FORM

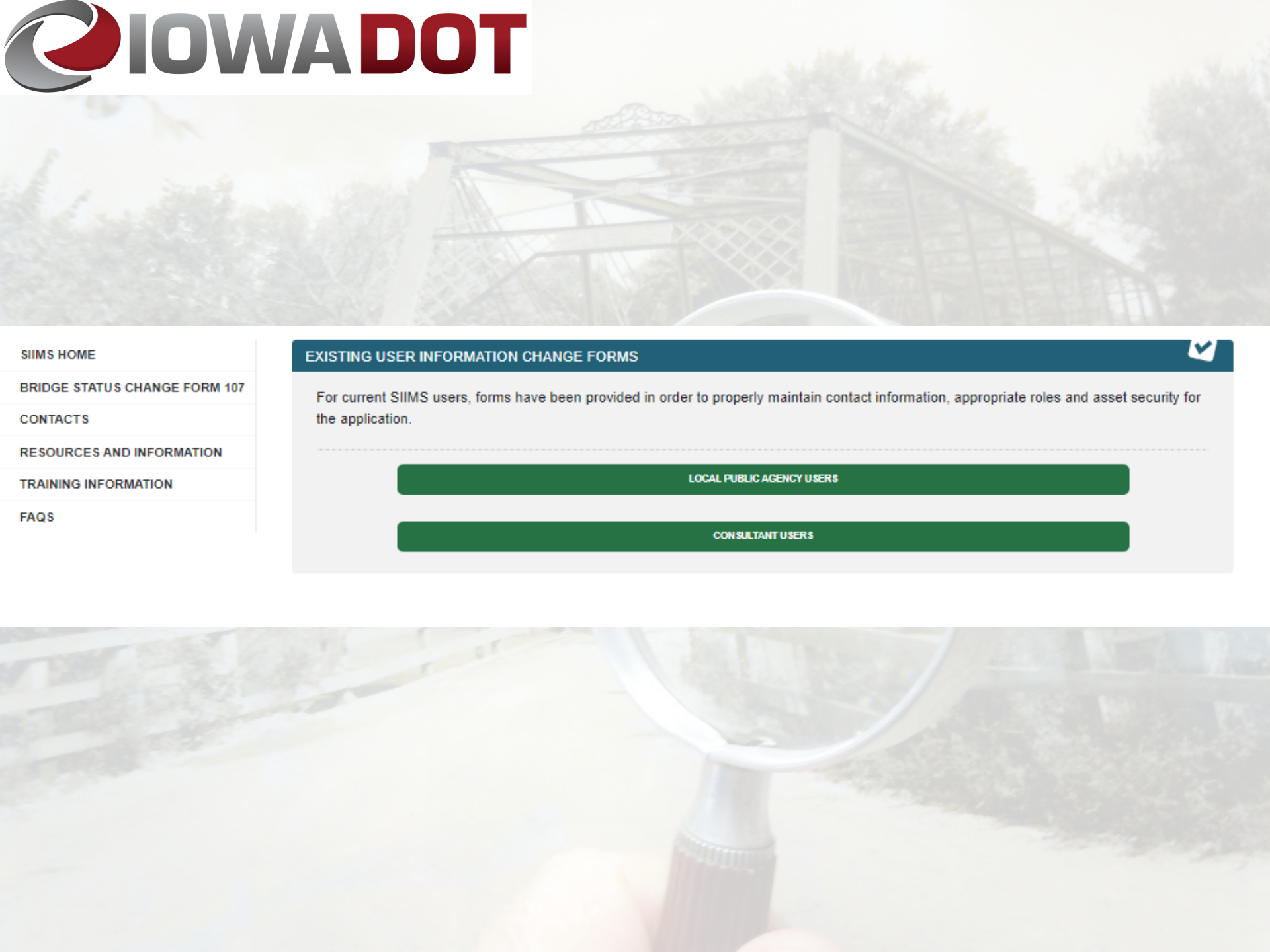
Any individual that will be entering data for the program manager or team leader is required to complete the data entry form.

BRIDGE INFORMATION FORM

Individuals desiring to view a Structure Inventory and Appraisal form for a bridge in Iowa, that do not qualify for any of the other positions, should complete the bridge information form.

The bridge information form is also available for consulting agencies who are doing design work for the Iowa DOT and need access to inspection reports and records for the existing structure.


IOWADOT
DMV TRAVEL BUSINESS FORMS CONTACT US A-Z INDEX
WHAT CAN WE HELP YOU FIND?
KNOW WHAT YOU'RE LOOKING FOR? TRY OUR A-Z INDEX
SIIMS
SIIMS HOME
BRIDGE STATUS CHANGE FORM 107
CONTACTS
RESOURCES AND INFORMATION
TRAINING INFORMATION
FAQS
The maintenance is completed for our SIIMS application.
If you are having issues accessing the site with the new URL and username, please send an e-mail to siims.support@iowadot.us
In order to have an accurate 2022 inventory for the NBI submittal, replaced or removed structures are not archived from now until the submittal is complete.
These structures will be removed from the SIIMS inventory shortly after a valid tape is submitted.
Although notifications regarding the replaced or removed structures cannot be eliminated, these are not a concern during this time frame and will be properly handled by Iowa DOT personnel.
The Iowa Department of Transportation's (DOT) Structure Inventory and Inspection Management System (SIIMS) system is the single source location for entering and reviewing condition information on all Iowa bridges, both local and state owned. The system offers a variety of features and capabilities.
Browser Recommendation
Account Management
CURRENT USERS
Already have a SIIMS account? Access SIIMS or update your account information.
To manage the number of active SIIMS users, user access will be audited. Users who have not logged into SIIMS for five years or more will be deleted.
LOGIN TO SIIMS
UPDATE ACCOUNT FORMS
NEW USERS
Are you a new SIIMS user? Get set up with a new account.
REGISTER AS NEW USER


IOWA DOT
SIIMS HOME
BRIDGE STATUS CHANGE FORM 107
CONTACTS
RESOURCES AND INFORMATION
TRAINING INFORMATION
FAQS
EXISTING USER INFORMATION CHANGE FORMS
For current SIIMS users, forms have been provided in order to properly maintain contact information, appropriate roles and asset security for the application.
LOCAL PUBLIC AGENCY USERS
CONSULTANT USERS

Local Public Agency Users Form

LOCAL PUBLIC AGENCY CHANGE FORMS

When you have had a qualification change your bridge inspection accreditation by the Iowa DOT's Bridges and Structures Bureau to lead/conduct NBIS inspections should be reviewed. Complete the change inspector role form if any of the following events have occurred: obtained professional license, attended additional inspection training, or obtained appropriate years of experience of inspection.

CHANGE INSPECTOR ROLE FORM

When the local public agency experiences a change in the contact for bridge ownership either by retirement or change of employment, complete the bridge owner form.

BRIDGE OWNER FORM

When the local public agency changes the agency under contract to complete bridge inspections, the local public agency completes the change program manager form.

CHANGE PROGRAM MANAGER FORM

When you have had a change in employment or other contact information has changed, complete the change contact information form found under forms. The changes include any or all of the following: employer, e-mail address, and phone numbers. If the change in employment will also change what role will be required for you in SIIMS, please also complete the change inspector role form.

CHANGE CONTACT INFORMATION FORM

Consultant Users Form

CONSULTANT CHANGE FORMS

When you have had a qualification change your bridge inspection accreditation by the Iowa DOT's Bridges and Structures Bureau to lead/conduct NBIS inspections should be reviewed. Complete the change inspector role form if any of the following events have occurred: obtained professional license, attended additional inspection training, or obtained appropriate years of experience of inspection.

CHANGE INSPECTOR ROLE FORM

When you have had a change in employment or other contact information has changed, complete the change contact information form found under forms. The changes include any or all of the following: employer, e-mail address, and phone numbers. If the change in employment will also change what role will be required for you in SIIMS, please also complete the change inspector role form.

CHANGE CONTACT INFORMATION FORM

SIIMS Contacts

- SIIMS HOME
- BRIDGE STATUS CHANGE FORM 107
- CONTACTS
- RESOURCES AND INFORMATION
- TRAINING INFORMATION
- FAQS

CONTACTS

GENERAL BRIDGE INSPECTION

Scott Neubauer
Bridges and Structures Bureau
Iowa Department of Transportation
Phone: 515-239-1165
E-mail: scott.neubauer@iowadot.us

GENERAL SIIMS INFORMATION

Kevin Vrchoticky
Bridges and Structures Bureau
Iowa Department of Transportation
Phone: 515-239-1648
E-mail: siims.support@iowadot.us

LOCAL AGENCY BRIDGE INSPECTION

Eric Souhrada
Bridges and Structures Bureau
Iowa Department of Transportation
Phone: 515-233-7720
E-mail: eric.souhrada@iowadot.us

COMPUTER / CONNECTION PROBLEMS

Iowa DOT help desk
Information Technology Division
Iowa Department of Transportation
Phone: 515-239-1075
E-mail: siims.support@iowadot.us

Inspection Training Courses

- SIIMS HOME
- BRIDGE STATUS CHANGE FORM 107
- CONTACTS
- RESOURCES AND INFORMATION
- TRAINING INFORMATION
- FAQS

TRAINING INFORMATION

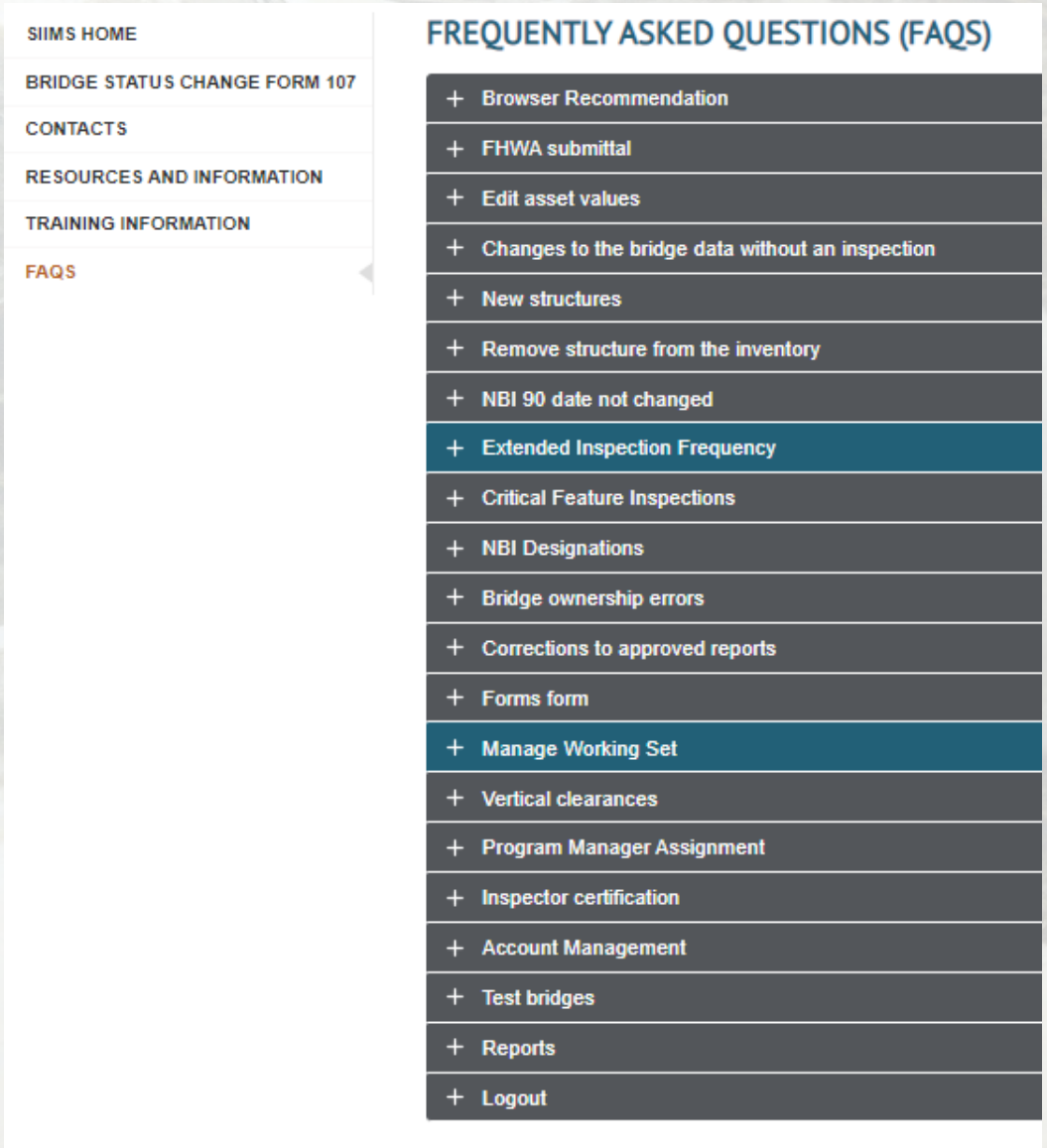
Please register for the courses you are interested in taking through the Iowa Local Technical Assistance Program

