CHAPTER 6
RATING, POSTING AND CLOSING OF BRIDGES

6.1 INTRODUCTION

The rating of a bridge to determine its load carrying capacity and, if needed, posting it for that load, is just as important in helping to ensure the safety of the traveling public as is a bridge inspection. In addition, federal NBIS regulations require that each bridge in the National Bridge Inventory be rated and be posted if the maximum unrestricted legal loads in a state exceed the operating rating of the bridge.

In Massachusetts, M.G.L. Chapter 85 Section 35 makes MassDOT responsible for determining the maximum load that a municipal bridge on a public highway can safely carry. Furthermore, M.G.L. Chapter 85 Section 34 makes the owner of the bridge, whether it is MassDOT, another state agency, municipality or other owner, responsible for maintaining the posting signs denoting the maximum weight of vehicle with load that the bridge may safely carry.

In order to comply with the NBIS and M.G.L., MassDOT has undertaken the rating of all MassDOT and municipal bridges, in addition to their inventory and inspection, and reports the results to FHWA on the SI&A record for each bridge. If posting is needed, the State Bridge Engineer determines what that posting should be and informs the municipality by letter. MassDOT bridges are posted by official action of the MassDOT Highway Administrator based on the State Bridge Engineer's recommendation.

When MassDOT rates a bridge, a rating report is produced in accordance with Chapter 7 of the MassDOT Bridge Manual, which documents all of the calculations and assumptions that were used in determining the safe load carrying capacity of the bridge. The rating report considers two load rating levels, Inventory and Operating. The Inventory Rating Level denotes the maximum weight of vehicle that can go over the bridge on a regular basis and it is equivalent to the Factors of Safety used when designing a new bridge. The Operating Rating Level denotes the maximum weight of vehicle that can go over the bridge on an infrequent basis.

The statutory rating vehicles used for rating purposes are defined as: H20 (2 axle) with a total vehicle weight of 20 tons; Type 3 (3 axle) with a total vehicle weight of 25 tons; Types 3S2 (5 axle) with a total vehicle weight of 36 tons; and the HS20 (3 axle tractor trailer) with a total vehicle weight of 36 tons.

The color of the rating report cover may be green, yellow or red, depending on the inventory rating of the statutory rating vehicles. A green cover signifies that the inventory rating of all statutory rating vehicles is greater than their statutory limits. A yellow cover signifies that the inventory rating for any one of the four statutory rating vehicles is less than its statutory limit but greater than 6 tons. A red cover signifies that the inventory rating for any one of the four statutory rating vehicles is 6 tons or less.

The posting vehicles are the vehicles whose load rating is used when the bridge is posted. MassDOT currently uses the following posting trucks: H20 truck, Type 3 truck, and the Type 3S2 truck. The posting of a bridge is based primarily on the Inventory Rating Level.

This chapter will discuss factors that warrant a rating or a re-rating of a bridge and will outline the procedures to be followed when requesting a rating or re-rating of the bridge. In addition, this chapter will outline the procedures required to log and process rating reports, including the additional procedures required for processing red cover rating reports, as well as the procedures associated with the closing of a bridge. Finally,

this chapter will outline procedures to be used to process a completed rating report and discuss any necessary follow up field procedures associated with implementing the recommendations presented in the rating report.

6.2 FACTORS THAT WARRANT A RATING/RE-RATING REQUEST

All bridges require a rating report to be produced and incorporated into the bridge's history file. Newer bridges have rating reports produced once construction has been completed and Bridge Inspection has completed the Initial Routine Inspection of the structure. In addition, it is also very important to have a rating that reflects the structure's most current condition.

Existing bridges with existing ratings reports require a re-rating when a condition may affect the live load carrying capacity of the structure. Examples of factors that can lead to a re-rating request are as follows:

- A reduced section capacity to bridge elements at critical locations due to deterioration or structural damage
- The addition or reduction of dead load on a structure, such as the addition of additional wearing surface material or addition of a transfer slab on prestressed deck beam structures or any alterations to concrete encased steel beam structures
- The loss of prestressing strands on prestressed concrete beam structures
- Repairs or alterations to structural steel members that result in an increase to section capacity at critical section locations
- Long term changes to traffic patterns such as lane additions or lane restrictions
- Outdated older rating reports

Although most requests for re-rating are obvious, such as the completion of a rehabilitation contract, or completion of a resurfacing project, etc., not all needs for a re-rating are so evident. Detailed field observation is required to expose the changes and therefore the District Bridge Inspection Units must provide the measurements, sketches and detailed dimensioning necessary to verify and recommend that a re-rating be initiated. This information should be clear and concise with enough information for the Bridge Inspection Engineer or his/her staff personnel to concur and make a re-rating assignment or to reject the request if deemed in-appropriate.

It should be noted that, generally, deterioration of the concrete deck (by itself) supported on a stringer type structure would not warrant a request for re-rating of the structure.

6.3 PROCEDURES FOR REQUESTING A RATING/RE-RATING OF A STRUCTURE

When it is determined that a structure may require a rating/ re-rating, the District Bridge Inspection Engineer or his/her's designee, shall prepare the request using the bridge rating/re-rating form (See Attachment 6-1, Request for Bridge Rating/Re-Rating Form). The form provides a checklist of items to be filled out and submitted from the DBIE through the DBE to the ABIE.

A request for bridge rating/re-rating may originate from the Team Leader, but may also be requested by the State Bridge Engineer, the District Bridge Engineer, the District Highway Director, Area Bridge Inspection Engineer or the District Bridge Inspection Engineer. The request shall contain the reason for the request with documented information and shall be verified by the Area Bridge Inspection Engineer.

The DBIE shall assign a priority to the rating/re-rating request. The rating priority shall be classified as High, Medium, or Low. The priority ranking should reflect the severity of the conditions observed in relation to the capacity stated in the existing rating report for the structures elements. For example, a member that has extensive section loss and has a stated inventory rating capacity near statutory loading levels, should be assigned a high priority.

The Area Inspection Engineer will log the request in 4D. The ABIE will confirm the need for the rating and indicate if any plans, previous rating reports and prior VIRTIS rating files exist for the structure. For a new or recently rehabilitated structure, the ABIE will indicate the Project Number of the rehabilitation and the Contract Number for the Design Consultant for the rehabilitation and include that information onto the rating /re-rating request form. The ABIE shall also check the Bridge Inspection database to ensure that the structure has not already been assigned to a consultant firm for re-rating.

Upon completion of the review, the ABIE will approve or reject the request in 4D. If approved the ABIE shall forward the request to the Bridge Inspection Engineer, who shall review the request and add his/her comments and then forward the request to the State Bridge Engineer for concurrence or rejection. Upon receiving the request back from the State Bridge Engineer with his recommendation, the Bridge Inspection Engineer shall assign the structure to a rating consultant to perform a new rating.

A 10 year evaluation must be done on all structures that have rating reports that are 10 years old or older. The purpose of the 10 year evaluation is for the DBIE to thoroughly review the present conditions that a structure exhibits and compare those conditions to the assumptions contained in the rating report on file in order to ensure that the rating report is still valid.

A form shall be filled out and submitted by the DBIE containing their recommendation to either re-rate the bridge or defer the re-rating. A reason for the recommendation will be required for either case. The form shall be completed and submitted on every 10^{th} year anniversary of the latest rating report that exists for a structure. The form will then be forwarded to the ABIE, who shall place it in the NBIS history file. Refer to Attachment 6-2 for a copy of the 10 Year Rating Evaluation Form.

It should be noted that the request for rating or re-rating block on any inspection report shall be continually filled out by the team leaders. The DBIE shall then review the request for rating or re-rating block on every inspection report. If the DBIE does not concur with the recommendations in the rating block, the DBIE shall then state and write in the rating block why he/she does not agree.

6.4 PROCEDURES FOR LOGGING, AND ROUTING OF RATINGS

When the completed rating reports are received by the Bridge Inspection Engineer from the rating consultant engineering firm, the BIE shall forward the two copies of the rating reports to the ABIE. The ABIE shall log the reports into the 4D system and forward the reports to the bridge inspection staff engineer, who in turn, forwards the report to the Ratings and Overload Engineer for review. If a red cover rating report is delivered to the BIE, then a separate process and procedure will be followed in the review and processing of these reports. This process will be described in further detail in Section 6.6.

If the review leads to an unsatisfactory discovery of contents, then R&O Engineer shall prepare a memorandum with all of the reviewers' comments to be addressed and send the IOM to the Bridge Inspection Engineer. The BIE shall forward the reports and comments to the ABIE. The ABIE shall log the action taken into the 4D system and forward the rating reports and comments to the staff engineer, who in turn, will send

back the material to the consultant engineering firm. Upon receiving the corrected ratings reports with comments addressed, the rating reports will follow the steps outlined previously above.

The procedure above will be followed until an acceptable Rating is approved.

6.5 PROCEDURES FOR PROCESSING RATING REPORTS BY RATINGS & OVERLOAD UNIT

The Ratings & Overload Engineer or designee shall review the summary sheet contained in the rating report to the corresponding color of the rating report so as to ensure that the color meets the guidelines of the Bridge Manual and check for rating completeness. The Ratings & Overload Engineer will then assign the rating report to a member of the Ratings & Overload Unit for review. Upon receiving the rating reports from BIE, the Ratings and Overload Engineer will be responsible to care for all copies until such time as the reports are returned for final processing or returned to the consultant for revisions or corrections. Upon satisfactory review and concurrence of the contents and recommendations of the rating report, the Ratings & Overload unit shall prepare a memo to the NBIS file, see Attachment 6-3, for the State Bridge Engineer's review and signature.

The rating reviewer will review all of the methods, assumptions and calculations by which the Consultant determined the rating to be in conformance with Chapter 7 of the Bridge Manual. The rating reviewer will also review the Consultant's recommendations, check that they are precise, unambiguous, are substantiated by the appropriate calculations.

MassDOT procedures for determining the proper posting of a bridge is outlined below. This procedure shall be implemented by the Ratings & Overload Unit during their review of rating reports and in their recommendations to the State Bridge Engineer.

Bridges will only be posted if a rating report with full calculations, accepted by the State Bridge Engineer exists and a posting has been recommended by the State Bridge Engineer. The only exceptions are as follows:

1. If bridge conditions have deteriorated to the point at which it is obvious that the load carrying capacity has been diminished and public safety is in jeopardy, an emergency posting may be imposed by the State Bridge Engineer.

2. A rating report based upon engineering judgment accepted by the State Bridge Engineer which states that although the bridge had been carrying loads, it is in the interest of public safety to post the bridge.

The posting recommendations will be based upon the Inventory Rating Levels for the posting trucks. However, depending on the condition of the bridge and the structure type, the following provisions may also be considered in determining the posting recommendation:

1. If an overstress which is less than or equal to 5% over the Inventory Rating Levels results in statutory weights for all posting trucks, then the posting may be Waived at the discretion of the State Bridge Engineer.

2. If an overstress over Inventory Rating Levels which is greater than 5% but less than or equal to 10% results in statutory weights for all posting trucks, then the bridge may be posted for the statutory limits for all three posting trucks at the discretion of the State Bridge Engineer.

Notwithstanding the provisions stated above, the State Bridge Engineer reserves the right to waive a posting on a case by case basis due to extenuating circumstances if it is determined that the bridge will still be safe for the traffic that will be using the bridge. The basis for such a waiver will be outlined in the State Bridge Engineer's "Memo to the NBIS File".

6.6 PROCEDURES FOR PROCESSING RATING REPORTS WITH RED COVERS

The purpose of this Section is to provide a standard procedure and policy on processing Rating Reports which have Red Covers. Rating reports with red covers shall be classified as Red Cover reports if the recommended rating of any of the four rating vehicles is 6 Tons or less.

While an analysis is being performed on a structure that has been assigned to a consultant engineering firm or to the Ratings and Overload Unit and the analysis indicates that the recommended rating of any of the four rating vehicles will be 6 Tons or less, the consultant firm or the R&O Unit shall immediately notify the Department (the State Bridge Engineer or Bridge Inspection Engineer or Ratings and Overloads Engineer) and receive further instructions on how to submit the report.

