

**Structural improvements of flexible pavements using geosynthetics for base
course reinforcement
Quarterly Progress Report**

April – June 2007

Next report due: October 31, 2007 (for period July-September 07)

ACCOMPLISHMENTS DURING THE QUARTER:

ERDC-CRREL:

Testing on Test Section 1 (6" asphalt, 12" base, no grid) was completed (this is the 3rd of 8 test sections completed). Testing on Test Section 3 began (6" asphalt, 12" base, with grid) and is scheduled to be completed on time in July 07. FWD analyses of Test Sections 1 (after failure) and 3 (immediately prior to testing) were performed so that the subgrade modulus values at this critical time during testing are quantified by a means other than modeling and deformation measurements.

A Gant chart for the remainder of the project was developed, as was a detailed forensics plan to be carried out at the end of FWD testing. This information was provided to the Maine Department of Transportation (Mr. Dale Peabody).

Analyses of all FWD tests conducted to date were performed.

Review comments on the draft construction report were received from University of Maine (Joshua Clapp) and Texas DOT (Mark McDaniel).

UNIVERSITY OF MAINE:

Data being generated by the FWD testing are being monitored as the testing progresses. Additional funding support must be received from the pooled fund study before any further analyses or modeling can be performed.

PROPOSED ACTIVITIES:

ERDC-CRREL:

1. Traffic test section 3 to failure
2. Initiate testing of test section 6 (4" asphalt, 24" base)
3. Revise construction report according to review comments
4. Work with FHWA to obtain required funding for the remainder of the project

UNIVERSITY OF MAINE:

1. Continue to monitor data being generated by CRREL

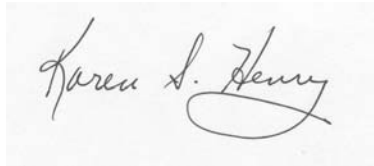
Pending funding -

2. Finalize rutting models and parametric studies
3. Document work performed through May, 2007

UNRESOLVED OR NOTABLE ISSUES:

Funding will have to be received at CRREL and at the University of Maine prior to 30 September 2007 in order for the project to continue without any interruptions. There is an associated concern with the Heavy Vehicle Simulator because it typically requires significant maintenance if left unused for more than a week or two.

Respectfully submitted:

A handwritten signature in black ink, reading "Karen S. Henry". The signature is written in a cursive style with a large, looping "H" and a long, sweeping underline.

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PURPOSE AND SCOPE:

This study will provide missing data required to help determine whether geosynthetic reinforcement is beneficial at conditions typically experienced in state highway construction. If the geogrid does provide benefit, the study will develop an AASHTO specification for geosynthetic reinforcement of the aggregate base course of flexible pavement structures. Furthermore, the results will be published in a format to conform with future modifications to the AASHTO Pavement Design Guide.

The objectives of this study are:

- 1.To determine whether and under what conditions geosynthetics (geogrids and geotextiles) increase the structural capacity of pavements typically constructed by state DOTs.
- 2.To determine whether and under what conditions geosynthetics increase the service life of pavements typically constructed by state DOTs.
- 3.To measure in-situ stress/strain response of the reinforced material for use in current or future pavement design processes.