

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

**October 2004 – January 2005
Next report due: March 31, 2005**

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.

ACCOMPLISHMENTS DURING THE QUARTER:

1. Kickoff meeting held 28 October 2004.

Attending:

CTDOT - Leo Fontaine, GADOT - John Erigha, KSDOT - James Brennan, MEDOT - Scott Hayden, Dale Peabody, NYDOT - Robert Burnett, TXDOT – Mark McDaniel, OhioDOT – Randy Morris
Univ. of Maine – Orono - William Davids, Dana Humphrey,
ERDC-CRREL - Edel Cortez, Lawrence Danyluk, Karen Henry

Attending via video conference:

FHWA - Matthew Corrigan, IDDOT – Tri Bu, Michael Santi, MSDOT – Randy Battey, Miranda Hahn

Meeting notes: The overall test and instrumentation layout was presented by Edel Cortez and Karen Henry.

The following decisions were made:

1. The base layer will meet NH DOT Specification for crushed stone.
2. Mark McDaniel of Texas DOT will help review and/or write the asphalt specification. Edel Cortez will head up this task. It will probably be designed according to NH specifications.
3. We will need static measurements of deformation with the wheel load applied in order to calibrate the model being developed by the University of Maine.
4. Modulus values are needed for the as-constructed condition—for the asphalt, base and subgrade. We may use the FWD and back calculate these.
5. The AMA Dynamic Modulus is required.
6. Maine DOT will do all other hot mix asphalt testing.
7. There will be quarterly reports to the state participants.
8. We need to develop a detailed test plan.

ACTIVITIES:

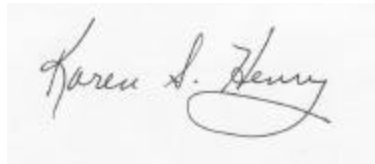
Project activity from November 2004 through January 2005:

The test section area has been prepared for construction and soil is now available to begin construction. A detailed instrumentation plan has been developed (attached). Soil strain gages have been ordered, and the process for purchasing stress cells, moisture gages and thermocouples has been initiated.

PROPOSED ACTIVITIES:

Test section construction will begin by 1 March.

Respectfully submitted:

A handwritten signature in cursive script that reads "Karen S. Henry". The signature is written in dark ink on a light-colored background.

Karen S. Henry, Ph.D., P.E.
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