Iowa LTAP

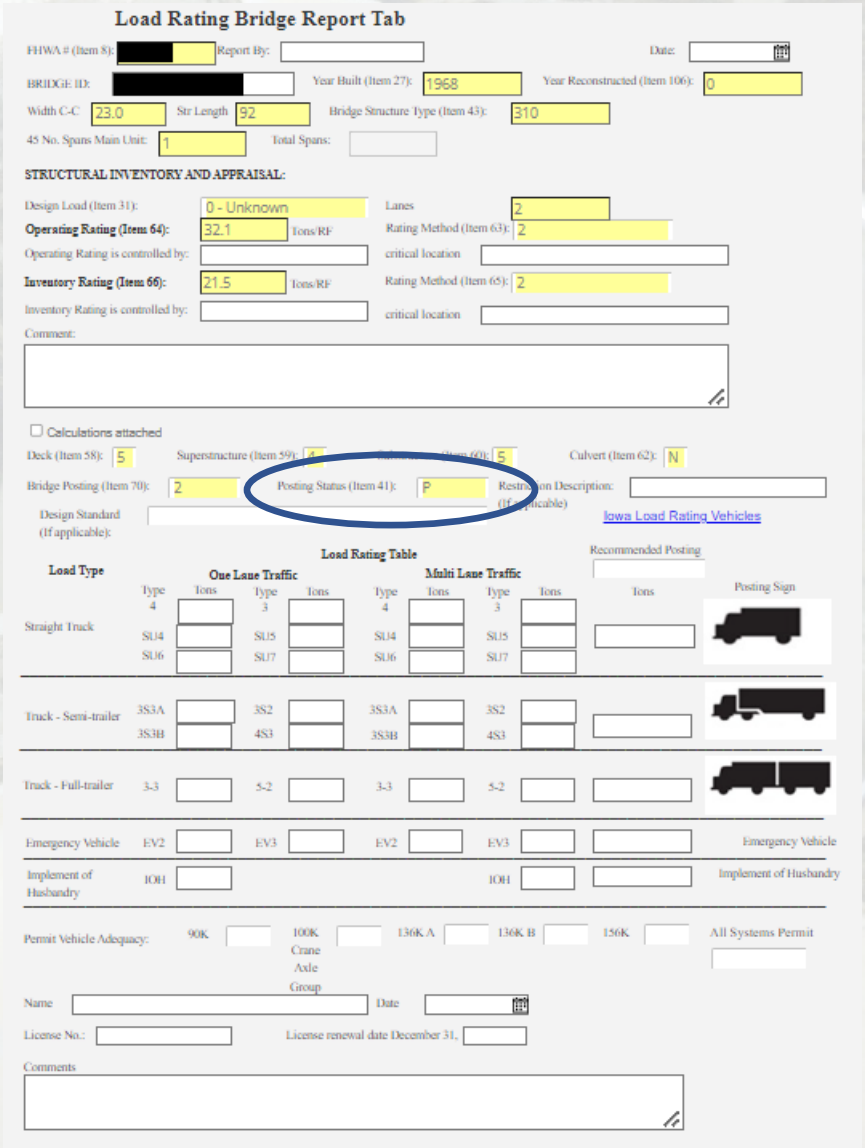
The Upcoming Events are listed by month with dates of course and additional information provided through the linked title of the course.

Use the Register Now links for each course to register for the upcoming event. The link is no longer available when no seats remain.

FAQ information



Load Rating Form



Load Rating Bridge Report Tab

FHWA # (Item 8): [redacted] Report By: Date:

BRIDGE ID: [redacted] Year Built (Item 27): 1968 Year Reconstructed (Item 106): 0

Width C-C: 23.0 Str Length: 92 Bridge Structure Type (Item 43): 310

45 No. Spans Main Unit: 1 Total Spans:

STRUCTURAL INVENTORY AND APPRAISAL:

Design Load (Item 31): 0 - Unknown Lanes: 2

Operating Rating (Item 64): 32.1 Tons/RF Rating Method (Item 63): 2

Operating Rating is controlled by: critical location

Inventory Rating (Item 66): 21.5 Tons/RF Rating Method (Item 65): 2

Inventory Rating is controlled by: critical location

Comment:

☐ Calculations attached

Deck (Item 58): 5 Superstructure (Item 59): [illegible] (Item 60): 5 Culvert (Item 62): N

Bridge Posting (Item 70): 2 Posting Status (Item 41): P Restriction Description: (If applicable)

Design Standard (If applicable): Iowa Load Rating Vehicles

Load Rating Table

Load Type	One Lane Traffic				Multi Lane Traffic				Recommended Posting	Posting Sign
	Type 4	Tons	Type 3	Tons	Type 4	Tons	Type 3	Tons	Tons	
Straight Truck	SU4		SU5		SU4		SU5			
	SU6		SU7		SU6		SU7			
Truck - Semi-trailer	3S3A		3S2		3S3A		3S2			
	3S3B		4S3		3S3B		4S3			
Truck - Full-trailer	3-3		5-2		3-3		5-2			
Emergency Vehicle	EV2		EV3		EV2		EV3			Emergency Vehicle
Implement of Husbandry	IOH						IOH			Implement of Husbandry

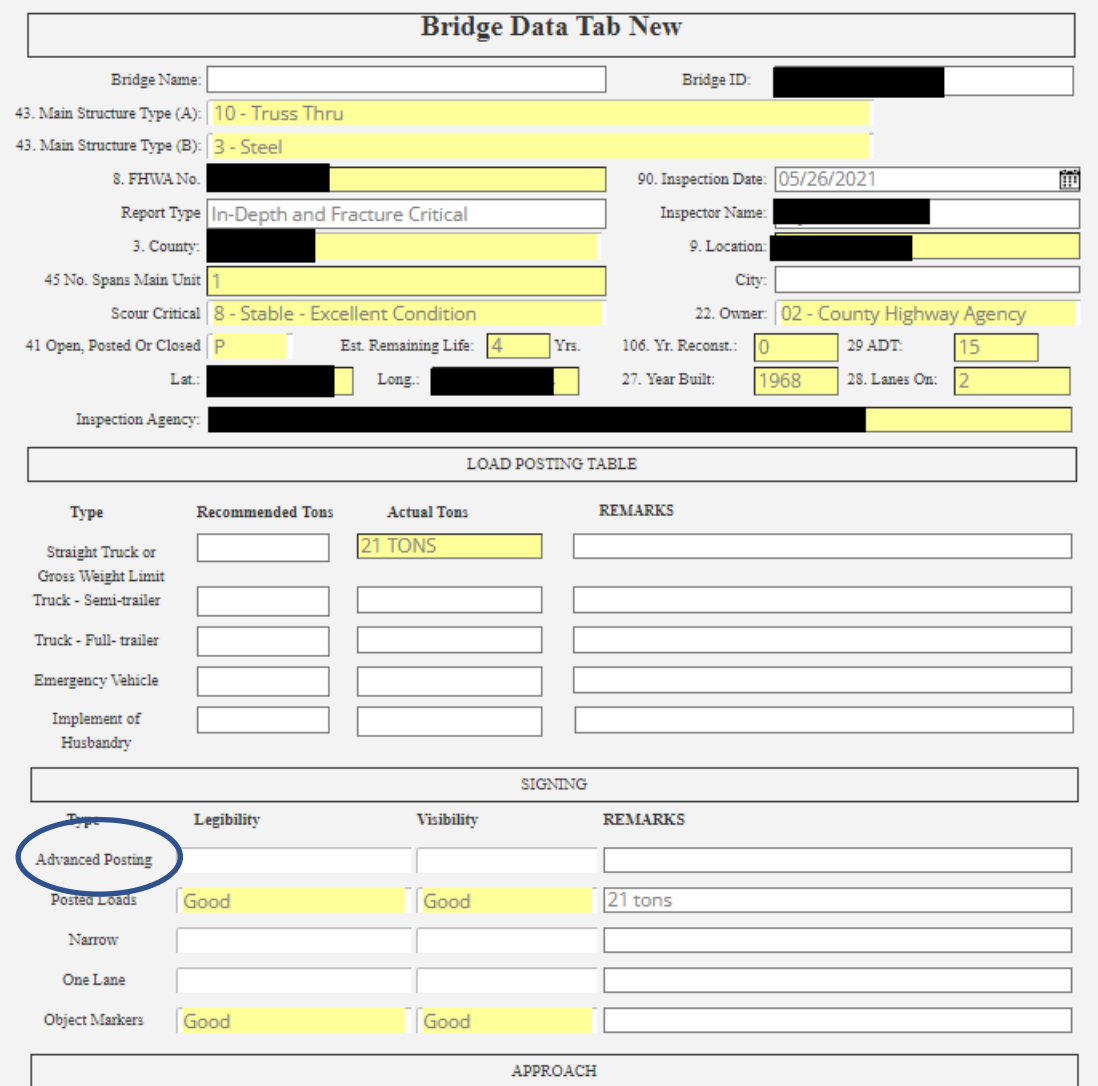
Permit Vehicle Adequacy: 90K 100K Crane Axle Group 136K A 136K B 156K All Systems Permit

Name Date

License No.: License renewal date December 31,

Comments

Load Rating Information



Bridge Data Tab New

Bridge Name:		Bridge ID:	[redacted]
43. Main Structure Type (A):	10 - Truss Thru		
43. Main Structure Type (B):	3 - Steel		
8. FHWA No.	[redacted]	90. Inspection Date:	05/26/2021
Report Type	In-Depth and Fracture Critical	Inspector Name:	[redacted]
3. County:	[redacted]	9. Location:	[redacted]
45 No. Spans Main Unit	1	City:	
Scour Critical	8 - Stable - Excellent Condition	22. Owner:	02 - County Highway Agency
41 Open, Posted Or Closed	P	Est. Remaining Life: 4 Yrs.	106. Yr. Reconst.: 0 / 29 ADT: 15
Lat.: [redacted]	Long.: [redacted]	27. Year Built: 1968	28. Lanes On: 2
Inspection Agency:	[redacted]		

LOAD POSTING TABLE

Type	Recommended Tons	Actual Tons	REMARKS
Straight Truck or Gross Weight Limit		21 TONS	
Truck - Semi-trailer			
Truck - Full- trailer			
Emergency Vehicle			
Implement of Husbandry			

SIGNING

Type	Legibility	Visibility	REMARKS
Advanced Posting			
Posted Loads	Good	Good	21 tons
Narrow			
One Lane			
Object Markers	Good	Good	

APPROACH

Load Rating Form

Load Rating Bridge Report Tab

FHWA # (Item 8): [redacted] Report By: [redacted] Date: 02/06/2022

BRIDGE ID: [redacted] Year Built (Item 27): 2008 Year Reconstructed (Item 106): 0

Width C-C: 30.5 Str Length: 133 Bridge Structure Type (Item 43): 201

45 No. Spans Main Unit: 3 Total Spans: 3

STRUCTURAL INVENTORY AND APPRAISAL:

Design Load (Item 31): A - HL 93 Lanes: 2

Operating Rating (Item 64): 1.66 Tons/RF Rating Method (Item 63): 8

Operating Rating is controlled by: STR1 +M critical location: 0.4L SPAN 1

Inventory Rating (Item 66): 1.28 Tons/RF Rating Method (Item 65): 8

Inventory Rating is controlled by: STR1 +M critical location: 0.4L SPAN 1

Comment:

RATINGS FROM IOWA DOT REPORT TR-785 (JAN. 2021) FOR A 130' J30-06 STANDARD BRIDGE WITH 2'-8" OPEN RAIL FOR ALL SKEWS.

