

PAAMA

Pennsylvania Association of Asphalt Material Applicators

2024 Annual Conference

Proposed Microsurfacing Specification Update

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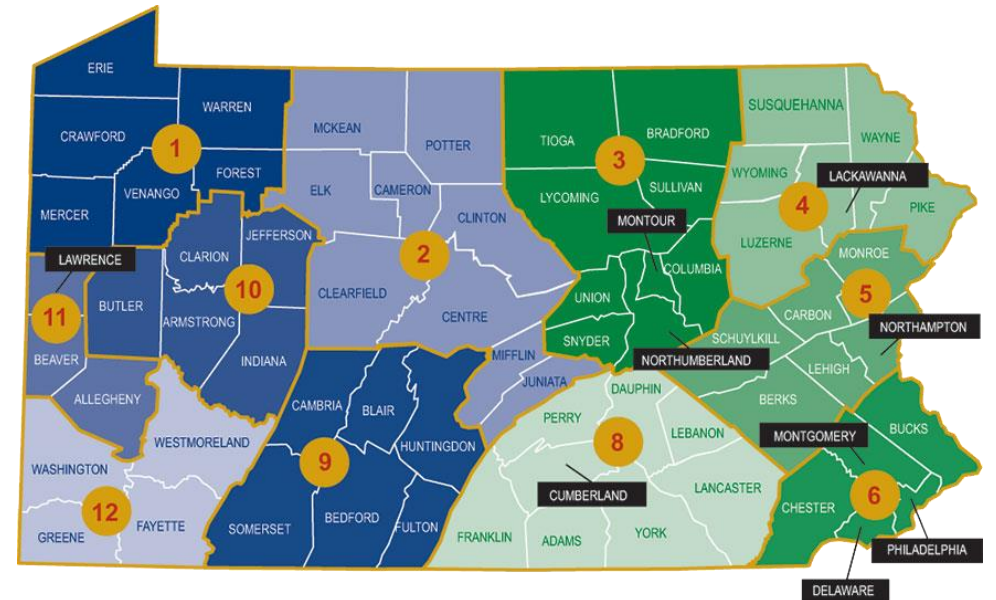
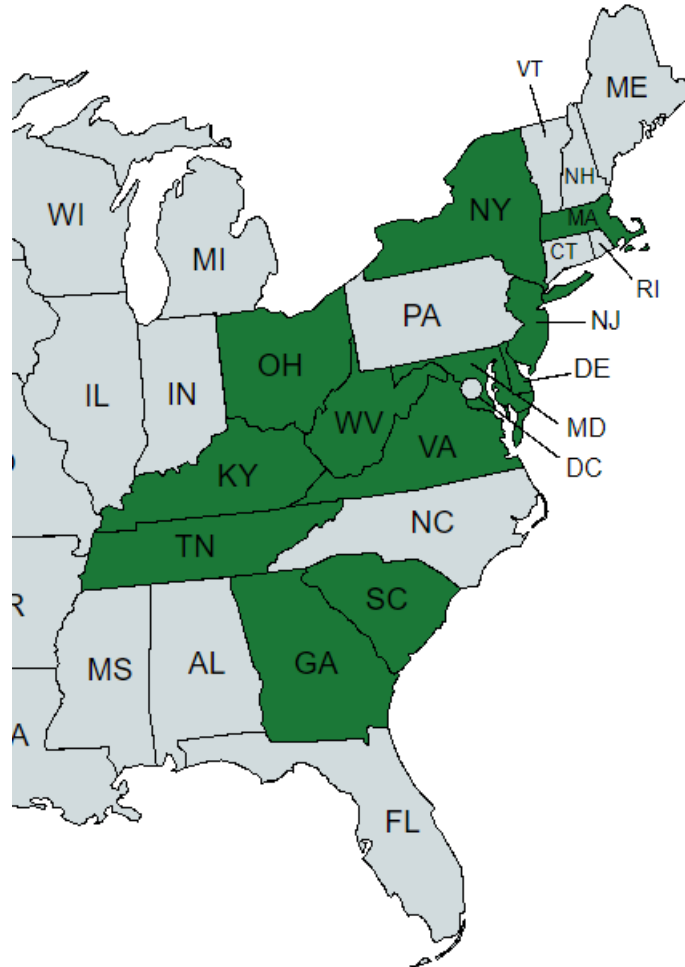
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DEPARTMENT OF TRANSPORTATION

November 21st, 2023 QIC meeting PAAMA/PENNDOT.

