Materials Procedures Committee Regular Meeting

Meeting Time/Date: October 16th, 1:00 PM

Meeting Location: Contractors Association of West Virginia (CAWV - Conference Room)
2114 Kanawha Blvd E, Charleston, WV 25311

Online Meeting: Google Meet Video Conference

Online Link - (https://meet.google.com/qaq-awvh-wcv?authuser=0)

Files Available on ProjectWise for DOT users – See Invite or Follow P/W path:

WVDOH ORGS\MCS&T (0077) - FM\Materials Procedure Committee\MP Committee Meeting Files\2025\2025 10 16 MP Meeting

Files Available on Webpage:

https://transportation.wv.gov/highways/mcst/Pages/MP-Committee-Page.aspx

Materials Procedures – Approved at Last Meeting

1. 679.02.99 - Calibration of Concrete Continuous Mobile Mixer
2. 700.00.50 - Method for Acceptance of Compaction Testing
3. 604.02.40 - Inspection And Acceptance Procedures for Precast Concrete Products
4. 711.03.23 - Mix Design for Portland Cement Concrete
5. 715.14.01 - Quality Assurance of Laminated Elastomeric Bridge Bearing Pads with Internal Shims
6. 109.00.23 - Auto-Authorization of Industry Sample Records
7. 109.00.22 - Procedure for the Submission and Documentation of Quality Control Test Results

Materials Procedures - Old Business

Number	Champion	Title	Description
1* 106.03.50	Harper	General Information Guide for Technician and Inspector Certification Program (TICP)	Changing 3 to 5 years for certification, adds apprentice program. Clean Version also included for easier reading.
2* - 700.00.53	Boothroyd	Procedure for the Independent Assurance Program	Updated to reflect comments on the 2024 IA report, Adds the reporting of the WVDOH's 10 percent threshold for QA Verification Samples.
3* - 106.00.02	Brayack	Procedure for Evaluating Products for Use in Highway Construction	Revises our "No APL" and "Non-Approval" APL Language.
4* - 106.10.50	Brayack	WVDOH Buy America Acceptance Guidelines	Section 8.1.2 "In the event of a change order which includes the addition of new materials, a new Certificate of Compliance shall be furnished to include the new materials. " Also, adds reference to a newly available tool. Adds reference

			to MP 106.10.52 – WVDOH Buy America De Minimis Exceptions
5* - 606.03.50	Brayack	Procedure for Determining a Reduced Unit Price to Be Paid for Underdrain Aggregate Which Does Not Conform to The Grading Requirements of The Governing Specifications	Adds a sample calculation for clarity and updates the format of variables.
6& - 700.04.22	Wagner	Method for Approving Devices Used for Testing Density and/or Moisture Content of In-Place Material	Process for creating approved list for Density/Moisture Devices

Materials Procedures – Editorial Edits

-None on this Agenda

Materials Procedures - New Business with Significant or Process Updates

1& – 109.00.22	Brayack	Procedure for the Submission and Documentation of Quality Control Test Results	Update to allow using attachments for AWP Samples
2& – 110.00.41	Allison	Preparing Materials Inspection Reports	Creating a Standard Format for MIRs
3& – 700.00.54	Brayack	Procedure for Evaluating Quality Control Sample Test Results with Verification Quality Assurance Sample Test Results	Adds Ref Documents, cleanup and more specific language for clarity.
4& – 106.10.51	Chapman	WVDOH Buy America Exception and Waiver Guidelines	Adds reference to MP 106.10.52 – WVDOH Buy America De Minimis Exception.
5& – 106.10.52	Chapman	WVDOH Buy America De Minimis Exceptions	Set forth instructions for De Minimis Cost for Buy America Materials requirements. This procedure is only applicable if the Special Provision for De Minimis is applied ot the contract.
6& – 715.09.20	Boothroyd	Standard Method for Determining the Stability Of Portable Sign Stands	Adds a sample calculation to show the wind force spec limit.

Note 1: * Denotes this MP is up for Vote

Note 2: & Denotes this MP is not up for Vote

Comments

Comments are due October 8th, so the Champion may review and address them. Submit comments to Adam Nester (Adam.W.Nester@wv.gov)

Next Meeting

New or Updated MPs due to the MP Chair 3-weeks before the next meeting: November 26th

Meeting Time/Date: 10:00 AM, December 17, 2025

Meeting Location: MCS&T Library

Online Meeting: Google Meet Video Conference (Link TBD)

Additional MP Committee Meeting Information

For details of previous meetings, please visit the MCST MP Committee Webpage
https://transportation.wv.gov/highways/mcst/Pages/MP-Committee-Page.aspx

Tentative MP Committee Dates for 2025:

December 17

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

GENERAL INFORMATION GUIDE FOR TECHNICIAN AND INSPECTOR CERTIFICATION PROGRAM (TICP)

1. PURPOSE

1.1. The purpose of the West Virginia Division of Highways (WVDOH) Technician and Inspector Certification Program is to improve the quality assurance of various materials by the certification of industry and WVDOH. This procedure is to establish guidelines for this purpose.

2. GENERAL

2.1. It is the WVDOH's intent to conduct a cooperative program of training, study, and examination so that personnel of the producer, contractor, and the WVDOH will be able to better assure, by their increased technical knowledge, the level of quality required by the governing Specifications.

3. REFERENCED DOCUMENTS

3.1. MP 720.10.01 - Guide for Using a High-Speed Inertial Profiler to Measure the Longitudinal Profile of Pavement.

3.2. MP 106.03.51 - Policy for Materials Certification Reciprocity with PCC Inspector, PCC Technician, and Aggregate Technician

4. SCOPE

4.1. This procedure is applicable to all requirements, guidelines, and other support documents of the WVDOH that reference conditions, methods, and levels of qualification specific to the WVDOH Training and Certification Program.

5. POLICIES AND ADMINISTRATION

5.1. Certification Board - The Certification Program will be carried out in accordance with general policy guidelines established or approved by the State Highway Engineer. They will be advised by a Board composed of the following members:

1. State Highway Engineer
2. Deputy General Counsel
3. Director of MCS&T - hereafter referred to as “Director”
4. ~~4.~~ Quality Assurance ~~Training~~ Program Administrator~~Administrator (QATPA)~~
4.
5. Applicable MCS&T Supervisor(s)

5.1.1. The Certification Board will meet when called by the Director.

5.1.2. Administration - The program will be administered by the Director.

5.1.3. The Program Administrator shall be appointed by the Director. The Program Administrator will be assigned to assist the Director in administering the program and to handle planning, administration, and coordinating functions as may be delegated within the scope of appropriate WVDOH directives.

6. REQUIREMENTS

6.1. Where applicable, quality control representatives of the contractor and/or producer will be certified in the applicable certifications listed below, depending on the individual's duties or responsibilities. Responsibilities and qualification requirements are listed in appropriate support documents such as Specifications, Materials Procedures and/or Quality Control Plans.

6.2. For purposes of the WVDOH Quality Assurance Program, a non-WVDOH employee who is a certified Technician/Inspector represents the company of which they are an ~~full-time~~ employee on the project, owner, or partner (as defined by the Federal Wage and Hour Legislation). If said company has subsidiary or affiliated organizations, each organization will be required to have its own certified Technicians/Inspectors where applicable unless the State Highway Engineer makes an exception. Exceptions will be granted only when it can be proven that the certified Technician/Inspector performs the duties of the Technician/Inspector for all the subsidiary or affiliated organizations.

7. CERTIFICATION CLASSES

7.1. The TICP offers certification classes in the following disciplines:

1. Aggregate Sampling Inspector, refer to sSection 8
2. Aggregate Technician, refer to sSection 9
3. Asphalt Field & Compaction Technician, refer to sSection 10
4. Asphalt Plant Technician, refer to sSection 11
5. Asphalt Preservation Technician, refer to sSection 12
~~5.~~6. Inertial Profiler Operator, refer to sSection 13
~~6.~~7. Portland Cement Concrete Inspector, refer to sSection 14
~~7.8. Aggregate Sampling Inspector~~
~~8. Soils & Aggregate Compaction Technician~~
~~9. Asphalt Field & Compaction Technician~~
10. Portland Cement Concrete Technician, refer to sSection 15
~~11. Portland Cement Concrete Inspector~~
~~12. Asphalt Plant Technician~~
~~13. Asphalt Preservation Technician~~
13. Radiation Safety, refer to sSection 16
14. Soils & Aggregate Compaction Technician, refer to sSection 17

~~Inertial Profiler Operator~~

Refer to section 19 for Certification Process Requirements

~~7.2. Except as noted, all certifications are valid for a five-year period~~

~~7.3. All certifications require written examinations. Some also require a practical examination after successful completion of the written examination.~~

~~7.4.~~ ~~It is the responsibility of the applicant to determine which certification is applicable to their assignment. Following is a description of the certifications listing relevant information about each.~~

8. AGGREGATE SAMPLING INSPECTOR

8.1. Certification as an Aggregate Sampling Inspector qualifies the technician to perform sampling of aggregates for both Quality Control and Quality Assurance.

8.1.1. Details of this class are available on the MCS&T Webpage[1]

8.2. The web-based examination for an Aggregate Sampling Inspector consists of the following areas:

1. Specifications
2. Sampling Fundamentals
3. Sampling Methods and Equipment
4. AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates
5. AASHTO T 11 Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

The Aggregate Sampling Inspector requires the successful completion of an online examination.

~~7.4.~~8.3. No practical examination nor apprenticeship is required for this certification.

~~8.~~9. AGGREGATE TECHNICIAN

~~8.1.~~9.1. Certification as an Aggregate Technician Inspector qualifies the technician to perform sampling and/or testing of aggregates for both Quality Control and Quality Assurance.

~~8.1.1.~~9.1.1. Details of this class are available on the MCS&T Webpage[2]

~~8.2.~~9.2. The written examination for an Aggregate Inspector consists of the following areas:

1. Aggregate Specifications and Procedures
2. Aggregate Fundamentals
3. Sampling, Control, and Inspection of Aggregates
4. Aggregate Testing

~~8.2.1.~~9.2.1. The applicant must complete an apprentice cycle, please refer to section 19.2. After successful completion of the written examination, the applicant will be required to ~~complete an apprentice cycle and~~ pass the practical examination. ~~The technician must~~

[1] https://transportation.wv.gov/highways/mcst/Pages/aggsamplinspec.aspx

[2] https://transportation.wv.gov/highways/mcst/Pages/Agg-Technician.aspx

~~demonstrate the testing common to normal aggregate quality requirements.~~ The technician must be able to perform the routine tests associated with aggregate quality assurance.

~~8.3.~~9.3. ~~Certification as an Aggregate Inspector qualifies the technician to perform sampling and/or testing of aggregates for both Quality Control and Quality Assurance.~~American Concrete Institute (ACI) Aggregate Testing Technician - Grade I certification will be accepted as a portion of the West Virginia Aggregate Technician training. However, the applicant must pass the online West Virginia Aggregate Technician written certification test before a certification is issued. Refer to MP 106.03.51. Documented 40 hours of work experience shall be submitted for certification, but a practical exam is not required.

~~8.4.~~9.4. APPRENTICESHIP REQUIREMENTS

~~8.4.1.~~9.4.1. ~~After successfully completing the written exam, and before~~ Before scheduling the Practical ~~Exam~~Exam, each participant shall complete a minimum~~e~~ 40 hours of hands-on training under the supervision of a WVDOH Certified Aggregate Technician in the eight different aggregate tests on which the participant will be tested. The tests to be trained in are:

1. ~~)~~ AASHTO T 11 Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing
2. ~~)~~ AASHTO T 19 Bulk Density (“Unit Weight”) and Voids in Aggregate
3. ~~)~~ AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates
4. ~~)~~ AASHTO T 84 Specific Gravity and Absorption of Fine Aggregate
5. ~~)~~ AASHTO T 85 Specific Gravity and Absorption of Coarse Aggregate
6. ~~)~~ AASHTO T 89 Determining the Liquid Limit of Soils
7. ~~)~~ AASHTO T 90 Determining the Plastic Limit and Plasticity Index of Soils
8. ~~)~~ MP 703.00.21 Standard Method of Test for Percent Crushed Particles

Once the Participant has completed the minimum 40 hours of training, The WVDOH Certified Aggregate Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the ~~QATPA~~ QA Program Administrator electronically.

~~8.4.2.~~9.4.2. Once the Training Log has been received and verified by the ~~QATPA~~QA Program Administrator, the participant will be contacted by the MCS&T Aggregate Section to schedule the practical exam. ~~Each participant will be given one chance to pass the practical.~~ (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

~~8.4.3. The WVDOH Aggregate Technician who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.~~

9.4.3.

10. ASPHALT FIELD AND COMPACTION TECHNICIAN

10.1. Certification as an Asphalt Field and Compaction Technician qualifies the technician to oversee or inspect asphalt pavement construction. In addition, the class hand-out material is a valuable reference tool for each stage of the construction process. The required radiation safety training is included in this class and will certify attendees with a passing score to perform nuclear density testing on asphalt pavements.

10.1.1. Details of this class are available on the MCS&T Webpage[3]

10.2. The written examination for this class consists of the following areas:

1. Specifications
2. Surface Preparation
3. Mix Delivery and Placement
4. Joint Construction
5. Percent Within Limitations (PWL)
6. Troubleshooting
7. Compaction Test Procedures
8. Radiation Safety and Nuclear Gauge
9. Test Procedure Problems
10. Testing Forms

10.2.1. This certification has two options: with or without gauge endorsement. Only the applicant for the option with gauge must complete an apprentice cycle, please refer to section 19.2. For the option without the gauge, participants will take a written exam. For the option with the gauge, after successful completion of the written examination, the applicant will be required to pass the practical examination. ~~The technician must demonstrate the testing common to the certification's requirements~~. The technician must be able to perform the routine tests associated with asphalt compaction quality assurance.

10.3. APPRENTICESHIP REQUIRMENTS

10.3.1. ~~After successfully completing the written exam,~~ Each Participant shall complete a minimum 40 hours of hands-on training for the following tests under the supervision of a WVDOH certified Asphalt Field and Compaction Technician.

1. AASHTO T 355 Standard Method of Test for In-Place Density of Asphalt Mixtures by Nuclear Methods
2. Specification 401 Gauge Comparison

~~Tests shall be on any project where WVDOH Materials Procedures and Specifications are required.~~ Once the Participant has completed the minimum 40 hours of training, the WVDOH certified Asphalt and Field Compaction Technician who performed the

[3] https://transportation.wv.gov/highways/mcst/Pages/AsphaltFieldTech.aspx

training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically. ~~This shall be submitted within one calendar year of passing the written exam.~~

10.3.2. The participant will be contacted by the MCS&T Pavement Analysis and Evaluation Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle. ~~Each participant will be given one chance to pass the practical.~~ (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

~~District Verification.~~

~~10.3.3. The follow criteria is an additional requirement for the Asphalt and Field Compaction Certification.~~

~~10.3.3.1. The WVDOH Asphalt and Field Compaction Technician who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.~~

~~10.3.3.2. Asphalt Field and Compaction Technicians must also be evaluated by qualified District personnel on the first WVDOH paving project in which they perform this testing.~~

~~10.3.3.3. The District personnel will make the decision as to whether or not the technician is correctly conducting the nuclear density tests in accordance with the Specifications.~~

~~10.3.3.4. The District will also complete an evaluation form and send it to the MCS&T for processing.~~

10.4. A technician that does not demonstrate proper radiation safety training shall not be allowed to continue testing on a WVDOH Project. They must be replaced by another qualified technician. Anyone who does not meet the applicable safety standards must provide proof of additional WVDOH approved radiation safety training before another evaluation will be conducted.

11. ASPHALT PLANT TECHNICIAN

11.1. Certification of the Asphalt Technician qualifies the employee technician to take asphalt mixture samples, perform quality control or quality assurance testing on plant produced asphalt mixtures, make plant and mix adjustments, aggregate proportioning, and other duties.

11.1.1. Details of this class are available on the MCS&T Webpage[4]

11.2. The written examination for this class consists of the following areas:

1. Specifications
2. Fundamentals
3. Sampling and Testing

[4] https://transportation.wv.gov/highways/mcst/Pages/hotmixasp.aspx

4. Control and Inspection
5. Mix Proportioning and Adjustment

11.2.1. The applicant must complete an apprentice cycle, please refer to section 19.2. After successful completion of the written examination, the applicant will be required to pass the practical examination. ~~The applicant will be required to complete an apprentice cycle and pass the practical examination demonstrating their proficiency in conducting tests common to Asphalt quality control.~~ The technician must be able to perform the routine tests associated with asphalt plant quality assurance.