☐ Calculations attached

Deck (Item 58): 8 Superstructure (Item 59): 8 Substructure (Item 60): 8 Culvert (Item 62): N

Bridge Posting (Item 70): 5 Posting Status (Item 41): A Restriction Description (If applicable):

Design Standard (If applicable): (J30-06) 2006 Iowa Load Rating Vehicles

Load Rating Table

Load Type	One Lane Traffic Type	One Lane Traffic Tons	Type	Tons	Multi Lane Traffic Type	Multi Lane Traffic Tons	Type	Tons	Recommended Posting Tons	Posting Sign
Straight Truck	4		3		4	58.4	3	61.1		
	SU4		SU5		SU4	56.6	SU5	60.6		
	SU6		SU7		SU6	62.4	SU7	66.4		
Truck - Semi-trailer	3S3A		3S2		3S3A	94.4	3S2	95.4		
	3S3B		4S3		3S3B	100.8	4S3	100.0		
Truck - Full-trailer	3-3		5-2		3-3	105.8	5-2	93.8		
Emergency Vehicle	EV2		EV3		EV2	59.4	EV3	59.1		Emergency Vehicle
Implement of Husbandry	IOH						IOH			Implement of Husbandry

Permit Vehicle Adequacy: 90K Yes 100K Crane Axle Group Yes 136K A Yes 136K B Yes 156K Yes All Systems Permit

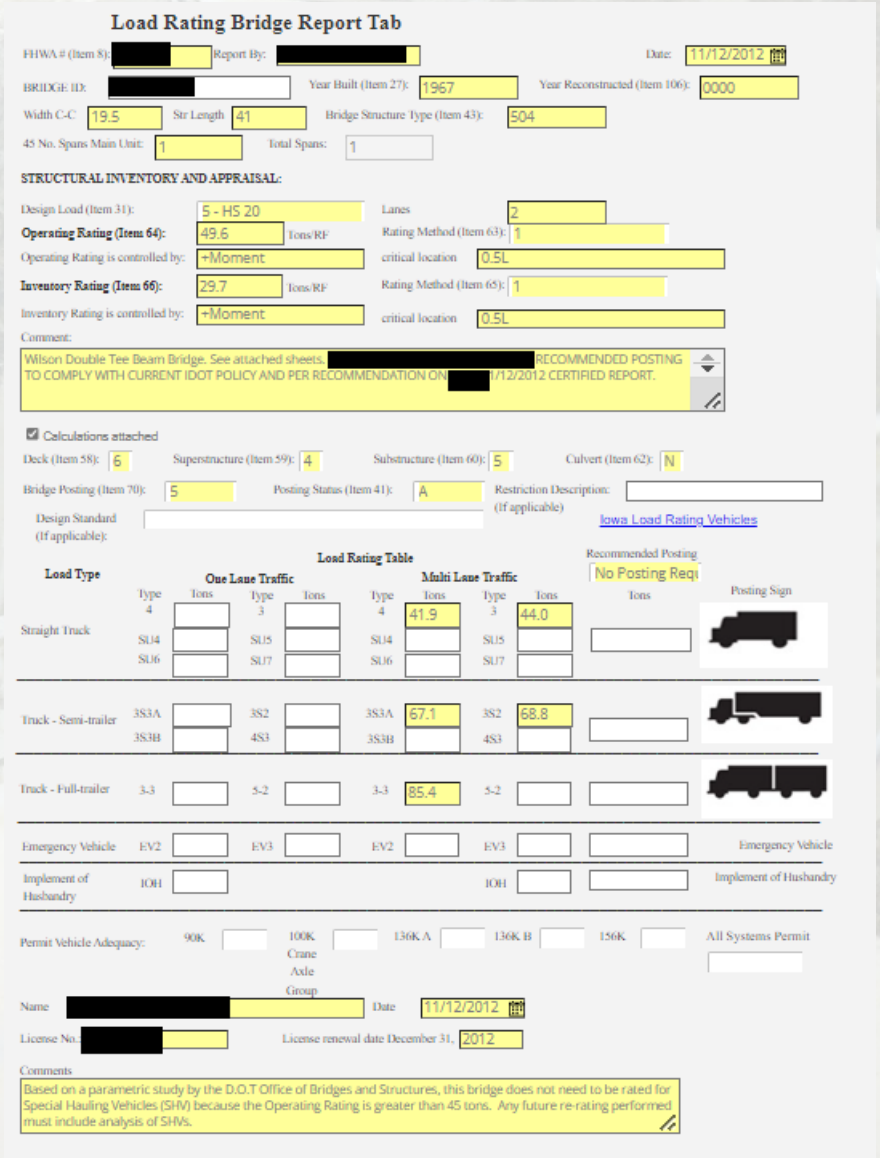
Name [redacted] Date 02/06/2022

License No.: [redacted] License renewal date December 31, 2023

Comments

THE ENGINEER'S NAME ON THIS REPORT IS NOT CERTIFYING THESE RATINGS, BUT IS ONLY VERIFYING THEY ARE THE CORRECT RATINGS FROM THE HR-239 REPORT PUBLISHED BY THE IOWA D.O.T. FOR THIS STANDARD BRIDGE.

Load Rating form



Load Rating Bridge Report Tab

FHWA # (Item 8): [redacted] Report By: [redacted] Date: 11/12/2012

BRIDGE ID: [redacted] Year Built (Item 27): 1967 Year Reconstructed (Item 106): 0000

Width C-C: 19.5 Str Length: 41 Bridge Structure Type (Item 43): 504

45 No. Spans Main Unit: 1 Total Spans: 1

STRUCTURAL INVENTORY AND APPRAISAL:

Design Load (Item 31): 5 - HS 20 Lanes: 2

Operating Rating (Item 64): 49.6 Tons/RF Rating Method (Item 63): 1

Operating Rating is controlled by: +Moment critical location: 0.5L

Inventory Rating (Item 66): 29.7 Tons/RF Rating Method (Item 65): 1

Inventory Rating is controlled by: +Moment critical location: 0.5L

Comment:

Wilson Double Tee Beam Bridge. See attached sheets: [redacted] RECOMMENDED POSTING TO COMPLY WITH CURRENT IDOT POLICY AND PER RECOMMENDATION ON [redacted]/12/2012 CERTIFIED REPORT.

☑ Calculations attached

Deck (Item 58): 6 Superstructure (Item 59): 4 Substructure (Item 60): 5 Culvert (Item 62): N

Bridge Posting (Item 70): 5 Posting Status (Item 41): A Restriction Description (If applicable):

Design Standard (If applicable):

Iowa Load Rating Vehicles

Load Rating Table

Load Type	One Lane Traffic Type	One Lane Traffic Tons	Type	Tons	Multi Lane Traffic Type	Multi Lane Traffic Tons	Type	Tons	Recommended Posting Tons	Posting Sign
Straight Truck	4		3		4	41.9	3	44.0		
	SU4		SU5		SU4		SU5			
	SU6		SU7		SU6		SU7			
Truck - Semi-trailer	3S3A		3S2		3S3A	67.1	3S2	68.8		
	3S3B		4S3		3S3B		4S3			
Truck - Full-trailer	3-3		5-2		3-3	85.4	5-2			
Emergency Vehicle	EV2		EV3		EV2		EV3			Emergency Vehicle
Implement of Husbandry	IOH						IOH			Implement of Husbandry

Permit Vehicle Adequacy: 90K 100K Crane Axle Group 136K A 136K B 156K All Systems Permit

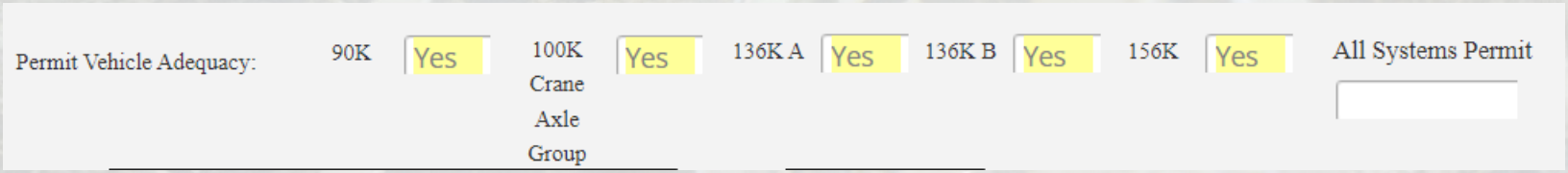
Name [redacted] Date 11/12/2012

License No. [redacted] License renewal date December 31, 2012

Comments

Based on a parametric study by the D.O.T Office of Bridges and Structures, this bridge does not need to be rated for Special Hauling Vehicles (SHV) because the Operating Rating is greater than 45 tons. Any future re-rating performed must include analysis of SHVs.

Load Rating Form



SNBI Routine permit coding will be required.
All-Systems permit is Yes or No.

Load Rating Form

Load Type	Analysis Type			Recommended Posting (B.EP.03)
	Multi-Lane Traffic			Gross Load
	Type (B.EP.01)	Tons	Rating Factor (B.EP.02)	Posting Tonnage (B.EP.04)
Straight Trucks	3			
	4			
	SU4			
	SU5			
	SU6			
	SU7			
Truck Semi-Trailer	3S2			
	3S3A			
	3S3B			
	4S3			
Truck Full-Trailer	3-3			
	5-2			
Emergency Vehicle	EV2		[redacted]	
	EV3			
Implement of Husbandry	IoH			

Drop Downs

SNBI Codes

- No Posting Required
- Gross Load
- Single Axle Load
- Tandem Axle Load
- Truck Load
- NonCommercial Vehicles
- Speed Reduction
- Number of lanes restricted
- Number of vehicles restricted
- Other

Load Rating Methods

- Assigned Load Ratings
  - Assigned load ratings are allowed when the design load is HS-20 or HL-93 or greater and the structure is in good condition. The following criteria shall also be applied.
    - Designed LFD or LRFD
    - Built according to plans
    - No changes to the loading conditions or structure condition that would require re-rating as required on the Load Rating Evaluation form in SIIMS
    - Design calculations or plans showing the design loading and AASHTO specification with the stamp of the design engineer readily available.
- By the time the structure is 30 years old, load rating calculations shall be performed.

Load Rating Methods

- Engineering Judgement
  - When engineering judgement is needed for reinforced concrete structures with no plans or illegible plans, the rating engineer must document the reasoning behind the inventory and operating rating used.
  - Reasons for the rating should include calculations based on similar structures, load testing, or assumed reinforcing based on year of construction and normal design practices from that era.
  - The design load may or may not be known. If the design load is not known, a reasonable assumption should be made based on the year of construction and design criteria of that era.
  - Deterioration that is used as a determining factor in the rating should be documented thru photos, sketches, and written explanations.
  - Assumptions for Posting tonnages should be documented.
  - Ratings shall be based on the most current inspection documentation.
  - Engineering judgement does not apply to steel structures or CMP.

Load Rating Methods

- Engineering Judgement
  - Only for concrete structures without plans
- Assigned Ratings
  - Only for new bridges according to I.M. 7.020
- Rating method must be coded as ASR, LFR, or LRFR when you are entering a rating based on deteriorated conditions that you can't calculate adequate section properties for.

Load Rating Methods

- Bridges built or rehabilitated since January 1, 1994, falling into the following categories shall be rated by the Load Factor Rating (LFR) method:
  - Bridges constructed or replaced with the following materials:
    - Steel produced in 1936 (33 ksi or better) or anything after 1936.
    - Prestressed concrete.
    - Reinforced concrete.
  - Bridges that undergo major rehabilitation or repairs and not previously rated using LRFR.

