ATTACHMENT 6 – LETTER TO THE NATIONAL TRANSPORTATION SAFETY BOARD FROM THE MINNESOTA DEPARTMENT OF TRANSPORTATION DATED DECEMBER 19, 2007

(16 pages)

Minnesota Department of Transportation

Office of Bridges & Structures
MS 610, 3485 Hadley Ave. No.
Oakdale, MN 55128

December 19, 2007

Daniel Walsh P.E.
Highway Accident Investigator
National Transportation Safety Board
Office of Highway Safety
624 Six Flags Drive, Suite 150
Arlington, TX 76011

Dear Mr. Walsh,

In response to your email inquiry dated November 27, 2007, we have reviewed the Minnesota Department of Transportation policies and procedures regarding construction loads, vehicle overload policy, bridge inspector certification, and additionally responded to your question regarding the fabricated openings in the main truss elements for Bridge 9340. We offer the following responses in the format you requested.

Construction Loads

Mn/DOT policies and procedures with respect for construction loading are as follows;

Since 1968 the Mn/DOT Standard Specifications for Construction manual contains language on limiting loads in Section 1513. Section 1513 in the current 2005 manual states that a contractor shall comply with the same load restrictions as normal legal traffic. The restrictions are for completed structures or those under construction. The legal limits are defined per Minnesota Statute of the Highway Traffic Regulation Act Chapter 169. Section 1513 from the 1968 and 2005 manuals are attached to this document as Figure A and B, respectively. Also per Section 2401.3G (Figure C) the contractor shall not prematurely load newly placed concrete elements until proper curing is completed.

The contractor can request to place larger than legal loads on a new or remodeled bridge with Mn/DOT Construction Project Engineers approval. Although not a written policy, when a contractor proposes a load that exceeds legal loads, it is a practice for the Mn/DOT Construction Project Engineer to consult with the Regional Construction Engineer in the Bridge Office. The construction loading information is provided to the Load Rating Unit or Design Unit for evaluation to determine if the loading is acceptable or if any special procedures such as use of the load distribution mats are required. Some examples of loads that exceed legal loads are mobile cranes or heavy earth moving equipment.

Per AASTHO design codes the construction loads shall not exceed the load carrying capacity of existing, new or partially completed portions of the structure. For typical bridges the policy per section 3.16 of Mn/DOT LRFD Bridge Design Manual is to assume a construction load of 10 psf dead load and 20 psf live load before the deck is cured

and not acting composite with main structural members. For specialty bridges such as segmental concrete box girders where the bridge must support erection equipment, the contract documents have specific limits on safe construction loads and locations. If the contractor's proposed erection equipment results in heavier loads than shown, the bridge designer is consulted.

Vehicle Overloads

All trucks over legal loads defined by Formula B are required to get a permit. Minnesota permits are issued by the Mn/DOT Office of Freight and Commercial Vehicle Operations (OFCVO) for state owned bridges. Some responsibilities of the OFCVO are to issue permits, collect fees, record information, and communicate with the Bridge Office for special loads. The OFCVO uses a computer program called "Routebuilder NT" to process all permits.

There are basically 3 kinds of permits issued for overweight trucks on state owned highways in Minnesota. The first is a self routing divisible annual permit for special commodities for loads up to 98 kips. The second is an annual permit for non divisible loads that do not exceed 145 kips. The last is a single trip permit for non divisible loads above the legal load.

The divisible annual permit is for certain commodities that have legislature approval to go above legal loads. Garbage haulers, raw forest products and some agricultural harvest products are examples of divisible annual permits. The maximum weights differ by the haul product but the maximum is 98k on 6 axles. The commodity haulers are allowed to travel on all non interstate bridges unless it is posted with a permit restricted sign. The legal loads as defined in Minnesota Statute 169 increase 10% in the winter. In the winter the damage done to the roads is minimal because the pavement is frozen. The bridge capacity does not increase but Mn/DOT accounts for the added load when calculating bridge postings for legal trucks. To allow the 10% increase on interstates they also need a separate annual divisible permit by Federal requirements.

The annual non divisible permit allows trucks an unlimited number of trips. Annual non divisible permits are allowed up to 92k on 5 axles and 145k on 8 axles. The trucks either call in for their route or use our website that provides the weight and bridge restrictions. If the truck is below 84k on 5 axles or 112k on 8 axles the truck may self route from bridge information given by Mn/DOT.