11.3. APPRENTICESHIP REQUIREMENTS

11.3.1. Each participant shall complete a minimum 40 hours of hands-on training under the supervision of a WVDOH Certified Asphalt Plant Technician in the tests on which the participant will be tested. The tests to be trained in are:

1. ASTM D6926 - Preparation of Asphalt Mixtures by Means of the Marshall Apparatus
2. AASHTO T 312 - Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor
3. AASHTO T 166 - Bulk Specific Gravity (GMB) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens
4. AASHTO T 331 - Bulk Specific Gravity (GMB) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method
5. AASHTO T 209 – Theoretical Maximum Specific Gravity (GMM) and Density of Hot Mix Asphalt (HMA)
6. ASTM D6927 – Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus
7. AASHTO T 308 – Determining the Asphalt Binder Content of Hot-Mix Asphalt (HMA) By the Ignition Method, (Method A)
8. AASHTO T 30 – Mechanical Analysis of Extracted Aggregate
~~1.~~9. AASHTO T 269 Standard Method of Test for Percent Air Voids in Compacted Dense and Open Asphalt Mixtures

Once the Participant has completed the minimum 40 hours of training, the WVDOH Certified Asphalt Plant Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

11.3.2. The participant will be contacted by the MCS&T Asphalt Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle~~. Each participant will be given one chance to pass the practical exam.~~ (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

~~11.3.3. The WVDOH Asphalt Plant Technician who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.~~

~~APPRENTICESHIP REQUIREMENTS~~

~~The technician shall submit an Apprenticeship Log Sheet (Attachment 2) of 24 hours of documented experience signed by QC manager/supervisor. The plant technician can run QC samples under the direct supervision of a certified tech who must sign off on testing. The technician will have one opportunity to pass the practical.~~

12. ASPHALT PRESERVATION TECHNICIAN

12.1.1. Certification of the Asphalt Preservation Technician is currently optional. This certification is for technicians who want to be more prepared for asphalt preservation style projects.

12.1.2. Details of this certification are available on the MCS&T Webpage[5]

12.2. This exam is based on web-based training found in the ~~TC3 Course "Flexible Pavement Preservation Treatment Series."~~ AASHTO Technical Training Solutions courses https://store.transportation.org/Trainings?/C_PP

12.2.1. The required courses are as follows:

1. Flexible Pavement Preservation Treatment Introduction (1 PDH)
2. Flexible Pavement Preservation Treatment Selecting the Right Treatment (0.5 PDH)
3. Flexible Pavement Preservation Treatment Materials (2 PDH)
4. Flexible Pavement Preservation Treatment Localized Pavement Repairs (1.5 PDH)
5. Flexible Pavement Preservation Treatment Crack Sealing and Fillings (1.5 PDH)
6. Flexible Pavement Preservation Treatment Fog Seals (1 PDH)
7. Flexible Pavement Preservation Treatment Chip Seals (1.5 PDH)
8. Flexible Pavement Preservation Treatment Slurry Seals (1.5 PDH)
9. Flexible Pavement Preservation Treatment Micro-Surfacing (1.5 PDH)
~~2.~~10. Flexible Pavement Preservation Treatment Thin Functional HMA Overlay (2 PDH)

12.2.2. A printed copy of the Certificates of Training from these courses is required to be presented for registration on the day of the exam.

12.3. The written examination for an Asphalt Preservation Technician consists of the following areas regarding chip seals, micro surfacing, thin overlays, and crack sealing

11. Fundamentals of Preservation
12. Pavement Conditions and Treatment Selection
13. Performance Characteristics
14. Inspection and Best Practices

12.3.1. No practical examination nor apprenticeship is required for this certification.

[5] https://transportation.wv.gov/highways/mcst/Pages/Asphalt-Preservation-Technician.aspx

13. INERTIAL PROFILER OPERATOR

13.1. This certification allows a technician to operate a lightweight/low-speed and high-speed inertial profiler.

13.2. This certification does not have class, nor does the test need to be proctored by the WVDOH. The exam is provided upon request. Details of this certification are in MP 720.10.01 - Guide for Using a High-Speed Inertial Profiler to Measure the Longitudinal Profile of Pavement

13.3. The written examination for the inertial profiler operator covers of the following areas:

1. WVDOH Specifications
2. AASHTO and ASTM Specifications
3. Knowledge of operation and analysis of collected data.

~~8.5.~~13.4. No practical examination nor apprenticeship is required for this certification.

~~9. AGGREGATE SAMPLING INSPECTOR~~

~~9.1. Certification as an Aggregate Sampling Inspector qualifies the technician to perform sampling of aggregates for both Quality Control and Quality Assurance.~~

~~9.1.1. Details of this class are available on the MCS&T Webpage[6]~~

~~9.2. The web-based examination for an Aggregate Sampling Inspector consists of the following areas:~~

~~1) Specifications~~

~~2) Sampling Fundamentals~~

~~3) Sampling Methods and Equipment~~

~~4) AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates~~

~~5) AASHTO T 11 Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing The Aggregate Sampling Inspector requires the successful completion of an online examination.~~

~~9.3. Certification as an Aggregate Sampling Inspector qualifies the technician to perform sampling of aggregates for both Quality Control and Quality Assurance.~~

~~9.4. No practical examination nor apprenticeship is required for this certification.~~

~~10. SOILS AND AGGREGATE COMPACTION TECHNICIAN~~

~~10.1. Certification of the Soils and Aggregate Compaction Technician qualifies the technician to conduct tests on all Soil and Aggregate construction materials that require compaction testing.~~

~~6 https://transportation.wv.gov/highways/mest/Pages/aggsamplinspec.aspx~~

10.1.1. Details of this class are available on the MCS&T Webpage[7]

10.2. The written examination for this class consists of the following areas:

1. Specifications
2. Soil & Aggregate Compaction Test Procedures
3. Radiation Safety and Nuclear Gauge
4. Test Procedure Problems

10.2.1. After successful completion of the written examination, the applicant will be required to complete an apprentice cycle and pass the practical examination. The technician must demonstrate the testing common to the certification's requirements.

10.3. Certification of the Soils and Aggregate Compaction Technician qualifies the technician to conduct tests on all Soil and Aggregate construction materials that require compaction testing.

10.4. APPRENTICESHIP REQUIRMENTS

10.4.1. After successfully completing the written exam, and before Before scheduling for the Practical Exam, each Participant shall complete 40 hours of hands-on training for the following tests under the supervision of a WVDOH certified Soil and Aggregate Compaction technician.

1) MP 700.00.24 Nuclear Density Test by Roller Pass Method

2) MP 712.21.26 Procedure for Determining Random Location of Compaction Lots

3) MP 207.07.20 Nuclear Field Density/Moisture Test for Random Material Having Less than 40% + 3/4 inch Material

Tests shall be on any project where WVDOH Materials Procedures and Specifications are required. Once the Participant has completed the 40 hours of training, the WVDOH certified Technician who performed the training will complete the Apprenticeship Log Sheet (Attachment 2) and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QATPA electronically.

10.4.2. Once the Training Log has been received and verified by the QATPA, the participant will be contacted by the MCS&T Soil and Aggregate Compaction Section to schedule the practical exam. Each participant will be given one chance to pass the practical. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

14. THE WVDOH SOIL AND AGGREGATE COMPACTION TECHNICIAN WHO PERFORMS THE TRAINING SHALL ENSURE THE PARTICIPANT IS

[7] https://transportation.wv.gov/highways/mest/Pages/compactioninspector.aspx

~~TRAINED IN EACH OF THE TESTS ACCORDING TO THE AASHTO PROCEDURES.~~PORTLAND CEMENT CONCRETE INSPECTOR

14.1. Certification as a Concrete Inspector qualifies the technician to perform sampling and/or testing of concrete for Quality Control and/or Quality Acceptance.

14.1.1. Details of this class are available on the MCS&T Webpage[8]

14.2. The written examination for this class consists of the following areas:

1. Fundamentals
2. Sampling and Testing
3. Control and Inspection
4. Specifications

14.2.1. The applicant must complete an apprentice cycle, please refer to section 19. After successful completion of the written examination, the applicant will be required to pass the practical examination. ~~The technician must demonstrate the testing common to the certification's requirements~~. The technician must be able to perform the routine tests associated with Portland Cement Concrete quality assurance.

14.3. American Concrete Institute (ACI) Field Testing Grade I certification will be accepted as a portion of the West Virginia PCC Inspector training. However, the applicant must pass the online West Virginia PCC Inspector written certification test before a certification is issued. Refer to MP 106.03.51. Documented 40 hours of work experience shall be submitted for certification, but a practical exam is not required.

14.3.1.1. ~~Apprenticeship requirements are waived if a certification is obtained via reciprocity~~.

14.4. APPRENTICESHIP REQUIREMENTS

14.4.1. Each participant shall complete a minimum 40 hours of hands-on training under the supervision of a WVDOH Certified PCC Inspector in the tests on which the participant will be tested. The tests to be trained in are:

1. AASHTO R60 Standard Practice for Sampling Freshly Mixed Concrete
2. ASTM C1064 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
3. AASHTO T119 Standard Method of Test for Slump of Hydraulic Cement Concrete
4. AASHTO T196 Standard Method of Test for Air Content of Freshly Mixed Concrete by the Volumetric Method
5. AASHTO T152 Standard Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method
6. AASHTO T121 Standard Method of Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete

[8] https://transportation.wv.gov/highways/mcst/Pages/concreteinspector.aspx

7. AASHTO R100 Standard Method of Making and Curing Concrete Test Specimens in the Field

8. AASHTO T22 Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens

Once the Participant has completed the minimum 40 hours of training, the WVDOH Certified PCC Inspector who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

14.4.2. The participant will be contacted by the MCS&T Concrete Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle~~. Each participant will be given one chance to pass the practical exam~~. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

~~14.4.3. The WVDOH PCC Inspector who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.~~

~~After successfully completing the written exam: Before scheduling for the Practical Exam, each Participant shall complete 40 hours of hands-on training for test outlined in the Apprenticeship Cycle (Attachment 1) under the supervision of a WVDOH certified technician for PCC Inspector. Tests can be on either a doh project or private work. If the testing is conducted on a private project, DOT materials, procedures and specifications must be followed. Once the Participant has completed the 40 hours of training, The WVDOH certified Technician who performed the training will complete the Apprenticeship Log Sheet (Attachment 2) and include their signature and written name with the date of completion. The Log Sheet shall then be submitted to the QAPA electronically.~~

~~10.5.2 Once the Training Log has been received and verified by the WVDOH MCS&T personnel the participant will be contacted by the Concrete Section located at MCS&T to schedule the practical. Each participant will be given one chance to show they can proficiently run each of test specified in the apprenticeship cycle (attachment 1). (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant does not show proficiency during each of the tests the participant will be denied the PCC Inspector Technician Certification. The documented experience hours shall be completed before they can proceed with their practical.~~

~~11. ASPHALT FIELD AND COMPACTION TECHNICIAN~~

~~11.1.1. Certification as an Asphalt Field and Compaction Technician qualifies the technician to oversee or inspect asphalt pavement construction. In addition, the class hand-out material is a valuable reference tool for each stage of the construction process. The required radiation safety training is included in this class and will certify attendees with~~

a passing score to perform nuclear density testing on asphalt pavements.Details of this class are available on the MCS&T Webpage[9]

11.2. The written examination for this class consists of the following areas:

1. Specifications
2. Surface Preparation
3. Mix Delivery and Placement
4. Joint Construction
5. PWL
6. Troubleshooting
7. Compaction Test Procedures
8. Radiation Safety and Nuclear Gauge
9. Test Procedure Problems
10. Testing Forms

11.2.1. Successful completion of the written examination, practical examination, and apprenticeship cycle is required.

11.2.2. Certification as an Asphalt Field and Compaction Technician qualifies the technician to oversee or inspect asphalt pavement construction. In addition, the class hand-out material is a valuable reference tool for each stage of the construction process. The required radiation safety training is included in this class and will certify attendees with a passing score to perform nuclear density testing on asphalt pavements.

11.3. APPRENTICESHIP REQUIRMENTS

11.3.1. After successfully completing the written exam, each Each Participant shall complete 40 hours of hands-on training for the following tests under the supervision of a WVDOH certified Asphalt Field and Compaction Technician.

1) AASHTO T 355 Standard Method of Test for In-Place Density of Asphalt Mixtures by Nuclear Methods

2) Specification 401 Gauge Comparison

Tests shall be on any project where WVDOH Materials Procedures and Specifications are required. Once the Participant has completed the 40 hours of training, the WVDOH certified Asphalt and Field Compaction Technician who performed the training will complete the Apprenticeship Log Sheet (Attachment 2) and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QATPA electronically. This shall be submitted within one calendar year of passing written exam.

11.3.2. The participant will be contacted by the MCS&T Pavement Analysis and Evaluation Section to schedule the practical exam. Each participant will be given one chance to pass the practical. (All Practical Examinations must be completed within 90 days from

[9] https://transportation.wv.gov/highways/mest/Pages/AsphaltFieldTech.aspx

~~the date of the original written test date.) If the participant fails, they will be denied the Certification.~~

~~District Verification.~~

~~11.3.3. The follow criteria is an additional requirement for the Asphalt and Field Compaction Certification.~~

~~11.3.3.1. The WVDOH Asphalt and Field Compaction Technician who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.~~

~~11.3.3.2. Asphalt Field and Compaction Technicians must also be evaluated by qualified District personnel on the first WVDOH paving project in which they perform this testing.~~

~~11.3.3.3. The District personnel will make the decision as to whether or not the technician is correctly conducting the nuclear density tests in accordance with the Specifications.~~

~~11.3.3.4. The District will also complete an evaluation form and send it to the MCS&T for processing.~~

~~11.4. 11.6 A technician that does not demonstrate proper radiation safety training shall not be allowed to continue testing on the WVDOH Project. They must be replaced by another qualified technician. Anyone who does not meet the applicable safety standards must provide proof of additional WVDOH approved radiation safety training before another evaluation will be conducted.~~

~~12.~~15. PORTLAND CEMENT CONCRETE TECHNICIAN

~~12.1.~~15.1. Certification of the Concrete Technician qualifies the technician to make plant and mix adjustments, proportioning, and other concrete related duties.

~~12.1.1.~~15.1.1. Details of this class are available on the MCS&T Webpage[10]

~~12.2.~~15.2. The written examination for this class consists of the following areas:

1. Specifications
2. Fundamentals
3. Sampling and Testing
4. Control and Inspection
5. Mix Proportioning and Adjustment

~~12.2.1.~~15.2.1. The Concrete Technician requires only the successful completion of the written examination; no practical examination test is required.

~~12.3.15.3. Certification of the Concrete Technician qualifies the technician to make plant and mix adjustments, proportioning, and other concrete related duties.~~

~~12.4.~~15.4. National Ready Mixed Concrete Association (NRMCA) Concrete Technologist Certification Course, “Short Course,” will be accepted as a portion of the West Virginia PCC Technician training. However, the applicant must pass the online West

[10] https://transportation.wv.gov/highways/mcst/Pages/concretetech.aspx

Virginia PCC Technician written certification test before a certification will be issued. Refer to MP 106.03.51. ~~Documented work experience shall be submitted for certification.~~

~~12.5.~~15.5. APPRENTICESHIP REQUIREMENTS

~~12.5.1.~~15.5.1. PCC Inspector certification is a required prerequisite for the PCC Technician certification, and the NRMCA reciprocal certification.~~.~~

~~**13. PORTLAND CEMENT CONCRETE INSPECTOR**~~

~~13.1.1. Details of this class are available on the MCS&T Webpage[11]~~

~~13.2. The written examination for this class consists of the following areas:~~

~~1. Fundamentals~~
~~2. Sampling and Testing~~
~~3. Control and Inspection~~
~~4. Specifications~~

~~13.3. TAfter successful completion of the written examination, the applicant will be required to pass a practical examination demonstrating their proficiency in conducting tests common to concrete quality control.~~

~~13.4. Certification as a Concrete Inspector qualifies the technician to perform sampling and/or testing of concrete for Quality Control and/or Quality Acceptance.~~

~~13.5. American Concrete Institute (ACI) Field Testing Grade I certification will be accepted as a portion of the West Virginia PCC Inspector training. However, the applicant must pass the online West Virginia PCC Inspector written certification test before a certification is issued. Refer to MP 106.03.51.~~

~~13.5.1.1. Apprenticeship requirements are waived if a certification is obtained via reciprocity.~~

~~13.6. APPRENTICESHIP REQUIREMENTS~~

~~13.6.1. After successfully completing the written exam, eachEach participant shall complete 40 hours of hands-on training under the supervision of a WVDOH Certified PCC Inspector in the tests on which the participant will be tested. The tests to be trained in are:~~

~~1. AASHTO R60 Standard Practice for Sampling Freshly Mixed Concrete~~
~~2. ASTM C1064 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete~~
~~3. AASHTO T119 Standard Method of Test for Slump of Hydraulic Cement Concrete~~
~~4. AASHTO T196 Standard Method of Test for Air Content of Freshly Mixed Concrete by the Volumetric Method~~

~~[11] https://transportation.wv.gov/highways/mest/Pages/concreteinspector.aspx~~

5. AASHTO T152 Standard Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method
6. AASHTO T121 Standard Method of Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
7. AASHTO R100 Standard Method of Making and Curing Concrete Test Specimens in the Field
8. AASHTO T22 Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens

Once the Participant has completed the 40 hours of training, the WVDOH Certified PCC Inspector who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QATPA electronically.

