FPO Training Goes Virtual in 2021

Page 8
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Flexible Pavements of Ohio is an association for the development, improvement and advancement of quality asphalt pavement construction.

ON THE COVER: Gerken Paving Inc. paves a roundabout in Napoleon using HiMA (PG 88-22M). Best practices for paving roundabouts was a popular presentation at the 2021 Ohio Asphalt Paving Conference. February’s OAPC was one of several virtual opportunities offered by FPO. See page 8.
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Chuck Barnes 216-906-5862
Tim Cox 513-518-8619
Ursich Retires After 30 Years of Dedicated Service

Cliff Ursich retired at the end of 2020 as Flexible Pavements of Ohio’s (FPO) President & Executive Director after a 30-year career of dedicated service to Ohio’s asphalt industry. To co-workers, colleagues and customers, he is known as a knowledgeable engineer, strong industry advocate and passionate for all things asphalt. Cliff continues to be a mentor to many of us and he departs a good steward of both the association and industry leaving us well positioned for the future.

After graduating from The Ohio State University with a degree in Civil Engineering, Cliff worked for seven years at the Ohio Department of Transportation (ODOT) as a construction project engineer and engineer of tests. He began his career at FPO in 1990 when Bill Baker, another visionary FPO leader and former ODOT Assistant Director, hired Cliff as a Pavements & Materials Engineer to expand the organization’s technical expertise. In 1995, Cliff moved into the association leadership, serving as Executive Vice President. With the 2007 retirement of Fred Frecker, yet another legendary FPO leader, Cliff assumed the role of President and Executive Director, which he held until his retirement.

Cliff was, and remains, a believer in the performance of asphalt pavements. He had a commitment to quality and knew the industry would grow and advance only if our pavements were constructed properly and performed well. He believed in showcasing quality construction through FPO’s annual Quality Asphalt Paving Awards and demonstrated asphalt’s long-term performance through the Master Craftsman Award and the Asphalt Pavement Alliance’s Perpetual Pavement Award.

Under his leadership, the association aggressively sought new opportunities and he always looked to the future with an eye on the continued relevancy of asphalt pavements. He worked to create “asphalt solutions” and championed the development of new mix types, such as Smoothseal, 404 IAT and most recently Thinlay, to keep asphalt relevant in an era of growing emphasis on asset management and pavement preservation.

Cliff was a strong advocate for asphalt education. He believed in the efforts of the association in fostering knowledge in asphalt pavement technology through FPO’s scholarship program, sponsored research, educational seminars and his own presentations. He believed we should facilitate and provide education to not only the membership of the association but to the pavement owners and specifiers to increase their confidence in the performance of asphalt pavements and ensure the success that builds market share.

Cliff Ursich
President & Executive Director

“Cliff was, and remains, a believer in the performance of asphalt pavements. He had a commitment to quality and knew the industry would grow and advance only if our pavements were constructed properly and performed well. He believed in showcasing quality construction...

“Under his leadership, the association aggressively sought new opportunities and he always looked to the future with an eye on the continued relevancy of asphalt pavements.”

Andrew Gall
President & Executive Director

Cliff Ursich

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He always looked toward research for innovations in improving pavement performance, such as highly-polymer-modified asphalt, the implementation of perpetual pavement design and best practices in construction – which are just a few. The list of innovations he helped usher into Ohio’s pavement market is long and has helped strengthen the industry and improve pavement performance.

Cliff will be missed at Flexible Pavements of Ohio. He plans to spend time with his family and friends in retirement and has recently agreed to accept the duties of Conference Director for the Ohio Asphalt Paving Conference. This conference is a unique partnership among ODOT, the asphalt industry, local governments, higher education and the consultant engineering industry. He will continue to be a part of Ohio’s asphalt industry as he leads this important educational effort.