Upon receiving the ratings, the State Bridge Engineer's Administrative staff will submit all Red Cover ratings to the State Bridge Engineer along with the letter of transmittal. Two separate log books to track Red Cover ratings will be created see Attachments 6-4; Red Cover Rating Report Log, one book will be with the State Bridge Engineer and the other with the Bridge Inspection Engineer.

The State Bridge Engineer (or Assistant State Bridge Engineer) will log the rating in his log book, keep one copy of the rating report for his/her immediate review, and send the remainder along with the letter of transmittal to the Bridge Inspection Engineer. Upon receipt of the rating books, the Bridge Inspection Engineer will log the rating in the logbook and in the 4D system and notify the ABIE of its submission.

The State Bridge Engineer will review the Red Cover rating recommendations and determine if immediate implementation is required or if an engineering review is required. This action will be written down, dated, noted to whom it is assigned and attached to the rating book and forwarded for execution. This action will also be noted in the State Bridge Engineer's log book. A copy of this action form will be forwarded to the Bridge Inspection Engineer. See Attachment 6-5, Red Cover Rating Tracking Form, for the standard Red Cover Rating tracking form to be filled out by the State Bridge Engineer.

Upon the State Bridge Engineer's decision that the bridge is to be posted or closed immediately while the rating report is in Engineering Review, the procedures outlined in Section 6.9 "Procedure for closing a bridge due to inspection or a prepared bridge rating report" shall be followed.

Upon the State Bridge Engineer's decision that no immediate action will be required, the review of the report by the R&O unit is high priority and shall be completed in a timely manner.

The engineering review performed by the Rating and Overloads Unit shall include a review all of the methods, assumptions and calculations by which the Consultant determined the rating. The rating reviewer will also review the Consultant's recommendations, check that they are precise, unambiguous, are substantiated by the appropriate calculations.

The State Bridge Engineer and the Bridge Inspection Engineer will compare their log books periodically to ensure that both are complete and exact. The State Bridge Engineer will review the status of the required action

on each rating on a monthly basis. Upon receipt of the rating reviewer's report, the State Bridge Engineer will review it and make sure that all of the Consultant's recommendations have been addressed.

6.7 DOCUMENTATION AND DISTRIBUTION OF APPROVED RATINGS

Once the State Bridge Engineer has signed the NBIS memo for the rating report, the rating reports and signed NBIS memo shall be delivered to the Bridge Inspection Engineer, who in turn, will forward them to the ABIE. The ABIE will update in 4D the Posting Status and Posting Date as outlined in Section 6.7.1. The reports will then be given to the Ratings and Overloads Engineer for the updating in 4D of the Items 63 trough Item 66 along with the inventory, operating and recommended loads as outlined in Section 6.7.1. The ABIE will prepare the necessary correspondence and process and distribute the rating reports as outlined. The ABIE will also prepare the letter of completion, which contains the consultant's evaluation score, to the consultant firm that has performed the bridge rating.

If the bridge is owned by MassDOT and requires posting, then the Area Bridge Inspection Engineer shall prepare a Miscellaneous Items for MassDOT Highway Board. After the Board approves the posting recommendation, the Area Bridge Inspection Engineer shall prepare an Interoffice Memorandum (for the State Bridge Engineer's signature) to the District Highway Director regarding the required action. The District Bridge Engineer is responsible for notify municipalities of posting recommendations.

If the bridge is owned by a city or town, then the Area Bridge Inspection Engineer shall prepare a letter (for the State Bridge Engineer's signature) of notification of required action for the bridge to the Municipality and the District Highway Director.

The Area Bridge Inspection Engineer then forwards one copy of the letter written to the municipalities and District Highway Directors along with the NBIS File memo to the District Bridge Inspection Engineer.

Upon completion, the Bridge Inspection Engineer or his/her designee will give the rating report book to the bridge inspection staff engineer charged with filing the reports and copies of the letters (bound into the front of the rating report) in the Bridge Rating File.

Summarized and referred to in Attachment 6-6 thru 6-17 are typical sample memorandums or letters that are generated via 4D in the processing of rating reports by the Area Bridge Inspection Engineers. These attachments are listed as follows:

- Attachment 6-6: Sample IOM to DHD No Posting of State Owned Structure
- Attachment 6-7: Sample Letter to City/Town No Posting of Municipally Owned Structure
- Attachment 6-8: Sample IOM to DHD Posting State Owned Structure
- Attachment 6-9: Sample IOM to DHD Posting Municipally Owned Structure
- Attachment 6-10: Sample Letter to City/Town Posting of Municipally Owned Structure
- Attachment 6-11: Sample IOM to DHD Remain Posted of State Owned Structure
- Attachment 6-12: Sample Letter to City/Town Remain Posted Municipally Owned Structure
- Attachment 6-13: Sample IOM to DHD Waiving the Posting State Owned Structure
- Attachment 6-14: Sample Letter to City/Town Waiving the Posting of Municipally Owned Structure
- Attachment 6-15: Sample IOM to DHD Closure of State Owned Structure
- Attachment 6-16: Sample Letter to City/Town Closure of Municipally Owned Structure
- Attachment 6-17: Miscellaneous Item Form

6.7.1 Procedures on Posting and Rating Items on the SI&A

The Area Bridge Inspection Engineer and the Ratings and Overloads Engineer are responsible for the proper coding of the completed Ratings as outlined below. Information to be entered on the SI&A comes from the completed NBIS File Memo (see Attachment 6-3).

The following definitions shall be utilized in this section.

- MM/DD/YYYY = Date coded in the following format: Month/Day/Year

  *(1) = For State owned bridges
  *(2) = For Municipally owned bridges

- **POSTING LOADS** = The following Massachusetts Specific Inventory Items:
  RECOMMENDED 2 AXLES, RECOMMENDED 3 AXLES, RECOMMENDED 5 AXLES

- **LOAD ITEMS** = The following Massachusetts Specific Inventory Items: OPR H20, OPR Type 3, OPR 3S2, OPR HS, INV H20, INV TYPE 3, INV 3S2, INV HS

The Posting Loads are found under the Field Posting section of the SI&A. The Load Items are found under the Rating Loads section of the SI&A. These sections of the SI&A that are to be updated by ABIE and R&O Engineer are shown on Attachment 6-18.

If an accepted rating report, with full calculations, exists and a POSTING has been recommended by the State Bridge Engineer, the following items shall be coded as shown:

POSTING DATE	MM/DD/YYYY	"date of Board Action"*(1) "date of State Bridge Engineers Memo to NBIS file"*(2)
POSTING STATUS	**POSTED**	"coded as shown"
POSTING LOADS		"code according to MassDOT Supplemental Coding Guide"
LOAD ITEMS		"code according to MassDOT Supplemental Coding Guide"

If an accepted rating report, with full calculations, exists and shows loading of equal or exceeding STATUTORY load and the State Bridge Engineer concurs with the findings, the following items shall be coded as shown:

POSTING DATE	MM/DD/YYYY	"date of State Bridge Engineers' memo to NBIS file"
POSTING STATUS	**LEGAL**	"coded as shown"
POSTING LOADS		"coded "blank" for all Items"
LOAD ITEMS		"code according to MassDOT Supplemental Coding Guide"

If an accepted rating report, based on Engineering Judgment exists and it recommends **no** posting required and the Director of Bridges and Structures concurs with the findings, the following items shall be coded as shown:

POSTING DATE	MM/DD/YYYY	"date of State Bridge Engineers' Memo to NBIS file"
POSTING STATUS	**EJDMT**	"coded as shown"
POSTING LOADS		"coded "blank" for all Items"

LOAD ITEMS		"code according to MassDOT Supplemental Coding Guide"

If an accepted rating report, based on Engineering Judgment exists and it recommends posting of the bridge and the State Bridge Engineer concurs with the findings, the following items shall be coded as shown:

POSTING DATE	MM/DD/YYYY	"date of Board Action"*(1) "date of State Bridge Engineers' Memo to NBIS file"*(2)
POSTING STATUS	**EJDMT**	"coded as shown"
POSTING LOADS		"code according to MassDOT Supplemental Coding Guide"
LOAD ITEMS		"code according to MassDOT Supplemental Coding Guide"

When a posting is WAIVED, the following items shall be coded as indicated to represent the WAIVED category:

POSTING DATE	MM/DD/YYYY	"date of State Bridge Engineers letter to NBIS file"
POSTING STATUS	**WAIVED**	"coded as shown"
POSTING LOADS		"coded "blank" for all Items"
LOAD ITEMS		"code according to MassDOT Supplemental Coding Guide"

If an accepted rating report, with full calculations, exists and a recommendation to CLOSE has been determined by the State Bridge Engineer, the following items shall be coded as shown:

POSTING DATE	MM/DD/YYYY	"date of closing"
POSTING STATUS	**CLOSED**	"coded as shown"
POSTING LOADS		"coded as follows:"
	RECOMMENDED 2 AXLES = 00	
	RECOMMENDED 3 AXLES = 00	
	RECOMMENDED 5 AXLES = 00	
LOAD ITEMS		"code according to MassDOT Supplemental Coding Guide"

If any changes are required on any of the above stated items, the DBIE shall request changes to be made by marking up an SI&A and submitting it to the ABIE.

6.8 BRIDGE POSTING REDUCTION BASED ON AN INSPECTION

The purpose of this section is to establish a procedure for the reporting of a changed condition noted during a bridge inspection which may require the structure to be posted or a reduction of the existing posting. This procedure shall be used for all bridges owned by MassDOT or Municipalities.

When performing any inspection on a bridge upon observation of a changed condition which in the opinion of the inspection team leader may result in posting or a reduction of the existing posting of a bridge, the Inspection Team Leader (TL) shall notify the District Bridge Inspection Engineer (DBIE). The Inspection Team Leader will complete the report in the 4D in a timely manner. The DBIE will review the report and notify the ABIE that the report is completed and along with the request to perform a rating/re-rating.

Upon review by the State Bridge Engineer, recommendations may require implementation prior to the completion and approval of the load rating. Recommendations may be, but are not limited to, lane restrictions, posting reduction or closure.

Once the recommendation from the State Bridge Engineer is documented in the NBIS memo to the file the ABIE will prepare and process the paperwork as outlined in Section 6.7.

The ABIE will provide the bridge inspection staff engineer with the completed documentation (NBIS File memo) to incorporate within the existing rating report. The DBIE will be responsible for the updating of the district's copy of the rating report.

6.9 PROCEDURES FOR CLOSING A BRIDGE DUE TO AN INSPECTION OR A PREPARED BRIDGE RATING REPORT

The purpose of this section is to establish a procedure for the reporting of any unsafe condition noted during a bridge inspection or as a result of a Rating Report, which would require the bridge to be **CLOSED**. This procedure shall be used for all MassDOT and Municipally-owned bridges. For the purposes of this Section, CLOSURE may be taken to refer to either full or partial closure of a bridge, depending on the situation.

6.9.1 Closure of a Bridge Due To an Inspection

It shall be noted, that in an event a structural defect poses immediate danger to public safety and needs to be closed immediately, the District Bridge Engineer at his/her discretion shall close the bridge (fully or partially) and as soon as possible and implement the following procedures. The Inspection Team Leader will need to document their findings as outlined in Section 4.7 CS/I & CH/I Procedure and Documentation.

1. Upon observation of an unsafe condition which in the opinion of the Inspection Team requires closure of a MassDOT bridge, the Inspection Team Leader (TL) shall immediately verbally notify the District Bridge Inspection Engineer (DBIE) who after verification shall immediately verbally notify the District Bridge Engineer (who will immediately notify the District Highway Director) and Area Engineer (who in return will immediately notify the Bridge Inspection Engineer and the State Bridge Engineer). All of the above notifications shall be documented in the inspection report prepared by the Team Leader.

