Percent Within Tolerance Limits
Acceptance of Asphalt Pavements

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Quality

Continuation of the Goal of Increased Quality

- Target: Drive product consistency focused on job mix formula (JMF) (50% lot pay factor)

- Tighter adherence to field density spec. requirements (50% lot pay factor)
What’s different with PWL spec?

• **Incentive/Disincentive** structure (maximum 4% incentive)

• Primary Control Sieve (PCS) part of payment

• Modifies “goal posts” approach for 100% payment (good or no good)
Payment Equation Changes

- **Section 409** specification (50% mix, 50% density)
  - 25% asphalt content
  - 25% #200 sieve
  - 50% field density

- **PWL** specification (50% mix, 50% density)
  - 30% asphalt content
  - 10% #200 sieve
  - 10% primary control sieve
  - 50% field density
Two (2) methods in use:

1. **PWL-LTS (Laboratory Testing Section)**
   - Acceptance at LTS
   - Gmm Verification included on Federally Funded and NHS Projects

2. **PWL-HOLA (Hands On Local Acceptance)**
   - Department Acceptance, Contractor Selected Lab
   - Department Option to Witness Only (No Federal Funds and Not on NHS)
   - Gmm Verification included on Federally Funded and NHS Projects.(Conducted at Local Lab)
• **Very similar** to **current process**

• Allows a **contractor option** to **expedite sample delivery** to Harrisburg
  - Inspection staff secures samples
  - Secure samples given to contractor
  - Contractor delivers to LTS at their cost
  - LTS verifies security prior to testing
  - 2-3 Standard Work Day Goal at LTS
Expedited Shipping (Contractor)

• For expedited shipping contractor must:
  • Indicate shipping entity (themselves or a third party)
  • Outline process in QC plan
  • Provide containers, cushioning and all packaging materials to Department
  • Third party shipping services must provide the ability to track delivery
Field inspection responsibilities:

- Secure containers with Department issued security tape (Supplied by the District)
- Record the unique number from tape to TR-447
- Place the TR 447 inside the shipping container
- Return the secured containers to the contractor for shipping
PWL-HOLA

- HMA/WMA Material samples collected as usual

- **Acceptance testing** performed at:
  - Assessed producers lab
  - or another mutually acceptable lab

- **No LTS acceptance testing** (except for dispute resolution situation)
Local Acceptance QC Plan

• Separate LA QC Plan required to detail specifics
• 3 weeks before paving
• Must identify lab and equipment for testing
  ✓ AASHTO re:source Assessment
Sample Transportation and Security

• Tamper proof coolers with clasps

• Must be capable of relocking for storage

• Department supplied numbered security ties/security tape
Acceptance Testing

• Testing to begin once lot is complete

• HOLA testing takes priority over other testing

• Department’s Certified Technician **MUST** perform testing on **all Federally funded** project and project on the **NHS**
Independent Assurance

• Required by FHWA 23 CFR 637
• First lot and randomly once for every ten thereafter
• Performed at the LTS
• Ensures sampling and testing is performed correctly
• Ensures testing equipment used is properly calibrated and operating correctly
# 2018 Construction Season

<table>
<thead>
<tr>
<th>District</th>
<th>Total Projects Let</th>
<th>Advertised LTS Projects</th>
<th>Advertised HOLA Projects</th>
<th>Projects with Acceptance Test</th>
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<td><strong>40</strong></td>
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86% 14%
# Summary of PWL Results

(As of November 30, 2018)

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<tr>
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<th>Overall Lot Payment Averages</th>
<th>Mixture Pay Factor Averages</th>
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<td>Lots</td>
<td>Average Lot Payment</td>
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<tr>
<td>Total</td>
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<tr>
<td>PWT-HOLA</td>
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<td>PWT-LTS</td>
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## Lot Comparison

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<tbody>
<tr>
<td>Incentive Pay Lots</td>
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<td>100% Pay Lots</td>
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<td>Disincentive Pay Lots</td>
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<td>Defective Lots</td>
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<tr>
<td>Total PWL Lots</td>
<td>1545</td>
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</table>

