

# WACA/WSDOT Meeting Minutes for Tuesday, June 2, 2009

**Attendees:**

Jim Burnett, Iron Mtn Quarry	Dave Burg, Ashgrove	Felix Chandra, Stoneway
Richard Halverson, Headwaters	Allan Kramer, Lehigh	
Eric Clark, Corliss	Dick Boss, Cadman	Kent Balcom, Headwaters
Steve Ford, Miles Sand & Gravel	Rich Rietcheck, Boral	Craig Matteson, Central Pre- Mix
Jason Brewer, BASF	Robert Raynes, Cemex	Rob Shogren, Lafarge
Kurt Williams, WSDOT		Mike Polodna, WSDOT
Dave Heizenrader, WSDOT	Steve Hiester, Oldcastle	Tom Weist, Oldcastle

**Location:** WACA's office, 22223 7<sup>th</sup> Ave South  
DesMoines, Washington 98198

**Next WACA Meeting Date:**

*Tuesday, September 22, 2009, at WSDOT HQ Mats Lab, Main Conf Room, 9:30 AM – 12:00 Noon*

**Future WACA Meetings Dates:**

*Tuesday, December 8, 2009, at WACA's Office in Des Moines, 9:30 AM – 12:00 Noon*

**Meeting Minutes are available at: <http://www.wsdot.wa.gov/biz/mats/>**

**Issue: Performance Specifications for Concrete Mix Designs - Mo S.**

Develop performance specification parameters for concrete that can be developed into specifications.

*6/2/09 – Kurt reported that the performance spec may not make the amendment package. (Note: Kurt verified that the performance specification did not make the August 4, 2009 Amendments.)*

**Action Plan: Further discussion at September 2009 WACA meeting– Mo S.**

**Issue: Degradation for concrete Aggregate/Base Course – Kurt W.**

A research study is on-going to test the effect of using aggregate with low degradation values in concrete mixes.

*6/2/09 – Kurt reported that the study is continuing with testing at Washington State University. Kurt noted that he is still looking for low deg material to continue testing and plans on contacting Dick Boss to see if his company can supply a low deg material for a future round of testing.*

**Action Plan: Continue to give updates to WACA at Monthly Meetings – Kurt W.**

**Issue: Streambed Aggregates – Gary Albert**

This regards WSDOT Standard Specification 9-03.11 Streambed Aggregates.

6/2/09 – Kurt reported that there has been no headway working this issue with WDFW.

3/5/09 - We previously discussed the re-use of material excavated out of the streambed. On a job in which Gary was involved, the contractor could not re-use the material and had to use new material. Another issue regards WSDOT Standard Specification 9-03.11(4) Habitat Boulders. Gary reports using quarried rock in many applications as fish “resting” rocks in streams in the past. The requirement for round rocks, and their availability is being questioned. Both of these issues are being addressed by WSDOT Hydraulics, and WDFW.

**Action Plan: These issues requires further work with WDFW and will be tracked to completion, but will be taken off future WACA agendas until further information is developed: Mike and Kurt**

**Issue: Proposed Specification Change to Section 6-02.3(2) Proportioning Materials - Mo**

This regards changes to the allowable chloride ion content in concrete that has been discussed before and addition changes to the amount of slag and fly ash allowed in concrete per the table shown in the proposed specification below:

**6-02.3(2) Proportioning Materials**

The soluble chloride ion content shall be determined by the concrete supplier and included with the mix design. The soluble chloride ion content shall be determined by (1) testing mixed concrete cured at least 28 days or (2) totaled from tests of individual concrete ingredients (cement, aggregate, admixtures, water, fly ash, ground granulated blast furnace slag, and other supplementary cementing materials). Chloride ion limits for admixtures and water are provided in Sections 9-23 and 9-25. Soluble chloride ion limits for mixed concrete shall not exceed the following percent by mass of cement when tested in accordance with AASHTO T 260:

Category	Acid-soluble	Water-soluble
Prestressed concrete	0.08	0.06
Reinforced concrete	0.10	0.08

~~The total water soluble Chloride ion (Cl-) content of the mixed concrete shall not exceed 0.06 percent by weight of cementitious material for prestressed concrete nor 0.10 percent by weight of cementitious material for reinforced concrete. An initial evaluation may be obtained by testing individual concrete ingredients for total chloride ion content per AASHTO T 260 and totaling these to determine the total water soluble Chloride ion (Cl-) or the total water soluble Chloride ion (Cl-) in accordance with ASTM C 1218.~~

Unless otherwise specified, the Contractor shall use Type I or II Portland cement in all concrete as defined in Section 9-01.2(1).

The use of fly ash is required for Class 4000D and 4000P concrete, except that ground granulated blast furnace slag may be substituted for fly ash at a 1:1 ratio. The use of fly ash and ground granulated blast furnace slag is optional for all other classes of concrete and may be substituted for Portland cement at a 1:1 ratio as noted in the table below.