2. The State Bridge Engineer or his/her designee after making his/her final decision will send an email notification to the Administrator, Chief Engineer, District Highway Director, and the Director of Communications advising them of the decision to close the bridge, followed by a phone call to each to discuss the closure with available information at that time. The following actions shall transpire after this notification:

    - District Highway Director (or his/her designee) shall do the following:

        - Contact the community and advise them of the bridge condition that warrants closure
        - Determine the potential impacts to the community
        - Assess the possible political and press ramifications
        - Assess the possible detour route if necessary
        - Determine if MassDOT assistance is needed/recommended (for Municipally owned bridges)
        - Forward this information to the Administrator, Chief Engineer, State Bridge Engineer and Director of Communications and follow up with a phone call to ensure that there are no unexpected situations

- District Bridge Inspection Engineer (DBIE) shall do the following:
    - Indicate the type of the structure
    - Indicate the owner of the structure
    - Indicate the type of inspection (Routine, Special Member, Fracture Critical)
    - Indicate the inspection cycle
    - Indicate the Average Daily Traffic (from the SI&A)
    - Indicate the length of the detour (if applicable) from the SI&A
    - Forward this information to the Area Bridge Engineer and the District Bridge Engineer.
- Area Bridge Inspection Engineer shall do the following:
    - Forward the information received from the DBIE to the Bridge Inspection Engineer who then forwards the information to the State Bridge Engineer or his designee
- The State Bridge Engineer or his/her designee shall do the following:
    - Review the information available and discuss with Bridge Inspection Staff to determine if it is likely that repairs can be performed to bring the loading back to level it was at (if a restriction is recommended)
    - Review the information available and discuss with Bridge Inspection Staff to determine if is likely that repairs can be performed to reopen the structure (if closure is recommended)
    - Forward the information to the Administrator, Chief Engineer, District Highway Director, and Director of Communications and follow up with a phone call to ensure that there are no further issues

3. The State Bridge Engineer may request an evaluation either by the District Bridge Engineer or the Ratings & Overload Engineer.

4. The State Bridge Engineer or his/her designee then shall forward his/her decision by memo to the NBIS file to the Bridge Inspection Engineer (who in return will notify the Area Bridge Inspection Engineer, District Bridge Engineer and the District Bridge Inspection Engineer).

5. The Area Bridge Inspection Engineer will prepare an interoffice memorandum for the State Bridge Engineer's signature through the Chief Engineer to the District Highway Director in order to formally notify him/her of this bridge closure.

6.9.2 Closure of a Bridge Due To a Rating Report

After a thorough review has been performed by the Ratings and Overload Unit on a rating report and a recommendation to close or restrict a bridge is the outcome of the review and the State Bridge Engineer has determined action to be appropriate, he/she will send an email notification to the Administrator, Chief Engineer, District Highway Director, and the Director of Communications advising them of the decision to close the bridge, followed by a phone call to each to discuss the closure with available information at that time.

- District Highway Director shall do the following:
    - Contact the community and advise them of the closure

- Determine the potential impacts to the community
- Assess the possible political and press ramifications
- Assess a possible detour route if necessary
- Determine if MassDOT assistance is needed/recommended (for municipally owned bridges)
- Forward this information in to the Administrator, Chief Engineer, State Bridge Engineer, and Director of Communications and follow up with a phone call to ensure that there are no surprises

- The State Bridge Engineer shall do the following:

  - Indicate the type of structure
  - Indicate the owner of the structure
  - Indicate the date of the last inspection
  - Indicate the inspection cycle
  - Average Daily traffic (from SI&A)
  - Length of detour (if applicable) from SI&A
  - Determine if it is likely that repairs can be performed to reopen the structure (if closure is recommended)
  - Forward this information to the Administrator, Chief Engineer, District Highway Director, and Director of Communications and follow up with a phone call to each to ensure that there are no surprises

The State Bridge Engineer then shall forward his/her decision by memo to the NBIS file to the Bridge Inspection Engineer (who in return will notify the Area Bridge Inspection Engineer, the District Bridge Engineer and the District Bridge Inspection Engineer).

The Area Bridge Inspection Engineer will prepare a letter for the Chief Engineer's signature to the Municipality Officials; see Attachments 6-15 Sample IOM to DHD Closure of State Owned Structure and Attachment 6-16 Sample Letter to City/Town Closure of Municipally Owned Structure, in order to formally notify them of this bridge closure.

6.10 DUAL RECOMMENDATIONS

Upon completion of a rating report review by the Ratings & Overload Unit, there may be times that a dual recommendation may be contained in an NBIS memorandum signed by the State Bridge Engineer. An example of a NBIS memorandum containing a dual recommendation is attached in Attachment 6-19: NBIS Memorandum containing Dual Recommendations.

When a memo to the NBIS file is signed by the State Bridge Engineer containing dual recommendations the following procedure is to be implemented depending upon if the bridge is owned by MassDOT or a Municipality.

6.10.1 Dual Recommendations on Bridges Owned by MassDOT

After a thorough review of a rating report of a structure performed by the Ratings and Overload Unit and a dual recommendation has been offered to the District, for a MassDOT structure, through a NBIS memorandum signed by the State Bridge Engineer, the District Highway Director or his/her designee shall have five business

days to respond in writing as to the action the District is going to implement in relation to the dual recommendations contained in the NBIS memo. Specifically, the DHD will select which recommendation he/she will implement and notify the State Bridge Engineer of the time frame to carry out the actions that the district is preparing. If it is determined that the implementation time will be too great the District may be required to implement some type of remedial measure to ensure the safety of the motoring public. The following actions shall transpire after this notification has been received by the State Bridge Engineer;

- The Area Bridge Inspection Engineer shall do the following:
    - Scan and email a copy of the NBIS memorandum with any attachments to the District Bridge Engineer and District Bridge Inspection Engineer;
    - Follow up with a hard copy of the memorandum to the District Highway Director.
- The District Bridge Inspection Engineer shall do the following:
    - Receive the response /action to be taken by the District Bridge Engineer and the District highway Director.
    - Forward the response to the ABIE for incorporation into the NBIS file.

The ABIE will process the Rating report as outlined in Section 6.7. Verification that work has been performed is to be confirmed by a bridge inspection being performed.

6.10.2 Dual Recommendations on Bridges Owned by Municipalities

After a thorough review of a rating report of a structure performed by the Ratings and Overload Unit and a dual recommendation has been presented in the NBIS memorandum on a structure owned by a municipality, The Area Bridge Inspection Engineer shall prepare a letter to the Municipality from the State Bridge Engineer. The Municipal Representatives receiving the letter shall have ten business days to respond in writing as to the action the Municipality is going to implement in relation to the dual recommendations contained in the NBIS memo. Specifically, the Municipal Representative will select which recommendation the municipality will implement and notify the State Bridge Engineer of the time frame to carry out the actions that the municipality is preparing. If it is determined that the implementation time will be too great, the Municipality may be required to implement some type of remedial measure to ensure the safety of the motoring public. The following actions shall transpire after this notification has been received by the State Bridge Engineer;

- The Area Bridge Inspection Engineer shall do the following:
    - Scan and email a copy of the NBIS memorandum with any attachments to the District Bridge Engineer and District Bridge Inspection Engineer
    - Follow up with a hard copy of the memorandum to the District Highway Director
- The District Bridge Inspection Engineer shall do the following:
    - Receive the response/action to be taken by the Municipality and schedule an Other Inspection Report to document the response/action taken
    - Forward the completed Other Inspection report to the ABIE for incorporation into the NBIS file

The ABIE will process the Rating report as outlined in Section 6.7. Verification that work has been performed is to be confirmed by a bridge inspection being performed.

6.11 PROCEDURES FOR POSTING OF BRIDGES

To provide clear direction and policy for posting weight limits on bridges under the jurisdiction of the MassDOT or the municipal inventory under the NBIS Regulations. Also, to provide safeguards to check that bridges that require postings have appropriate visible signs and advance warning that weight limitations and detours may exist.

In relation to the discussion of this section, it is appropriate to define the following terms:

MUTCD = Manual on Uniform Traffic Control Devices (latest edition), Massachusetts uses the R12-5a as its sign Standard (see Attachment 6-20 Posting Sign Standard)

At Bridge Signs: Signs erected immediately in advance of the bridge being posted at a distance of not less than 100 feet (30.480 meters) from the bridge (MGL c. 85 s. 34)

Advance Warning Signs: Signs placed at approach road intersections or other points where a vehicle which exceeds the posted weight limits must detour or turn around.

In order for a bridge to be considered properly posted, an At Bridge Sign must be within visible distance of the structure and be erected facing each direction of traffic. If there is an intervening street between the sign and the bridge, an additional sign must be erected immediately adjacent to the bridge. These additional signs must be in place in order for the bridge to be considered properly posted.

The posting of a bridge shall include the installation of Advance Warning Signs as necessary; however, the absence of any of these Advance Warning Signs will not preclude a coding of "P" for Item 41.

6.11.1 Procedures for Posting of Bridges Owned by MassDOT

The State Bridge Engineer shall notify the District by memo of the posting recommendation and the District shall be responsible for erecting appropriate weight limit signs within the time limit specified in the memo. This time limit shall typically be 30 days after receipt of the State Bridge Engineer's posting recommendation, except in the following circumstances, in which case the time limit shall be 10 working days:

- If the recommended posting for any posting truck is for six (6) tons or less
- If the new calculated Operating Rating (the maximum permissible load that can use the bridge on an infrequent basis) is either:
    - Less than statutory in the case of an un-posted bridge, or
    - Less than the bridge's current posting in the case of a posted bridge

District Personnel shall determine the exact location of At Bridge signs and Advance Warning signs. Locations of At Bridge signs and Advance Warning signs and date of erection of signs shall be reported to the District Bridge Inspection Unit in order to update the bridge's inventory record. For the follow up procedure to ensure the signs have been properly placed is in Section 6.12.

If posting signs are missing, the DBIE shall request signs to be installed, refer to Attachment 6-21, MassDOT Missing Posting Signs Notification Form-State Owned. The time frame for replacing missing posting signs shall be the same as the time frame used when the signs were initially installed.

6.11.2 Procedures for Posting of Bridges Owned by Municipalities

The State Bridge Engineer shall notify the municipality by letter of the recommended weight limits for posting. In the letter, the municipality shall be allowed 30 days from the date of the initial notification to erect these signs, except in the following circumstances, in which case, the time limit shall be 15 working days:

- If the recommended posting for any posting truck is for six (6) tons or less
- If the new calculated Operating Rating (the maximum permissible load that can use the bridge on an infrequent basis) is either:
    - Less than statutory in the case of an un-posted bridge, or
    - Less than the bridge's current posting in the case of a posted bridge

Typically, for the sake of uniformity, MassDOT will supply the necessary initial signs. The sign posts will also be provided if funds are available. The Municipality should order the signs through the MassDOT District office.

District Personnel shall determine, with the Municipality, the exact location of At Bridge signs and Advance Warning Signs. Locations of At Bridge signs and Advance Warning signs and date of erection of signs shall be reported to the District Bridge Inspection Unit in order to update the bridge's inventory record.

If posting signs are missing, the DBIE shall request signs to be installed, refer to Attachment 6-22, Letter to Municipalities reporting Missing Posting Signs. Fabrication and erection of missing Posting Signs will be the Municipality's responsibility. The Municipality shall be allowed 30 days from the initial notification of missing signs to replace them.

6.12 FOLLOW UP SITE VISIT PROCEDURES REGARDING INSTALLATION OF POSTING SIGNS

The purpose of this section is to provide a guideline for the necessary actions required to ensure the placement of appropriate signs at bridges when they are required.

6.12.1 MassDOT Owned Structures

Upon receiving a notice that a bridge should be posted, or notification that weight limit signs are missing, the District shall erect the appropriate weight restriction signs in accordance with Section 6.11.1.

Locations of signs, truck detour route, if applicable, and date of erection of signs shall be reported to the District Bridge Inspection Engineer to complete the verification process.

Within days 7 days after the deadline set above, the District Bridge Inspection Engineer shall assign someone from his/her section to perform a follow-up sign site visit to assure that all the posting signs are properly

installed. He/She will fill out the Follow-Up Verification of Sign Form, see Attachment 6-23 and submit it to the District Bridge Inspection Engineer for the appropriate action to be implemented.

