

Design Advisory

DA 2017-06
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Index:
Guardrail Approach
Terminal Type 2M
Special Provision,
Chapter 7 of the Road
Design Manual.

*This advisory is
superseded by any
subsequent revisions to
the references listed in
this index.*

Questions regarding this
Design Advisory should
be directed to:

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MASH-Compliant Guardrail Approach Terminal Installations on the National Highway System (NHS)

Guardrail approach terminals in compliance with the Manual for Assessing Safety Hardware (MASH) will be required for new installations on the National Highway System (NHS), commonly referred to as trunkline routes, on projects let after June 30, 2018. The existing National Cooperative Highway Research Program Report 350 (NCHRP 350) compliant guardrail terminals identified in Standard Plans R-61-Series and R-62-Series, respectively, will no longer be acceptable for new installations on the NHS (trunkline routes) on projects let after **June 30, 2018**.

All guardrail approach terminals currently available are proprietary. Currently, there are three Type 2 (tangent), MASH-compliant guardrail terminals available:

1. MSKT, manufactured by Road Systems, Inc.
2. Soft-Stop, manufactured by Trinity Highway Products, LLC.
3. MAX-Tension, manufactured by Lindsay Transportation Solutions, Inc.

However, only one Type 1 (flared), MASH-compliant guardrail terminal is currently available.

Until further notice, on NHS (trunkline) routes, designers are required to use Type 2 (tangent), MASH-compliant guardrail terminals for all new guardrail terminal installations where a MASH-compliant guardrail terminal is desired or required. On NHS (trunkline) routes, a temporary moratorium will be placed on Type 1 (flared), MASH-compliant guardrail terminals to avoid sole-sourcing. It is expected that Type 1 (flared), MASH-compliant guardrail terminals will be permitted for use in the future once multiple Type 1 (flared) terminals are available and deemed suitable for use by MDOT.

Until further notice, MASH-compliant guardrail terminals will be specified by Special Provision (SP), rather than MDOT Standard Plan Series. A new frequently used special provision (FUSP) is currently in review and approval process for Type 2 (tangent), MASH-compliant guardrail terminals, referred to as Guardrail Approach Terminals, Type 2M. More information regarding Guardrail Approach Terminals, Type 2M is available in Chapter 7 of Road Design Manual (RDM). Designers will need to use the appropriate pay item when specifying Type 2M guardrail terminals:

- Guardrail Approach Terminal, Type 2M

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Designers need to be aware that Type 2M guardrail terminals are designed to be attached directly to Type MGS-8 guardrail without the need for a transition section. When it is necessary to attach a Type 2M guardrail terminal to either Type B or Type T guardrail, a transition section between the terminal and the guardrail is required. Standard Plan R-60-Series depicts transition details for connecting a Type 2M guardrail terminal to Type B and Type T guardrail; transition section is included as part of the Guardrail Approach Terminal, Type 2M pay item, and is not paid for separately.

Once MDOT becomes familiar with the new MASH-compliant guardrail terminals, it is anticipated that MDOT's guardrail terminal standard plans will be revised to replace the existing NCHRP 350-compliant terminals with MASH-compliant guardrail terminals. At which point, it is expected that MDOT will discontinue any pertinent guardrail terminal special provisions and revert to specifying guardrail terminals by using standard plans and the Standard Specifications for Construction.

Designers need to be aware that the guardrail worksheet in Chapter 7 of the RDM was revised to include a deduction value when using Type MGS-8 guardrail and Type 2M guardrail terminals. Please refer to the guardrail worksheet and all pertinent notes listed on the worksheet.

In conclusion, designers are urged to carefully review the recent updates to Chapter 7 of the RDM pertaining to guardrail terminals.