



Critical Findings Procedure

2023 Revisions with NBIS Updates

and

New HSIS Updates

Critical Findings

NBIS

The final rule updates the national standards for bridge inspections, which includes new requirements for a bridge inspection program, maintaining a bridge inventory, and reporting to FHWA the inspection results and critical findings - meaning any structural or safety-related deficiencies that require immediate follow-up inspection or action.

The final rule requires each state provide written reports to FHWA of critical findings identified during inspections. The final rule provides minimum criteria for a critical finding.

A critical finding (CF) is a structural or safety related deficiency that requires immediate action to ensure public safety.



New Terms/Definitions

- **Critical Finding Procedures** - Two main objectives
 - The procedures must clearly establish criteria for those deficiencies which are critical findings and require immediate action to preserve public safety;
 - The procedures must describe a process to resolve immediately the critical finding.
- **Immediate Threat** – Whenever there is an imminent threat to public safety that demands an immediate response, the deficiency is considered a critical finding regardless of whether it was resolved immediately upon discovery or not.
- **Planned vs Unplanned Closures** - When deficiencies are found that result in an immediate full or partial closure, this is to be identified as a Critical Finding. Generally planned closures and restrictions are not critical findings and unplanned closures and restrictions are critical findings.
- **Resolved** – An action has been taken and completed to mitigate the deficiencies and protect public safety. This could involve lane or load restriction, shoring, repair, closure, or replacement of the bridge. Increased inspection frequency alone does not fully resolve a critical finding if the underlying safety issue is not rectified.



Summary of Updates/Clarifications

- **Critical Finding (CF)** – additional minimum criteria identified in the NBIS.
- **CF resolved** - this does not necessarily mean the deficiency has been corrected. It means an action has been taken to address any immediate safety concern.
- **Timeline to resolve a CF** - must be resolved as soon as possible but no later than 30 days of the finding.
- **Load posting or change of an existing load posting** - signage must be installed as soon as possible, but no later than 30 days after the determination of the need for the posting.
- **Increased monitoring alone** - not sufficient to completely resolve a critical finding.
- **Temporary repairs alone** - not sufficient to completely resolve a critical finding.
- **HSIS updated**
 - Critical Findings and Structural Review activities have been separated on the Create tab under the Inspection tab.
 - A new tab will appear when the Critical Findings activity is selected.
- **WisDOT's Structure Inspection Manual (SIM) Part 1-Chapter 7** - updated and will be posted to BOS website soon ([BOS Structures Maintenance webpage](#)).
- **New DT2026 form.**



Critical Findings Designation Criteria

Criteria resulting in a Critical Finding:

- Immediate partial bridge closure because of structural conditions or safety concern
- Immediate full bridge closure because of structural conditions or safety concern
- NSTM (BC14) condition rated in serious or worse condition ($NBI \leq 3$)
- Deck, Super, Sub, or Culvert condition rated in the critical or worse condition ($NBI \leq 2$)
- Channel (BC09) or Scour (BC11) condition rated in the critical or worse condition ($NBI \leq 2$)
- Immediate load restriction or posting
 - An immediate posting is when instead of a partial or full closure, the inspector, with consultation with the PM, bridge owner, and possibly the load rating engineer, decides to immediately post the bridge before an official review or rating is completed. An immediate posting is considered a short-term response.
- Immediate repair work to a bridge, in order to remain open.
 - An immediate repair is one that requires immediate action to ensure public safety. Example: A full or partial depth hole in the deck, if the inspector determines a partial closure is required until the repair is complete.

NOTE: Criteria related to the new SNBI items will go into effect when the new item conditions are implemented for collection.



Critical Finding Designation

It is not possible to provide examples of every situation, below is guidance to help the inspector and PM make CF determinations.

