

**Quality Assurance Review
National Bridge Inspection Standards &
Bridge Maintenance Program**

Paulding County

October 14, 2022

By: Mark Sherman, PE
CEAO Federal Bridge QA/QC Engineer

The scope of this review is to evaluate the agency’s bridge inspection program based upon The Ohio Revised Code, the ODOT Manual of Bridge Inspection (MBI), and the National Bridge Inspection Standards (NBIS). This includes the following checklist, interviews with staff members responsible for the inspection program, review of files and documentation, and field inspection of bridges. Note: the inspection program includes inventory, maintenance and load rating in addition to the field inspections.

Agency: Paulding County Engineer’s Office

DATE: 10/7/2022

Questionnaire Completed by: Clark Schlatter/ Travis McGarvey

I. MAINTENANCE, REHABILITATION AND REPLACEMENT PROGRAM

A. NUMBER OF BRIDGES WITH MAINTENANCE RESPONSIBILITY

- 1. Greater than 20’ long (NBIS length 23CFR 650c) (Metric 22) 129
- 2. Bridges >= 10’ and <= 20’ long (Metric 22) 57

B. PROCEDURES AND BUDGET

- 1. Contract repairs and replacement per yea

Replacements:(Enter Number): Culverts : 0 Bridges: 1

Rehabilitations (Enter Number): Culverts : 0 Bridges: 1

Replacements (Enter Number): Culverts : 0 Bridges: 1

-List approximate annual budget: \$500,000

Are Credit Bridge funds used?

Are Fed Funds used?

2. In-house repairs and replacements

Replacements:(Enter Number): Culverts : 3 Bridges: 5

Rehabilitations (Enter Number): Culverts : 0 Bridges: 0

Replacements (Enter Number): Culverts : 3 Bridges: 5

List approximate annual budget: \$1,000,000

3. How are projects identified and selected? Check all that apply.

- Inspection reports.
- Sufficiency rating.
- Growth/development.
- Other...explain

4. How are plans developed for emergency repairs? Check all that apply.

- In-house
- Consultant
- Contractor
- Other explain

5. Who does the work of emergency repairs? Check all that apply.

- In house
- Contractor
- Other explain

6. How is repair work documented? (i.e. work record, time card, plans?)

- Work orders
- Time Cards
- Plans

7. Who is empowered to order emergency road closures and how is it done?

- Engineer?
- Sheriff?
- Commissioners?

II. INSPECTION PROGRAM

A. NUMBER OF BRIDGES WITH INSPECTION RESPONSIBILITY

1. Greater than 20' long (NBIS length, ORC 5501.47, 5543.20) ¹²⁹
2. Between 10' and 20' long (ORC 5501.47, 5543.20) ⁵⁷

B. STAFFING

1. Name of individual who is the **Program Manager** (makes FINAL DECISION). List qualifications/yrs. experience (bridge inspection experience) (Metric 1&2)

Name: Travis McGarvey

- Yrs. Inspection related experience: 25

- List courses attended (& approx. dates) Bridge Inspection Level 1 1997; Bridge Inspection Level 2 1998

2. Name of individual in charge of bridge inspection unit (**Reviewer**). List qualifications/yrs. experience (bridge inspection experience) (Metric 1)

Name: Travis McGarvey

- Yrs. Inspection related experience: 25

- List courses attended (& approx. dates) Level 1 1997 ; Level 2 1998

3. **Team Leader** - individual in charge of bridge inspection team (INSPECTED BY). List qualifications/yrs. experience (bridge inspection experience) (Metric 1&3)

Name: Clark Schlatter

- Yrs. Inspection related experience: 5 years

- List courses attended (& approx. dates) Bridge Inspection Level 1 3-29-2018
Bridge Inspection Level 2 5/10/2018

C. Indicate the percentage of time spent on the listed duties in the previous year

%TIME on inspections:

25% Bridge/Culvert inspection

15% Bridge Design/Plan prep

5% Bridge Construction

4% Bridge MaintenanceB

1% Overload/Superloads

50% Surveying

___% Other -

___% 100% on Bridges only

4. Load Rating Engineer – Name of individual responsible for load ratings (must be PE) (Metric 4)

a. List Ohio PE # 87393 b. Name: Clark Schlatter

5. Underwater Bridge Inspection Diver – Name person doing dive inspections (Metric 5)

- Name:

- Yrs. Inspection related experience:

- List courses attended (& approx dates)

D. INSPECTION EQUIPMENT

1. Type of vehicle used for inspections

- Pickup truck
- Van
- SUV
- Custom vehicle

2. What typical inspection equipment does the inspection team normally carry with them to the inspection site? Check all that apply.