Lastly there were approximately 28,000 single trip permits issued last year for overweight trucks. There is no maximum weight for single trip permits other than bridge capacity. All single trip permits have a defined route determined by OFCVO along with any restrictions.

All permit types have weight limits for single axles and certain axle groups. Tandems are limited to 46k. Tridems are limited to 60k. Quads are limited to 72k and spread quads or first to last axle spacing greater than 14'1" are limited to 80k.

Routebuilder is able to process almost all the annual permits and the vast majority of single trip permits for overweight automatically. Based on axle weights and spacing Routebuilder attempts to classify the truck into a standard permit truck A, B, C or over C. The A truck is 104k at 46', the B is 136k at 49' and the C is combination of three trucks 59k at 57', 207k at 93' and 259k at 117'. All state owned bridges have their capacities related to the 3 standard permit trucks. If the truck is classified as an A, B or C the permit is compared to the predetermined standard truck capacity for each bridge it crosses. If the weight is over a C or Routebuilder and OFCVO permit technician can't accurately classify the truck due to concentrated axle groups, the information is sent to the Bridge Office for review. All trucks over legal weights are reviewed either directly by the Bridge Office or indirectly by the criteria the Bridge Office set for standard permit trucks used by Routebuilder.

Permit reviews are done by experienced bridge engineers in the Load Rating Unit at the Bridge Office. Permit reviews are typically processed within hours but could take several days or weeks depending on the complexity of permit. There are times when especially heavy permits take extensive coordination between the Bridge Office, OFCVO and the hauler to find a safe practical route.

For bridges that have rating factors above 1.0 for a permit there are no restrictions placed on the driver of the truck. If the rating factor is less than one, there are additional methods to decrease the trucks effect on the bridge. By occupying 2 lanes on a bridge the truck eliminates the possibility of a heavy adjacent truck. Also by limiting the speed, the truck reduces the dynamic forces of impact. If the rating factor is still below 1.0 with restrictions like eliminating an adjacent truck and/or reducing the speed, the permit is denied for that bridge and a new route must be chosen.

The Bridge Office maintains a database of all state owned bridges which includes postings and the standard permit truck restrictions if any. All state owned bridges have been analyzed for the standard permit trucks or posting trucks and these are updated as conditions change from deterioration to increased dead load. The Rating Unit is in the process of switching to a software program called Virtis from BARS which is being phased out. All the state owned bridges are being input in and analyzed by Virtis except the curved steel girders, concrete boxes, arches, tunnels, post tensioned boxes and trusses. Curved steel, concrete boxes and rigid frames are load rated either with BARS, another software package or by hand calculations.

Bridge Inspector Certifications

The Mn/DOT bridge inspector certification process meets the requirements of the National Bridge Inspection Standards (NBIS), as outlined in the Federal Code of Regulations Part 650.309, Minnesota Statute 165, and State of Minnesota Rule 8810.9300. Please see Figure D for the internal Mn/DOT bridge safety inspection certification policy which is based upon NBIS.

Mn/DOT offers 2 bridge inspection training courses developed by the National Highway Institute (NHI) and approved by FHWA. The 2 classes meet the NBIS standards for training classes.

There are five ways a bridge inspector can be certified as a team leader within Minnesota. The certification varies from having a professional engineering license to being an assistant inspector for five years. In accordance with NBIS all team leader inspectors must complete the FHWA comprehensive bridge inspection training course.

In addition to meeting NBIS qualifications, Mn/DOT also requires a Bridge Inspection Team Leader to pass a field proficiency test administered by the Bridge Office. The purpose of test is to ensure compliance with NBIS standards, conform to Mn/DOT Recording and Coding practices, and to improve statewide consistency.

To maintain certification there is ongoing education and minimum inspection activity requirements. The education classes are done each year by the Bridge Office to share information, present new or changing requirements, rules, or policy, and to improve the quality and consistency of inspections.

The inspector is responsible to document change in condition from the previous report, to update the NBI and AASHTO elements, and to review and correct improperly coded inventory items. The inspectors will be looking for corrosion, cracking in concrete or steel, condition of concrete such as spalling, fatigue cracks, substructure movements, paint condition, unusual deflections, bearing alignments, impact damage from vehicle or stream as well as many non structural element conditions like joints, railings and approach slabs.

