



## Case Study: Miami Dade Water and Sewer Department Water Main Break Surface Reinstatement



### Initial Installation

In the early morning hours of April 24, 1998, Miami Dade Water and Sewer Department (MDWS), the third largest water and sewer district in the United States, responded to a major water main break on SW 211th Street that spanned all three east bound lanes. MDWS crews proceeded to fix the break, replace the fill with insitu material, and capped the area with a temporary cold patch. By early morning rush hour, the material had given way to traffic and had experienced severe rutting, rendering the street impassable. "It was like a roller coaster through there," commented the MDWS region inspector.

MDWS typically would have removed the conventional cold patch and paved with hot mix. However, there were no hot mix paving crews available that day. MDWS engineers, in need of a permanent repair on the roadway, but lacking the crew and equipment for conventional paving, sought out the use of a relatively new product called EZ Street Asphalt.





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### Solution: EZ Street

After a decision was made to use EZ Street, the crews executed a lay down plan that involved installing EZ Street in two, one and a half inch to 2 inch lifts by blading the mix with a motor grader and compacting each layer with a large steel wheel roller. One and a half lanes were closed off for working and allowed traffic to continue on this busy thoroughfare. Upon completion of the 1.5 lanes, the other 1.5 lanes were finished.



### Subsequent Monitoring

At the time, this project represented the single largest installation of EZ Street on a major roadway in the world. This particular section of road is subject to heavy truck traffic from a nearby Dade County Trash transfer facility. The crew successfully installed the EZ Street mixture and opened the site to traffic immediately.

The EZ Street mix design employed in this application was a Summer Mix (dense graded) with a look and feel of traditional hot asphalt.

The patch overlay was subsequently monitored for the weeks, months, and years following its original installation on April 24, 1998. As of October, 2012, over 14 years since its original installation, the entire section has performed as well as the surrounding hot asphalt sections. The EZ Street section has effectively performed as a permanent hot mix alternative solution.







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## Forensic Analysis

In August of 2011, members of the EZ Street team, in conjunction with an AASHTO approved testing laboratory, CTI, Inc., began extensive core testing of the 14 year old pavement sections.

Cores were obtained in all three lanes, separated into top lifts and bottom lifts, heated, compacted and evaluated for stability and flow. Upon visible inspection, the cores were remarkably intact given the 14 years after installation.



## Marshall and Flow Properties of Cores 14 Year Later

Below is a picture of the pavement section as of October 24, 2012. The section intersects what would have been a standard hot mix surface course design.

Section	Stability (75 blow)	Flow
Top Lift	9260	12.5
Bottom Lift	6587	10.5