If the signs are in place no further action will be required. If the signs are not installed or not installed properly then the Follow-Up Verification of Sign Form shall be sent by interoffice memo through the District Highway Director to the MassDOT representative responsible for installation of the signs.

It shall be noted that if posting signs are not installed / or not properly installed, the above procedure shall be repeated until posting signs are properly installed. In the case of no signs installed after the first site visit Item 41 shall be coded "B".

6.12.2 Municipally Owned Structures

Upon receiving a notice that a municipally owned bridge should be posted, or notification that weight limit signs are missing, the Municipality shall erect the appropriate weight restriction signs in accordance with Section 6.11.2. Within days 7 days after the deadline set above, the District Bridge Inspection Engineer shall assign someone from his/her section to perform a follow-up sign site visit to assure that all the posting signs are properly installed. He/She will fill out the Follow-Up Verification of Sign Form, see Attachment 6-23 and submit it to the District Bridge Inspection Engineer for the appropriate action to be implemented.

If the signs are not installed or not installed properly then by letter signed by the District Highway Director (See Attachment 6-24) will be sent to the Municipality for appropriate action.

It shall be noted that if no signs are erected by the municipality, MassDOT, in the opinion of the Chief Counsel, is authorized under the provisions of M.G.L. c 85,§ 35 to post the bridge on its own initiative. For each case of non-compliance, the State Bridge Engineer, in consultation with the Chief Engineer and the District Highway Director, will determine if MassDOT should exercise this right in the interest of public safety.

It shall be noted that if posting signs are not installed / or not properly installed, the above procedure shall be repeated until posting signs are properly installed or MassDOT exercises it's right to post the structure on its own initiative. In the case of no signs are installed after the first site visit Item 41 shall be coded "B".

6.13 CHAPTER 6 ATTACHMENTS

REQUEST FOR BRIDGE RATING/RE-RATING FORM

To be filled out by DBIE:

District: ___ Town:_____ Br. No.:_____ BIN No. _____

Facility Carried: _____I-43/Structure Type (Main):_____ Code:_____

Features Intersected: _____ I-44/Structure Type (Appr.):____ Code:_____

Plans Available (Y / N) Full Set (Y / N) Partial Set (Y / N) Rating (Y / N) Re-Rating (Y / N)

Date of Last Rating: _____ Previous Rating Book Available in District (Y / N)

Reason for Rating Request:

☐ Deck Explain:
☐ Superstructure Explain:
☐ Substructure Explain:
☐ Never been Rated before
☐ New/Rehabed Bridge New Date of Item 27:_____ New date of Item 106:_____
☐ Previous Rating was based on Engineering Judgment without calculations Date of rating: _____

Priority: ☐ High ☐ Medium ☐ Low

Remarks & Comments:

DBIE's Signature: _____ Date of Submission to ABIE:_____
Please attach a copy of the Latest SIA, Routine, Special member & Dive Report

To be filled out by the Area Engineer:

☐ I agree with the above request from the DBIE and the attached submitted documentation by the District is sufficient for Rating purposes
☐ I do not agree with the above request from the DBIE because:

Plans available in Boston: (Y / N) Full Set: (Y / N) Partial Set: (Y / N) VIRTIS File: (Y / N)
Previous Rating Report is available in Boston Office: (Y / N) Date of Rating:_____
This structure is designed by: In-House: (Y/N) Consultant: (Y/N) Project # :_____ Consultant Firm:_____

Remarks & Comments:

ABIE's Signature Date of Submission to BIE

To Be Filled out by Bridge Inspection Engineer

☐ Assign to Consultant
☐ Recommend to be assigned to In-House R&O unit
☐ Part of Design Consultant contract, Design Firm:_____
☐ Do not assign, because:
☐ Return it to the District because:

Bridge Inspection Engineer's Signature : Date of Submission to State Bridge Engineer

To Be Filled out by State Bridge Engineer

☐ Assign to Consultant
☐ Assign to In-House R&O unit
☐ Part of Design Consultant contract, Design Firm:_____
☐ Do not assign, because:

State Bridge Engineer's Signature: Date of Submission to Bridge Inspection Engineer

To Be Filled out by Bridge Inspection Engineer

☐ Assign to In-House R&O Unit Date:
☐ Assign to Consultant Date: Consultant: Contract No. & Assignment No.

Remarks:

Attachment 6-1: Request for Bridge Rating/Re-Rating Form

10 YEAR RATING EVALUATION FORM

To be filled out by DBIE:

This Evaluation Date:_____

District: ___ City/Town:_____ Br. No.:_____ BIN No. _____

Structure No. _____ I-22 (Owner) : _____

Facility Carried: _____I-43/Structure Type (Main):_____ Code:_____

Features Intersected: _____I-26 Year Built:_____ I-106 (Year Rebuilt):_____

Condition Rating from the latest Inspection Report:

Inspection date	I-58	I-59	I-60	I-62

Prior Rating Information

Rating Dates	I-58	I-59	I-60	I-62	Inventory Rating Values				Operating Rating Values			
					H20	Type 3	3S2	Hs20	H20	Type 3	3S2	HS20

This 10 year Evaluation recommends this structure be:

☐ Rated, with the following Priority

☐ High ☐ Medium ☐ Low

Reason:

☐ No Rating Needed

Reason:

DBIE's Signature Date of Submission to ABIE to insert into Boston History File

Attachment 6-2: 10 Year Rating Evaluation Form

THE COMMONWEALTH OF MASSACHUSETTS
MASSDOT - HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: NBIS File

FROM: Alexander K. Bardow, P.E., Director of Bridges & Structures

DATE: October 5, 2012

RE: BRIDGE RATING
BLACKSTONE
BRIDGE STREET OVER BLACKSTONE RIVER
BRIDGE NO. B-13-001 (1EA)
STRUCTURE NO. B13001-1EA-MUN-NBI
BIN = 1EA

Based on the review of the Bridge Rating Report prepared by Lamson Engineering Corp., on behalf of WSP-SELLS, dated August 2012, it is recommended that Bridge No. B-13-001 (1EA) **BE POSTED FOR:**

TWO AXLE	**(H20)**	**20 TONS**
THREE AXLE	**(3)**	**25 TONS**
FIVE AXLE	**(3S2)**	**30 TONS**

The controlling elements of the structure for both the inventory and operating stress level requirement are the interior beams no. 3 to 7, and 11 to 15, at 0.50 L for flexural strength, for all posting vehicles. The inventory stress level rating values, in tons, were calculated be to be 18.6, 20.3, and 25.3 and the operating stress level rating values, in tons, were calculated to be 42.9, 47.0 and 58.6 for the H20, Type 3 and Type 3S2 vehicles, respectively. The above recommended posting is based on an allowable overstress of 7.0 % per Bridge Inspection Handbook Directive 3.2.1, Section 4.1.2 (1). Prior to this rating report, this structure was last rated in May, 1983.

Overall, the structure is in fair condition. This two spans simply supported structure was built in 1955. The superstructure consists of rolled steel beams with a composite concrete deck and bituminous concrete wearing surface. The substructure consists of two cantilever concrete abutments, wingwalls, and a solid reinforced concrete pier.

The following is recommended to improve and maintain the condition of the structure.

- Remove additional pavement on top of the deck to improve the rating values.
- Clean and paint the structural steel.
- Repair the deteriorated web and bottom flange of beam 2 in span 1 near north expansion bearing. Clean and repair rusting areas at ends of all beams over the pier.
- Repair longitudinal cracks and spalling to the underside of the concrete deck slab.
- Replace existing bent steel keeper angle over the pier.
- Replace the existing non-standard bridge rail with Type S3-TL4 bridge rail.

(Continued)

Attachment 6-3: IOM to NBIS File, page 1 of 2

NBIS FILE
October 5, 2012
PAGE 2 of 2
RE: B-13-001 (1EA) RATING REPORT

- Remove the existing approach guardrail and replace with a new system that conforms to current standards, including attachment to the bridge.
- Repair all cracked and spalled concrete to the pier, abutments, and wingwalls.

- General maintenance and inspections should continue at regularly scheduled intervals to ensure the structural adequacy and performance of this bridge.

It is recommended that this structure be placed in a program for rehabilitation or replacement.

The Ratings and Overloads Unit shall enter the following load rating data into the 4D Database upon receipt of a signed copy of this memorandum:

Item 63 = 1 (Load Factor Method)
Item 65 = 1 (Load Factor Method)
INV H20 = 18.6 English Tons
INV Type 3 = 20.3 English Tons
INV Type 3S2 = 25.3 English Tons
INV HS20 = 21.1 English Tons
Rating Report = Y
Computer File = Y

Item 64 = 68.9Metric Tons
Item 66 = 41.2Metric Tons
OPR H20 = 42.9 English Tons
OPR Type 3 = 47.0 English Tons
OPR Type 3S2 = 58.6English Tons
OPR HS20 = 48.8 English Tons
Date of Last Rating Report = 08/2012
Computer File Type = VIRTIS

HRB/hn

cc: Rating Reports (Bridge and District copies)
Attach: 08/2012 Rating Report Summary Sheet & Breakdown Sheet

Attachment 6-3: IOM to NBIS File, page 2 of 2

RED COVER RATING REPORT LOG

Date Rating Received	Bridge No. (BIN)	Consultant	Rec. Page Read by: (Initials/Date)	Action Taken by State Bridge Engineer	Returned from R/O	Final Disposition

Attachment 6-4: Red Cover Rating Report Log

MassDOT Massachusetts Department of Transportation Highway Division

RED COVER RATING REPORT TRACKING FORM

TOWN: _____

BRIDGE NO.: _____ BIN: _____

FACILITY ON BRIDGE: _____

FEATURE INTERSECTED: _____

CONSULTANT: _____

DATE REPORT RECEIVED: _____

STATE BRIDGE ENGINEER'S INITIAL REPORT SCREENING

RECOMMENDATION PAGE READ BY: _____ DATE: _____

ACTION TAKEN BY STATE BRIDGE ENGINEER:

_____

_____

_____

_____

RATINGS/OVERLOAD REVIEW

RATING REPORT RECEIVED BY: _____ DATE: _____

REPORT REVIEW ASSSIGNED TO: _____ DATE: _____

RATINGS/OVERLOAD REVIEW COMMENTS:

_____

_____

_____

_____

_____

DATE REPORT RELEASED FROM RATINGS/OVERLOAD: _____

Attachment 6-5: Red Cover Rating Tracking Form

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: Mary-Joe Perry, District 5 Highway Director

ATTN: Daniel S. Crovo, P.E., District Bridge Engineer

FROM: Alexander K. Bardow, P.E., State Bridge Engineer

DATE: August 13, 2013

RE: **National Bridge Inspection Standards (NBIS)**
Bridge Rating and Posting

New Bedford: I 195 / ST140
BRIDGE NO: N-06-014
BIN NO: 71F
STRUCTURE NO: N06014-71F-DOT-NBI

Based upon the Bridge Rating prepared by GPI Engineers, Inc., dated June 1, 2013 (copy filed with the District Bridge Inspection Unit) there is **NO POSTING** required for this bridge.

Please be advised that some deficiencies were reported in the rating report with recommendations to be addressed through repairs or rehabilitation (please see attached memo by the State Bridge Engineer to NBIS file dated July 26, 2013).

The District Bridge Inspection Unit will code all related items in the inventory appropriately and submit changes with their monthly compliance report.

BJS/bjs
cc: BIE (3)
DBIE, D-5

Enclosure: State Bridge Engineer's letter to NBIS file dated July 26, 2013

Attachment 6-6: IOM to DHD No Posting State Owned Structure

HIST. FILE

Deval L. Patrick, Governor
Richard A. Davey, Secretary & CEO
Frank DePaola, Administrator

MassDOT Massachusetts Department of Transportation Highway Division

October 24, 2013

Town of Mansfield
Board of Selectmen
6 Park Row
Mansfield, MA 02048

Attn: Richard Alves, P.E., Town Engineer

SUBJECT: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE RATING AND POSTING

Mansfield: ST106 EAST ST / CANOE RIVER
Bridge No: M-03-012
BIN No: AQ4
Structure No: M03012-AQ4-MUN-NBI

Dear Select Board:

The Massachusetts Department of Transportation (MassDOT) - Highway Division has undertaken the inventory, inspection, and rating of municipal bridges to assist the cities and towns in complying with state and federal laws and regulations.