Main Truss Holes on Bridge 9340

There are oval holes on the ½" cover plates for the welded box sections of Bridge #9340. The holes are located on the bottom cover plate for the top chord and the top and bottom for the diagonals and bottom chord. In a 1998 contract clear PVC covers with vent holes were placed on the holes to keep pigeons from nesting inside the box sections. Inspectors could still remove the covers to get access inside.

The original reason for the providing holes is uncertain, but they are not unique to this bridge. Mn/DOT reviewed the Sverdrup design documentation and could not determine the designer's original reason for providing the holes. However, some of the holes are required for access during fabrication of the box and bridge erection to complete the riveted member to gusset plate connections. Note that an individual

had to obtain internal access in these box shaped members to install rivets along with the welded diaphragms. While it is speculation the designer may also have provided the holes for air circulation through the box sections to reduce moisture buildup or for reduction in weight.

Please contact me if there any further questions regarding these subjects.

Sincerely,

[redacted]

Daniel L.Dorgan
State Bridge Engineer

DLD/EL:lmg

Attachments

Figure A (1968)

1513

Restriction on Movement of Heavy Loads and Equipment

The hauling of materials and the movement of equipment to and from the Project and over the completed structures, base courses, and pavements within the Project, that are opened for use by traffic and which are to remain a part of the permanent improvement, shall comply with the regulations governing the operation of vehicles on the highways of Minnesota, as prescribed in the Highway Traffic Regulation Act.

The Contractor shall comply with the legal load restrictions, and with any special restrictions imposed by the Contract, in the hauling of materials and the movement of equipment over structures, base courses, and pavements within the Project which are under construction, or which have been completed but have not been accepted and opened for use by traffic.

Equipment mounted on crawler tracks or steel -tired wheels shall not be operated on or across concrete or bituminous surfaces without specific authorization from the Engineer. Special restrictions may be imposed by the Contract with respect to speed, load distribution, surface protection, and other precautions considered necessary.

Should construction operations necessitate the crossing of an existing pavement or completed portions of the pavement structure with equipment or loads which would otherwise be prohibited, approved methods of load distribution or bridging shall be provided by the Contractor at his expense.

Neither by issuance of a special permit, nor by adherence to any other restrictions imposed, shall the Contractor be relieved of his liability for any damages resulting from the operation and movement of his construction equipment.

Figure B (2005)

1513

Restrictions on Movement of Heavy Loads and Equipment

The hauling of materials and the movement of equipment to and from the Project and over completed structures, base courses, and pavements within the Project that are open for use by traffic and are to remain a part of the permanent improvement, shall comply with the regulations governing the operation of vehicles on the highways of Minnesota, as prescribed in the Highway Traffic Regulation Act.

The Contractor shall comply with legal load restrictions, and with any special restrictions imposed by the Contract, in hauling materials and moving equipment over structures, completed subgrades, base courses, and pavements within the Project that are under construction, or have been completed but have not been accepted and opened for use by traffic.

The Contractor shall have a completed Weight Information Card in each vehicle used for hauling bituminous mixture, aggregate, batch concrete, and grading material (including borrow and excess) prior to starting work. This card shall identify the truck or tractor and trailer by Minnesota or prorated license number and shall contain the tare, maximum allowable legal gross mass, supporting information, and the signature of the owner. The card shall be available to the Engineer upon request. All Contractor-related costs in providing, verifying, and spot checking the cab card information (including weighing trucks on certified commercial scales, both empty and loaded) will be incidental, and no compensation other than for Plan pay items will be made.

Equipment mounted on crawler tracks or steel-tired wheels shall not be operated on or across concrete or bituminous surfaces without specific authorization from the Engineer. Special restrictions may be imposed by the Contract with respect to speed, load distribution, surface protection, and other precautions considered necessary.

Should construction operations necessitate the crossing of an existing pavement or completed portions of the pavement structure with equipment or loads that would otherwise be prohibited, approved methods of load distribution or bridging shall be provided by the Contractor at no expense to the Department.

Neither by issuance of a special permit, nor by adherence to any other restrictions imposed, shall the Contractor be relieved of liability for damages resulting from the operation and movement of construction equipment.

