



# Department of Transportation


ENGINEERING  
INSTRUCTION

**EI**  
**22-025**

Title: **HIGH-TENSION CABLE GUIDE RAIL SYSTEMS - SPECIFICATIONS**

**SUPERSEDED BY EB 23-024**  
**EFFECTIVE 8/3/23**

Approved:

  
Richard D. Wilder, P.E.,  
Deputy Chief Engineer (Design)

9/16/2022

Date

## ADMINISTRATIVE INFORMATION:

- Effective Date: This Engineering Instruction (EI) is effective upon signature.
- Superseded Issuances: This EI modifies EI 20-007, "MASH-Compliant Cable Barrier Systems – Design Guidance".
- This EI is being issued concurrently with EI 22-024 "High-Tension Cable Guide Rail Systems - Design Guidance".
- The new special specification for High-Tension Cable Barrier will be available through the [Pay Item Catalog](#) and in the [Special Specification Repository](#) on the P: drive.

**PURPOSE:** To issue a new special specification for high-tension, MASH-compliant cable guide rails and terminals.

## TECHNICAL INFORMATION:

- EB 20-020 issued two items for cable guide rail with the posts placed in sockets. It was subsequently determined that direct-driven posts could be used with minimal effect on the displacements due to impacts. Therefore, the following two items are **disapproved**:
  - 606.01010015 – MASH-Compliant TL-3 Cable Barrier (Socketed Post) – Design Deflection 11 feet
  - 606.01020015 – MASH-Compliant TL-3 Cable Barrier (Socketed Post) – Design Deflection 8 feet
- Two new items have been created as replacements:
  - 606.01030015 – High-Tension Cable Barrier (Driven Posts) – Post Spacing 10 feet
  - 606.01040015 – High-Tension Cable Barrier (Driven Posts) – Post Spacing 5 feet
- EB 20-020 also issued item 606.01050015 – MASH-Compliant Cable Barrier End Terminal which was intended to be specifically for the Brifen system. That item is **disapproved**. As a replacement, the following new item and specifications have been created.
  - 606.01060015 High-Tension Cable Barrier End Terminal.
- EI 20-007 is modified with regard to the "New Specifications" it listed. Those are disapproved as noted above.

**TRANSMITTED MATERIALS:** New special specification *High-Tension Cable Barrier* is appended to this EI.

**VENDORS:** Vendors wishing to have their products added to the Approved Lists for these items should submit a letter of request, full crash test videos and report, FHWA Eligibility Letter (if available), full product details of the system as tested, and the installation manual for the products.

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**BACKGROUND:** Engineering Bulletin 20-020 issued a specification for MASH-compliant cable barrier at a time when there was only one complete (run plus terminal) system (Brifen) approved as MASH-compliant. The Gibraltar cable barrier system was subsequently judged to be MASH-compliant. The Department has determined that both systems may be used with direct-driven posts, thereby eliminating the cost of the sockets and avoiding the issues seen with severe corrosion of some of the posts in sockets. With the elimination of the socketed posts, a new specification was needed for the driven post design.

**CONTACT:** Questions on this issuance may be directed to Terry Hale of the Design Quality Assurance Bureau at (518) 485-7009 or [Terry.Hale@dot.ny.gov](mailto:Terry.Hale@dot.ny.gov).

## **ITEM 606.01XX0015 – High-Tension Cable Barrier (Driven Posts)**

### **DESCRIPTION**

This work shall consist of furnishing and installing high-tension MASH-compliant Test Level 3 (TL3) cable barrier systems (median or guide rail) and MASH-compliant TL3 end terminals.

### **MATERIALS**

The following sections of the Standard Specification shall apply:

Cable Guide Railing - 710-22

The barrier system and end terminals shall be from the Department's Approved List or approved equal, as approved by the Director, Office of Design.

All materials shall be as per manufacturer's specifications and recommendations.

### **CONSTRUCTION DETAILS**

The following sections of the standard specifications shall apply:

Guide Railing, Median Barrier and Concrete Barrier 606-3.01; 606-3.02

unless specified otherwise by the manufacturer or in the contract documents.

The alignment and location of the cable system shall be in accordance with the Contract Documents or as directed.

The end anchors shall conform with one of the Department's two "Anchor Options for High-Tension Cable Guide Rail".

Reflectorized panels, with a minimum area of 12 square inches, shall be provided on every sixth post when the centerline of barrier is located within 4 feet from the edge of the shoulder. Reflective sheeting shall be white when installed on the right side of traffic and fluorescent yellow when installed on the left.

Where an existing run of guide rail will be replaced with cable guide rail and the location of the run will be exposed to traffic during the work, the new cable guide rail system should be made functional as soon as practicable. If end anchors of MASH-compliant cable can be installed while the existing barrier is in place, then the new run of cable barrier shall be in operation within 3 calendar days of the existing barrier being made non-functional. Otherwise, the time limit is 7 calendar days.

### **METHOD OF MEASUREMENT**

The work will be measured as the number of feet of high-tension cable barriers installed.

The payment limits will be fifty feet in from the outermost point at which a cable or its end bolt is anchored. Guide rail placed between this fifty-foot payment limit and the outside end of the anchorage will be paid for as part of the end terminal.

The work will be measured as the number of each end terminal installed.

### **BASIS OF PAYMENT**

The unit price bid per foot of high-tension cable barrier and each end terminal furnished and installed shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work.

**ITEM 606.01XX0015 – High-Tension Cable Barrier (Driven Posts)**

Payment will be made under the following items:

<u>Item Number</u>	<u>Item Description</u>	<u>Unit</u>
606.01030015	High-Tension Cable Barrier (Driven Posts) – Post Spacing 10 feet	LF
606.01040015	High-Tension Cable Barrier (Driven Posts) – Post Spacing 5 feet	LF
606.01060015	High-Tension Cable Barrier End Terminal	EA