the Big SPEC Theory
ODOT STANDARDS & SPECIFICATIONS UPDATE

aka THE BIG SPEC THEORY

Dave Miller, P.E.
ODOT Office of Pavement Engineering
PRESENTATION OUTLINE

- Theme Song
- Recap 2015 Presentation
- In Memoriam
- Today’s Episode
- Coming Attractions
Guidelines for Local Agency Use of ODOT’s New HMA Specifications

David Miller, P.E.
Office of Pavement Engineering

February 4, 2015
Questions?
IN MEMORIAM

- Obsolete/Retired/Deleted Specifications
  - SS 806 AC Surface Course
    - Now (447) acceptance
  - 423 Type III Crack Seal
  - SS 857 AC with Gilsonite
  - SS 874 Ultrathin Bonded AC
  - PN 470 Thin Lift Smoothness Incentive
    - Incorporated into PN 420
NEW OR REVISED SPECIFICATIONS SINCE 2015

- **C&MS:** 302, 401, 402, 403, 407, 421, 422, 423, 424, 441, 442, 443, 446, 447, 448, 702
- **Supplemental Specs:** 826, 860, 872, 874, 886, 887, 888, 897
- **Supplements:** 1013, 1032, 1036, 1038, 1040, 1053, 1055, 1058, 1060, 1088, 1101, 1107
- **Proposal Note:** 420
SS 875 LONGITUDINAL JOINT ADHESIVE

- Not new but increased use
- Incidental to items 447 and 874
447 AC MAT AND JOINT CORE DENSITY ACCEPTANCE

- Was SS 806
- For surface courses only
- Multi-lane, limited access facilities
  - Few, if any, driveways and intersections
- Requires 10,000 ft. minimum of cold longitudinal joints
447 AC MAT AND JOINT CORE DENSITY ACCEPTANCE

- Requires 10 mat cores
  - 12” away from cold longitudinal joint
- Requires one joint core for every 2500 ft. of cold longitudinal joint
- Incentive/disincentive for both mat and joint density
SS 872 VOID REDUCING ASPHALT MEMBRANE (VRAM)

- Placed under cold longitudinal paving joints
- Not for use with 447 acceptance
CENTER LINE RUMBLE STRIPES

- House Bill 51

<table>
<thead>
<tr>
<th>General Assembly</th>
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**Short Title**
Require center-line rumble strips for certain highway projects

**Long Title**
To enact section 5517.06 of the Revised Code to require the Ohio Department of Transportation to install rumble strips along the center line for all two-way, undivided state highways with a speed limit exceeding 45 miles per hour, as a part of specified highway projects.
## CENTER LINE RUMBLE STRIPES

- **House Bill 51**

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<th>RESULTS</th>
<th>VOTE</th>
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<td>6/27/2019</td>
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<td>Passed</td>
<td>Yeas : 95 Nays : 0</td>
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[Show Breakdown]
CENTER AND EDGE LINE RUMBLE STRIPES

- ODOT updates issued October 18, 2019
  - Traffic Engineering Manual (TEM) revisions
  - New specification SS 874 Longitudinal Joint Preparation
  - BP-3.1 revisions
CENTER AND EDGE LINE RUMBLE STRIPES

- Traffic Engineering Manual, Section 1415
  - 2-lane, undivided highways
  - Posted speed >45 mph
  - 1” of new asphalt or double microsurfacing
  - Edge line rumbles require minimum 2’ shoulder
  - No edge line rumbles on designated bike routes with less than 4’ shoulder!
CENTER AND EDGE LINE RUMBLE STRIPES

- Total Pavement Width 29’ or Greater
  - Both Center and Edge Line Rumble Stripes
- Pavement Width 26’ to 29’
  - One or the other
- Pavement Width Less than 26’
  - No rumble stripes
CENTER AND EDGE LINE RUMBLE STRIPES

- New SS 874 Longitudinal Joint Preparation
  - For use with center line rumble stripes
  - Two options for preparing the joint:
    - Cut back 3” from the first pass and apply Longitudinal Joint Adhesive, or
    - Apply VRAM
CENTER AND EDGE LINE RUMBLE STRIPES

Method 1

Direction of Travel

Center Line

6"

2nd Pass

3" min.

1st Pass

Joint

Item 875 Longitudinal Joint Adhesive

Pavement from 1st pass removed prior to 2nd pass.

