

# MnDOT Bridge Safety Inspection Certification Information

(Revised February 17, 2016)

Certification in Bridge Safety Inspection (the inspection of in-service bridges and culverts) is coordinated by the MnDOT Bridge Office, and is separate from other MnDOT technical certifications. The requirements listed below have been developed by the MnDOT Bridge Office to comply with Section 650.309 of the National Bridge Inspection Standards (NBIS), as outlined in the Federal Code of Regulations.

## MnDOT Bridge Office Contacts (Bridge Safety Inspection Certification)

Jennifer Zink	(651) 366-4573	<a href="mailto:jennifer.zink@state.mn.us">jennifer.zink@state.mn.us</a>
Pete Wilson	(651) 366-4574	<a href="mailto:pete.wilson@state.mn.us">pete.wilson@state.mn.us</a>
Ken Rand	(651) 366-4576	<a href="mailto:ken.rand@state.mn.us">ken.rand@state.mn.us</a>

## MnDOT Bridge Safety Inspector Definitions and Qualifications

**Assistant Bridge Inspector:** While the FHWA and MnDOT have no minimum requirements for who can assist in a bridge inspection, MnDOT encourages completion of the 1-week NHI training course “Engineering Concepts for Bridge Inspectors” prior to assisting in bridge inspections. *MnDOT does not issue certification cards for Assistant Bridge Inspectors.*

**Bridge Inspection Team Leader:** A Bridge Inspection Team Leader can conduct inspections of in-service bridges & culverts on the state, county, and local highway system throughout the state of Minnesota. *A MnDOT certified Bridge Inspection Team Leader must be present at the bridge site at all times during a bridge inspection.*

The NBIS outlines five methods to qualify as a Bridge Inspection Team Leader, all of them require the successful completion of a FHWA approved comprehensive bridge inspection training course (see below). MnDOT recognizes all five certification options, but requires an additional field proficiency test for all Bridge Inspection Team Leaders.

1. Be a registered professional engineer in the state of Minnesota, successfully complete a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).
2. Have five years of bridge inspection experience, successfully complete a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).
3. Be certified by NICET as a Level III or IV Bridge Safety Inspector, successfully complete an FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).
4. Have a bachelor's degree in engineering from an accredited college or university, successfully pass the Fundamentals of Engineering (FE or EIT) Examination, have two years of bridge inspection experience, successfully complete an FHWA approved comprehensive bridge inspection training course, and **pass a field proficiency test** (administered by the MnDOT Bridge Office).
5. Have an associate's degree in engineering or engineering technology from an accredited college or university, have four years of bridge inspection experience, successfully complete an FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the MnDOT Bridge Office).

## NHI Bridge Safety Inspection Training

MnDOT typically offers the 10-day NHI Training Course #130055 “Safety Inspection of In-Service Bridges” in February or March at the MnDOT Arden Hills Training Center. This course was developed by the National Highway Institute (NHI), and provides detailed instruction on the inspection, evaluation, and condition rating of in-service bridges. This course is based upon the FHWA “Bridge Inspectors Reference Manual” (BIRM) and the AASHTO “Manual for Bridge Element Inspection”. **Under Federal law (the National Bridge Inspection Standards), this course is mandatory for anyone intending to become certified as a Bridge Inspection Team Leader.** The 2016 cost was \$2,025 per participant.

- MnDOT employees should register through their Employee Development Specialist (EDS)/Training Representative (a course announcement is usually distributed in December of the preceding year).
- Non-MnDOT employees must register directly through the NHI web site. <http://www.nhi.fhwa.dot.gov>  
Please keep in mind that there is high demand for this course, and it usually fills up shortly after registration opens (typically in December of the preceding year).

**In 2012, the FHWA and NHI added new prerequisite requirements for the 10-day NHI Training Course #130055 “Safety Inspection of In-Service Bridges”.** Two free online prerequisite course options are available through the NHI web site.

<http://www.nhi.fhwa.dot.gov>

Click on “Register for a Course”, then click on “Find Training Courses”, and then enter the course number and click “Search”. You will need to register on the NHI site and get a password.

**Note: these prerequisite courses are only considered valid for two years. You must bring a copy of your completion certificate to the first day of the 10-day course.**

1. **NHI Course #130101A** (Prerequisite Assessment for Safety Inspection of In-Service Bridges): This is an online assessment consisting of three quizzes of 15 questions each. You need to pass each quiz with a score of 70% or higher. This assessment should take approximately 1 hour. *Note: you should only take this 1 hour assessment quiz if you feel confident in your knowledge of the topics listed in the “outcomes for NHI Course #13101” (see course description on the NHI web site) - if not, you should instead take NHI Course 130101. If you do not pass this course, you will need to take the NHI Course #130101.*
2. **NHI Course #130101** (Introduction to Safety Inspection of In-Service Bridges): This is an online tutorial and assessment that should take approximately 14 hours to complete. It includes essentially the same quiz format as NHI Course 130101A (three quizzes of 15 questions each), but you have the option of taking the quizzes as you go, or taking them all at the end. You need to pass each quiz with a score of 70% or higher.