- | | |
|--|--|
| <input type="checkbox"/> Extension Ladder Length ____ | <input checked="" type="checkbox"/> 6' Folding Rule |
| <input checked="" type="checkbox"/> 100' Fiberglass Tape | <input checked="" type="checkbox"/> Scraper |
| <input type="checkbox"/> Geologist Hammer | <input type="checkbox"/> Vertical Clearance Rod |
| <input type="checkbox"/> Inspection Mirror | <input checked="" type="checkbox"/> Probing Rod |
| <input checked="" type="checkbox"/> Flashlight | <input checked="" type="checkbox"/> Paint Stick/Crayon |
| <input type="checkbox"/> Thermometer | <input checked="" type="checkbox"/> Hip Boots and Waders |
| <input checked="" type="checkbox"/> Plumb Bob | <input type="checkbox"/> Sounding Chains |
| <input type="checkbox"/> Camera | <input type="checkbox"/> Wrenches |
| <input type="checkbox"/> 2'-0" Level | <input type="checkbox"/> Pliers |
| <input checked="" type="checkbox"/> Brush Hook/Axe | <input type="checkbox"/> Screw Driver |
| <input type="checkbox"/> Boat | <input checked="" type="checkbox"/> Shovel |
| <input type="checkbox"/> First Aid Kit | <input type="checkbox"/> Calipers |
| <input type="checkbox"/> Wire Brush | |

Other equipment not listed above:

3. List types of NDT methods used? Circle all that apply.

- Dye penetrant; Magnetic particle; Ultrasound;

Other

5. What equipment does your team have available for "hands on" access to FCM bridge members? (Metric 16)

Ladder,

6. Use of equipment (Metric 16)

a. How many bridges need a snooper? None

b. How many bridges is it used on? None

c. How often? N/A

7. Who determines the need for a routine inspection frequency greater than once

Annually, and what criteria is used? (Metric 6)

Explain: Recommendation of County Engineer or Assistant County Engineer

8. Do you have bridges requiring insp. more frequently than 12 MO Yes No

___ Number due to **Damage** Choose an item. List frequency of inspection. (Metric 11)___

___ Number needing **In-depth** Choose an item. List frequency of inspection. (Metric 11)___

___ Number of **Special insp** Choose an item. List frequency of inspection. (Metric 11)

9. Does your inspection team believe it has enough time to do the job?

Yes No

10. List your quality assurance checks made during the inspection process? (Metric 20)

Project Manager reviews bridge inspection reports and pictures. Project Manager does field inspection with team leader upon request.

11. Do you have any bridges that need underwater inspections in less than 60-month intervals?

(Metric 8)

Yes No (Assetwise check)

12. Do any bridges have fracture critical inspections performed more frequently than 24-month intervals? (Metric 10)

Yes No (Assetwise check)

13. Is a Team Leader at the bridge at all times during the following inspections? (Metric 12)

Initial Inspection? Yes No

Routine Annual Inspections? Yes No

Special Inspections? Yes No

Underwater Inspections? Yes No

Fracture Critical Inspections? Yes No

E. INSPECTION PROCEDURES

1. Approximately how many inspections were made during last calendar year? (Metric 6)
137

2. Approximately how many inspections are scheduled for the current calendar year?
(Metric 6)
135

3. Average number of inspections per day (Metric 6) 6

4. Approximately how long (hours) does it take to inspect average sized structures

a. Beam/Girder: Simple Span: 1.0 hrs. Multi-span: 1.5 hrs.

b. Slab bridge: Simple Span: 1.0 hrs. Multi-span: 1.5 hrs.

c. Truss (pony): Simple Span: 5 hrs. Multi-span: NA hrs.

d. Through/deck): Simple Span: NA hrs. Multi-span: NA hrs.

e. Culvert: Single cell 0.5 hrs. Multiple Cells: 1 hrs.