SNBI Posting Data Format

Item ID	Data Item	Value (1)	Value (2)	Value (3)	Value (4)	Value (5)	Value (6)	Value (7)
B.EP.01	*Legal Load Configuration*	3	3S2	3-3	SU4	SU5	SU6	SU7
B.EP.02	*Legal Load Rating Factor*	0.63	0.66	0.74	0.56	0.51	0.46	0.43
B.EP.03	*Posting Type*	T	T	T	T	T	T	T
B.EP.04	*Posting Value*	15	25	30	15	15	15	15

Posting Status

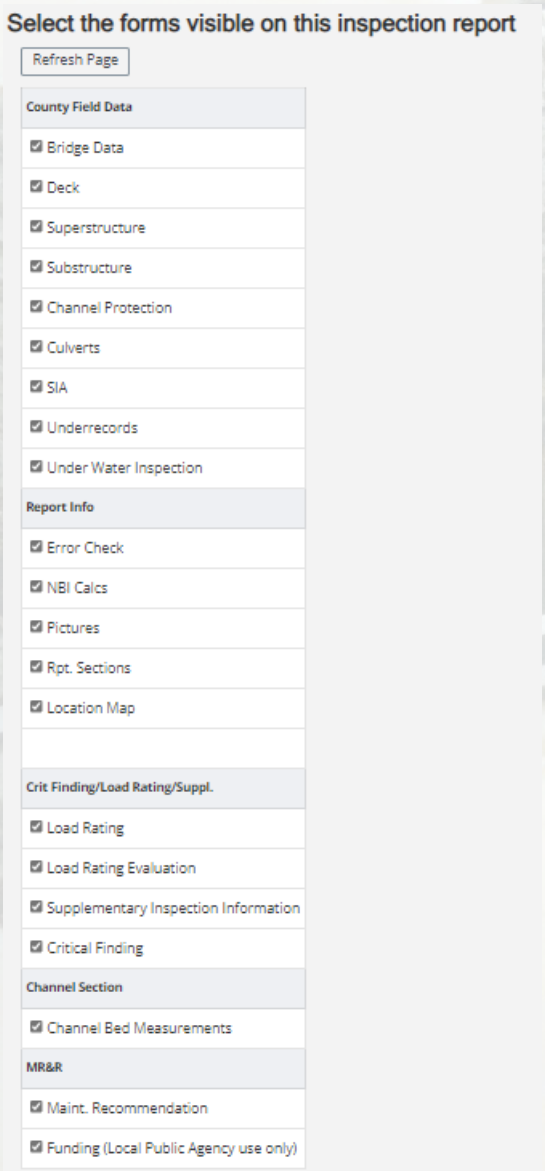
Table 15. Load Posting Status Codes.

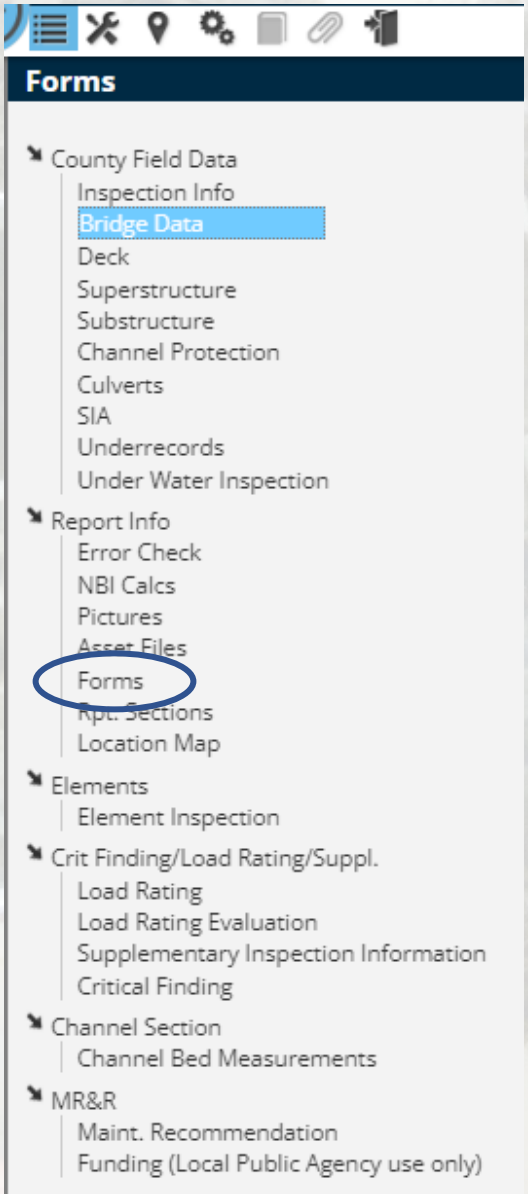
	No restriction			Posted or restricted				Closed
	New	Open	Needs Action	Weight	Other	Needs Reduction	Missing	
Permanent	N	PO	PA	PP	PR	PD	PM	C
Temporary		TO	TA	TP	TR	TD	TM	C
Supported		SO	SA	SP	SR	SD	SM	C

Posting Status Example

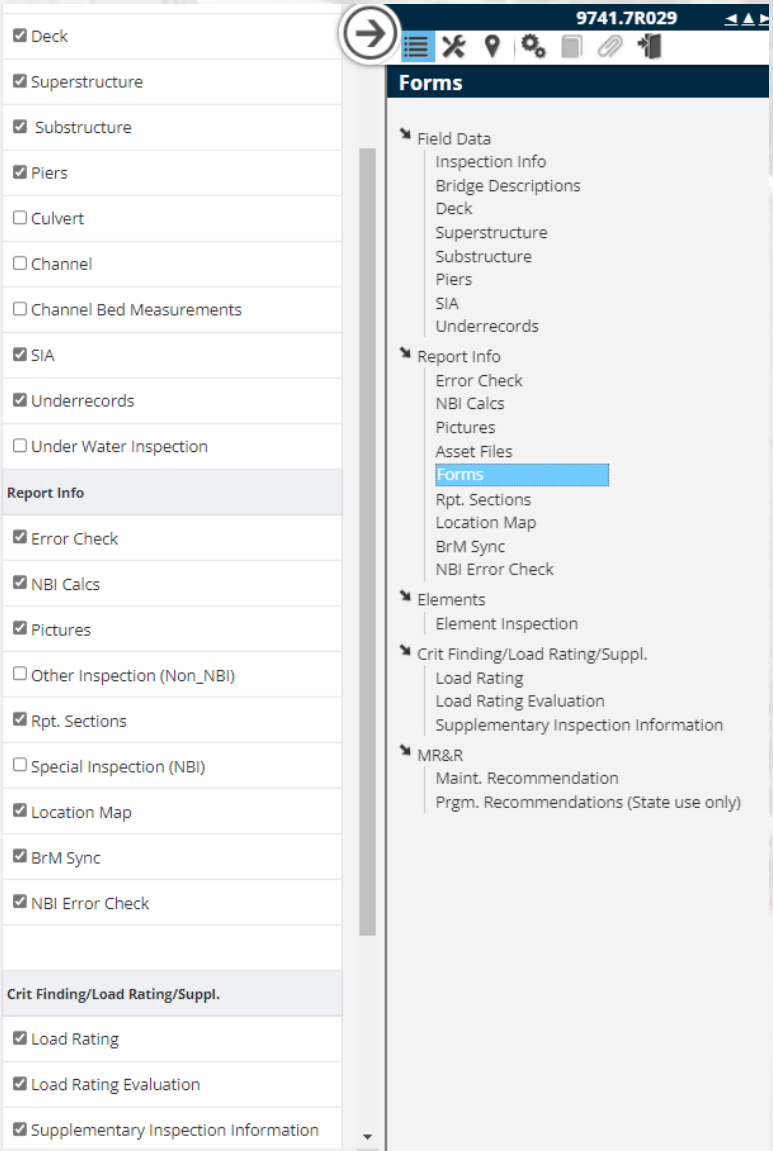
Item ID	Data Item	Value (1)	Value (2)	Value (3)	Value (4)
B.PS.01	*Load Posting Status*	PD	PP	PM	PP
B.PS.02	*Posting Status Change Date*	20160214	20160415	20160723	20160905

Inspection Report Forms





Inspection Report Forms



Report Sections

The report sections below are included in the selected group.

Save Order Changes | Add Sections/PDF Attachments | View PDF

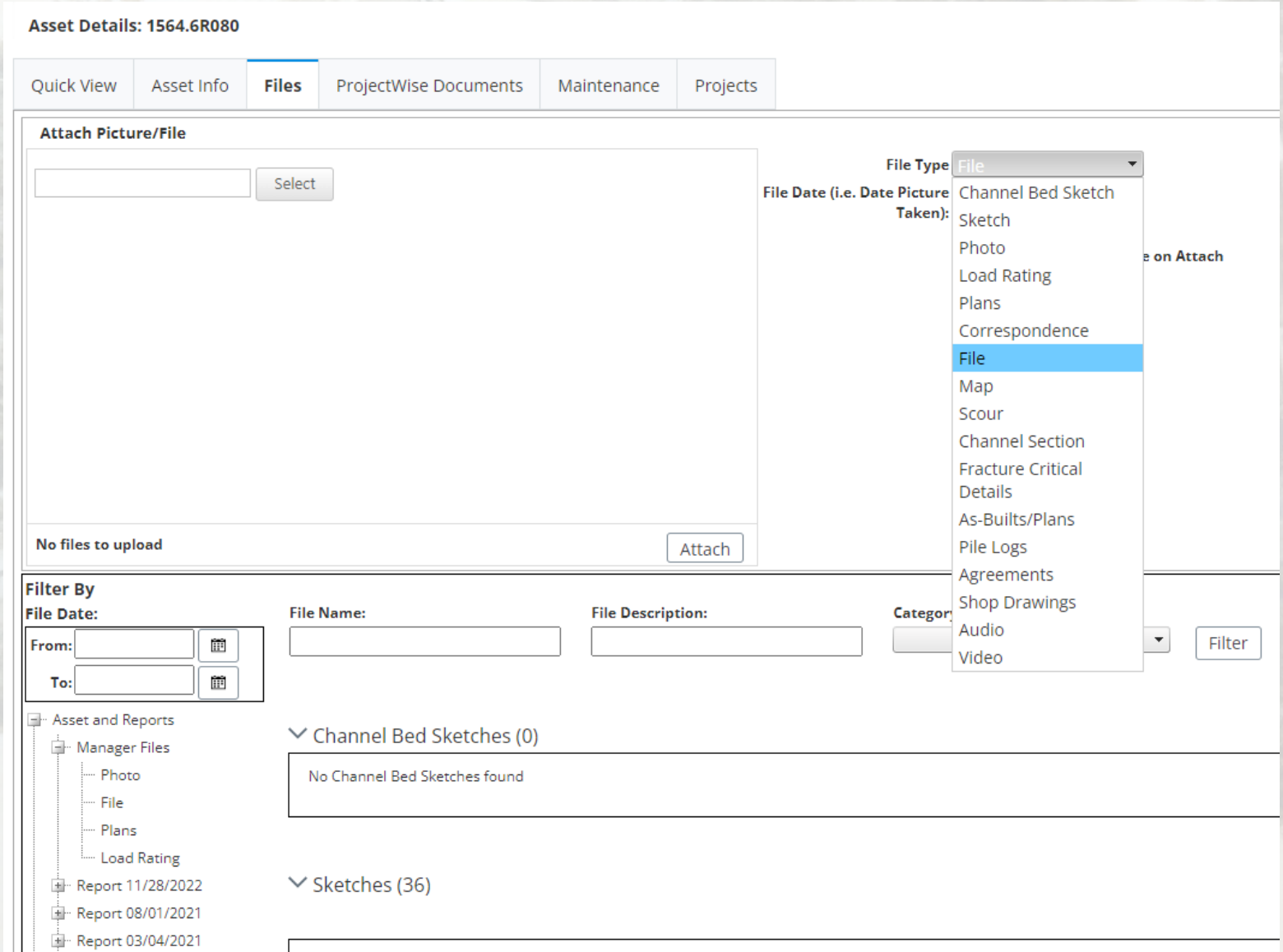
Remove Section	Order	Section Name		Print	Include in Table of Contents	Insert Cover Page Before Section	Show Page Number
	1	Cover	View	☑		☐	☑
	2	Table of Contents	View	☑	☑	☐	☑
	3	SI&A	View	☑	☐	☐	☑
	4	Bridge Data Form	View	☑	☐	☐	☐
	5	Deck	View	☑	☐	☐	☐
	6	Superstructure	View	☑	☐	☐	☐
	7	Substructure	View	☑	☐	☐	☐
	8	Culvert	View	☑	☐	☐	☐
	9	Channel Protection	View	☑	☐	☐	☐
	10	Critical Finding	View	☑	☐	☐	☑
	11	Load Rating - All	View	☑	☐	☐	☐
	12	Load Rating Evaluation	View	☑	☐	☐	☐
	13	Supplementary Inspection Information	View	☑	☐	☐	☑
	14	Supplementary Inspection Information - Updated	View	☑	☐	☐	☐
	15	Pictures	View	☑	☐	☐	☑
	16	Channel Bed Measurements	View	☑	☐	☐	☑
	17	Sketches	View	☑	☐	☐	☑
	18	Funding	View	☑	☐	☐	☑
	19	Location Map	View	☑	☐	☐	☑
	20	Elements	View	☑	☐	☐	☑
	21	UW Inspection	View	☑	☐	☐	☐