Congratulations Cliff, and thank you for your continuing service and unwavering support of Ohio’s asphalt industry.
In February, the 2021 Ohio Asphalt Paving Conference (OAPC) went virtual for the first time in its nearly 50-year history. The conference committee partnered with the Ohio Department of Transportation’s (ODOT) Local Technical Assistance Program to deliver this unique event. Nearly 300 representatives from ODOT, local governments, engineering consultants and asphalt industry professionals participated in this year’s conference over a two-day period.

This conference annually provides learning opportunities on the latest trends, innovations and best practices in the design, construction and maintenance of asphalt pavements. Presentations at this year’s conference consisted of a mix of technical and practical topics to ensure attendees had an opportunity to learn something they could apply to their normal job duties. The first day consisted of topics such as asphalt mix design, current asphalt research on binder science and rejuvenators, perpetual pavements and pavement design.

The second day began with a presentation on the development of continuous density measurement technology both nationally and in Ohio. Additional presentations addressed more practical items, such as best practices for paving roundabouts and a unique thin lift asphalt mix designed for low-volume roads developed by Valley Asphalt and the Darke County Engineer’s Office.

2021’s conference was well received by attendees, with more than 90% replying they would participate in future events and more than 85% replying this information was directly applicable to their work. The conference committee will soon be preparing for the 2022 event. Currently, the Ohio Asphalt Paving Conference is scheduled as an in-person event for Feb. 2, 2022 at the Fawcett Center on the campus of The Ohio State University in Columbus.
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FPO Offers Revised Thinlay Asphalt Specification

In April 2020, Flexible Pavements of Ohio updated and distributed a revised Thinlay Asphalt specification to ODOT pavement engineers. This update includes the addition of a recycling agent to improve crack resistance, especially when Thinlay Asphalt is placed as a ¾-inch-thin preservation treatment.

Asphalt recycling agents have the effect of breaking down stiffness in mixes using reclaimed asphalt pavement (RAP). This modification reduces cracking susceptibility, supports sustainability and economy and represents one step toward optimizing performance of Ohio’s newest preservation treatment – Thinlay Asphalt Concrete.

The specification and Technical Bulletin for Ohio’s Thinlay Asphalt Concrete can be found at www.flexiblepavements.org.

ITEM 860 THINLAY ASPHALT CONCRETE APRIL 14, 2020

860.01 Description
This work consists of constructing a surface course of aggregate and asphalt binder mixed in a central plant and spread and compacted on a prepared surface. The requirements of 401, 441 and 448 apply, except as modified by this specification.

860.02 Composition
Establish a Job Mix Formula (JMF) to meet the mixture composition requirements of the mix types shown in Table 860.02-1 (page 11).

860.03 Materials
Furnish clean, uncoated aggregate conforming to the applicable requirements of Table 860.02-1 and quality requirements of 703.05. Provide mineral filler conforming to 703.07. Provide binders conforming to 702.01. Process RAP according to Method 2 (extended) RAP, Table 401.04-2. Only incorporate RAP passing the 9/16-inch sieve into the mix. Do not use RAS.

Utilize a recycling agent to give the final blended asphalt (recovered RAP binder, virgin binder, recycling agent) an equivalent PG grade that meets the requirements of Table 860.02-1. Provide the brand name, percentage to the tenth by weight of the virgin binder and gpm rate for the mix plant in the mix design submittal. Allowable recycling agents are EvoFlex CA and SYLVAROAD. Meter the recycling agent into the mixing plant in accordance with manufacturer requirements at the dosage rate specified in the mix design. If the recycling agent is metered directly into the asphalt...
binder line, also comply with the requirements of 402.03. If the RAP source or RAP blend percentage changes, a new mix design is required.

**860.04 Mixing.** Ensure the mixing plant conforms to 402.

**860.05 Weather Limitations.** Do not place the asphalt concrete when the surface of the existing pavement is less than 60 °F (15 °C) or the air temperature is less than 60 °F (15 °C).