Note: while the 5-day NHI Course #130054 “Engineering Concepts for Bridge Inspectors” is also considered to be a valid prerequisite option, this course will no longer be offered by MnDOT. Like the other prerequisite options, this course is only considered to be valid for 2 years. **You must bring a copy of your completion certificate to the first day of the 10-day course.**

## **MnDOT Bridge Inspection Field Proficiency Test**

In addition to the training and experience requirements outlined in the NBIS, MnDOT requires a separate field proficiency test to become certified as a Bridge Inspection Team Leader. The purpose of this test is to ensure compliance with the NBIS standards, to improve the quality of bridge inspections, and to increase the statewide consistency of bridge condition ratings. To schedule a field proficiency test, an application form must be submitted to MnDOT Bridge Office (see attached form).

The test consists of a routine inspection of an in-service bridge (based upon the MnDOT Bridge Inspection Manual and Inspection Report Format). The inspector is given 2 hours to examine a bridge, take notes, and determine the NBI & structural element condition ratings.

Grading of the field proficiency test is determined by comparing the candidate's inspection report to a reference inspection report. Emphasis is placed on the overall completeness and accuracy of the report, and on the proper documentation of any critical structural or safety conditions. Scoring is based on a percentage scale of 0-100, with a passing score being **75%** or higher. Applicants who fail the field proficiency test may apply again after 6 months. The score is weighted using the following criteria:

- NBI condition ratings 30%
- Structural element condition ratings 30%
- Defect & Other element ratings 10%
- Inspection Notes 30%

## **MnDOT Bridge Safety Inspection Refresher Training Seminars**

The National Bridge Inspection Standards (NBIS) requires periodic bridge inspection refresher training for bridge inspection team leaders and program managers. The intent of this training is to improve the quality of bridge inspections, introduce new inspection equipment and techniques, and maintain the consistency and reliability throughout the state-wide network of bridge safety inspection programs.

MnDOT conducts annual one-day bridge safety inspection refresher seminars - these are typically held in February and March in various locations throughout the state. Seminar locations, dates and registration information are available on the MnDOT Bridge Office web site (click on "Bridge Training").

MnDOT Certified Bridge Inspection Team Leaders, as well as MnDOT, County, City, Municipal, or Consultant Engineers who are responsible for overseeing bridge inspection programs (Bridge Inspection Program Administrators), are required to attend these refresher seminars.

- To maintain MnDOT certification as a Bridge Inspection Team Leader, attendance is required at a minimum of two bridge inspection seminars during each 4-year re-certification period.
- Engineers who are currently designated as Bridge Inspection Program Administrator are required to attend at least two of these refresher seminars every four years

Seminar topics will vary each year, but will generally cover bridge inspection condition ratings, structure inventory coding, bridge load capacity ratings, bridge hydraulics, and a variety of topics related to bridge inspection. The 2016 seminar fee was \$125 - this includes course materials, lunch, and refreshments.

## **Bridge Inspection Team Leader Expiration & Re-certification**

Certification as a Bridge Inspection Team Leader must be renewed every 4 years (re-certification forms will be mailed out prior to the expiration date). To maintain certification, Bridge Inspection Team Leaders must meet the following two criteria;

- The inspector must have attended a minimum of two Bridge Safety Inspection Refresher Training Seminars during the four preceding years.
- The inspector must have been actively engaged in bridge inspection during at least two of the four preceding years (the supervising engineer must verify this activity).

Additional information about the re-certification process for Bridge Inspection Team Leaders is outlined in Section A.4.3.2 of the Minnesota Bridge and Structure Inspection Program Manual (see link below).

<http://www.dot.state.mn.us/bridge/pdf/insp/bridge-and-structure-inspection-program-manual.pdf>

<b>MnDOT Bridge Inspection Team Leader - Field Proficiency Test Application Form (Revised February 17, 2016)</b>	
<b>Personal Information</b>	Name: _____
	Mailing Address: _____
	Employer: _____
	_____ Minnesota Engineering Registration Number (if applicable)
	(____) _____ - _____ Daytime Phone Number
	_____ Email
<b>Educational Background</b>	List the date that the 10-day NHI training course #130055 "Safety Inspection of In-Service Bridges" was successfully completed. This course is required for all applicants.
	Date: _____
	Optional: List any degrees in engineering, associate degrees in engineering, or degrees in engineering technology, as well as any NICAD certification.
<b>Inspection Experience</b>	Total years of bridge inspection experience:
	Number of bridges inspected each year (average):
	Name of "Lead" Inspector(s) during these inspections:
<b>Applicant's Signature</b>	I hereby certify that all above information is correct:
	_____ Applicant <span style="float: right;">_____</span> <span style="float: right;">Date</span>
<b>Supervisor's Approval</b>	I hereby certify that all above information is correct:
	_____ Program Administrator/Supervisor <span style="float: right;">_____</span> <span style="float: right;">Date</span>
<b>Field Proficiency</b>	The inspector named above has passed the MnDOT Bridge Safety Inspection field proficiency test
	_____ Field Proficiency Evaluator <span style="float: right;">_____</span> <span style="float: right;">Date of test</span>
<b>MnDOT Certification</b>	The inspector named above has met all requirements necessary for certification as a MnDOT Bridge Inspection Team Leader:
	_____ State Bridge Inspection Engineer <span style="float: right;">_____</span> <span style="float: right;">Date</span>

Applications must be submitted to:

Pete Wilson - MnDOT Bridge Office (Bridge Inspection)  
 3485 Hadley Avenue North  
 Oakdale, MN 55128  
 Phone: (651) 366-4574