Research Need for Pavement Design, Management & Materials Technical Advisory Group

Effective/Updated: September 2, 2015

ISSUE: Use of Ground Recycled Glass as Pozzolans for Mitigating Potential Concrete Alkali-Silica Reactions in PCC

SUMMARY OF PROBLEM: Historically in Illinois, the principal sources for pozzolans in the production of concrete, particularly that with heightened resistance to alkali-silica reaction, has been the coal-fired power plant. Ground granulated blast furnace slag has been another source. Environmental concerns over the CO2 emissions in particular from coal fired power plants are leading to potential problems with availability at least in the short-term. A practical solution to this problem may be in the introduction of finely ground recycled glass. The effectiveness needs assessment and the availability of waste glass from existing recycling operations as a source of supply warrants investigation.

IDOT would like this to be a short study of 6-10 months and less than $30,000

EXPECTED IMPLEMENTABLE OUTCOME: Potential availability of finely ground glass would be evaluated to determine if this is indeed a viable solution. A report would be provided to IDOT, clarifying the amount and availability of finely ground glass available in the state for use in PCC.

To submit a research idea for consideration at the spring 2016 Executive Committee meeting, prepare and submit a Proposed Research Idea form to IDOT (DOT.BMPR.RESEARCH@illinois.gov) no later than October 1, 2015.