

# Flexible Pavement Committee Meeting

## March 23, 2017 Minutes

Time: 10:00 a.m. and will conclude no later than when the last agenda item is covered. Break for lunch (on your own).

Location: Turkey Lake Service Plaza, Florida's Turnpike Headquarters Turnpike Mile Post 263 Bldg. 5315 Ocoee, Florida 34761 (407) 532-3999 Directions: From Orlando head north on the Turnpike to Mile Post 263. This is north of I-4 and south of Ocoee Road exits (a combination of the E-W Toll Road, Ocoee Road). All are welcome.

**BYOA:** Please bring your own copy of the agenda.

## Agenda & Minutes

### Safety:

1. Work Zone Safety: *Warren provided an update on efforts to improve Work Zone Safety and encouraged broad participation. The coalition is always looking for suggestions and additional members. Email [jwarren@acaf.org](mailto:jwarren@acaf.org). The coalition is focusing on the following four areas.*
  - **ADVANCED TECHNOLOGY**
    - *Greater use of advanced Active Work Zone informational and warning devices*
    - *Displaying fine amounts in Active Work Zones*
  - **EDUCATION & PROMOTION**
    - *Public Outreach and Awareness advertisements*
    - *Utilize social media to promote and educate the traveling public*
  - **IMPROVING CONTRACTING EFFORTS**
    - *Clearly define ACTIVE Work Zones to the traveling public*
    - *Conduct engineered studies to regulate speeds in ACTIVE Work Zones*
  - **ENFORCEMENT**
    - *Increase Law Enforcement presence in ACTIVE Work Zones*
    - *Increase minimum fines in ACTIVE Work Zones*

### Anti-Segregation Task Force update:

2. Task Force Update: *Warren gave an update on the video series under development. Materials, plant, paving, handwork.*
3. Missouri method evaluation for detecting segregated areas: *Sholar provided an overview of the Missouri Method and evaluation done on the method in Florida.*

*Tried on 4 projects. 10 locations total. Two models of the PQI and one of the PaveTracker rather than nuclear density gauge. Comparing MO method to current FL method. Pretty good agreement between test results. Looking for a few more sections to evaluate and then results will be shared with committee. Long term goal would be to use this as a replacement for existing method for quick determination. Coring would still be an option for the Contractor. Good discussion.*

	<i>Not Segregated</i>	<i>Action</i>	<i>R&amp;R</i>
<i>Max. Density Range</i>	<i>&lt;7.0</i>	<i>≥ 7.0 &amp; &lt; 9.0</i>	<i>≥ 9.0</i>
<i>Drop Density</i>	<i>&lt;3.5</i>	<i>≥ 3.5 &amp; &lt; 4.5</i>	<i>≥ 4.5</i>

### **Smoothness Specification Committee Update:**

- 4. Ride spec laser changes: Hewitt: Next meeting on April 20<sup>th</sup>. Pilot project either completed or underway. Seeing a smoother overall ride IRI improvement. Moving in right direction. Still opportunity.*

### **APT research findings:**

- 5. Segregation study (presentation by Wayne Allick): Wayne presented a report on research findings. Impact of segregation and density on asphalt pavements. Copy of presentation attached to minutes. Some discussion relative to the position of the segregation in the structural or friction lift. Lower layer was compacted uniformly to 93% of Gmm.*
- 6. Compaction study: Covered under previous report. Lower density sections had higher rutting and lower performance than higher density areas. Could DOT look at using FC-9.5 to 1.5 inches in lieu of FC-12.5?*

### **Balanced Mix Design:**

- 7. Is FDOT moving this direction? What speed? What timeline? Balanced design would be based on volumetrics and use performance testing (rutting and cracking). DOT is open to idea but not confident with a single cracking test. Once available, DOT will evaluate and consider. Question about dropping air voids to 3.5%. Rutting is minor, cracking is a major distress. Need to make sure we don't fix one thing and negatively affect something else. Is DOT looking at SCBT? Yes, but just starting.*

