<table>
<thead>
<tr>
<th>Type of Barrier</th>
<th>Standard Sheet</th>
<th>Pay Item Family</th>
<th>Curvature/Post Information (Radius in ft)</th>
<th>Post Space (ft)</th>
<th>Deflect (ft)</th>
<th>Pay factor (PF)</th>
<th>Design Information</th>
<th>To Type</th>
<th>Standard Sheet</th>
<th>Pay Item Family</th>
<th>Design Information</th>
<th>Type of End Terminal</th>
<th>Standard Sheet</th>
<th>Pay Item Family</th>
<th>Design Information</th>
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</thead>
<tbody>
<tr>
<td>Box Beam (1 or 2way)</td>
<td>606-19</td>
<td>606.83</td>
<td>HDM 10.2.5.6</td>
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<tr>
<td>High Tension Cable (proprietary system see special spec for approved products)</td>
<td>Shop Dwg</td>
<td>606.01xx09</td>
<td>See Manufacturer guidelines</td>
<td>varies</td>
<td>8</td>
<td>See Manufacturer guidelines</td>
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<td>Box Beam (W-Beam)</td>
<td>606-07</td>
<td>606.18</td>
<td>HDM 10.2.3.2</td>
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<tr>
<td>Box Beam (Shop curve w/ R ≥ 720 ft)</td>
<td>606.04</td>
<td>606.10</td>
<td>HDM 10.2.3.4</td>
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<tr>
<td>Concrete Hairpin Turn Down</td>
<td>606-35, 36, 37</td>
<td>606.30tx</td>
<td>N/A</td>
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<td>N/A</td>
<td>HDM 10.2.3.6</td>
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<td>Ironwood1</td>
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<td>6.5</td>
<td>5.5</td>
<td>1.0</td>
<td>EI 06-422</td>
<td>EI 10-026</td>
<td>HDM 10.2.3.7</td>
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</tbody>
</table>

**Run Information**

**Transitions**

**End Terminals**

**Notes:**

1. This system presents a very pleasing timber appearance.
2. This unit employs a slope-base post and anchor base plate. Older type w/o such a post may sag vehicles at the downstream end and are more costly to repair. Older existing units may be retained on the approach ends on one way roads.
3. Where lane volume > 5000 vpd, use of Guide Rail would require a commitment from maintenance of expedited repair. Additionally, where slope drains are steeper than 1:2, 2 post spacing may be such that deflect is 8 feet or less. This deflect cannot be attained in situations where extra long posts are required. Check out HDM Table 10-4, Minimum Shoulder Break Offsets to Back of Guide Rail Posts.
4. Turned-down ends may be installed or retained in the clear zone in low-speed situations. Low speeds are defined as ≤ 30 mph in rural areas and ≤ 45 mph in urban areas.
5. Needs a median 10 feet or wider.
6. Expendable or Reusable models may be used. Available in Test Levels II, and III. See Materials Approval List.
7. Pay items for temporary applications are also transmitted by EI 11-016. See 10.2.6.3B for temporary applications.
8. Type 0 means to ground in back slope.
9. Includes the BB End Piece and the 72 feet of shop curved section. Generally, the only end terminal type that may be used at approach ends of guide rail located more than 5 feet inside the clear zone where speeds are greater than 50 mph. See HDM 10.2.5-4C.
10. Considered a Test Level III (62 mph) device. Includes the BB End Piece and the 18 feet of shop curved section. May be used at driveways, see HDM 10.2.5-4D. May require additional grading and culvert work. See standard sheets.
11. 7-25° turned down end.
12. Test Level III device. Generally, the only end terminal type that may be used at approach ends of guide rail located more than 5 feet inside the clear zone where speeds are greater than 50 mph. See HDM 10.2.5-4C.
## U.S. Customary Median Barrier Quick-Reference Sheet (November 2013)

### Run Information

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<tr>
<th>Type of Barrier</th>
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<th>Pay Item Family</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Cable Median Barrier</strong>&lt;sup&gt;2&lt;/sup&gt; For use in traversable medians wider than 22 ft</td>
<td>606-02 606.03</td>
<td></td>
<td>R &lt; 720 requires 8 ft post spacing&lt;sup&gt;1&lt;/sup&gt; R &gt; 450 not permitted</td>
<td>16 12 8 4</td>
<td>11 9.5 8 7</td>
<td>1.00 1.10 1.40 1.90</td>
<td>HDM 10.2.4.9D <strong>Box Beam</strong> <strong>Box Beam</strong></td>
<td>606-02 Intermediate Anchorage</td>
<td>606-02</td>
<td>Anchor Unit</td>
<td>606.03</td>
<td>HDM 10.2.5.1</td>
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</tbody>
</table>

### Transitions

**High Tension Cable** (proprietary systems) | Shop Dwgs 606.01xx-09 | See Manufacturer guidelines | varies | | | | **Box Beam** | **RPBO** | 606.24 606.27 | 606.8501 606.9601 | HDM 10.2.5.6 | Anchor Unit<sup>2</sup> | 606.08 | Anchor Unit, special<sup>2</sup> | 606.24 606.25 | HDM 10.2.5.2 | Same |

