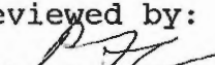
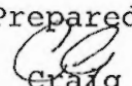


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RESEARCH UPDATE

NUMBER U93-5

Reclaimed Base VT 128 Westford - Fairfax  
 (Final Report)

HISTORY: In 1989, 3.2 miles of Vermont Route 128 in Westford and Fairfax was rehabilitated. The original design was for a standard bituminous concrete overlay, but a revised plan calling for reclaimed base was accepted based on a recommendation by the contractor. The section from MM 4.15 to 6.55 was recycled using a cold recycling process. The section was pulverized in place to a depth of one and one half times the existing pavement depth, then overlaid with 1-3/4" of Type II bituminous concrete pavement. Three test sites were established. The remainder of the project was overlaid with 1-1/4" of bituminous concrete as designed and contains two control sections.

STATUS: Two years after completion of construction the recycled section showed severe distress and alligator cracking in the wheel paths. Test Sections 1,2, and 3 which were recycled, were exhibiting about the same number of cracks as before the project, while the overlaid test sections 4 and 5 were greatly improved.

The average rutting was as follows:

<u>AVERAGE WHEEL RUTTING IN INCHES</u>				
	Test Site	Pre Const.	Post Const.	4-3-92
Recycled	1	3/16	1/16	8/16
	2	4/16	1/16	8/16
	3	7/16	2/16	10/16
Overlaid	4	7/16	0	3/16
	5	5/16	0	1/16

The depth of recycling varied throughout the project. One section of the northbound lane at approximately MM 6.1 was wetted by a heavy rain prior to paving. As a result that section developed severe alligator cracking. This section also experienced a pavement failure during construction.

COST The contracted price for the recycling was \$1.30 / sy. Although the price seemed cost effective at the time, the crack and rut measurements show that after only two years the road is again in need of repair.

CONCLUSION: Most of the failure of this project can be attributed to inadequate subbase. The performance of the recycled portion of this project points out the need for evaluation of subbase thickness and quality through the use of test pits or FWD testing prior to specifying the in-place recycling process.