Save Order Changes | Add Sections/PDF Attachments | View PDF | Email PDF

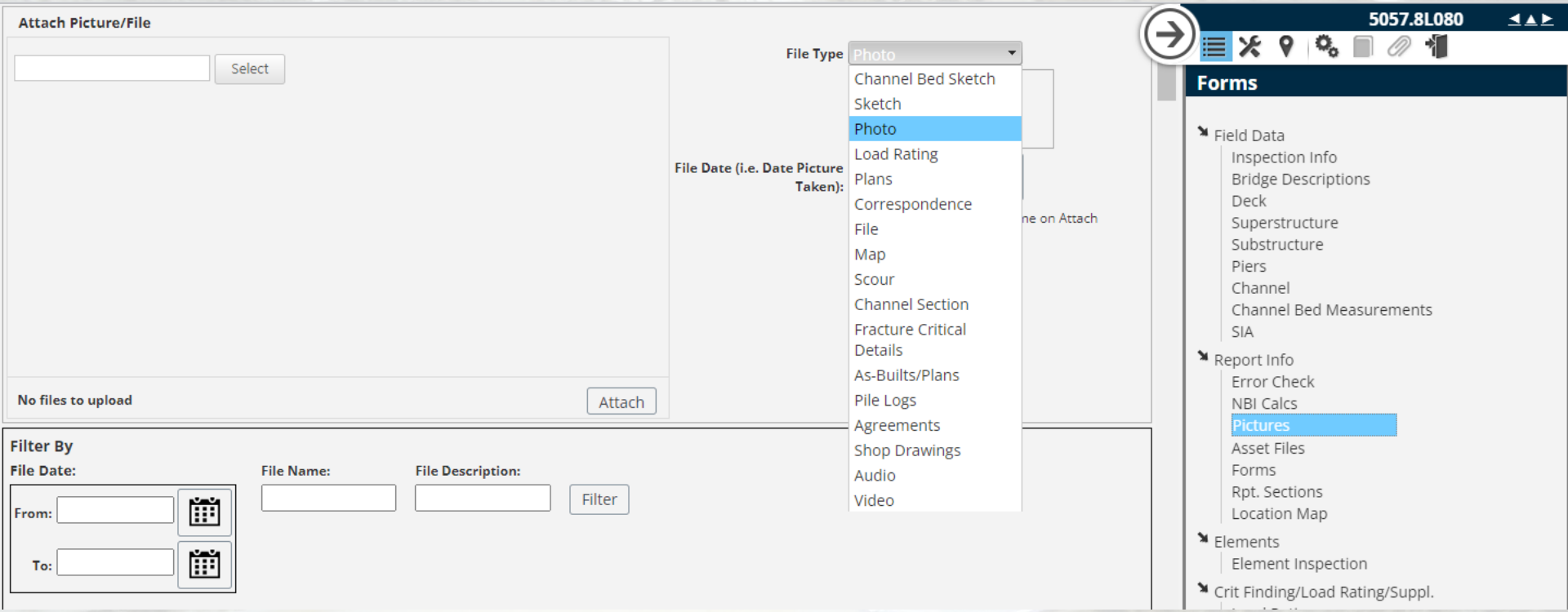
Forms

- County Field Data
  - Inspection Info
  - Bridge Data
  - Deck
  - Superstructure
  - Substructure
  - Channel Protection
  - Culverts
  - SIA
  - Underrecords
  - Under Water Inspection
- Report Info
  - Error Check
  - NBI Calcs
  - Pictures
  - Asset Files
  - Forms
  - Rpt. Sections
  - Location Map
- Elements
  - Element Inspection
- Crit Finding/Load Rating/Suppl.
  - Load Rating
  - Load Rating Evaluation
  - Supplementary Inspection Information
  - Critical Finding
- Channel Section
  - Channel Bed Measurements
- MR&R
  - Maint. Recommendation
  - Funding (Local Public Agency use only)

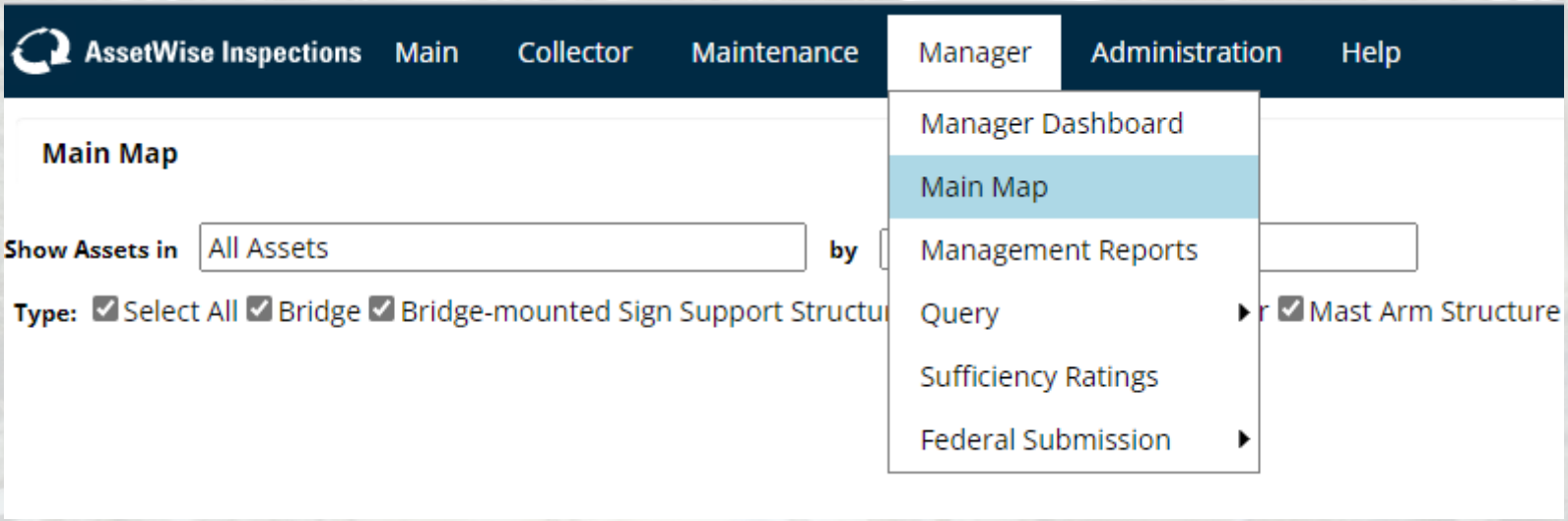
Uploading Documents



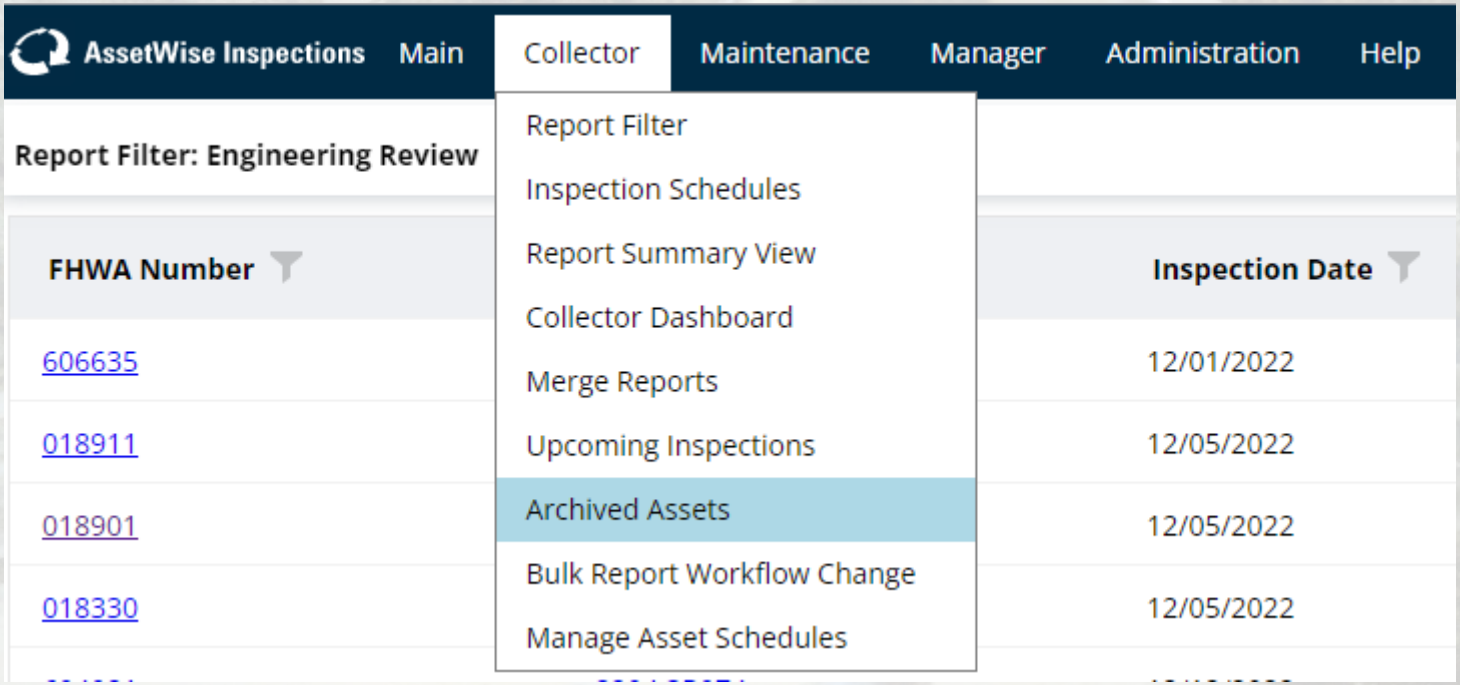
Uploading documents



Mapping Features



Archived Assets



Archived Assets

AssetWise Inspections | Main | Collector | Maintenance | Manager | Administration | Help

Archived Assets

Asset Code	Asset Name	Asset Type	Asset Status	Parent Asset	Archived Date
078150	029	Bridge	Archived	BOONE	19
078200	034-443361	Bridge	Archived	BOONE	017
078220	036	Bridge	Archived	BOONE	20
078260	039-440465	Bridge	Archived	BOONE	16
077890	042	Bridge	Archived	BOONE	4/13/2020
077900	84-28-043 318144	Bridge	Archived	BOONE	6/23/2017
077940	047	Bridge	Archived	BOONE	5/12/2022
078010	84-28-055 314953	Bridge	Archived	BOONE	4/3/2017
077100	153	Bridge	Archived	BOONE	12/29/2021
077170	82-27-142 120935	Bridge	Archived	BOONE	2/7/2012
077350	117	Bridge	Archived	BOONE	5/24/2018
077500	102	Bridge	Archived	BOONE	10/26/2021
077540	83-28-106 214936	Bridge	Archived	BOONE	3/11/2011

