

## Case Study

**application**    **Pavement Restoration**  
**location**       **Bradley Road, Libertyville, IL**  
**product**        **Mirafi® MPV700**

**job owner**  
**installer**  
**contractor**  
**highway commissioner**

**Libertyville Township Hwy Dept.**  
**Road Fabrics**  
**Peter Baker & Son Co.**  
**Bill Morgan**

TenCate™ develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

### THE CHALLENGE

Bradley road is a heavily traveled arterial in an industrial area of Libertyville Township. This town serves a post office, subway station, and several industrial sites. The existing pavement was a badly deteriorated full depth asphalt pavement with a PCI rating estimate at less than 10 (scale of 100). The original designs called for patching with full depth asphalt patching. However, because of the high percentage of patching required (40%+) it would have been less costly to reconstruct the entire road. Libertyville Township Highway Department, as with many other municipalities, is facing budget restrictions and had opted for a less expensive solution for the repair of this pavement.

### THE DESIGN

To restore pavement, 2" inches of the existing surface was milled and patched preceding a leveling course. Heavy duty paving fabrics and a thick asphalt overlay completed the section. Because of the extreme temperature variations in this area (-20°F to 98° F) a thicker paving fabric was installed with a polymer-modified asphalt. The polymer-modified asphalt will allow for greater flexibility in the pavement surface under high and low temperature conditions. Studies have shown that modified asphalts improve load-associated fatigue cracking, and thermal cracking.

### THE CONSTRUCTION

Scott Fisher of Peter Baker & Sons developed the construction sequence starting with a leveling course to fill in the irregular surfaces of the existing pavement. This was followed by the

fabric, installed by Road Fabrics. Two lifts of IDOT hot mix were applied to finish the project. The project was completed in June of 2002.

John Sikich, President of Road Fabrics, indicated that they had incurred no problems in spreading the modified asphalt binder. The modified binder is spread hotter than AC grade

asphalt binders and care was taken to install the fabric at the optimum temperature. Additionally the modified binder set up quicker and allowed construction equipment on the surface with no bleed through.



Bradley road was in dire need of restoration. Mirafi® MPV700 was chosen as the economical solution.



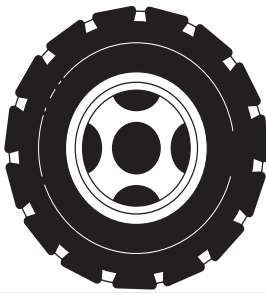
Mirafi® MPV700 was installed, and a polymer asphalt binder was used in this installation.

**THE PERFORMANCE**

The contractor monitored this project after the first winter. It performed very well throughout the winter with out any distress. Although there was considerable freeze cycles, the road maintained its integrity.

The project was subsequently reviewed in December of 2003. There was noticable cracking in areas that were not treated with Mirafi® MPV700.

In an adjacent road area that was installed 6 years ago without fabric pavement deterioration had begun after the first winter.



1 1/2" Surface Course IDOT Type 2 Mixture C
2" Binder Course IDOT Type 2
Mirapave 700 (6 oz) Paving Fabric with Polymer Modified Asphalt PG 76-22
2" Milled replaced with 3/4" level course
Existing Full Depth Asphalt Section



Older roads within the area that lack paving fabrics suffered from unnecessary cracking and deterioration.



The completed Bradley Road project maintained its integrity throughout a harsh winter season with considerable freeze cycles.

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