WACA/WSDOT Meeting
Minutes
For Wednesday, June 1, 2016

Day/Time: Wednesday, June 1, 2016 at 9:30 AM – Noon
Location: WACA's Office in Des Moines

In attendance:

David Jones, WSDOT
Mark Gaines, WSDOT
Diego Coca, CalPortland
Elijah Mayer, Ellensburg Cement Products
Craig Matteson, CPM Oldcastle
John Bartheld, Holroyd Co.
John Cherne, Cadman
Rob Molohon, WSDOT
Tow Weist, Oldcastle
Scott DiLoreto, BASF
Dave Burg, Ash Grove Cement
Tom M^c^Graw, Lafarge
Chuck Estes, Holroyd Co.

Next WACA Meeting Date:
Wednesday, September 7, 2016 at WSDOT HQ Mat Lab, Crimson Conference Room, 9:30 AM – Noon

Future WACA Meetings Dates:
Wednesday, December 7, 2016 at WACA's Office in Des Moines, 9:30 am – Noon.
Wednesday, March 1, 2017 at WSDOT HQ Mat Lab, Crimson Conference Room, 9:30 AM – Noon. Wednesday June 7, 2017 at WACA's Office in Des Moines, 9:30 am – Noon.

Meeting Minutes are available at:
http://www.wsdot.wa.gov/Business/MaterialsLab/WACAMinutes.htm

New Business:

Specifying 5000 psi 28 day Compressive Strength for 4000P – Mark Gaines

6/1/16 – Mark Gaines of the WSDOT asked the WACA members "can we get 5,000 psi with Class 4000P? Mark then explained that a 5,000 compressive strength concrete may allow smaller diameter shafts to be designed. Craig Matteson of CPM Oldcastle indicated that his facility can produce 6,200 compressive strength concrete. Mark then stated that WSDOT needs to know if all producers could supply 5,000 compressive strength concrete for Class 4000P applications. He then concluded this session by asking the WACA members to provide feedback within the next two weeks.

WSDOT Specifications for Shotcrete update – Mark Gaines

6/1/16- Mark Gaines explained the revision to Section 6-18 Shotcrete Facing. He then explained how shotcrete was used in a low risk application and the results were very favorable. Mark then showed the group pictures of shotcrete and cast-in-place finishes and the shotcrete finish was much better. Mark explained that the WSDOT Construction and Bridge Office really liked the results. A WACA member explained the reason for lesser quality finish with the caste-in-place was due to the form release agent. Another WACA member re-emphasized the challenges of keeping air in the concrete after pumping. Mark indicated that on this project the shotcrete only lost 1% air after pumping. Mark then asked the group to send him their comments. Dave Burg of Ash Grove Cement recommended side by side comparison testing of cylinders taken prior to pumping and after pumping.

Cold Weather Protection – Mark Gaines

6/1/16 – Mark explained the revision to Section 6-02.3(6)A2 Cold Weather Protection which consisted of removing specified construction practices for producing concrete in cold weather environments. David Jones of the WSDOT indicated that these sections were method specification developed in the past. The WACA group supported these revisions.

Performance Based Concrete for Bridge Decks – Craig Matteson

6/1/16 – Craig Matteson explained some challenges his company had doing Local Agency work while placing concrete Class 4000D. Craig asked the WSDOT if there is any guidance for fogging and curing class 4000D. Mark Gaines explained that guidance is in the Standard Specifications. Craig then explained the sampling and testing practices he witnessed on a Local Agency project. Mark then stated if the Local Agencies are having a hard time understanding the intent of the requirements in the Standard Specifications then additional guidance can be provided.

Corrosion Inhibitors – Scott DiLoreto

6/1/16 – Scott DiLoreto of BASF asked if WSDOT would allow the use of corrosion inhibitors. Rob Molohon of the WSDOT indicated that he has seen them used in proprietary precast units. David Jones indicated that Section 9-23.6 Type S Specific Performance Admixtures will need to be revised to allow their use.