5. Are previous inspection reports available at site for review? (Metric 15) Yes No

6. Are bridge inspections recorded in field on Paper Electronically

7. Are photos available for every bridge? Yes No (If no, you need to start.)

8. Are photos posted in Assetwise? Yes No (If no, you need to start, and be selective.)

9. Are defects photos taken during inspection? Yes No (If no, you need to start.)

10. Are Bridge comments recorded in Assetwise? Yes No (If no, you need to start.)

11. Are previous bridge comments brought to the bridge? Yes No (If no, why not)

12. Are the bridge plans carried to the bridge site for review? (Metric 15). Yes No

13. Are bridge records available for review in the bridge office? (Metric 15) Yes No

F. SCOUR CRITICAL BRIDGES (Guidance in ODOT Manual of Bridge Inspection)

1. No. of bridges considered scour susceptible? (Service over Water) **Number 185**

2. Number of bridges inspected by probing? **Number 185.**

3. Number of Scour Critical bridges (item 113 - 3, 2, 1 or 0)? (Metric 18) **Number 0.**

4. Are Plans of Action (POA) complete and implemented for all bridges coded "Scour Critical"? (Metric 18) **Yes No** **If no, Why? No Bridges at this time**

5. How many structures are coded 6 on item 113 Scour Critical? (Metric 18) **Number 0.**

6. How are scour evaluations performed? (Metric 18)

Probing and measuring any undercutting. Monitoring in accordance with the POA.

7. Who determines the need for diving inspections and by what criteria?

The County Engineer – based on his knowledge of the structures and the Program Manager recommendation.

G. INVENTORY

1. What kinds of inventory quality assurance checks are performed? (Metric 22)

Who checks? The inspection reports are reviewed by the County Engineer and random field checks are performed by the County Engineer or his designated personnel to check completeness and quality.

How Often?... With every inspection Less often than once per year

2. How often is the inventory checked for needed updates? (Metric 22)

How Often?... With every inspection Less often than once per year

3. How is the inventory data input into Assetwise?

Electronically, Direct into Assetwise from collector App. as bridge is inspected

All at once at the end of the year from a paper copy into Assetwise

As each inspection is complete from paper to computer to Assetwise.

4. When is the updated/new inventory data forwarded to ODOT? (Metric 23)

Changes discovered during inspection? **Yes No**

Changes from new construction or rehab? **Yes No**

5. NBIS requires that the inspecting organization maintain master lists of the following:

(Metric 16,17,11)

a. Bridges that contain fracture critical members, including the location and description of such members on the bridge and the inspection procedures of such members (Each individual FCM member on each FCM bridge must be clearly identified in the bridge file) (Where a FCM Identification Plan exists then look for remaining fatigue life). Master List?

Yes Number 1-SFN 6335942: If, No, Why not? _____ NA

b. Bridges requiring underwater inspections.

Number _____ NA

c. Bridges with unique or special features (i.e., pin & hanger, draw, suspension)

Number _____ NA

Note: An examination of the files will be performed during the review.

Options: For the files listed below you can email a copy of a typical file or have them on hand for inspection.

- Bridge Files
- Scour Critical POA.
- Fracture Critical Plan.
- UW inspection Procedure

H. PROCEDURES

1. Are new maintenance problems identified during bridge inspection? (Metric 15)

Yes No

2. How do the inspectors inform maintenance personnel of routine bridge maintenance problems (written, oral, other)? (Metric 15)

- Written work order.
- Electronic Communication.
- Oral direction.
- Other. Explain

3. Who do the inspectors notify when emergency repairs, or critical findings are necessary (action required within 1 week)? (Metric 21)

Check all that apply.

