

DATE: September 3, 2004

SUBJECT: American Concrete Pavement Association
Summer Concrete Pavement Construction Bus Tour
And Meeting Minutes

TO: All Attendees

FROM: Tucker Ferguson, P.E. Acting Director /s/
Bureau of Construction and Materials

The 2004 ACPA/PennDOT concrete pavement tour and meeting was held on July 27 and 28, 2004, in Morgantown, PA.

On Tuesday July 27th, there was an overview of the day provided by John Becker and Pat Gardiner. The tour covered the following projects: US-222, Section 001 (Number 1 Construction), US-222, Section 002 (Hempt Brothers), Lehigh Cement Company - Evansville Plant, and I-81, Section 023 (Number 1 Construction).

On the 28th, a group meeting was held where the following items were discussed:

- A recap of the tour was made by Steve MacLean & Bob Prisby.
- Briefings from the Concrete Pavement Quality Improvement Task Force teams were presented.
 - Chris Cepko reported that the stabilized subgrade has been piloted on 4 projects in District 8 and 2 projects in District 5. A Clearance Transmittal will be prepared by October for a Special Provision utilizing the tool box approach for stabilized subgrade.
 - Dan Dawood stated that the base team is addressing cement treated permeable base regarding gradation, cement content, compaction, and curing. This team is also considering untreated base material (aggregate) with a gradation to provide stability while meeting minimum drainage parameters. Previous research is being re-evaluated on Route 66 (near US-422) at Kittanning, where various base materials were placed in the 1980s. The area is currently being rehabilitated.

- Pat Gardiner reviewed a draft policy that would standardize the process for addressing defective slabs before construction projects are finalized. A Clearance Transmittal will be distributed in the near future.
- Bill Miller stated that the Strength and Testing team is just getting started. The variance between AASHTO and ASTM standards on C150 was discussed and AASHTO does not allow the addition of limestone into the grinding mills as ASTM does.
- Pat Gardiner addressed the 2003 follow up items.

The following new items were discussed and where appropriate, follow up items have been established in the attachment:

- Male keyways are currently prohibited due to concerns of material consolidation underneath the keyway.
- District inconsistencies – Most items are specification issues with interpretation or are Design related. The items collected during the local APC meetings are being prioritized and a process is being developed on systemically collecting and addressing the issues.
- Driving on the ATPB has been addressed to allow paving equipment and concrete trucks to utilize the material for placing the pavement. Design problems were mentioned when base material and pavement needs to be placed at the same time.
- White curing compound on ATPB has been removed from the specification. The purpose was to control the temperature of the base material when placing concrete. Temperature is now the controlling parameter. Concerns were raised as to what is the maximum temperature that does not have a negative impact on the pavement (curling).
- Drainage and subbase issues – There is a need for a good foundation and a way to deal with water.
- Full depth shoulders are going to be the standard. The determination to include dowels will be based on location specific conditions.
- Tie bar specification for Grade 40 or 60 is unclear. It was questioned if Grade 60 bars can be substituted for Grade 40 bars.
- Reinforcement bars in pavement around inlets was questioned. No reinforcement is needed but saw cutting is appropriate to control cracking.

- Air void analyzer – FHWA is evaluating if air is driven out of pavement by the slip form paving process. There is no hardened air requirement in section 506 but 501 still has both plastic and hardened air requirements.
- Ride specifications and recent research – The current incentive policy is being reevaluated based on the findings from the Poister Study. Noise and skid resistance are national concerns and there is an excellent opportunity for data collection on I-81 in Lebanon County. The pavement is being constructed smooth and totally diamond ground before acceptance.
- Contractors requested a cement price adjustment (similar to that in place for asphalt pavements and diesel fuel).
- Cement availability – Contractors are on allocation. Cement availability may impact contractor ability to perform work to meet contract deadlines. The tight supply is based on limited ships available to transport cement.
- Concrete field technician certification – A concern was raised on how to address situations where new technicians need to be certified but no certification courses are offered during the construction season.
- Life cycle costs – PENNDOT is reevaluating its life cycle cost analysis process. ERES consultants are heading up this effort.

Action items identified during the meeting are listed on the attached pages. Items 1 thru 13 are continuations or modifications from 2003 action items.