76%
Average Density Pay Factor by BPN

Average Density Pay Factor by BPN
(Density Acceptance by Cores)

BPN 1 – Interstates
BPN 2 – NHS
BPN 3 – State (ADT ≥ 2000)
BPN 4 – State (ADT < 2000)
2018 PWL Summary
(Data from January 1, 2018 – November 28, 2018)

(Sublot Density Acceptance Test Results for 9.5mm, 12.5mm, 19mm & 25mm Mixes)

(Lot Density Acceptance Test Results for 9.5mm, 12.5mm, 19mm & 25mm Mixes)
Key Points of PWL

• Does my project have PWL?

• Where can be PWL be applied?

• Terminated Lots (Contractor Elected)

• Sample Setup

• Incentives/Disincentives
Does my project have PWL?

- Applied to Project as a Standard Special Provision (SSP)

b04001 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF ASPHALT PAVEMENTS WITH PERCENT WITHIN TOLERANCE AND LTS TESTING (PWT-LTS) *(Includes Gmm Verification)*

b04002 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF ASPHALT PAVEMENTS WITH PERCENT WITHIN TOLERANCE AND LTS TESTING (PWT-LTS)

b04003 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF PLANT-MIXED ASPHALT PAVEMENT COURSES WITH DEPARTMENT LOCAL ACCEPTANCE, AND PAYMENT BY PERCENT WITHIN TOLERANCE (PWT-HOLA) *(Includes Gmm Verification)*

b04004 SUPERPAVE ASPHALT MIXTURE DESIGN, STANDARD AND RPS CONSTRUCTION OF PLANT-MIXED ASPHALT PAVEMENT COURSES WITH DEPARTMENT LOCAL ACCEPTANCE, AND PAYMENT BY PERCENT WITHIN TOLERANCE (PWT-HOLA)
Where can PWL be applied?

- Applicable to all bituminous paving items of Sections 309, 311, 316, 409, 410, and 411
- NOT applicable to:
  - Shoulders falling under Section 650 Items
  - Stone Matrix Asphalt (SMA)
  - Crumb Rubber Modified Asphalt Binder
  - Gap-Graded Asphalt Rubber Mixtures,
  - 6.3mm Thin Asphalt Overlay Courses
  - 4.75mm Asphalt Mixtures
  - Asphalt Warranty Pavements
Contractor Terminated Lots

Allows contractor to limit risk when early QC results indicate an issue

- Must stop paving
- Notify Inspector in Charge in Writing
- 90% maximum pay
- Must R&R if defective by test results
Sample Setup

Identify Section as either "409APWT" (Standard) or "409BPWT" (RPS)
Incentives/Disincentives

INCENTIVES

• Contract Item for Incentives (PDA)
  – Item 9000-6174 SUPERPAVE PWT INCENTIVE
  – Version C of SSPs

• Contract Adjustments entered into ECMS
  – “PWL Adjustment (LTS)” or “PWL Adjustment (HOLA)”
  – Attach eCAMMS Report
  – Versions A & B of SSPs

DISINCENTIVES

• Contract Adjustments entered into ECMS
  – “PWL Adjustment (LTS)” or “PWL Adjustment (HOLA)”
  – Attach eCAMMS Report
  – ALL Versions of SSPs
2019 Construction Season

- PWL on **ALL Applicable** Paving Projects
- PWT becomes PWL
- Revised SSPs
- Revised Use Guidelines
- Revised Field Users Guide
Be a Part of the TEAM

- Please feel free to email your comments, questions and experiences.

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  Adam Ostinowsky  
  c-aostinow@pa.gov
Questions?

**Additional Resources**

- **PWT User Guidelines**
  (ECMS → References → File Cabinet → “PWT User Guidelines”)

- **PWT Field Users Guide**
  (ECMS → References → File Cabinet → “PWT Field User Guide”)

- **Percent Within Tolerance (PWT) for Bituminous Pavement Acceptance Webinar**
  (ECMS → References → Training Calendar → Course Search “PWT”)

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