- County Engineer
- Bridge Superintendent
- County bridge Engineer
- Sherriff

How is this emergency action documented? (Must be entered and tracked in Assetwise)

Explain if different than procedure in Assetwise. [Written Instructions](#)

4. If a bridge requires emergency repairs, is this noted as part of the inspection report or as a separate document? (Metric 21)

[As part of the inspection report](#)

5. Who checks proper placement of signs (load posting, clearance, speed restriction, narrow bridge etc.)? (Metric 15)

[Clark Schlatter](#)

I. LOAD ANALYSIS AND POSTING

1. Number of plans for existing bridges available for NBIS length bridges. 104

2. Number of plans for non-NBIS bridges (>= 10' and <= 20' long) 29

3. Number of bridges analyzed using the *AASHTO Bridge Evaluation* (Metric 13) 181

By Whom (Metric 13)

- Load Rating Engineer
- County Engineer
- Bridge Engineer
- Consultant

4. When are bridges load rated, after initial rating. Check all that apply

- Every 5 years regardless.
- When there is a significant change in condition rating.
- When wearing surface thickness increases more than 1-1/2 inches
- When permit load is requested
- other

5. Methods used (Metric 13)

- AAWSHTO BrR
- Hand Calculated
- Engineering Judgement (BR100)
- BARS or other proprietary software program
- Other Explain Spreadsheet

6. Number of NBIS length bridges “not ratable” at all due to lack of data and may have to be field tested. (Metric 13) *(These are bridges that have a coding of 5, not 0 in the method of analysis Item.)*

Number 0 Plan of action for load rating these?

7. Number of NBIS length bridges load posted (Metric 14) **(Assetwise Check)**

Number of bridges posted 4 . Number of bridges with posted Signs in the field 4 .

8. List bridges closed due to condition rating (rough check) 5

9. List bridges rated less than 100% Ohio legal load and not physically load posted, and resolution. (Assetwise Check)

0

10. Number of NBIS bridges with Gusset Plates (Metric 13) 1

11. Number of NBIS bridges with Gusset Plates analyzed. (Metric 13) 1

12. Describe filing system (where files are kept): (Metric 15)

- Inspection reports, including old inspections:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Design Calculations:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Plans:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

-

- Load analysis calculations:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Inventory forms:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Photos and sketches:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Repairs and maintenance history

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Scour evaluation:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Scour POA:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Fracture Critical File:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Load Posting/Closing:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Underwater inspections:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Special inspection eqpt. or procedures:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

- Flood data, waterway adequacy, channel cross sections:

- On paper file in Office
- Electronically
- In Assetwise
- All three
- Other

Note the NBIS Retention period: BR-86 report 10 years, All records 3 years after bridge removed, Load rating calculations 3 years after a new rating is done.

13. What is the FC bridge inspection frequency? (Metric 16) **Every 24 Months**

14. Is the FC Plan completed for all FC bridges? (Metric 16) **Yes** **No**

15. Are the FCM Identified in the FC Plan? (Metric 16) **Yes** **No**

16. What is the underwater inspection frequency? (Metric 17) **Every** **NA** **Months**_____

17. Are the underwater elements identified and located? (Metric 17) **Yes** **No**

18. List any complex bridges: (Metric 19) **NA**

19. Do the complex bridges require specialized inspection procedures and additional inspector training? (Metric 19)

Yes **No**

Describe:

Other equipment not listed above:

Part II: Field Review

Inspection Reports (metric 12)

As part of this review, **six** bridges were field reviewed to compare conditions with the most recent inspection report. The individual condition ratings for all of the field sampled bridges properly reflected the field conditions within the tolerance of 1 rating value when compared to the Manual. Summary ratings correspond with the NBIS inspection items.

Field Review:

PAU-C0123-1151_(6334970) Prestressed Box beams

Item 58 Deck.....7 **Agreed**

Item 59 Superstructure..... 7 **Agreed**

Item 60 Substructure.....5 **Agreed**

Item 61 Channel.....6 **Agreed**

Item 61.01 Scour.....5 **Agreed** (Pier footing exposed)

Item 62 Culvert.....N **Agreed**

Item 67.01 GA 5 **Agreed**

Item 36 Railing..... 0 0 0 0

Item 72 Approach Alignment9 **Agreed**

Comments: Excellent comments in Assetwise!

Defect Photos: Great photos in Assetwise with good labeling and dates!!!

