

# Design Standards Letter

**Letter Number: S-2014-02**

**Letter Date: 09/23/2014**

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**Section/Plan No.: 106, 203, 216, 404, 409, 501, 502, 606, 610, 611, 613, 703, 706, 720, 902, 1003, 1011, 1015, 1039, 1048, 1081**

**Subject: Revised Supplement to the Standard Specifications**

**Body**

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**TO:** All Central Office and District Offices

**FROM:** Joseph G. Jones  
Engineering Policy Administrator

**DATE:** September 23, 2014

**SUBJECT:** Engineering Policy  
Standard Specifications Letter No. 02, 2014  
Revised Supplement to the Standard Specifications

The Supplemental Specifications to the *2011 Missouri Standard Specifications for Highway Construction*, effective October 1, 2014 are now available. These revisions will be in effect with the October 2014 bid opening.

Questions regarding the Supplemental Revisions to the Standard Specifications should be directed to Sam Niederhelm, Central Office, Engineering Policy Group, at 573.526.5645 or myself at 573.751.3813.

**MINOR REVISIONS:**

**Sec 106**

*Sec 106.12.3* Revised formatting.

**Sec 203**

*Sec 203.5.8* Clarified that compaction in cut shall be performed in all Class A and unclassified materials meeting requirements specified in *Sec 203.2.2*.

**Sec 216**

*Sec 216.50.2.2* Clarified that shear connectors exposed after bridge deck removal shall be cleaned and coated including the connection welded to the top flange.

*Sec 216.60.2.4* Clarified that shear connectors exposed by partial bridge deck removal shall be cleaned and coated.

#### **Sec 404**

*Sec 404.2.2.3* Allowed the engineer to approve the sampling procedure and to allow asphalt binder to be sampled directly from storage tanks when all chemical admixtures have been made.

*Sec 404.2.13* Required that ticket information contain MoDOT mix number assigned to the mix being placed.

#### **Sec 501**

*Sec 501.8.2* Clarified that uniformity criteria be tested with Annex A1 of ASTM C 94.

*Sec 501.8.11 (f)* Required that the MoDOT mix identification number assigned to the mix be provided on delivery tickets.

#### **Sec 502**

*Sec 502.12* Revised corrective action link to Sec 502.11.3.

#### **Sec 606**

*Sec 606.10.2.3.2.1* Clarified the intent of the use of red reflective sheeting for delineators on ramps. Red reflective sheeting should be used to warn of wrong direction driving.

#### **Sec 613**

*Sec 613.10.2.3.2.2* Deleted in its entirety.

*Sec 613.10.2.4* Allowed concrete repairs on a bituminous pavement to be filled to the surface of the existing bituminous pavement.

*Sec 613.10.2.5* Deleted in its entirety and subsequent sections renumbered accordingly.

#### **Sec 703**

*Sec 703.3.6.1.5* Clarified that placement of barrier walls on bridge decks shall not begin until the 7-day wet cure is complete and minimum compressive strength has been reached.

#### **Sec 706**

*Sec 706.3.3.3* Clarified that bar lengths for mechanical splices are based on bars flush to the construction joint and that no additional payment will be made for splices that vary from this condition.

#### **Sec 720**

*Sec 720.3.4* Clarified that the contractor is responsible for internal and external stability of the structure including compound stability.

## **Sec 902**

*Sec 902.4* Revised specification link in table to Sec 1080 for Galvanized Coating of Traffic Signal Post and Appurtenances.

## **Sec 1015**

*Sec 1015.20.5* Clarified non-polymer emulsified asphalt to be in accordance with AASHTO M 140 or AASHTO M 208, for type and grade specified in the contract.

*Sec 1015.20.5.1* Clarified polymer modified asphalt emulsion for seal coat.

*Sec 1015.20.5.1.1* Clarified polymer modified asphalt emulsion for tack coat.

## **Sec 1039**

*Sec 1039.40.3* Clarified embedment depth and ultimate minimum pullout loads for resin anchor systems.

