



Department of Transportation


ENGINEERING
INSTRUCTION

EI
19-017

Title: PEDESTRIAN BREAKS IN RUNS OF BOX BEAM GUIDE RAIL

SUPERSEDED BY EI 25-007
EFFECTIVE 9/1/25

Approved:


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Date

ADMINISTRATIVE INFORMATION:

- This Engineering Instruction (EI) is effective beginning with projects submitted for letting on or after January 1, 2020.
- EI 19-018 "New Special Specification Item 606.12040015 – Box Beam Guide Railing, Pedestrian Break" and EB 19-034 "Standard Sheet 606-04, Sheet 5, Pedestrian Breaks in Box Beam Guide Rail Runs" are being concurrently issued.
- No Issuances are superseded.
- Disposition of Issued Materials: This guidance will be incorporated into Chapter 10 of Highway Design Manual as part of a subsequent Highway Design Manual update.

PURPOSE: This EI announces guidance on Pedestrian Breaks in box beam guide rail.

TECHNICAL INFORMATION:

As part of any box beam guide rail repairs, guide rail projects, 1R/2R/3R/4R projects, bridge rehabilitation projects, and bridge replacement projects, existing breaks in runs of box beam guide rail for pedestrians should be replaced or relocated with the following detail or closed, subject to the following restrictions:

- Where the posted speed is > 45 MPH and there is no additional break in the run of box beam within 138' (breaks include driveways), a Test Level 3 (TL-3) end section can be evaluated for suitability.
 - The Type IIA terminal is TL-3 MASH-compliant and may be used where the terrain permits its first post to be installed 7'-9" behind the rail at a point where the grade is no more than two feet below the edge of pavement.
 - The Type III box beam terminal is TL-3 MASH-compliant and may be used where the center of the leading end is placed two feet beyond the centerline of the upstream run and the terminal and rail may be placed in a straight line for a minimum of 50 feet.
- Where the posted speed is 35 MPH to 45 MPH and there is no additional break in the run of box beam within 78' (breaks include driveways), a pedestrian break should replace the existing opening.
- Where the posted speed is 30 MPH or less and there is no additional break in the run of box beam within 30' (breaks include driveways), a pedestrian break should replace the existing opening.
- Existing breaks that do not meet the above spacing requirements should be considered for removal to make the run continuous or should be upgraded and documented as non-conforming features.

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Pedestrian Break Design:

- The Pedestrian Break includes a tightly curved, flared end treatment for the downstream side of the break in the run of box beam guide rail.
- Details of the Pedestrian Break are shown on Standard Sheet 606-04, Sheet 5, which is being concurrently issued by EB 19-034, "Standard Sheet 606-04, Sheet 5, Pedestrian Breaks in Box Beam Runs"
- The Pedestrian Break should not be used with a gap width exceeding five feet, as this will increase the chances of a vehicle getting through the gap or impacting the turned down portion of the downstream terminal.
- A new item number, 606.12040015, has been established for the Box Beam Pedestrian Break. The specification is being issued concurrently under EI 19-018 "New Special Specification Item 606.12040015 – Box Beam Guide Railing, Pedestrian Break".
- The Pedestrian Break has been designed to meet the requirements of TL 2.
- The box beam end pieces on the upstream side of the pedestrian gaps are to be placed in line with the run, unflared. This lack of flare should allow them to provide significant shielding for the downstream box end pieces, which achieve full height approximately 2'-10½" behind the line of the run.

IMPLEMENTATION:

- Where guide rail replacement or similar projects include the replacement of existing pedestrian breaks consisting of pairs of unflared box end pieces, Designers should incorporate Pedestrian Breaks, or alternate design, consistent with the above guidance.
- Where Pedestrian Breaks are to be installed, Designers should indicate on the drawings that backup posts are to be used and fastened to the rail in accordance with the Standard Sheet. Due to the fastening requirement, backup posts downstream from the pay limit for the Pedestrian Break should be paid for individually under item 606.4809 – I-Beam Posts for Existing Box Beam Guide Railing or item 606.4811 - Extra Long I-Beam Posts for Existing Box Beam Guide Railing, depending on the appropriate length.
- Existing pedestrian breaks in box beam guide rail do not have to be immediately brought into conformance with this EI. However, closing of unwarranted gaps or upgrading existing gaps to meet the new Pedestrian Break guidance should be considered as part of guide rail repairs, guide rail projects, 1R/2R/3R/4R projects, bridge rehabilitation projects, and bridge replacement projects.

CONTACT: Questions regarding this Engineering Instruction may be addressed to Terry Hale of the Design Quality Assurance Bureau at (518) 485-7009, or via e-mail at Terry.Hale@dot.ny.gov.