



**CONSTRUCTION SPECIFICATION FOR
STEEL BEAM TERMINAL SYSTEM**

TABLE OF CONTENTS

733.01	SCOPE
733.02	REFERENCES
733.03	DEFINITIONS - Not Used
733.04	DESIGN AND SUBMISSION REQUIREMENTS
733.05	MATERIALS
733.06	EQUIPMENT - Not Used
733.07	CONSTRUCTION
733.08	QUALITY ASSURANCE - Not Used
733.09	MEASUREMENT FOR PAYMENT
733.10	BASIS OF PAYMENT

733.01 SCOPE

This specification covers the requirements for the installation of steel beam terminal (SBT) systems.

733.02 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-15	Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
A 780/A 780M-09 (2015)	Standard Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

733.04 DESIGN AND SUBMISSION REQUIREMENTS

733.04.01 Submission Requirements

Installation of the SBT system shall not commence until the Contract Administrator has received one copy of the manufacturer's installation instructions.

733.05 MATERIALS

733.05.01 General

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

733.05.02 U Channel Posts

Posts shall be 2.44 m long perforated steel U channel with 11 mm diameter holes spaced on 50 mm centres, minimum weight of 4.46 kg/m, and hot dip galvanized according to ASTM A 123.

733.07 CONSTRUCTION

733.07.01 General

SBT systems shall be installed according to the manufacturer's instructions at locations specified in the Contract Documents using only the components supplied for a particular steel beam terminal system.

The MASH Slotted Rail Terminal (MSRT) M10 Guardrail End Treatment system shall be used for all SBT installations.

A minimum 2 m wide area behind the posts, measured from the back of the posts, shall be clear of all obstacles for the entire length of the SBT.

733.07.02 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.

The lower anchor cable release steel post shall be installed so that no more than 100 mm is exposed above finished grade.

733.07.03 Steel Beam Guide Rails

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

SBT system mounting heights shall be measured vertically from the top of the steel beam guide rail to the ground. SBT system mounting heights shall be within the ranges in Table 1.

733.07.04 Damage to Galvanizing

Precautions shall be taken to protect galvanizing against damage. Minor abrasions shall be repaired according to ASTM A 780. 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.

733.07.05 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 SBT.

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.

733.07.06 Management of Excess Material

Management of excess material shall be according to the Contract Documents.

733.09 MEASUREMENT FOR PAYMENT

733.09.01 Actual Measurement

733.09.01.01 Steel Beam Terminal System

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

733.09.02 Plan Quantity Measurement

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

733.10 BASIS OF PAYMENT

733.10.01 Steel Beam Terminal System - Item

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

Costs associated with any required removals and replacement or repairs of defective work and materials shall be the Contractor's responsibility at no additional cost to the Owner.

TABLE 1
Steel Beam Terminal System Mounting Heights

System	Height During Construction and Seasonal Shutdown mm	Height for Completion of the Work mm
MASH Slotted Rail Terminal (MSRT) M10	760 to 810	760 to 810