NW-ACPA/WSDOT Meeting Agenda
Wednesday September 2, 2020 10:00 AM – noon
Virtual – MS Teams

Present	Name	Company	Present	Name	Company	Present	Name	Company
	Berg, Gary	Salinas	X	Kane, Ed	WSDOT	X	Salinas, John II	Salinas
X	Brasch, Tom	WSDOT	X	Pipinich, Bob	GMCC		Seghetti, Robert	Acme
X	Clark, Steve	Acme	X	Powell, Jim	NWACPA	X	Uhlmeyer, Jeff	WSDOT
	Dyer, Bob	WSDOT	X	Rivera, Angel	FHWA	X	Waligorski, Kevin	WSDOT
	Deffenbacher, Jon	WSDOT	X	Russell, Mark	WSDOT	X	Watts, Troy	WSDOT
	Fuller, Brian	Salinas		Williams, Kurt	WSDOT		Webster, Garrett	WSDOT

OLD BUSINESS:

16-01 Smoothness requirements when paving next to existing pavement.

May 12, 2016 – Industry is concerned that it is impossible to match a pre-existing joint (or newly-paved HMA joint) and simultaneously meet specs for PCCP pavement smoothness, and this is becoming a more common WSDOT expectation with projects that have stages and traffic switches.

November 9, 2016 – Jim Powell agreed to provide a draft of a proposed spec at the next meeting.

April 10, 2017 – This item needs to be discussed with WSDOT Project Development so it can be addressed in the contracts during advertisement as a contract requirement and therefore priced by a level playing field. Some ideas for addressing this would be to put a requirement in the contract (1) profile grind the existing edge before placing PCCP, for the case when existing is either HMA or PCCP. (2) Place new PCCP with a 2'+- gap between the edge of new PCCP and existing, then fill the 2' gap with a transition of HMA or PCCP that matches the edge on both sides. (3) Place the new PCCP to best-fit machine match the existing, but hand-finish the outer 2' or so of the fresh concrete to precisely match the existing. Bob Dyer and Mark Russel will develop some possible spec changes for discussion at the next meeting. Industry provided excerpts from three other states showing some ways other states are dealing with surface smoothness of new PCCP place adjacent to PCCP placed on a previous contract (Attach #2a, #2b, and #2c).

March 29, 2018 – Continued discussion – This issue has so many variables and complexities, it was agreed that this issue will taken on by a separate task group for resolution, and Jim Powell will organize its meetings.

October 11, 2018 – After group discussion, it was agreed by industry and WSDOT that a GSP with requirements for profile grinding 4 feet of the adjacent lane, along with a pay item, should be standard practice in all contracts. Doing so would be understood to mean that the smoothness of all of the new PCCP would be required to meet the full smoothness requirements for new pavement. WSDOT will implement. Dyer has the ball.

May 30, 2019 - Bob Dyer – Draft spec is attached. (attach 16-01). Agreed to change to 3 foot minimum grind. Dyer will try to get into 2010 spec book. Will require instructions to designers on when to include the bid item.

November 14, 2019 – Bob Dyer, revisions to previous draft spec Attach 16-01R1. The spec notes using a 3' grinder to provide the joint matching grind, industry would like to be able to use a 4' grinder as well. Suggest modifying the language to "use minimum 3 foot grinder". Additionally industry would like to be able to get more information on the existing ride so they can more accurately bid and get an understanding of the amount of grinding required and how smooth of a ride they can achieve. WSDOT will revise the spec.

September 2, 2020 – Kevin Waligorski, revisions to previous draft spec Attach 16-01R2.

Accepted version 16-01R2, moving forward with implementing and will drop this topic from the next meeting.

16-10 – Spall repair –

October 11, 2018 – Attachment #5.5 – Mark Russell - The new specification is currently available as a special provision. It has been deemed acceptable to Industry and WSDOT. It needs to be moved into the Standard Specs. Bob Dyer will get this spec into the January 2019 Amendments to the Standard Spec.

May 30, 2019 – Mark Russell – Turned into a GSP for the time being. (Attach #16-10) Comments on the attached spec were as follows: Need to talk to HQ Materials Lab about the gradation spec. Need to specify acceptance criteria. Need to add that using a large hole saw (for cutting circles) is acceptable for small spalls and better than cutting rectangles around small spalls.