When a finding is a Critical Finding:

- If an inspector believes a finding is an immediate safety or structural concern, the finding must be addressed immediately, proper follow-up and communications are necessary.
- CF example 1: The exterior girder of a single span bridge has serious section loss the entire length. Out of concern for the structural stability and the safety of the public the inspector immediately contacts the PM and bridge owner to set up a shoulder closure on the bridge. This is a critical finding.
- CF example 2: A motorist reports concrete falling from an overpass bridge. The inspection finds additional loose concrete that requires immediate removal. The county is called to remove the loose concrete. This is a CF.
- CF example 3: An over height load strikes an overpass highway bridge. The damage is moderate and further evaluation is necessary to determine if the bridge can handle legal loads. The inspector consults with the PM and the load rating engineer. It is decided to temporarily posted the bridge at 25 tons until the load rating can be completed. This is a CF.
- CF example 4: A pothole is found that must be addressed immediately, the area of the pothole is restricted from traffic by using cones or parking a vehicle to block the area, maintenance crews make an unplanned closure to repair/patch.
- CF example 5: A bridge railing is damaged by an errant vehicle, the bridge is temporarily closed for inspection and debris clean up, the inspector determines the damaged rail is a safety concern, the county secures the railing with a temporary repair – this is a CF.



Critical Finding Designation

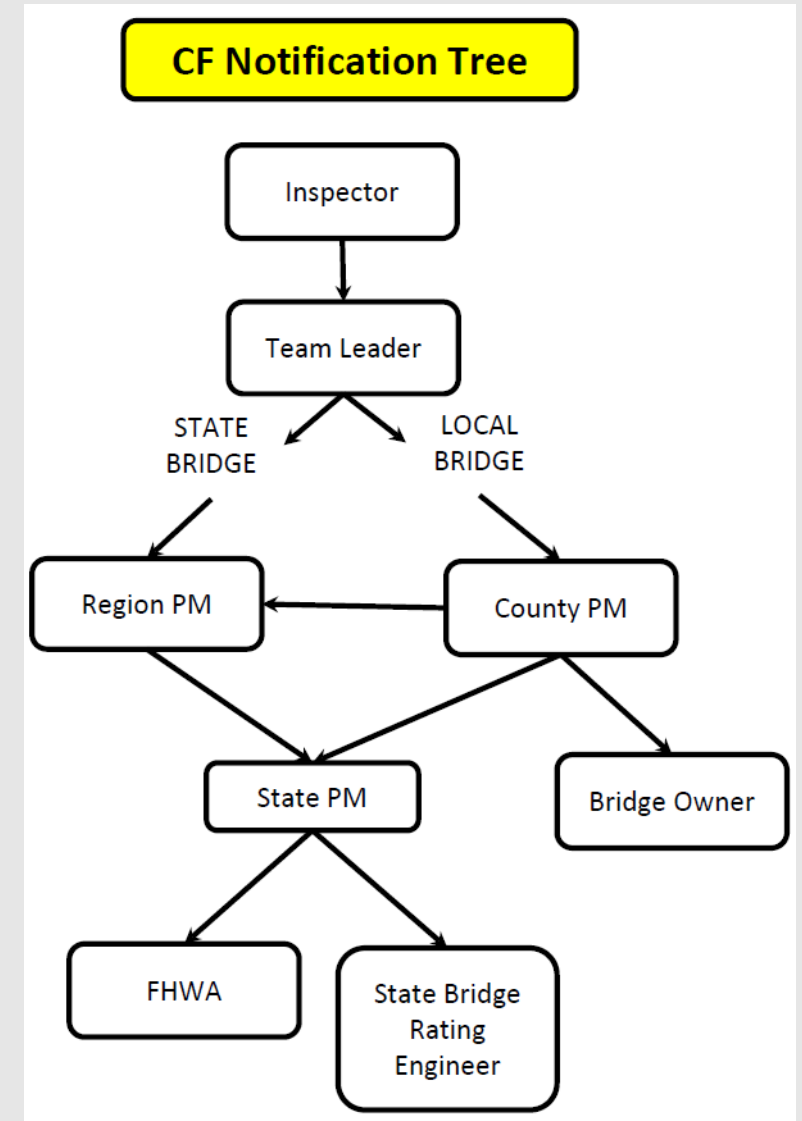
When is a finding NOT a Critical Finding:

- If a deficiency identified does not require an immediate traffic restriction and the repair can be completed in the future (regardless if the future is later in the day or longer timeframe) with a planned traffic restriction, it is not a CF.
- Example 1: A developing pothole in the wearing surface is still traversable but needs immediate attention to avoid the potential for a safety concern – this is not a critical finding. The repair/patch can be planned for later in the day or in the week.
- Example 2: A bridge railing is damaged by an errant vehicle, the bridge is temporarily closed for inspection and debris clean up, the inspector determines the damaged rail is not a structural issue or a safety concern – this is not a CF.
- Example 3: A highway overpass bridge is struck by an over height load. Out of caution, the bridge is temporarily closed to traffic for the inspector to evaluate and assess. The girders have some moderate scrapes in the paint but no other damage is found and the bridge is reopened to traffic. This is not a CF.
- Example 3: The underside of a highway overpass bridge is struck by an over height load. Debris from the impact is scattered about and loose concrete hangs from the impact area over traffic. The highway under is closed for scene clean up and bridge inspection. The bridge inspection finds the only damage to be the spalled and loose concrete at the impact area. The inspector removes the loose concrete. The bridge is reopened to traffic. This is not a CF.



