USE OF 3RD PARTY QA TESTING: I-55 LESSONS LEARNED
MSL Profile

• IDOT DBE certified, AMRL/CCRL accredited Professional Civil Engineering Firm pre-qualified in QA Complete and located in Elk Grove Village, IL

• Provides complete Field and Laboratory QA Materials Testing for Aggregates, Portland Cement Concrete, Hot Mix Asphalt and Soils
MSL Testing Process

- Communication
  - Field Inspector, MSL Lab Manager, Wight & Company
  - Material Coordinator, Contractor’s QC

- AB Correction Factors were verified throughout production

- Mix temperatures were closely monitored during testing
MSL Testing Process

• Dedicated equipment to run all PFP and QCP Samples
• MSL dedicated one lab tech to run all PFP and QCP samples
• HMA Thermometers calibrated and spot checked weekly
• Verified Internal Angle
MSL Project Manager

- MSL Project Manager
  - Verified PFP calculations
  - Reviewed all test results
  - Tracked trends in QC/QA test results
  - Reported all test results to IDOT, Wight & Company Material Coordinator, and K-Five QC
  - Performed random audits of MSL’s lab technician and procedures to ensure compliance
I-55 SPECIAL CONSIDERATIONS

• 158,000 Tons of PFP SMA
  • 477 Challenge Buckets
  • 838 Challenge Cores

• 55,000 Tons of QCP HMA
  • 165 Mix Buckets
MSL History of Phase III PFP Testing
I-55 – 60I64 (2011)
Allied Asphalt

- Approximately 59,900 Tons of PFP SMA Binder Placed
  - 60 mix samples
  - 327 core samples

- Approximately 60,000 Tons of PFP SMA Surface Placed
  - 60 mix samples
  - 355 core samples

- No samples were challenged
- Composite Pay Factor = 98%

- 5 mix samples challenged
- Composite Pay Factor = 99.4%
MSL HISTORY OF PHASE III PFP TESTING
I-80 – 60M63-60M66 (2011)
D CONSTRUCTION

- Approximately 57,100 Tons of PFP SMA Binder Placed
- No samples were challenged
- Composite Pay Factor = 98.5%
- 1st PFP SMA Project with RAS
- 5 Core Samples Challenged for entire project

- Approximately 58,700 Tons of PFP SMA Surface Placed
- No samples were challenged
- Composite Pay Factor = 99.3%
**MSL History of Phase III PFP Testing**

I-190 – 60T33 (2013)

**Allied Asphalt**

- **Approximately 8,000 Tons of SMA Binder Placed**
  - 10 mix samples
  - 43 core samples
  - No samples were challenged
  - Composite Pay Factor = 99.8%

- **Approximately 8,900 Tons of SMA Surface Placed**
  - 9 mix samples
  - 45 core samples
  - No samples were challenged
  - Composite Pay Factor = 97.8%
MSL History of Phase III PFP Testing

- Over 380,000 Total Tons of SMA Placed Since 2011
  - 272 mix samples tested
  - 1,445 core samples tested

- Average Composite Pay Factor of 99.7%

- Only 10 Mix/Core Samples Were Challenged by Contractor
3RD PARTY TESTING GOING FORWARD

- **Consistency Is Key**
  - QC/QA Lab/Field Technicians, Lab Equipment, HMA Plant Operations, HMA Paving Operations

- **When IDOT Identifies the Need**
  - High-Volume Projects
  - Nighttime Paving
  - In Conjunction With Phase III Construction Engineering Consultants
  - Help with District Capacity Issues

- **Not Recommended for all PFP/QCP Projects**

- **AMRL - Accreditation Program**
  - **Quality Assurance (QA) by the Engineer. The Department’s laboratories which conduct PFP testing will participate in the AASHTO re:source’s (formerly AMRL) Proficiency Sample Program.**

- **Pay Factor Success**
  - Good Design (VMA Designed High, Dust/AC Designed Low, Didn’t Max ABR)