Hot Topics for Hot Mix Pavements

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Outline
- Deletion of Section 403
- Recycled Materials in HMA
- Warm Mix Asphalt
- Porous Pavements
- CARDs

GOAL: Update/Awareness of Topics

Deletion of Section 403
WHY?
- DOT has not used for 10 yrs - E1 02-001
  - Stopped reviewing mix designs
  - Stopped providing Quality Assurance
- Federal Aid Projects
  - NYSDOT Design
  - NYSDOT Specifications
- DELETING 403 MINIMIZES CONFUSION

WHAT NOW?
- Section 402 Items for Fed/State Aid
- NYSDOT QA on Federal Aid Projects
- 100% Locally Funded Projects
  - Use 402 Items
  - Use Own Specification

Deletion of Section 403
HOW DIFFERENT ARE CURRENT MIX DESIGNS?

402 Mixes vs. 403 Mixes
- Still Hot
- And
- Different Lab Compaction
SO HOW DIFFERENT ARE CURRENT MIX DESIGNS?

- 6F Top – 5.4% min. Asphalt Binder
- 12.5 Top – 5.2% min. Asphalt Binder
- 7F Top – 5.7% min. Asphalt Binder
- 9.5 Top – 5.8% min. Asphalt Binder

WHY SO MANY 402 ITEMS?

- Nominal Max Aggregate Size
- Density Monitoring Requirements
- Friction Aggregate Requirements
- Production Quality Adjustment
- Density Quality Adjustment
- Ride Quality Adjustment
Pay Item Numbers

Mix Type and Pay Item Selection

Mix Type and Pay Item Selection Assistance

Recycled Materials

RAP

RAS

RAS
RAS

- Pilot Projects
  - R-5 with Manufactured Waste
  - R-6 with Tear Offs
- 9.5 Top Mix
  - 3% RAS and 12% RAP
  - 0.8% Binder Contribution

Rubber

- Rubber Modified Binder
  - Terminal Blend (typ.)
  - Typically 5-12% Rubber in Binder
  - Additives for Storage Stability (typ.)
  - May Be Performance Graded?

Rubber

- Asphalt Rubber (ASTM D 6114)
  - 15% minimum
  - Added to Binder at HMA Plant
  - Not Storage Stable
  - Not for Standard Dense Graded HMA

Warm Mix Asphalt

- Permissive Specification - EI 12-008
  - Contractor Option with 402 Items
  - Approved Mix Design and Technology
- WMA Specification (Special Spec.)
  - Data Collection Effort
  - Need Design Guidance
- FHWA Encouraging Use
  - Consider Allowing if Requested

Porous Asphalt

- Primarily for Paths and Parking Lots
- Some Road Applications In-Place
- Drain Water Through Pavement
- Store Water Under Pavement
Maine Mall Rd. 2010

Porous Asphalt
- Reduces Runoff
- Improves Water Quality
- May Replace Detention Pond
- Impact on Snow and Ice Control
- Req. Maintenance Still Unknown
- Seeing More Requests to Use
- Warren Co. Road Application (2013)
- Contact Chris.Euler@dot.ny.gov
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Centerline Audible Roadway Delineators (CARDs)
- EI 10-29, EI 10-30 and EB 10-37
- Safety Benefits Well Documented
- Impact on Joint Performance?

Summary of Hot Topics
- Section 402 HMA Items
  - Federal/State Funding
  - NYSDOT QA
  - Item Selection – Help is Available
- Environmental Initiatives
  - WMA
  - Recycling – RAP, RAS and Rubber
  - Porous Pavements
- Safety - CARDs

Questions are guaranteed in life; Answers aren’t.