



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Distribution

From: Paul Ferry, P.E.
Highways Engineer

Date: September 13, 2010

Subject: W-beam Guardrail Height

Based on recent crash testing and analysis of w-beam guardrail, the top-of-rail height has been changed to 31", with a ± 1 " tolerance for new installations. This same testing also demonstrated that guardrail with a top-of-rail height less than $27\frac{3}{4}$ " does not meet NHCRP 350 or MASH requirements.

In addition to the new rail height requirements, the following items should be noted:

- No change is required in guardrail posts. The embedment depth is being revised to 41" to accommodate the height increase. The testing has shown that these posts will meet NHCRP 350 and MASH requirements even with the reduced embedment length.
- On overlay projects, raise existing rail if the placement of the overlay results in a top-of-rail height less than $27\frac{3}{4}$ ". If the w-beam rail can be raised without having to adjust the posts or blockouts, utilize the new bid item "Raise W-Beam", and include the standard special provision.
- If extenuating circumstances exist that make the rail adjustment infeasible, adjustments may not be required, but must be approved.

The new rail height will be used for all projects let after January 1, 2011. Include a detail in the plans that shows the new rail height until Supplemental Detailed Drawings are implemented.

If you have questions concerning this, please contact me at 444-6244.

Pf.

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