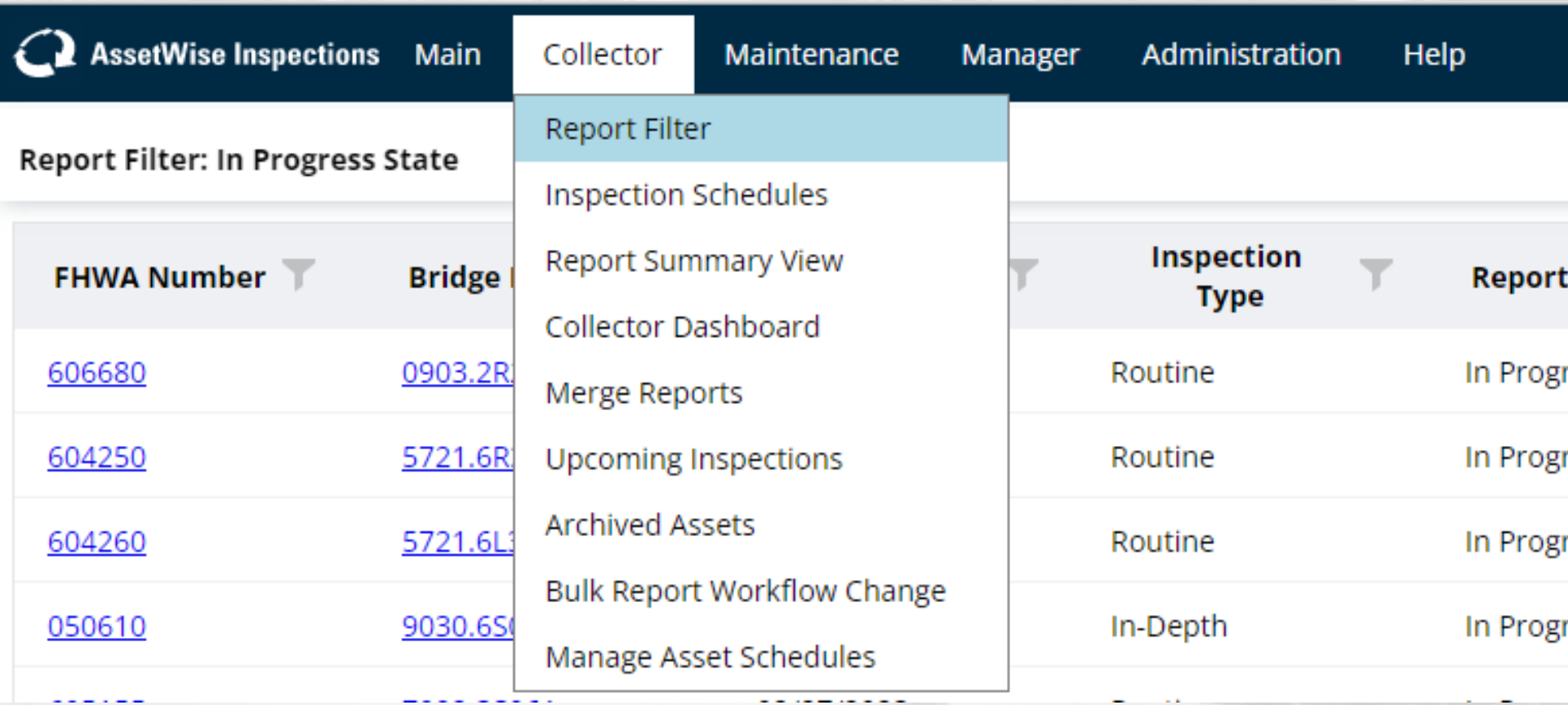
Show items with value that:

