

**CONSTRUCTION REQUIREMENTS FOR STEEL BEAM ENERGY ATTENUATING  
TERMINAL SYSTEM, MEDIAN**

**1.0 SCOPE**

This specification covers the requirements for the construction of steel beam energy attenuating terminal system, median (SBEAT-Median).

**2.0 REFERENCES**

This specification refers to the following standards, specifications or publications:

**Ontario Ministry of Transportation Publications**

Ontario Traffic Manual (OTM):  
Book 6 Warning Signs

**ASTM International**

A 123/A 123M-17 Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products  
D 4956-17 Retroreflective Sheeting for Traffic Control

**3.0 DEFINITIONS - Not Used**

**4.0 DESIGN AND SUBMISSION REQUIREMENTS**

**4.01 Submission Requirements**

**4.01.01 General**

One copy of the manufacturer's installation instructions and Working Drawings for each type of SBEAT-Median system to be installed shall be submitted to the Contract Administrator.

Installation of the SBEAT-Median system shall not commence until the Contract Administrator has received the copy of the installation instructions and Working Drawings.

**5.0 MATERIALS**

**5.01 General**

All supplied components shall be according to the manufacturer's specifications.

**6.0 EQUIPMENT - Not Used**

## **7.0 CONSTRUCTION**

### **7.01 General**

SBEAT-Median systems shall be installed according to manufacturer's instructions at the locations specified in the Contract Documents.

When an SBEAT-Median system is specified in the Contract Documents, the Contractor has the option of using one of the following systems:

- a) MASH Max-Tension Median system

### **7.02 Posts and Steel Foundation Tubes**

All posts and steel foundation tubes shall be set to the depth and alignment at locations specified in the Contract Documents, regardless of the material encountered.

All lower hinge break away posts, steel foundation tubes, and soil plates shall be installed so that no more than 100 mm is exposed above finished grade.

### **7.03 Steel Beam Guide Rails**

SBEAT-Median systems shall be connected to new or existing steel beam guide rail as specified in the Contract Documents.

SBEAT-Median system mounting heights shall be measured vertically from the top of the steel beam guide rail to the ground or gutter line. SBEAT-Median system mounting heights shall be within the ranges in Table 1.

Channel shall not be used within the SBEAT-Median system.

### **7.04 Damage to Galvanizing**

Precautions shall be taken to protect galvanizing against damage. Minor abrasions shall be repaired according to ASTM A 780/A 780M. Components with major abrasions shall be replaced.

The method of repair for any damage shall be approved by the Contract Administrator prior to the commencement of such work.

### **7.05 Object Markers and Oversize Plow Markers**

A Wa-33 object marker according to OTM Book 6, a Wz-2 oversize snow plow marker, and galvanized mounting hardware shall be installed at each energy attenuator.

When installed on a paved surface, the object marker and oversize snow plow marker shall be integrally attached to a surface mounted flexible post. The signs and post shall be supplied by the manufacturer as a complete unit. The post shall have the ability to bend 90 degrees from vertical and self-restore after impacts. The minimum outside diameter of the post shall be 60 mm. The post shall be anchored to the pavement according to the manufacturer's recommendations.

When installed on a granular surface, the Wa-33 object marker and Wz-2 oversize snow plow marker shall be securely fastened to a U channel post and the post shall be direct buried to a minimum embedment depth of 900 mm.

Posts shall be installed at locations as specified in the Contract Documents.

**7.06 Management of Excess Material**

Management of excess material shall be according to the Contract Documents

**8.0 QUALITY ASSURANCE - Not Used**

**9.0 MEASUREMENT FOR PAYMENT**

**9.01 Actual Measurement**

**9.01.01 Steel Beam Energy Attenuating Terminal System, Median**

For measurement purposes, a count shall be made of each complete steel beam energy attenuating terminal system - median installed, regardless of the type of steel beam energy attenuating terminal system - median placed.

**9.01.02 Plan Quantity Measurement**

When measurement is by Plan Quantity, such measurement shall be based on the unit shown in the clause under Actual Measurement.

**10.0 BASIS OF PAYMENT**

**10.01 Steel Beam Energy Attenuating Terminal System, Median - Item**

Payment at the Contract price for the above tender items shall be full compensation for all labour, Equipment, and Material to do the Work.

Costs associated with any required removals and replacements of defective workmanship or materials shall be at no additional cost to the Owner.

**Table 1  
Median SBEAT System Mounting Heights**

<b>System</b>	<b>Height During Construction and Seasonal Shutdown (mm)</b>	<b>Height for Completion of the Work (mm)</b>
MASH Max-Tension Median	760 to 810	760 to 810