**Design Standards Letter**

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**Section/Plan No.: 101, 203, 401, 402, 403, 407, 413, 502, 606, 607, 608, 613, 703, 711, 720, 806, 1015, 1036, 1040, 1043, 1044, 1059, 1080**

**Subject: Revised Supplement to the 2011 Standard Specifications and New Publication of the 2016 Standard Specification**

**Body**

**TO:** All Central and District Offices

**FROM:** Llans Taylor

**DATE:** May 20, 2016

**SUBJECT:** Engineering Policy

Standard Specifications Letter No. 3, 2016

Revisions Supplement to the 2011 Standard Specifications and the New Publication of the 2016 Standard Specification

The Supplemental Revisions to the *2011 Missouri Standard Specifications for Highway Construction* are now included in the new publication of the *2016 Missouri Standard Specification for Highway Construction* along with the following additional revision listed below. The 2016 *Missouri Standard Specification for Highway Construction* effective July 1, 2016 is now available on MoDOT’s website.

Questions regarding the Supplemental Revisions to the Missouri Standard Specification should be directed to Ivan Schmidt, Central Office, Engineering Policy Group, at 573-751-0269 or myself at 573-751-7412.

**MINOR REVISIONS:**

**SECTION 502 PORTLAND CEMENT CONCRETE BASE AND PAVMENT**

*Sec 502.2* Changed nomenclature for “Steel Wire Fabric” to “Steel Welded Wire Reinforcement”.

**SECTION 608 CONCRETE MEDIAN, MEDIAN STRIP, SIDEWALK, CURB RAMPS, STEPS AND PAVED APPROACHES**

*Sec 608.2* Changed nomenclature for “Steel Wire Fabric” to “Steel Welded Wire Reinforcement”.

**SECTION 613 PAVEMENT REPAIR**

*Sec 613.10.3.3* Changed nomenclature for “Steel Wire Fabric” to “Steel Welded Wire Reinforcement”.

**SECTION 703 CONCRETE MASONRY CONSTRUCTION**

*Sec 703.2* Added item “Concrete Tinting and Staining Material” to table and revised material item titles listed in table to correctly match corresponding Division 1000 material detail title.

*Sec 703.3.13* Added specification for Aesthetic Concrete Stain.

**SECTION 711 PROTECTIVE COATING FOR EXPOSED CONCRETE SURFACES**

*Sec 711.3.1* Revised (Urethane) protective coating to include, “The surface preparation shall include removal of all loose or delaminated concrete, as well as any other contaminants or latent materials.”

*Sec 711.3.2* Revised (Epoxy) protective coating to include, “The surface preparation shall include removal of all loose or delaminated concrete, as well as any other contaminants or latent materials.”

**SECTION 720 MECHANICALLY STABILIZED EARTH WALL SYSTEMS**

*Sec 720.2.2* Changed nomenclature for “welded steel wire fabric” to “steel welded wire reinforcement”.

**SECTION 806 POLLUTION, EROSION AND SEDIMENT CONTROL**

*Sec 806.4.4* Deleted “are” from second sentence.

*Sec 806.4.7* Corrected spelling error of “when“.

**SECTION 1015 BITUMINOUS MATERIAL**

*Sec 1015.10.3.1* Replaced “AASHTO MP 19” with “AASHTO M 332”.

**SECTION 1036 REINFORCING STEEL FOR CONCRETE**

*Sec 1036.3.3* Changed nomenclature for “Welded steel wire fabric” to “Steel welded wire reinforcement”.

**SECTION 1059 PROTECTIVE COATING MATERIAL**

*Sec 1059.10.63* Changed elongation requirement for urethane protective coating requirement to “200 percent” from “400 percent”.

**MAJOR REVISIONS:**

**SECTION 101 DEFINITION OF TERMS**

*Sec 101.1* Added “MASH AASHTO Manual for Assessing Safety Hardware” and “MGS Midwest Guardrail System” to list of interpreted abbreviations.

**SECTION 203 ROADWAY AND DRAINAGE EXCAVATION, EMBANKMENT AND COMPACITON**

*Sec 203.4.8* Revised and separated into sub section the requirements for when human remains are encountered.

*Sec 203.4.81* Added notification requirements in the case that human remains are encountered.

*Sec 203.4.8.2* Added requirements for MoDOT if archaeological artifacts are encountered.

*Sec 203.4.8.3* Subsection created for temporary suspension of work separated from Sec 203.4.8.

**SECTION 401 PLANT MIX BITUMINOUS BASE AND PAVEMENT**

*Sec 401.7.3* Revised requirements of a subgrade tacked surface and moved base widening work into a separate subsection.

*Sec 401.7.3.1* Subsection created for base widening requirements separated from Sec 401.7.3.

*Sec 401.7.3.2* Revised to states that application of prime or tack shall be in accordance with Sec 403.12.

*Sec 401.7.5* Revised to include tacked surface in the cleaning requirements prior to spreading of bituminous mixture.

**SECTION 402 PLANT MIX BITUMINOUS SURFACE LEVELING**

*Sec 402.10.3* Renamed section to “Application of Prime or Tack.” and specified application shall be in accordance with Sec 403.12.

**SECTION 403 ASPHALT CONCRETE PAVEMENT**

*Sec 403.12* Revised the specification for when tack coat is required.

**SECTION 407 TACK COAT**

*Sec 407.1* Removed “and blotter material if required” and “as shown on the plans or as directed by the engineer” from Tack Coat Description.

*Sec 407.2* Changed material detail item name in table to “Emulsified Asphalt or Performance Graded Asphalt Binder”. “(S 1, SS 1h, CSS or CSS 1H)” was removed from name.

*Sec 407.3* Revised equipment requirements for applying bituminous tack coat.

