Remote Maturity Monitoring Using the TEMP System

Outline

- TEMP System Concept
- Case Studies
  - Manchester, IA – July 2002
  - Des Moines Int’l Airport, IA – November 2002
  - Washington County, IA – August 2003
  - Williamsburg, VA – October 2003
- Additional Applications
- Summary
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- Manchester, IA – July 2002
  - Iowa State Highway 13
  - Instrumented 9 July 2002
  - UBOL / Whitetopping / New Construction
  - Paved by Fred Carlson Co.
  - Research sponsored by Iowa State Univ.
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Des Moines Airport – November 2002

- Instrumented 20-21 November 2002
- 15" P-501 Taxiway on CTB
- 8" P-501 Shoulder on AB
- 3 unique concrete mixes
- Paved by Flynn Company
- Research Sponsored by IPRF/FAA

Des Moines Airport – November 2002

Project Site

Hotel Window
Des Moines Airport – November 2002

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Washington Co., IA – August 2003

1st demo project under FHWA Task 7
320th Street – south of Washington
10'-7'-10'' undoweled & skewed on subgrade
Paved by Fred Carlson Co.

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**Additional Applications**

- HIPERPAV Slag Aggregate validation site – Detroit, MI
- Structural columns for cold weather spec – Des Moines, IA
- Soil-cement monitoring – Ames, IA
- “Mass” Concrete Temperature Gradients – Austin, TX
- Heat island effect study – Phoenix, AZ
- FHWA / CPTP Task 63 (Impact of Curling and Warping on Jointed Concrete Pavement Performance) – 38 sites Nationwide

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**Williamsburg, VA – October 2003**

- Final demo project under FHWA Task 7
- Interstate 64 main lanes
- Full depth patching / panel replacement
- Night work
- 8 hours to traffic opening
- Placed by Denton Concrete Services

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- TEMP System Concept
- Proven technology
- Adaptable to a variety of specifications
- Future – Maturity from the office?