

Design Standards Letter

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Section/Plan No.: N/A

Subject: Upgrading of Guardrail and Concrete Terminals

Body

TO: All District Engineers

CC: Project Development Engineers and
Operations Engineers

FROM: Diane Heckemeyer
State Design Engineer

DATE: January 2, 2004

SUBJECT: Design
General Letter No. 1

Upgrading of Guardrail and Concrete Terminals

In 1995, MoDOT agreed with the FHWA to a 2007 deadline for upgrading all BCTs, guardrail turned-down ends, guardrail blunt ends, concrete barrier height transitions (sloped ends) and guardrail not connected to bridge ends on all interstates and NHS roadways with ADTs above 6000 and posted speeds of 50 mph or greater. At that time, MoDOT conducted a survey and provided the FHWA with a proposed schedule and plans for upgrading guardrail and concrete terminals. Many end terminals identified in the 1995 survey have been upgraded but some guardrail blunt ends, many turndown guardrail end terminals, some concrete barrier height transitions and guardrail not connected to the bridge ends still need to be upgraded to meet our proposed schedule. Unfortunately, under the current proposed STIP we will not have all the terminals upgraded by 2007.

In order to determine the scope of any potential project, we are requesting the districts to complete a new survey of guardrail by March 19, 2004. This is necessary since the 1995 survey no longer reflects current conditions. Also, the 1995 survey included ramps, which

we will not address this time.

To accomplish this task we need the remaining non-compliant guardrail and concrete terminals to be located. A cost estimate to upgrade each location should be included with the survey. Later, plans will need to be generated for each upgrade. Please use the attached form to identify each non-compliant terminal.

The survey will identify and provide a cost estimate for all BCTs, guardrail turned-down ends, guardrail blunt ends, concrete barrier height transitions (sloped ends) and guardrail not connected to bridge ends located on

- 1) all interstates,
- 2) NHS routes with posted speeds of 50 mph or greater and ADT of greater than 6000,
- 3) for mainline pavement only (not including the tops of ramps or side road entrances), including high-speed directional ramps.

Non-compliant terminals located on both the upstream (facing oncoming traffic) and downstream positions in a dual facility's median should be included. Only the upstream ends inside the clear zone should be included if the terminal is located on the outside of a dual lane facility. Survey entries will be categorized by direction and whether or not it is located in a median. Each direction of dual lane facilities needs to be logged separately (ex. eastbound or westbound). The median terminals need to be logged as another category, independent of the lanes.

Attached are some photographs to help identify non-compliant terminals. Examples of completed forms and a diagram showing examples of guardrail to include in the survey are also attached. Finally, a map showing the NHS routes with AADT greater than 6000 and interstates has been drawn up specifically for this project.

Any additional guardrail installed must meet current standards. Therefore, the cost estimate will include the cost for installing the new terminal and providing proper length of need. Existing substandard guardrail not needing repair shall remain in place unless the district determines otherwise.

Send the cost estimate and location survey by email to Keith L. Smith, (SMITHK) by March 19, 2004. If additional guidance is needed, please contact Keith L. Smith at (573) 751-4659.

klS

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Attachments