13.6.2. The participant will be contacted by the MCS&T Concrete Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle. Each participant will be given one chance to pass the practical exam. (All Practical Examinations must be completed within 60 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

13.6.3. The WVDOH PCC Inspector who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.

After successfully completing the written exam: Before scheduling for the Practical Exam, each Participant shall complete 40 hours of hands-on training for test outlined in the Apprenticeship Cycle (Attachment 1) under the supervision of a WVDOH certified technician for PCC Inspector. Tests can be on either a doh project or private work. If the testing is conducted on a private project, DOT materials, procedures and specifications must be followed. Once the Participant has completed the 40 hours of training, The WVDOH certified Technician who performed the training will complete the Apprenticeship Log Sheet (Attachment 2) and include their signature and written name with the date of completion. The Log Sheet shall then be submitted to the QAPA electronically.

10.5.2 Once the Training Log has been received and verified by the WVDOH MCS&T personnel the participant will be contacted by the Concrete Section located at MCS&T to schedule the practical. Each participant will be given one chance to show they can proficiently run each of test specified in the apprenticeship cycle (attachment 1). (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant does not show proficiency during each of the tests the participant will be denied the PCC Inspector Technician Certification. The documented experience hours shall be completed before they can proceed with their practical.

14. ASPHALT PLANT TECHNICIAN

14.1. Certification of the Asphalt Technician qualifies the employee technician to take asphalt mixture samples, perform quality control or quality assurance testing on plant produced asphalt mixtures, make plant and mix adjustments, aggregate proportioning, and other duties.

14.1.1. Details of this class are available on the MCS&T Webpage[12]

14.2. The written examination for this class consists of the following areas:

1. Specifications
2. Fundamentals
3. Sampling and Testing
4. Control and Inspection
5. Mix Proportioning and Adjustment

14.2.1. TAfter successful completion of the written examination, the applicant will be required to pass a practical examination demonstrating their proficiency in conducting tests common to Asphalt quality control.

14.3. Certification of the Asphalt Technician qualifies the employee technician to take asphalt mixture samples, perform quality control or quality assurance testing on plant produced asphalt mixtures, make plant and mix adjustments, aggregate proportioning, and other duties.

14.4. APPRENTICESHIP REQUIREMENTS

14.4.1. After successfully completing the written exam, eEach participant shall complete 40 hours of hands-on training under the supervision of a WVDOH Certified Asphalt Plant Technician in the tests on which the participant will be tested. The tests to be trained in are:

1) ASTM D6926 - Preparation of Asphalt Mixtures by Means of the Marshall Apparatus

2) AASHTO T 312 - Preparing and Determining the Density Of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor

3) AASHTO T 166 - Bulk Specific Gravity (GMB) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens

4) AASHTO T 331 - Bulk Specific Gravity (GMB) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic

[12] https://transportation.wv.gov/highways/mest/Pages/hotmixasp.aspx

Vacuum Sealing Method

5) AASHTO T 209 – Theoretical Maximum Specific Gravity (GMM) and Density of Hot Mix Asphalt (HMA)

6) ASTM D6927 – Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus

7) AASHTO T 308 – Determining the Asphalt Binder Content of Hot-Mix Asphalt (HMA) By the Ignition Method, (Method A)

8) AASHTO T 30 – Mechanical Analysis of Extracted Aggregate

9. AASHTO T 269 Standard Method of Test for Percent Air Voids in Compacted Dense and Open Asphalt Mixtures

Once the Participant has completed the 24 hours of training, the WVDOH Certified Asphalt Plant Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QATPA electronically.

14.4.2. The participant will be contacted by the MCS&T Asphalt Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle. Each participant will be given one chance to pass the practical exam. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

14.4.3. The WVDOH Asphalt Plant Technician who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.

APPRENTICESHIP REQUIREMENTS

The technician shall submit an Apprenticeship Log Sheet (Attachment 2) of 24 hours of documented experience signed by QC manager/supervisor. The plant technician can run QC samples under the direct supervision of a certified tech who must sign off on testing. The technician will have one opportunity to pass the practical.

15. ASPHALT PRESERVATION TECHNICIAN

15.1.1. Certification of the Asphalt Preservation Technician is currently optional. This certification is for technicians who want to be more prepared for asphalt preservation style projects.

~~15.2. Details of this certification are available on the MCS&T Webpage[13]~~

~~15.3. This exam is based on web-based training found in the TC3 Course "Flexible Pavement Preservation Treatment Series."~~

~~15.4. A printed copy of the Certificate of Training from this course is required to be presented for registration on the day of the exam.~~

~~15.5. The written examination for an Asphalt Preservation Technician consists of the following areas in regards to chip seals, micro surfacing, thin overlays, and crack sealing~~

~~3. Fundamentals of Preservation~~
~~4. Pavement Conditions and Treatment Selection~~
~~5. Performance Characteristics~~
~~6. Inspection and Best Practices~~

~~15.5.1. Certification of the Asphalt Preservation Technician is currently optional. This certification is for technicians who want to be more prepared for asphalt preservation style projects.~~

~~15.5.2. No practical examination nor apprenticeship is required for this certification.~~

16. RADIATION SAFETY

16.1. This certification is required by the Nuclear Regulatory Commission (NRC) before operating a portable nuclear gauge. The training consists of 3 - 4 hours classroom instruction and has a 25-50 question closed book exam. A minimum score of 70 percent is required ~~for passing~~to pass the course. The course and exam will cover the following areas:

1. Proper storage and security of portable nuclear gauges
2. Transportation of portable nuclear gauges
3. Personal safety while operating a portable nuclear gauge.

16.2. No practical examination nor apprenticeship is required for this certification.

16.3. This certification expires three years from the date of certification. This is regulated by the NRC.

17. SOILS AND AGGREGATE COMPACTION TECHNICIAN

17.1. Certification of the Soils and Aggregate Compaction Technician qualifies the technician to conduct tests on all Soil and Aggregate construction materials that require compaction testing.

17.1.1. Details of this class are available on the MCS&T Webpage[14]

~~13 https://transportation.wv.gov/highways/mcst/Pages/Asphalt-Preservation-Technician.aspx~~

14 https://transportation.wv.gov/highways/mcst/Pages/compactioninspector.aspx

17.2. The written examination for this class consists of the following areas:

1. Specifications
2. Soil & Aggregate Compaction Test Procedures
3. Radiation Safety and Nuclear Gauge
4. Test Procedure Problems

17.2.1. The applicant must complete an apprentice cycle, please refer to section 19.2. After successful completion of the written examination, the applicant will be required to pass the practical examination. ~~The technician must demonstrate the testing common to the certification's requirements.~~ The technician must be able to perform the routine tests associated with soil and aggregate compaction quality assurance.

17.3. APPRENTICESHIP REQUIRMENTS

17.3.1. Before scheduling for the Practical Exam, each Participant shall complete a minimum 40 hours of hands-on training for the following tests under the supervision of a WVDOH certified Soil and Aggregate Compaction technician.

1. MP 700.00.24 Nuclear Density Test by Roller Pass Method
2. MP 712.21.26 Procedure for Determining Random Location of Compaction Lots
3. MP 207.07.20 Nuclear Field Density/Moisture Test for Random Material Having Less than 40% + 3/4-inch Material

~~Tests shall be on any project where WVDOH Materials Procedures and Specifications are required.~~ Once the Participant has completed the minimum 40 hours of training, the WVDOH certified Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

17.3.2. Once the Training Log has been received and verified by the QA Program Administrator, the participant will be contacted by the MCS&T Soil and Aggregate Compaction Section to schedule the practical exam. ~~Each participant will be given one chance to pass the practical~~. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

~~17.3.3. The WVDOH Soil and Aggregate Compaction Technician who performs the training shall ensure the participant is trained in each of the tests according to the AASHTO procedures.~~

~~16.2.~~

~~17. INERTIAL PROFILER OPERATOR~~

~~17.1. This certification allows a technician to operate a lightweight/low-speed and high-speed inertial profiler.~~

~~17.2. This certification does not have class, nor does the test need to be proctored by the WVDOH. The exam is provided upon request. Details of this certification are in MP 720.10.01 – Guide for Using a High-Speed Inertial Profiler to Measure the Longitudinal Profile of Pavement~~

~~17.3. The written examination for the inertial profiler operator covers of the following areas:~~

~~1. WVDOH Specifications~~
~~2. AASHTO and ASTM Specifications~~
~~3. Knowledge of operation and analysis of collected data.~~

~~17.4. This certification allows a technician to operate a lightweight/low-speed and high-speed inertial profiler.~~

~~17.5. No practical examination nor apprenticeship is required for this certification.~~

18. TESTING PROTOCOL

~~18.1. TESTING PROTOCOL~~

~~18.1.1.~~18.1. The TICP has a testing protocol that must be followed. The protocol includes testing environment, time limits, proctoring exams, etc. The entire protocol will be covered with attendees prior to testing.

18.2. CLASS SUPPLY LIST

18.2.1. We recommend that participants bring the following items with them to the certification classes:

1. Laptop Computer or Tablet (Mandatory)
2. Photo ID
3. Current WV Specification book and the latest Supplemental to the Specification book. You will need this during the test. These are also available in printable PDF format on the WVDOH Webpage.[15]
4. Hand held calculator (No electronic devices other than a Hand held calculators are allowed to be used during testing.)
5. Highlighters
6. Sticky Notes
7. Ruler / Straight edge

18.3. SPECIAL NEEDS AND REQUESTS

18.3.1. Applicants with special needs should notify the QA~~uality Assurance Training~~ Program Administrator prior to the class to ensure that the training location is prepared to accommodate their needs.

19. CERTIFICATION, APPRENTICESHIP, AND RE-CERTIFICATION

~~19.1. CERTIFICATIONCertification~~

[15] https://transportation.wv.gov/highways/contractadmin/specifications/Pages/default.aspx

19.1.

19.1.1. An individual must pass the written examination in each level for which they are requesting certification. Unless otherwise noted, to pass the written examinations, the applicant must obtain a minimum score of 70 percent.

19.1.2. If an applicant fails to receive a minimum score of 70% on the first written exam, they will be given another attempt at a later date to score 70%. This second attempt shall be a subsequent, scheduled make-up written exam. Failure to attend any scheduled written examination counts as a failed exam.

19.1.2.1. If the applicant fails the second written exam, they may not attempt the written examination again until they retake the class or wait one calendar year.

19.1.3. If required by the certification, a practical exam must be successfully completed. Specific requirements for the practical exam are included in the respective sections. If a participant fails the practical exam, they may not retake the practical exam until they have attended the respective class and successfully passed the written examination again~~, or one year.~~. An exception may be made at the discretion of the section head and the QA Program Administrator.

19.1.4. Upon successfully completing the requirements for certification, applicants may print their certification card from the Divisions Webpage. http://dotftp.wv.gov/materialsdir/

19.1.5. This certification is not transferable. A certification is valid for ~~up to~~ ~~five~~ 5 years and expires December 31, of the 5th year of certification. For example, if a technician is certified in January of 2026, it will expire on December 31, 2031. Radiation Safety must be renewed every 3 years from the certification date. For example, if a technician is certified on January 15, 2026, it will expire on January 15, 2029.

~~19.1.5.~~19.1.6. Anyone who teaches during the certification classes shall have their certification extended 1 year per calendar year per certification taught. This does not apply to Radiation Safety.

19.2. APPRENTICESHIP

19.2.1. For the initial certification of an applicant technician, an apprenticeship is required which consists of three tasks; pass a written exam, hands-on experience, and pass a hands-on practical exam. ~~Upon successful completion of the written exam, the~~The Technician shall work as an apprentice under the supervision of a certified technician for the Apprenticeship Cycle. This must be completed up to one year before and ninety days after the written exam. This requirement shall not apply to a technician who has let their ~~certification expire~~certification expire with proof of previous certification.

An applicant who seeks certification via reciprocity must provide 40 hours of experience documented by the company's QC Manager or applicant's Supervisor on the Apprenticeship Log Sheet. ~~within the past year or applicants who seek certification through reciprocity.~~

~~The apprenticeship should be completed before attempting the practical portion of the certification process.~~

19.2.2. The apprentice shall keep a work log that is signed by the supervising technician. (~~See attachment 12~~an example is on the WVDOH MCST Webpage Toolbox[16]). The work log shall record the number of hours performing ~~doing~~ the specified testing as outlined in the respective section. ~~Hours~~Hours spent shadowing or observing others does not count. The work log shall be submitted to the ~~QAPTA~~ QA Program Administrator and must be reviewed and approved by the appropriate MCS&T Section.

19.2.3. Apprenticeship requirements vary between certifications. See the respective section for details of the apprenticeship requirements.

19.3. APPRENTICE CYLE

19.3.1. The Apprentice Cycle is the number of hours for specific tests which must be performed by the applicant and documented by a certified technician. For each of the certification schools, the hours of testing ~~is~~are listed in the respective section.

19.4. RE-CERTIFICATION

19.4.1. The responsibility for obtaining re-certification shall lie with the certified individual.

19.4.2. Certification holders are responsible for ensuring that their certifications stay current. The WVDOH will no longer mail reminder letters to certification holders.

19.4.3. The renewal of all certifications shall require a written exam and a hands-on practical exam, where applicable.

19.4.4. Independent Assurance (IA) test scores of 3 or better can be used in place of the hands-on practical for the following re-certifications;

1. PCC Inspector – Air and Slump tests
~~4.~~2. Soil and Aggregate Compaction – Moisture/Density Test, and pass the 1-point proctor

~~19.4.3.~~19.4.5. Applicants will be given two scheduled attempts to pass the written recertification exam and one attempt to pass the practical exam (each, respectively). Any applicant that fails to acquire a minimum score of 70% on a recertification exam or who fails the subsequent practical exam will not have their certification renewed. The applicant will be required to take the respective certification classes at the next available time given by MCS&T.

~~19.4.4.~~19.4.6. Any failed recertification examination taken prior to the expiration date of the current certification, either practical or written, will not result in termination of any current certification prior to the expiration date of that certification.

~~19.4.5.~~19.4.7. The certification holder is responsible for updating their personal information on the online learning website[17].

[16] https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx
[17] http://www.onlinelearning.wv.gov/student/home.html

~~19.4.6.~~19.4.8. If an applicant seeking recertification disagrees with a recertification decision, they may file a written appeal with the Certification ~~b~~Board.

~~19.4.7.~~19.4.9. If certification is not renewed by December 31, the Technician should take the class and shall take the full exam and practical at the next available offering.

~~19.5. INSTRUCTOR'S EXTENDED CERTIFICATION~~

~~19.5.1. Anyone who teaches during the certification classes shall have their certification extended 1 year per calendar year per certification taught.~~

20. RECIPROCAL CERTIFICATIONS

20.1. Acceptance of WVDOH Certifications by other state agencies is at the sole discretion of the other agency. Refer to MP 106.03.51

21. TRAINING

21.1. Training - The Division of Highways, contractors, and producers may sponsor courses of instruction consisting of schools and seminars to help prepare personnel for certification under one or more of these certification programs. To the extent possible, these courses of instruction will be joint efforts of the industry and WVDOH. Nothing in this document shall be interpreted to prohibit any party from conducting courses of instruction for their personnel to assist in preparation for these exams.

21.2. The purpose of the schools is to provide helpful information and instruction for people preparing to take the WVDOH Technician/Inspector examinations. These courses are designed to provide instruction for people with a basic foundation in the subject matter. Work experience in the subject matter is encouraged before attending classes.

22. ~~EXAMINATIONS~~

Commented [DB1]: JC - repetive - clean up or remove

~~22.1. Renewal and Certification – Certifications shall be renewed as required in this document. General guidance and information for renewal will be recommended by the Certification Board as required by the State Highway Engineer. All certifications, except Radiation Safety, shall terminate on December 31st of the year of expiration. There may be written, and practical examination required for recertification where applicable.~~

~~22.1.1. Upon obtaining renewal of certification, a renewal card may be printed from the MCS&T Webpage.~~

~~22.2. For further information on classes, recertification, schedules, class calendars and other helpful information please visit the MCS&T's Webpage.~~

23. ~~FUNCTIONS AND RESPONSIBILITIES~~

Commented [DB2]: JC - Consider removing this, defined in other places. No point in putting it here.

