ATTACHMENT 20 – EMAIL TO THE NATIONAL TRANSPORTATION SAFETY BOARD FROM THE MINNESOTA DEPARTMENT OF TRANSPORTATION DATED JANUARY 10, 2008

(3 pages)

From: Daniel Dorgan----------
Sent: Thursday, January 10, 2008 6:25 PM
To: Edward Lutgen; Rayburn David S.
Cc: Terry Zoller; Walsh Daniel; Bagnard Mark; Schultheisz Carl; Van Etten Gary
Subject: Re: Request for Additional Information

David,

We have reviewed our records, AASHTO and Minnesota Department of Transportation policies. Your first two questions will be answered with a telephone conference from MnDOT Metro Construction Terry Zoller, Eric Embacher and Harvey Unruh. They will contact you. The following is a response to your third question on Bridge 9340.

Question: “The third area involves the additional dead load on the bridge(9340) over the years beginning with the additional wearing surface in 1977, and then the addition of bridge rails and median barrier in 1988. Please provide me with a short explanation as to why these items were needed. For instance, if closing up the open bridge rail and adding the median barrier was the result of an FHWA directive change in NCHRP 230/350 then just indicate why the addition was necessary.”

Response: Bridge 9340 original construction from 1967 included 1 ½? of cover over the top reinforcing bars in the deck. By the early 1970's numerous states including Minnesota with harsh environments were having corrosion problems due to the minimal concrete cover over the uncoated reinforcing. As a protective measure Minnesota adopted a policy based on research in the mid 1970’s of increasing the cover of top deck rebar to 3? with the addition of a high density concrete overlay. Other states used similar systems or membranes with bituminous overlays. The concrete overlay policy reduced the permeability of harsh chemicals from reacting with the steel and has extended the life of bridge decks at least another 20 years. Overlays were included in new designs and added to many existing bridges.

The original 1967 railings and median guardrail did not meet the requirements of NCHRP 350 for a TL-4 barrier. The F rails on the median and the modifications on the exterior barrier in 1998 do meet safety requirements. The original center median curb and guard rail and the exterior rail were deteriorating from corrosion and traffic impact. They required repair by 1998. When traffic rail modifications are made to existing bridge on the National Highway System (NHS) the FHWA requires we upgrade the railing to meet NCHRP 230/350 standards. Therefore, two new concrete Type F rails with a precast cap were added in the median. The cap between the inside railings stopped the harsh chemicals from leaking onto the underside of deck overhang and the floor trusses. Also a 10? thick inside face was added to the exterior 1 line concrete rails.

Let us know if you need anything further. Thanks David.

Daniel L. Dorgan
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Mn/DOT - Bridge Office
3485 Hadley Avenue North

>>> "Rayburn David S."---------- 1/2/2008 12:47 PM >>>
Dan and Ed,

I have addtional requests for information in three separate areas. First, The pre-construction conference that was held on June 6, 2007 for the construction project involving bridge 9340 indicated that weekly progress meetings would be held each Tuesday at 1 p.m. Please provide me with a copy of the minuters for the weekly progress meetings. I already have the minutes for the pre-construction conference.

The second area involves a follow-up telephone interview I need to conduct. Please set up a time and date that I can phone in to your office and ask a few follow-up questions of Harvey Unruh. The third area involves the additional dead load on the bridge over the years beginning with the additional wearing surface in 1977, and then the addition of bridge rails and median barrier in 1998. Please provide me with a short explanation as to why these items were needed. For instance, if closing up the open bridge rail and adding the median barrier was the result of an FHWA directive or change in NCHRP 230/350 then just indicate why the addition was necessary. Since the additional loads are probably common to many other bridges we felt we should explain in the report why these additions were necessary.

Please call me at ----------if you have any questions

Thank You For Your Assistance

David