## **MAJOR REVISIONS:**

### **Sec 404**

*Sec 404.4.2* Required that daily asphalt binder quantities be provided to the engineer.

*Sec 404.4.3* Required that total daily mineral filler and hydrated lime quantities be provided to the engineer.

*Sec 404.4.5* Required that total daily aggregate quantities be provided to the engineer.

### **Sec 409**

*Sec 409.2.2* Required that emulsified asphalt and polymer modified emulsions shall be in accordance with Sec 1015.

*Sec 409.3* Required the contractor to submit the mix design to the engineer for approval no less than two weeks prior to placement of the seal coat.

*Sec 409.3.1 (e)* Clarified that the adjustment factor shall be as specified in the contract plans.

*Sec 409.3.1.1* Specified general binder application rates for specified aggregate grade.

*Sec 409.3.2* Clarified that surface condition and traffic volume information may be provided in the contract plans providing an allowable variance from the binder application rate.

*Sec 409.4 (a)* Clarified that equipment calibration shall be accomplished and approved by the engineer prior to use.

*Sec 409.4 (d)* Clarified that equipment have the ability to vary application width and verify application rates.

*Sec 409.5.1* Clarified that seal coat shall only be placed when both the ambient temperature and the pavement temperature are above 60 F.

*Sec 409.5.1.1* Specified that no seal coat shall be placed when the weather, as forecast by the National Weather Service, predicts ambient temperatures falling below 40 F within 24 hours of construction.

*Sec 409.5.3.1* Clarified that bituminous material applied to any area not specified to be sealed, shall be removed at the contractor's expense.

*Sec 409.5.4* Specified that all aggregate shall be uniformly seated over the entire area being sealed in a manner that minimizes aggregate loss and crushing of aggregate.

*Sec 409.5.5* Specified that the contractor may be required to control airborne dust that becomes a concern.

*Sec 409.5.6* Specified that loose aggregate shall be removed from curbs, gutters, sidewalks, driveways and other areas as designated by the engineer.

*Sec 409.6.1* Required the contractor to control traffic through the work zone by the means of a pilot car with a maximum speed of 35 miles per hour. The contractor shall also designate a responsible person to receive and resolve damage claims made by the public.

*Sec 409.7* Clarified that acceptance shall be made no less than 14 days from completion of the route. Also clarified criteria for acceptance by the engineer.

*Sec 409.7 (a)* Clarified that no location shall have bleeding of binder in excess of two square feet or a combined area of bleeding greater than 10 square feet in any 50 foot length.

*Sec 409.7 (b)* Clarified that no continued or ongoing tracking from seal coat to other roadways or adjacent driveways shall be present.

*Sec 409.7 (c)* Clarified that transverse or longitudinal construction joints from the seal coat application that contain any bumps, are not straight or produce a poor riding surface will not be accepted.

*Sec 409.7 (d)* Clarified that longitudinal construction joints shall be straight and contain no gaps.

*Sec 409.7 (e)* Clarified that no asymmetric appearance stemming from longitudinal grooves or ridges in the surface will be allowed.

*Sec 409.7 (f)* Clarified that pavement treatments shall have complete aggregate coverage and full adherence to the roadway.

*Sec 409.8* Created header for Method of Measurement.

*Sec 409.8.1* Specified that final measurement will not be made for completed seal coat except

for changes authorized during construction.

*Sec 409.8.2* Specified that when measurement of seal coat is required, measurement will be made to the nearest square yard of aggregate.

*Sec 409.8.3* Specified that final measurement for binder will be in accordance with Sec 1015 and made to the nearest 10 gallons for actual quantity used.

*Sec 409.9* Clarified that accepted quantities of seal coat aggregate binder, in place, will be paid at the contract unit price. No additional payment will be made for pre-coating aggregate, fog sealing, dust control, or for providing and installing contractor information signing. Binder application rate correction factors shall be included in the plan quantities.

