BA 200s Barriers - Steel Beam Guardrail

(This section last updated 10-31-23)

See Section 8C-2 for design information.

Steel Beam Guardrail W-Beam End Anchor (BA-203)

- Use only outside of the clear zone for approach traffic, see Section 8C-2.
- An extra 25 feet of guardrail should be added beyond the trailing end of an object to allow the end anchor to develop full strength if impacted, see Figure 1.

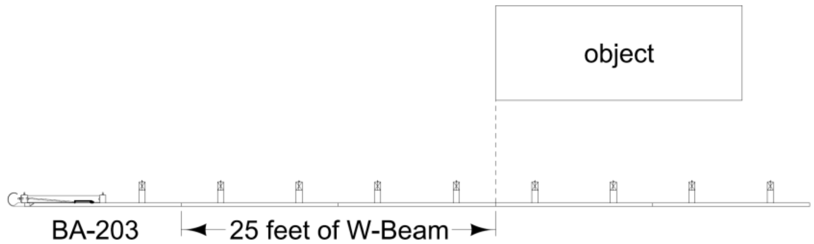

Figure 1: Extra W-Beam for BA-203.

- Do not use with a W-beam to cable crossover without first contacting the Roadside Safety Engineer.

Steel Beam Guardrail Thrie-Beam End Anchor (BA-204)

- Use only with Steel Beam Guardrail Installation at Railroad Signal (BA-253).
- Do not use with a W-beam to cable crossover.

Steel Beam Guardrail Tangent End Terminals (BA-205 and BA-225)

- Previously, the dsnGuardral.cel library had two cells for the BA-205: **MGS_Term_on_Flare** and **MGS_Term_on_Tangent**. These have been replaced with one cell: **MGS_Term_BA-205**. A new end terminal cell has been created: **MGS_Term_BA-225**.
- Two additional new cells have been created for the dsnGuardrail.cel library: **MGS_VT_to BA-205_or_BA-225** and **MGS_VF_to BA-205_or_BA-225**. These transition cells are placed immediately downstream of the end terminal, see Figure 2.

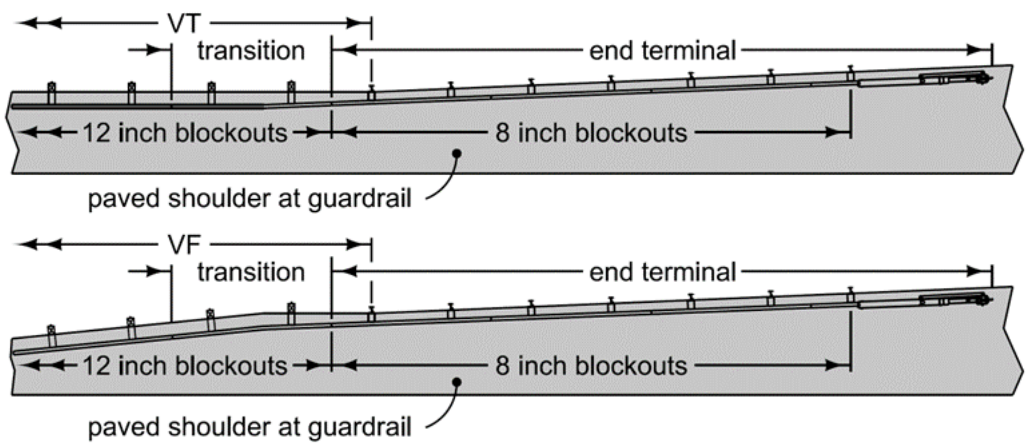

Figure 2: Transitions for BA-205 and BA-225.

- These cells serve two purposes:
  - To transition from variable tangent (VT) or variable flare (VF) to BA-205 or BA-225.
  - To set up the pavement edge transition from the 12-inch blockouts of the VT and VF to the 8 inch blockouts of the BA-205 and BA-225.

When transitioning from VT to an end terminal, the transition is included in the VT. When transitioning from VF to an end terminal, the transition is included in the VF.

Steel Beam Guardrail Installation at Railroad Signal (BA-253)

- D_o should be a minimum of 2 feet.
- Face of guardrail should preferably be a minimum of 5 feet from signal footing.

MASH TL-2 Standards (BA-221, BA-255, and BA-260):

- Contact the Roadside Safety Engineer prior to use.
- May be used where posted speeds are 40 mph or less or ADT is 400 vpd or less.
- May be used where standard guardrail lengths for a MASH TL-3 system cannot be achieved due to constraints.

Steel Beam Guardrail Long-Span System for Post Conflicts (BA-211):

- Clear area behind rail expands as posts are removed. Expand clear area before placing crashworthy and breakaway objects behind the rail according to the following as measured from the face of rail:
  - Standard guardrail: 5 feet per Section 8C-2
  - Type 1: 6 feet
  - Type 2: 7 feet
  - Type 3: 8 feet
- Within this expanded area, there is a maximum object height of 2 inches.

High Tension Cable Guardrail to Steel Beam Guardrail Connection

- See Section 8C-3 for design information.
- Include bid item for Guardrail, Special Anchor System.

If you have any questions or problems, contact the Roadside Safety Engineer.