November 14, 2019 – Discussion focused on a couple items. First, there is a continued request to allow hole saws to repair small spalls. Also, a concern was raised about getting the materials approved. Need to follow up with Materials Lab to see about using Mfg. Certs and or getting product approvals that span a year, not individual approval for every job and lot.

September 2, 2020 – Kevin Waligorski – Allowing circular cuts for Partial Depth Spall repairs will be added to the GSP and will be incorporated in the next spec book.

Circle cuts for partial depth spall repairs have been added to the GSP's and have been incorporated into the '21 book. Jeff to follow up on questions regarding speeding up the approval process for Epoxy Concrete. Can it be approved based on MFG Cert noting it meets the ASTM requirement rather than additional testing?

18-03 Steel Price Escalation Clause for Dowel Bars and Tie Bars

October 11, 2018 – Jim Powell provided (Attachment #6) to demonstrate the problem. Bob Dyer will send Jim a copy of WSDOT's current steel price escalation GSP, along with the implementing instructions, for discussion of modifying for use on dowel bars.

May 30, 2019 – Bob Dyer – WSDOT's current GSP is attached for discussion. (attach 18-03). Industry will evaluate and get back to WSDOT.

November 14, 2019 – Jim Powell – No discussion this meeting. This hasn't been an issue and will be removed for the next meeting.

18-08 – Lowering the required strength of epoxies used for dowel bars and tie bars

October 11, 2018 – Some discussion led by John Salinas. Uhlmeyer and Russel will look into and report back at next meeting.

May 30, 2019 – WSDOT seemed to think that a minimum of 6000 psi would be acceptable. Mark Russel to check with Kurt Williams to see if that value makes sense.

November 14, 2019 – Mark Russell status update. Nothing definitive in this meeting, continued discussion until next meeting. Nothing new at the 9/2/20 meeting.

19-01 Changes to Specs for Relief Cuts

May 30, 2019 Jeff Uhlmeyer – (Attach 19-01) Twisted Uhlmeyer and Russell's arms to consider developing a Standard Plan instead of describing it all in text.

November 14, 2019 – Bob Dyer draft drawing Attach 19-01. Discussed possible new standard plan restricting overcutting per attachment 19-01 sketch. In follow up meeting on 1/21/20 it was decided to revise the spec rather than utilize a standard plan.

September 2, 2020 – Kevin Waligorski draft specification Attach 19-01R2.

There was a request to allow the relief cuts to be closer to the joints. Revision 3 changes the relief cut location from 12-18 inches to 6-18 inches from the joint. Also clarifies overcutting is allowed on "perimeter" saw cuts along the joints. Verify attach 19-01R3 is what was agreed to and we can get this incorporated.

19-03 MIT thickness testing calibration and challenge procedures

May 30, 2019 Mark Russell – Kurt Williams is working on a calibration procedure – Jim Powell will propose something for Kurt to review. Cores could be used as a challenge to the MIT scan measured depths, but nothing decided – Jim Powell will prepare a draft proposal for WSDOT to consider.

November 14, 2019 – Jim Powell to discuss with Kurt.

Nothing new in 9/2/20 meeting.

19-04 Challenge testing for concrete strength.

May 30, 2019 Bob Pipinich suggested we develop a process for challenging low cylinder breaks on new PCCP. Could consider adapting the ACI 318 tolerance/core procedure, or consider what WSDOT uses for low break cylinders on structural concrete. Dyer and Powel will develop a draft proposal.

November 14, 2019 – Dyer or Powell? Basically this boils down to can WSDOT live with a challenge test procedure and what would this look like? This seems to be a pretty minimal issue, not sure it's worth addressing.

September 2, 2020 agreed to monitor to see if this issue comes up and remove this from the agenda.

19-05 Concrete Friction

November 14, 2019 – Jeff Uhlmeyer – Summary of data regarding PCCP friction (handout). Proposal to make the following changes to improve friction values of new PCCP: Attach 19-05

1. Increase the longitudinal tining depth from 1/16 to 3/16th inch depth to form tines 1/8 to ¼ inch depth.
2. Require the use of an astro turf drag rather than carpet drag prior to the longitudinal tining.
3. Allow diamond grinding as an option for finishing concrete pavements.