~~23.1. Contractor or Producer - The producer and contractor will be responsible for product control of all materials during the handling, blending, and mixing operations. The contractor and producer also will be responsible for the formulation of a design mix that will be submitted to the Division for approval.~~

~~23.1.1. Technician/Inspector - A Quality Control representative of a contractor or producer should be a certified Technician/Inspector as outlined in Section 5. and whose responsibilities may include such duties as proportioning and adjusting the mix, sampling and testing the product, and preparing control charts.~~

~~23.2. The WVDOH is responsible for all acceptance decisions.~~

~~23.2.1. District Materials Supervisor - District Materials activities are the responsibility of the District Materials Supervisor.~~

23.2.2. ~~Division Technicians and Inspectors – The WVDOH Technicians and Inspectors will be assigned as necessary to carry out the required acceptance decision activities. The WVDOH representatives will not issue instructions to the contractor or producer regarding process control activities. However, the WVDOH representatives have the responsibility to question, and where necessary to reject, any operation or sequence of operations, which are not performed in accordance with the contract documents~~.

24. REVOCATION OF CERTIFICATION

24.1. If at any time a WVDOH, contractor's, producer's, or supplier's Technician or Inspector is found to have altered or falsified test reports or is found to have improperly performed tests or reported their results, the individual's certification may be rendered invalid by the State Highway Engineer upon recommendation of the Certification Board.

24.2. Generally, certifications may be revoked if in the opinion of the certifying authority, an individual has knowingly committed acts detrimental to the integrity of the Certification Program or transportation industry. Examples of situations that warrant revocation include, but are not limited to:

1. Deliberate falsification of field or quality control test results or records.
2. Deliberate falsification of calculations, test results or materials
3. Cheating on certification/re-certification exams.
4. Submittal of false information on certification applications.
5. Submitting trial mix mixture and/or calculations completed by someone other than the signatory or knowingly supplying trial mix mixture and/or calculations for another individual's certification.

24.3. The Quality Assurance Training Program Administrator will take the lead in gathering facts and investigating any allegations which may require revocation of a certification. The Certification ~~review~~ ~~b~~Board will notify the individual in writing of intent to revoke certification(s).

~~24.3.~~24.4. Add something about referring to justice department if severe enough.

25. APPEALING A DECISION

25.1. Any individual who disagrees with a decision by the Certification Board has 10 business days from the date of receipt of the notification to respond in writing to the board and present documentation to support their continued certification and/or request an opportunity for a meeting to present their case.

Appeals should be mailed to:
Certification Board
ATTN: Quality Assurance Program Administrator
West Virginia Division of Highways
190 Dry Branch Dr.
Charleston, WV 25306

25.2. If the individual fails to respond within 10 days of receipt of the original notification of revocation letter, the revocation becomes final.

25.3. Not later than 20 business days after receiving a request for a meeting from the individual, the Certification Board will schedule a meeting in which the appellant can present their case. If the Certification Board was not persuaded by the documentation provided by the appellant and believes that revocation of the certification is warranted, the appellant may file a written appeal to the State Highway Engineer for review. All information including any letter(s) of explanation from the appellant will accompany the documents submitted to the State Highway Engineer. The board will mail the decision of the State Highway Engineer to the appellant. The decision by the State Highway Engineer is final.

26. THE LENGTH OF REVOCATION:

26.1. First Offense

26.1.1. This may include revocation of all certifications for up to one year. After the revocation period the individual may obtain recertification by passing respective certification exam and a practical (if applicable). If either exam is failed, the individual will be required to take the certification class before being permitted to test again. The individual will be required to retake and pass the written exam regardless of whether it was previously passed.

26.2. Second Offense

26.2.1. This may include revocation of all certifications for up to five years. There is also the possibility of demotion and reduced pay for WVDOH employees. After the revocation period the individual may obtain recertification by passing the respective certification exam and a practical (if applicable) at the discretion of the board. If either exam is failed, the individual will be required to take the certification class before being permitted to test again. The individual will be required to retake and pass the written exam regardless of whether it was previously passed.

26.3. Third Offense

26.3.1. This may include revocation of all certifications for life. There is also the possibility of termination, demotion and reduced pay for WVDOH employees.

27. CONTACT INFORMATION

27.1. If an applicant/technician/appellant has any questions about the DOH program or needs more information. Please contact: Qaschoolscoordinator@wv.gov

Michael A Mance, PE
Director
Materials Control, Soils & Testing Division

MP 106.03.50 Steward – Personnel, Payroll Section
MM:Bh

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

GENERAL INFORMATION GUIDE FOR TECHNICIAN AND INSPECTOR CERTIFICATION PROGRAM (TICP)

1. PURPOSE

1.1. The purpose of the West Virginia Division of Highways (WVDOH) Technician and Inspector Certification Program is to improve the quality assurance of various materials by the certification of industry and WVDOH. This procedure is to establish guidelines for this purpose.

2. GENERAL

2.1. It is the WVDOH's intent to conduct a cooperative program of training, study, and examination so that personnel of the producer, contractor, and the WVDOH will be able to better assure, by their increased technical knowledge, the level of quality required by the governing Specifications.

3. REFERENCED DOCUMENTS

3.1. MP 720.10.01 - Guide for Using a High-Speed Inertial Profiler to Measure the Longitudinal Profile of Pavement.

3.2. MP 106.03.51 - Policy for Materials Certification Reciprocity with PCC Inspector, PCC Technician, and Aggregate Technician

4. SCOPE

4.1. This procedure is applicable to all requirements, guidelines, and other support documents of the WVDOH that reference conditions, methods, and levels of qualification specific to the WVDOH Training and Certification Program.

5. POLICIES AND ADMINISTRATION

5.1. Certification Board - The Certification Program will be carried out in accordance with general policy guidelines established or approved by the State Highway Engineer. They will be advised by a Board composed of the following members:

1. State Highway Engineer
2. Deputy General Counsel
3. Director of MCS&T - hereafter referred to as “Director”
4. Quality Assurance Program Administrator
5. Applicable MCS&T Supervisor(s)

5.1.1. The Certification Board will meet when called by the Director.

5.1.2. Administration - The program will be administered by the Director.

5.1.3. The Program Administrator shall be appointed by the Director. The Program Administrator will be assigned to assist the Director in administering the program and to handle planning, administration, and coordinating functions as may be delegated within the scope of appropriate WVDOH directives.

6. REQUIREMENTS

6.1. Where applicable, quality control representatives of the contractor and/or producer will be certified in the applicable certifications listed below, depending on the individual's duties or responsibilities. Responsibilities and qualification requirements are listed in appropriate support documents such as Specifications, Materials Procedures and/or Quality Control Plans.

6.2. For purposes of the WVDOH Quality Assurance Program, a non-WVDOH employee who is a certified Technician/Inspector represents the company of which they are an employee on the project, owner, or partner (as defined by the Federal Wage and Hour Legislation). If said company has subsidiary or affiliated organizations, each organization will be required to have its own certified Technicians/Inspectors where applicable unless the State Highway Engineer makes an exception. Exceptions will be granted only when it can be proven that the certified Technician/Inspector performs the duties of the Technician/Inspector for all the subsidiary or affiliated organizations.

7. CERTIFICATION CLASSES

7.1. The TICP offers certification classes in the following disciplines:

1. Aggregate Sampling Inspector, refer to Section 8
2. Aggregate Technician, refer to Section 9
3. Asphalt Field & Compaction Technician, refer to Section 10
4. Asphalt Plant Technician, refer to Section 11
5. Asphalt Preservation Technician, refer to Section 12
6. Inertial Profiler Operator, refer to Section 13
7. Portland Cement Concrete Inspector, refer to Section 14
8. Portland Cement Concrete Technician, refer to Section 15
9. Radiation Safety, refer to Section 16
10. Soils & Aggregate Compaction Technician, refer to Section 17

Refer to section 19 for Certification Process Requirements

8. AGGREGATE SAMPLING INSPECTOR

8.1. Certification as an Aggregate Sampling Inspector qualifies the technician to perform sampling of aggregates for both Quality Control and Quality Assurance.

8.1.1. Details of this class are available on the MCS&T Webpage[1]

[1] https://transportation.wv.gov/highways/mcst/Pages/aggsamplinspec.aspx

8.2. The web-based examination for an Aggregate Sampling Inspector consists of the following areas:

1. Specifications
2. Sampling Fundamentals
3. Sampling Methods and Equipment
4. AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates
5. AASHTO T 11 Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

The Aggregate Sampling Inspector requires the successful completion of an online examination.

8.3. No practical examination nor apprenticeship is required for this certification.

9. AGGREGATE TECHNICIAN

9.1. Certification as an Aggregate Technician Inspector qualifies the technician to perform sampling and/or testing of aggregates for both Quality Control and Quality Assurance.

9.1.1. Details of this class are available on the MCS&T Webpage[2]

9.2. The written examination for an Aggregate Inspector consists of the following areas:

1. Aggregate Specifications and Procedures
2. Aggregate Fundamentals
3. Sampling, Control, and Inspection of Aggregates
4. Aggregate Testing

9.2.1. The applicant must complete an apprentice cycle, please refer to section 19.2. After successful completion of the written examination, the applicant will be required to pass the practical examination. The technician must be able to perform the routine tests associated with aggregate quality assurance.

9.3. American Concrete Institute (ACI) Aggregate Testing Technician - Grade I certification will be accepted as a portion of the West Virginia Aggregate Technician training. However, the applicant must pass the online West Virginia Aggregate Technician written certification test before a certification is issued. Refer to MP 106.03.51. Documented 40 hours of work experience shall be submitted for certification, but a practical exam is not required.

9.4. APPRENTICESHIP REQUIREMENTS

9.4.1. Before scheduling the Practical Exam, each participant shall complete a minimum 40 hours of hands-on training under the supervision of a WVDOH Certified Aggregate Technician in the eight different aggregate tests on which the participant will be tested. The tests to be trained in are:

1. AASHTO T 11 Materials Finer Than 75-µm (No. 200) Sieve in Mineral Aggregates by Washing

[2] https://transportation.wv.gov/highways/mcst/Pages/Agg-Technician.aspx

2. AASHTO T 19 Bulk Density ("Unit Weight") and Voids in Aggregate
3. AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates
4. AASHTO T 84 Specific Gravity and Absorption of Fine Aggregate
5. AASHTO T 85 Specific Gravity and Absorption of Coarse Aggregate
6. AASHTO T 89 Determining the Liquid Limit of Soils
7. AASHTO T 90 Determining the Plastic Limit and Plasticity Index of Soils
8. MP 703.00.21 Standard Method of Test for Percent Crushed Particles

Once the Participant has completed the minimum 40 hours of training, The WVDOH Certified Aggregate Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

9.4.2. Once the Training Log has been received and verified by the QA Program Administrator, the participant will be contacted by the MCS&T Aggregate Section to schedule the practical exam. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

10. ASPHALT FIELD AND COMPACTION TECHNICIAN

10.1. Certification as an Asphalt Field and Compaction Technician qualifies the technician to oversee or inspect asphalt pavement construction. In addition, the class hand-out material is a valuable reference tool for each stage of the construction process. The required radiation safety training is included in this class and will certify attendees with a passing score to perform nuclear density testing on asphalt pavements.

10.1.1. Details of this class are available on the MCS&T Webpage[3]

10.2. The written examination for this class consists of the following areas:

1. Specifications
2. Surface Preparation
3. Mix Delivery and Placement
4. Joint Construction
5. Percent Within Limitations (PWL)
6. Troubleshooting
7. Compaction Test Procedures
8. Radiation Safety and Nuclear Gauge
9. Test Procedure Problems
10. Testing Forms

10.2.1. This certification has two options: with or without gauge endorsement. Only the applicant for the option with gauge must complete an apprentice cycle, please refer to section 19.2. For the option without the gauge, participants will take a written exam. For the option with the gauge, after successful completion of the written examination,

[3] https://transportation.wv.gov/highways/mcst/Pages/AsphaltFieldTech.aspx

the applicant will be required to pass the practical examination. The technician must be able to perform the routine tests associated with asphalt compaction quality assurance.

10.3. APPRENTICESHIP REQUIRMENTS

10.3.1. Each Participant shall complete a minimum 40 hours of hands-on training for the following tests under the supervision of a WVDOH certified Asphalt Field and Compaction Technician.

1. AASHTO T 355 Standard Method of Test for In-Place Density of Asphalt Mixtures by Nuclear Methods
2. Specification 401 Gauge Comparison

Once the Participant has completed the minimum 40 hours of training, the WVDOH certified Asphalt and Field Compaction Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

10.3.2. The participant will be contacted by the MCS&T Pavement Analysis and Evaluation Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

10.4. A technician that does not demonstrate proper radiation safety training shall not be allowed to continue testing on a WVDOH Project. They must be replaced by another qualified technician. Anyone who does not meet the applicable safety standards must provide proof of additional WVDOH approved radiation safety training before another evaluation will be conducted.

11. ASPHALT PLANT TECHNICIAN

11.1. Certification of the Asphalt Technician qualifies the employee technician to take asphalt mixture samples, perform quality control or quality assurance testing on plant produced asphalt mixtures, make plant and mix adjustments, aggregate proportioning, and other duties.

11.1.1. Details of this class are available on the MCS&T Webpage[4]

11.2. The written examination for this class consists of the following areas:

1. Specifications
2. Fundamentals
3. Sampling and Testing
4. Control and Inspection
5. Mix Proportioning and Adjustment

[4] https://transportation.wv.gov/highways/mcst/Pages/hotmixasp.aspx

11.2.1. The applicant must complete an apprentice cycle, please refer to section 19.2. After successful completion of the written examination, the applicant will be required to pass the practical examination. The technician must be able to perform the routine tests associated with asphalt plant quality assurance.

11.3. APPRENTICESHIP REQUIREMENTS

11.3.1. Each participant shall complete a minimum 40 hours of hands-on training under the supervision of a WVDOH Certified Asphalt Plant Technician in the tests on which the participant will be tested. The tests to be trained in are:

3. ASTM D6926 - Preparation of Asphalt Mixtures by Means of the Marshall Apparatus
4. AASHTO T 312 - Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyratory Compactor
5. AASHTO T 166 - Bulk Specific Gravity (GMB) of Compacted Hot Mix Asphalt (HMA) Using Saturated Surface-Dry Specimens
6. AASHTO T 331 - Bulk Specific Gravity (GMB) and Density of Compacted Hot Mix Asphalt (HMA) Using Automatic Vacuum Sealing Method
7. AASHTO T 209 – Theoretical Maximum Specific Gravity (GMM) and Density of Hot Mix Asphalt (HMA)
8. ASTM D6927 – Resistance to Plastic Flow of Asphalt Mixtures Using Marshall Apparatus
9. AASHTO T 308 – Determining the Asphalt Binder Content of Hot-Mix Asphalt (HMA) By the Ignition Method, (Method A)
10. AASHTO T 30 – Mechanical Analysis of Extracted Aggregate
11. AASHTO T 269 Standard Method of Test for Percent Air Voids in Compacted Dense and Open Asphalt Mixtures

Once the Participant has completed the minimum 40 hours of training, the WVDOH Certified Asphalt Plant Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

11.3.2. The participant will be contacted by the MCS&T Asphalt Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

12. ASPHALT PRESERVATION TECHNICIAN

12.1.1. Certification of the Asphalt Preservation Technician is currently optional. This certification is for technicians who want to be more prepared for asphalt preservation style projects.

12.1.2. Details of this certification are available on the MCS&T Webpage[5]

[5] https://transportation.wv.gov/highways/mcst/Pages/Asphalt-Preservation-Technician.aspx

12.2. This exam is based on web-based training found in the AASHTO Technical Training Solutions courses https://store.transportation.org/Trainings?/C_PP

12.2.1. The required courses are as follows:

1. Flexible Pavement Preservation Treatment Introduction (1 PDH)
2. Flexible Pavement Preservation Treatment Selecting the Right Treatment (0.5 PDH)
3. Flexible Pavement Preservation Treatment Materials (2 PDH)
4. Flexible Pavement Preservation Treatment Localized Pavement Repairs (1.5 PDH)
5. Flexible Pavement Preservation Treatment Crack Sealing and Fillings (1.5 PDH)
6. Flexible Pavement Preservation Treatment Fog Seals (1 PDH)
7. Flexible Pavement Preservation Treatment Chip Seals (1.5 PDH)
8. Flexible Pavement Preservation Treatment Slurry Seals (1.5 PDH)
9. Flexible Pavement Preservation Treatment Micro-Surfacing (1.5 PDH)
10. Flexible Pavement Preservation Treatment Thin Functional HMA Overlay (2 PDH)

12.2.2. A printed copy of the Certificates of Training from these courses is required to be presented for registration on the day of the exam.