Contains

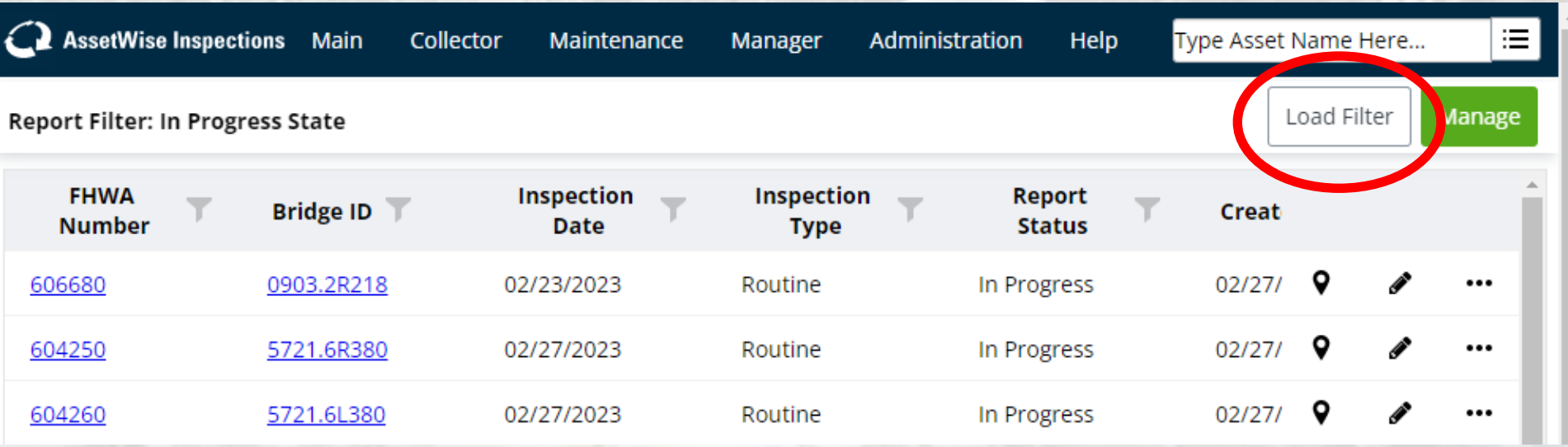
Boone

Filter | Clear

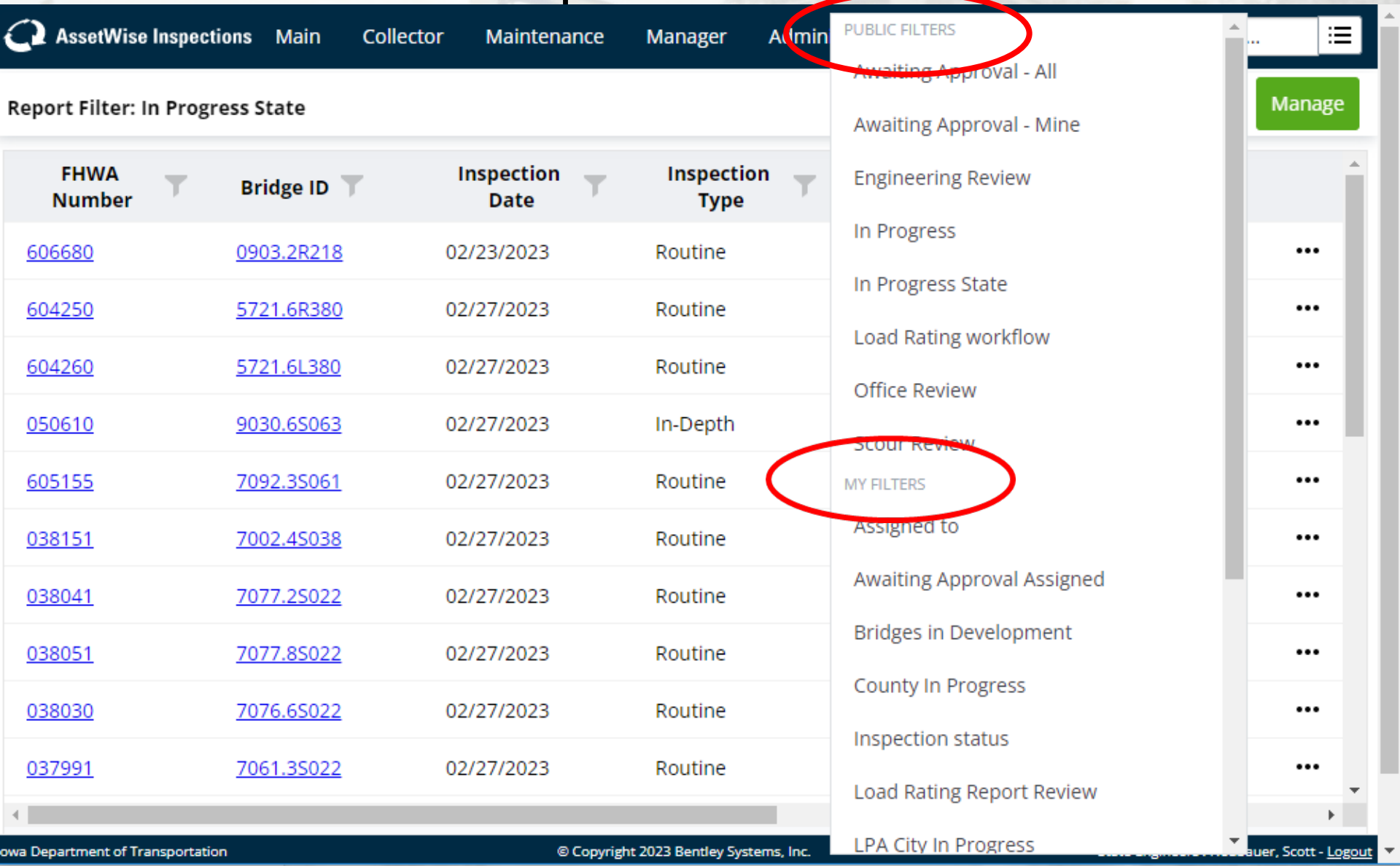
Report Filters



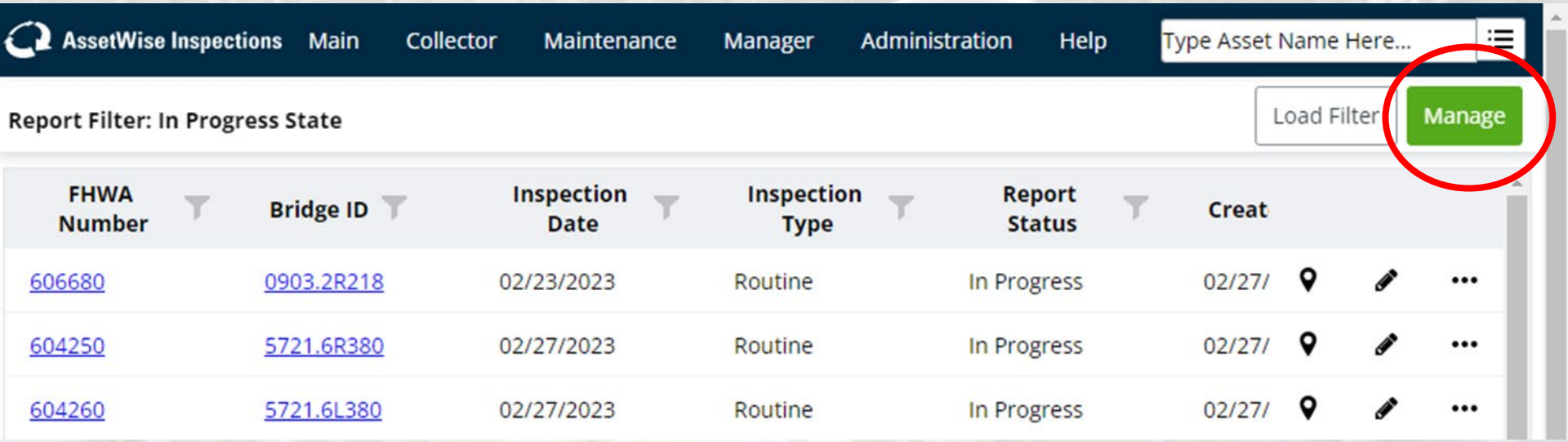
Report Filters



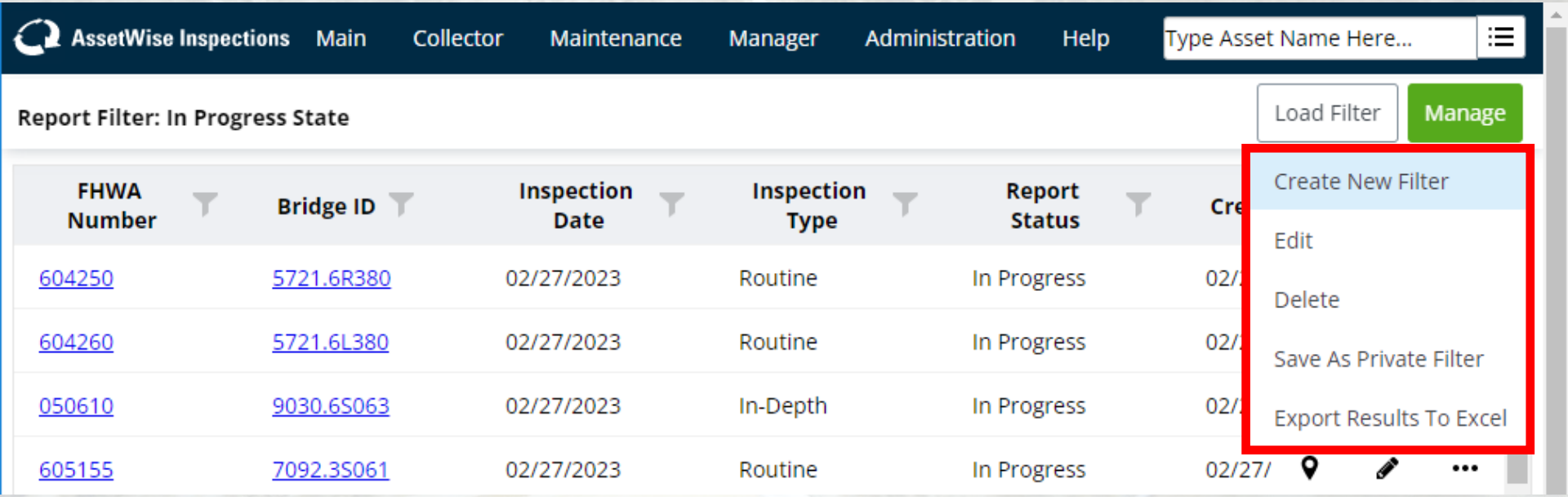
Report Filters



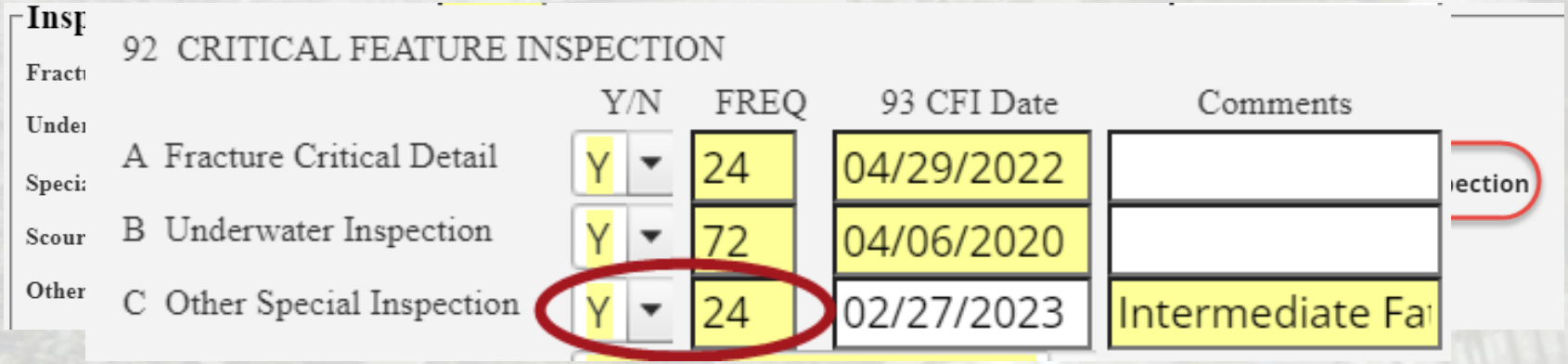
Report Filters



Report Filters



Monthly Notifications

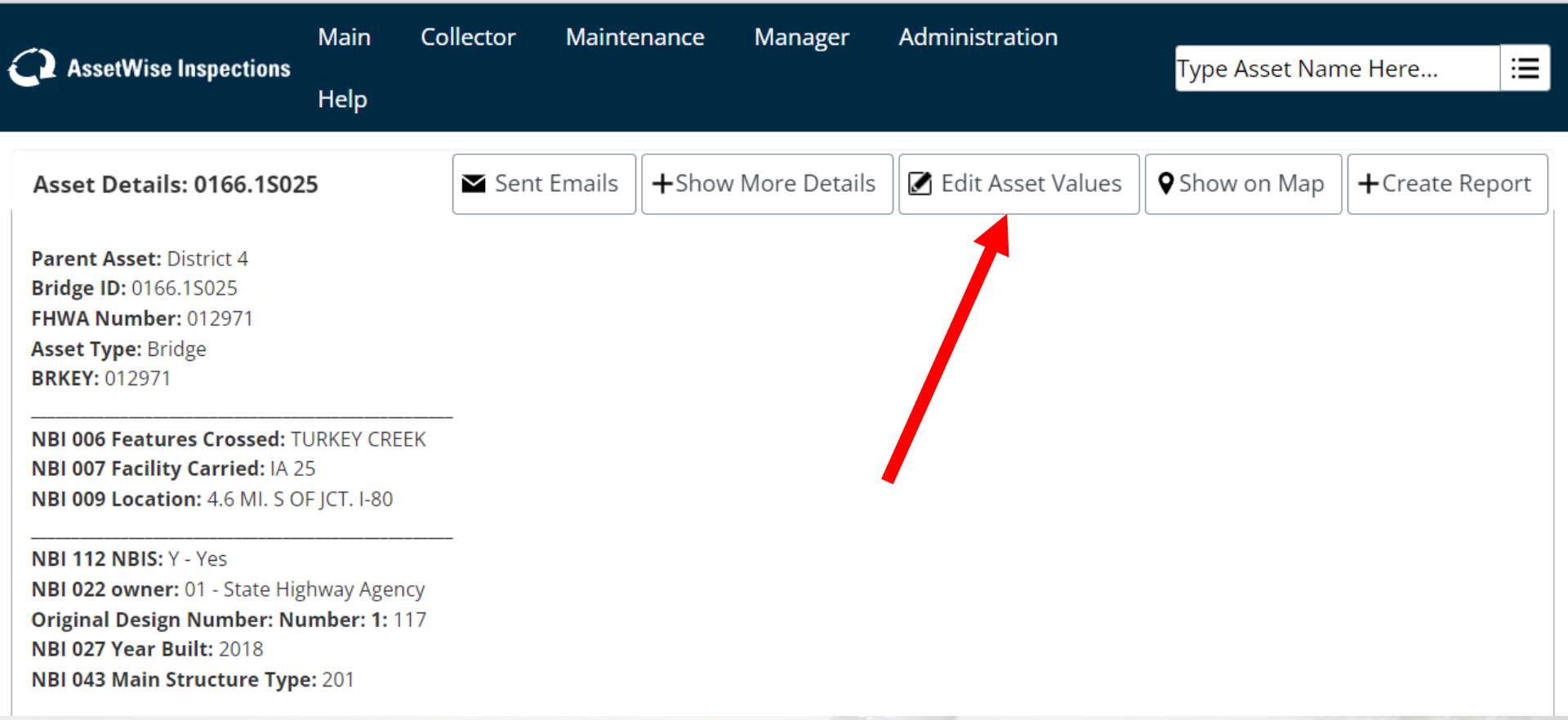


- Posting notifications will be sent to the DOT on a monthly basis instead of March 1st and September 1st. Owners and Program Managers will receive a note from the DOT instead of SIIMS.
- Monthly late inspection notices will continue to be sent to the Program Managers directly from SIIMS.

New Report Types

- LPA Bridge
- LPA Bridge Data Update
- LPA Critical Finding
- LPA Culvert
- LPA Culvert Data Update
- LPA Fracture Critical
- LPA Load Rating Report
- LPA Underwater
- State Bridge
- State Bridge Data Update
- State Critical Finding
- State Culvert
- State Culvert Data Update
- State Fracture Critical
- State Load Rating Report
- State Underwater

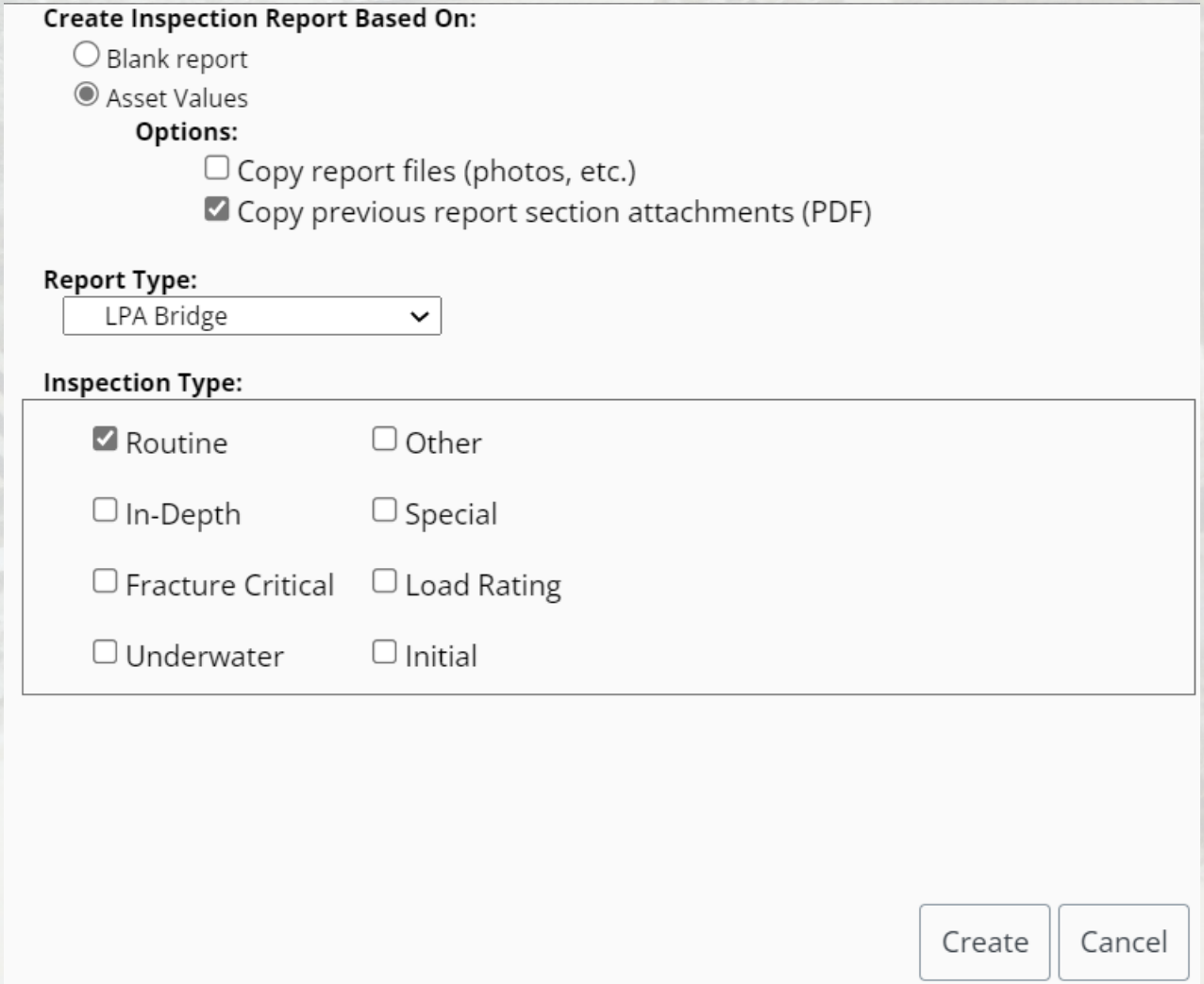
Data Updates



Updating Bridge Inventory Data

- Data Update Report
  - When data needs to be updated or corrected without doing a Routine inspection, use the Data Update report to change data.
  - This report will provide a system to track changes efficiently.
  - This report will require a comment on what was changed.
  - It also provides an easy way for you or anyone looking at the data to know why and when values changed.
  - The “Edit Asset Values” feature will be changed to “View Asset Values”

New Report Types



Inspection Report Type

NBI 90 Date	Report Type	Inspection Type	NBI 007 Facility Carried
8/16/2021	IOWA Full State	Fracture Critical a…	IA 9
8/19/2019	IOWA Full State	Underwater	IA 9
8/19/2019	IOWA Full State	Fracture Critical a…	IA 9
8/7/2017	IOWA Full State	Special	IA 9
8/7/2017	IOWA Full State	In-Depth and Fra…	IA 9
8/17/2015	IOWA Full State	In-Depth and Fracture Critical	IA 9
8/1/2013	IOWA Full State	Underwater	IA 9
8/1/2013	IOWA Full State	Special and Other	IA 9
8/1/2013	IOWA Full State	In-Depth and Fra…	IA 9

New Report Types

Create Inspection Report Based On:

- ○ Blank report
- ◉ Asset Values

Options:

- ☐ Copy report files (photos, etc.)
- ☐ Copy previous report section attachments (PDF)

Report Type:

LPA Bridge

Inspection Type:

☑ Routine	☐ Other
☐ In-Depth	☐ Special
☑ Fracture Critical	☐ Load Rating
☑ Underwater	☐ Initial

Create Cancel

Inspection Report Type

Quick View | **Asset Info** | Files | ProjectWise Documents | Maintenance | Projects

Completed Reports

Last Revision	FHWA Number	Sub-Assets	Asset Type	INSPKEY	NBI 90 Date	Report Type	Inspection Type	NBI 007 Facility Carried
3/9/2023	012971	none	Bridge	ZAVD	5/9/2022	IOWA Full State	Routine	IA 25
5/21/2020	012971	none	Bridge	FWFB	5/12/2020	IOWA Full State	In-Depth	IA 25
2/4/2019	012971	none	Bridge	QPOO	5/1/2018	IOWA Full State	Load Rating	IA 25

Data Update

Quick View | **Asset Info** | Files | ProjectWise Documents | Maintenance | Projects

Completed Reports

Last Revision	FHWA Number	Sub-Assets	Asset Type	INSPKEY	NBI 90 Date	Report Type	Inspection Type	NBI 007 Facility Carried
3/9/2023	012971	none	Bridge	ZAVD	5/9/2022	IOWA Full State	Routine	IA 25
5/21/2020	012971	none	Bridge	FWFB	5/12/2020	IOWA Full State	Data Update	IA 25
2/4/2019	012971	none	Bridge	QPOO	5/1/2018	IOWA Full State	Load Rating	IA 25

NBIS Changes

1. 12 month interval - Policy required by May 2024. Intent is to use the criteria for Method 1 in the NBIS.