In accordance with the provisions of **M.G.L.C 85, sub-section 35**, the MassDOT - Highway Division has determined the maximum load which the subject bridge may safely carry.

In conformance with that determination by MassDOT - Highway Division, there is **NO POSTING** required for this bridge.

General maintenance and inspections should continue at regular scheduled intervals to ensure the structural adequacy and performance of the structure.

A copy of the Rating Report is filed in the District Bridge Inspection Unit, telephone no. (508) 884-4236. The Department is pleased to assist you in this matter of bridge safety.

Sincerely,

Alexander K. Bardow, P.E.
State Bridge Engineer

BJS/bjs
cc: BIE (2)
DHD, D-5
DBIE, D-5

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Attachment 6-7: Letter to City/Town - No Posting of Municipal Owned Structure

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: Jonathan L. Gulliver, District 3 Highway Director

ATTN: Maintenance Engineer

FROM: Alexander K. Bardow, P.E., State Bridge Engineer

DATE: June 24, 2013

RE: **National Bridge Inspection Standards (NBIS)**
Bridge Rating and Posting

Lancaster: JACKSON RD / ST 2
BRIDGE NO: L-02-018
BIN NO: 23U
STRUCTURE NO: L02018-23U-DOT-NBI

A rating report for the subject bridge (copy filed with the District Bridge Inspection Unit) has been completed by MHD Ratings and Overloads Unit, dated May 14, 2013.

In accordance with the Board Action taken, item # 35 dated 6/12/13, this bridge is to be POSTED as follows:

TYPE "H" (2 axles)	**13 TONS**
TYPE "3" (3 axles)	**16 TONS**
TYPE "3S2" (5 axles)	**20 TONS**

Please direct your personnel to post the bridge within 30 working days, provide an alternate route for vehicles exceeding the posted limits and notify the local officials of the action taken.

Please be advised that some deficiencies were reported in the rating report (see attached letter by State Bridge Engineer to NBIS file dated 5/30/13) with recommendations to be addressed through repairs or rehabilitations.

The District Bridge Inspection Unit shall code all related items in the inventory appropriately and submit changes with the monthly compliance report upon verifying that you have complied with this warrant.

GK/gk
cc: BIE (3)
DBIE, D-3
State Police

Attachment: Letter to NBIS file dated 5/30/13

Attachment 6-8: IOM to DHD - Posting State Owned Structure

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: Jonathan L. Gulliver, Acting District 3 Highway Director

ATTN: Maintenance Engineer

FROM: Alexander K. Bardow, P.E., Director of Bridges and Structures

DATE: October 22, 2012

RE: **National Bridge Inspection Standards (NBIS)**
Bridge Rating and Posting

Blackstone: BRIDGE ST / BLACKSTONE RIVER
BRIDGE NO: B-13-001
BIN NO: 1EA
STRUCTURE NO: B13001-1EA-MUN-NBI

A rating report for the subject Town owned bridge (copy filed with the District Bridge Inspection Unit) has been completed by WSP SELLS, dated August 1, 2012.

The Town of Blackstone has been directed by the attached letter to post the bridge within 30 days as follows:

TYPE "H" (2 axles)	**20 TONS**
TYPE "3" (3 axles)	**25 TONS**
TYPE "3S2" (5 axles)	**30 TONS**

Please direct your personnel to coordinate with the municipality in posting the bridge, and providing an alternate route for vehicles exceeding the posted limits.

The District Bridge Inspection Unit shall code all related items in the inventory appropriately and submit changes with the monthly compliance report upon verifying that you have complied with this warrant.

GK/gk
cc: BIE (3)
DBIE, D-3
State Police

Attachment: Letter to the Town dated 10/19/12 &
Letter to NBIS file dated 10/5/12

Attachment 6-9: IOM to DHD – Posting of Municipally Owned Structure

MassDOT Massachusetts Department of Transportation Highway Division

October 19, 2012

Town of Blackstone
Town Administrator
15 St. Paul St.
Blackstone, MA 01504

Attn: Michael Supernant, HWY Superintendent

SUBJECT: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE RATING AND POSTING
Blackstone: BRIDGE ST / BLACKSTONE RIVER
Bridge No: B-13-001
BIN No: 1EA
Structure No: B13001-1EA-MUN-NBI

Dear Select Board:

The Massachusetts Department of Transportation (MassDOT) - Highway Division has undertaken the inventory, inspection, and rating of municipal bridges to assist the cities and towns in complying with state and federal laws and regulations.

In accordance with the provisions of **M.G.L.C 85, sub-section 35**, the MassDOT - Highway Division has determined the maximum load which the subject bridge may safely carry.

In conformance with that determination by MassDOT - Highway Division, the bridge B-13-001 (noted above) is to be posted for:

TYPE "H" (2 axles)	**20 TONS**
TYPE "3" (3 axles)	**25 TONS**
TYPE "3S2" (5 axles)	**30 TONS**

In reference to posting of the subject bridge, please comply with the following:

1. For the sake of uniformity, the MassDOT - Highway Division will supply the first set of signs. The sign posts will also be provided if funds are available. The signs should be ordered through the MassDOT - Highway Division District 3 office located at 403 Belmont Street, Worcester, MA 01604, telephone no. (508) 929-3800.

2. All Bridge Posting shall be in accordance with **M.G.L.C 85, sub-section 34**.

3. For our NBIS records, notify this office and the District 3 Bridge Inspection Unit of your date of posting and the weight limit posting enforcement official's name, title and office telephone number.

Attachment 6-10: Letter to City/Town - Posting of Municipal Owned Structure, page 1 of 2

Town of Blackstone
Bridge Rating & Posting
Bridge No. B-13-001
October 19, 2012
Page 2 of 2

4. If you have not posted the bridge within thirty (30) days of the date of this letter, please note that under **M.G.L.C 85, sub-section 35**, the MassDOT - Highway Division is authorized to post the bridge on its own initiative.

I draw to your attention that in the past, the Federal Government has suspended Federal Aid to cities and towns that were, in its opinion, not fully implementing the National Bridge Inspection Standards. Failure to properly post and enforce weight load limits is undisputedly a violation and will result in the automatic suspension of funding.

Please be advised that deficiencies were reported in the rating report with recommendations to be addressed through repairs or rehabilitation. The recommendations are as follows:

- Remove additional pavement on top of the deck to improve the rating values.
- Clean and paint the structural steel.
- Repair the deteriorated web and bottom flange of beam 2 in span 1 near north expansion bearing. Clean and repair rusting areas at ends of all beams over the pier.
- Repair longitudinal cracks and spalling to the underside of the concrete deck slab.
- Replace existing bent steel keeper angle over the pier.
- Replace the existing non-standard bridge rail with Type S3-TL4 bridge rail.
- Remove the existing approach guardrail and replace with a new system that conforms to current standards, including attachment to the bridge.
- Repair all cracked and spalled concrete to the pier, abutments, and wingwalls.
- General maintenance should continue at regularly scheduled intervals to ensure the structural adequacy and performance of this bridge.

A copy of the Rating Report is filed in the District Highway Office. The District Highway Director is available to recommend procedures to upgrade the subject bridge.

The Department is pleased to assist you in this matter of bridge safety.

Sincerely,

Alexander K. Bardow, P.E.
Director of Bridges and Structures

GK/gk
cc: BIE (2)
DHD, D-3
DBIE, D-3
State Police

Attachment 6-10: Letter to City/Town - Posting of Municipal Owned Structure, page 2 of 2

THE COMMONWEALTH OF MASSACHUSETTS
MASSACHUSETTS HIGHWAY DEPARTMENT
INTEROFFICE MEMORANDUM

TO: Bernard McCourt, District 5 Highway Director

ATTN: Maintenance Engineer

FROM: Alexander K. Bardow, P.E., Director of Bridges and Structures

DATE: May 7, 2009

RE: **National Bridge Inspection Standards (NBIS)**
Bridge Rating and Posting

Barnstable: US 6 WB/MD CP HWY / ST132 IYANNOUGH RD
BRIDGE NO: B-01-019
BIN NO: 46G
STRUCTURE NO: B01019-46G-MHD-NBI

Based upon the Bridge Rating prepared by MHD Ratings and Overloads Unit, dated February 1, 2007 (copy filed with the District Bridge Inspection Unit), this bridge shall **REMAIN POSTED** as follows:

TYPE "H" (2 axles)	**20 TONS**
TYPE "3" (3 axles)	**25 TONS**
TYPE "3S2" (5 axles)	**40 TONS**

Please direct your personnel to verify that the existing posting signs with the above weight limits are in place and the alternate route for vehicles exceeding the posted limits is being utilized.

Please be advised that some deficiencies were reported in the rating report with recommendations to be addressed through repairs or rehabilitations (please see attached letter by Director of Bridges and Structures to NBIS file dated March 19, 2009).

The District Bridge Inspection Unit will code all related items in the inventory appropriately and submit changes with the monthly compliance report.

BJS/bjs
cc: BIE (3)
DBIE, D-5

Enclosure: Director of Bridges and Structures' letter to NBIS file dated March 19, 2009

Attachment 6-11: IOM to DHD Remain Posted State Owned Structure

DEVAL L. PATRICK, GOVERNOR
TIMOTHY P. MURRAY, LT. GOVERNOR
JEFFREY B. MULLAN, SECRETARY & CEO
LUISA PAIEWONSKY, ADMINISTRATOR

Moving Massachusetts Forward. massDOT Highway

February 3, 2010

Town of Great Barrington
Board of Selectmen
334 Main St.
Great Barrington, MA 01230

Attn: Joseph Sokul, Highway/Facilities Superintendent

SUBJECT: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE RATING AND POSTING
Great Barrington: DIVISION ST / HOUSATONIC RIVER
Bridge No: G-11-002
BIN No: 04F
Structure No: G11002-04F-MUN-NBI

Dear Select Board:

The Massachusetts Department of Transportation (MassDOT) - Highway Division has undertaken the inventory, inspection, and rating of municipal bridges to assist the cities and town in complying with state and federal laws and regulations. In accordance with the provisions of **M.G.L.C 85, sub-section 35**, the MassDOT - Highway Division has determined the maximum load which the subject bridge may safely carry.

Based upon the Bridge Rating prepared by Michael Baker Jr., Inc., dated May 2009, it is recommended that this bridge **REMAIN POSTED** for:

TYPE "H" (2 axles)	**15 TONS**
TYPE "3" (3 axles)	**19 TONS**
TYPE "3S2" (5 axles)	**29 TONS**

Please be advised that the following deficiencies were reported in the rating report with recommendations to be addressed through repairs or rehabilitation:

- Removing the existing 2.5" thick bituminous wearing surface and replacing with a 1" thick wearing surface. Reducing the thickness of the current wearing surface would increase the capacity of the structure;
- Repair the spalling in the concrete deck;
- Repair or replace the cracked tie/connection plate at the north truss at U1;

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Attachment 6-12: Letter to City/Town Remain Posted of Municipal Owned Structure, page 1 of 2

Town of Great Barrington
Bridge Rating & Posting
Bridge No. G-11-002
February 3, 2010
Page 2 of 2

- The entire superstructure should be cleaned and painted to arrest active corrosion within the critical stress regions of the floorbeams and stringers and to prevent future corrosion of the remaining components.

A copy of the Rating Report is filed in the District Bridge Inspection Unit, telephone no. (413) 637-5779

The Department is pleased to assist you in this matter of bridge safety.