Channel Photos: Great Channel Photos

PAU-C0107-0935_(6332358) Prestressed Box beams

Item 58 Deck.....5 Agreed
Item 59 Superstructure.....5 Agreed
Item 60 Substructure.....7 Agreed
 Item 61 Channel.....8 Agreed
 Item 61.01 Scour.....9 Agreed
Item 62 Culvert..... N
Item 67.01 GA 5 Agreed
Item 36 Railing 0 0 1 0 Agreed
Item 72 Approach Alignment6 Agreed
Comments: Excellent comments in Assetwise!
Defect Photos: Great photos in Assetwise with good labeling and dates!!!
Channel Photos: Great Channel Photos

PAU-C0060-10.830_(6333621) Concrete Slab continuous

Item 58 Deck..... 5 Agreed
Item 59 Superstructure..... 7 Deck and Super structure the same (5)
Item 60 Substructure..... 5
 Item 61 Channel.....8 Agreed
 Item 61.01 Scour.....9 Agreed
Item 62 Culvert.....N Agreed
Item 67.01 GA5 Agreed
Item 36 Railing..... 0 0 1 0 Agreed
Item 72 Approach Alignment8 Agreed
Comments: Excellent comments in Assetwise!
Defect Photos: Great photos in Assetwise with good labeling and dates!!!
Channel Photos: Great Channel Photos

PAU-T0095-03.180_(6333451) Prestressed Box beams

Item 58 Deck..... 7 Agreed
Item 59 Superstructure..... 7 Agreed
Item 60 Substructure..... 4 Agreed
 Item 61 Channel.....7 Agreed
 Item 61.01 Scour.....4 Agreed
Item 62 Culvert.....N Agreed
Item 67.01 GA4 Agreed
Item 36 Railing..... 0 0 0 0 Agreed
Item 72 Approach Alignment6 Agreed
Comments: Excellent comments
Defect Photos: Great Defect photos
Channel Photos: Great Channel Photos
NOTE: Item 107 Deck Type is not cast in place. It should be coded as 9 Other.

PAU-T0071-00.680_(6330320) Steel Beams

Item 58 Deck..... 7 Agreed
Item 59 Superstructure.....5 Agreed
Item 60 Substructure..... 8 Agreed
 Item 61 Channel.....8 Agreed
 Item 61.01 Scour.....9 Agreed
Item 62 Culvert.....N Agreed
Item 67.01 GA5 Agreed
Item 36 Railing..... 0 0 0 0 Agreed
Item 72 Approach Alignment 7 Agreed
Comments: Excellent comments
Defect Photos: Great Defect photos
Channel Photos: Great Channel Photos

PAU-T0021-0625_(6334687) Steel Beams encased with slab extension

Item 58 Deck..... 6 Agreed
Item 59 Superstructure..... 5 Agreed
Item 60 Substructure.....4 Agreed
 Item 61 Channel..... 8 Agreed
 Item 61.01 Scour.....4 Agreed
Item 62 Culvert.....N
Item 67.01 GA4 Agreed
Item 36 Railing..... 0 0 0 0
Item 72 Approach Alignment 5 Agreed
Comments: Excellent comments
Defect Photos: Great Defect photos
Channel Photos: Great Channel Photos

Field Review Summary:

Overall, the county is doing an excellent job with their bridge inspection program. Their records are complete and organized. I found all of their condition ratings to be within the parameters set by the inspection manual. Their comments are excellent as are the defect and channel photos.

NOTE: There are a tremendous number of photos in Assetwise that really slow down the loading time. I suggest that only the important and current photos be in Assetwise unless a progressive condition requires side by side reference. The remainder of the photos should be archived for future reference if needed.

PART III Office file Review

Fracture critical bridges. 1

PAU WAS T32-2.81 SFN 6335942

Fracture Critical Member and Fatigue Prone Connection ID Plan. 1

PAU WAS T32-2.81 SFN 6335942

Bridge Load Rating Report, including Gusset plate analysis. 1

PAU WAS T32-2.81 SFN 6335942

Other load rated bridge files.

PAU-C0133-0024_(6334548)

Underwater inspections. NA

POA for Scour All scour repairs undertaken as they are discovered, eliminating the need for a POA.