Lots of discussion on this item. There are a variety of things that can be the issue depending on the conditions and how the mix is reacting. In general, industry has concerns with increasing the tining depth, concerns with pulling up aggregate and impacting IRI. May be difficult to achieve. The astro turf drag had some traction as a positive change to improve the micro texture. Jeff and Mark will take another look at the draft modifications in Attachment 19-05 and revise for the next meeting. In follow up meeting on 1/21/20 it was discussed to leave the tining depth and allow the Astro Truf drag, revised spec coming.

September 2, 2020 – Mark Russell review revised draft specification Attach 19-05R1

There were some industry concerns regarding the impact of the increased tine depth and the astro turf affecting IRI. Jim will check on whether or not the astro turf drag has an impact on IRI. Some concern was also expressed regarding the increased time depth dislodging rocks and affecting IRI. Jim will check on this.

19-06 – Maturity Meters and Strength at Depth

November 14, 2019 –Jeff Uhlmeyer – Should we place maturity sensors at both the top of the concrete surface and mid panel depth to determine if surface strength is lower than the mid panel at the time of opening the pavement to traffic? This will need to be coordinated on a future PCCP project. Need more research on types of sensors and depths of placement.

September 2, 2020 A question was raised if this could be a research opportunity?

19-07 – Cracked Panels in New PCCP

November 14, 2019 – Mark Russell – Early detection of cracking for repair. Discussion surrounding concrete panel acceptance when panel cracks prior to completion in DB and DBB projects.
September 2, 2020 – This appears to be a training issue that should be addressed in the Just In Time Training to ensure inspection is identifying early cracking. Jim will look at incorporating in the JITT. Note 20 was added to section 5-05.3C in the June update of the Construction Manual to check for early age cracking. This item will be dropped for the next meeting.

NEW BUSINESS

20-01 – Repair of Defective Pavement Slabs (5-05.3(22))
September 2, 2020 – Jim Powell to discuss issue
Discussion surrounds Standard Specification 5-05.3(22) which notes "Spall repairs that encounter dowel bars or are within 6 inches of a dowel bar will not be permitted" thus resulting in a half or full panel replacement. The concern is that removing panels to address minor transverse edge issues, more frequent at construction joints, seems excessive. Jim is suggesting to open up this specification on new paving and allowing some spall repairs. Jim, Jeff, and Mark will discuss this issue, and develop recommendations.

20-12 – Concrete Pavement Smoothness Limits
September 2, 2020 – Jim Powell to discuss issue
This discussion involves 5-05.3(12) Surface Smoothness. The request is to increase the corrective action requirements as a result of MRI testing to 175 inches per mile instead of the current 125 in/mi. This request would not impact the price adjustment tables in 5-05. The request is based on similar specs in other states. WSDOT localized roughness requirement is based on a fixed 52.8 foot interval but many states use a 25 foot moving average which yields higher MRI values. Jim, Jeff, and Mark will discuss this issue.

Next Meeting:
Date: January 14th, 2021
Location: TBD

5-05.3(9) Joint Matching Pre-existing Pavement Joints

Prior to paving new PCCP in a driving lane or portion of a driving lane, which is longitudinally adjacent to pre-existing pavement which is to remain at completion of the project, use a four minimum three foot wide diamond grinder to grind a minimum of the adjacent four three feet of the pre-existing adjacent pavement edge in a manner that provides for the following. These requirements apply without regard to whether the pre-existing pavement is Portland cement or bituminous, and without regard to whether the new or existing pavement is in a lane, gore, or shoulder.

1. Leave no vertical edge in the pre-existing pavement deeper than 1/8 inch
2. The elevation of the new PCCP at the longitudinal joint with the pre-existing pavement shall match the elevation of the ground edge,+/- 1/8 inch.

3. The equipment for grinding the existing pavement shall meet the requirements of Section 5-01.3(1)B.
4. The ground area shall meet the surface finish requirements of Section 5-01.3(9)A.
35. The full width of the new PCCP shall meet the surface smoothness requirements of Section 5-05.3(12).

