City of West Richland
Engineering Division
HMA Testing and Acceptance Criteria Agreement
Paving on City Sub-Divisions
(Updated: May 16, 2018)

1. Private Development

A. Pre-Pave Meeting

A pre-pave meeting shall be held with the City and the paving Contractor. During the meeting the City will discuss the paving activities as they relate to the specific project and address any questions, concerns, and restrictions. The City Engineer will pre-determine the sub-lots for compaction testing and the number of tests to be performed for each sub-lot and provide this to the Contractor at this meeting. The City Engineer reserves the right to add or reduce the size or number of sub-lots and amount of tests per sub-lot at any time during the project.

B. Asphalt Classification

The City uses both HMA Class 3/8" and HMA Class 1/2" PG 64-28 for all City streets unless otherwise stated. Contractor shall provide the class of HMA specified in the plans. The Contractor must submit a Job Mix Formula to the City one week prior to paving. The JMF will strictly be used for mix approval and documentation.

C. Mix Property Testing

The CTL (commercial testing laboratory) will collect one sample of the HMA at the batch plant each day of paving. Additional samples may be collected as directed by the Engineer. Samples will be collected in accordance with WSDOT FOP for WAQTC/AASHTO T 168. Each sample will be tested for compliance with requirements for asphalt binder content by WSDOT FOP for AASHTO T 308 and gradation by WAQTC FOP for AASHTO T 27/T 11. The reference maximum density will be determined on each sample according to WSDOT FOP for AASHTO T 209. At the discretion of the engineer, samples may be tested for Va (% air voids) according to WSDOT SOP 731.

D. Quality Control Testing

The CTL will visit the site near the beginning of the paving shift as directed by the engineer to assist the paving contractor's quality control staff by performing comparative nuclear density tests. The nuclear density gauge used by the CTL for this purpose will be the same device used for acceptance density testing following completion of the days paving. The CTL will conduct individual measurements of in place density in accordance with WSDOT FOP for WAQTC TM 8 at a maximum of five locations selected by the contractor. The contractor may also conduct measurements using their device at these locations for comparative and quality control purposes.

E. **Acceptance Testing for Density**

The CTL will visit the site daily following completion of finish rolling as directed by the engineer to conduct acceptance density testing. Typical tests will be conducted at the frequency of one measurement for each 80 tons per sub-lot with a minimum of 3 tests. Density measurements shall be conducted in accordance with WSDOT FOP for WAQTC TM 8. Prior to paving, the City Engineer will determine the testing lots and the amount of tests per lot. Test locations will be selected by the stratified random sampling procedure contained in WSDOT Test Method T 716. No test will be performed any closer than 2 feet from a paving joint, edge of curb, located in a curb return area of a roadway and not closer than 20 feet from the start or end of a paving pull. In accordance with TM8, 4 minute test times will be conducted for compaction testing. Direct transmission testing will not be conducted, backscatter density testing will be performed. Compaction percentage will be determined for each test using the reference maximum density determined on the sample collected during that days paving shift. When testing the HMA compaction and a single result fails to meet the 91 percent of the referenced maximum density, a second test shall be conducted at the exact same location as the failing test without any disruption or movement of the testing device. The higher of the two tests will be used for evaluation. All test results and location of the testing gauge shall be marked on the pavement.

F. **Evaluation Criteria**

Mix Properties

Mix properties will be considered acceptable if test results indicate compliance with the Aggregate Gradation Control Points criteria detailed in the most recent edition of WSDOT M41-10, 9-03.8(6). Job Mix Tolerances and Adjustments stated in 9-03.8(7) will not be used on the submitted JMF. Mix that has one or more constituents fall outside of the aggregate gradation control points listed in 9-03.8(6), a second test shall be run from remainders of the initial sample. If the second test confirms the results of the first test, all HMA installed that day shall be rejected. In the event that all constituents in the second test results fall within tolerance limits, a third test will be performed from the initial sample. If the constituents of the third test are within the tolerance limits, the mix shall be considered accepted. If one or more constituents in the third test all outside the tolerance limits, all HMA installed on that day shall be rejected. Rejected HMA shall be removed and replaced by the Contractor. The City may, at the discretion of the City Engineer, accept a negotiated price reduction for acceptance of the mix in lieu of removal and replacing the rejected mix. The reduction shall be reimbursed to the City via cashiers check from the developer.

Compaction/Density

Acceptance of HMA densities shall follow nonstatistical evaluation for each individual sub-lot. A Composite Payment Factor (CPF) will be determined using the WSDOT SAM (Statistical Analysis of Material) software for each sub-lot based on 91% of the referenced maximum density. A CPF of 1 or higher will result in acceptance of the lot. A CPF of less than 0.85 will result in the rejection of the sub-lot. Any lot with a CPF between 0.85 and 0.99 will result in a price reduction. The

unit price of HMA of $90 per ton will be used for calculations in determination of the price reduction amount. The calculated reduction shall be reimbursed to the City via cashiers check from the Developer. Once all testing has passed and/or reduction reimbursement has been received by the City, the asphalt can be accepted.

Section 5-04.3(10)C4 second paragraph will be followed if the Contractor wishes to have cores taken on sub-lot/s not meeting 91 percent of the reference maximum density with a CPF below 1.00. All costs for cores must be reimbursed to the City by the Developer if the CPF for the sub-lot/s based on the results of the HMA cores is less than 1.00 at a rate of $200 per core.

G. **Process of Rejecting Defective Asphalt**

Work that is defective or does not conform to the aforementioned mix and/or compaction requirements may be rejected by the City Engineer. The Engineer may, with or without sampling, reject any section of roadway that appears defective. The City's policy is not to patch a new roadway and will look for the best location to establish the rejection limits which may include the removal of asphalt that has passing compaction. Any rejected section of roadway shall be removed and replaced at the expense of the Contractor.

The Contractor and developers signatures below shall confirm that both understand and accept the procedures for HMA acceptance that apply to this project. Signing of this document is required prior to acceptance of top course for paving surface.

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Developer Date