

Shingle Creek Watershed Porous Asphalt Pavement Study

By Edward Matthiesen, Wenck Associates, Inc.

The Shingle Creek Watershed Management Commission received a federal research grant that is being administered by the Minnesota Pollution Control Agency to evaluate whether less or no salt can be applied to a porous pavement and still maintain road safety in winter driving conditions. The Commission worked with the City of Robbinsdale, Minnesota Department of Transportation (Mn/DOT), and MAPA in developing a specification and assistance in construction and selecting and installing instrumentation.

Two intersections are being monitored for temperature, water depth below the surface, water quality and extent and duration of snow and ice. The intersection at 41st and Zenith was constructed with the traditional street cross section over a sand subgrade while the intersection at 41st and

Abbott (see photo) was constructed with porous asphalt on top of an 18" layer of ballast rock and choker course over the same sand subgrade.



The intersections were constructed in September 2010. Midwest Asphalt Corporation was the paving contractor (see photo above). One complete winter of monitoring and observation has occurred (see photo of snow melted on porous asphalt pavement section to the right) and the results look promising for the use of porous asphalt as a physical means to reduce salt. What we've seen is

that the porous section generally maintains a warmer profile compared to the control section and that when melting conditions occur, water drops through the porous section instead of refreezing at the surface.

The next winter will see the second year of monitoring at 41st and Zenith and Abbott. The second paired intersection will also be constructed over a clay subgrade at another paired intersection also in Robbinsdale followed by two years of monitoring.



Calendar of Events

- **MAAPT 57th Annual Asphalt Conference**
Wednesday, December 8, 2010 • Northland Inn • Brooklyn Park, MN
- **Annual Asphalt Paving Awards Banquet**
Wednesday evening, December 8, 2010 • Northland Inn • Brooklyn Park, MN
- **MAPA 57th Annual Membership Meeting**
Thursday-Friday, December 9-10, 2010 • Northland Inn • Brooklyn Park, MN
- **NAPA 56th Annual Membership Meeting (Note: Dates have changed!)**
Committee Meetings: February 5-6, 2011; Program: February 6-9, 2011 • Waldorf Astoria & the Hilton at Bonnet Creek • Orlando, FL
- **55th Annual Asphalt Contractors' Workshop/Quality Initiative Workshop**
Wednesday, March 2, 2011 • Brooklyn Center, MN
- **AAPT 86th Annual Meeting**
March 27-30, 2011 • Marriott Waterside • Tampa, FL