

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION

425-08-05

DATE: July 8, 2008

SUBJECT: Vanport Limestone Skid Resistance Analysis Report

TO: All District Executives

FROM: Tucker Ferguson, P.E., Director
Bureau of Construction and Materials



The Pennsylvania Department of Transportation (PennDOT) and the cement concrete pavement industry represented by the American Concrete Pavement Association (ACPA) have partnered together through the Concrete Pavement Quality Improvement Task Force (CPQITF) to improve the quality of Pennsylvania's cement concrete pavements. The CPQITF identified poor long-term skid resistance of Vanport Limestone as a common reason for overlaying our cement concrete pavements.

A committee was formed through the CPQITF to investigate the premature friction loss and explore potential solutions to allow the continued use of Vanport limestone as a coarse aggregate source in Portland Cement Concrete (PCC) pavements. A copy of the committee's report entitled "Vanport Limestone Skid Resistance Analysis" is available to Department personnel for review at P:\BOCM\Vanport Limestone Report and to industry through ACPA.

The report outlines four major recommendations for consideration.

1. Utilize the Minnesota texturing method using artificial turf carpeting drag.
2. Blend Vanport limestone with aggregates having better frictional qualities.
3. Investigate the frictional properties affected by increasing the mortar fraction compared to the coarse aggregate concentration of mixes.
4. Design two layer composite pavements consisting of a concrete base and an asphalt wearing surface.

The Pennsylvania State University, through a PennDOT/MAUTC Partnership Research agreement, is currently conducting further research on items 2 and 3 above. Items 1 and 4 may require pilot projects to further investigate the feasibility, cost and performance of these recommendations.

Should you require any additional information or have interested in sponsoring a pilot project, please contact William J. Miller, P.E., Chief, Quality Assurance West Division, at (717) 787-3141.

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