Technical Session #2: Base Courses

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Session Agenda

• Introduction: Functions & Types of Base Courses
  Steve Mueller, Pavement & Materials Engineer, FHWA Resource Center, Lakewood, CO

• “Recycled Concrete Aggregate (RCA) in Base Courses”
  Cecil Jones, President, Diversified Engineering Services

• “Foundry Sand Use in Blended Bases”
  John Dingeldein, Senior Principal/Vice President, Soil and Materials Engineers

• “Dual Level Pavement Systems Using CCP’s”
  Keith Bargaheiser, National Manager for CCP Utilization, Headwaters Resources

“Introduction: Functions & Types of Base Courses”

Steve Mueller, P.E., MPA
FHWA Resource Center

• Pavement and Materials Engineer.
• Former Co-Chair of the Environmental Stewardship Team for FHWA’s Pavement and Materials Program, member of FHWA’s Recycling Team, and Co-COTR for the RMRC II.
• FHWA Technical Liaison for RMRC 3-G
• Active with TRB, NCHRP, AASHTO, and SHRP-2
• Former District Engineer for the Asphalt Institute and Pavement Management Engineer for the City of Aurora, Colorado.
• Began working in the highway industry in 1974.
Bases are Part of the Pavement Section

- Vary Strong, Durable, Impermeable, Manufactured, Expensive
- Moderate Strength, Free-Draining, Natural, Material, Inexpensive

Structure and Material Properties

E = $\sigma/\varepsilon$

The Big Picture

- EICM
- Mechanistic Analysis
- Predicted Performance
- Material Properties
- Traffic
- Traffic Spectrums
Base Courses

Types of Base Courses

- Aggregate Base Course (ABC)
- Asphalt Treated Base
- Cement Treated Base
- Lime Treated Base
- Etc.
- Etc.

...Materials that can transfer loads and resist environmental degradation.

...Mixtures/Blends of materials that can do this!

"Recycled Concrete Aggregate (RCA) in Base Courses"
Cecil Jones, PE, FACI
President, Diversified Engineering Services

- Former State Materials Engineer, NCDOT
- Former Chair, AASHTO Recycling Task Force
- Active in TRB, NCHRP, and AASHTO throughout his career.
- Attended NC State – NOT that other school.

“Foundry Sand Use in Blended Bases”

John Dingeldein, P.E.,
Senior Principal/Vice President, Soil and Materials Engineers

- Former Principal of EDP Consultants, 20+ years, acquired by SME.
- Extensive experience with designing many types of infrastructure projects using a variety of recycled and industrial materials in projects for public and private sector clients in northeast Ohio.

“Dual Level Pavement Systems Using CCP’s”
Keith Bargaheiser  
National Manager for CCP Utilization,  
Headwaters Resources  

• 30 years in the cement and concrete industry  
• Chairs both the Technical Committee and the Sustainability Committee of the American Coal Ash Association (ACAA)  
• Active in numerous cement and coal ash organizations and other professional organizations.  
• BS and MS From Bowling Green State University, College of Technology.