



VISION ZERO

zero deaths
zero serious injuries

Montana Department of Transportation

PO Box 201001
Helena, MT 59620-1001

Memorandum

To: e-distribution
see listing below

From: James A. Combs, P.E.
Highways Engineer

Date: May 16, 2019

Subject: Temporary Impact Attenuators – Guidance for inclusion as a contract bid item

The purpose of this guidance to achieve Preconstruction uniformity with the attached Construction Guidance.

Temporary Impact Attenuators are necessary to protect blunt ends resulting from construction operations.

The design team should evaluate the need for temporary impact attenuators in the following situations:

- Any time positive protection is included in the contract, temporary impact attenuators are necessary unless the barrier can be tapered outside of the clear zone.
 - The number of attenuators depends on the layout of traffic and barrier. The quantity to include in the contract should be evaluated during the TMP process.
- If a new bridge is built and will not be immediately connected to longitudinal barrier, consider the use of temporary impact attenuators.
 - 2 or 4 temporary attenuators should be included depending on the anticipated or planned sequencing. The contract quantity should be evaluated during the TMP process.
- Temporary impact attenuators are likely necessary when constructing 30-year bridge ends on non-reconstruct projects.
 - The quantity to include in the contract should be evaluated during the TMP process. General guidance is to provide 2 temporary attenuators and 2 resets.

Collaborate with district construction to evaluate likely construction sequencing and traffic operations. Projects that have multiple bridges should be evaluated to determine the likely sequencing if multiple bridges can/may be under construction at the same time.

Include the most current version of the IMPACT ATTENUATOR – TEMPORARY [606] special provision if the bid item for temporary impact attenuators is included.

Electronic distribution:

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Construction Guidance

Topic: Temporary Impact Attenuators - Guidance for when to include as bid items

Thru: Paul Jagoda

From: Randy Boysen

Date: April 25, 2019

Description:

Temporary Impact Attenuators are necessary to protect blunt ends resulting from construction operations.

The design team should evaluate the need for temporary impact attenuators in the following situations:

- Any time positive protection is called out, temporary impact attenuators are necessary. Unless the barrier can be tapered outside of the clear zone.
 - Number of attenuators depends on layout of traffic and barrier.
- If a new bridge is built and will not be immediately connected to longitudinal barrier, consider the use of temporary impact attenuators.
 - 2 or 4 temporary attenuators depending on likely sequencing.
- When constructing 30 year bridge ends on non-reconstruct projects, temporary impact attenuators are likely necessary.
 - 2 temporary attenuators, plus 2 resets.

The design team will work with district construction to evaluate likely construction sequencing and traffic operations. Projects that have multiple bridges should be evaluated to determine the likely sequencing if multiple bridges can/may be under construction at the same time.

Installations required by the Contractor's operations and not shown on plans or the repair or replacement of temporary impact attenuators damaged by the Contractor will not be measured for payment.

The current special provision shown below is included if the bid item for temporary impact attenuators is included.

IMPACT ATTENUATOR – TEMPORARY [606] (REVISED 2-28-13)

A. Description. This work is furnishing, installation, maintenance, and removal of temporary impact attenuator and crash cushion devices when construction activities expose blunt ends, ends of barriers, fixed objects, or other obstacles within the clear zone.

B. Materials. Furnish devices, including required transition sections that meet the National Cooperative Highway Research Program Test Report 350 (NCHRP 350) or the AASHTO Manual for Assessing Safety Hardware (MASH) crash test requirements.

C. Construction Requirements. Submit the manufacturer's installation instructions and proof of NCHRP 350 or MASH compliance 14 calendar days prior to any work that will require the installation of devices.

Install devices at the locations shown of blunt or exposed ends of barriers or fixed objects in accordance with the manufacturer's installation instructions. The device must be installed within 12 hours from the time the obstacle is exposed.

Maintain at least one complete set of repair parts on the project at all times to repair or replace attenuators, which may be damaged during construction.

Attach the impact attenuator to the concrete barrier rail or other fixed objects using the manufacturer's approved transition section. Follow all manufacturers' instructions and guidance during the installation. Furnish and install all transitions, mounting hardware, and other necessary items.

Repair or replace damaged attenuators within 12 hours.

Remove the device within 48 hours of when the obstacle no longer exists. The devices remain the property of the Contractor after completion of the project.

D. Method of Measurement. Temporary impact attenuators are measured for each complete installation shown on the plans. Installations required by the Contractor's operations and not shown on plans or the repair or replacement of temporary impact attenuators damaged by the Contractor will not be measured for payment. Removal and replacement of planned installations damaged by traffic will be measured for payment.

E. Basis of Payment. Payment for the completed and accepted quantities is made under the following:

<u>Pay Item</u>	<u>Pay Unit</u>
Temp Impact Attenuator	Each
Reset Impact Attenuator – Temporary	Each

Payment at the contract unit price is full compensation for all resources necessary to complete the item of work under the contract.