Method 2

Direction of Travel

Center Line

6"

2nd Pass

1st Pass

Joint

Item 872 Void Reducing Asphalt Membrane

LONGITUDINAL JOINT PREPARATION (if specified)
SAFETY EDGE

- Updated PDM guidance
- New standard drawings
- C&MS changes to 209, 401, and 617
SAFETY EDGE

○ PDM Section 105.1
  ○ Safety edge required when:
    ○ More than 1.5” of new asphalt is placed, and
    ○ At least 1500’ of continuous paving, and
    ○ Less than 4’ paved shoulder width, and
    ○ Legal speed limit greater than 35 mph.
  ○ Also requires approximately 10” graded shoulder for Item 209 Preparing Subgrade for Shoulder Paving
SAFETY EDGE STANDARD DRAWING BP-3.2

LEGEND

1. Construct the safety edge to the full thickness of the surface and intermediate courses, or if bermages are used, construct a near vertical face below the safety edge.

2. Construct the safety edge to a 4 ft depth, or the full thickness of the overlay, whichever is less. Construct a near vertical face below the safety edge.

3. Asphalt concrete overlay may be one or more courses.

NOTES

1. General: Safety edges are required at the outside edges of the paved roadway edges or to exist of paved shoulders, where the full thickness of material placed as part of the contract is greater than 6 in. Safety edges need not exist in the plan.

2. Construct the safety edge at an angle of approximately 15 degrees and directed away from the primary surface.

3. Do not construct safety edge at intersections, paved drives, or other obstructions.

4. Other items of work, such as tack coat, are omitted for clarity.
OTHER PDM UPDATES

- Section 406.4 Tack Coat
  - Tack between all lifts of asphalt
OTHER PDM UPDATES

- **Section 403.1.1 Phase Joints**
  - Provide a detail in the plans showing trimming back to create steps

- **C&MS 401.17 Joints**
  - Provide a minimum 6” offset (step) between cold joints for each lift
C&MS 441/442 ANTI-SEGREGATION EQUIPMENT

- Included as a pay item for surface and intermediate course paving on the priority system
- PDM 406.6
C&MS 401.11 HAULING

- Completely discharge the mix into the spreading equipment within 90 minutes of loading
C&MS 441.09 QUALITY CONTROL TESTS

- Perform all quality control tests once each 700 tons of asphalt
  - Previously once each half day or once each 1400 tons
C&MS 422 CHIP SEAL

- Revised pay items
  - Emulsion by the gallon
  - Aggregate by the square yard

- 2-year warranty in effect
  - Do not add plan note to waive warranty
CHIP SEAL AND MICROSURFACING

- Remove all pavement markings including traffic paint
- Pay for removal under applicable 640 item
SS 886 FOG SEAL

- Available for use with Type A Single Chip Seals
- Improves chip retention
- Improves pavement marking visibility
- Looks like HMA
SS 888 HIGH FRICTION SURFACE COURSE

- Used as part of a friction management program to correct short sections of poor friction
- Requires pre-approval by OPE
- $20 - $30/SY
SS 860 THINLAY ASPHALT CONCRETE

- Requires pre-approval from OPE
  - General and urban systems only

- Low and medium traffic mixes
  - Low: <2500 ADT and <250 trucks
  - Medium: <1500 trucks

- 0.75”-1.25” lift thicknesses

- Temperature restrictions
  - 60 °F surface and ambient
SMOOTHNESS INCENTIVE/DISINCENTIVE

- Proposal Note 420
  - Recommended for all paving projects >1 mile
  - Supplement 1058
    - Equipment, operator, and project verification requirements

<table>
<thead>
<tr>
<th>Pavement Class</th>
<th>Divided Highways*</th>
<th>Undivided Highways*</th>
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<tr>
<td></td>
<td>Corrective Action</td>
<td>Pay Adjustment Schedule (Table 420-3)</td>
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COMING ATTRACTIONS

Working on updates
11% complete
Don’t turn off your computer
COMING ATTRACTIONS

- New 442 intermediate courses
  - Changes to 19mm mix usage guidelines
  - New 12.5mm intermediate course
- 302 density requirement
- 302 superpave mix design
- 401/402/403/441/442/702 re-write
FOR MORE INFORMATION...

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