For Type MED and Type LT Thinlay Asphalt Concrete include a recycling agent blended to provide a mixture with a target binder equivalent to the Asphalt Binder Grade Final listed in Table 860.02-1.

### TABLE 860.02-1 – MIXTURE COMPOSITION

<table>
<thead>
<tr>
<th>Property</th>
<th>Type MED[1]</th>
<th>Type LT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine Aggregate (703.05A)</td>
<td>50% Mech. Crush / 50% Natural Sand [2]</td>
<td>≥ 50% Natural Sand</td>
</tr>
<tr>
<td>RAP (max. %)</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Total binder content min. (% by weight of mix)</td>
<td>6.4</td>
<td>6.6</td>
</tr>
<tr>
<td>Virgin binder min. (% by weight of mix)</td>
<td>5.2</td>
<td>5.2</td>
</tr>
<tr>
<td>Virgin Binder Grade (PG)</td>
<td>64-22</td>
<td>58-28</td>
</tr>
<tr>
<td>F/A Ratio, max</td>
<td>1.2</td>
<td>1.2</td>
</tr>
<tr>
<td>Blows</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Stability, min., pounds (N)</td>
<td>1200 (5338)</td>
<td>750 (3336)</td>
</tr>
<tr>
<td>Flow, 0.25mm</td>
<td>8 to 16</td>
<td>8 to 18</td>
</tr>
<tr>
<td>Design Air Voids</td>
<td>3.5</td>
<td>3.5</td>
</tr>
<tr>
<td>VMA, min.</td>
<td>16</td>
<td>16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sieve Size</th>
<th>Total Percent Passing [4]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2 inch (12.5 mm)</td>
<td>100</td>
</tr>
<tr>
<td>3/8 inch (9.5 mm)</td>
<td>95 to 100</td>
</tr>
<tr>
<td>No. 4 (4.75 mm)</td>
<td>72</td>
</tr>
<tr>
<td>No. 8 (2.36 mm)</td>
<td>42 to 60</td>
</tr>
<tr>
<td>No. 16 (1.18 mm)</td>
<td>27 to 45</td>
</tr>
<tr>
<td>No. 50 (300 μm)</td>
<td>10 to 22</td>
</tr>
<tr>
<td>No. 200 (75 μm)</td>
<td>0 to 8</td>
</tr>
</tbody>
</table>

[1] Provide Coarse Aggregate with a minimum of 90% fractured (two or more faces) according to ASTM D5821
[2] Provide fine aggregate as a 50% crushed/50% nat. sand blend. Ensure crushed-fine aggregate meets FAA of 44 or is crushed carbonate stone, trap rock or air cooled blast furnace slag.
[3] Blended Asphalt Binder Grade will be achieved utilizing a recycling agent as described in 860.03. Use between 1.0% to 7.0% recycling agent by weight of virgin PG binder.
the roller train, before the mix temperature reaches 175 °F (80 °C). Provide an analysis to the Engineer using PaveCool software (available from Minnesota Department of Transportation) to determine the asphalt cooling time (time available for compaction) under actual placement conditions at the start of each paving day. Ensure the placement rate and roller coverage are coordinated to allow full-roller train coverage in the available rolling time determined by PaveCool. Do not allow traffic on the compacted mixture until it has cooled sufficiently to prevent damage.

**860.07 Surface Tolerances.** Ensure the completed surface course conforms to 401.19. Remove raised pavement markers according to 621.08. Prior to placing asphalt concrete, prefill the depression caused by the removal of the casting with material meeting this specification.

**860.08 Acceptance.** Comply with all requirements of 448 except 448.02 Density. Do not conduct density gauge quality control testing per Supplement 1055.

<table>
<thead>
<tr>
<th>Item</th>
<th>Unit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>860</td>
<td>Cubic Yard (Cubic Meter)</td>
<td>Thinlay Asphalt Concrete, Type MED</td>
</tr>
<tr>
<td>860</td>
<td>Cubic Yard (Cubic Meter)</td>
<td>Thinlay Asphalt Concrete, Type LT</td>
</tr>
</tbody>
</table>

**860.09 Basis of Payment.** The Department will pay for removal of existing raised pavement markers according to Item 621 Raised Pavement Markers Removed.