Notifications for Critical Finding

- **Inspection TL must first address the immediate safety concern.**
- **Notification Tree**
 - TL will notify the PM with jurisdiction over the bridge.
 - PM with jurisdiction will notify the State PM.
 - County PM will notify the local bridge owner and the Region PM.
 - The State PM will notify FHWA and state rating engineer.
- Notification through direct communication via telephone with an email follow-up is required.
- The TL, PM, owner, and others (as necessary), must determine a plan of action; including any actions to be taken and communication going forward.
- Document the notifications in HSIS on the Critical Findings tab.



Critical Finding Documentation

- **Document in HSIS** - as soon as practicable but within 30 days of the finding...
 - On the Inspection Tab
 - Create an inspection report in HSIS
 - Select the Critical Finding Activity type.
 - Information needed for the critical finding activity and the related inspection
 - Date of Critical Finding
 - Description of the critical finding - include a detailed narrative of exact location, size, and severity of all structural deficiencies that warrant a critical findings designation. Provide additional information on how the critical finding was discovered and the reason the deficiency exists (mainly for bridge hits).
 - Any actions undertaken to resolve the critical finding (temporary, underway, planned, immediate final, and long-term final)
 - Repair plans, design/load rating calculations.
 - Action completion dates; estimated completion dates
 - Notifications and contacts completed
 - Photographs and/or sketches of the structural deficiencies
 - Photographs of the installed traffic control/restrictions

Critical Findings Tab

- The new tab, when created, will be independent of the inspection report created which initiated the CF.
- Actions taken as a result of the CF can be documented on the new CF tab independent of the inspection report.
- Once a CF tab has been created for a bridge, the tab will continue to be visible.
- Information needed for the Critical Finding Activity
 - Critical Finding Date
 - Type (drop down menu of CF criteria)
 - Inspector (pre-populated)
 - Close-out inspection required (check box)
 - Critical Finding Description
 - Actions (type, action summary, estimated completion date, and completed date)
 - Numerous actions can be added
 - Notifications (recipient, comment, send or date)
 - First notification will prepopulate with the PM
 - Add additional notifications with comments about the communication



Critical Finding Action Definitions

- **Temporary** – Describes a temporary action taken to secure the scene. Examples include restricting traffic using temporarily traffic barrels, a temporary repair, or blocking a lane with a vehicle while trying to determine the next action.
- **Underway** – Describes any actions that are in the process of being completed. An example would be repair work that has started and is in progress. This action would typically be selected when the repair will take multiple days, weeks, or longer to complete.
- **Planned** – Describes any expected future actions that are not the Final-Immediate. Examples would be additional inspections, reduced inspection interval, or repairs being planned/designed. If bridge rehabilitation or replacement is the final planned action, the anticipated timeframe must be documented as a Final-Long Term Action.
- **Final-Immediate** – Selected for every CF. This action must resolve the immediate safety concern - the traffic restriction or bridge closure is in place, the posting signage is installed, and/or the permanent repair has been completed. A close-out inspection is required to document a final repair.
- **Final-Long Term** – Select to identify the final long-term plan. This will generally be a future bridge rehabilitation or bridge replacement. A close-out inspection is not required with a final long-term action. An initial or special inspection will be completed once the rehabilitation or replacement is completed.



Close-out Inspection

In HSIS, the Critical Findings tab has a check box to identify when a close-out inspection is required.

A close-out inspection in the form of a Routine or Special (formerly Interim) inspection must be completed to update the condition and inventory data when the final actions include a repair or rehabilitation. Document the following in the close-out inspection:

- Document and photograph the repairs completed – include as-builts plans
- Update inspection and inventory data, including condition assessment.
- Document and photograph any traffic control and bridge closure system installed
 - Include assessment 9036 Bridge Closure System when a bridge is closed.
- Document the anticipated timeframe of the rehabilitation or replacement.