Sincerely,

Alexander K. Bardow, P.E.
Director of Bridges and Structures

BJS/bjs
cc: BIE (2)
DHD, D-1
DBIE, D-1

Attachment 6-12: Letter to City/Town Remain Posted of Municipal Owned Structure, page 2 of 2

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: Mary-Joe Perry, District 5 Highway Director

ATTN: Daniel S. Crovo, P.E., District Bridge Engineer

FROM: Alexander K. Bardow, P.E., State Bridge Engineer

DATE: August 13, 2013

RE: **National Bridge Inspection Standards (NBIS)**
Bridge Rating and Posting

Kingston: ST 3 PILGRIM HWY / JONES RIVER
BRIDGE NO: K-01-011
BIN NO: AGD
STRUCTURE NO: K01011-AGD-DOT-NBI

Based upon the Bridge Rating prepared by AI Engineers, Inc., dated December 1, 2012 (copy filed with the District Bridge Inspection Unit) the posting is **WAIVED** for this bridge.

Please be advised that some deficiencies were reported in the rating report with recommendations to be addressed through repairs or rehabilitation (please see attached memo by the State Bridge Engineer to NBIS file dated July 30, 2013).

The District Bridge Inspection Unit will code all related items in the inventory appropriately and submit changes with their monthly compliance report.

BJS/bjs
cc: BIE (3)
DBIE, D-5

Enclosure: State Bridge Engineer's letter to NBIS file dated July 30, 2013.

Attachment 6-13: IOM to DHD - Waiving the Posting of State Owned Structure

Deval L. Patrick, Governor
Timothy P. Murray, Lt. Governor
Richard A. Davey, Secretary & CEO
Frank DePaola, Administrator

MassDOT Massachusetts Department of Transportation Highway Division

March 18, 2013

City of Lowell
Office of the Mayor
375 Merrimack Street
Lowell, MA 01852

Attn: Lisa DeMeo, City Engineer

SUBJECT NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE RATING AND POSTING
Lowell: SCHOOL ST / NORTHERN CANAL
Bridge No: L-15-022
BIN No: 2BU
Structure No: L15022-2BU-MUN-NBI

Dear Select Board:

The Massachusetts Department of Transportation (MassDOT) - Highway Division has undertaken the inventory, inspection, and rating of municipal bridges to assist the cities and towns in complying with state and federal laws and regulations.

In accordance with the provisions of **M.G.L.C 85, sub-section 35**, the MassDOT - Highway Division has determined that no posting is required for the subject bridge. In conformance with that determination by MassDOT - Highway Division, the posting is **WAIVED** for this bridge.

Please be advised that it is recommended that general maintenance be performed on regular intervals to ensure the structural adequacy and performance of the structure.

A copy of the Rating Report is filed in the District Bridge Inspection Unit, telephone no. (781) 674-2172

The Department is pleased to assist you in this matter of bridge safety.

Sincerely,

Alexander K. Bardow, P.E.
Director of Bridges and Structures

GK/gk
cc: BIE (2)
DHD, D-4
DBIE, D-4

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Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 617-973-7000, TDD: 617-973-7306
www.mass.gov/massdot

Attachment 6-14: Letter to City/Town -Waiving the Posting of Municipally Owned Structure

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: Jonathan L. Gulliver, District 3 Highway Director

THROUGH: Patricia A. Leavenworth, P.E., Chief Engineer

FROM: Alexander K. Bardow, P.E., State Bridge Engineer

DATE: August 23, 2013

RE: **National Bridge Inspection Standards (NBIS)**
Bridge Rating and Posting

Southborough: BRIDGE ST / CSX
BRIDGE NO: S-20-014
BIN NO: 23L
STRUCTURE NO: S20014-23L-DOT-634

Based upon the Bridge Inspections performed by District 3 Bridge Inspection Personnel, dated August 20, 2013 and August 22, 2013 (copy filed with the District Bridge Inspection Unit) the above bridge was found to be unsafe. It is recommended that this bridge be **CLOSED** to vehicular traffic.

The reason for this recommendation is due to the immanent failure of the stringers supporting the corrugated metal deck pan supporting the bituminous concrete wearing surface.

This letter confirms the notification to closed the bridge per an email on 8/20/13 from Mohammed Nabulsi , District 3 Bridge Engineer to Alexander Bardow, State Bridge Engineer.

The District Bridge Inspection Engineer shall code all related items in the inventory appropriately and submit changes with the monthly compliance report upon verifying that you have complied with the Memorandum.

GK/gk
Attach.: NBIS IOM dated 8/23/13
cc: BIE (3)
DBIE, D-3

Attachment 6-15: IOM to DHD - Close State Owned Structure

Deval L. Patrick, Governor
Timothy P. Murray, Lt. Governor
Richard A. Davey, Secretary & CEO
Frank DePaola, Administrator

MassDOT Massachusetts Department of Transportation Highway Division

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

July 13, 2012

Town of Amherst
Board of Selectmen
Town Hall, 4 Boltwood Ave
Amherst, MA 01002

Attn: Guilford Mooring, Superintendent of Public Works

SUBJECT: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE RATING AND POSTING
Amherst: MILL ST / MILL RIVER
Bridge No: A-08-008
BIN No: 0PA
Structure No: A08008-0PA-MUN-NBI

Dear Select Board:

The Massachusetts Department of Transportation (MassDOT) - Highway Division has undertaken the inventory, inspection, and rating of municipal bridges to assist the cities and towns in complying with state and federal laws and regulations. In accordance with the provisions of **M.G.L.C 85, sub-section 35**, the MassDOT - Highway Division has determined the maximum load which the subject bridge may safely carry.

The above bridge was rated, and it is recommended that the bridge be **CLOSED** to vehicular traffic.

The reason for this recommendation is: no load carrying capacity and web buckling in beam 5 due to severe section losses.

This letter confirms the notification to closed the bridge per a telephone conversation on July 12, 2012 between Guilford Mooring, Superintendent of Public Works and Mark Banasieski, District 2 Bridge Engineer.

Your immediate action is requested. Please respond in writing confirming your action not later than July 20, 2012.

A copy of the Rating Report regarding this recommendation is on file at our District Office. Albert R. Stegemann, the District Highway Director, will be pleased to review the report with you and advise you of any programs available regarding this bridge.

Thank you for your cooperation.

Sincerely,

Thomas F Broderick, P.E.
Chief Engineer

BJS/bjs
cc: DHD, D-2 & DBIE, D-2, BIE(3)
Duplicate sent by Regular First Class Mail

Leading the Nation in Transportation Excellence

Ten Park Plaza, Suite 4160, Boston, MA 02116
Tel: 617-973-7000, TDD: 617-973-7306
www.mass.gov/massdot

Attachment 6-16: Letter to City/Town - Closure of Municipally Owned Structure

The Commonwealth of Massachusetts
Massachusetts Department of Transportation - Highway Division

MISCELLANEOUS ITEM

Action Requested: Bridge Posting

Type of Contract: _____ **Contract #:** _____

Division: BRIDGES AND STRUCTURES **Project I.D. #:** _____

Project/Location: Lancaster / L-02-018 / JACKSON RD / ST 2

Vendor/Party Name and Address: _____

_____

Account No.: _____ **Federal Aid No.:** _____

Description:
Subject: NATIONAL BRIDGE INSPECTION STANDARDS (NBIS)
BRIDGE POSTING
BRIDGE NO: L-02-018
STRUCTURE NO: L02018-23U-DOT-NBI

Attached is a copy of an interoffice memorandum between Alexander K. Bardow, P.E., Director of Bridges and Structures and Jonathan Gulliver, Distristrit 3 Highway Director, dated May 30, 2013, containing a recommendation to post the bridge as follows:

TYPE "H" (2 axles)	Loading 13 TONS
TYPE "3" (3 axles)	Loading 16 TONS
TYPE "3S2" (5 axles)	Loading 20 TONS

The recommendation is based on the Damage inspection report dated 5/14/13 and calculations performed by the Bridge Section Ratings and Overload Unit.

I recommend that the Bridge No. L-02-018 be posted for the above listed load limits for the best interest of the Commonwealth and the safety of the traveling public.

Approvals:

Brian B. Clang 6/3/13
Submitted by Brian B. Clang, P.E. **Date**

Thomas F. Broderick 6/10/13
~~Acting~~ Chief Engineer **Date**

Alexander K. Bardow 6/3/13
Director of Bridges and Structures **Date**
Alexander K. Bardow, P.E.

General Counsel 6/10/13 **Date**

N/R
Budget/C.E.P.O. **Date**

Administrator **Date**

Sonya N. Barros 6/12/13
Contracts & Records **Date**

N/R
Secretary/CEO **Date**

Item No.: 35
Date: JUN 12 2013

Attachment 6-17: Miscellaneous Item Form

Report Date: October 24, 2013

State Information

BDEPT#= A01006 Agency Br.No.
Town= Abington
B.I.N= 41C
RANK= 2300 H.I.= 97.5 % FHWA Select List= Y

Identification

(8) Structure Number	A0100641CMUNNBI
(5) Inventory Route	151000000
(2) State Highway Department District	05
(3) County Code 023 (4) Place code	00170
(6) Features Intersected	WATER SHUMATUSCACANT RIV
(7) Facility Carried	HWY CENTRAL ST
(9) Location	.5 MI E OF RTE 18
(11) Kilometerpoint	0000.080
(12) Base Highway Network	N
(13) LRS Inventory Route & Subroute	000000000000
(16) Latitude	42 DEG 06 MIN 51.36 SEC
(17) Longitude	70 DEG 56 MIN 30.92 SEC
(98) Border Bridge State Code	Share %
(99) Border Bridge Structure No. #	

Structure Type and Material

(43) Structure Type Main: Prestressed Concrete Code 501
Slab Jointless bridge type: Not applicable
(44) Structure Type Appr:
Other Code 000
(45) Number of spans in main unit 001
(46) Number of approach spans 0000
(107) Deck Structure Type - Concrete Precast Panels Code 2
(108) Wearing Surface / Protective System:
A) Type of wearing surface - Bituminous Code 6
B) Type of membrane - Built-up Code 1
C) Type of deck protection - None Code 0

Age and Service

(27) Year Built 1956
(106) Year Reconstructed 0000
(42) Type of Service: On - Highway-Ped
Under - Waterway Code 55
(28) Lanes: On Structure 02 Under structure 00
(29) Average Daily Traffic 007700
(30) Year of ADT 2011 (109) Truck ADT 06 %
(19) Bypass, detour length 002 KM

Geometric Data

(48) Length of maximum span 0006.4 M
(49) Structure Length 00007.0 M
(50) Curb or sidewalk: Left 01.5 M Right 01.5 M
(51) Bridge Roadway Width Curb to Curb 009.1 M
(52) Deck Width Out to Out 012.2 M
(32) Approach Roadway Width (w/shoulders) 009.1 M
(33) Bridge Median - No median Code 0
(34) Skew 13 DEG (35) Structure Flared N
(10) Inventory Route MIN Vert Clear 99.99 M
(47) Inventory Route Total Horiz Clear 09.1 M
(53) Min Vert Clear Over Bridge Rdwy 99.99 M
(54) Min Vert Underclear ref N 00.00 M
(55) Min Lat Underclear RT ref N 00.0 M
(56) Min Lat Underclear LT 00.0 M

Navigation Data

(38) Navigation Control - No navigation control on waterway Code 0
(111) Pier Protection Code
(39) Navigation Vertical Clearance 000.0 M
(116) Vert-lift Bridge Nav Min Vert Clear M
(40) Navigation Horizontal Clearance 0000.0 M

Ratings and Overloads Engineer

Area Bridge Inspection Engineer

	Code
(112) NBIS Bridge Length	Y
(104) Highway System	N
(26) Functional Class	17
(100) Defense Highway	0
(101) Parallel Structure	N
(102) Direction of Traffic - 2-way traffic	2
(103) Temporary Structure	N
(105) Federal Lands Highways	0
(110) Designated National Network	N
(20) Toll - On free road	3
(21) Maintain - Town Agency	03
(22) Owner - Town Agency	03
(37) Historical Significance built after 1949 presumed to be not eligi	Z

Condition

	Code
(58) Deck	4
(59) Superstructure	4
(60) Substructure	7
(61) Channel & Channel Protection	7
(62) Culverts	N

Load Rating and Posting

	Code
(31) Design Load - HS 20=MS 18	5
(63) Operating Rating Method - Load Factor (LF)	1
(64) Operating Rating	54.1
(65) Inventory Rating Method - Load Factor (LF)	1
(66) Inventory Rating	50.2
(70) Bridge Posting	5
(41) Structure - Open	A

Appraisal

	Code
(67) Structural Evaluation	4
(68) Deck Geometry	3
(69) Underclearances, vert. and horiz.	N
(71) Waterway adequacy	6
(72) Approach Roadway Alignment	6
(36) Traffic Safety Features	0 0 0 0
(113) Scour Critical Bridges	8

Inspections

(90) Inspection Date 09/25/13 (91) Frequency 12 MO

(92) Critical Feature Inspection:				(93) CFI DATE
(A) Fracture Critical Detail	N	00	MO A)	00/00/00
(B) Underwater Inspection	N	00	MO B)	05/01/90
(C) Other Special Inspection	Y	12	MO C)	09/25/13
(*) Other Inspection ()	N	00	MO *)	03/07/06
(*) Closed Bridge	N	00	MO *)	00/00/00
(*) UW Special Inspection	N	00	MO *)	00/00/00
(*) Damage Inspection			MO *)	00/00/00

Rating Loads

Report Date 07/01/09	H20	Type 3	Type 3S2	Type HS
Operating	37.0	48.0	71.0	60.0
Inventory	34.0	44.0	65.0	56.0

Field Posting

Status LEGAL Posting Date 01/26/10

	2 Axle	3 Axle	5 Axle
Actual			
Recommended			

Missing Signs N

Misc.