Attachment

2004 FOLLOW UP ACTIONS

1. BCM will reevaluate the patching standard for reinforced concrete. Details are currently being drafted and a Clearance Transmittal will be distributed by October.
2. BOMO will revise the RC Standards for geotextile covering of pavement base drains. The current detail cannot be built. The separation layer of geofabric is also to be addressed. A Clearance Transmittal will be distributed making geotextile optional.
3. CPQI Task Force is evaluating the curing of the cement treated permeable base. Compacting the base is a requirement.
4. BOD will issue an update to the RC Drawings for an alternate tie bar placement scheme (RC-20).
5. BCM will investigate the effects of adjacent lanes placed in different environmental conditions when there is accumulated movement at isolated joints (ongoing).
6. BOMO will issue a Strike off letter and change RC-25 to specify full depth pavement for shoulders.
7. BCM is to evaluate the effectiveness of protective coating, Item 0503-0001 (linseed oil), and policies on when it is required.
8. CPQI Task Force will work with District 10 on evaluating the various base materials on the rehabilitation project on State Route 66 at Kittanning.
9. CPQI Task Force will re-evaluate the curing compound application rate.
10. CPQI Task Force will develop a repair strategy for early cracking and a process to define responsibility
11. BOMO will develop patching details to include skewed joint concept in RC-26 drawings
12. BOMO is to provide ACPA on the number of miles of pavement that have less than 1 ½ % cross slope on Interstates and four lane expressways.
13. BOMO is to discuss the concept of crack and seat, rubblizing and overlays at the Pavement Engineers Meeting
14. CPQI Task Force will circulate a Special Provision Clearance Transmittal for stabilized subgrade by October.
15. CPQI Task Force will evaluate an option to utilize aggregate bases in lieu of treated subbase material.
16. CPQI Task Force will identify a maximum temperature of ATPB prior to placing concrete pavement.
17. BOCM will evaluate the steel grade requirement for straight tie bars, 40 or 60.
18. BOCM will evaluate hardened air requirements in Section 501 verse other specifications.
19. BOCM & BOMO will re-evaluate ride criteria tables and bonuses based on information from the Poister Study.
20. BOCM will consider cement price adjustment.

21. BOCM will develop a policy for “concrete field technicians in training”.
22. BOCM will issue a policy on sawing overcuts during patching in areas where mid-slab cracking is acute.
23. BOMO will perform skid testing on I-81, Section 023 on pavement that was finished without tining and after diamond grinding.
24. ACPA will work with PENNDOT to study noise on I-81, Section 023 on pavement before and after diamond grinding.
25. BOMO and BOCM will reconsider the use of male keyways.
26. BOMO and BOCM will identify training needs to ACPA for the Pennsylvania Concrete Conference agenda.

Target dates will be established after discussions with the Chief Engineer and coordination through the Concrete Pavement Quality Improvement Task Force.