- Josh Freeman discussed how the Microsurfacing specification is outdated and has not been revised in quite some time.
- Directed the Preservation Overlay committee to review the current specification and recommend updates.
- Preservation Overlay Subcommittee notified membership asking for input from member companies.
- Invited interested members to join the conversation through meetings hosted by the Preservation Overlay Subcommittee.

Specification Research



Pub 408

- Section 483 – Polymer Modified Emulsified Asphalt Paving System (Micro Surfacing)

Pub 242

- Chapter 5 – Asphalt Concrete Pavement Guidelines and Policies
- Section 5.4 – Polymer Modified Emulsified Asphalt Paving System (Micro Surfacing)

- During research we realized updating the 408 will require updates to Pub 242 (Pavement Policy Manual)
- Discovered discrepancies between both documents

1. Adopt the option to apply tack coat when microsurfacing over oxidized asphalt surfaces.

- Pub 408 specifically states *“do not apply tack coat on existing asphalt surfaces”*.
- ISSA specification states *“normally, tack coat is not required unless the surface to be covered is extremely dry and raveled or is concrete or brick”*.
- Common practice in other states.
- Some states require tack coat on all surfaces.
- Requires update to Pub 242.
- Follow current PA tack specification.

2. Establish item for use as longitudinal joint repair.

- District's 6 and 11 have performed this under modified special provisions in specific bids.
- Common practice in other states.
- Took advise from individual District Maintenance Departments.
- Design component for leveling rumble strips prior to preservation applications and thin lift HMA applications.
- Add as a pay item similar to rut fill (RF) but as linear foot.
- Requires guidance to be added to Pub 242.

3. Adjust depth allowance for Type B and rut fill (RF) applications.

- Type B in the 408 states *“fill up to 1 ¼” ruts” in the full width applications”*.
- RF in the 408 states *“used to fill 2” ruts in a single pass”*.
- ISSA specification calls for independent RF on ruts ½” – 1 ½” and ruts greater than 1 ½” to be done in multiple passes.
- Inconsistency with the current depth allowances in the Pub 242.
- Pub 242 does not allow for a RF to be topped with Type A microsurfacing.
- Create language to include “consistent rutting”.
- Micro milling could be added to Pub 242 to address small isolated rutted areas.

4. Add verbiage for the use of burlap drag.

- District 3 included verbiage in the most recent bid specification as an option.
- District 3 states *“If the contractor uses burlap drag”... “if objectional results occur, discontinue use of burlap.”*
- When combined with squeegee “mop”, you can get a more consistent look to the final surface.

5. Adopt verbiage promoting the use of crackseal prior to microsurfacing.

- Type A in the Pub 408 specifically states *“used to fill cracks”*.
- Under Spreading and Finishing in the Pub 408 it states *“spread mixture to seal cracks”*.
- Misrepresentation of the expectation of microsurfacing.
- ISSA specification states *“It is recommended to treat cracks greater than ¼” in the pavement surface with an approved crack sealer prior to the application of microsurface”*.
- Requires update to Pub 242.
- Promote guidance of crack sealing 30 days prior to microsurfacing.
- Promote squeegeeing the crackseal prior to preservation overlays.

