



Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

BDE PROCEDURE MEMORANDUM

NUMBER: 14-10

SUBJECT: BDE Manual Revision – Chapter 38

DATE: October 17, 2014

Chapter 38 of the BDE Manual has been revised to be current with the 4th Edition of AASHTO's *Roadside Design Guide*. Please see Chapter 38 of the BDE Manual on-line to view the revisions.

Background

The 4th Edition of the *Roadside Design Guide* included many safety updates which required a complete review of Chapter 38, Roadside Safety. The changes incorporate the principles of AASHTO's Manual for Assessing Safety Hardware (MASH) and the results of research by the Midwest Roadside Safety Facility and the National Cooperative Highway Research Program. The following summarizes significant changes to Chapter 38:

- Section 38-2, Definitions, was revised to include new and updated definitions per the 4th Edition of the *Roadside Design Guide*
- Figure 38-3.H was added which provides the preferred ditch cross sections.
- Section 38-3.04, Backslopes, and Section 38-4.05, Transverse Slopes, were revised to address the approach to bridge cones both as a longitudinal and transverse hazard.
- Section 38-4.06, Roadside Drainage Features, was revised to be current with the new types of culvert end sections in the *Highway Standards*. The revisions also placed a greater emphasis on making the culvert end sections traversable through the use of pipe grates.
- Section 38-6.01, Length of Need, was revised by adding new example problems and modifying previous example problems on guardrail length of need. The new problems include two examples of approaches to bridges.
- Section 38-6.03, Barrier Offset, was revised by discussing the Zone of Intrusion, which is the area of possible impact measured above and behind the face of a barrier system.

BDE PROCEDURE MEMORANDUM 14-10

October, 17, 2014

Page 2

- Figure 38-6.T revised the table on the guardrail deflection distances. The deflection distance of high-tension cable was moved to Section 38-7.03, Median Barrier Selection.
- Section 38-6.07 revised the minimum length of guardrail allowed and explained how to apply traffic barrier terminals to the allowable minimum length of a guardrail run.
- Revisions throughout the chapter emphasize the importance of appropriate roadside grades and offsets regarding barriers, attenuators, and break-away sign posts.
- Section 39-9 discusses a new topic, roadside safety in urban or restricted environments. Previously, little attention was given to the roadside in urban or restricted environments beyond 1.5 ft from the face of the curb. This section introduced the term “enhanced lateral offset” to be considered in an urban environment as an alternative to using clear zones widths.



Omer M. Osman
Director of Highways/Chief Engineer