Class of Concrete	Maximum Percent replacement of fly ash for Portland cement	Maximum Percent replacement of ground granulated blast furnace slag for Portland cement
4000	35	40

4000A	35	20
4000D	35	20
4000P	35	40
4000W	35	40
3000	35	40
Commercial Concrete	35	40

~~Fly ash, if used, shall not exceed 35 percent by weight of the total cementitious material and shall conform to Section 9-23.9. Ground granulated blast furnace slag, if used, shall not exceed 25 percent by weight of the total cementitious material and shall conform to Section 9-23.10. When both ground granulated blast furnace slag and fly ash are included in the concrete mix, the total weight of both these materials is limited to 35-percent by weight of the total cementitious material.~~

The water/cement ratio shall be calculated on the total weight of cementitious material. The following are considered cementitious materials: Portland cement, fly ash, ground granulated blast furnace slag and microsilica.

As an alternative to the use of fly ash, ground granulated blast furnace slag and cement as separate components, a blended hydraulic cement that meets the requirements of Section 9-01.2(4) Blended Hydraulic Cements may be used.

*6/2/09 – Kurt presented proposed changes to 6-02.3(2) and reviewed the proposed the substitution amounts for slag and fly ash shown in the table above and asked if there were any concerns. The group briefly discussed and noted that at the lower level of substitution of fly ash for portland cement in deck concrete mitigation could be a problem as just fly ash may not mitigate for ASR at this lower level. Kurt noted that he is aware of this and understand other alternatives may be required. Kurt will add these changes to the August amendment package. A question was asked if the changes above applied to Portland Cement Concrete Pavement (PCCP) and Kurt noted that the percent fly ash and slag in section 5-05 PCCP is separate from the above changes. Any proposed changes to the amounts of fly ash and slag allowed in PCCP would need to be addressed as a separate issue and Kurt would need to involve the American Concrete Pavement Association in those discussions.*

*(Note: The above Specification Change did not make it into the August 4, 2009)*

**Action Plan: Mo will update at the next meeting**

**Issue: Cement Acceptance Program (CAP) - Kurt**

*6/2/09 – Kurt reviewed the addition of ground granulated blast furnace slag and fly ash to QC-1. There were no objections to this addition. Kurt noted that he is planning on getting this update into the January 2010 Amendment to the Standard Specifications and the January update to the WSDOT Materials Manual.*

**Action Plan: Issue complete unless feedback received on QC-1.**

**New Issue: ASR Testing – Kurt W**

Changes to Specifications Section 9-03.1(1) will use AASHTO T 303 only and deletes ASTM C 1260. This is due to differences in the testing methods, for example water cement ratio is different between the two.

*6/2/09 – Kurt reported that testing of both coarse and fine aggregate will begin in the new biennium after we purchase additional ovens. Mike discussed that for C-1293 WSDOT is using*

*¾” coarse aggregate for the test. It was questioned whether ¾ inch would also be the standard size for T 303 tests on coarse aggregate. Mike agreed that ¾ inch would be used on T303.*

***Action Plan: Further discussion at September 2009 WACA meeting– Kurt***

***New Issue: Processing Plants – Kurt W.***

This regards the case when an aggregate processing plant is not located in an active pit site.

*6/2/09 - In order to facilitate source approval sampling, aggregates from separate pits will need to be kept separated. Dick Boss stated that he has no issues doing so. They will have to make separate runs to create separate stockpiles but is willing to do so.*

***Action Plan: Issue complete***

***New Issue: Deleterious Substances – Kurt W.***

*6/2/09 – Kurt explained that WSDOT currently runs the deleterious materials tests as part of the Aggregate Source approval process for concrete aggregate and noted that this test is really a test of the quality control of the aggregate production process. Kurt asked if the source owners run the deleterious material tests on concrete aggregate. The group discussed and noted that most source owners run the test every 1 to 2 years as part of the requirements of providing concrete aggregate to private contractors, for example buildings were mentioned. Dick Boss stated that burning off the deleterious substances in an asphalt oven will give proportions of deleterious to non-deleterious materials.*

***Action Plan: Issue Complete***

***New Issue: Update to Section 9-03.1(5)B Grading - Kurt W.***

Add additional aggregate sizes to table, including 2”, 2-1/2”, and 3”. Will have handout for meeting.

*6/2/09 – Kurt handed out a proposed change to Standard Specification 9-03.1(5)B Grading which includes additional sizes of 2”, 2 ½”, and 3” Nominal Maximum Size aggregates. Dick Boss asked if the percentages passing the No. 200 sieve for an NMS of No. 4 could be raised to 2.5%. After some discussion, Kurt agreed to raise the No. 200 sieve to 2.5% for the No. 4 combined gradation to match Standard Specification 9-03.1(2) B for fine aggregate.*

*Dick also noted that the percentage passing the No. 200 sieve could be raised to 7% across the board as this would help flow ability of the concrete. He said that an SE test will ensure that we don’t have clay or shale making up this portion of the gradation.*

***Action Plan: Issue Complete***

***New Issue: Sampling for Acceptance Testing – Dave H.***

This regards when and how long it takes to sample sources.

*Dave H stated that he and his staff need to be able to take samples quickly as they make many stops in a day. Craig Matteson said that he could routinely be ready for sampling with a half day's notice, but can do it with 1 hours notice if needed. Others stated that they will work with WSDOT staff to provide quicker access.*

***Action Plan: Issue Complete***

***Discussion Item*** – Allan Kramer asked if the stimulus funds have any “Green” requirements. Kurt replied that he was not aware of any green requirements, but noted that WSDOT may be beginning to start tracking the usage of recycled materials.

***Issue Complete***