## FC-5 Discussion:

8. Spec change to create finer FC-5 Gradation: *Hewitt – if we are going to do, need to do statewide. Maybe try some projects around the state and look at all the options. W. Allick question- change in the FC-5 permeability over time? (Later) Sholar: US-27 Highlands County over 6 years. Permeability increased. Raveling? There was discussion about two test sections of a finer OGFC (one with PG 76-22 (PMA) and one with ARB 12) that were placed in Levy County in 2010 to evaluate noise reduction. The control section was a FC-5 with PG 76-22 (PMA). Question about the difference in ride numbers? Update: No significant differences were seen in the ride of each section. The FC-5 control section had an initial IRI of 41. The finer OGFC with ARB 12 had an initial IRI of 39. The finer OGFC with PG 76-22 (PMA) had an initial IRI of 44.*
9. Use of FC-5. Change criteria where it's used: *Multiple lane design speed 50 mph or higher. Question; Does standard index show top of pavement at finished curb? FC-5 should not be placed flush to or below curb line.*
10. Cellulose fibers now can be used at same AC content as mineral fibers: *Sholar reported either can be used at same content. Reports from the field indicate it seems to lay better and no draindown in truck beds.*
11. FC-5's with PMA or ARB are issued at same AC content: *Sholar: Effective January 2017.*
12. FC-5 Pay Factors: Why can't the contractor get any bonus on LOTS that are less than 3 sublots? *Sholar: This was part of the Small Quantity Pay table and was designed to encourage larger production lots.*

## Tack Coat Discussion:

13. Trackless Tack problems and slippage issues:  
*Wall: There seems to be a problem with it in D3. Never had issues with old tack. Issues with cool weather and thin lifts. Starting to see issues. Under 60° and limited time frame issues. Not just a D3 issue, also South FL. Howie: Needs data on how much slippage is occurring to gauge the magnitude of issue. Wall- distributor sitting for 2 to 3 weeks (D3) not the same in Lake City. Please contact Howie [howard.moseley@dot.state.fl.us](mailto:howard.moseley@dot.state.fl.us) if you have seen slippage due to trackless track. TT seems to be very sensitive. Mixed performance reported. Emulsion mfgs have seen good performance in States north of Florida. Maybe more of a storage problem – recommend vertical tank with agitation. All emulsions settle. Need to circulate at least weekly. If you operate along published guidelines you shouldn't have issues. Need to watch freezing temps. Concern about extra efforts required. Maybe excessive especially in remote areas. Call the supplier and they pledge to work with you. Braxton Gray: 30 to 40 oz. diesel for cleanout. 1% = approx. 20 gallons. Old days used 2 to 3 gallons.*

*Multiple Contractors reported using trackless tack without any issues or concerns. Contractors need to notify Howie and suppliers when they have issues. DOT should consider an alternative tack materials when mfg's recommendations can't be followed.*

- 14. Thick polymer modified tack coat (UltraFuse). Product shot at 350 °F and target rates 0.12-0.18 gal/sy. Not sure what will happen at low rates. A test project is scheduled for I-95 in Volusia County under FC-5 with 0.15 gal/sy. Project to start in a month or so. May want to consider spray paver as an option but would have to deal with technology fees. Long term goal would be looking at a generic spec that calls for a "bonded friction course" but not specify tack type or application technology.*

### **Warm Mix Asphalt Discussion:**

- 15. Rafiq Darji, FHWA: Provided background on use and declining usage of WMA. 2015 drastic reduction in tonnage. 2009 to 2010 Florida one of the highest users in the country. Local agencies are not using. Producers switched from diesel to natural gas. Now less cost savings. Provided a survey for participants (contractors) to fill out. Cost savings not there anymore, issues with switching mixes. J. Musselman- Oldcastle 50 MM tons last year, 1/3 WMA. Warren: why do we need to even have a distinction? Let the contractor use it if they want and as long as the mix meets requirements, they should be allowed to do so. We need to promote Not So Hot Mix Asphalt (NSHMA). Moseley: The Department views warm mix technology as a tool that the contractor can use at their discretion. Contractors choose the mixing/compaction temperatures when using this technology and are welcome to use it as a compaction aid at conventional HMA temperatures if they choose.*