Scour susceptible bridges Everything over a stream with shallow foundations

Critical findings 0

All reviewed files are complete with all documentation concerning load rating, channel photos and defect photos, along with previous inspection reports. Their files are complete and comprehensive, documenting the bridge history through reports, plans and photographs.

PART IV Snapshot DATA Summary of Program

PAULDING County 2022						
INVENTORY, APPRAISAL & INSPECTION SNAPSHOT						
11/10/2022						
Inventory Data - NBIS Bridges Only						
					<u>NBIS COUNT</u>	
NBIS Bridges > 20'					124	
Bridges 10'-20'					62	
All Bridges					186	
Item 221 Inspection Responsibility						
				<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab	Col BV, Bw	County		2	124	186
Item 21 Maintenance responsibility						
				<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab		County		2	124	186
Col D		City or other local		4	0	0
		Railroad		27	0	0
		Private (tohter than RR)		26	0	0
		State Park		11	0	0
		Local Park		23	0	0
		State Agency		1	0	0
		Township		3	0	0
					124	186
Item 42A Type service on bridge						
				<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab		Other		0	0	0
Col Q		Highway		1	124	186
		Railroad		2	0	0
		Ped/Bikeway		3	0	0
		Hwy/RR		4	0	0
		Hwy/Ped		5	0	0
					124	186
Item 42B Type service under bridge						
				<u>CODE</u>	<u># NBIS</u>	<u># ALL</u>
Data Tab		Other		0	0	0
Col R		Hwy w/ or w/o Ped		1	0	0
		Railroad		2	0	0
		Ped/Bkwy		3	0	0
		Hwy w/ RR		4	0	0
		Waterway		5	124	186
		Hwy/Waterway		6	0	0
		RR/Waterway		7	0	0
		Hwy/Waterway/RR		8	0	0
		Relief (for waterways)		9	0	0
					124	186

All data is complete and correct in this section.

ITEMS 43A,B,C Structure Type		Data (Col M,N,O)	CODE	#NBIS	#ALL
Concrete Slab			101	1	5
Concrete Tee Beam			104	0	2
Concrete Frame			107	0	1
Concrete Culvert (incl frame culverts)			119	5	32
Concrete Continuous Slab			201	4	4
Steel Beam or Girder			302	6	9
Steel Girder w/ Floor System			303	1	1
Steel Thru Truss (includes Pony)			310	2	2
Steel Culvert (incl frame culverts)			319	6	25
Steel Continuous Beam or Girder			402	1	1
Prestressed Concrete Thru Arch			502	2	2
Prestr. Conc. Cont. Box Beam/Girder Multiple			505	89	90
Prestr. Conc. Cont. Box Beam/Girder Multiple			605	5	5
Timber Culvert (incl frame culverts)			819	1	1
Aluminum or Iron Culvert (incl frame culverts)			919	1	6
				124	186
Item 92A Fracture Critical					
Data Tab	Requires FC Inspection		Y	3	n/a
Col U,V,Y	Requires FC Inspection		N	121	n/a
				124	n/a
			FC Switch Y/N is Blank	0	n/a
Item 113 Scour					
Data Tab	Bridge not over waterway		N	0	0
Col A,A	unknown foundation		U	0	0
	over tidal waters		T	0	0
	foundations on dry land		9	0	0
	stable above footing		8	97	142
	countermeasures installed		7	0	0
	no scour evaluation made		6	0	0
	stable within footer limits		5	21	34
	stable action needed		4	6	8
	scour critical - unstable		3	0	0
	scour critical - scour present		2	0	1
	scour critical - failure imminent		1	0	0
	scour critical - bridge failed		0	0	1
				124	186

PAU-C0045-0231_(6334105) PAU-C0133-0197_(6331378) PAU-T0021-0625_(6334687)
PAU-C0165-0123_(6335578) PAU-C0177-0278_(6332560) PAU-T0093-0028_(6335470)
PAU-T0095-03.180_(6333451) PAU-T0137-0701_(6334954)

The bridges above have a non-critical finding scour rating that requires corrective measures. Once the measures are implemented the scour rating should move to a 7.

PAU-T0137-0701_(6334954) Closed
PAU-T0116-0057_(6334903) Closed

All data is complete and correct in this section.

