

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

8th Quarterly Progress Report – July 2009 to Sept 2009
Prepared by The Transtec Group, Inc.
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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) 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

- Four IC demonstrations were conducted during this period in MS, MD, GA, and IN.
- Reports and other related information for the past IC demonstration have been posted:
 - The MD SHA HMA IC demonstration is complete and final draft reports are posted. (<http://www.intelligentcompaction.com/index.php?q=node/159>)
 - The GA HMA IC demonstration is complete and preliminary results are posted. (<http://www.intelligentcompaction.com/index.php?q=node/156>)
 - The IN HMA IC demonstration is complete and preliminary results are posted. (<http://www.intelligentcompaction.com/index.php?q=node/162>)

- The IC demos for 2009 are summarized as follows.

	NYSDOT	MSDOT	MD SHA	GADOT	INDOT
Target Dates	May 18 to 22	June 13 to 17	July 20 to 25	Sept 14 to 18	Sept 21 to 25
Materials	I (III, IV)	V (IV)	IV (I, II)	IV	IV
Sites	US 129 Springville	US 84	US 340	Park&Ride Clayton County	US 52
Roller(s)	CAT single Bomag single Sakai double	CAT single Case/Ammann Sakai double	Sakai double Bomag double	Sakai double	Sakai double Bomag double

- Type I – Granular, non-cohesive subgrade soils
- Type II – Fine-grained, cohesive subgrade soils
- Type III – Aggregate base material
- Type IV – Asphalt pavement material
- Type V – Stabilized base pavement material

TASK 6 – Database Management Plan

- A comprehensive IC data management plan document is revised and being reviewed by the project team.
- A revised IC data storage specification was developed. It will be reviewed by all IC roller manufacturers.
- A research version of an IC data processing tool is under development and being revised. The research team also monitored similar development at Mn/DOT and ISU.

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 Mn/DOT, TxDOT and KSDOT.
- TxDOT is planning to include IC into alternative bid documents for the 2009 construction season built upon the lessons learned by the research team from the TxDOT IC demo.
- MnDOT is working with a panel to finalize IC specifications for the 2009 construction projects.
- The research team is also assisting NYSDOT, MSDOT, MD SHA, and GA DOT on their special provisions on IC.

TASK 9 – Presentations

- The project team has planned 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.
- 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)

B. WORK PLANNED FOR NEXT QUARTER (OCTOBER 2009 TO DECEMBER 2009):

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 in 2010.
- There will not any field demonstration in this period.

TASK 6 – Database Management Plan

- A database plan will be finalized to manage data to be collected during the project period. A prototype of an IC data process tool will be developed 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 also 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.