



Department Memorandum
Idaho Transportation Department

ITD 0500 (Rev. 03-16)

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Key Number(s)

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Program ID, County, Etc.

RE:
2016 MASH Implementation

ITD is transitioning to require using the AASHTO, 2016 *Manual for Assessing Safety Hardware*, 2nd edition (MASH) criteria for the evaluation of roadside safety hardware; superseding NCHRP-350 standards. This change reflects the January 2016 AASHTO/FHWA MASH Joint Implementation Agreement.

The AASHTO/FHWA MASH agreement applies to routes on the National Highway System (NHS). To avoid confusion and dual inventories (NHS vs. non-NHS), ITD's MASH implementation will apply to all routes of the State Highway System. ITD encourages the use of MASH tested systems on highways under the jurisdiction of local agencies.

The recently updated ITD Standard Drawings (June 2017 Release) include new w-beam and thrie-beam guardrail standards as part of ITD's implementation of the AASHTO/FHWA agreement. Changes to the new standards can be summarized as follows:

1. The height of the top of w-beam guardrail has been increased from 29" to 31". This height increase reflects the taller MASH testing vehicles typical of the fleet today. The 31" w-beam guardrail Standard Drawing shows how to transition the guardrail height when connecting to existing installations.
2. The location of the w-beam splice has been moved between the posts instead of at the posts. Crash testing has shown that splices at the posts are subject to greater strain than splices away from the posts. The 31" w-beam guardrail Standard Drawing shows how to transition the splice location when connecting to existing installations.
3. Anchors, terminals, and transition designs that have failed MASH crash testing or are not expected to pass MASH crash testing have been eliminated.
4. The standard drawings are renumbered to align with Section 612-Guardrail of the Standard Specifications for Highway Construction.

For contracts with a letting date [bid opening date] after the dates below, only safety hardware evaluated using 2016 MASH criteria will be allowed for new permanent installations and full replacements:

- **December 31, 2017:** w-beam barriers and cast-in-place concrete barriers.
- **June 30, 2018:** w-beam terminals.
- **December 31, 2018:** cable barriers, cable barrier terminals, and crash cushions.
- **December 31, 2019:** bridge rails, transitions, all other longitudinal barriers (including portable barriers installed permanently), all other terminals, sign supports, and all other breakaway hardware.

Construction projects using steel guardrail with a bid opening date after December 31, 2017 **shall** use the new guardrail standards. The differences between the new and previous standards are such that the switch may require only a no-cost change order.

ITD will upgrade existing highway safety hardware to MASH tested systems when the existing installation becomes damaged beyond repair or as required in *Section 570.07 Safety Barriers* of the Roadway Design Manual.

An *Idaho MASH Implementation* bid proposal insert will be provided in HQ's ProjectWise bid insert folder. **Add the insert to projects that include installation of roadside safety hardware.**

cc: COO; DESA; DEPPA; Dist. DCM1~6, DTE1~6, DES/DEPP Mgrs., GARVEE, FHWA, DTS Staff