Item 63 Documented Engineering Judgment				# NBIS	# ALL	
	Field Eval & Doc EJ			6	n/a	
	BR_100 for these bridges?					
Item 92B Underwater				CODE	# NBIS	# ALL
Data Tab	requires dive inspection	N		124	n/a	
Col W,X,Z	requires dive inspection	Y		0	n/a	
				124		
Item 709 Plan Information				CODE	# NBIS	# ALL
Data Tab	plans not avail	0		8	12	
Col. AW	plan avail	1		110	164	
	field measured	2		6	7	
	Field Testing	3		0	0	
	not applicable	N		0	0	
				124	183	
Item 63 Method of Analysis				CODE	# NBIS	# ALL
Data Tab	Field Eval & Doc. Engr Judgmen	0		6	9	
Col. AV	Work Stress	1		0	0	
	LFR	2		0	0	
	LRFR	3		0	0	
	load test	4		0	0	
	No rating done	5		1	38	
	LFR	6		102	109	
	AS	7		9	9	
	LRFR	8		6	10	
	Assigned LFR HS20	D		0	0	
	Assigned LRFR HL93	F		0	11	
	not appl (RR, etc)	X		0	0	
				124	186	
REMINDER:						
	Load Factor required for bridges built after 1993	(exceptions: timber, etc.)				
	LRFR required for bridges built after 2010					

Given the changes coming in 2023 and the now required shear analysis, please make sure your load rating documentations are complete and include a BR100 with complete statements of assumptions, measurements and methodologies for anything using engineering judgement.

All data is complete and correct in this section.

Inspection Condition Data - NBIS Bridges Only

Item 41	Operating Status	CODE	#NBIS	#ALL
Data Tab	Open, No restriction	A	116	173
Col AM	Open, posting recommended	B	0	0
	Open, Half width constr.	C	0	0
	Open because of temp. fix	D	0	0
	Open using temp. structure	E	0	0
	New structure not yet open	G	1	3
	closed for load cap. reason	K	3	5
	Posted for load capacity	P	4	5
	Posted for other than load	R	0	0
	Closed for other than load	X	0	0
			124	186

Metric 13	Load Rating Data	
Load Rating Tab		# OF ERRORS
Col. AN	Op RF greater than Inv RF?	1
Col. AO	Posting and % Legal OK?	1
Col. AP	"0" used instead of blank	0
Col. AT	% legal <= lowest RF	10
Col. AV	Item 70 correct?	2
Col. AW	Method of Rating Alike?	0
Col. AX	Op & Inv RF in Tons as req'd?	0
Col. AY	Item 575 correct?	0
Col. AZ	Depth of fill completed?	1

PAU-T0155-0081_(6333100) Inventory and Operating factors Cannot be equal

PAU-C0143-0197_(6334563) 150% legal but Posted??

See Load Rating TAB every bridge highlighted in Light Blue (10) is not posted to the lowest Load Factor. Mostly the EV3 factor.

PAU-T0032-0281_(6335942) PAU-T0137-0826_(6334939)

PAU-C0140-0168_(6333819) Missing fill depth

All data is complete and correct in this section.

KEY METRICS					
(C)	Compliant	(CC)	Conditionally Compliant		
(SC)	Substantially Compliant	(NC)	Non- Compliant		
		(NC)	(SC) If corrected within 6/12 months		
			Refresher=6 mo, Comprehensive=12 mo		
METRIC 2 - Program Manager Qualification (from files examination)					
From Files review		Missing	#sampled	% PASS	COMPLIANCE
PE /Experience		0	1	100.0%	(C)
Comprehensive		0	1	100.0%	(C)
Refresher		0	1	100.0%	(C)
METRIC 3 - Team Leader Qualification (from files examination)					
From Files review		Missing	#sampled	% PASS	COMPLIANCE
Degree /Experience		0	3	100.0%	(C)
Comprehensive		0	3	100.0%	(C)
Refresher		0	3	100.0%	(C)
METRIC 6 Insp. Frequency Routine					
Bridge Inspections Overdue		# OVERDUE		% PASS	COMPLIANCE
Data Tab	NBIS - 24 months	0		100.0%	(C)
Col. AB	ORC - Calendar Year	0		100.0%	(C)
Col. AB	All Routine insp.	0			
	BIM - 18 months	0		100.0%	(C)
METRIC 8 - Insp. Frequency Underwater					
Dive Inspections Overdue		# OVERDUE	# UW	% PASS	COMPLIANCE
Data Tab	Col. Z 60 months	0	0	100.0%	(C)
METRIC 10 - Insp. Frequency FC Member					
FC Inspections Overdue		# OVERDUE	# FC	% PASS	COMPLIANCE
Data Tab	Col. Y 24 months	2	3	98.4%	(SC)