Figure C

2401.3G

G Concrete Curing and Protection

Newly placed concrete shall be properly cured by providing protection against rapid loss of moisture, freezing temperatures, high temperatures, abrupt temperature changes, vibrations, shock waves, and prematurely applied loads. This protection shall be provided when directed by the Engineer and for a period of time not less than that specified hereinafter, except as may be otherwise determined and permitted by the Engineer.

The curing time shall be that period of time starting with the completion of concrete placement for a specific section or unit and continuing without interruption until the Engineer has determined that the curing has been satisfactorily completed. For cast-in-place concrete the curing shall continue until the Engineer has determined that the concrete has attained a strength based upon a percentage of anticipated compressive strength given in 2461.3B2. This percentage shall not be less than that shown below for the specified sections or units to which it corresponds:

Section or Unit	Percent
Bridge superstructures, except as otherwise specified	65
Diaphragms and end webs that are not a part of box girders and are cast in advance of the bridge slab	45
Railing	45

When a permissible construction joint is shown, subsequent concrete placement may begin before the curing period has been completed, unless otherwise specified in the Plans.

Railing concrete shall not be subjected to loading (supporting screed rails, light standards, etc.) until the Engineer has determined that the concrete has attained strength not less than 60 percent of the anticipated compressive strength.

Heavy equipment (such as ready-mix trucks) will not be permitted on the bridge slab until after completion of the curing period. Then the equipment operation shall be in a manner that will minimize shock waves. Mixer revolution shall be restricted to agitation speed. Equipment with gross mass exceeding 14 metric tons (**15 tons**) will not be permitted on the bridge slab for box girder and slab span bridges until one week after completion of the curing period.

Some modification of the requirement for continuous curing without interruption may be permitted by the Engineer for the purpose of setting wall or column forms on footings, but only when adequate provisions are made to protect the concrete from freezing or excessive drying during the interruption period. Curing shall be resumed at the earliest opportunity, and shall then be continuous until completion. When heated enclosures are used during the curing period, heaters and other equipment operated within the enclosure shall be vented to prevent the buildup of carbon dioxide.

In the event the curing period terminates during a time of the year when low temperatures will prevent additional strength gain before opening a bridge to traffic, the curing time for bridge superstructure concrete shall be extended to provide for strength gain equal to 70 percent of its anticipated compressive strength.

Strength gain percentages shall be computed from the Strength Gain Chart in Table 2401-1, except that during freezing or anticipated freezing temperatures, the Engineer may require that the computed strength gain be verified by casting and breaking control cylinders in accordance with 2461.4A5. In the event of discrepancy between these two methods, the Concrete Engineer may be called upon for determination of curing adequacy.

TABLE 2401-1
DETERMINATION OF STRENGTH GAIN OF STRUCTURAL CONCRETE *(A)*
Percent per 24 HOURS

Concrete Surface Temp. *(B)* °C (°F)	Previously Accumulated Strength Gain *(C)* % of 28 Day Value													
	5	10	15	20	25	30	35	40	45	50	55	60	65	70
24 (75)	15	15	15	15	14	13	12	11	10	9	8	7	6	6
21 (70)	15	15	15	15	14	13	12	11	10	9	8	7	6	6
18 (65)	14	14	14	14	13	12	11	10	9	8	7	6	6	5
16 (60)	12	12	12	12	11	10	9	9	9	8	7	6	6	4
13 (55)	10	11	11	10	9	8	8	8	8	7	6	5	5	3
10 (50)	8	9	9	8	7	7	7	7	7	6	5	4	4	3
7 (45)	6	8	7	6	6	6	6	5	5	4	4	3	3	2
4 (40)	5	6	6	6	5	5	5	4	4	3	3	3	2	2

(A) Table values indicate incremental strength gain for 24-hour periods at temperatures ranging from 4°C (40°F) to 24°C (75°F) when the concrete has previously accumulated a specific strength gain (percent).

(B) Represents temperature at the surface of the concrete for the section (or part section) being cured.

(C) Represents accumulative strength gain of structural grade concrete made with type I cement as a percentage of its compressive strength if cured 28 days at 24°C (75°F). Table 2401-1 may also be used for concrete mixtures containing up to 15% Class C fly ash as a cement substitution. Strength gain for concrete containing ground granulated blast furnace slag or cement substitutions except as noted above shall be determined by control cylinders.