A close-out inspection is **not** required when the Final-Immediate Action and inspection documentation can be included as part of the original inspection. For example, loose concrete falling from the underside of a bridge onto the highway below. This is a CF as part of a Special inspection where the Final-Immediate action is to remove the loose concrete. This entire CF can be documented in the one inspection report without the need for a close-out inspection.



HSIS Example

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- Under the Inspection tab, select the Create tab
- Fill in the information needed to start an inspection report
- Select an inspection type – the inspection type the CF was initiated from
- Select the activity type – select Critical Finding
- Select Create

B-05-043 STH 32-STH 57 over CMSTPP RR
General Inventory
Bridge
Inspection

Select an inspection type (in this example it was a routine) and select Critical Finding

Inspection type: Routine, Damage, Fracture critical (arm's length), In-depth, Interim, UW-dive

Activity type: Critical finding, Deck evaluation, Load posted verification (dt2122), Non-destructive evaluation, Reach all, Scour plan of action, SIA review, SNBI, Structural review, UW-profile, Vertical clearance measured

Agency: State Highway Department (1)
Inspector: Bohnsack, Dave (5015)
Date: 09/08/2023

Total time: Hours: 1, Minutes: 0
Conditions: Air temperature (f): 50, Weather condition: Overcast

Team Personnel:
Team member: begin typing to limit list, Role: begin typing to limit list, add

08/17/22

view delete sign/complete Auto-open PDF after complete

Screen shot of example CF tab entry in HSIS

HSIS Example

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On the Critical Findings tab:

- **Critical Finding Date** – enter the date or select from the calendar
- **Type** – select from the dropdown the criteria met to initiate a CF activity
- **Inspector** – inspector name will be prepopulated from the inspection report

B-05-043 STH 32-STH 57 over CMSTPP RR





General Inventory

Bridge

Inspection

Edit History Frequency **Critical Findings** Structure Information Elements Assessments NBI/Notes/Requirements Documents/Images M

09/08/23 'CF, R'

Critical finding date	Type	Inspector
09/10/2023  	Partial Closure 	Bohnsack, Dave (5015) 

Screen shot of example CF tab entry in HSIS

HSIS Example

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On the Critical Findings tab:

- **Close-out inspection** - select when it will be necessary to document a permanent repair or permanent traffic control in an additional inspection report other than the report that initiated the CF.
- **Critical finding description** – provide a description of the CF, include a detailed narrative of the location, size, and severity of all structural deficiencies that warrant a critical findings designation. Provide additional information on how the critical finding was discovered and the reason the deficiency exists.

B-05-043 STH 32-STH 57 over CMSTPP RR

General Inventory

Bridge

Inspection

Edit History Frequency **Critical Findings** Structure Information Elements Assessments NBI/Notes/Requirements Documents/Images M

09/08/23 'CF',R'

Critical finding date	Type	Inspector
09/10/2023	Partial Closure	Bohnsack, Dave (5015)

<input type="checkbox"/> Close-out inspection required	Critical finding description
<input type="checkbox"/>	A 24" x 24" full depth hole was found in the deck along the east edge line of the NB lane approximately 30' from the south end of the bridge.

Screen shot of example CF tab entry in HSIS

HSIS Example

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On the Critical Findings tab:

- **Actions** – select from Other, Planned, Temporary, Underway, Final-Immediate, or Final – Long Term, include a summary of the action – there can be multiple Other, Planned, Temporary, and Underway action.
- **Est Complete** – enter an estimated completion date for the action.
- **Complete** – enter the date an action was completed.

#	Type	Action summary	Est complete	Complete
1	Temporary	Temporary NB lane closure using barricades and delineators. Stop signs installed to control traffic crossing the bridge.	09/10/2023	09/10/2023
2	Temporary	County will complete a full depth repair on Monday, 9/11/23	09/11/2023	mm/dd/yyyy
3	Temporary	County does not have the equipment available to complete this type of repair. A 3/4" x 48" x 48" steel plate was anchored to the wearing surface over the hole. The edges of the plate are	09/11/2023	09/11/2023
4	Planned	County will hire a contractor to repair the hole. Traffic control includes bump signs.	09/11/2023	09/11/2023

Screen shot of example CF tab entry in HSIS

HSIS Example

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On the Critical Findings tab:

- **Final-Immediate action** – this action indicates the immediate safety concern has been addressed and the scene is secure. A completed date must be entered. This action is required for every CF.
- **Program Manager Review** - Once the Final-Immediate action is completed and entered into HSIS, the PM with jurisdiction will be notified that the CF is ready to review. The PM with jurisdiction will need to enter the Complete date next to Program Manager Review. In some instances, the TL may also be the PM with jurisdiction.
- **Final-Long Term** – this action can be entered by the TL or the PM if there is a planned long-term action such as programmed rehab or replacement project or an emergency repair contract planned.