Non-Chloride Accelerators – Scott DiLoreto

6/1/16 – Scott DiLoreto asked why WSDOT is reluctant to use non-chloride accelerators in non-pavement concrete. Rob Molohon explained that he has seen mix designs submitted with accelerators and the compressive strength data look good. Mark Gaines of WSDOT asked how we can ensure we get the same 28-day compressive strengths on the projects as we do in the laboratory setting. Dave Burg of Ash Grove Cement stated that only WSDOT does not allow the use of accelerators. Mark indicated that WSDOT will research this topic.

Integral Concrete Color – Scott DiLoreto

6/1/16 – Scott DiLoreto recommended that WSDOT not use the Federal Color standards for integral concrete color in the special provisions. The Federal system is for paint and does not work well for color concrete. Mark asked Scott to provide a copy of this special provision and

he will look into their concern. Craig Matteson of CPM OldCastle stated color as power additive decreases entrained air.

Water proofers – Scott DiLoreto

6/1/16 – Scott DiLoreto explained how this water proofer that is mixed into the concrete and how it performs. Rob Molohon asked if there were any national standards that he could reference.

David Jones explained that WSDOT need a procedure that tells us something and that national standards are very helpful.

Old Business:

Standards for Sand Equivalent and Degradation as they relate to recycled concrete aggregate.

6/1/16 – David Jones indicated that LA and Degradation will not be required for recycled concrete removed from WSDOT right of away. We are still considering what to do about SE. Craig Matteson stressed that recycled concrete has a hard time meeting the SE requirement.

3/2/16 – David Jones of WSDOT asked the group their thoughts on Sand Equivalent (S.E.) test (WSDOT T 176) and WSDOT Degradation test (WSDOT T 113) requirements on recycled concrete aggregate. Craig Matteson of Oldcastle stated he had some recycled concrete aggregate evaluated for S.E. and Degradation and the testing indicated the material did not meet the requirements of crushed surfacing base course. David stated will look into if we need these requirements on recycled concrete aggregate that is from a WSDOT approved sources. Rob Molohon of the WSDOT stated that the concern with recycled concrete aggregate is when it is stockpiled and mixed with other recycled materials such as; HMA, brick, re-used aggregates, and other materials. Rob stated he has seen this stockpile practice with recyclers and he identifies these stockpiles as GOK (God Only Knows) stockpiles. This type of stockpiling practice contributes to quality concerns. Rob then asked the WACA group if they segregated their recycled concrete aggregate. The WACA group stated they do segregate concrete aggregate stockpiles, but they also have GOK stockpiles. Rob explained that he agrees with David that requiring SE and Degradation on recycled concrete aggregates that can be tied to an approved WSDOT source may not be required, but how do you address recycled concrete aggregates that cannot be tied to or associated with an approved WSDOT source. The WACA group agreed this is a valid concern. David concluded this session by asking the group for input and stated that he will be reviewing what is occurring nationally with recycled concrete aggregate.

Pumping – Bruce Chattin of WACA

6/1/16 – Mark Gaines reported that Section 6 of the Standard Specifications will be revised to require pumpers to be ACPA certified.

3/2/16 – Bruce suggested that ACPA certification for pumpers should be required. David Jones stated that WSDOT does not want this requirement to be part of the submittal process. Bruce

stressed that by requiring this; it would reduce issues and improve quality. David stated that ACPA certification will be a requirement. Robert Raynes of Cemex requested that they would like to review the checklist. David stated that he will have Mark Gaines of WSDOT Construction Office provide the checklist. Robert stated that he did not see any resistance from the Contractors and Pumpers by requiring ACPA certification.

Water and Recycled water specification changes – David Jones

6/1/16 – Dave Jones asked the group why 1.03 gravity is so difficult to achieve. WACA asked what is wrong with 1.07 gravity requirements. Craig Matteson asked where the requirement for 1.03 gravity came from. David Jones indicated that it was a national standard. David concluded this session by asking the group to provide feedback on this topic.

