

Montana Department of Transportation
Research Programs
July 2008

ANNUAL EXPERIMENTAL EVALUATION REPORT

Thin-Whitetopping Bonded Composite

Location: Kalispell, Montana – Flathead County

Project No.: STPP 1-2 (93)121, East Idaho St.

FHWA No. MT 00-02

Description: Eighth year analysis of experimental construction project consisting of milling approximately 130mm of Asphalt Cement (AC) and placement of 130mm Portland Cement (PCCP) onto the milled surface to create a bonded-composite pavement. Project length-0.8 kilometer (0.5 mile)

Evaluation Date: July 2008

Date Constructed: September 2000

Report Origin: Craig Abernathy
Experimental Project Manager



This was the seventh annual analysis of this project since construction in fall of 2000. This inspection consisted of a visual review to document any surface distress or deterioration of the whitetop/AC-bonded composite.



The overall appearance of the whitetopping is good. Thirty-one cracked panels were documented in the 2007 report. Seven additional panels were documented during this evaluation. The majority cracks are hairline in nature with no vertical displacement or debonding of the composite panels. Several cracks appeared to be at a ¼ " wide width or more. At this time, there is no indication of a pattern or reasons for the randomness of the cracked panels; therefore, it is premature to

attempt to ascertain a cause. It should be noted that the majority of the cracking occurs on the north half of the project, west-bound (which was placed first) between the streets of 8th Ave. EN and 6th Ave. EN. The west half of the project is beginning to exhibit panel cracking. Refer to the crack maps at the end of this report for a general representation of cracked panel locations and the relationship of how the crack is located within the panel itself. The crack map is strictly an illustration of approximate crack locations over time within the project. It is not to scale.

Figures 1 & 2 are examples of the in-lane, hairline cracks. A black line has been superimposed over the images to better see the lay of the crack. It has been estimated that this project contains over 4200 sawed panels with an approximate Thirty-eight (38) panels exhibiting minor cracking since construction which represents a .009% of the entire project.



Figure 3 shows the performance of the doweled PCCP patch placed during construction due to un-consolidated concrete by lack of adequate vibration (documented in the project construction report). The black outline is the area of repair. Visual observation of traffic moving over this section displayed no

faulting or movement of the slab. At this time, no visual surface distress was noticed. This repair is approximately located in the center section of the westbound lanes 2 meters past the intersection of 6th Avenue EN and East Idaho St.

Figure 4 is showing the east-end transition area of the project. It is important to point this feature out due to the innovative way this approach was placed, please refer to the construction report for details. No evidence of distress to the east or west transitions was noticed during this evaluation.

Minor spalling is beginning to appear but at a frequency that is not an issue to date. It was observed that cracking is beginning to appear around several of the manholes on the project. No debonding or faulting has been seen with traffic moving over those items. Figure 5 is an example of that distress.



Figure 5



Figure 4

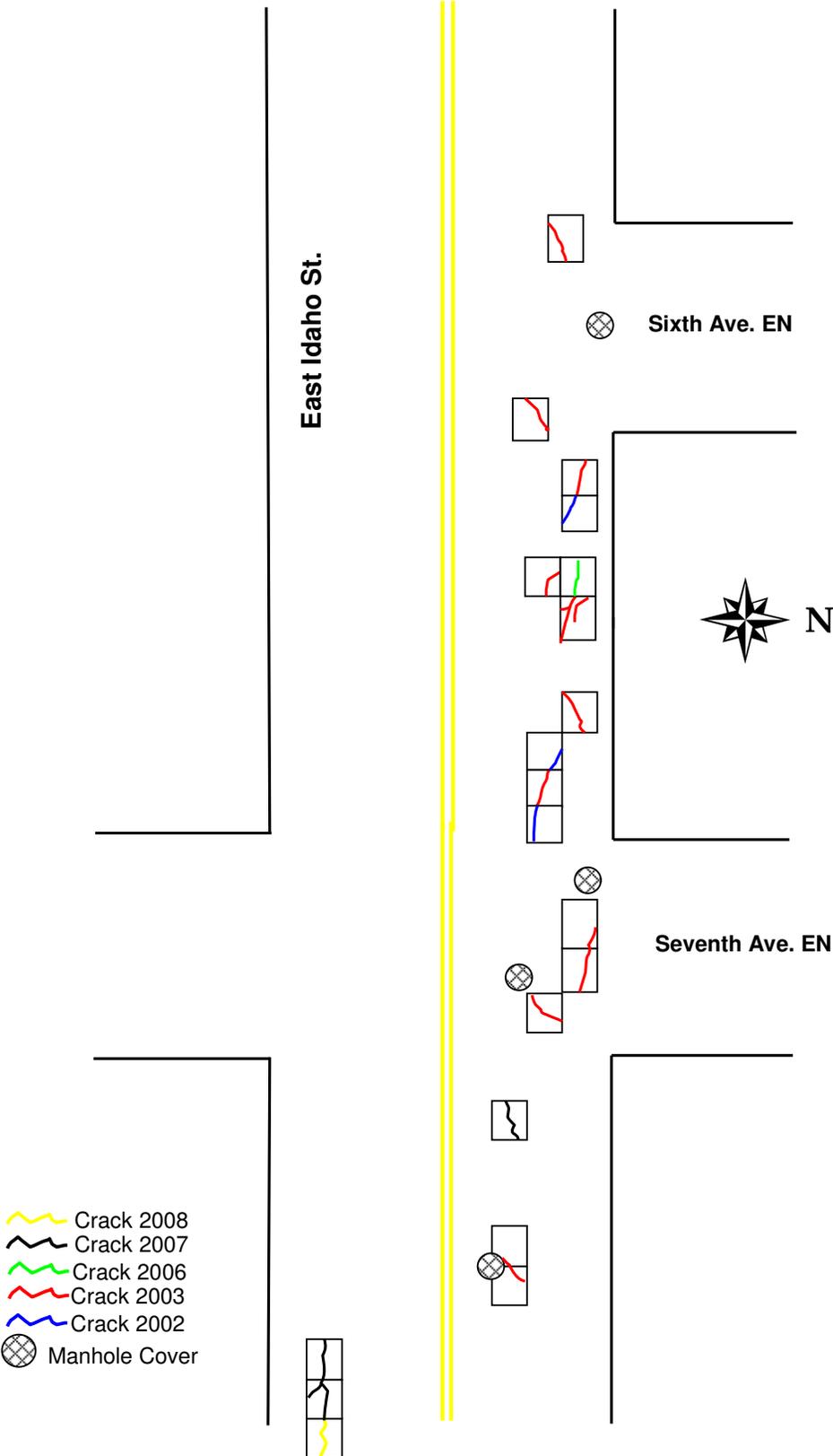
The whitetopping project is rated as performing well. Research has elected to continue formal evaluations for the duration of this project. The next inspection will be

held in the summer of 2009. This report and all project information can be located on the MDT Research Internet website at:

http://www.mdt.mt.gov/research/projects/kal_whitetopping.shtml.

The following pages are representative crack maps. Note that the maps show only that portion of the project that currently contains distress information. There were no distress to report during the 2001, 2004, and 2005 analysis.

Thin-Whitetopping Overlay Composite - STPP 1-2(93)121 East Idaho St., Kalispell Montana
Representative Project Crack Map - Approximate Location - Not to scale
Note: Crack map only shows portion of project which contains distress information



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