

- ITEM 11606.9110XX M - REPAIR CABLE GUIDE RAIL
- ITEM 11606.9120XX M - REPAIR BOX BEAM GUIDE RAIL
- ITEM 11606.9130XX M - REPAIR BOX BEAM MEDIAN BARRIER
- ITEM 11606.9140XX M - REPAIR CORRUGATED GUIDE RAIL
- ITEM 11606.9150XX M - REPAIR CORRUGATED MEDIAN BARRIER

**DESCRIPTION:**

This work shall consist of restoring damaged sections of guide rail to its original condition, as directed by the Engineer, which will typically involve straightening and realigning posts and rail, and include retensioning of cable guide rail. It may also include the removal and replacement of rail and posts units and any accompanying hardware which has been too badly damaged to be reused. Replacement, as opposed to restoration, will be in-kind and only be authorized when the Engineer has determined that items cannot be adequately restored to a safe condition. New material that is to be incorporated into the work will either be supplied by the Department or obtained by the Contractor under a separate item.

The types of barrier systems are designated as follows:

- Cable Guide Railing
- Box Beam Guide Railing and Median Barrier
- Corrugated Beam Guide Railing and Median Barrier

**MATERIALS:**

Materials shall meet the requirements specified in the following subsections of Section 700 – Materials and ASTM Specifications:

- |  |        |
|--|--------|
| Corrugated Beam Guide Railing and Median Barrier | 710-20 |
| Box beam guide Railing and Median Barrier        | 710-21 |
| Cable Guide Railing                              | 710-22 |
| Guide Rail and Median Barrier systems (Rustic)   | 710-25 |

The materials comprising the existing system shall be used if they are found to be in satisfactory condition, as determined by the Engineer. The Contractor shall supply new material under separate items.

**CONSTRUCTION DETAILS:**

Post and railings shall be erected in the position and manner as the previous rail and as approved by the Engineer. The holes shall be back filled with granular material up to about 150 mm below the surface of the road. Then the posts shall be driven unless otherwise specified by the Engineer. The remaining void shall be filled and compacted with a bituminous treated material or asphalt concrete similar to the surrounding area. Any small holes or voids remaining after the bituminous or asphalt concrete placement shall be filled with asphalt cement or bituminous material, in a manner approved by the Engineer. All posts shall be aligned to a tolerance of 6 mm. from plumb and grade lines. Cable guide railing tensioning shall be as specified in Section 606-3.02 of the Specifications.

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**METHOD OF MEASUREMENT:**

This work to be measured for payment will be the number of meters of guide rail or median barrier measured along the axis of the railing with the lengths of repair as determined below:

Cable Guide Railing: Measurement will be the length of cable railing system requiring to be tensioned, regardless of the number of damaged posts which are repaired or replaced.

Corrugated Beam Rail Systems: Measurement will be from the next closest splice not affected by the damage to the rail system. Median barriers will be treated as two independent rail systems for purposes of measuring damaged areas.

Box Beam Rail Systems: Measurement will be from the splice of the last rail adjacent to a damaged rail or a rail that had to be removed in order to accomplish the repair.

**BASIS OF PAYMENT:**

The unit price bid per meter for the above repair or restoration work shall include the cost of all labor, equipment necessary to complete the work. The cost of any new materials incorporated into the work will be paid under separate items. When posts are driven through asphalt concrete or bituminous treated materials, any repairs to damaged paved or treated areas shall be at the Contractor's expense.

Payment for guide rail and median barrier shall include the unit price bid and the measured quantity multiplied by the payment factor for the various typical post spacings listed in Table 606-2 of the Specifications.

Payment will be made under

<b>ITEM NO.</b>	<b>ITEM</b>	<b>PAY UNIT</b>
11606.911001 M	REPAIR CABLE GUIDE RAIL, QUANTITY RANGE 1 (0 to 20 M)	Meter
11606.911002 M	REPAIR CABLE GUIDE RAIL, QUANTITY RANGE 2 (20.1 M to 50 M)	Meter
11606.911003 M	REPAIR CABLE GUIDE RAIL, QUANTITY RANGE 3 (> 50 M)	Meter
11606.912001 M	REPAIR BOX BEAM GUIDE RAIL, QUANTITY RANGE 1 (0 to 20 M)	Meter

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11606.912002 M	REPAIR BOX BEAM GUIDE RAIL, QUANTITY RANGE 2 (20.1 M to 50 M)	Meter
11606.912003 M	REPAIR BOX BEAM GUIDE RAIL, QUANTITY RANGE 3 (> 50 M)	Meter
11606.913001 M	REPAIR BOX BEAM MEDIAN BARRIER, QUANTITY RANGE 1 (0 to 20 M)	Meter
11606.913002 M	REPAIR BOX BEAM MEDIAN BARRIER, QUANTITY RANGE 2 (20.1 M to 50 M)	Meter
11606.913003 M	REPAIR BOX BEAM MEDIAN BARRIER, QUANTITY RANGE 3 (> 50 M)	Meter
11606.914001 M	REPAIR CORRUGATED GUIDE RAIL, QUANTITY RANGE 1 (0 to 20 M)	Meter
11606.914002 M	REPAIR CORRUGATED GUIDE RAIL, QUANTITY RANGE 2 (20.1 M to 50 M)	Meter
11606.914003 M	REPAIR CORRUGATED GUIDE RAIL, QUANTITY RANGE 3 (> 50 M)	Meter
11606.915001 M	REPAIR CORRUGATED MEDIAN BARRIER, QUANTITY RANGE 1 (0 to 20 M)	Meter
11606.915002 M	REPAIR CORRUGATED MEDIAN BARRIER, QUANTITY RANGE 2 (20.1 M to 50 M)	Meter
11606.915003 M	REPAIR CORRUGATED MEDIAN BARRIER, QUANTITY RANGE 3 (> 50 M)	Meter

DISAPPROVED