Bituminous PWT
(Percent Within Tolerance)

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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)
• **Two (2) methods in use:**

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

2. **PWT-HOLA (Hands On Local Acceptance)**
   - Department Acceptance, Contractor Lab
   - Department Option to Witness Only
   - Gmm Verification included on Federally Funded and NHS Projects. (Conducted at Local Lab)
Industry Summary

- 94 Different Asphalt Plants
- 56 Different Prime Contractors

**2016 Lot Pay Factor**
(57 Different Asphalt Plants)
- > 100: 77%
- 100: 18%
- <100: 5%

**2017 Lot Pay Factor**
(92 Different Asphalt Plants)
- > 100: 76%
- 100: 15%
- <100: 9%
## 2017 Summary of PWT Results
(As of January 9, 2018)

<table>
<thead>
<tr>
<th>Lots</th>
<th>Overall Lot Payment Averages</th>
<th>Pay Factor Averages</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lots</td>
<td>Average Lot Payment</td>
</tr>
<tr>
<td>Total</td>
<td>1125</td>
<td>1.01</td>
</tr>
<tr>
<td>PWT-HOLA</td>
<td>237</td>
<td>1.03</td>
</tr>
<tr>
<td>PWT-LTS</td>
<td>888</td>
<td>1.01</td>
</tr>
</tbody>
</table>

### Primary Control Sieve

<table>
<thead>
<tr>
<th>Primary Control Sieve</th>
<th>#8 Sieve</th>
<th># of Lots</th>
<th>#4 Sieve</th>
<th># of Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>99.47</td>
<td>770</td>
<td>100.23</td>
<td>345</td>
</tr>
<tr>
<td>PWT-HOLA</td>
<td>101.06</td>
<td>164</td>
<td>103.12</td>
<td>69</td>
</tr>
<tr>
<td>PWT-LTS</td>
<td>99.05</td>
<td>606</td>
<td>99.50</td>
<td>276</td>
</tr>
</tbody>
</table>
2017 Average Density Pay Factor by BPN
(As of January 9, 2018)
Comparison of Lot Payments

Breakdown of PWT Lots

- **Bonus Pay Lots**
  - 2017: 842
  - 2016: 336

- **100% Pay Lots**
  - 2017: 59
  - 2016: 30

- **Reduced Pay Lots**
  - 2017: 215
  - 2016: 80

- **Defective Lots**
  - 2017: 9
  - 2016: 6

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2017 Reduced Pay Lots
(As of January 9, 2018)

<table>
<thead>
<tr>
<th>Reason for Reduction</th>
<th># LTS Lots</th>
<th># HOLA Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>AC/Gradation</td>
<td>78</td>
<td>0</td>
</tr>
<tr>
<td>AC</td>
<td>44</td>
<td>2</td>
</tr>
<tr>
<td>Gradation</td>
<td>28</td>
<td>3</td>
</tr>
<tr>
<td>AC/Density</td>
<td>15</td>
<td>1</td>
</tr>
<tr>
<td>Density/Gradation</td>
<td>16</td>
<td>3</td>
</tr>
<tr>
<td>AC/Density/Gradation</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Total Lots</td>
<td>888</td>
<td>237</td>
</tr>
</tbody>
</table>
2017 Defective Lots
(As of January 9, 2018)