12.3. The written examination for an Asphalt Preservation Technician consists of the following areas regarding chip seals, micro surfacing, thin overlays, and crack sealing

1. Fundamentals of Preservation
2. Pavement Conditions and Treatment Selection
3. Performance Characteristics
4. Inspection and Best Practices

12.3.1. No practical examination nor apprenticeship is required for this certification.

13. INERTIAL PROFILER OPERATOR

13.1. This certification allows a technician to operate a lightweight/low-speed and high-speed inertial profiler.

13.2. This certification does not have class, nor does the test need to be proctored by the WVDOH. The exam is provided upon request. Details of this certification are in MP 720.10.01 - Guide for Using a High-Speed Inertial Profiler to Measure the Longitudinal Profile of Pavement

13.3. The written examination for the inertial profiler operator covers of the following areas:

1. WVDOH Specifications
2. AASHTO and ASTM Specifications
3. Knowledge of operation and analysis of collected data.

13.4. No practical examination nor apprenticeship is required for this certification.

14. PORTLAND CEMENT CONCRETE INSPECTOR

14.1. Certification as a Concrete Inspector qualifies the technician to perform sampling and/or testing of concrete for Quality Control and/or Quality Acceptance.

14.1.1. Details of this class are available on the MCS&T Webpage[6]

14.2. The written examination for this class consists of the following areas:

1. Fundamentals
2. Sampling and Testing
3. Control and Inspection
4. Specifications

14.2.1. The applicant must complete an apprentice cycle, please refer to section 19. After successful completion of the written examination, the applicant will be required to pass the practical examination. The technician must be able to perform the routine tests associated with Portland Cement Concrete quality assurance.

14.3. American Concrete Institute (ACI) Field Testing Grade I certification will be accepted as a portion of the West Virginia PCC Inspector training. However, the applicant must pass the online West Virginia PCC Inspector written certification test before a certification is issued. Refer to MP 106.03.51. Documented 40 hours of work experience shall be submitted for certification, but a practical exam is not required.

14.4. APPRENTICESHIP REQUIREMENTS

14.4.1. Each participant shall complete a minimum 40 hours of hands-on training under the supervision of a WVDOH Certified PCC Inspector in the tests on which the participant will be tested. The tests to be trained in are:

1. AASHTO R60 Standard Practice for Sampling Freshly Mixed Concrete
2. ASTM C1064 Standard Test Method for Temperature of Freshly Mixed Hydraulic-Cement Concrete
3. AASHTO T119 Standard Method of Test for Slump of Hydraulic Cement Concrete
4. AASHTO T196 Standard Method of Test for Air Content of Freshly Mixed Concrete by the Volumetric Method
5. AASHTO T152 Standard Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method
6. AASHTO T121 Standard Method of Test for Density (Unit Weight), Yield, and Air Content (Gravimetric) of Concrete
7. AASHTO R100 Standard Method of Making and Curing Concrete Test Specimens in the Field
8. AASHTO T22 Standard Method of Test for Compressive Strength of Cylindrical Concrete Specimens

Once the Participant has completed the minimum 40 hours of training, the WVDOH Certified PCC Inspector who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

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6 https://transportation.wv.gov/highways/mcst/Pages/concreteinspector.aspx

14.4.2. The participant will be contacted by the MCS&T Concrete Section to schedule the practical exam. The practical exam may be attempted prior to the completion of the apprenticeship cycle (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

15. PORTLAND CEMENT CONCRETE TECHNICIAN

15.1. Certification of the Concrete Technician qualifies the technician to make plant and mix adjustments, proportioning, and other concrete related duties.

15.1.1. Details of this class are available on the MCS&T Webpage[7]

15.2. The written examination for this class consists of the following areas:

1. Specifications
2. Fundamentals
3. Sampling and Testing
4. Control and Inspection
5. Mix Proportioning and Adjustment

15.2.1. The Concrete Technician requires only the successful completion of the written examination; no practical examination test is required.

15.3. National Ready Mixed Concrete Association (NRMCA) Concrete Technologist Certification Course, "Short Course," will be accepted as a portion of the West Virginia PCC Technician training. However, the applicant must pass the online West Virginia PCC Technician written certification test before a certification will be issued. Refer to MP 106.03.51.

15.4. APPRENTICESHIP REQUIREMENTS

15.4.1. PCC Inspector certification is a required prerequisite for the PCC Technician certification, and the NRMCA reciprocal certification.

16. RADIATION SAFETY

16.1. This certification is required by the Nuclear Regulatory Commission (NRC) before operating a portable nuclear gauge. The training consists of 3 - 4 hours classroom instruction and has a 25-50 question closed book exam. A minimum score of 70 percent is required to pass the course. The course and exam will cover the following areas:

1. Proper storage and security of portable nuclear gauges
2. Transportation of portable nuclear gauges
3. Personal safety while operating a portable nuclear gauge.

16.2. No practical examination nor apprenticeship is required for this certification.

[7] https://transportation.wv.gov/highways/mcst/Pages/concretetech.aspx

16.3. This certification expires three years from the date of certification. This is regulated by the NRC.

17. SOILS AND AGGREGATE COMPACTION TECHNICIAN

17.1. Certification of the Soils and Aggregate Compaction Technician qualifies the technician to conduct tests on all Soil and Aggregate construction materials that require compaction testing.

17.1.1. Details of this class are available on the MCS&T Webpage[8]

17.2. The written examination for this class consists of the following areas:

1. Specifications
2. Soil & Aggregate Compaction Test Procedures
3. Radiation Safety and Nuclear Gauge
4. Test Procedure Problems

17.2.1. The applicant must complete an apprentice cycle, please refer to section 19.2. After successful completion of the written examination, the applicant will be required to pass the practical examination. The technician must be able to perform the routine tests associated with soil and aggregate compaction quality assurance.

17.3. APPRENTICESHIP REQUIRMENTS

17.3.1. Before scheduling for the Practical Exam, each Participant shall complete a minimum 40 hours of hands-on training for the following tests under the supervision of a WVDOH certified Soil and Aggregate Compaction technician.

1. MP 700.00.24 Nuclear Density Test by Roller Pass Method
2. MP 712.21.26 Procedure for Determining Random Location of Compaction Lots
3. MP 207.07.20 Nuclear Field Density/Moisture Test for Random Material Having Less than 40% + 3/4-inch Material

Once the Participant has completed the minimum 40 hours of training, the WVDOH certified Technician who performed the training will complete the Apprenticeship Log Sheet and include their written name, signature and certification number with the date of completion. The Log Sheet shall then be submitted to the QA Program Administrator electronically.

17.3.2. Once the Training Log has been received and verified by the QA Program Administrator, the participant will be contacted by the MCS&T Soil and Aggregate Compaction Section to schedule the practical exam. (All Practical Examinations must be completed within 90 days from the date of the original written test date.) If the participant fails, they will be denied the Certification.

[8] https://transportation.wv.gov/highways/mcst/Pages/compactioninspector.aspx

18. TESTING PROTOCOL

18.1. The TICP has a testing protocol that must be followed. The protocol includes testing environment, time limits, proctoring exams, etc. The entire protocol will be covered with attendees prior to testing.

18.2. CLASS SUPPLY LIST

18.2.1. We recommend that participants bring the following items with them to the certification classes:

1. Laptop Computer or Tablet (Mandatory)
2. Photo ID
3. Current WV Specification book and the latest Supplemental to the Specification book. You will need this during the test. These are also available in printable PDF format on the WVDOH Webpage.[9]
4. Hand held calculator (No electronic devices other than a Hand held calculators are allowed to be used during testing.)
5. Highlighters
6. Sticky Notes
7. Ruler / Straight edge

18.3. SPECIAL NEEDS AND REQUESTS

18.3.1. Applicants with special needs should notify the QA Program Administrator prior to the class to ensure that the training location is prepared to accommodate their needs.

19. CERTIFICATION, APPRENTICESHIP, AND RE-CERTIFICATION

19.1. CERTIFICATION

19.1.1. An individual must pass the written examination in each level for which they are requesting certification. Unless otherwise noted, to pass the written examinations, the applicant must obtain a minimum score of 70 percent.

19.1.2. If an applicant fails to receive a minimum score of 70% on the first written exam, they will be given another attempt at a later date to score 70%. This second attempt shall be a subsequent, scheduled make-up written exam. Failure to attend any scheduled written examination counts as a failed exam.

19.1.2.1. If the applicant fails the second written exam, they may not attempt the written examination again until they retake the class or wait one calendar year.

19.1.3. If required by the certification, a practical exam must be successfully completed. Specific requirements for the practical exam are included in the respective sections. If a participant fails the practical exam, they may not retake the practical exam until they have attended the respective class and successfully passed the written examination again. An exception may be made at the discretion of the section head and the QA Program Administrator.

[9] https://transportation.wv.gov/highways/contractadmin/specifications/Pages/default.aspx

19.1.4. Upon successfully completing the requirements for certification, applicants may print their certification card from the Divisions Webpage. http://dotftp.wv.gov/materialsdir/

19.1.5. This certification is not transferable. A certification is valid for 5 years and expires December 31, of the 5th year of certification. For example, if a technician is certified in January of 2026, it will expire on December 31, 2031. Radiation Safety must be renewed every 3 years from the certification date. For example, if a technician is certified on January 15, 2026, it will expire on January 15, 2029.

19.1.6. Anyone who teaches during the certification classes shall have their certification extended 1 year per calendar year per certification taught. This does not apply to Radiation Safety.

19.2. APPRENTICESHIP

19.2.1. For the initial certification of an applicant technician, an apprenticeship is required which consists of three tasks; pass a written exam, hands-on experience, and pass a hands-on practical exam. The Technician shall work as an apprentice under the supervision of a certified technician for the Apprenticeship Cycle. This must be completed up to one year before and ninety days after the written exam. This requirement shall not apply to a technician who has let their certification expire with proof of previous certification.

An applicant who seeks certification via reciprocity must provide 40 hours of experience documented by the company's QC Manager or applicant's Supervisor on the Apprenticeship Log Sheet. The apprentice shall keep a work log that is signed by the supervising technician. (an example is on the WVDOH MCST Webpage Toolbox[10]). The work log shall record the number of hours performing the specified testing as outlined in the respective section. Hours spent shadowing or observing others does not count. The work log shall be submitted to the QA Program Administrator and must be reviewed and approved by the appropriate MCS&T Section.

19.2.2. Apprenticeship requirements vary between certifications. See the respective section for details of the apprenticeship requirements.

19.3. APPRENTICE CYLE

19.3.1. The Apprentice Cycle is the number of hours for specific tests which must be performed by the applicant and documented by a certified technician. For each of the certification schools, the hours of testing are listed in the respective section.

19.4. RE-CERTIFICATION

19.4.1. The responsibility for obtaining re-certification shall lie with the certified individual.

19.4.2. Certification holders are responsible for ensuring that their certifications stay current. The WVDOH will no longer mail reminder letters to certification holders.

19.4.3. The renewal of all certifications shall require a written exam and a hands-on practical exam, where applicable.

[10] https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx

19.4.4. Independent Assurance (IA) test scores of 3 or better can be used in place of the hands-on practical for the following re-certifications;

1. PCC Inspector – Air and Slump tests
2. Soil and Aggregate Compaction – Moisture/Density Test, and pass the 1-point proctor

19.4.5. Applicants will be given two scheduled attempts to pass the written recertification exam and one attempt to pass the practical exam (each, respectively). Any applicant that fails to acquire a minimum score of 70% on a recertification exam or who fails the subsequent practical exam will not have their certification renewed. The applicant will be required to take the respective certification classes at the next available time given by MCS&T.

19.4.6. Any failed recertification examination taken prior to the expiration date of the current certification, either practical or written, will not result in termination of any current certification prior to the expiration date of that certification.

19.4.7. The certification holder is responsible for updating their personal information on the online learning website[11].

19.4.8. If an applicant seeking recertification disagrees with a recertification decision, they may file a written appeal with the Certification Board.

19.4.9. If certification is not renewed by December 31, the Technician should take the class and shall take the full exam and practical at the next available offering.

20. RECIPROCAL CERTIFICATIONS

20.1. Acceptance of WVDOH Certifications by other state agencies is at the sole discretion of the other agency. Refer to MP 106.03.51

21. TRAINING

21.1. Training - The Division of Highways, contractors, and producers may sponsor courses of instruction consisting of schools and seminars to help prepare personnel for certification under one or more of these certification programs. To the extent possible, these courses of instruction will be joint efforts of the industry and WVDOH. Nothing in this document shall be interpreted to prohibit any party from conducting courses of instruction for their personnel to assist in preparation for these exams.

21.2. The purpose of the schools is to provide helpful information and instruction for people preparing to take the WVDOH Technician/Inspector examinations. These courses are designed to provide instruction for people with a basic foundation in the subject matter. Work experience in the subject matter is encouraged before attending classes.

22. REVOCATION OF CERTIFICATION

22.1. If at any time a WVDOH, contractor's, producer's, or supplier's Technician or Inspector is found to have altered or falsified test reports or is found to have

[11] http://www.onlinelearning.wv.gov/student/home.html

improperly performed tests or reported their results, the individual's certification may be rendered invalid by the State Highway Engineer upon recommendation of the Certification Board.

22.2. Generally, certifications may be revoked if in the opinion of the certifying authority, an individual has knowingly committed acts detrimental to the integrity of the Certification Program or transportation industry. Examples of situations that warrant revocation include, but are not limited to:

1. Deliberate falsification of field or quality control test results or records.
2. Deliberate falsification of calculations, test results or materials
3. Cheating on certification/re-certification exams.
4. Submittal of false information on certification applications.
5. Submitting trial mix mixture and/or calculations completed by someone other than the signatory or knowingly supplying trial mix mixture and/or calculations for another individual's certification.

22.3. The Quality Assurance Training Program Administrator will take the lead in gathering facts and investigating any allegations which may require revocation of a certification. The Certification Board will notify the individual in writing of intent to revoke certification(s).

22.4. Add something about referring to justice department if severe enough.

23. APPEALING A DECISION

23.1. Any individual who disagrees with a decision by the Certification Board has 10 business days from the date of receipt of the notification to respond in writing to the board and present documentation to support their continued certification and/or request an opportunity for a meeting to present their case.

Appeals should be mailed to:
Certification Board
ATTN: Quality Assurance Program Administrator
West Virginia Division of Highways
190 Dry Branch Dr.
Charleston, WV 25306

23.2. If the individual fails to respond within 10 days of receipt of the original notification of revocation letter, the revocation becomes final.

23.3. Not later than 20 business days after receiving a request for a meeting from the individual, the Certification Board will schedule a meeting in which the appellant can present their case. If the Certification Board was not persuaded by the documentation provided by the appellant and believes that revocation of the certification is warranted, the appellant may file a written appeal to the State Highway Engineer for review. All information including any letter(s) of explanation from the appellant will accompany the documents submitted to the State Highway Engineer. The board will mail the decision of the State Highway Engineer to the appellant. The decision by the State Highway Engineer is final.

24. THE LENGTH OF REVOCATION:

24.1. First Offense

24.1.1. This may include revocation of all certifications for up to one year. After the revocation period the individual may obtain recertification by passing respective certification exam and a practical (if applicable). If either exam is failed, the individual will be required to take the certification class before being permitted to test again. The individual will be required to retake and pass the written exam regardless of whether it was previously passed.

24.2. Second Offense

24.2.1. This may include revocation of all certifications for up to five years. There is also the possibility of demotion and reduced pay for WVDOH employees. After the revocation period the individual may obtain recertification by passing the respective certification exam and a practical (if applicable) at the discretion of the board. If either exam is failed, the individual will be required to take the certification class before being permitted to test again. The individual will be required to retake and pass the written exam regardless of whether it was previously passed.

24.3. Third Offense

24.3.1. This may include revocation of all certifications for life. There is also the possibility of termination, demotion and reduced pay for WVDOH employees.