Bridge Name
N Anti-missile fence N Acrow Panel N Jointless Bridge
Freeze/Thaw N : Not Applicable

Accessibility (Needed/Used)

N / N	Liftbucket	N / N	Rigging	N / N	Other
N / N	Ladder	N / N	Staging		
N / N	Boat	N / N	Traffic Control		
Y / Y	Wader	N / N	RR Flagperson	Inspection Hours:	008
N / N	Inspector 50	N / N	Police		

Attachment 6-18: SI&A items to be updated by ABIE and R&O Engineer

THE COMMONWEALTH OF MASSACHUSETTS
MASSDOT - HIGHWAY DIVISION
INTEROFFICE MEMORANDUM

TO: NBIS File

FROM: Alexander K. Bardow, P.E., Director of Bridges & Structures

DATE: April 30, 2013

RE: BRIDGE RATING
NORTH READING - READING
ST 28 MAIN STREET OVER IPSWICH RIVER
BRIDGE NO. N-18-008= R-03-003 (2L0)
STRUCTURE NO. N18008-2L0-DOT-NBI
BIN = 2L0

Based upon the rating report prepared by Bayside Engineering, Inc., dated July 2012, it is recommended that 1904 construction of concrete jack arch on west side of the Bridge No. N-18-008 = R-03-003 (2L0) **BE CLOSED TO ALL VEHICULAR AND PEDESTRIAN TRAFFIC.**

The controlling elements of the structure for both the inventory and operating stress level requirements are the jack arch beams 1 to 4 for all posting vehicles. The inventory and operating ratings were calculated to be 0 tons for the H20, Type 3 and Type 3S2 vehicles. Prior to this report, this structure was rated in 1979.

It is further recommended that the remaining portion of Bridge No. N-18-008 = R-03-003 (2L0) **BE POSTED FOR:**

TWO AXLE	**(H20)**	**9 TONS**
THREE AXLE	**(3)**	**12 TONS**
FIVE AXLE	**(3S2)**	**18 TONS**

The controlling element of this portion of the structure for both the inventory and operating stress level requirements is beam 6, in shear, for all posting vehicles. The inventory rating in tons were calculated to be 9.2, 11.6, and 18.1 and the operating rating in tons were calculated to be 22.2, 27.9, and 43.5 for the H20, Type 3 and Type 3S2 vehicles, respectively.

Overall, the structure is in fair condition. The structure, built in 1904 and expanded in 1931, consists of a single span concrete jack arch deck with steel stringers encased in concrete and 3 spans of continuously supported reinforced concrete T beams. The substructure for the 1904 construction consists of two concrete abutments with splayed counterfort U-wingwalls. Four multicolumn reinforced concrete pile bents with pile caps support the 1931 construction.

Continued

Attachment 6-19: NBIS Memorandum Containing Dual Recommendations, Page 1 of 2

BIS FILE
April 30, 2013
PAGE 2 of 2
RE: N-18-008 = R-03-003 (2L0) RATING REPORT

The Ratings and Overloads Unit shall enter the following load rating data into the 4D Database upon receipt of a signed copy of this memorandum:

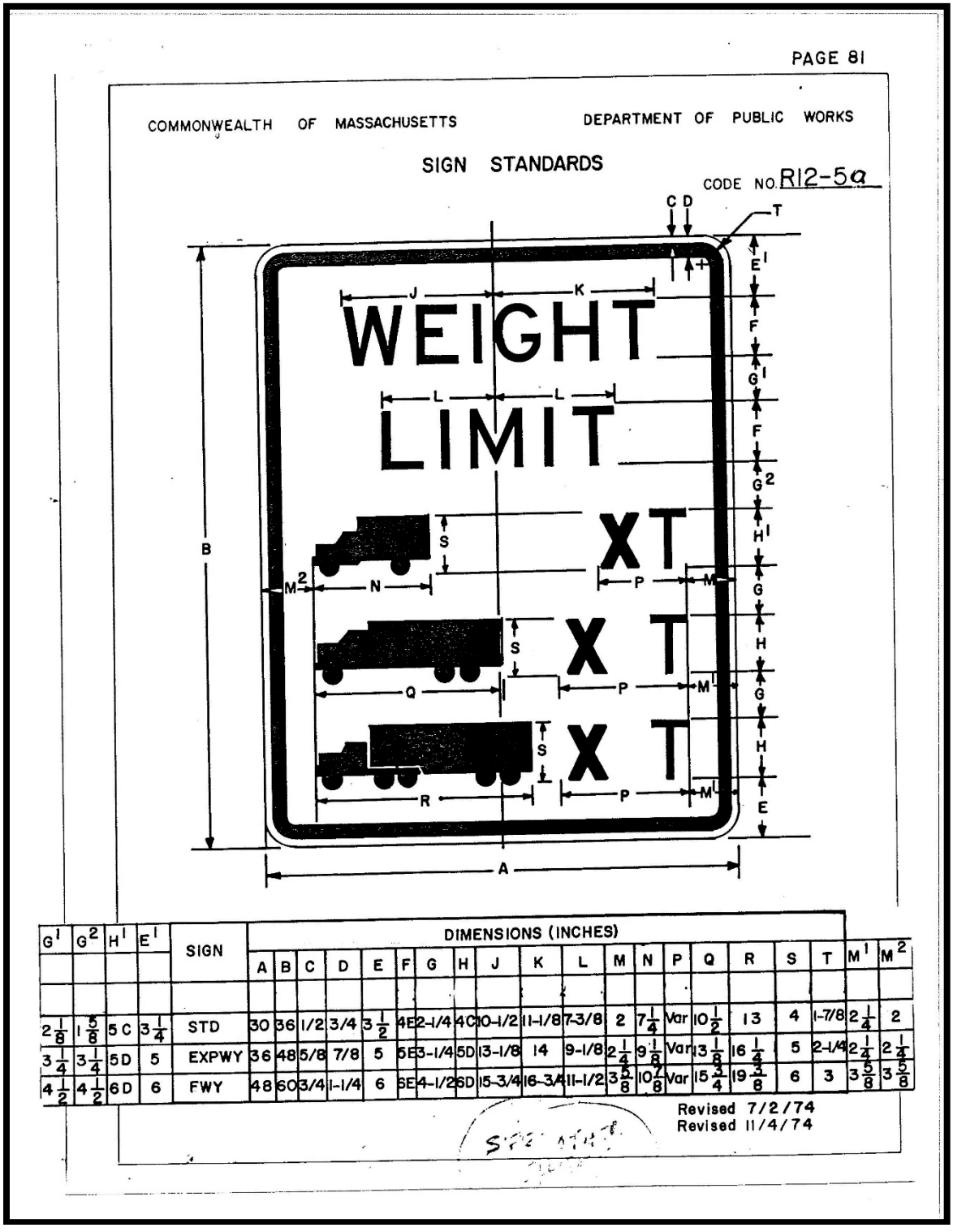
Item 63 = 1 (Load Factor Method)
Item 65 = 1 (Load Factor Method)
INV H20 = 0.0 English Tons
INV Type 3 = 0.0 English Tons
INV Type 3S2 = 0.0 English Tons
INV HS20 = 0.0 English Tons
Rating Report = Y
Computer File = Y

Item 64 = 0.0 Metric Tons
Item 66 = 0.0 Metric Tons
OPR H20 = 0.0 English Tons
OPR Type 3 = 0.0 English Tons
OPR Type 3S2 = 0.0 English Tons
OPR HS20 = 0.0 English Tons
Date of Last Rating Report = 07/12
Computer File Type = VIRTIS

HRB/tn

cc: Rating Reports (Bridge and District copies)
Attach: 07/12 Rating Report Summary Sheet & Breakdown Sheet and skech

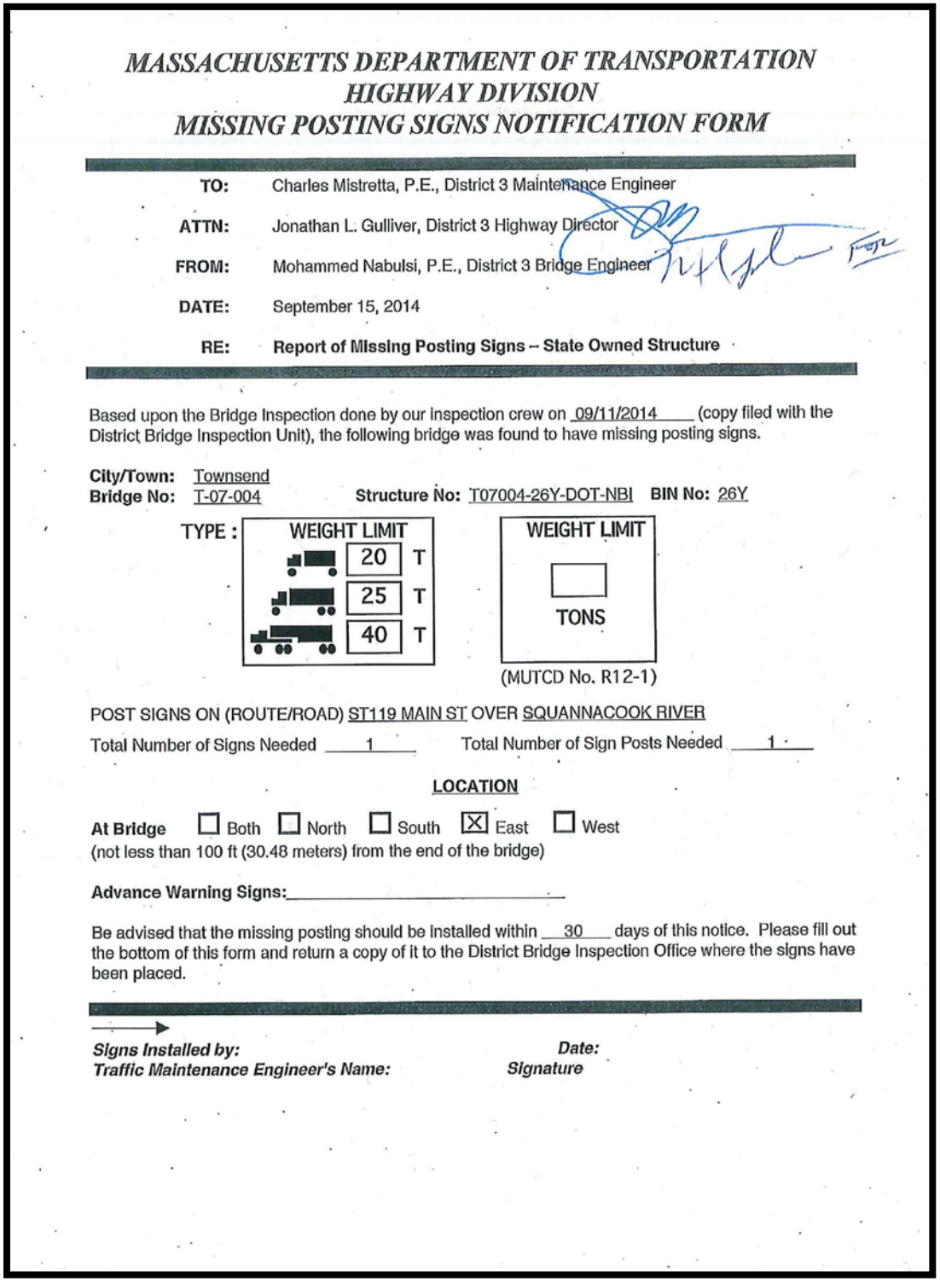
Attachment 6-19: NBIS Memorandum Containing Dual Recommendations, Page 2 of 2



