

**ACCELERATED IMPLEMENTATION OF INTELLIGENT COMPACTION  
TECHNOLOGY FOR EMBANKMENT SUBGRADE SOILS, AGGREGATE BASE,  
AND ASPHALT PAVEMENT MATERIALS**

9<sup>th</sup> Quarterly Progress Report – Oct 2009 to Dec 2009

Prepared by The Transtec Group, Inc.

20 Jan 2010

**A. ACCOMPLISHMENTS/SIGNIFICANT FINDINGS BY TASK THIS QUARTER:**

TASK 1 - Technical Working Group (TWG)

- This task is complete.

TASK 2 - Literature Review and Evaluation of Intelligent Compaction Equipment

- This task is ongoing. The first step of summary of literature is complete. A 100+ technical paper, specifications and reports were added. More updates are included as the project progresses. A very comprehensive bibliography on intelligent compaction – over 100+ technical papers, specifications, and reports was produced and posted, in chronological order, on the IC project website.
- Updated contents (e.g., IC library) are being also updated on the IC website ([www.IntelligentCompaction.com](http://www.IntelligentCompaction.com)) to facilitate knowledge transfer and information sharing. Further detailed, technical review is under way. The site was updated at a regularly basis.

TASK 3 – Preparation of Interim Report and Work Plan Package

- This task is complete. The literature review will be updated continuously.

TASK 4 – Technical Working Group Initial Meeting

- This task is complete.

TASK 5 - Coordinated IC Field Demonstrations

- There are no IC demonstrations conducted during this period.
- Updates on reports and other related information for the past IC demonstration have been posted:
  - The MD SHA HMA IC demonstration report is posted. (<http://www.intelligentcompaction.com/index.php?q=node/159>)
  - The GA HMA IC demonstration report is posted. (<http://www.intelligentcompaction.com/index.php?q=node/156> )
  - The IN HMA IC demonstration report is posted. (<http://www.intelligentcompaction.com/index.php?q=node/162> )



#### TASK 6 – Database Management Plan

- A comprehensive IC data management plan document is revised and posted ([http://www.intelligentcompaction.com/downloads/TPF/IC\\_Data%20Management\\_V1c\\_all.pdf](http://www.intelligentcompaction.com/downloads/TPF/IC_Data%20Management_V1c_all.pdf)).
- A revised IC data storage specification was developed and reviewed by all IC roller manufacturers.
- A research version of an IC data processing tool is under development and being revised.

#### TASK 7 – Development of a Feasibility Report for an European Scan

- This task is eliminated from the original scope.

#### TASK 8 – Quality Control/Assurance Training and Assistance

- Quality control/assurance training and assistance has been continuing for the pooled fund States.
- MnDOT is working with a panel to finalize IC specifications for the 2010 construction projects.
- The research team is also assisting NDDOT, PennDOT, VDOT, and WisDOT on their special provisions on IC.

#### TASK 9 – Presentations

- The project team has planned and delivered for presentations in several meetings in the near future.
  - October 27/28, 2009: Ohio Paving Conference in Columbus, Ohio, "Soil Intelligent Compaction" by Victor Lee Gallivan.
  - November 10, 2009: SE Asphalt User Producer Annual Meeting, "HMA Intelligent Compaction" by Bob Horan.
  - December 1, 2009: AGC-Mn/DOT Transportation Construction and Grading Innovations Technology Forum, "Making the grade with Intelligent Compaction" by George Chang.
  - December 3, 2009: Kansas Asphalt Pavement Association, "HMA Intelligent Compaction" by Bob Horan.
  - January 10, 2010: TRB "Intelligent Compaction Workshop", by the research team.
  - February 3, 2010: 2010 North Central Asphalt User/Producer Group (NCAUPG) Hot Mix Asphalt Technical Conference, "Advances in Intelligent Compaction" by Lee Gallivan.
- Presentation materials have been constantly updated and incorporated with recent findings.

#### TASK 10 – Annual and Final Reports

- The draft annual report for 2008 is revised and posted on the pooled fund page of the IC website.  
([http://www.intelligentcompaction.com/downloads/TPF/IC\\_Annual%20Report\\_2008\\_V4.pdf](http://www.intelligentcompaction.com/downloads/TPF/IC_Annual%20Report_2008_V4.pdf))

**B. WORK PLANNED FOR NEXT QUARTER (JANUARY 2010 TO MARCH 2010):**

TASK 1 - Technical Working Group (TWG)

- This task is complete.

TASK 2 - Literature Review and Evaluation of Intelligent Compaction Equipment

- The first step of this task is complete. On-going update (e.g. in-depth IC technical information) is expected in the next quarter.

TASK 3 – Preparation of Interim Report and Work Plan Package

- This task is complete. However, the literature review will be updated continuously.

TASK 4 – Technical Working Group Initial Meeting

- This task is complete.

TASK 5 - Coordinated IC Field Demonstrations

- Planning for the field demonstration will be underway for the next 4 sites (NDDOT, PennDOT, VDOT, and WisDOT) in 2010.

TASK 6 – Database Management Plan

- A database plan will be finalized to manage data to be collected during the project period. An alpha version of an IC data process tool will be revised and tried out on the data collected so far.

TASK 7 – Development of a Feasibility Report for an European Scan

- This task is eliminated.

TASK 8 – Quality Control/Assurance Training and Assistance

- Quality control/assurance training and assistance will be conducted along with the IC field demonstration project.

TASK 9 – Presentations

- There are many presentations scheduled in the period. Other presentation may be provided if opportunity comes up.
- An IC workshop is planned to be conducted at TRB 2010.

TASK 10 – Annual and Final Reports

- No report will be produced during this period.

**C. IDENTIFICATION OF PROBLEMS/RECOMMENDED SOLUTIONS:**

- No problems are identified in this quarter.