25. CONTACT INFORMATION

25.1. If an applicant/technician/appellant has any questions about the DOH program or needs more information. Please contact: Qaschoolscoordinator@wv.gov

Michael A Mance, PE
Director
Materials Control, Soils & Testing Division

MP 106.03.50 Steward – Technician Certification
MM:Bh

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PROCEDURE FOR THE INDEPENDENT ASSURANCE PROGRAM

1. PURPOSE

1.1 To provide a procedure for the WVDOH to meet FHWA's requirements for the Independent Assurance (IA) program.

2. SCOPE

2.1 This procedure applies to the following IA Materials:

2.1.1 Portland Cement Concrete (PCC)

2.1.2 Asphalt

2.1.3 Aggregate

2.1.4 Compacted Soil, Aggregate and Asphalt Materials

2.1.4.1 The WVDOH is in the process of evaluating the method to incorporate this testing into the IA program.

3. REFERENCED DOCUMENTS

3.1 Office of Pavement Technology Publication No. FHWA-HIF-12-001[1], October 2011. Included as Attachment 2.

3.2 23 CFR - PART 637—CONSTRUCTION INSPECTION AND APPROVAL[2]

3.3 MP 106.03.50 - General Information Guide for Technician and Inspector Certification Program (TICP).

~~3.3~~3.4 MP 700.00.54 - Procedure for Evaluating Quality Control Sample Test Results with Verification Sample Test Results

~~3.4~~3.5 AASHTO R44-07.

4. DEFINITIONS

4.1 QA – Quality Acceptance: The Division test used for the acceptance of material on a project.

4.2 IA Sampler: The employee(s) at MCS&T Division who oversees the IA program. This person may perform 1:X testing when the population (X) is not large enough to compare samples statistically or comparing samples statistically is not practical. The IA Sampler may, at the discretion of the Director of MCS&T, delegate this task to a qualified Division employee.

[1] https://www.fhwa.dot.gov/pavement/materials/hif12001.pdf
[2] https://www.ecfr.gov/current/title-23/chapter-I/subchapter-G/part-637

4.3 Evaluation Period: The calendar year in which the IA program is evaluated. This begins on January 1st and ends on December 31st of the same year.

4.4 IA Material: Each unique material that is evaluated by the IA program. These materials are listed in Section 2.1 of this document.

4.5 IA Test: A test that is performed by a QA Tester which is evaluated either directly or indirectly by the IA sampler to demonstrate both the QA Tester and their QA Testing Equipment's proficiency.

4.6 QA Tester: Each individual who performs an IA Test on an IA Material for QA, during the Evaluation Period. Each unique instance of these must be evaluated based on the frequency noted in Section 5.

4.7 QA Testing Equipment: Each primary piece of equipment used to perform an IA Test on an IA Material for QA, during the Evaluation Period. This equipment is noted in the respective sections of this document. Each unique instance of these must be evaluated based on the frequency noted in Section 5.

4.8 AASHTO: The American Association of State Highway and Transportation Officials, a nonprofit organization that sets technical standards for highway systems and acts as a liaison between state and federal transportation departments.

4.9 AASHTO re:source[3]: A technical services program that provides audits and accreditation to material testing laboratories. This program distributes proficiency samples nationally and evaluates the results. The WVDOH uses the evaluations from this program for both asphalt and aggregate IA Tests.

4.10 Proficiency Sample: A single (homogeneous) sample that is distributed by an agency or designated agent to be tested at multiple laboratories. The distributing agency will provide a "score", which statistically compares results amongst the laboratories.

4.11 Split Sample: A single sample taken by a single entity that is divided into two or more separate sub-samples for subsequent laboratory analysis. The division shall be done such that these sub-samples are equivalent.

4.12 Satisfactory Evaluation: If the results of a test fall within the guidelines established in Section 13 of this document, the test will be considered satisfactory.

4.13 Non-Satisfactory Evaluation: If the results of a test do not fall within the guidelines established in Section 13 of this document, the test will be considered non-satisfactory.

4.14 Corrective Action Report (CAR): An action report identifying the probable source of a Non-Satisfactory Evaluation. This report identifies the non-conformance, explains issues which lead to this non-conformance, and explains corrective actions to address this non-conformance.

5. SYSTEM APPROACH FOR IA SAMPLING AND TESTING

5.1 The WVDOH IA program shall operate under the system approach as described in Office of Pavement Technology Publication No. FHWA-HIF-12-001 and AASHTO R44-07.

[3] https://aashtoresource.org/

5.2 Each QA Test Equipment and each QA Tester shall be evaluated for each Evaluation Period. Redundant testing shall be avoided unless a failure or faulty testing is reported during the testing.

5.2.1 If a QA Tester is testing and the equipment fails, they shall complete the test on another piece of equipment. If this occurs, it shall be noted in a corrective action report.

5.3 The goal of the IA program is to meet a 90% evaluation threshold for each QA Tester and QA Test Equipment. Each of these entities is considered separate and independent of each other.

5.3.1 QA Testers shall be evaluated for each unique IA Material they test during the evaluation period. If a person tests multiple IA Materials during the evaluation period, they will be required to be evaluated for each material independently.

5.3.2 The evaluation procedure for tests is described in Section 13 of this document.

5.4 If the 90% evaluation threshold is not met, a corrective action summary shall be included in the IA report.

6. POPULATION OF QUALITY ACCEPTANCE TESTERS AND EQUIPMENT

6.1 Once per year, before any work is performed by District QA Testers, a signed letter stating the names of each of their QA Testers shall be submitted by the District Construction Engineer to the Director of MCS&T Division. In lieu of this letter, Districts may utilize an MCS&T provided online form.

6.2 If, during the calendar year, additional QA Testers are added to the District's roster, the District Construction Engineer shall submit an amended list to the Director of MCS&T Division. This shall be done before any quality assurance work is performed by the tester.

6.3 In the event where a project incorporates non-DOH QA Testers and/or QA Testing Labs, the District Construction Engineer shall submit to the Director of MCS&T a signed letter stating the names of each of the QA Testers. As part of their duties, this person must participate in the IA program for each evaluation period.

6.4 All QA Testing Equipment shall be inventoried yearly and entered into the Division's approved equipment tracking system. If additional testing equipment is acquired, it shall be added to this system.

7. PORTLAND CEMENT CONCRETE (PCC)

7.1 Each QA Tester who tests PCC during the evaluation period shall perform an IA Test corresponding to the test they performed during that evaluation period.

7.2 The minimum required IA Sample test frequency for each QA Tester and QA Test Equipment is as follows:

PCC IA Samples Frequency	
Air – AASHTO T 152	1/Year
Compressive Strength Testing - AASHTO T 22	1 Set/Year
Slump – AASHTO T 119	1/Year

7.3 For PCC, the Division will host at least one in-house proficiency sample style test of plastic concrete. This event shall be a group event where plastic concrete is provided, and each QA Tester is present. The QA Tester will test the material using the equipment they typically use to test concrete. If a QA Tester cannot attend this event, they shall attend a make-up event or be individually evaluated by the IA sampler.

7.4 Plastic Concrete Testing:

7.4.1 For plastic concrete testing, each QA Tester, their testing equipment, as well as their results shall be recorded.

~~7.4.1~~7.4.2 Plastic concrete testing at a minimum includes AASHTO T 152 (air content) and AASHTO T 119 (slump).

~~7.4.2~~7.4.3 During the event described in Section 7.3, the IA Sampler as well as representatives from MCS&T Division will observe the QA Testers to ensure proper testing procedures are followed.

~~7.4.3~~7.4.4 If a QA Tester is observed deviating significantly from testing procedures, the IA Sampler or an MCS&T Division representative may note that test as a Non-Satisfactory Evaluation, regardless of the QA Tester's results. In this case, the test shall be considered Non-Satisfactory, and a CAR will be required. Also, the QA Tester's results shall be discarded from the population of results.

7.5 Cylinder Testing:

7.5.1 For each set of cylinders in cylinder testing, the cylinder fabricator, the Tester, testing equipment, and results shall be recorded and sent to the IA sampler.

7.5.2 Cylinder testing at a minimum includes AASHTO T 22 (compressive strength).

~~7.5.1~~7.5.3 At the event described in Section 7.3, a standard set of 4"x8" cylinders shall be created for each of the QA Testers who performs the AASHTO T22 test at each District. This set of cylinders shall be fabricated by a tester from that District, if one is present. If a District has more than 1 QA Tester or more than 1 set of testing equipment, additional sets of cylinders shall be fabricated for each instance.

~~7.5.2~~7.5.4 In the instance of a non-DOH testing laboratory, a certified individual from the lab's primary District shall fabricate the cylinders as they would for their own District testing laboratory.

~~7.5.3~~7.5.5 If a QA Tester for a particular District does not attend, a set of cylinders shall be fabricated for that District by either the IA Sampler or another District. This set of cylinders will be tested by that District but will only be considered a "back-up" case if that District cannot attend another session.

~~The fabricator and testing equipment shall be noted for cylinder testing.~~

7.6 ~~Upon testing of the cylinders, the Tester, testing equipment and results shall be documented and sent to the IA Sampler.~~For PCC the QA Testing Equipment is as follows:

1. Compressive Strength Testing Machine
2. Type B Pressure Meter
3. Slump Cone

8. ASPHALT CONTENT – IGNITION OVEN – BURN OFF

8.1 Each QA Tester who tests for Asphalt Content during the evaluation period shall perform a yearly burn off IA Test.

8.2 The minimum required IA Sample test frequency for each QA Tester and QA Test Equipment is as follows:

Asphalt IA Samples	
Asphalt Content by Ignition - AASHTO T 308	1/year
Percent Passing the #200 Sieve - AASHTO T 30	1/year

8.3 AASHTO re:source:

8.3.1 Each QA Tester shall participate in the AASHTO re:source proficiency program for Asphalt Mixture Ignition Oven (HMI). This shall apply to all the tests listed in Section 8.2.

8.3.2 If there are more QA Testers in a District than distributed samples, the District shall request additional AASHTO re:source aggregate samples.

~~8.1~~8.4 MCS&T Distributed Samples:

8.4.1 Since most Districts operate multiple ignition ovens, in addition to the AASHTO re:source samples, MCS&T Division shall obtain and distribute a homogeneously split sample for each of the District's ignition ovens.

8.4.2 MCS&T shall also distribute a sample of this material to Non-DOH laboratories for each QA Tester and QA testing equipment.

8.5 ~~The QA Tester, the QA Testing Equipment as well as the results shall be documented and sent to the IA Sampler.~~ For AASHTO re:source and MCS&T distributed samples, the QA Tester, QA Testing Equipment, and test results shall be recorded and sent to the IA Sampler. This shall apply to all the tests listed in Section 8.2.

8.6 For Ignition Oven Asphalt tests the QA Testing Equipment is as follows:

1. Ignition Oven

~~The minimum required IA Sample test frequency for each QA Tester and QA Test Equipment is as follows:~~

~~Asphalt IA Samples~~	
~~Asphalt Content by Ignition - AASHTO T 308~~	~~1/year~~
Percent Passing the #200 Sieve - AASHTO T 30	1/year

9. SUPERPAVE ASPHALT CONCRETE

9.1 Each QA Tester who tests SuperPave Asphalt Concrete during the evaluation period, in addition to the yearly burn off IA test, shall perform an IA Test corresponding to each test they performed during that evaluation period.

9.2 The minimum required IA Sample test frequency for each QA Tester and QA Test Equipment is as follows:

SuperPave IA Samples	
Air Voids - AASHTO T 269	1/year
~~Asphalt Content by Ignition - AASHTO T308~~	~~1/year*~~
Bulk Specific Gravity, Vacuum - AASHTO T 331	1/year
Bulk Specific Gravity, SSD - AASHTO T 166	1/year
Maximum Specific Gravity - AASHTO T 209	1/year
Asphalt Content by Ignition - AASHTO T 308	1/year*
~~Percent Passing the #200 Sieve - AASHTO T 30~~	~~1/year*~~

~~*NOTE. This burn off evaluation is in addition to that described in Section 8~~These tests are ~~included in the yearly burn off IA test described in Section 8.~~

9.3 Each QA Tester shall participate in the AASHTO re:source proficiency program for Asphalt Mixture Gyratory (HMG) for SuperPave Asphalt Material. This shall apply to all the tests listed in Section 9.2.

9.3.1 If a District has multiple QA Testers and/or QA Testing Equipment, that District shall request additional AASHTO re:source samples to ensure that all QA Testers and QA Testing Equipment are evaluated.

9.4 The QA Tester, QA Testing Equipment, and test results shall be recorded and sent to the IA Sampler. This shall apply to all the tests listed in Section 9.2.

9.5 For SuperPave Asphalt Concrete the QA Testing Equipment is as follows:

1. Gyratory Compactor
2. Core Lok - Asphalt Density Measurement System
3. ~~Ignition Oven~~

10. MARSHALL ASPHALT CONCRETE

10.1 Each QA Tester who tests Marshall Asphalt Concrete during the evaluation period, in addition to the yearly burn off IA test, shall perform an IA Test corresponding to each test they performed during that evaluation period.

10.2 The minimum required IA Sample test frequency for each QA Tester and QA Test Equipment is as follows:

Marshall IA Samples	
Bulk Specific Gravity, SSD - AASHTO T166	1/year
Maximum Specific Gravity - AASHTO T209~~Marshall Stability/Flow - AASHTO T245~~	1/year
Air Voids - AASHTO T 269	1/year

Marshall Stability/Flow - AASHTO T245~~Maximum Specific Gravity - AASHTO T209~~	1/year~~1/year~~

10.3 Each QA Tester shall participate in the AASHTO re:source proficiency program for Asphalt Mixture Marshall Design (MAR) for ~~SuperPave~~Marshall Asphalt Material. This shall apply to all the tests listed in the Table in Section 10.2.

10.3.1 If a District has multiple QA Testers and/or QA Testing Equipment, that District shall request additional AASHTO re:source samples to ensure that all QA Testers and QA Testing Equipment are evaluated.

10.4 The QA Tester, QA Testing Equipment, and test results shall be recorded and sent to the IA Sampler. This shall apply to all the tests listed in Section 10.2.

10.5 For Marshall Asphalt Concrete the QA Testing Equipment is as follows:

1. Marshall Hammer
2. Marshall Stabilometer ~~Ignition Oven.~~

11. AGGREGATE GRADATION

11.1 Each QA Tester who tests Aggregate during the evaluation period shall perform an IA Test corresponding to the test they performed during that evaluation period.

11.2 The minimum required IA Sample test frequency for each QA Tester and each piece of QA Testing Equipment is as follows:

Aggregate Gradation Samples	
AASHTO T27 (Sieve Analysis of Aggregates) ~~and T11~~	1/year
AASHTO T11 (Materials Finers than No. 200 Sieve)	1/year

11.3 AASHTO re:source

11.3.1 Each District QA Tester shall participate in the AASHTO re:source proficiency program for Aggregate.

11.3.2 If there are more QA Testers in a District than distributed samples, the District shall request additional AASHTO re:source aggregate samples.

11.4 MCS&T Distributed Samples:

11.4.1 Because the Districts have multiple shakers, in addition to the AASHTO re:source samples, MCS&T shall distribute a homogeneously split sample to each testing lab

for each set of QA testing equipment. Any QA Tester in the District may test these samples.

11.4.2 MCS&T shall also distribute a sample of this material to Non-DOH laboratories for each QA Tester and QA testing equipment.

11.4.3 The specific class and type of material shall be selected by the IA Sampler. The material shall consist of AASHTO specified gradation.

11.5 All specified sieves will be evaluated for the material passing. For the AASHTO re:source proficiency sample, all scored sieves will be evaluated.

1.1 For AASHTO re:source and MCS&T distributed samples, the QA Tester, QA Testing Equipment, and test results shall be recorded and sent to the IA Sampler. This shall apply to all the tests listed in Section 11.2.

~~11.5~~11.6 For Aggregate Gradations the QA Testing Equipment is as follows:

~~1.~~2. Aggregate Shaker

12. COMPACTION

12.1 The WVDOH is currently evaluating the process of adding Asphalt and/or Aggregate/Soil Compaction to the IA program. The goal is to add this to the program for the 2026 evaluation period.

13. EVALUATION PROCEDURE

13.1 IA Samples will be evaluated statistically when the population of results is 5 or greater. If the IA Sample is not provided by AASHTO re:source in the form of a Proficiency Sample, it will be evaluated by the WVDOH IA Sampler. The calculation method used by ASHTO re:source shall be followed. The calculation method is shown in Attachment 3.

13.2 If the samples are provided by AASHTO re:source a rating of 3, 4, 5, as assigned by the testing agency, shall be considered satisfactory.

13.3 In the event where the population is less than 5, samples will be evaluated by averaging the test~~s~~ results and using the respective AASHTO Precision and Bias Table as the acceptable range of values between the IA Sampler and the QA Tester(s). In this event, the evaluation method will be specifically described in that year's IA report.

13.3.1 For example, if the average is 5.0 and the table provides a precision and biased of 1.2, the test values must fall between 3.8 and 6.2 to be considered satisfactory.

13.4 If the results of an evaluation are satisfactory, the evaluation will be considered successful. A successful evaluation will verify both the QA Tester and the QA Testing Equipment used during the IA Test.