G¹	G²	H¹	E¹	SIGN	DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	M¹	M²
2 1/8	1 5/8	5C	3 1/4	STD	30	36	1/2	3/4	3 1/2	4E	2-1/4	4C	10-1/2	11-1/8	7-3/8	2	7 1/4	Var	10 1/2	13	4	1-7/8	2 1/4	2
3 1/4	3 1/4	5D	5	EXPWY	36	48	5/8	7/8	5	6E	3-1/4	5D	13-1/8	14	9-1/8	2 1/4	9 1/8	Var	13 1/8	16 1/4	5	2-1/4	2 1/4	2 1/4
4 1/2	4 1/2	6D	6	FWY	48	60	3/4	1-1/4	6	8E	4-1/2	6D	15-3/4	16-3/4	11-1/2	3 5/8	10 7/8	Var	15 3/4	19 3/8	6	3	3 5/8	3 5/8

Revised 7/2/74
Revised 11/4/74

Attachment 6-20: Posting Sign Standard



MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
MISSING POSTING SIGNS NOTIFICATION FORM

TO: Charles Mistretta, P.E., District 3 Maintenance Engineer

ATTN: Jonathan L. Gulliver, District 3 Highway Director

FROM: Mohammed Nabulsi, P.E., District 3 Bridge Engineer

DATE: September 15, 2014

RE: **Report of Missing Posting Signs – State Owned Structure**

Based upon the Bridge Inspection done by our inspection crew on 09/11/2014 (copy filed with the District Bridge Inspection Unit), the following bridge was found to have missing posting signs.

City/Town: Townsend
Bridge No: T-07-004 **Structure No:** T07004-26Y-DOT-NBI **BIN No:** 26Y

TYPE : WEIGHT LIMIT 20 T 25 T 40 T

WEIGHT LIMIT ☐ TONS

(MUTCD No. R12-1)

POST SIGNS ON (ROUTE/ROAD) ST119 MAIN ST OVER SQUANNACOOK RIVER

Total Number of Signs Needed 1 Total Number of Sign Posts Needed 1

LOCATION

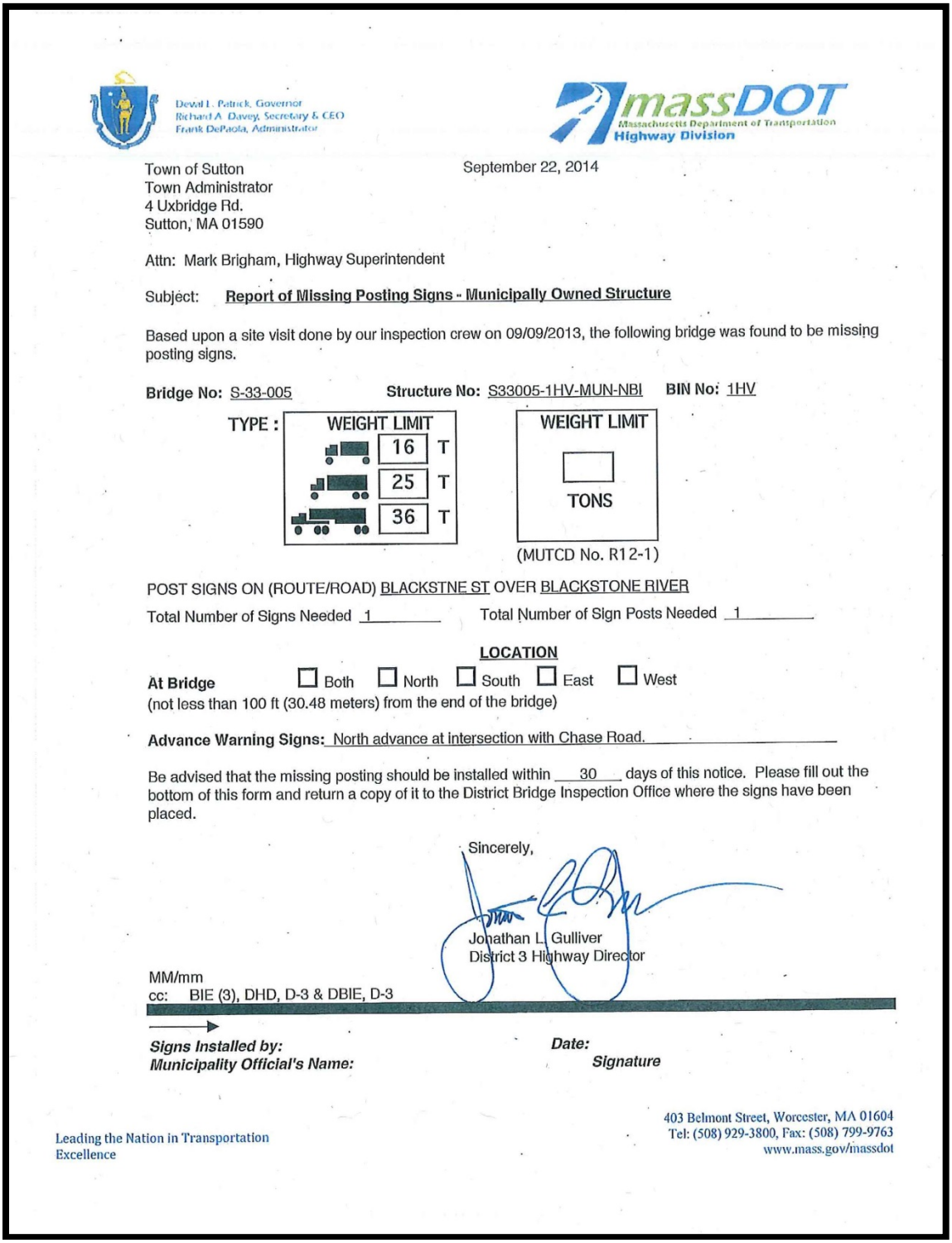
At Bridge ☐ Both ☐ North ☐ South ☒ East ☐ West
(not less than 100 ft (30.48 meters) from the end of the bridge)

Advance Warning Signs:_____

Be advised that the missing posting should be installed within 30 days of this notice. Please fill out the bottom of this form and return a copy of it to the District Bridge Inspection Office where the signs have been placed.

Signs Installed by: ***Date:***
Traffic Maintenance Engineer's Name: ***Signature***

Attachment 6-21: Missing Posting Signs Notification Form – State Owned



Deval L. Patrick, Governor
Richard A. Davey, Secretary & CEO
Frank DePaola, Administrator

MassDOT
Massachusetts Department of Transportation
Highway Division

Town of Sutton
Town Administrator
4 Uxbridge Rd.
Sutton, MA 01590

September 22, 2014

Attn: Mark Brigham, Highway Superintendent

Subject: **Report of Missing Posting Signs - Municipally Owned Structure**

Based upon a site visit done by our inspection crew on 09/09/2013, the following bridge was found to be missing posting signs.

Bridge No: S-33-005 **Structure No:** S33005-1HV-MUN-NBI **BIN No:** 1HV

TYPE :

(MUTCD No. R12-1)

POST SIGNS ON (ROUTE/ROAD) BLACKSTNE ST OVER BLACKSTONE RIVER

Total Number of Signs Needed 1 Total Number of Sign Posts Needed 1

LOCATION

At Bridge ☐ Both ☐ North ☐ South ☐ East ☐ West
(not less than 100 ft (30.48 meters) from the end of the bridge)

Advance Warning Signs: North advance at intersection with Chase Road.

Be advised that the missing posting should be installed within 30 days of this notice. Please fill out the bottom of this form and return a copy of it to the District Bridge Inspection Office where the signs have been placed.

Sincerely,

Jonathan L. Gulliver
District 3 Highway Director

MM/mm
cc: BIE (3), DHD, D-3 & DBIE, D-3

Signs Installed by: ***Date:***
Municipality Official's Name: ***Signature***

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403 Belmont Street, Worcester, MA 01604
Tel: (508) 929-3800, Fax: (508) 799-9763
www.mass.gov/massdot

Attachment 6-22: Letter to Municipalities reporting Missing Posting Signs

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION
HIGHWAY DIVISION
FOLLOW-UP VERIFICATION OF SIGNS

City/Town: Great Barrington Location: US 7 /ST23/STATE / HOUSATONIC RIVER

Bridge No: G-11-014

Structure No: G11014-09M-DOT-NBI

BIN No: 09M

Date of Initial Recommendation Notice (copy attached): September 26th, 2011

Recommended Posting: 20-25-36

Installed Posting: 20-25-36

Results of the site visit

(x) All signs are properly installed.

( ) Signs are installed, but not properly (please explain):
At Bridge ☐ Both ☐ North ☐ South ☐ East ☐ West
(not less than 100 ft (30.48meters) from the bridge)

Advance Warning Signs (please, give location)

_____

( ) No action has been taken.

Comments: _____

Verified by: Andrew Labib Signature: Andrew Labib

Site visit date: December 9th, 2011 Report date: September 26th, 2011

Reviewed by District Bridge Inspection Engineer: 12/12/11

DBIE's Comments:

Attachments:

Attachment 6-23: Follow Up Verification of Signs

Deval L. Patrick, Governor
Timothy P. Murray, Lt. Governor
Richard A. Davey, Secretary & CEO
Frank DePaola, Administrator

MassDOT Massachusetts Department of Transportation Highway Division

City of Taunton
Mayor of Taunton
15 Summer Street
Taunton, MA 02780

August 10, 2012

Attn: Fred Cornaglia, Director of Public Works

SUBJECT: RESULTS OF THE FOLLOW-UP SIGN SITE VISIT

Taunton: COHANNET ST / MILL RIVER
Bridge No: T-01-014
BIN No: 3K3
Structure No: T01014-3K3-MUN-NBI

Dear Select Board:

In the Follow-Up Site Visit of Signs for the above subject bridge (copy attached), please be advised of the following:

( ) Thank you for your corrective action. No more Follow-Up Site Visit of Signs will be performed at this bridge. Next inspection of this structure will be done on its regular inspection cycle.

( ) No action has been taken in regards to installation of missing signs since last Report of Missing Posting Signs (copy attached). Please be advised that for the safety of the public the Weight Posting signs shall be installed as soon as possible.

(**X**) No action has been taken in regards to installation of signs since the initial recommendation notice (copy attached) Please be advised that in the interest of public safety, the safe load limit must be posted and must be enforced. In the past, the federal government has suspended federal aid to cities and towns which were, in its opinion, not fully implementing the national bridge program.

( ) Signs are installed, but not properly (please refer to the attached report). Please have your Maintenance Crew remedy this situation.

( ) Next Follow-Up Site Visit of Signs for the above subject bridge will be done on ____

Sincerely,

Mary-Joe Perry
District Highway Director

Attachments:
1) Follow-Up Verification of Signs report
2) Initial Recommendation Notice

DAP/sw
cc: DHD, A. Bardow
Enclosure

Leading the Nation in Transportation Excellence

1000 County Street, Taunton, MA 02780
Tel: (508) 824-6633, Fax: (508) 880-6102
www.mass.gov/massdot

Attachment 6-24 Follow-Up Verification of Signs Municipally Owned.