## **Sec 501**

*Sec 501.2.1* Clarified that quality control (QC) sampling and testing is to be done by contractor and quality assurance (QA) sampling and testing is to be done by the engineer for aggregate in Portland cement concrete masonry. Revised table on QC/QA testing frequencies.

*Sec 501.2.2* Required contractor to retain QC split samples for 7 days until requested by the engineer for comparison testing.

*Sec 501.3.9* Specified that coarse aggregate absorption tolerances shall be in accordance with Sec 502.11.3.3.

*Sec 501.6.3* Clarified that plant scales and water metering devices be calibrated and certified annually and after every plant. Admixture metering devices shall be calibrated by a commercial scale company, the admixture company or the concrete plant company.

*Sec 501.8.2* Clarified that a uniformity test, in accordance with ASTM C 94, be performed during the annual calibration at a central mix drum plant and at the beginning of production at a mobile paving plant.

*Sec 501.8.2 (a)* Clarified that a uniformity test shall be performed for the largest and smallest proposed batch size.

*Sec 501.8.10* Revised to require the contractor to provide a Type 1 laboratory at a paving plant, in accordance with Sec 601.

*Sec 501.8.12* Specified that the contractor shall complete the required concrete plant documentation once per working day at the central ready mix or paving plant. The documentation must be made available to the engineer within 24 hours after concrete is batched.

## **Sec 610**

*Sec 610.2.2* Required the use of ProVal software program to compute IRI smoothness.

*Sec 610.4.5.1* Required contractors to submit electronic files to the engineer in .PPF format. If inaccurate test results are furnished, the inertial profile operator may be decertified.

*Sec 610.4.5.2* Clarified QA test length, requirements for marking and measuring requirements for both contractor and engineer.

*Sec 610.4.5.4* Required profile segment, in pavement with a final posted speed of 45 mph or less, to have an average IRI of 125.0 inches/mile or less. The contractor must re-profile corrected lengths and provide electronic data to the engineer within 48 hours.

*Sec 610.4.6.4* Required profile segment, in pavement with a final posted speed of 45 mph or less, to have an average IRI of 125.0 inches/mile or less.

*Sec 610.4.6.5* Revised to clarify that diamond grinding of bumps shall only be permitted on 1-1/2 inch or greater single lift overlays.

*Sec 610.5.1.6* Deleted in its entirety.

*Sec 610.5.2.1* Clarified that for any segment with an initial IRI less than or equal to 60 inches per mile and a final IRI greater than 60 inches per mile, payment shall be made at 97 percent of contract unit price. No correction will be required, however.

*Sec 610.5.3* Specified that testing costs shall be considered as full compensation for all items entering into the construction of the pavement including smoothness testing.

## **Sec 611**

*Sec 611.50.2.4* Specified that broken concrete used as revetment shall have all protruding reinforcement, asphaltic concrete, trash or other extraneous materials removed prior to placement.

*Sec 611.50.2.5* Specified that broken concrete used as revetment shall be reasonably graded and no more than 15 percent of soil and gravel. The maximum volume of any piece shall not exceed 3 cubic feet. Acceptance of quality and size will be made by visual inspection.

## **Sec 1003**

*Sec 1003.2.1* Updated table to include additional aggregate grades for seal coats.

*Sec 1003.2.2* Updated table with gradations for the additional aggregate grades.

*Sec 1003.2.3* Updated table with absorption rates for additional aggregate grades.

*Sec 1003.2.4* Updated table for lightweight aggregate with the additional grades of aggregate.

## **Sec 1011**

*Sec 1011.3.5* Included table for erosion control blanket (ECB) types and criteria.

*Sec 1011.3.6* Included table for turf reinforcement mats (TRM) and criteria.

## **Sec 1048**

*Sec 1048.50.2* Specified material requirement for Type 1 Raised Pavement Markers (TRPM),

and included properties and testing chart.

**Sec 1081**

*Sec 1081.5.3.1.2* Clarified that if no permit is obtained, the wastewater shall be collected and transported to a qualified wastewater plant or other facility that can dispose of it in a accordance with applicable wastewater regulations.

JGJ / SJN