EXAMPLE --- Average surface temperature for 24-hour period = 16°C (**60°F**). Previously recorded strength gain = 36 percent. Therefore, incremental strength gain = 9 percent; new accumulative total = 45 percent.

When control cylinders are used to determine if the minimum strength has been attained, in no case shall curing for cast-in-place concrete be considered completed in less than 96 hours for sections or units requiring a minimum of 65 percent of anticipated compressive strength or in less than 72 hours for sections or units requiring a minimum of 45 percent of anticipated compressive strength.

Strength gain shall not be credited for any period of time during which the concrete does not indicate the presence of a surface-moist condition, nor for any period of time when the temperature at the concrete surface is less than 5°C (**40°F**). In the event of exposure of the concrete to freezing temperatures or excessive drying during the curing period, the Engineer will declare the affected section, or partial section, to be defective. Depending on the extent of the damage caused by exposure, as determined by the Engineer, the affected section shall be:

(1) Removed and replaced,

(2) Removed to a depth specified by the Engineer and be replaced as directed,

(3) Sandblasted and overlaid with epoxy mortar or epoxy with sand broadcast,

(4) Covered by an epoxy seal coat,

(5) Subject to a reduction in payment as determined equitable by the Engineer, or

(6) Subjected to any combination of these remedies.

Anchor bolt holes and other depressions that may collect water shall, during periods of freezing temperature, be sealed or temporarily filled with closed cell polystyrene or other satisfactory material.

After completion of tine texturing for bridge deck slabs and after free water has disappeared from the surface, the Contractor shall apply a white pigmented linseed oil listed in the Special Provisions. The rate of application shall be approximately 4 m2/l (**150 square feet per gallon**) unless otherwise directed by the Engineer. The curing compound or emulsion shall be applied with approved power-operated spray equipment. The curing compound or emulsion is not a substitute for the cure specified below, but is required for moisture retention until the conventional curing material can be placed.

Bridge structural slabs shall have the conventional wet curing (wet burlap or curing blankets) applied as soon as the concrete can be walked on with insignificant damage.

Concrete exposed to a condition causing surface drying during the curing period shall be protected by a wet covering as soon as the set of the concrete will permit. Membrane curing compound will not be considered as an acceptable alternative for wet curing, except for such items as slope paving, footings and other sections that are to be covered with backfill material. Membrane curing compound shall not be used on an area that is to be covered by and bonded to subsequent concrete construction. The preferred method of

wet curing is with commercially available blankets of burlap and plastic bonded together.

Regardless of the method used, a moist surface condition must be maintained. Plywood forms left in place during the curing period shall not be permitted to become excessively dry.

Materials used as an aid to the retention of moisture on the surface of the concrete shall conform to the appropriate material requirements of these Specifications. However, when two or more materials (such as Burlene® over curing compound) are used in combination, some deviation from the material requirements may be allowed, subject to approval of the Engineer. (In no event shall the use of an approved curing system relieve the Contractor of the responsibility for maintaining a moist surface condition throughout the curing period.

Only when all requirements specified herein have been fulfilled, as determined by the Engineer, shall the curing period be considered as having been completed.

Figure D
Mn/DOT Bridge Inspection Certification Policy (April 2007)

The requirements listed below have been developed by the Mn/DOT Bridge Office to comply with the National Bridge Inspection Standards (NBIS), as outlined in the Federal Code of Regulations Part 650.309, Minnesota Statute 165, and State of Minnesota Rule 8810.9300. These new rules are effective as of January, 2006. *Note: the certification levels defined below refer to the inspection of in-service bridges and culverts (this should not be confused with bridge construction inspection certification).*

Mn/DOT Bridge Inspection Certification Levels

Assistant Bridge Inspector: This inspection level is automatically assigned to anyone who has successfully completed the 1-week training course ("Engineering Concepts for Bridge Inspectors"). A Mn/DOT BSI certification number is assigned along with this inspection level. *Note: an Assistant Bridge Inspector can only assist in bridge inspections - a certified Bridge Inspection Team Leader must be present at the bridge site at all times during a bridge inspection.*

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 certified Bridge Inspection Team Leader must be present at the bridge site at all times during a bridge inspection. There are five ways to qualify as a Bridge Inspection Team Leader...

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 Mn/DOT 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 Mn/DOT Bridge Office).