*Sec 407.4.1.1* Added specifications for Coldmilled Surfaces.

*Sec 407.4.1.2* Added specification for Pre-wetting.

*Sec 407.4.2* Revised asphalt emulsion application to allow spray paver. Added table for “Tack Coat Application Rates”.

*Sec 407.4.2.1* Added specification for Dilution of asphalt emulsions.

*Sec 407.4.2.2* Added specification for Performance Graded (PG) Asphalt Binder.

*Sec 407.4.3* Revised exposed tack coat requirements prior to coverage with bituminous mixture and removed sand as a coverage option.

*Sec 407.5* Changed “as specified” to “accordance with”.

*Sec 407.6* Revised to remove sand necessary for blotting from basis of payment.

**SECTION 413 SURFACE TREATMENTS**

*Sec 413.30.5.4.2* Revised Membrane Application Rate table for Mixture Type B to 0.19 gal/sy.

*Sec 413.30.6.2* Corrected a section reference.

*Sec 413.31* Created section titled “SECTION 413.31 BONDED HOT MIX ASPHALT USING POLYMER MODIFIED EMULSION MEMBRANE.”

*Sec 413.31.1* Added work description.

*Sec 413.31.2* Added material detail reference.

*Sec 413.31.3* Added construction requirements.

*Sec 413.31.4* Added equipment requirements.

*Sec 413.31.5* Added title “Application of Polymer Modified Emulsion Membrane”.

*Sec 413.31.5.1* Added Polymer Modified Emulsion Membrane application requirements.

*Sec 413.31.5.2* Added application rate requirements.

*Sec 413.31.5.3* Added to state “No water shall be added to the Polymer Modified Emulsion Membrane”.

*Sec 413.31.6* Added Method of Measurement.

*Sec 413.31.7* Added Basis of Payment.

**SECTION 606 GUARDRAIL, CRASHWORTHY END TERMINALS, ONE-STRAND ACCESS RESTRAINT CABLE AND THREE-STRAND GUARD CABLE**

*Sec 606.3.1* Revised to remove requirement to be maintained within 3 inches of the nominal barrier height.

*Sec 606.3.3.1* Added “as shown on the plans” in the first sentence.

*Sec 606.10.2.1* Changed to allow 12’-6” or 25-foot of beam rails.

*Sec 606.10.2.3.2.2* Clarified installed delineator method requirements.

*Sec 606.10.3* Changed to be just a title of Method of Measurement and specification move to subsection Sec 606.10.3.1.

*Sec 606.10.3.1* Relabeled as subsection to Method of Measurement.

*Sec 606.10.3.2* Added a subsection to Method of Measurement for MGS guardrail.

*Sec 606.10.4* Revised Basis of Payment for the accepted quantities of guardrail.

*Sec 606.30.2.2* Revised to include MGS guardrail.

*Sec 606.30.4* Revised Method of Measurement to include grading for crashworthy end terminals.

*Sec 606.30.5* Clarified contract unit pricing method for grading at end terminals.

**SECTION 607 FENCING**

*Sec 607.20.2* Corrected section reference in Material Detail table.

**SECTION 1015 BITUMINOUS MATERIAL**

*Sec 1015.5* Revised the Application Temperatures requirements table for Asphalt Emulsions Material and added (SS1-vh) temperatures requirements to table.

*Sec 1015.20.5.4* Added specification for Hard Penetration Asphalt Emulsion (SS-1vh).

**SECTION 1040 GUARDRAIL, END TERMINALS, ONE-STRAND ACCESS RESTRAINT CABLE AND THREE-STRAND GUARD CABLE MATERIAL**

*Sec 1040.2* Added specification for Basis of Acceptance.

*Sec 1040.2.1* Added specification for Sampling, Testing and Acceptance Procedures.

*Sec 1040.2.2* Added specification for Application for Placement on Qualified List.

*Sec 1040.2.3* Added specification for Maintaining Qualification.

*Sec 1040.2.4* Added specification for Disqualification of a Supplier.

*Sec 1040.2.4.1* Added specification that the supplier will not be consider for reinstatement for one year.

*Sec 1040.2.4.2* Added specification that the three notices to supplier to meet specification is cause for disqualification for one year.

*Sec 1040.2.4.3* Added specification that the supplier disqualified within one year of a disqualification may be subject to permanent removal for three years.

*Sec 1040.2.5* Added specification for Reinstatement of a Supplier.

*Sec 1040.2.6* Added specification for Sampling of Material.

*Sec 1040.2.6* Added specification for MoDOT Identification Number.

Renumbered following Sec accordingly.

*Sec 1040.3.3* Clarified that Plastic Blocks shall meet applicable requirements for NCHRP 350 installations systems or MASH installations systems.

*Sec 1040.3.3.1* Added to include MASH system plastic block in approval process.

*Sec 1040.5.2* Revised the approval requirements for manufactures of end terminals to include MASH test results and a copy of FHWA eligibility letter to MoDOT.

*Sec 1040.5.4* Changed “approved” to “successfully tested”.

*Sec 1040.5.4* Revised section title to “End Anchors, Bridge Anchors, and Approach Transitions.”

**SECTION 1043 FENCING MATERIAL**

*Sec 1043.2* Added specification that the Basis of Acceptance shall be in accordance with Sec 1040.2.

Renumbered following Sec accordingly.

**SECTION 1044 POSTS FOR MARKERS AND DELINEATORS**

*Sec 1044.5* Changed “appropriate certification” to “Sec 1040.2”.

**SECTION 1080 STRUCTURAL STEEL FABRICATION**

*Sec 1080.3.1.6* Revised to be in line with changes to AISC Bridge Certification Program.

LET/IWS