2. 48 month interval – Policy can be implemented any time. Equivalent criteria from 1995 NBI data can be used until SNBI is implemented. Existing approved criteria will be rescinded in April 2024. Intent is to use the criteria for Method 1 in the NBIS.

3. Underwater and NSTM policies for reduced intervals must be implemented by June 6, 2024.

4. Team Leader qualifications – two-week NHI course or 1 week course for engineers required for all grandfathered inspectors. P.E.'s are required to have 6 months of bridge inspection experience. Qualifications must be met by June 6, 2024.

5. Underwater diver training – divers who have not taken the two week course must take the new diver inspection training course. This course does not qualify them as a team leader. A team leader is still required to be present at all diving inspections.

NBIS Changes

6. Posting procedures – within 30 days after rating calculations identify a need for posting. SNBI has a posting date field.

7. Critical findings criteria – Develop procedures and time frames to address critical findings by June 6, 2024.

8. Routine permit review – All LPA bridges need to be analyzed for annual permit vehicles by June 6, 2024. Standards from 2006 to present have been rated for Routine permit loads. Culverts have not been rated for annual permit vehicles due to the assumption that they are not as susceptible to overload by permit trucks. H-15, H-20, and HS-20 or HL-93 loading is more severe than routine permit loads on culverts.

9. Initial inspections- needs to be done within 3 months of being open to traffic. Will enter a 3 month inspection interval when the bridge is initially entered into the inventory when its open to traffic.

NBIS Changes

10. Initial underwater inspection – required within 12 months after open to traffic. Will enter a 12 month inspection interval when the bridge is initially entered into the inventory when its open to traffic. If the bridge has piers in the water according to the design plans, we will assume an underwater inspection is needed. After the initial inspection, the need for future underwater inspections will be determined.

11. Initial NSTM inspections- required within 12 months after open to traffic. Will enter a 12 month inspection interval when the bridge is initially entered into the inventory when its open to traffic.

12. Team leaders on NSTM inspections – Must complete FHWA approved NSTM training by June 6, 2024. Completion of a previously approved NSTM course satisfies this requirement.

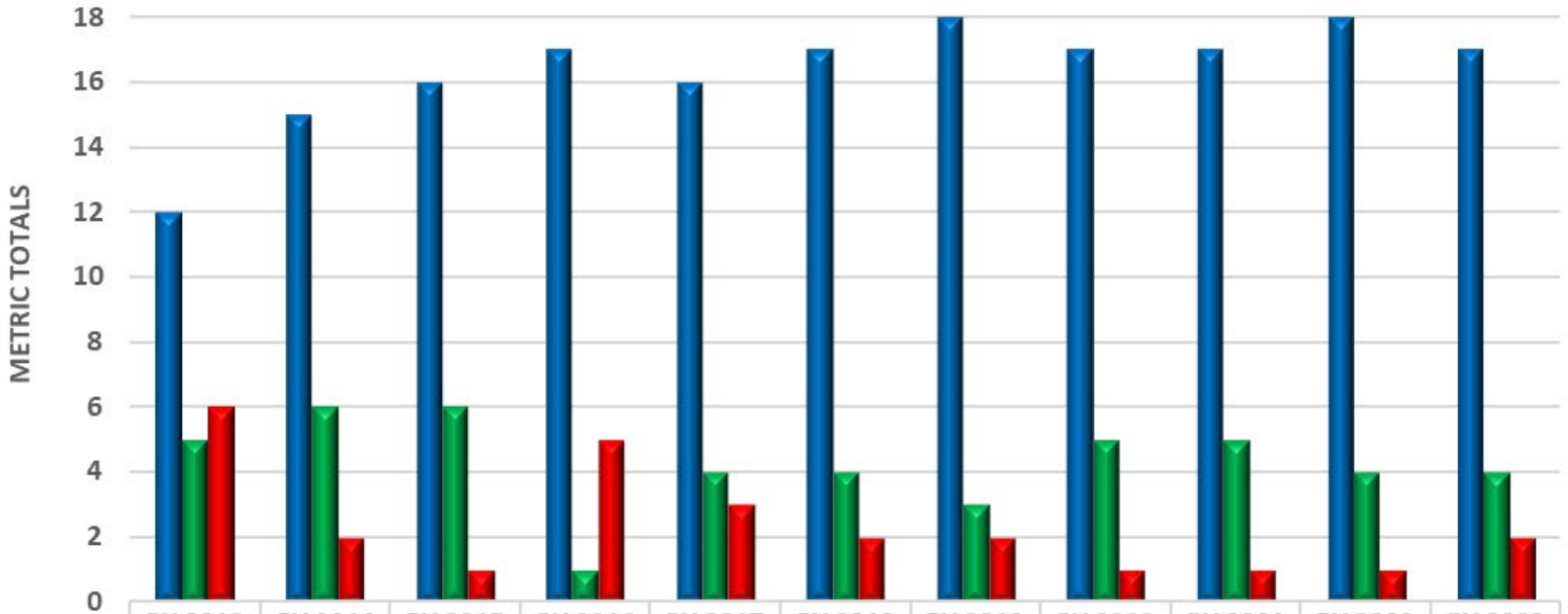
FHWA Metric Review

- Annual review of state's inspection processes, procedures, and data.
- Any compliance issue requires a plan of corrective action or improvement plan.
- 23 metrics are reviewed at varying levels each year.

FHWA Metric Review

Metric #	Metric Title	Compliance Determination 2021	Compliance Determination 2022	Compliance Determination 2023
1	Bridge Inspection Organization	Compliant	Compliant	Compliant
2	Qualifications of personnel Program Manager	Compliant	Compliant	Compliant
3	Qualifications of personnel Team Leader(s)	Compliant	Compliant	Compliant
4	Qualifications of personnel Load Rating Engineer	Compliant	Compliant	Compliant
5	Qualifications of personnel UW Bridge Inspection Diver	Compliant	Compliant	Compliant
6	Routine inspection frequency Lower risk bridges	Substantially Compliant	Substantially Compliant	Substantially Compliant
7	Routine inspection frequency Higher risk bridges	Substantially Compliant	Substantially Compliant	Substantially Compliant
8	Underwater inspection frequency Lower risk bridges	Compliant	Compliant	Compliant
9	Underwater inspection frequency Higher risk bridges	Compliant	Compliant	Compliant
10	Inspection frequency Fracture Critical Member	Substantially Compliant	Substantially Compliant	Substantially Compliant
11	Inspection frequency Damage, Indepth, or Special	Compliant	Compliant	Compliant
12	Inspection procedures Quality Inspections	Substantially Compliant	Compliant	Compliant
13	Inspection procedures Load Rating	Conditional Compliance	Conditional Compliance	Conditional Compliance
14	Inspection procedures Load Posting	Compliant	Compliant	Compliant
15	Inspection procedures Bridge Files	Compliant	Compliant	Compliant
16	Inspection procedures Fracture Critical Members	Compliant	Compliant	Conditional Compliance
17	Inspection procedures Underwater	Compliant	Compliant	Compliant
18	Inspection procedures Scour Critical Bridges	Compliant	Compliant	Compliant
19	Inspection procedures Complex Bridges	Compliant	Compliant	Compliant
20	Inspection procedures QC/QA	Compliant	Compliant	Compliant
21	Inspection procedures Critical Findings	Substantially Compliant	Compliant	Compliant
22	Inventory Prepare and Maintain	Compliant	Compliant	Compliant
23	Inventory Update Data	Compliant	Substantially Compliant	Substantially Compliant

NBIS Metrics



	PY 2013	PY 2014	PY 2015	PY 2016	PY 2017	PY 2018	PY 2019	PY 2020	PY 2021	PY 2022	PY 2023
Compliant	12	15	16	17	16	17	18	17	17	18	17
Substantially Compliant	5	6	6	1	4	4	3	5	5	4	4
Conditionally Compliant	6	2	1	5	3	2	2	1	1	1	2

Plan for Corrective Action

Metric #13: Inspection Procedures - Load Rating SHV

Goal

Goal is to rate all the required bridges for SHVs, update load rating documentation, and update load rating methods.

Work to prioritize based on high risk and low risk bridges. Bridges to be rated in AASHTO BrR as high priority vs low priority.

Implementation

Action Item 1: 134 culverts owned by Local Public Agencies do not have their ratings completed for Specialized Hauling Vehicles according to the Federal Highway Administration Memorandum titled "Load Rating of Specialized Hauling Vehicles" dated November 15, 2013. Load ratings shall be completed. Notices will be sent out in January of 2022 to complete the ratings.

Estimated Start Date: January 2022

Estimated Completion Date: July 2022

Current Progress: **Complete.** All local agency bridges requiring SHV ratings have been completed.

Corrective Actions Needed

- Documentation of the use of the DOT parametric study for rating Special Hauling Vehicles (SHV)
- Documentation stating the criteria used for an Assigned Rating.
- Documentation on why Engineering Judgement was used.
- Engineering Judgement improperly used for non-qualifying bridges
- Updating load ratings to the proper method (LFR or LRFR) as required by federal guidance memos.

SNBI Implementation

Target Date	Action
May 2022	NBIS and SNBI published
July 2022	FHWA publishes Data Crosswalk
October 2022	FHWA publishes Data Submittal Schema and Data Submittal Validation Logic (Initial Version)
April 2023	Transition Tool is made available online
October 2024	FHWA makes NBI NextGen available online for data validation only
March 15, 2025	Last NBI data submittal in accordance with 1995 Coding Guide
January 1, 2026	**Last date to begin** verification of transitioned data and collection of SNBI-based data for inspected bridges – Agencies may elect to begin SNBI-based data collection and verification earlier to meet the March 15, 2028, deadline for submittal of a complete SNBI-based NBI dataset
January 1, 2026	FHWA makes NBI NextGen available for Data Submittals
March 15, 2026	First SNBI-based NBI data submittal – Transitioned/Hybrid Dataset – At a minimum, all bridges submitted with transitioned data except for specified fields required to manage FHWA programs, which shall be collected or verified in accordance with the SNBI – Continue verification of transitioned data and collection of SNBI-based data
June 2026	Transition Tool sunsets
March 15, 2027	Second SNBI-based NBI data submittal – Transitioned/Hybrid Dataset – Continue verification of transitioned data and collection of SNBI-based data
March 15, 2028	Third SNBI-based NBI data submittal – 100% populated and verified – No temporary codes permitted – First complete SNBI-based dataset with collected and verified SNBI-based data for all bridges

SNBI Implementation

- 2023 development of the inspection forms to include new SNBI data fields
- After March 2024 NBI submittal, begin inspections using SNBI data
- New SI&A form
- Potentially additional forms needed for data that has a many-to-one format.
- Equivalent NBI data will transfer to the SNBI format.
- Many new data fields will need to be entered during the first inspection under SNBI format.
- Many of the new data fields could be entered prior to the first SNBI inspection.


Questions?