6. Adopt verbiage for “dusting”.

- Other states specifically outline this in the specification.
- Maryland states *“When it is necessary to open to traffic early, lightly sand the surface”..... “Broadcast clean aggregate over the mix at intersections and/or entrances for temporary access”.*
- Helps in busier business settings.
- Applied after cohesion is achieved.
- Common practice.
- Not limited to one specific material (i.e. Black Beauty, micro aggregate).

7. Create application rate range for double application A over B.

- District 3 included a caveat in the most recent bid under type B application rate that states *“Double applications will be applied in two lifts (First lift: 20 pounds per square yard minimum, second lift: 20 pounds per square yard minimum)”*.
- Common practice.
- District 6 opted for A over B with current project.
- Smoother final surface.

8. Adopt new guidelines for defective work pay adjustment.

- Pub 408 states *“Failure to meet the acceptable ranges in table C will require an additional minimum 15 pound per square yard application or the DE, with concurrence of the Director of the Bureau of Project Delivery, may allow the contractor to leave the defective lot in place. The Department will pay for the defective lot at 50% of the contract unit price”*.
- Some states have it narrowed to percentages per pound, i.e Maryland is 3% deduction per pound under specified application rate.
- Possible table establishing higher percentages, the further from the target application rate.

9. Adopt new guidelines for mixture set time.

- Current Pub 408 states *“Remove and replace mixture if mixture set time takes longer than one hour and twenty minutes”*.
- Not realistic for nighttime application.
- What is the definition of “set time”? Is it the 30 min cohesion?
- District 3 special provision reads *“For material placed between the hours of 8p and 6a do not allow traffic on the newly completed surface for a minimum of 120 minutes after placement.”...“In addition, due to the times referenced, do not allow traffic on the newly completed surface until the mix has set sufficiently to prevent pick up”... “at the discretion of the contractor with concurrence of the representative”*.
- Suggest *“in the event that...stop production and consult with...”*.
- Some states implement a lane rental fee in the event of slow cure.
- Chemistry issue does not necessarily relate to defective finished product.

10. Adopt a performance warranty.

- Our industry is willing to adopt a performance warranty.
- Some states specify a performance review period, i.e. Ohio specifies a two-year warranty period. However, it states *“the contractor is not responsible for pavement damage beyond the contractor’s control”*.
- Define parameters of what constitutes “defective”.
- Material and workmanship focused.

11. Adopt contractor qualification requirements.

- Is this as simple as adding a F5 work code classification for microsurfacing?
- Crack seal and sealcoat currently have their own classification.
- Microsurfacing requires unique skills, materials, and equipment.
- Move away from generalizing Section 400 Flexible Pavements as one classification.
- QIC will check on the requirements.

12. Adopt specifications for the use of HiMA (modified binder).

- Higher softening point.
- More durability, longer life.
- Greater resistance to scuffing or tearing.
- PAAMA is committed to introducing new technologies.

13. Adopt specifications for the use of RAP microsurfacing.

- Build off recent pilot project.
- Provide guidance to improve initial application.
- RAP microsurfacing has been successfully implemented in other states

14. Allow the option to turn off spray bars in damp conditions.

- Common practice.

15. Update language for latex based modifier.

- Current Pub 408 reads *“provide a latex modifier capable of making a microsurfacing mixture”*.
- Change to read *“latex or polymer”*.
- Bulletin 25 CQS-1HP verbiage reads *“The asphalt shall be polymer modified prior to emulsification”*.
- Current Pub 408 verbiage was carried over from the original Ralumac specification at the time of natural latex modifiers.

16. Allow for use of different mineral filler (specifically Portland).

- Remove Type I from the language to make it more general.
- Often it is Type I/II
- Update to include Type I L

17. Adopt fiber option for full width applications.

- Provide manufacturer guidance.

Next steps...

- **Last met with QIC on September 12th, 2024.**
- **Next meeting with QIC TBD.**
- **Preservation Overlay Committee to begin red lining Pub 408 and Pub 242 specifications.**
- **Preservation Overlay Committee to establish guidance where requested.**
- **PENNDOT to establish Subcommittee for this project.**



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