5-0405.4 Measurement
PCCP Joint Matching will be measured bBy the linear foot measured along the longitudinal joint.

5-05.5 Payment
Under the new bid item "PCCP Joint Matching", per linear foot, except at locations where the contract requires PCCP pavement grinding in accordance with Section 5-01.3(10), in which case no payment will be made under the bid item "PCCP Joint Matching"

5-01.3(4)B Sawing and Dimensional Requirements

Concrete slabs to be replaced as shown in the Plans or staked by the Engineer shall be at least 6~~.0~~ feet long and full width of an existing pavement panel. The portion of the panel to remain in place shall have a minimum dimension of 6 feet in length and full panel width; otherwise the entire panel shall be removed and replaced. There shall be no new joints closer than 3~~.0~~ feet to an existing transverse joint or crack.

A vertical full depth saw cut is required along all longitudinal joints and at transverse locations~~. and, unless the Engineer allows otherwise, an~~ An additional vertical full depth relief saw cut located ~~12~~ 6 to 18 inches from and parallel to the initial longitudinal and transverse saw cut locations is also required unless the Engineer approves an alternate relief saw cut location. Removal of existing cement concrete pavement shall not cause damage to adjacent slabs that are to remain in place. Overcutting adjacent concrete pavement that will not be replaced under the Contract is allowed to the extent necessary to make ~~a~~ full depth perimeter saw cuts ~~of the concrete to be removed~~along ~~all existing~~ longitudinal joints and ~~existing~~at transverse ~~joints~~locations. Overcutting is not allowed on relief saw cuts. In areas that will be ground, slab replacements shall be performed prior to pavement grinding.

Side forms shall meet the requirements of Section 5-05.3(7)B whenever a sawed full depth vertical face cannot be maintained.

5-05.3(11) Finishing

The final pavement surface shall be a tined finish or a finish produced by cement concrete pavement grinding.

5-05.3(11)A Tined Finish

After the concrete has been given a preliminary finish by means of finishing devices incorporated in the slip-form paving equipment, the surface of the fresh concrete shall be checked by the Contractor with a straightedge device not less than 10 feet in length. High areas indicated by the straightedge device shall be removed by the hand-float method. Each successive check with the straightedge device shall lap the previous check path by at least ½ of the length of the straightedge. The requirements of this paragraph may be waived if it is successfully demonstrated that other means will consistently produce a surface with a satisfactory ~~profile index~~Mean Roughness Index and meeting the 10-foot straightedge requirement specified in Section 5-05.3(12).

Any edge slump of the pavement, exclusive of specified edging, in excess of ¼ inch shall be corrected before the concrete has hardened. If edge slump on any 1 foot or greater length of hardened concrete exceeds 1 inch, the concrete shall be repaired as provided in Section 5-05.3(22).

~~The standard method of surface finish shall be longitudinal tining.~~ In advance of curing operations, ~~where longitudinal tining is required,~~ the pavement shall be given an initial and a final texturing. Initial texturing shall produce striations parallel with the centerline using an artificial grass type carpeting meeting the following requirements: ~~be performed with a burlap drag or broom device that will produce striations parallel with the centerline.~~

1. Molded polyethylene pile face,
2. Blade length from 5/8 to 1 inch, and
3. Total weight of at least 70 ounces per square yard.

~~–~~Final texturing shall be performed with a wire comb tine device that will produce grooves parallel with the centerline. The wire comb tine device shall be operated within 5 inches, but not closer than 3 inches, of pavement edges.

Artificial grass type carpeting~~Burlap drags, brooms~~, and tine devices shall be installed on self-propelled equipment having external alignment control. The installation shall be such that, when texturing, the area of artificial grass type carpeting~~burlap~~ in contact with the pavement surface shall be maintained constant at all times. Artificial grass type carpeting~~Broom~~ and tine devices shall be provided with positive elevation control. Downward pressure on pavement surface shall be maintained at all times during texturing so as to achieve uniform texturing without measurable variations in pavement profile. Self-propelled texturing machines shall be operated so that travel speed when

texturing is maintained constant. Failure of equipment to conform to all provisions in this paragraph shall constitute cause for stopping placement of concrete until the equipment deficiency or malfunction is corrected. The wire comb of the final texturing device shall be rectangular in cross section, 3/32 to 1/8 inch wide, on ¾-inch centers, ± 1/8-inch, and of sufficient length, thickness, and resilience to form grooves approximately 1/8 inch deep in the fresh concrete surface. Final texture shall be uniform in appearance with substantially all of the grooves having a depth between 1/16 and 3/16 inch.

