State of Wisconsin/Department of Transportation

RESEARCH PROGRESS REPORT FOR THE QUARTER ENDING: Mar. 31, 2007

Program: SPR-0010(36) FFY99	**Part: II Research and Development**
Project Title: Implementation of Equivalency of Alternative Working Platforms and Their Pavement Design Strength Contribution	**Project ID:** 0092-06-08
Administrative Contact: James McDonnell	**Sponsor:** WHRP
WisDOT Technical Contact: Bob Arndorfer	**Approved Starting Date:** 8/11/2006
Approved by COR/Steering Committee: $15,000	**Approved Ending Date:** 8/10/2007
Project Investigator (agency & contact): Geo Engineering Consulting LLC - Tuncer B. Edil	

Percent Complete:
20%

Project Description:
Implementation of research results is an emphasis area of the Wisconsin Highway Research Program (WHRP) Steering Committee. The WHRP Geotechnical Technical Oversight Committee decided in their November 15, 2005 meeting to complete implementation work on two items. These are: (1) Determining the equivalent thicknesses of the eight select material alternatives and (2) Determining the pavement design strength contribution of these same eight select material alternatives. This will pull information from four, separate, completed projects. For the objective of establishing equivalency as a working platform, the California Bearing Ratio (CBR) test will be used as the basis of comparison and for structural contribution, the resilient modulus test/value will be used to compare the materials. Materials that were not specifically used in the research projects will be evaluated on the basis of their CBR and modulus relative to the materials used in the projects. These properties will be specified based on direct test data, but the test results will be moderated based on experience and published references for these materials. The alternative select material thicknesses recommended for inclusion in the FDM will be based on either a specified minimum material property or as a function of the specific CBR/modulus. The intent is to have 'standardized' material values so that site-specific material testing will not be required on projects. Appropriate procedures for including the strength contribution of these materials into the pavement design process will also be provided.

Progress This Quarter:
(Includes project committee mtgs, work plan status, contract status, significant progress, etc.)

A source for pit run sand and gravel was identified. WisDOT will deliver the material (expected mid April 2007). Materials that contain coarse grains can not be tested as a specimen for their modulus. A new technique involving MEMS is being developed for such materials. Early pilot tests look promising. Progress is being made. First a correlation of resilient modulus obtained from specimen testing on Grade 2 granular backfill will be correlated with the low-strain modulus measurements made in a box tests with plate loading. Once this calibration of the box test is accomplished, routine evaluation on large-size materials like pit run sand and gravel will begin.

Work Next Quarter:
Select materials will be obtained for testing purposes and the testing program will continue.

Circumstances Affecting Progress/Budget:
None

Gantt Chart:
20% progress