#	Type	Action summary	Est complete	Complete
	Final - Immediate	Contractor repaired hole with concrete - permanent repair.	09/12/2023	09/12/2023 <input type="checkbox"/> X
	Program Manager Review	Review and all is acceptable.	09/19/2023	09/12/2023 <input type="checkbox"/> X
	Final - Long Term	Programmed for replacement in 2028	01/12/2028 <input type="checkbox"/>	09/dd/2023 <input type="checkbox"/>

Screen shot of example CF tab entry in HSIS

HSIS Example

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On the Critical Findings tab:

- **Notifications** – this section is used to document the notified of the CF. This notification is designed to send an email to the individuals in the dropdown list; however, this does not fulfill the direct communications requirement. You must reach them directly by telephone.
- **Recipient** – the PM of record will automatically populate the first line of the Notifications. Add comments and tab or select another area of the box for the **Send** button to appear. Additional lines will appear for other notifications after Send is selected.

#	Recipient	Comment	Date
1	StateWide Program Manager Bridges ditd2b (David Bohnsack)	Reached him by phone at 8 am.	09/12/23
	<input type="text" value="Brady Rades"/>	<input type="text" value="Reached him by phone at 9 am. We discussed the next actions to take."/>	<input type="text" value="09/08/2023"/> <input type="button" value="add"/>

Screen shot of example CF tab entry in HSIS

ACCEPT DIRECT COMMUNICATION RESPONSIBILITY

Creating a notification does not fulfill direct communication requirements. Create anyway?

Message notifying requirement of direct communications.

HSIS Example

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D-03-043 SH 32-SH b7 over CMS1PP KK

General Inventory

Bridge

Inspection

Edit History Frequency **Critical Findings** Structure Information Elements Assessments NBI/Notes/Requirements Documents/Images Maintenance UnderwaterProfile (demo)

09/08/23 CF/R

Critical finding date: 09/10/2023 X Type: Partial Closure Inspector: Bohnsack, Dave (5015)

Close-out inspection required

Critical finding description
A 24" x 24" full depth hole was found in the deck along the east edge line of the NB lane approximately 30' from the south end of the bridge.

Actions

#	Type	Action summary	Est complete	Complete
1	Temporary	Temporary NB lane closure using barricades and delineators. Stop signs installed to control traffic crossing the bridge.	09/10/2023	09/10/2023 <input type="checkbox"/> X
2	Planned	County will complete a full depth repair on Monday, 9/11/23	09/11/2023 <input type="checkbox"/> X	09/dd/2023 <input type="checkbox"/>
3	Temporary	County does not have the equipment available to complete this type of repair. A 3/4" x 48" x 48" steel plate was anchored to the wearing surface over the hole. The edges of the plate are	09/11/2023	09/11/2023 <input type="checkbox"/> X
4	Planned	County will hire a contractor to repair the hole. Traffic control includes bump signs.	09/11/2023	09/11/2023 <input type="checkbox"/> X
	Final - Immediate	Contractor repaired hole with concrete - permanent repair.	09/12/2023	09/12/2023 <input type="checkbox"/> X
	Program Manager Review	Review and all is acceptable.	09/19/2023	09/12/2023 <input type="checkbox"/> X

Action type: add

Notifications

#	Recipient	Comment	Date
1	StateWide Program Manager Bridges ditd2b (David Bohnsack)	Called at 8 am on 9/10/23.	09/12/23
2	Brady Rades	Called at 9 am on 9/10/23	09/12/23
3	Bridge owner	Called at 10 am on 9/10/23	09/12/23

Completed Critical Findings tab in HSIS

Screen shot of example CF tab entry in HSIS



The End

When a CF is found, notify the County (local bridge), Region (state bridges), and State PM (state and local bridges) as soon as possible.

State Program Manager
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