On projects requiring less than 1,000 square yards of cement concrete pavement, for irregular areas or areas not accessible to slip-form pavers, the surface finish may be either longitudinal tined or transverse tined.

Transverse tining shall be done by texturing with a wire comb perpendicular to the centerline of the pavement. The wire comb tines shall be rectangular in cross section, 3/32 to 1/8 inch wide, on ½-inch centers ± 1/8 inch, and of sufficient length, thickness, and resilience to form grooves approximately 1/8 inch deep in the fresh concrete surface. Final texture shall be uniform in appearance with substantially all of the grooves having a depth between 1/16 to 3/16 inch. Finishing shall take place with the elements of the wire comb as nearly perpendicular to the concrete surface as is practical, to eliminate dragging the mortar.

If the tining equipment has not been previously approved, a test section shall be constructed prior to approval of the equipment.

Regardless of the surface finish, if the pavement has a raised curb without a formed concrete gutter, the texturing shall end 2 feet from the curb line.

~~At the beginning and end of paving each day, the Contractor shall, with an approved stamp, indent the concrete surface near the right hand edge of the panel to indicate the date, month, and year of placement.~~

~~At approximate 500-foot intervals where designated by the Engineer the Contractor shall, with an approved stamp, indent the concrete surface near the right hand edge of the pavement with the stationing of the Roadway.~~

5-05.3(11)B Cement Concrete Pavement Grinding Finish

The entire pavement surface shall be ground to produce a uniform corduroy like texture. The final surface shall comply with Section 5-01.3(9)A.

Cement Concrete Pavement receiving a ground surface finish shall not be open to traffic until grinding is complete.

5-05.5(1) Pavement Thickness

Cement concrete pavement shall be constructed in accordance with the thickness

requirements in the Plans and Specifications. Tolerances allowed for Subgrade construction and other provisions, which may affect thickness, shall not be construed to modify such thickness requirements. The thickness measurement for pavement receiving a ground surface shall be the measurement after grinding.

Thickness measurements in each lane shall comply with the following:

Thickness Testing of Cement Concrete Pavement	
Thickness Lot Size	15 panels maximum
Thickness test location determined by	Engineer will select testing locations in accordance with WSDOT TM 716 method B.
Sample method	AASHTO T 359
Sample preparation performed by	Contractor provides, places, and secures disks in the presence of the Engineer[1]
Measurement method	AASHTO T 359
Thickness measurement performed by	Contractor, in the presence of the Engineer[2]
[1]Reflectors shall be located at within 0.5 feet of the center of the panel. The Contractor shall supply a sufficient number of 300 mm-diameter round reflectors meeting the requirements of AASHTO T 359 to accomplish the required testing. [2]The Contractor shall provide all equipment and materials needed to perform the testing.	

Thickness measurements shall be rounded to the nearest 0.01 foot.

Each thickness test location where the pavement thickness is deficient by more than 0.04 foot, shall be subject to price reduction or corrective action as shown in Table 2.

Table 2 Thickness Deficiency

0.04’ < Thickness Deficiency ≤ 0.06’	10
0.06’ < Thickness deficiency ≤ 0.08’	25
Thickness deficiency > 0.08’	Remove and replace the panels or the panels may be accepted with no payment at the discretion of the Engineer.

The price reduction shall be computed by multiplying the percent price reduction in

Table 2 by the unit Contract price by the volume of pavement represented by the thickness test lot.

Additional cores may be taken by the Contractor to determine the limits of an area that has a thickness deficiency greater than 0.04 feet. Cores shall be taken at the approximate center of the panel. Only the panels within the limits of the deficiency area as determined by the cores will be subject to a price reduction or corrective action. The cores shall be taken in the presence of the Engineer and delivered to the Engineer for measurement. All costs for the additional cores including filling the core holes with patching material meeting the requirements of Section 9-20 will be the responsibility of the Contractor.