**Corrugated Beam<sup>1</sup>** (Shop curve R 150 ft) R as small as 6 ft is possible, but R # 50 ft is not recommended | 606-08 606.17 | | R ≥ 220<sup>1</sup> use <sup>2</sup> R 310 to <225<sup>2</sup> R 2.75 to <165<sup>2</sup> R 3.50 to <75<sup>2</sup> | 12'-6" 6'-3" 3'-1½" | 7 5 5 | 1.00 1.40 1.90 | HDM 10.2.4.4 | **Box Beam** | **RPBO** | 606-24 606-27 606.8501 606.9601 | HDM 10.2.5.6 | Anchor Unit<sup>2</sup> | 606.08 | Anchor Unit, special<sup>2</sup> | 606.24 606.25 | HDM 10.2.5.2 | Same |

**Flex Beam** (Shop curve R ≤ 1525 ft) R = 30 ft possible if machine bent, R ≥ 3 ft possible with "pie cutting" | 606-05 606.11 | | | 6 3 | 1.0 | HDM 10.2.4.5 | **Weak Post W-Beam** | **Single Slope** | 606-24 606-25 606.8805 606.9601 | HDM 10.2.5.6 | Inertial Barrier Modules (Sand Barrels) | 606-05 | Shop Dwgs | 654.01xx | HDM 10.2.6.2 |

**RPBO Corrugated Beam** (Shop curve R ≤ 150 ft) R as small as 6 ft is possible, but R ≥ 50 ft is not recommended | 606-10 606.33 | | | 6'-3" 3'-1½" | 2 | 1.0 | HDM 10.2.4.4 | **Concrete Single Slope** | **Concrete Jersey Shape** | **Weak Post W-Beam** | 606-29 606-29, 41 606-27 606.8705 606.9601 | HDM 10.2.5.6 | **Towed Down**<sup>3</sup> | 606-10 | Shop Dwgs | 606.35 | HDM 10.2.5.3A | HDM 10.2.5.3B | HDM 10.2.5.3E |

**Concrete single slope** Two widths are available—8 in. top and 12 in. top | 606-14 606.304x | N/A | N/A | 0 | N/A | HDM 10.2.4.6 | **Box Beam** | **Jersey shape** | **RPBO Corrugated Wide Sgl Slope Core** | 606-25 606-29 606-31 | 606.8805 606.9001 606.9902 | HDM 10.2.5.6 | **Sgl Slp Turn Down**<sup>3</sup> | 606-15 | Shop Dwgs | 606.304c | HDM 10.2.5.5 | HDM 10.2.5.5 |

**Concrete jersey shape** Three widths available, 6, 9, 12 in. top | 606-35, 36 & 37 606.30xx | N/A | N/A | 0 | N/A | HDM 10.2.4.6 | **Single Slope** | **RPBO** | **Box Beam** | 606-42 606-29, 41 | 606.9001 606.8706 | HDM 10.2.5.6 | **Impact Attenuator (permanent)**<sup>11</sup> | 654.5xx | Shop Dwgs | 654.1xx | HDM 10.2.5.3C | EE 10-010 |

**Concrete Jersey Shape** Three widths available, 6, 9, 12 in. top | 606-35, 36 & 37 | N/A | N/A | 0 | N/A | HDM 10.2.4.6 | **Single Slope** | **RPBO** | **Box Beam** | 606-42 606-29, 41 | 606.9001 606.8706 | HDM 10.2.5.6 | **Impact Attenuator (permanent)**<sup>11</sup> | 654.5xx | Shop Dwgs | 654.1xx | HDM 10.2.6.2 |

### Notes:

1. Weak-Post Corrugated Median Barrier is acceptable at TL3.
2. Because of the separation of cable median barrier from the traffic lanes, cable median barrier may be used where lane volume ≤ 5000 vpd, with no special maintenance commitment.
3. Towed-down ends may be installed or retained in the clear zone in low-speed situations. Low speeds are defined as ≤ 30 mph in rural areas and for maintenance considerations ≤ 45 mph in urban areas.
4. Needs a median 10 feet or wider.
5. Expandable or Reusable models may be used. Available in Test Levels II, and III. See Materials Approved List and EI 16-011.
6. Pay items for temporary applications are also transmitted by EI 11-016.
7. For Work Zone Traffic Control use 619.18xx.
8. Close spacing is required on sharp curvature to avoid posts being pulled over by cable or beam tension when weak-post cable or corrugated beam barriers are hit by errant vehicles. Not a consideration with strong-post systems or box beam systems.
9. Permanent impact attenuators may also be used, but they are considerably more expensive.
10. Impact Attenuators on new foundation slabs require a minimum 8 inch thick reinforced foundation.

### General Notes:

- **A.** Point of redirection information for median barrier included in HDM 10.2.4.
- **B.** Contact Bob Lohse at (518) 457-3528 with questions on this sheet.
- **C.** See EI 99-021 for information on what design speeds to use in selecting or designing safety articles.
- **D.** If family of guard rail items means the core pay item to which additional digits may be added conveying extra long posts, and shop curving, and for some families, size or number information. See the Standard Specifications and/or catalog of pay items (control report) for the additional digits.
- **E.** Deflection distances apply to relatively straight runs.