13.5 If the results of an evaluation are deemed non-satisfactory, the IA Test will be reviewed by the IA Sampler and/or the respective District Materials Supervisor. Within 30 days of notification of the non-satisfactory evaluation, the reviewer shall submit a Corrective Action Report to the Director of Materials Control Soils and Testing Division. This Corrective Action Report will be included in the yearly IA

Report. A sample of this Corrective Action Report is provided in Attachment 1. The live version of the file is in the WVDOH MCS&T Toolbox[4].

13.5.1 If possible, an additional IA Sample will be tested by the QA Tester in that calendar year, using the same QA Testing Equipment. This IA Test will be closely observed by the IA Sampler or their designee to help establish the root cause.

13.5.2 If this cannot be accomplished during the calendar year, the process will be followed for the subsequent calendar year's IA Sample.

~~13.5.2~~13.5.3 If the QA Tester's evaluation for a given test is non-satisfactory for two or more successive evaluation periods, and is not caused by QA test equipment or sampling methods, then actions outside a CAR shall be taken by the IA Sampler to confirm the Tester's proficiency for the given test.

13.6 The evaluation criteria in this section shall be evaluated every three years. The most recent evaluation of this criterion was on :

_____ by _____ (Director of MCS&T)**.

** Note: This document shall be effective as per the signature date at the end of this document. However, the live version of this document will be updated as indicated above. This review date will not affect the signature nor effective date of the procedure, but rather provide documentation of WVDOH's compliance with Federal guidelines.

14. RECIPROCITY OF IA TESTING AND TECHNICIAN CERTIFICATION.

14.1 If the practical exam portion of the technician certification program (as described in MP 106.03.50) is equivalent to that of an IA Sample, reciprocity between these tests can be applied if agreed upon by both the Technician Certification Coordinator and the IA Sampler.

14.2 At the discretion of the Technician Certification and Training Coordinator, a successful IA sample may be considered the "Practical" portion of a technician's recertification for the respective material.

14.3 At the discretion of the IA sampler, the practical portion of either a certification or recertification may be considered a successful IA sample.

15. REPORTING

15.1 The evaluation period shall be the calendar year, starting with January 1st and ending December 31st.

15.2 The annual IA report shall be submitted to FHWA. The due date for the report is April 1st of the year following the evaluation year. The annual report shall include the following information: the number of certified technicians, the number of testing equipment used for QA, the number of active technicians, the number of technicians covered by the IA program, the number of IA Samples that were Non-Satisfactory, and a summary of the Corrective Action Reports along with the potential systematic solutions to reoccurring deficiencies (FHWA-HIF-12-001).

[4] https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx

~~15.1.1~~15.2.1 The report shall also include a summary of the ~~ratio~~Division's performance verifying ~~of~~ QC samples ~~to~~with QA samples during as per MP 700.00.54. ~~t~~The evaluation ~~period~~shall be for for each of the required tests for each material during the evaluation period. ~~These ratios shall be observed by the IA Sampler to ensure compliance with MP 700.00.54.~~

Michael A Mance, PE
Director
Materials Control, Soils & Testing Division

MP 700.00.53 Steward – Materials Control Section
MAM:Bb
ATTACHMENTS

Attachment 1: Sample Corrective Action Report

WVDOH Independent Assurance Corrective Action Report		
	Form 2025-IA-CAR	
Date of Occurrence:		
Date Submitted:		
Name of Tester:		
Testing Equipment:		
Material Tested:		
Describe the issue reported:		
Sample		
What was the root cause of the issue?		
What actions have been done to correct this issue?		
Signature of QA Tester		
Signature of District Materials Supervisor		
Signature of District Construction Engineer	Review: MCST	

Attachment 2: Office of Pavement Technology Publication No. FHWA-HIF-12-001[5], October 2011.

[5] https://www.fhwa.dot.gov/pavement/materials/hif12001.pdf

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PROCEDURE FOR EVALUATING PRODUCTS FOR USE IN HIGHWAY CONSTRUCTION

1. SCOPE

1.1 New products are frequently presented to the Division by various manufacturers, suppliers and/or producers (MS&Ps) with a request that they be considered for use in our highway program. To facilitate handling of such requests in a uniform and expeditious manner, this Materials Procedure outlines the steps necessary for such product submittal and evaluation. This Procedure covers the addition of approved submitted products to the Division's Approved Product List (APL).

1.2 This Materials Procedure outlines the review of materials for use outside of standard bid contract work. This applies to District Purchase Order Projects and outlines a path for the addition of materials to the Division's Qualified Purchase Order Materials (QPOMs).

2. REFERENCE DOCUMENTS

2.1 MP 106.00.03: Guidelines for Establishing and Maintaining Approved Product Lists of Materials, Systems and Sources.

2.2 MP 106.10.50: WVDOH Buy America Acceptance Guidelines.

3. DEFINITIONS

3.1 MCS&T Reviewing Entity: The applicable Section Supervisor at MCS&T who is responsible for the review and acceptance of a new product.

3.2 Non-MCS&T Reviewing Entity: A subject matter expert at a WVDOH division separate from MCS&T.

3.3 Project: For this Materials Procedure, this term means a traditional bid contract.

3.4 APL: Approved Product List.

3.5 MS&Ps: Material Supplier and/or Producer.

3.6 QPOM: Qualified Purchase Order Material.

3.7 QPOS: Qualified Purchase Order Submittal.

3.8 PO Project: Purchase Order Project.

4. SUBMISSION OF PRODUCT

4.1 Consideration for product evaluation shall be requested through completion by the MS&Ps of WVDOH Form HL-468, "Preliminary Information for New Product

Evaluation". Once completed, DOH Form HL-468 shall be submitted to the MCS&T via email to the New Products Evaluation email address: DOHNewProducts@wv.gov .

4.1.1 The HL-468 Form can be found on the MCS&T Division's Materials Procedures Webpage[1]. A sample of this form is shown in Attachment 1. An online form may also be used to meet this requirement.

4.2 When submitting a product, the MS&P shall indicate whether the product is being submitted for either an APL or QPOM.

4.2.1 If a MS&P wishes the product to be submitted for both the APL and QPOM, they must complete two separate HL-468s. These may be sent together.

5. REVIEW OF SUBMITED PRODUCT

5.1 Upon receipt of the completed Form HL-468, the MCS&T Division shall distribute to applicable MCS&T Reviewing Entity for preliminary evaluation.

5.1.1 Within 30 calendar days of receipt, the MCS&T Reviewing Entity shall review the submittal in accordance with the applicable material requirements and decide if the product is acceptable.

5.1.2 This MCS&T entity shall ultimately be responsible for the review of the new product, though they may reach out to Non-MCS&T Reviewing Entities for additional approving criteria.

5.1.3 A Non-MCS&T Reviewing Entity shall be given 7 calendar days to review the submission before making a final decision. If the entity does not respond within that time, their affirmation for the approval will be assumed by the MCS&T Entity.

5.2 If the preliminary review indicates that additional information is needed, the MS&P shall be notified to submit additional information. This may include but not be limited to: samples, product specifications, certified test data, or product demonstrations. Product testing shall be coordinated by the MCS&T Division with the results of any further testing/evaluation being submitted to all appropriate evaluating parties. In the case where additional information has been requested or additional testing is required, the 30-day timeframe shall be reset to the date when the additional information is provided, or the testing has been completed.

5.3 If the MS&P fails to submit the request information within 30-days, the reviewing entity may reject the request. Discretion may be given if the information request requires testing or evaluation that would exceed this time frame.

6. APPROVED PRODUCT LIST

6.1 If the review indicates that the product meets the specifications, it shall be considered accepted and added to the APL. The MS&P shall be notified via letter.

6.2 If the reviewing entity determines that the WVDOH does not currently have any specifications for the submitted product, the WVDOH shall notify the MS&P via

[1] https://transportation.wv.gov/highways/mcst/Pages/MP-100s.aspx

email that there is no specification; the MS&P may choose to submit the product for consideration as a QPOS (see Section 7.)

6.2.1 If the MS&P indicates that they do not wish to be considered a QPOS, a non-approval letter shall be sent.

6.3 If the evaluation indicates that the product is not acceptable, the MS&P shall be notified by MCS&T via letter. The MS&P shall not submit the same product for evaluation within a six-month period.

6.4 In the instance where a product has significant approved usage, the Director (or their Designee) of MCS&T may add a product to either a new or existing APL as per MP 106.00.03. If a product is a candidate for being added to the APL in this manner, the MCS&T Lab Coordinator shall contact the MS&P prior to the addition of the product to the APL to request completion of the required HL-468.

7. QUALIFIED PURCHASE ORDER MATERIALS

7.1 All products which appear on the Division's APL are approved for use on PO Projects. Under no circumstances shall an approved QPOM be used on a project without prior testing and approval.

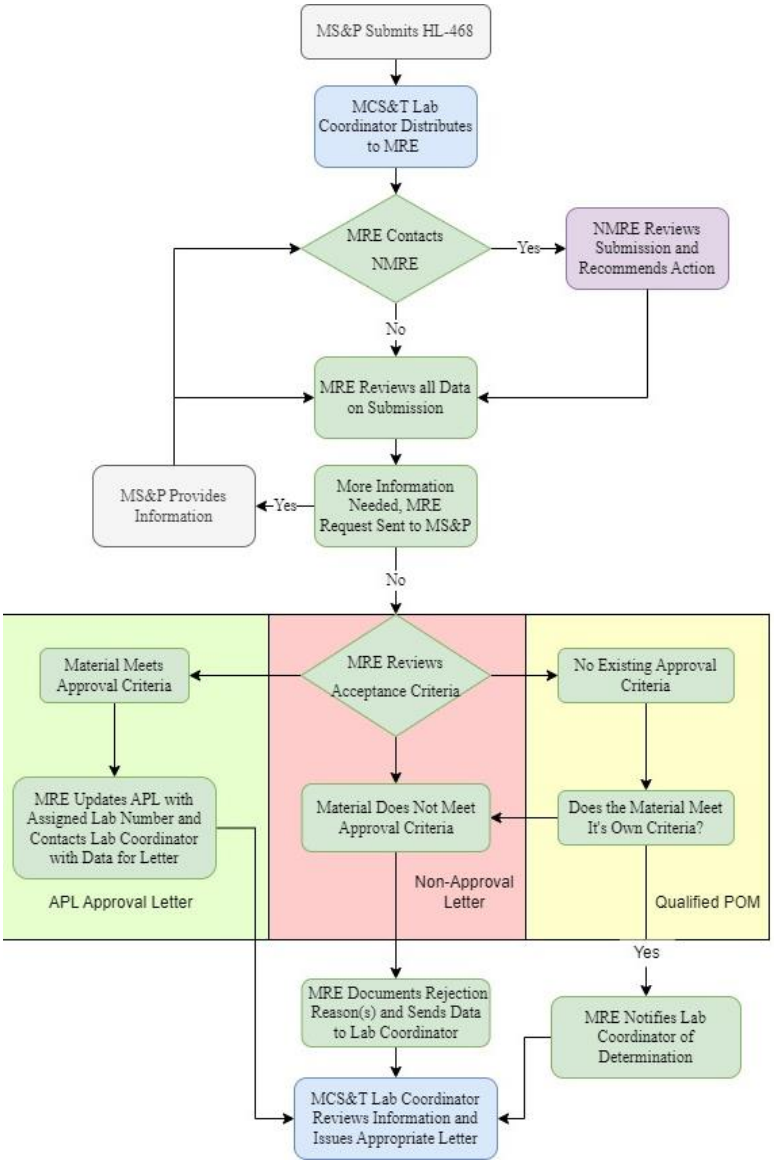
7.2 The reviewing entity shall determine if the QPOS performs as specified by the manufacturer. If this product meets those criteria, a QPOM acceptance letter shall be issued.

7.3 If the evaluation indicates that the product is not acceptable, the MS&P shall be notified by MCS&T via letter. The MS&P shall not submit the same product for evaluation within a six-month period.

8. PROCESS FLOW CHART

8.1 A flow chart for the process is provided in Figure 1

Figure 1: Flow Chart for Approved Products List Process.



Key:
MRE: MCS&T Reviewing Entity
NMRE: Non-MCS&T, WVDOH Reviewing Entity
MS&P: Manufacturers, Suppliers and/or Producers

9. NOTIFICATION LETTERS

9.1 Sample language for submission responses is shown in Attachment 2.

10. DOCUMENTATION OF REVIEWED PRODUCTS

10.1 MCS&T shall maintain a directory on the Division's APL Webpage[2] listing all the current approved products.

10.1.1 Additionally, MCS&T may evaluate the product listing after one year to determine if the performance or functionality of the product/process meets the desired results, goals, or intentions of the DOH. Any such evaluation may result in the product being removed from the APL.

10.2 MCS&T shall maintain a directory on the Division's QPOM Webpage[3] listing all products in this category.

10.2.1 Additionally, MCS&T may evaluate the QPOM listing after one year to determine if the performance or functionality of the product/process meets the desired results, goals, or intentions of the DOH. Any such evaluation may result in the product being removed from the list.

11. REMOVAL OF PRODUCTS FROM APL OR QPOM

11.1 If, at any time the reviewing entity determines that a previously approved product no longer meets the specifications, the product shall be removed from the respective list.

11.2 In this instance, the reviewing entity shall notify the MS&P via letter.

12. BUY AMERICA

12.1 Each HL-468 submission must include whether the product meets the Federal and State Buy America requirements of Section 106.1 of the Specifications. If the MS&P indicates that their product meets Buy America requirements, the company shall produce a notarized Certificate of Compliance (CoC) signed by a company official with knowledge and authority to certify the product is compliant with applicable Buy America requirements.

12.1.1 In the event where the source of materials is changed and is no longer Buy America compliant, the MS&P must notify MCS&T in writing.

12.1.2 Under no circumstance shall the CoC described above be used for Buy America compliance on a project. Each project much submit a CoC as described in MP 106.10.50 "WVDOH Buy America Acceptance Guidelines."

12.2 A notarized CoC shall contain the following information:

12.2.1 Title: Certification of Buy America compliance for Source Approval.

12.2.2 The Name, Address and Contact Information for the Company.

12.2.3 The date of the application

12.2.4 A company statement that demonstrates compliance with Buy America.

[2] https://transportation.wv.gov/highways/mcst/Pages/APL_By_Number.aspx
[3] https://transportation.wv.gov/highways/mcst/Pages/APL_By_Number.aspx

12.2.5 The name of the material and/or material code reference in the CoC. This material name shall be a clear, common name of the material that is comparable to the AWP Material Name[4]. Part Numbers etc. may also be on the document if the company wishes.

12.2.6 Signature of the Company Official and date.

12.3 The document must be notarized.

12.4 A sample of this CoC document is provided in Attachment 3.

_____
Michael A. Mance PE,
Director
Materials Control, Soils & Testing Division

MP 106.00.02 Steward – Lab Support Section
MAM:B
ATTACHMENTS

[4] See "AWP Material Codes" at https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx

ATTACHMENT 1 - SAMPLE HL-468 FORM

FOR COMMITTEE SHOWN AFTER ATTACHMENT 2

Attachment 2: Sample APL Response Language

1. APL APPROVAL RESPONSE

West Virginia Division of Highways (WVDOH) Laboratory Approval Numbers 2XXXXXX has been issued to your company <Name of Company>, for the Approved Product List. The approval number, effective Date Month Day, 20XX, must appear on all shipping documentation for said product supplied to the ~~Division of Highways~~WVDOH projects.

2. NO APL RESPONSE:

The West Virginia Division of Highways (WVDOH) has evaluated your submittal of <Product Name>, <Product Material> as per Materials Procedure MP 106.00.02. This Division is not approving your material at this time for the Approved Product List; the WVDOH does not currently have a Specification or Materials Procedure which applies to your product.

This material may be evaluated for the Division's Quality Purchase Order Material List as specified in MP 106.00.02.

Designers may propose the use of this product in project plans or Contractors may propose the use of the product in projects they are constructing for the WVDOH. In either case, the WVDOH would evaluate the product and its proposed application in the specific project to make a determination on approving the use of it at that time. ~~The inclusion of the material into a contract project's design does not rest with this Division, though it may be specified at the discretion of WVDOH Designers or requested to be used by Contractors. If a contractor would propose to use it on a WVDOH project, or if the product is specified in Contract Documents, this product may be used, pending an individual evaluation on that project.~~

3. NON-APPROVAL RESPONSE (APL)

This material was submitted to the West Virginia Division of Highways for consideration in accordance with Materials Procedure 106.00.02.