### **Asphalt Binder Discussion:**

- 16. Review solubility test for asphalt, need to replace TCE used to run the test. Siler: Marathon has banned the use of TCE. Need to find a solution or alternative solvent, or other means. SMO looking at it. Rilko: AASHTO D44: Some other solvents have issues with modifiers. Hardin: willing to work on it as well. N-Propyl Bromide also hazardous. Look into Toluene.*
- 17. Portable FTIR. Sholar: FDOT purchasing one. Can detect if binder has polymer. Will use for field checks.*
- 18. NTPEP testing for WMA additives. Rilko: National Transportation Product Evaluation Program (NTPEP) to provide global evaluations. First round complete and submitted.*

19. 76-22 ARB has a minimum viscosity but not a maximum. *The current spec. has a rotational viscosity maximum of 3 Pa\*s. No one to comment on agenda item.*
20. HP binder replacing PG 82-22 (PMA) in July 2017. *Special binder for specialized applications – short shelf life according to one supplier. Others not having this issue. – Can get hard to pump. Just a few projects. Rhonda has data on usage. Will require a virgin mix. Fitts: could we have a performance test like the Hamburg wheel tracker? Moseley: not looking at since they want full benefit of performance and Hamburg is mainly for rutting, but doesn't consider cracking or raveling.*
21. PG 76-22 (PMA) and PG 76-22 (ARB) are equivalent effective with Jan 2017 let projects. *Can use interchangeable but need to use different mix designs, 1 design issued 2 ways but does not count against the number of designs.*

### **Construction Discussion:**

22. Moment slabs - Dave Barrie Moment Slabs that come out from barrier walls. As you can see in the pictures with the drains, the moment slab drops away from the barrier wall at a significant angle (about 4 to 6%). The shoulder slants in the opposite direction and the limerock only comes to the edge of the slab. When paving these areas we try and fill the hole created by the 2 opposing angles, and then cover it with the top structural lift. The top lift has normally been a 10 to 12 foot shoulder that is density required. Because of the way the moment slab and base is constructed, it makes an area that can't be compacted with consistent densities. This make the densities of the material above it also very inconsistent. Even though the shoulder is over 5'. I believe these shoulders should be include it the 334-5.1.2 Acceptance Testing Exceptions, when paved over a Moment Slab.

*Discussion: DOT is exploring directing traffic on shoulder. These sections are built in low quantity operations. Need a solution... Alternative construction methods? Could use limerock? Change concrete elevation? Why does the moment slab have to be at opposite 6% slope? Need to look at. Maybe a pass/fail on density.*



23. Roadway Reporting, do we need better direction to complete reports and not have to come back and make changes made weeks past? Are we being asked to do things that are not really necessary? Wide pulls; Bike Paths/Lanes, shoulders,

parking. Do we need to add instructions in the CPAM? Simpler the better and CPR. *Hewitt: may need some more guidance, Forms instruction. If you are seeing this as an issue on your project – please contact Rich Hewitt. McKeon: started last year. Rich/Christopher/Barry/Sloane/Carter/Berry (Middlesex) post solutions on CPR website. D2 has seen as well. This issue needs some further work. Issues with reporting Misc Asphalt as well. Form group with Hewitt and NeSmith.*