The Department will make payment for accepted quantities, completed in-place, at the contract price as follows (see table above):

**DESIGNER NOTE:**
Use of this item requires prior approval from the Office of Pavement Engineering.

- This item is for use on General or Urban System routes only.
- Minimum lift thickness is 0.75 inches (19 mm) and maximum is 1.25 inches (32 mm).
- Type LT is restricted to routes with less than 2,500 ADT and less than 250 trucks.
- Type MED is restricted to routes with less than 1,500 trucks.
- Use of non-tracking tack coat is preferred.
- The weather restrictions of this specification may limit opportunities for late-season paving. This should be taken into account when determining project completion dates.
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Welcome back to Probability’s Pizza Parlor at the crossroads of uncertainty and variability, where we talk about pizza and everyone’s favorite subject: Statistics. During your last visit you ordered a deep-dish slice of representative sampling, where we reviewed the importance of a sample’s properties being equivalent to that of the populations and without that equivalence a proper conclusion could not be ascertained. This issue’s special is Single-point Analysis and Extrapolation. What happens when you take a single sample that you believe to be representative of the population, but it really isn’t? Furthermore, what happens when you extrapolate that sample to make conclusions about an even larger population?

Allow me to serve you the four possible scenarios you can expect when you take a sample from the population.

1. An “acceptable” sample misrepresenting a “failed” population
2. A “failed” sample misrepresenting an “acceptable” population
3. A “failed” sample representing a “failed” population
4. An “acceptable” sample representing an “acceptable” population

Obviously only half of these scenarios are desirable, i.e. when the sample, either good or failed, matches the population.

Take this for example, a customer reports not having enough cheese on their pizza. Since the customer is always right and the fact that they sent a picture we can confidently treat this as a “failing” sample that is also unbiased. From this we can now draw two conclusions: all my pizzas lack cheese (failing population) or just that single pizza did, and the rest are satisfactory (acceptable population). From that single point how can you be sure? How do we know that the other 99 pizzas that were made that night had the right amount of cheese? Thankfully, we are only dealing with $1,000 worth of pizza and we could always conduct a satisfaction survey on our customers.
What happens when you are unable to gather further data? Let’s look at a more concrete example: An asphalt concrete project, which is small, however, has enough tonnage to require a single laboratory sample. It turns out that this sample fails in some property – such as air voids for example. Not only does this property fail, but it also fails significantly enough to initiate a review for a remove-and-replace scenario. This would represent a total loss of that material, which could be in excess of $50,000.

If we apply some blinders and only look at the lab data, this would be akin to the cheesy pizza scenario; it is obvious that the material failed the property test. However, what the test failure does not tell you is the extent of the problem. Is all the material (population) bad? Is the material in the truck, which the sample was taken, bad? Is just the material from the hour or so around that sample bad? Is the sample itself bad? Just given a single-test result you are still left with multiple scenarios. Only after we remove the blinders can we see the entire picture, and only then should a conclusion be drawn.

Removing the blinders is like conducting the satisfaction survey at the pizza parlor. We can look at all available data, including field density, asphalt content, gradations, specific gravity, etc., to get a better picture of what is going on. Take the scenario where all the other properties of that sample passed their respective tests, this should draw your attention to the validity of that single air-voids test result. Did the technician grab a coarse fraction of the sample to run gravities? Perhaps the area on the road placed around the time the sample was taken is segregated and field density is low, but the rest of the project is within specifications. It could be that the sample is correct, however, it does not represent the entire population and perhaps just the affected area should be replaced rather than the whole road.

