

## **54.24 SUPPLY AND INSTALL BOX BEAM GUARDRAIL AND POSTS**

### **54.24.1 GENERAL**

The Work consists of removal of existing median or shoulder box beam guardrail as required and supply and installation of new box beam guardrail barrier and supply and installation of new box beam posts.

### **54.24.2 MATERIALS**

The Contractor shall supply all materials in conformance with the Alberta Transportation Recognized Products list. Previously installed material may not be used.

The Contractor shall be responsible for ensuring that the quality of the materials supplied meet the requirements specified.

### **54.24.3 PROCEDURE**

All standard boxbeam installations shall be in accordance with drawings TEB 3.27, TEB 3.28, TEB 3.33, TEB 3.34, TEB 3.35, TEB 3.36, TEB 3.37, TEB 3.38, TEB 3.39, TEB 3.40, TEB 3.41, TEB 3.46, and TEB 3.47. Installations at bridge approaches shall be in accordance with drawings TEB 3.41 and TEB 3.47 and construction shall always be started at the bridge.

All median box beam installations shall be in accordance with drawings TEB 3.22, TEB 3.23, TEB 3.24, TEB 3.25, TEB 3.26, TEB 3.27A, TEB 3.28A, TEB 3.29 and TEB 3.30. Installations at bridge approaches shall be in accordance with drawing TEB 3.29 and construction shall always be started at the bridge.

Posts shall be accurately set to the desired depth and alignment in a smooth, continuous installation, Permissible tolerance for plumb and grade of posts shall be 20 mm maximum.

Installations facing traffic shall not be left unfinished and open ended when the worksite is unoccupied, unless protected as shown in the Department's Traffic Accommodation in Work Zone manual (drawing TCS-B-1.11A).

Reflectors shall be installed immediately under the beam on every sixth post.

### **54.24.4 TIME TO COMPLETE**

In urgent situations, the Contractor shall complete the Work within 5 calendar days of the issuance of the Work Order. In all other cases, the Work shall be completed within 60 calendar days of the issuance of the Work Order.

### **54.24.5 ACCEPTANCE CRITERIA**

Evaluation of the Work will be based on a visual inspection by the Engineer. The Work will be acceptable when the guardrail:

- ! is installed according to the drawings and within 20 mm of plumb and grade,
- ! the galvanized surface integrity of the material is not broken,
- ! the work site is left in a clean condition, excess spoil is removed, and
- ! reflectors are installed on every sixth post.

If the completed guardrail appears to be outside the tolerance for plumb and grade, measurements will be made using a tape measure to confirm the height or using a two-foot hand level for plumb.

#### **54.24.6 MEASUREMENT AND PAYMENT**

Measurement will be made in metres of the length of box beam guardrail installed or removed and reinstalled. Measurement will be made of the number of posts installed.

Payment will be made at the unit price bid per metre for "BoxBeam Guardrail - Supply and Install". This payment will be full compensation for supplying and installing all required guardrail sections, removal and disposal of existing guardrail as required, and all labour, materials, equipment, tools and incidentals necessary to complete the Work.

Payment will be made at the unit price bid per metre for "Box Beam Guardrail - Remove and Reinstall." This payment will be full compensation for removal and reinstallation of existing guardrail as required, and all labour, materials, equipment, tools and incidentals necessary to complete the Work. Removal and re-installation of existing beam sections performed as part of replacing posts only, will be paid for at the unit price bid for "Box Beam Guardrail - Remove and Reinstall" for each section of beam removed and reinstalled.

Payment will be made at the unit price bid per post for "Box Beam Guardrail Posts - Supply and Install". This payment will be full compensation for removal and disposal of existing posts, supplying and installing new posts, and all labour, materials, tools and incidentals necessary to complete the Work.

In urgent situations where the Contractor is required to complete any type of guardrail Work within 5 calendar days of the issuance of the Work Order, an additional payment will be made at the unit price bid per occurrence for "Guardrail - Premium". This payment will be full compensation for complying with the accelerated scheduling required to complete the Work. This payment will be made only once per Work Order, regardless of the different types of guardrail Work completed.

#### **54.24.7 WARRANTY**

The warranty period for supply and install box beam guardrail and supply of box beam posts only, is 1 year.

When posts are removed and not replaced, the hole must be backfilled such that there is not more than 50 mm settlement during the warranty period.