

December 17, 2002

Mr. A. George Ostensen  
Director, Office of Highway Safety Infrastructure  
Federal Highway Administration - HSA-1  
400 7th Street, S.W.  
Room 3419  
Washington, D.C. 20590

Subject: Application for approval of a W-beam guardrail system for attachment to a concrete box culvert.

Dear Mr. Ostensen:

I have enclosed documentation on the development and compliance testing of a longitudinal barrier system which was crash tested by the Midwest Roadside Safety Facility (MwRSF) at the University of Nebraska-Lincoln. The research project was performed in cooperation with the Midwest State's Regional Pooled Fund Program. A final report has been completed for this barrier system and is as follows:

**(1) NCHRP 350 Development and Testing of a Guardrail Connection to Low-Fill Culverts.**

The compliance test documentation includes: two copies of the final research report containing test nos. KC-1 (pass) and KC-2 (failure); one VHS tape documenting the compliance testing for this project, including a transfer of the high-speed 16-mm film as well as video documentation of the testing; and reproducible system drawings (hard copy and electronic versions on a CD-ROM).

Please note that we have recommended a minimum distance of 254 mm for the placement of the steel posts (back side) away from the front face of the culvert headwall. Although this post placement is closer than that utilized in test nos. KC-1, we believe that this guidance will result in acceptable barrier performance.

At this time, we are asking the Federal Highway Administration to approve this system for use on Federal-aid highways based on the results of the full-scale vehicle crash testing program. If you have any questions regarding this information or need any other information on these tests, please feel free to contact either Dr. Dean Sicking at (402) 472-9332 or myself at (402) 472-6864.

Sincerely,

Ronald K. Faller, Ph.D., P.E.  
Research Assistant Professor

x.c.: Dean L. Sicking, Ph.D., P.E., MwRSF Director and Professor