3/2/16 – David explained the revision to Section 9-25 Water and that this revision will not be in the April amendments because he is still working on it.

12/2/15 – David Jones of WSDOT Materials Laboratory explained the proposed revisions to Standard Specification Section 9-25 Water and asked the group to review these revisions and to provide comments. Bruce Chattin of WACA explained that water will be the next recycled material challenge. He expressed the importance for producers to re-use water. Allan Kramer of Lehigh stated that the gravity requirement was changed from 1.07 to 1.03, and this could be a concern. Mark Gaines of the WSDOT Construction Office asked the group to clarify the term "recycled water"? What is its impact on the concrete, and if this specification requirement is too restrictive. WACA stated that it is hard to get 1.03 gravity, and in order to get this gravity the producers would have to dilute their water. Allan Kramer stated that a 1.03 gravity minimizes the amount of solids. Craig Matteson of Oldcastle CPM stated that his plant adjusts for these fines and their water has a gravity of 1.04. Bruce Chattin stated that to lower the gravity the solids need to be removed, and requested we look into this requirement further. Mark Gaines asked what the guidance was in PCI and ACI. A WACA member asked about the 24 hour frequency that was drafted into Section 6-02.3(5)B. Another WACA member stated that the gravity of their water is continuously monitored, but not recorded. Bruce Chattin asked the WACA members if a gravity of 1.07 would work. The WACA members responded "yes", but stated that their water is typically lower than 1.07. David Jones concluded the session by asking the WACA members to email any comments they have.

Type IL(X) Cement and ASTM C 1012

6/1/16 – David Jones stated that we will wait to see what the ASTM committee decides to do and then we will consider any changes that might be needed.

3/2/16 – David Jones stated that he was still waiting to hear the outcome of the research pertaining to ASTM C 1012.

12/2/15 – Allan Kramer handed the group a report on ASTM C 1012 by the Cement and Concrete Research. ASTM C 1012 is specified by WSDOT for Type IT(PX)(LY), Type IT(SX)(LY), and Type IL(X) cements. WSDOT has modified Section 9.3 of this method to have a storage temperature of 5.0° ± 2.0°C. Per the research this temperature range maybe too

severe. David Jones stated that WSDOT looked forward to hearing more about what comes out of the National ASTM meeting from WACA on this subject.

Quality Control Plans – David Jones

WSDOT is moving towards requiring QC Plans from material suppliers. Discuss how this will affect WACA members.

6/1/16 – David Jones updated the group on the status of WSDOT's implementation of the WAQTC program.

3/2/16 – David explained the status of the WSDOT's implementation of the WAQTC program and reported the following:

- *All of WSDOT's Independent Assurance Inspectors (IAIs) have been qualified in HMA, Aggregates and Density test methods.*
- *The IAIs will qualify all WSDOT testers by 2018.*
- *ACI certification will be required for concrete.*
- *In the future, the Contractor may perform QA and WSDOT will perform QV.*

12/2/15 – David Jones explained that once WSDOT fully adopts the WAQTC program, concrete producers will be required to have QC plans.

Class N pozzolans for Concrete – Rob Shogren

6/1/16 – David Jones reported that WSDOT is still discussing this topic. The concern WSDOT has is that Class N pozzolans are very open. Per AASHTO M 295 the following materials can be used for Class N; diatomaceous earths; opaline cherts and shales; tuffs and volcanic ashes or pumicites, calcined or uncalcined; and various materials requiring calcination to induce satisfactory properties, such as some clays and shales. Tom M^c^Graw of Lafarge stated that pumice is the material they would like to make Class N pozzolans from.

3/2/16 Rob asked David Jones if WSDOT was entertaining the idea to allow the use of ASTM C 618 Class N pozzolans due to the current Class F fly ash shortage and potential future shortages. David indicated that WSDOT will look into the use of Class N pozzolans.