Here is something to remember: Just because a sample fails does not mean the material is bad. Since it is impossible to know what 100% of the material’s properties are, we can only use sampling and testing as a tool. When drawing the conclusions, though, one must rely on all of their tools in their toolbox to ensure that the population is acceptable – regardless of whether we have a “failed” sample.
As mentioned in the 2020 spring issue of Ohio Asphalt ("Finding the Right Balance – Balanced Mix Design Pilot Program), Ohio is not excluding itself from the national trend to adopt a form of balanced mix design (BMD) to enhance its asphalt mixtures.

Late in 2020, the Ohio Department of Transportation (ODOT) announced it will be utilizing the IDEAL-CT as its Cracking Test of choice moving forward. The IDEAL-CT is a relatively simple and easy test to conduct, with the added benefit that it does not require extensive sample preparation like other cracking tests. However, on the other side of the BMD scale, rutting remains undecided, although ODOT’s current Supplement 1057 - Loaded Wheel Tester Asphalt Mix Rut Testing Method may be utilized as a starting point.

January 5th saw the establishment of the Technical Asphalt Committee of Ohio (TACO), a cooperative effort between ODOT and the asphalt industry to enhance the performance of asphalt in Ohio. TACO’s current goal is the development and subsequent implementation of a BMD specification. This would include specification limits and requirements for the testing program. Currently, plans have been initiated to begin a data-collection phase to establish a threshold for the IDEAL-CT specification.

As the TACO group’s efforts progress, additional updates will be provided.

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ODOT CHANGES THE RULES ON PREQUALIFICATION

By Don Gregory, Esq., Kegler Brown Hill + Ritter Co.

Smart Summary

• ODOT has updated its administrative code that deals with contractor prequalification.
• The effect will be to lower the dollar amount a contractor can be prequalified and increase the dollar amount of work a non-prequalified subcontractor can perform on ODOT projects.
• The change will also make it easier for ODOT to revoke a prequalification if a contractor violates its rules.

On Jan. 8, 2021, ODOT held a hearing to notify the public of its intent to change its rules regarding contractor prequalification. Notice and copies of that rule change can be found at: http://www.dot.state.oh.us/Divisions/Legislative/rules/Pages/default.aspx.

Essentially, ODOT modified 5501:2-3-03 and 05 to “lower” the amount a contractor can bid on ODOT construction projects by lowering the dollar amount a contractor can be prequalified. The previous version of the rule maximized the prequalified dollar amount by a multiplying factor of 10. The new number maximizes the multiplying factor by eight. An example would be that if a contractor’s net worth (as determined by ODOT’s rules and law) is $1M, its new prequalified amount would be $8M (instead of $10M). ODOT indicated its intent was to reduce the risk for a newer contractor to overextend itself. That may be one impact, but another effect could be to limit the ability of a small- or mid-sized contractor to bid on larger jobs; especially if it already has work in its pipeline that is impacting its prequalification dollar limits.

The second part of the rule change increases the amount of work a subcontractor can perform from $800,000 to $1 million. This is good news for smaller companies that are trying to grow and get experience on ODOT jobs but are not yet able to be fully prequalified to bid. Companies of this size should pay special attention to ODOT’s Small Business Administration (SBA) projects. Once prequalified, it can bid on SBA projects which have trended higher than the engineer’s estimate according to ODOT’s letting reports.

Finally, the change to OAC 5501:2-3-10 makes it easier for ODOT to revoke a contractor’s certificate of qualification. The old rule required a full hearing under Chapter 119 of the Ohio Revised Code if ODOT sought to revoke a contractor’s prequalification for violating its rules and regulations. Now, if a contractor’s prequalification is revoked it can only appeal internally to ODOT under its Prequalification Review Board. That Board is governed by ORC 5525.07 and allows appeals of that Board’s decisions to the Franklin County Court of Common Pleas, but only under a claim of “fraud or abuse of discretion.”

If you have any questions, the professionals at Kegler Brown can assist you in navigating these rule changes and how they may impact your company or bidding with ODOT.

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