



Bureau of Materials Materials Approval Procedures

MAP Number: **121-18**

Effective Date: June 20, 2018

Approved By: Paul Hanczaryk

PROCEDURE FOR APPROVAL OF GUIDE RAIL END TERMINALS

PURPOSE:

To establish a procedure to approve guide rail end terminals for addition to the NJDOT Bureau of Material's Qualified Products List (QPL).

REFERENCES:

New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction
Section 913.01.02

MASH Report:

https://safety.fhwa.dot.gov/roadway_dept/countermeasures/reduce_crash_severity/aashto_guidancecfm.cfm

PROCEDURE:

A. Manufacturer's Request for Approval.

The Manufacturer shall request in writing for the approval of the product. Include the following information in the request:

1. The name, address, and contact information for the manufacturer.
2. The name and designation of product to be evaluated.
3. Documentation of FHWA acceptance of the end terminal.
4. Documentation of MASH, including crash test videos, and test level 3 (TL-3) results.
5. Four copies of detailed drawing and specification sheet for the end terminal.
6. Four copies of the Manufacturer's recommendations for installation, maintenance and repair of the end terminal.
7. An estimate of initial cost and repair costs for the end terminal.

Mail the request for approval to the following:

Mailing Address (USPS):

Manager, Bureau of Materials (Thiokol Bldg. 4)
New Jersey Department of Transportation
P.O. Box 600
Trenton, NJ 08625-0600

Street Address (UPS, FedEx, etc.):

Manager, Bureau of Materials (Thiokol Bldg. 4)
New Jersey Department of Transportation
930 Lower Ferry Road
West Trenton, NJ 08628

B. Bureau of Materials Review

The Material's Engineer in the Inspection Section of the Bureau of Materials (ME) will review the submitted package for completeness and compliance with Section 913.01.02. The ME will also verify that the submitted end terminal was approved by comparison with the MASH website. If the package is incomplete or the end terminal does not comply, the ME will notify the manufacturer.

C. Departmental Review

If the ME determines that the package is complete, he will schedule a meeting for Departmental review of the end terminal with representatives from:

- North, South and Central Regional Maintenance Offices (RE's for each of the three Regional Beam Guide Rail and Attenuator Repair Contracts),
- Division of Highway and Traffic Design (Roadway Design Group1),
- Division of Bridge Engineering and Infrastructure Management (New Technology and Products)
- Division of Capital Program Support (Roadway Standards Unit)

The manufacturer's representative will be invited to this meeting to make a product presentation at the beginning of the meeting, then depart from the meeting.

The Departmental Review Team will consider the following information in their evaluation of an end terminal:

1. Cost, ease, and frequency of maintenance.
2. Cost and ease of construction.
3. Design parameters and requirements.
4. The number of currently approved end terminals and the impact on the inventory of adding a new end terminal.

The Departmental Review team will conclude at the meeting to either go forward with a field trial or reject the product.

D. Field Trial

The Departmental Review Team may request a field trial to evaluate the ease of construction and determine any construction/maintenance issues with the end terminal.

The Manufacturer will supply, at no cost to the Department, the end terminal; and the manufacturer's representative will provide the necessary installation training and initial construction oversight for the field installation. Manufacturer may elect to supply only the proprietary parts, then the Department will supply the generic guide rail parts.

The end terminal will be installed in the Guide Rail Terminal and Crash Cushion Installation Field at the Operation's Training Center at US Route 130 & Dunn's Mill Road in Bordentown, NJ under the direction of the RE for the Region South Beam Guide Rail and Attenuator Repair Contract. The Repair Contract's contractor will install the end terminal, including the 6 inch thick Porous HMA Nonvegetative Surface underneath.

The RE will schedule the installation training in the appropriate building on site with the Operation's Training Unit (installation of end terminal in the Field will occur directly after the training). Once scheduled, the Operation's Training Unit will invite the:

- Departmental Review Team
- Videotaping person from Bureau of Operation's Support and Engineering (videotape to be edited and used for future training)
- Operation's inspection staff

E. Product Approval/Rejection

The Departmental Review Team will determine the acceptability of the end terminal. The ME will notify the manufacturer of the Department's decision.

If the Product is accepted, the Roadway Standards Unit will submit the following to the ME for the product to be listed on the “GUIDERAIL 31 High, MASH QPL”:

- Product Name
- Manufacturer/Supplier
- General Comments

The ME will have the product information shown above inserted into the “GUIDERAIL 31 High, MASH QPL” on the following website: <http://www.state.nj.us/transportation/eng/materials/qualified/QPLDB.shtm>.

The Roadway Standards Unit will write design guidelines for the end terminal, if necessary, for inclusion in the Roadway Design Manual via a Baseline Document Change (BDC) memo.

PROJECT ACCEPTANCE REQUIREMENTS:

Qualification of a product and addition to the QPL does not constitute a blanket approval of the material. The Contractor for each proposed project must submit the product and source on a Materials Questionnaire as specified in Section 106. The ME will approve the product and source on a project to project basis based on the specifications for the project. The ME will inspect, test, and accept the material according to the applicable Section of the *NJDOT Standard Specifications for Road and Bridge Construction*.

DISQUALIFICATION:

The ME may remove the product from the QPL for non-conformance with specification requirements or for a documented history of poor field performance. The manufacturer shall notify the ME, in writing, of any change in end terminal configuration. Failure to notify the ME of changes in the product will result in disqualification. The Departmental Review Team may also disqualify a product to limit inventory control problems with a proliferation of end terminals.

REQUALIFICATION:

The ME will reevaluate a product which has been disqualified and removed from the QPL only after submission of a formal request along with acceptable evidence that the problems causing the disqualification have been resolved.

The ME may require the manufacturer to requalify the product for any of the following reasons:

1. To ensure that obsolete products are not kept on the list, the ME may request written confirmation from the manufacturer that the product is still available and has not changed design. Failure to respond to the Bureau’s written request will result in the product being removed from the list.
2. If the design of the product has changed, the ME will require that the new design be requalified.
3. If the Department’s standard specifications change or if the MASH criteria change, the ME may require requalification to ensure that the product meets the new specification.