Safety Edge becomes standard

INSTALLING SAFETY EDGE, the

angled pavement edge, adjacent to an aggregate shoulder as part of an asphalt paving project is now a standard in Wisconsin. The 2014 Wisconsin Department of Transportation Standard Specifications include Safety Edge in Section 450 General Requirements for Asphaltic Pavements. The new specifications apply to projects with state or federal funding that are let starting in December 2013.

Local road agency specifications and bid documents that reference the WisDOT Standard Specifications Section 450 can expect contractors to include installation of the Safety Edge in their bid proposals and pave a Safety Edge using a paver equipped with a wedge maker that is on a WisDOTapproved product list. A local government can choose to leave the pavement detail out of a contract by referencing Section 450 in their bid document specifications, excepting the specifications (450.3.2.11) for Safety Edge.

Standard Detail Drawing 14B29 in the WisDOT Facilities Development Manual (FDM) illustrates correct construction of the Safety Edge. Materials required remain the same with only a slight increase in quantity (less than 1 to 2 percent) to create the sloped edge. FDM also discusses WisDOT policy on when to use Safety Edge and how to specify.

Safety and performance

A primary safety benefit of Safety Edge is that it helps prevent or reduce severity of run-off-the-road crashes. Drivers who veer to the shoulder have an easier time making a correction without over steering into oncoming traffic. This is especially significant on local roads, which usually are narrower than state roads and typically lack a paved shoulder.

Fewer pavement problems along the edge of asphalt roadways are another advantage, says WisDOT Standard Development Engineer Frik Emerson. He notes that



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USH 45 near Town of Monico in Oneida County STH 47 near Neopit in Menominee County STH 13 near Cornucopia in Bayfield County USH 2 east of Ashland in Ashland County USH 62 near Drummond in Bayfield County STH 17 from Merrill to Rhinelander STH 13 from Wisconsin Dells to Adams STH 173 near Meadow Valley and Nekoosa STH 73 from Plainfield to Wisconsin Rapids in Central Wisconsin STH 33 from Baraboo to Portage in Columbia County STH 54 at STH 172 in Green Bay

pavement performance on the first group of two dozen or more Safety Edge projects completed by WisDOT on state highways, for example, show good retention of gravel on the shoulders.

Constructability

State roads in every region of Wisconsin have been paved using Safety Edge as part of WisDOT's effort to test the technology and demonstrate it for public road agencies and contractors. Many projects are featured in the Constructability Review reports about Safety Edge use on state roads in 2011 and 2012. The Construction and Materials Support Center (CMSC) in the UW-Madison Department of Civil and Environmental Engineering produced the reports which gave WisDOT useful information to include in the standard.

CMSC analyzed the asphalt installation process and did follow up on the earliest Safety Edge projects to measure performance. Their findings showed that adding the edge element to paving operations worked well with minor adjustments and that, over time, the edge maintained its shape and served its purpose.

Low-cost improvement becomes routine

Experience with Safety Edge in Wisconsin and evidence of its effectiveness as a low-cost safety improvement on road projects makes the technology a routine part of all future asphalt paving contracts. Local road officials can learn more through the resources included here and by working closely with knowledgeable contractors.

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Resource

http://roadwaystandards.dot. wi.gov/standards/stndspec/ index.htm

WisDOT 2014 Standard Specifications document online with link to Section 450 and information on Safety Edge for road designers.

Additional resources on page 11