24. Exact ton sublots when not a spec requirement. When it is required, why not per lot? *Barry: Taking time away from QC to do paperwork instead of focusing on inspection. Why cut off at subplot? Hewitt: stop at truck and not estimate. Lump sum to be switched like pay item jobs. Spread rate is 5 trucks, don't break a truck. Some direction needs to be given about breaking sublots at truck or between trucks. Rich to provide direction.*
25. VT's; Are some VT's not allowed to complete verification tests and report to QC? In some cases this has taken weeks to get verification so samples can be discarded. Is there a reasonable time limit? *Moseley: If you aren't getting timely – escalate up! Did this just start since MAC? Different Districts have different rules. Turnpike tracking VT testing speed. TP looking to verify and make decision on RT. Issue with PA on comparison packages. If issues, please contact Susan Musselman [susan.musselman@dot.state.fl.us](mailto:susan.musselman@dot.state.fl.us) If you are experiencing extensive delays in getting comparisons, contact Jim Warren or your DBE.*
26. When QC Technicians are extremely busy, is it okay to ask VT's for help to monitor temperatures. There are many times when QC Techs are running multiple jobs/samples with 2 and sometimes 3 VT's standing by. *QC responsibility to take temps – they can delegate someone else on the Contractor's staff, but the VT should not be measuring QC temps.*
27. Penalty Process for terminations: Why do we take a pay cut if the mix is removed and replaced. *Moseley: The QC sample represents entire subplot and is part of the PWL system. If the entire subplot is removed and replaced, then the pay factor can be recalculated with the remaining sublots.*
28. The FDOT Districts need to be uniform pertaining to segregation cores and the interpretation of the specifications. *Discussed earlier – hopefully AS TF should address this. Can escalate to SMO or SCO. The DBEs teleconference monthly and meet face to face annually. Goal is to identify areas as quickly as possible, both on the Contractor's side and the Department's side.*
29. The DDM process uses average spread rate versus the actual location. *Can use delineation or agreed upon to remove 1 load.*
30. The small quantity pay table for dense graded mix: Taking pay hits for good mix due to small quantities in LOTS: *The PWL and small quantity pay system is*

*designed to be revenue neutral. However, Contractors are currently averaging greater than a 1% bonus. If the small quantity pay table is reworked to provide higher pay for one or two sublots, especially for density, then the PWL limits will also be adjusted at the same time to make the system revenue neutral.*

31. IV sample: If an IV sample fails, why does the department automatically run the second set of boxes? *This should not be occurring. The 2nd IV sample should only be tested if the Contractor tests their split sample with the IV sample and there is a non-comparison. In that case, the IV split sample will only be tested for comparison to the original IV sample for the properties that did not compare. There was also discussion about whether this should be done at a different lab. Currently, most IV split samples and most Resolution samples are tested at the Department's main Materials Lab. However, District 2 makes an attempt to test IV split samples at an auxiliary Department lab within District 2.*
32. Silica OSHA Rule – *Discussion: OSHA has developed a rule with established limits on exposure to silica dust. Related to asphalt construction, the affected areas include milling and sweeping operations. Still uncertain regarding sweeping operations and how they are classified and additional testing should clarify. Potential impacts may require water systems on brooms to limit dust and that could impact/delay paving operations or require additional or different equipment. More to come.*
33. Milling spec changes - 72 hour pave back. What is the status of specification change and pilot projects? *Hewitt: Language developed. Modified SP being finalized and will be tried on pilot projects. Will be bid on projects. Striations not chevrons. Refer to the pictures.*

#### **Miscellaneous Discussion:**

34. Increasing percentage of RAP in base course and lower structural lifts containing polymers. *Howie: Research project started to look at increasing RAP – underway. NCAT also doing work.*
35. Increasing target roadway density a small amount. *Moseley: Looking at possibility at bumping up density a small amount. Try ½% or 1%. Need to look at worse case for increasing density. Research indicates increased performance with higher density but Florida already has higher density. Need to look all issues and unintended consequences. Long term goal – slow walk. May look at 3.5% air voids and higher VMA to provide a slight increase to increase AC. Perhaps pave FC-9.5 mm mixtures 1.5 inches thick to help achieve density.*
36. Increased density pilot project in D2 (FHWA initiative). *Rilko: Completed last summer. Three test sections: Control. Test section 1 changed roller pattern. Test*



*section 2 added rubber tire roller as intermediate roller. Values: control = 93.5%, #1 = 93.2%; #2 = 95.4%*

- 37. Rumble striping: Sholar: addressing higher noise levels and maybe fixing high dB noise complaints. Microsurfacing over rumble strips in D3. Reduced noise by about 12 dBA.*
- 38. MAC: Roadway report will be an enhancement (future project). There was some discussion on the effects of MAC to local agencies/markets. There have been some issues with mix design revisions.*
- 39. Grandfathering of early mix designers in one and done. Hewitt to look at with Sadler, Ruelke, and Robeson.*

Meeting concluded at 3:15 PM