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RESEARCH UPDATE **U 2002-4**

THIN POLYMER OVERLAY – GEORGIA, VT

REFERENCES:

Research Updates U95-1 & U95-3

INTRODUCTION:

Bridge Number 10, located on TH #1 in Georgia, VT was identified as in need of rehabilitation because of extensive and premature cracking of the deck. Rather than the standard waterproofing membrane and bituminous concrete overlay, the rehabilitation method chosen incorporated a thin polymer overlay to preserve the existing, at-grade joint. The contractor, Parent Construction, Inc. of Hinesburg, VT selected the Tamms (formally Dural) Flexolith polymer concrete deck overlay system, the installation began on August 3, 1994.

PRODUCT DESCRIPTION:

The Tamms Flexolith polymer concrete bridge deck overlay system consists of an epoxy polymer binder combined with an aggregate containing aluminum oxide. The Flexolith binder us a two component, 100% solids, epoxy resin compound.

PERFORMANCE:

Bridge Number 10 in Georgia was revisited on April 16, 2002 and inspected for cracking and debonding. Chain dragging was performed on the length of the deck and no debonding was apparent. Visual inspection of the deck revealed no cracking. The following photographs illustrate the condition of the deck.

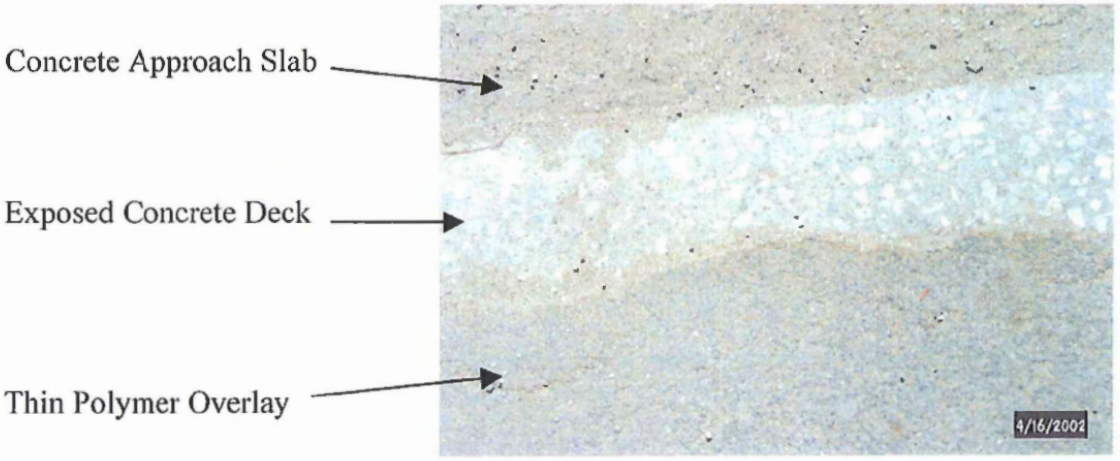
South half of Bridge Number 10

North half of Bridge Number 10

Two observations were made during inspection. The first, illustrated in the photograph below, was of a patch of the deck that appears to be discolored. The Research Staff could not discern a reason for this discoloration, however it does not appear to have harmed the wearing surface.

Discolored Patch

Second, a small portion of the south fixed edge is beginning to peel away from the concrete, which is shown in the next photograph.



FOLLOW-UP:

The overlay has performed well over the 7.5-year life of the deck. It must be noted that this bridge has a low AADT, in 1999 the AADT on North Road in Milton 1.5 miles from Bridge Number 10 was approximately 1000. Future research with this or similar materials on decks with higher AADTs may be warranted to gather more information on the performance of the material.