Overdue Inspection for FC See column Y for date
PAU-T0099-0062_(6334245) PAU-T0054-0074_(6335217)

All other bridge data is complete and correct in this section.

METRIC 12 - Routine Inspection		(** from field review)			
Field Ratings		# > +/-1	# Ratings	% PASS	COMPLIANCE
	field ratings**	0	24	100.0%	(C)
Comments		Missing	# < 6	% PASS	
Tab	Comments when Rating < 6	0	120	100.0%	(C)
	Adequacy comments **	0	30	100.0%	(C)
		Error	Total Scour	% PASS	
Comment:	Rating should be = Scour	0	120	100.0%	within tolerance +/- 1
Tab	Noncompliant Scour Rating Err	0	120	100.0%	(C)
METRIC 14 - Posting		Load rating data tab			
From Files review		# errors	#sampled	% PASS	COMPLIANCE
	Op RF < 3 tons but not closed	0	124	100.0%	(C)
	Op RF = 0 but not closed	0	124	100.0%	(C)
	% Legal < 100 but not posted	0	124	100.0%	(C)
	Item 41 = B	0	124	100.0%	(C)
METRIC 16 - Fracture Critical Inspection		(from files examination)			
From Files review		Missing	# FC	% PASS	COMPLIANCE
	Fract Critical Member ID	0	2	100.0%	(C)
	Fatigue Prone Detail	0	2	100.0%	(C)
	Gusset Plate Calculations	0	2	100.0%	(C)
	FC Inspection Procedure	0	2	100.0%	(C)
METRIC 17 - Underwater Inspection		(from files examination)			
From Files review		Missing	# UW	% PASS	COMPLIANCE
	UW Inspection Procedure	0	1	100.0%	(C)
	Location of UW elements	0	1	100.0%	(C)
	UW frequency identified	0	1	100.0%	(C)

All data is complete and correct in this section.

PRELIMINARY FHWA 23 Metric Matrix					
23 metrics used by FHWA to measure NBIS compliance					
Compliance Codes for the following Metrics:					
	(C)	Compliant			
	(SC)	Substantially Compliant			
	(CC)	Conditionally Compliant (Adhering to approved PCA)			
	(NC)	Not Compliant			
Metric	Description	(C)	(SC)	(CC)	(NC)
1	State Bridge Inspection Organization	██████████			
2	Program Manager Qualification	██████████			
3	Team Leader Qualification	██████████			
4	Load Rating Engineer Qualification	██████████			
5	UW Bridge Inspection Diver Qualification	██████████			
6	Routine Inspection Frequency - Low Risk	██████████			
7	Routine Inspection Frequency - High Risk	██████████			
8	UW Inspection Frequency - Low Risk	██████████			
9	UW Inspection Frequency - High Risk	██████████			
10	FC Inspection Frequency		██████████		
11	Frequency Criteria	██████████			
12	Inspection Quality **	██████████			
13	Load Rating	██████████			
14	Posted or Restricted Bridges	██████████			
15	Bridge Files	██████████			
16	FC Bridges	██████████			
17	UW inspection procedures	██████████			
18	Scour Critical Bridges	██████████			
19	Complex Bridges	██████████			
20	QC/QA	██████████			
21	Critical Findings	██████████			
22	Inventory **	██████████			
23	Updating of Data		██████████		
** based on results of Field Review					

Metric Summary:

Paulding County is in compliance, or substantial compliance with all metrics. The only action needed, is to clean up some coding in Assetwise in the load rating area. Their files are complete and their inspection program is spot on.

