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Jim Pappas
Delaware DOT
Alkali-Silica Reactivity (ASR)
AASHTO/ASR Task Force

Kim Curtis – Ga Tech
Steve Kosmatka – PCA
Bryce Simons - NM DOT
Gina Ahlstrom – FHWA
Suneel Vanikar – FHWA
Jim Pappas - DelDOT
Loosely defined ............

- Alkali silica reactivity (ASR) is a reaction between reactive silica (in the aggregates) and an alkali (usually present in the cement), which results in the formation of a gel. This gel increases in volume with water and exerts expansive pressure on the concrete, causing deterioration of the concrete.
AASHTO/ASR Task Force

- Purpose
- Current Specifications/Activities
- Future Activities
- Recommendations
Purpose of Task Force

- To review state-of-the-art ASR specifications, tests, etc.
- Update the status of the current AASHTO specifications.
- Determine what more is needed in regards to ASR?
Current Specifications

- There is an AASHTO Lead States DRAFT ASR Specification.
- States have various versions of ASR Specifications (some based on AASHTO’s DRAFT with modifications).
- Lacking adopted specifications on how to design concrete resistant to ASR.
Current Activities

FHWA’s ASR Development and Deployment Program has developed Protocol’s for testing and evaluation.

- Protocol A – Determining the Reactivity of Concrete Aggregate and Selecting Appropriate Measures for Preventing Deleterious Expansion in New Concrete Construction.
Recommendations for AASHTO

- Have AASHTO form a small group with the goal of drafting an AASHTO ASR specification.
  - Update the AASHTO Draft Guide Specification with the technical information in FHWA Protocol A
  - Technical support will be available through the FHWA’s ASR Development and Deployment Program.
Ultimately, an “M” specification should be created and adopted by AASHTO for states’ use.

Need proven methods and techniques for mitigation of ASR in existing concrete based upon research and experience.

More discussions will take place in Tech Session 3b and 3c.
Thank you for your time and attention.....