

## MEMORANDUM

DATE: April 5, 2019

TO: Region Staff, Project Support Units, Contractors and Consultants

FROM: Joshua Palmer, Guardrail Engineer  
Project Development Branch  
Standards and Specifications Unit

SUBJECT: MASH Implementation Updates

This memorandum is a follow-up to [DIVISION OF PROJECT SUPPORT MEMO 2015-04/MASH TESTED 31-INCH GUARDRAIL IMPLEMENTATION POLICY AND MASH IMPLEMENTATION DATES](#), dated December 29, 2015. The Standards and Specification Unit is providing this memo as an update to the continuing efforts being made to CDOT’s design and construction project support to align with the FHWA recommended Manual for Assessing Safety Hardware (MASH) implementation.

The Joint AASHTO/FHWA proposed schedule was recently updated to reflect changes to sunset dates for *CABLE BARRIERS* and *CABLE BARRIER TERMINALS*. Expired sunset dates should be noted and the upcoming sunset dates need to be considered during design and construction of all CDOT projects:

For contracts on the National Highway System with a letting date after the dates below, only the listed safety hardware evaluated using the 2016 edition of MASH criteria will be allowed for new permanent installations and full replacements. Below are the updates to MASH implementation sunset dates:

Sunset Date	Applicable Devices		Notes
	2015 Joint AASHTO/FHWA Implementation Memo	2018 UPDATED Implementation Memo	
December 31, 2017	cast-in-place concrete barrier	cast-in-place concrete barrier	Implemented in May 2018 - adopted Single Slope Shape - Type 9 Concrete Barrier
June 30, 2018	W-beam end terminals (non-flared, flared, double sided, median)	non-flared W-beam end terminal	flared, double sided and median W-beam end terminals extended to December 31, 2019 to allow for additional crash testing and product R&D

December 31, 2018	cable barrier, cable barrier terminals, and crash cushions	crash cushions	cable barrier and cable barrier terminals extended to allow for additional crash testing (changes from 2009 to 2016 MASH)
December 2019	bridge rails, transitions, all other longitudinal barriers (including portable barriers installed permanently), all other terminals, sign supports, and all other breakaway hardware	<i>cable barrier, cable barrier terminals</i> , bridge rails, transitions, all other longitudinal barriers (including portable barriers installed permanently), all other terminals ( <i>including flared, double sided, median and flared</i> ), sign supports, and all other breakaway hardware	

Notable recent updates and additions to CDOT M-Standards and supporting material to comply with MASH implementation are as follows:

- M-606-1 Guardrail Type 3 W-Beam revised on December 21, 2018 with [Support Memo](#)
- [Safety Selection Device Guide](#) revised on January 25, 2019
- [Frequently Asked Questions \(FAQ\) about Guardrails, Crash Cushions, and End Treatments](#) revised on January 25, 2019
- NEW e-Learning and Field Guide: [Guardrail Systems for Construction Engineers and Inspectors](#) added December 5, 2019

All information regarding MASH implementation including support documentation, memos, and updates can be found on the CDOT [Design and Construction Project Support](#), and [M Standards](#) web pages.

If you have any questions or comments, please contact Standards and Specifications Engineer Shawn Yu at 303-757-9474, Guardrail Engineer Joshua Palmer at 303-757-9221, or M-Standards Engineer Josh Keith at 303-757-9021.