9 Defective Lots

- Gradation, 2, 22%
- Density, 7, 78%

7 LTS Lots / 2 HOLA Lots
# Impact of Bonus Structure
*(As of March 16, 2018)*

<table>
<thead>
<tr>
<th>District</th>
<th>Incentives</th>
<th>Reductions</th>
<th>Δ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$318,027.25</td>
<td>-$48,122.74</td>
<td>$269,904.51</td>
</tr>
<tr>
<td>2</td>
<td>$301,395.99</td>
<td>-$207,672.51</td>
<td>$93,723.48</td>
</tr>
<tr>
<td>3</td>
<td>$131,989.21</td>
<td>-$31,637.79</td>
<td>$100,351.42</td>
</tr>
<tr>
<td>4</td>
<td>$267,951.58</td>
<td>-$106,113.06</td>
<td>$161,838.52</td>
</tr>
<tr>
<td>5</td>
<td>$241,358.58</td>
<td>-$92,249.71</td>
<td>$149,108.87</td>
</tr>
<tr>
<td>6</td>
<td>$735,133.16</td>
<td>-$76,914.54</td>
<td>$658,218.62</td>
</tr>
<tr>
<td>8</td>
<td>$287,082.82</td>
<td>-$415,485.16</td>
<td>-$128,402.34</td>
</tr>
<tr>
<td>9</td>
<td>$144,658.62</td>
<td>-$88,688.77</td>
<td>$55,969.85</td>
</tr>
<tr>
<td>10</td>
<td>$127,331.82</td>
<td>-$1,231.72</td>
<td>$126,100.10</td>
</tr>
<tr>
<td>11</td>
<td>$296,660.78</td>
<td>-$26,937.89</td>
<td>$269,722.89</td>
</tr>
<tr>
<td>12</td>
<td>$209,443.08</td>
<td>-$43,617.90</td>
<td>$165,825.18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$3,061,032.89</strong></td>
<td><strong>-$1,138,671.79</strong></td>
<td><strong>$1,922,361.10</strong></td>
</tr>
</tbody>
</table>
2017 PWT Summary
(Data from January 1, 2015 – October 17, 2017)

(Lot Acceptance Test Results for 9.5mm, 12.5mm, 19mm & 25mm Mixes, excludes SMA)

* Non-PWT

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2017 PWT Summary
(Data from January 1, 2015 – October 17, 2017)

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

* Non-PWT
2017 After Action Review
Changes to PWT

• Standard Special Provisions
  – Updating AMRL to AASHTO re:source (HOLA)
  – Contract Item for Bonus/Reductions (PDA) (LTS & HOLA)

• Use Guidelines
  – Appropriate use of PWT
  – Updating AMRL to AASHTO re:source
  – Contract Item for Bonus/Reductions (PDA)
  – Remove Contractor Option to Request Re-evaluation of Non-RPS Items under Section 409 (PF_D < 100)

• eCAMMS
  – Multiple Ignition Oven Calibration Factors (PWT-HOLA) Guide

• NEW Field Users Guide
A Group Effort

U.S. Department of Transportation
Federal Highway Administration

Pennsylvania Department of Transportation

re:source (formerly AARL)
Associated Pennsylvania Constructors
Pennsylvania Aggregates and Concrete Association
PennState College of Engineering
Northeast Center of Excellence for Pavement Technology

PAPA
Pennsylvania Department of Transportation
www.dot.state.pa.us
A Group Effort

We were Here

We Plan to go Here
Key Points of PWT

• Where can be PWT be applied?

• Terminated Lots (Contractor Elected)

• Sample Setup

• Contract Adjustments
Where can PWT 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)
Contract Adjustments

- Adjustments entered into ECMS
- “PWT-LTS” or “PWT-HOLA” Adjustment Types
- Attach eCAMMS Report
- Contract Item for Bonus/Reductions (PDA)
  - Included in Revised Use Guidelines (Coming Soon)
Common Questions

• Why are we paying a bonus?
• Why is there a difference in Lot Payment between HOLA and LTS?
• Why is a contractor penalized when the lot average falls within the allowable tolerance?
• Why is PWT not applicable to SMA?
• Why is the dispute resolution process limited to lots with an OLPF < 90?
2018 Construction Season

- PWT on All Applicable Paving Projects
- Revised SSPs (CT 2 Comments due March 29th)
- Revised Use Guidelines
- NEW Field Users Guide
- Plan to Continue Monitoring of all PWT Projects
- Plan to Conduct 2018 AAR
Be a Part of the TEAM

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

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  skoser@pa.gov

  Adam Ostinowsky  
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Questions?