RAILINGS ON H-10 AND H-15 BRIDGES

Reference Title

Railings on H-10 and H-15 Bridges

Reference Revision and Year:

Version 1.0, 2026

Reference Introduction and Discussion

The November 10, 2010 memordaum from SCDOT included guidance on maintenance for barrier, approach railing, and end treatments on bridges designed for H-10 or H-15 loading.

Reference Description

Since this internal memorandum may not be available to parties outside of SCDOT, it is being included as a reference if needed. Unless the bridge carries a highway on the NHS, bridge railing or approach guardrail may not be required on bridges designed for H-10 or H-15 loading. Contact the District Bridge Engineer if a determination needs to be made.

South Carolina
Department of Transportation

MEMORANDUM

TO: District Engineering Administrators

FROM: James J. Feda, Jr., Director of Maintenance

DATE: November 17, 2010

RE: Maintenance of Guardrail on H10 and H15 Bridges

This memorandum is intended to provide guidance for situations that arise when making repairs to guardrail and end treatments on H10 and H15 bridges. These bridges were not designed to accommodate our current guardrail design configurations as detailed in the SCDOT Standard Drawings. In many cases, methods required to install or upgrade the bridge rail to current standards have not been certified as NCHRP 350 compliant. Upgrading or installing bridge rail on these bridges in accordance with our current standards can be very expensive, especially considering the remaining life expectancy of these types of bridges. Additionally, installing guardrail in accordance with current design standards may be detrimental to other aspects of the bridge performance, such as roadway width.

In light of this fact, it should be standard practice to repair the guardrail and approach rail on these bridges in accordance with the bridge's original design, including post spacing. One modification to the original design that should be considered is nesting of the W-beam bridge rail. Nesting is an acceptable means to increase the strength and reduce the deflection of W-beam rail placed along the bridge. If the bridge rail was previously upgraded to some standard above the original design, then that existing compliment of rail and post spacing should be used when making repairs. The addition of end treatments to the existing rail is acceptable; however, the installation of rail on a bridge where no rail exists should be in accordance with Engineering Directive #42.

Please do not hesitate to contact me if you have any questions or need additional clarification regarding this guidance.

JJF:dbc
cc: J.C. Watson, Chief Engineer for Operations
Mitchell Metts, Director of Preconstruction

File: MNT/DBC

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