ICPF Meeting
WisDOT HMA IC Demo

11:00 a.m. to 12:00 p.m. CDT
April 5, 2010
Purpose

• Review Schedule/Activities
• Coordinate Work/Responsibilities
• Review Experimental Plan
Update from Paving Contractor

- Test Site and Schedule
  - Rubblization and Paving Schedule
  - Overlay Layers (lifts, lanes)
- Provide
  - 2 roller operators
  - Mobilization of IC rollers if necessary
  - Two density gauges and a operator
  - A GPS rover and an operator
  - Fuel for IC rollers
  - Corings
Project Test Site – IH 39
May 10 – 14, 2010
Sakai Double-Drum IC Roller

Intelligent Compaction
Test Strip

**Correlation test strip** with 20 in-situ spot test measurement
Can be done after selected roller passes (e.g. 3, 6, 8 passes) to build compaction curve. Also used to establish IC target value.

Spot tests with FWD

“Map” the milled surface
Prior to the overlay

1000 ft

IC Compaction

Low temperature area
Systematic and random testing for QC

1000 ft

1000 ft

Current Spec
Target IC MV

# Roller passes

IC MVs

In-Situ Spot tests
<table>
<thead>
<tr>
<th>Schedule</th>
<th>Activities (tentative)</th>
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</table>
| Days 1     | • Conduct project briefing (all parties) at the local project office/trailer.  
• Discussion, training of DOT and contractor personnel in machine operations, data collection, data management, and in-situ testing strategies.  
• At project site, set up the GPS base station and IC roller/GPS system.  
• Conduct trial runs to verify the machine is operating and communicating with the GPS. Verify that GPS rover location corresponds to GPS roller location.  
• Training of roller operators  
• Compaction of the HMA overlay layer. |
| Day 2      | • Mapping of existing surface using roller measurement system of the IC rollers within a 1000-ft test strip.  
• FWD testing and GPS measurements at designated locations within the test strip.  
• Compaction of the HMA overlay layer.  
• Conduct in-situ tests (nuclear gauge and core density testing) on the test strip. At least 20 locations on the pavement will be marked and both density and GPS measurements will be obtained at each location.  
• The IC roller will be used in the breakdown roller position and all measurement values will be taken when the surface temperature measurements are in excess of 230 °F and the internal measured temperature is in excess of 240 °F. |
| Day 3      | • Repeat the Day 2 operation on the HMA overlay layer.                                                                                                                                                                 |
| Days 4     | • Analyze and report the IC and in situ results, generating a preliminary report and presentation of results for the Open House.                                                                                       |
Update from WisDOT

• DOT Personnel Support
  – A FWD and an operator
  – Test on a 1000-ft test strip of rubblized PCC prior to the HMA overlay

• Open House
  – Thursday, May 13, 2010: 9AM to Noon
  – 2-hr indoor presentation & 1-hr field demonstration
  – Invitation to WisDOT, Cities, Counties, Universities, APA, and others
Logistics

• Rollers and Tech Support
  – Shipment of IC Rollers
  – Storage and mobilization onsite
  – On-site Tech support personnel (including GPS)

• Research Team Travel Details
Experiment Plan

- GPS Base Station and Roller Setup
- Mapping of existing base/In-Situ Tests (may be on 2\textsuperscript{nd} or 3\textsuperscript{rd} day)
- IC Test Strip/In-Situ Tests
- IC Production Rolling/In-Situ Tests
<table>
<thead>
<tr>
<th>Date</th>
<th>TB</th>
<th>Machine</th>
<th>Amp (mm)</th>
<th>Spot Tests</th>
<th>Notes/Comments</th>
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<tbody>
<tr>
<td>5/9</td>
<td></td>
<td>Arrive on site.</td>
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<td>2&quot;? 9.5-mm HMA wearing course</td>
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<tr>
<td>5/10</td>
<td>1</td>
<td>Sakai</td>
<td>???.3 (low) at 4000 vpm</td>
<td>NG Others</td>
<td>Machine and GPS setup and trial runs.</td>
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<td>Production rolling for HMA overlay.</td>
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<td>1. Verify the roller temperature measurements</td>
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<td>2. Compact HMA overlay with normal roller passes.</td>
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<td>3. Spot test with nuclear density gauge.</td>
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<tr>
<td>5/11</td>
<td>2</td>
<td>Sakai</td>
<td>???.3 (low) at 3000 vpm</td>
<td>FWD NG Others</td>
<td>Mapping of Existing Base.</td>
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<td>1. Map the existing base for 1000 ft.</td>
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<td>2. Spot test with FWD and GPS within the test strip.</td>
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<td>3. Detailed spot test with nuclear density gauge and other devices within the test strip.</td>
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<td>5/12</td>
<td>3</td>
<td>Sakai</td>
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<td>5/13</td>
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<td>Open House —presentation of preliminary results and roller demonstrations.</td>
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Wrap up

• Follow up action items
• Date/Time for the next meeting
Where to find more info

www.IntelligentCompaction.com