



Construction Policy Bulletin

CPB 12-3 Pavement Safety Edge

References:	Contract Special Provisions based on <i>2006 Standard Specifications</i>	Section 10-1.____, "Edge Treatment, Hot Mix Asphalt Pavement" Section 10-1.____, "Edge Treatment, Concrete Pavement"
	Contract Special Provisions based on <i>2010 Standard Specifications</i>	Section 39-1.30, "Edge Treatment, Hot Mix Asphalt Pavement" Section 40-1.03L(1), "General"
	<i>Construction Manual</i>	Section 4-39, "Hot Mix Asphalt" Section 4-40, "Concrete Pavement"

Effective Date: August 10, 2012

Approved: 
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Chief
Division of Construction

Approval Date: August 9, 2012

Background

Safety edge can help reduce accidents by allowing drivers who drift off highways to return to the road safely. Instead of a vertical drop-off, safety edge shapes the edge of pavement to 30 degrees. Safety edge is placed at the edge of the paved shoulder or, when there are no paved shoulders, at the edge of pavement. Safety edge is a part of the Federal Highway Administration's (FHWA) "Every Day Counts" initiative, which is designed to identify and deploy innovation aimed at reducing the time it takes to deliver highway projects, enhance safety, and protect the environment. You can find more information about the "Every Day Counts" initiative at:

<http://www.fhwa.dot.gov/everydaycounts/>

For general information about safety edge, see the FHWA safety edge brochure at:

http://safety.fhwa.dot.gov/roadway_dept/pavement/safedge/brochure/

Caltrans has developed new specifications and standard plans for safety edge for both asphalt and concrete pavements. Pavement projects with plans, specifications, and estimates submittals to the Division of Engineering Services, Office Engineer, after September 30, 2012, will include the safety edge specification for pavements constructed of either hot mix asphalt (HMA) or concrete. Other pavement projects processed earlier than the September 30, 2012 date may include safety edge specifications. For HMA, the special provision for safety edge is

10-1.____, "Edge Treatment, Hot Mix Asphalt Pavement" for projects based on the 2006 *Standard Specifications* and 39-1.30, "Edge Treatment, Hot Mix Asphalt Pavement" for projects based on the 2010 *Standard Specifications*. For concrete pavement, the safety edge special provision is 10-1.____, "Edge Treatment, Concrete Pavement" for projects based on the 2006 *Standard Specifications* and 40-1.03L(1), "General" for projects based on the 2010 *Standard Specifications*. Safety edge is not required when pavement overlay is less than 0.15 feet in thickness or at excluded areas shown on new *Standard Plan* sheets. Installation of safety edge on going projects without safety edge specifications is not required.

Existing Procedure

No procedures exist for the installation of safety edge for HMA or concrete pavement.

New Procedure

Follow these procedures when projects have contract items for HMA or concrete pavement.

Before Work Begins

Resident engineers and assistant resident engineers must do the following to prepare for safety edge construction:

- For contracts based on the 2006 *Standard Specifications*, review Section 10 of the special provisions to determine if it includes either 10-1.____, "Edge Treatment, Hot Mix Asphalt Pavement" or 10-1.____, "Edge Treatment, Concrete Pavement." For contracts based on the 2010 *Standard Specifications*, review Division V of the special provisions to determine if it includes either "39-1.30, "Edge Treatment, Hot Mix Asphalt Pavement" or 40-1.03L(1), "General."
- Review plan quantity sheets to determine if locations for safety edge are identified.
- Field verify safety edge locations based on plans and new *Standard Plan* sheets. Ensure that safety edge is not placed:
 - Next to curbs, dikes, guardrails, barriers, walls, and landscape paving.
 - Where the distance from edge of shoulder to hinge point is less than 1 foot and there is not enough room for safety edge.
 - Within 3 feet of driveways or intersections.
- Verify that the engineer's estimate for contract items includes the additional material quantity required for safety edge.
- At the prejob conference and prepaving conference, direct the contractor's attention to the contract requirements, including new *Standard Plans* for safety edge.

During the Course of Work

Consider the following when inspecting safety edge:

- Safety edge is placed at proper locations.
- Contractor provides enough room to construct safety edge by pregrading and that safety edge will be placed on solid material, free of debris such as loose material, grass, weeds, or mud.
- Safety edge slope is 30 ± 5 degrees from the surface plane of the pavement.
- HMA safety edge is compacted enough that there is no loose material.

- Additional material quantity, either HMA or concrete pavement, required for safety edge is measured and paid for. For concrete pavement, if the contractor constructs safety edge by saw cutting or grinding, do not pay for the quantity of concrete removed.

There will not be a separate payment item for safety edge because the cost of constructing it is included in the contract item cost for HMA or concrete pavement. The contract plan quantity sheets should include a listing of locations where safety edge is required to be placed. The additional material required to construct it should be included in the engineer's estimated quantity of HMA or concrete pavement.

If you have any questions or comments regarding procedures for safety edge on HMA, please contact:

Kee Foo, Division of Maintenance, at kee_foo@dot.ca.gov or (916) 274-6077

Ebi Fini, Division of Construction, at ebi_fini@dot.ca.gov or (916) 227-5396

For concrete pavement questions contact:

Mehdi Parvini, Division of Maintenance, at mehdi_parvini@dot.ca.gov or (916) 227-5848

Ken Darby, Division of Construction, at ken_darby@dot.ca.gov or (916) 227-5705

- Attachments:
1. Implementation of Pavement Safety Edge Memorandum
 2. Safety Edge Implementation—Frequently Asked Questions
 3. 2006 *Standard Plans*—Pavement Edge Treatments
 4. 2010 *Standard Plans*—Pavement Edge Treatments
 5. 2006 Standard Special Provisions: 39-070_E_A01-2012 and 40-400_E_A01-20-12
 6. 2010 Standard Special Provisions: 39-1.30_A01-20-12 and 40-1_X2_A01-20-12
 7. Sample Project Plans