

## Advanced Mix Design- Design for Success

*December 13-14, 2011*

The advanced mix design short course is intended for individuals that have working knowledge of asphalt materials and have been involved with developing asphalt mix designs for two years. The goals of the class are to introduce new volumetric mix concepts as well as designing with new technologies, mix performance testing, percent within limits, and economic analysis. Classroom time will also involve discussing troubleshooting mixes during quality control/quality assurance testing. Below are outlines for the classroom lecture topics and classroom laboratory sessions.

### Classroom Topics

- I. Introduction
- II. Design for Performance
  - a. Utilization of Local Materials
  - b. Constructability
  - c. Using Recycled Materials
  - d. Bailey Method
- III. Designing with Evolving Technologies
  - a. Sustainability
  - b. Warm Mix Asphalt
  - c. Recycled Asphalt Shingles
  - d. High Content RAP Mixes
  - e. Porous Asphalt
- IV. Economics of Mix Design
  - a. Contractor Perspective (best mix, best price)
  - b. Agency Perspective (life-cycle cost)
  - c. Build mix design with economics
  - d. Presentation to Agency & Contractor
  - e. Utilization of Local Materials
- V. Troubleshooting Mixes
  - a. VMA / Film Thickness
  - b. Field Voids
  - c. Gradation
- VI. Wrap Up

### Classroom Laboratory Sessions

- I. Basic Mix Design with Shades
- II. Bailey Method Mix Design
- III. Optimizing Mix Design for Economics
- IV. Performance Testing

Three laboratory groups each with their own case study that would evolve through three mix designs as follows:

- 1. Iowa DOT Shades program and economics of developed mix design
- 2. Bailey Mix Design Method with input to Shades and economics of developed mix design
- 3. New Technology (High RAP, RAS, WMA) for use in the Bailey Method with input into Shades and economics of developed mix design.

The course fee is \$545 per attendee.

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