Attendees

John M. Becker P.E.	ACPA-NE Chapter
Sherry Braafhart	ACPA-NE Chapter
Robert A. Prisby	ACPA-NE Chapter
Brian Fraley	Associated Pennsylvania Constructors (APC)
Jerry Breslin	Baker Concrete Construction, Inc.
James D. Hosea	Baker Concrete Construction, Inc.
Frieda Brinskelle	Callahan Paving Products, Inc.
Matthew Phair	Constructioneer Magazine (Reed Construction Data)
James Schock	Erdman, Anthony, Associates, Inc.
Rick Stewart	Essroc Italcementi Group
Terry Arnold	Federal Highway Administration (FHWA)
David W. Cough	Federal Highway Administration (FHWA)
Jussara Ramadan	Federal Highway Administration (FHWA)
Zahur Siddiqui	Federal Highway Administration (FHWA)
Sam Tyson	Federal Highway Administration (FHWA)
Paul Rinck	Hempt Brothers, Inc.
James A. Taylor	Hi-Way Paving, Inc.
Ricke C. Foster	James J. Anderson Construction Co., Inc.
Bob Gertman	James J. Anderson Construction Co., Inc.
Robert L. Toth	Keystone Cement Company
Laura Fanelli	Keystone Highway Products
Paul Anderson	Lafarge North America
Buffey Hauptmann	Lafarge North America
Ryan Jacoby	Lehigh Cement Company
Timothy J. Rice P.E.	Lehigh Cement Company
Matthew Fleury	Mascaro Contracting, L.P.
John A. Davidyock	McTish, Kunkel & Associates
Phil Ebert	McTish, Kunkel & Associates
Brian A. Moore	Michael Baker, Jr., Inc.
Matt Natale	Michael Baker, Jr., Inc.
Louis J. Pirozzi	Michael Baker, Jr., Inc.
Geoffrey W. Clarke	New Enterprise Stone & Lime Co., Inc.
Donald L. Detwiler	New Enterprise Stone & Lime Co., Inc.
James H. Kyper, Jr.	New Enterprise Stone & Lime Co., Inc.
Howard Winter	No. 1 Contracting Corporation
Timothy V. Acken	PENNDOT (District 10-0)
Roger L. Apple P.E.	PENNDOT (BOCM)
Gary Barber	PENNDOT (District 12-0)
Clint H. Beck	PENNDOT (BOMO)
Thomas P. Boyle	PENNDOT (District 12-0)
Garth Bridenbaugh	PENNDOT (District 9-0)
Colleen Brown	PENNDOT (BOD)
David Brown	PENNDOT (District 4-0)
Mike Cegelski	PENNDOT (District 11-0)

Chris Cepko	PENNDOT (BOCM)
John Coldren	PENNDOT (BOCM)
Dan A. Dawood P.E.	PENNDOT (BOMO)
Joseph Evanko	PENNDOT (BOCM)
Gary Farabaugh	PENNDOT (District 5-0)
Tucker Ferguson	PENNDOT (Acting Director, BOCM)
Douglas Frank	PENNDOT (District 8-0)
Mike Frechette	PENNDOT (BOCM)
J. Patrick Gardiner P.E.	PENNDOT (BOCM)
James A. Grabowski	PENNDOT (District 4-0)
Steve Grasseti P.E.	PENNDOT (BOCM)
Sharon Haferkamp	PENNDOT (BOMO)
Brian Hare	PENNDOT (BOD)
Michael J. Hertweck	PENNDOT (BOMO)
Gary L. Hoffman PE	PENNDOT (Deputy Secretary)
John J. Hughes	PENNDOT (BOCM)
Joseph Karsok	PENNDOT (District 5-0)
Dan L. King	PENNDOT (District 3-0)
Carl Knepper	PENNDOT (District 5-0)
Len J. Kubitza	PENNDOT (BOCM)
Steve Laws	PENNDOT (District 6-0)
Steve MacLean	PENNDOT (District 5-0)
Patricia I. Miller	PENNDOT (BOCM)
Ricky L. Miller	PENNDOT District 9-0)
William J. Miller	PENNDOT (BOCM)
Frank Murphy	PENNDOT (District 8-0)
Len Nardone	PENNDOT (District 6-0)
Terry J. Nye	PENNDOT (District 1-0)
Jeffrey Oswalt	PENNDOT (District 1-0)
Tahmina Parvin	PENNDOT (BOMO)
M.G. Patel	PENNDOT (Chief Engineer)
Robert M. Peda	PENNDOT (Director, BOMO)
William Raco	PENNDOT (District 2-0)
Timothy L. Ramirez	PENNDOT (BOCM)
Joseph S. Robinson	PENNDOT (BOCM)
Lorraine Ryan	PENNDOT (District 6-0)
Tom Stovka	PENNDOT (District 11-0)
Robin Sukley	PENNDOT (BOCM)
Brian Weideman P.E.	PENNDOT (District 8-0)
Bernie O'Brien	Pennsylvania Turnpike Commission
Michael Horan	Sanders Saws and Blades, A Division of Multiquip
Robert B. Priest	Sanders Saws and Blades, A Division of Multiquip
John McCaskie	Swank Associated Companies
Clayton C. Chabannes	Texas Transportation Institute (TTI)
Elizabeth R. Rose	Texas Transportation Institute (TTI)
David Palmer	Urban Engineers, Inc.
Les Simon BA, MBA	Uretek USA, Inc.