Project Information

- July 2018 on I-459 in Jefferson County, AL
- Project # RP-IM-I-459(315)
- Adjacent to Project # RP-IM-I-459(311)
- Both projects completed as Joint Ventures with Dunn Construction
  - Midsouth Paving – Northbound
  - Dunn Construction - Southbound
- 80 # Layer produced at Midsouth Paving’s East Thomas plant

80 # High Polymer Overview
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- Used as a crack relief layer to prevent reflective cracking
- Placed on milled surface
- Required to be covered with ¾” Leveling Mix within 24 Hours
- Designed as a 3/8” Wearing Surface (424A-336) with 2.0% Air Voids and High Polymer liquid (76-22 E) under SP 18-0244
- Typical 76-22 contains 2.5% by weight of polymer solids; 76-22 E contains 7.5%

- No Rap permitted in mix
- 6.05% AC / #200 ~ 6.9% pass. / 3/8” ~ 99% pass. / # 4 ~ 79% pass.
- 345°F Mixing Temperature
- Additional testing for 76-22 E required a 48 hour testing period

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**Project Challenges**

- Mix Design
- Construction
- Liquid
- Plant

“To fail to plan is to plan to fail”
“Plan your work; work your plan”
**Project Challenges**

**Mix Design**

- “Standard” 3/8” Wearing Surface with modifications
  - No Rap;
  - 2.0 % design air voids;
  - 76-22 E high polymer liquid
- Virgin blend posed difficulty especially with 2.0% air void requirement
- Hotter than normal temperatures

**Construction**

- Initial plan was a 2pm start on the 80 # layer from East Thomas and a 5pm start on the 3/4” leveling from Helena
  - This lasted only two days (7/5 and 7/6). TRAFFIC!
  - The next few nights we followed a 7pm / 10pm schedule
  - We modified this to an 8:30pm / 11pm schedule which worked out best
### Project Challenges

#### Construction

- Production was ~ 400 tons of the 80 # layer and ~ 1000 tons of leveling per shift
- Completed the night of 7/22/18
- Trial and error

#### Liquid

- Higher handling temperature
- High polymer raised concern over liquid (and mix) set up
- Limited storage time of absolutely no more than 7 days
- Potential weather impacts on storage time
- Ergon in Memphis – 3 ½ to 4 hours
- Produced in minimum batch sizes (4 load minimum order)

#### Plant

- Getting stuck with 76-22 E in the tanks!
- Constant liquid circulation
- Constant monitoring
  - Heat
  - AC pump
  - In-line strainer
  - Weather
- Mix scheduling and ordering loads at the correct time

#### Summary

- Primary concerns
  - Ability to cover the 80 # layer within 24 hours
  - Liquid and mix potential for set up (weather, breakdowns, etc.)
Project Challenges Summary

- Keys to overcoming the challenges
  - Pre-planning
  - Learning from others
  - Discussions with suppliers
  - Planning
  - Constant communication
  - Constant monitoring
  - Plant components
  - Weather

Questions?
Comments?

Thank you