3. Be certified by NICET (National Institute for Certification in Engineering Technologies) as a Level III or IV Bridge Safety Inspector, successfully complete a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the Mn/DOT Bridge Office).

4. Have a bachelor's degree in engineering from an accredited college or university, successfully pass the National Council of Examiners for Engineering and Surveying Fundamentals of Engineering examination, have two years of bridge inspection experience, successfully complete a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the Mn/DOT 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 a FHWA approved comprehensive bridge inspection training course, **and pass a field proficiency test** (administered by the Mn/DOT Bridge Office).

Bridge Inspection Training Courses

Mn/DOT offers two Bridge Inspection training courses each year (typically in February or March at the Mn/DOT Arden Hills Training Center). These courses were developed by the National Highway Institute (NHI), and are based upon the "Bridge Inspectors Reference Manual" (BIRM). Together, these two courses meet the definition of a "comprehensive training program in bridge inspection" as defined in the National Bridge Inspection Standards (NBIS).

- The one-week course "Bridge Safety I - Engineering Concepts for Bridge Inspectors" provides instruction on elementary concepts in engineering for use by bridge inspectors - it is intended to prepare technicians (and other personnel) with little or no background in bridge engineering for the more intensive two-week course. The current cost (2007) of this course is $350.

- The two-week course "Bridge Safety II - Safety Inspection of In-Service Bridges" provides detailed instruction on the inspection, evaluation, and condition rating of in-service bridges. The current cost (2007) of this course is $1,400.

Enrollment and scheduling information for these two courses is available on the Mn/DOT Technical Certification website or by contacting Sandy Servatius at [redacted]

Field Proficiency Test

If the above requirements have been met, an application form should be submitted to Mn/DOT Bridge Office to Schedule a field proficiency test. The purpose of this test is to ensure the compliance with the NBIS standards, to improve of bridge inspections and to increase the statewide consistency of bridge condition ratings.

The test consists of a routine inspection of an in-service bridge (based upon the Mn/DOT Bridge Inspection Manual and Inspection Report Format). The inspector is given 2 hours to examine a bridge, take notes, and determine the NBI & PONTIS 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 scale of 0-100, with a passing score being 70 or more. The score is weighted using the following criteria:

- NBI condition ratings 30%
- Pontis element condition ratings 30%
- Pontis "smart flags" & other items 10%
- Inspection Notes 30%

Applicants who fail the field proficiency test may apply again after 6 months.

Expiration & Recertification Policy

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 refresher seminars during the four preceding years. These one-day seminars are conducted annually by the Mn/DOT Bridge Office (schedules will be mailed to all Inspection Team Leaders) - the current seminar fee (2007) is $50.

- 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).

Mn/DOT Bridge Office Contacts (Bridge Inspection Certification)

Todd Niemann
Pete Wilson
Ken Rand

Mn/DOT Bridge Inspection Team Leader - Field Proficiency Test Application Form

Personal Information	Name: Mailing Address: Employer:	_____ Minnesota Engineering Registration Number (leave blank if not applicable) (_____) _____-_____ Daytime Phone Number
Educational Background	List the date that the one-week training course "Engineering Concepts for Bridge Inspectors" was successfully completed (this course is optional for applicants with an adequate background in bridge engineering concepts).	Date:
	List the date that the two-week training course "Safety Inspection of In-Service Bridges" was successfully completed (this class 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.	
Inspection Experience	Total years of bridge inspection experience: Number of bridges inspected each year (average): Name of "Lead" Inspector(s) during these inspections:	
Supervisor's Approval	I hereby certify that all above information is correct: _____ Supervisor/Inspection Program Administrator _____ Date	
****Area below this line to will be completed by the Mn/DOT Bridge Office****		
Field Proficiency	The inspector named above has successfully passed the Mn/DOT field proficiency test for Bridge Safety Inspection: _____ Field Proficiency Evaluator _____ Date of test	
Mn/DOT Certification	The inspector named above has met all requirements necessary for certification as a Mn/DOT Bridge Inspection Team Leader: _____ State Bridge Inspection Engineer _____ Date	

Applications must be submitted (by mail or fax) to Pete Wilson: [redacted]

Mn/DOT Bridge Office - Bridge Inspection
3485 Hadley Avenue North
Oakdale, MN 55128