This letter is to notify you that the Division ~~has elected to~~is not ~~approve~~ approving this product ~~currently~~at this time. As per Section <XXX> of the Standard Specifications Roads and Bridges, "<Description of Non-Approval Reason>."

4. QPOM ACCEPTANCE

The West Virginia Division of Highways (WVDOH) has evaluated your submittal of <Product Name>, <Product Material> as per Materials Procedure MP 106.00.02 for the Quality Purchase Order Material List.

West Virginia Division of Highways (WVDOH) Laboratory Approval Numbers Q2XXXXXX has been issued to your company <Name of Company>, for the above-mentioned product. This number, effective Date Month Day, 20XX, must appear on all shipping documentation for said product.

This product has been evaluated and meets the provided criteria. This material has been added to the Qualified Purchase Order Material List for use on Purchase Order projects only. The list is available on the Division's Webpage[5]. This material has not been added to the Division's Approved Product List and shall not be used on a contract project without prior approval.

5. NON-APPROVAL RESPONSE (QPOM)

This material was submitted to the West Virginia Division of Highways for consideration in accordance with Materials Procedure 106.00.02.

This letter is to notify you that the Division ~~has elected to not~~is not ~~approve~~ approving this product for the Qualified Purchase Order Master List currently. As per the provided criteria, this material <description of failure>."

[5] https://transportation.wv.gov/highways/mcst/Pages/Quality-Purchase-Order-Materials-List.aspx

ATTACHMENT 3: SAMPLE COMPLIANCE FORM

Certification of Buy America, Build America Compliance For Source Approval

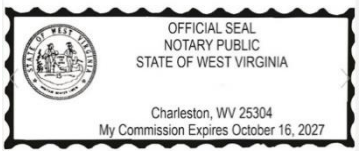
Acme Manufacturing Company
123 Main Street
Charleston, WV
25302

HL 468 Submission Date: 10/31/2022

The below listed materials and products meets all the requirements of all Federal and State Laws for Buy America, including but not limited to: Chapter 5, Article 19 and Chapter 5A, Article 3 Section 56 of the West Virginia Code; 23 U.S.C. 313 Buy America, 23 CFR 635.410 Buy America Requirements, and Build America, Buy America Act, Section 70914.

This Certification of Compliance is for the material listed below:

526.003.004 - Widget, Part Qi
596.003.004 - Widget, Part Hr



Jonathan Doe, Quality Assurance Manager

WVDOH Use Only

Reviewed by: Reviewed Date: Status:

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

WVDOH BUY AMERICA ACCEPTANCE GUIDELINES

1. PURPOSE

1.1 To set forth instructions for compliance with both State and Federal Buy America Requirements (henceforth referred to as "Buy America Requirements"), as listed in this document.

2. REFERENCED DOCUMENTS

2.1 PUBLIC LAW 117–58—NOV. 15, 2021, Infrastructure Investment and Jobs Act.

2.2 Build America, Buy America Act (BABA).

2.3 23 U.S.C. 313 and 23 CFR 635.410 "Buy America Requirements".

2.4 2 CFR part 184 Buy America Preferences for Infrastructure Projects.

2.5 M-22-11 Initial Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure.

2.6 M-24-02 Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure.

2.7 Chapter 5, Article 19 and Chapter 5A, Article 3, Section 56 of the West Virginia Code, entitled "West Virginia American Steel Act of 2001."

2.8 West Virginia Notary Handbook, Current Edition.

2.9 MP 106.10.51 – WVDOH Buy America Waiver Guidelines.

~~2.9~~2.10 MP 106.10.52 – WVDOH Buy America De Minimis Exceptions

3. ACCEPTANCE OF MATERIALS

3.1 This procedure applies to the following:

1. Steel and Iron
2. Manufactured Products
3. Construction Materials
4. Section 70917(c) Materials

3.2 An article, material, or supply shall only be classified into a single category listed in Section 3.1. In some cases, an article, material, or supply may not fall under any of these categories. Classification of the category must be made based on the status of article, materials, or supply at the time it is brought to the work site for incorporation into the project. The work site is generally the location of the project at which the materials will be incorporated. An article, material, or supply permanently incorporated into a project must meet the Buy America Preference for only the single category in which it is classified.

3.3 A Buy America preference only applies to articles, materials, and supplies that are consumed in, incorporated into, or affixed to a project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding brought to the construction site and removed at or before the completion of the project. Nor does a Buy America preference apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished project but are not an integral part of the structure or permanently affixed to the project.[1]

3.3.1 Buy America preference does not apply to materials such as temporary paint or temporary traffic control devices.

3.3.2 Glass added to a permanent paint product requires a Certificate of Compliance.

4. STEEL AND IRON

4.1 Pursuant to Buy America Requirements, all manufacturing processes for steel and iron products must take place in the United States.

4.2 Definition

4.2.1 "Iron or steel products" means articles, materials, or supplies that consist wholly or predominantly of iron or steel or a combination of both.

4.2.1.1 "Predominantly of iron or steel or a combination of both" means that the cost of the iron and steel content exceeds 50 percent of the total cost of all its components. The cost of iron and steel is the cost of the iron or steel mill products (such as bar, billet, slab, wire, plate, or sheet), castings, or forgings utilized in the manufacture of the product and a good faith estimate of the cost of iron or steel components.

4.3 Standard

4.3.1 This includes all processes from the initial melting stage through application of coatings occurs in the United States.

5. MANUFACTURED PRODUCTS

5.1 Pursuant to Buy America Requirements, all Manufactured Materials are required to be produced in the United States. All manufacturing processes shall occur in the United States.

5.2 Definition

5.2.1 Manufactured products means articles, materials, or supplies that have been processed into a specific form and shape, or combined with other articles, materials, or supplies to create a product with different properties than the individual articles, materials, or supplies. If an item is classified as an iron or steel product, an excluded material, or other product category as specified by law or in 2 CFR part 184, then it is not a manufactured product. However, an article, material, or supply classified as a manufactured product may include components that are iron or steel products, excluded materials, or other product categories as specified by law or in 2 CFR part 184

[1] M-24-02: Memorandum for the Heads of Executive Departments and Agencies, Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure, Page 4

. Mixtures of excluded materials delivered to a work site without final form for incorporation into a project are not a manufactured product.

5.3 Standard for Projects Obligated on or after October 1st, 2025 (Final Assembly Standard)

5.3.1 Pursuant to Buy America Requirements, all manufactured products used in the project are produced in the United States; this means the final assembly of the manufactured product was manufactured in the United States.

5.4 Standard for Projects Obligated on or after October 1st, 2026 (55 Percent Standard)

5.4.1 Pursuant to Buy America Requirements, all manufactured products used in the project are produced in the United States; this means the manufactured product was manufactured in the United States; and the cost of the components of the manufactured product that are mined, produced, or manufactured in the United States is greater than 55 percent of the total cost of all components of the manufactured product, unless another standard that meets or exceeds this standard has been established under applicable law or regulation for determining the minimum amount of domestic content of the manufactured product.[2]

5.4.1.1 In determining whether the cost of components for manufactured products is greater than 55 percent of the total cost of all components, use the following instructions:

1. For components purchased by the manufacturer, the acquisition cost, including transportation costs to the place of incorporation into the manufactured product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued).
2. For components manufactured by the manufacturer, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1), plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the manufactured product.

6. CONSTRUCTION MATERIALS.

6.1 Pursuant to Buy America Requirements, all Construction Materials are required to be produced in the United States. All manufacturing processes for the Construction Materials shall occur in the United States.

6.2 Definition

6.2.1 Construction materials means articles, materials, or supplies that consist of only one of the items listed in Section 6.2.1.1, except as provided in Section 6.2.1.2. To the extent one of the items listed in Section 6.2.1.1 contains as inputs other items listed in this section, it is nonetheless a construction material.

[2] M-24-02: Memorandum for the Heads of Executive Departments and Agencies, Implementation Guidance on Application of Buy America Preference in Federal Financial Assistance Programs for Infrastructure, Page 15-16.

6.2.1.1 The listed items are:

1. Non-ferrous metals;
2. Plastic and polymer-based products (including polyvinylchloride, composite building materials, and polymers used in fiber optic cables);
3. Glass (including optic glass);
4. Fiber optic cable (including drop cable);
5. Optical fiber;
6. Lumber;
7. Engineered wood; and
8. Drywall.

6.2.1.2 Minor additions of articles, materials, supplies, or binding agents to a construction material do not change the categorization of the construction material.

6.3 Standard

6.3.1 The Buy America Preference applies to the following construction materials incorporated into projects. Each construction material is followed by a standard for the material to be considered "produced in the United States."

1. Non-ferrous metals. All manufacturing processes, from initial smelting or melting through final shaping, coating, and assembly, occurred in the United States.
2. Plastic and polymer-based products. All manufacturing processes, from initial combination of constituent plastic or polymer-based inputs, or, where applicable, constituent composite materials, until the item is in its final form, occurred in the United States.
3. Glass. All manufacturing processes, from initial batching and melting of raw materials through annealing, cooling, and cutting, occurred in the United States.
4. Fiber optic cable (including drop cable). All manufacturing processes, from the initial ribboning (if applicable), through buffering, fiber stranding and jacketing, occurred in the United States. All manufacturing processes also include the standards for glass and optical fiber, but not for non-ferrous metals, plastic and polymer-based products, or any others.
5. Optical fiber. All manufacturing processes, from the initial preform fabrication stage through the completion of the draw, occurred in the United States.
6. Lumber. All manufacturing processes, from initial debarking through treatment and planing, occurred in the United States.
7. Drywall. All manufacturing processes, from initial blending of mined or synthetic gypsum plaster and additives through cutting and drying of sandwiched panels, occurred in the United States.
8. Engineered wood. All manufacturing processes from the initial combination of constituent materials until the wood product is in its final form, occurred in the United States.

6.3.2 Except as specifically provided, only a single standard under this section should be applied to a single construction material.

7. SECTION 70917(C) MATERIALS

7.1 The standards developed under BABA 70915(b) (1) shall not include cement and cementitious materials, aggregates such as stone, sand, or gravel, or aggregate binding agents or additives as inputs of the construction material. These are referred to as 70917(C) materials.

7.2 Definition

7.2.1 Section 70917(c) materials means cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives. See section 70917(c) of the Build America, Buy America Act.

7.3 These materials are exempt from Buy American Requirements.

8. BUY AMERICA COMPLIANCE.

8.1 On a given project, the Division shall not accept, approve, authorize, or make any payments to any Contractor not fully compliant with Buy America.

8.1.1 When Buy America Requirements apply, the Contractor shall furnish a notarized Certificate of Compliance signed by their official with knowledge and authority to certify that all applicable materials and products to be incorporated into the project, including those of any subcontractors and suppliers, are compliant with Buy America Requirements. This shall be done prior to the permanent incorporation of the materials into the project.

8.1.2 In the event of a change order which includes the addition of new materials, a new Certificate of Compliance shall be furnished to include the new materials.

8.1.3 The notarized Certificate of Compliance shall contain the following information:

8.1.3.1 Title: Buy America Certification of Compliance.

8.1.3.2 The Name, Address and Contact Information for the Contractor.

8.1.3.3 A contractor statement that demonstrates compliance with Buy America Requirements.

8.1.3.4 The Contract ID for the Material (if applicable).

8.1.3.5 Both the Federal and State Project Number for the Material (if applicable).

8.1.3.6 The name of the material referenced in the Certificate of Compliance. This material name shall be a clear, common name for the material as stated in the proposal. Part Numbers, etc., may also be on the document if the contractor wishes.

8.1.3.7 The Line Item for the Material (if applicable).

8.1.3.8 The Bid and/or Placed Quantity of the Material.

8.1.3.9 Signature of the Contractor and date.

8.1.3.10 A list of materials on the project that "Buy America" applies but are not Buy America compliant.

8.1.3.11 If the notarization occurs in the state of West Virginia, the document must be notarized as per the "West Virginia Notary Handbook."

8.1.3.11.1 If the notarization does not occur in West Virginia, the document must be notarized as per the respective state of origin's Notary Handbook equivalent.

8.2 Attachment 1 shows a sample Certificate of Compliance.

8.2.1 Multiple items may be listed on the Certificate of Compliance, though all the information for each line must be on the document.

8.2.2 A list of these materials may be referenced on an attached page as long as that page is also signed and notarized.

9. CERTIFICATE OF COMPLIANCE TOOL

9.1 The WVDOH has created an online tool to generate a Certificate of Compliance. This tool is available on the MCST AWP Webpage. The Contractor will select their contract, then generate the report. This report will then be signed and notarized as specified in this document, then submitted to the Project.

9.1.1 In the event of a change order which adds materials, a new Certificate of Compliance must be submitted to include any new material.

10. BUY AMERICA WAIVERS

10.1 Buy America Waivers are outlined in MP 106.10.51 as per "§ 184.7 Federal awarding agency's issuance of a Buy America Preference waiver" and "23 CFR 635.410(c)".

11. BUY AMERICA MATERIALS

11.1 Attachment 2 includes a list of materials and products used in WVDOH construction projects and the applicability of Buy America Requirements. This attachment also shows each category of each based on Section 3.1 of this document. Finally, if the material is not applicable to Buy America Requirements, justification is given. Example exemptions are as follows:

Temporary Material: Material is not permanently incorporated into the project.

11.1.1 This materials and products list may be updated by the Director of MCS&T as needed to ensure compliance with Buy America Requirements. Any update to this form will be in accordance with guidance from and through an affirmation process with FHWA.

11.1.2 Attachment 3 includes OMB Memorandum M-24-02[3], dated October 25, 2023, for additional guidance and as the source material for WVDOH's compliance.

[3] https://www.whitehouse.gov/wp-content/uploads/2023/10/M-24-02-Buy-America-Implementation-Guidance-Update.pdf

12. DOCUMENTATION OF BUY AMERICA CERTIFICATION OF COMPLIANCE

12.1 The Certificate of Compliance shall be placed in the QC Plan Folder in ProjectWise (or the current WVDOH approved document retention software) under the contract.

Michael Mance, P.E.
Director
Materials Control, Soils and Testing Division

MP 106.10.50 Steward – Materials Control Section
ATTACHMENTS

Buy America Certification of Compliance

Acme Construction Company
123 Main Street
Charleston, WV 25302

Ship Date: 10/31/2024

The below listed materials and products meets all the requirements of all Federal and State Laws for Buy America, including but not limited to: Chapter 5, Article 19 and Chapter 5A, Article 3 Section 56 of the West Virginia Code; 23 U.S.C. 313 Buy America, 23 CFR 635.410 Buy America Requirements, and Build America, Buy America Act, Section 70914.

This Certification of Compliance is for the material and project listed below:

CID: 22000005R1
Federal Number: B-0010(000)X
State Number: U002-00-1.00

Line: 0020	Widget, Part Q^{i}	500 Cubits
Line: 0025	Widget, Part H^{r}	300 Cubits

Non-Compliant Buy America Materials

Line: 0055	Widget, Part I^{z}	300 Cubits

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA

Charleston, WV 25304
My Commission Expires October 16, 2027

Janie Doe, Contractor President

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PROCEDURE FOR DETERMINING A REDUCED UNIT PRICE TO BE PAID FOR UNDERDRAIN AGGREGATE WHICH DOES NOT CONFORM TO THE GRADING REQUIREMENTS OF THE GOVERNING SPECIFICATIONS

1. PURPOSE

1.1 This procedure will define a range of non-conformance in the grading of underdrain aggregate that would not be expected to affect its performance to an extent which would necessitate its removal from the project, and will provide a method for reducing the price to be paid for said nonconforming aggregate. Grading characteristics of underdrain aggregate shall be evaluated in accordance with MP300.00.51.

2. SCOPE

2.1 This procedure shall apply only to those aggregates specified for use for underdrains.

3. DEFINITION OF TERMS

3.1 Sublot: The quantity of material represented by a single test value. In the case where only one sample is needed for the total plan quantity, the sublot may be considered the LOT.

3.2 Lot: The quantity of material represented by an average test value. not to exceed five individual test values, calculated in accordance with MP 300.00.51.

3.3 Single test value: The results of testing a sample in accordance with AASHTO test methods T11 and T27.

4. ACCEPTANCE FOR GRADATION

The material shall be sampled and tested in accordance with MP 700.00.06. Acceptance for gradation shall be based on test results of consecutive random samples from a lot. A sublot is the quantity of material represented by a single gradation test as defined in MP 700.00.06. A lot shall be considered the quantity of material represented by an average test value, not to exceed five sublots. In the case where only one sample is needed for the total plan quantity, the sublot shall be considered the lot.

The average shall start on the second sample result. The average is continued for the third through fifth sample result, averaging all previous sample results. Thereafter, only the last consecutive five sample results will be averaged, i.e., second test value through sixth test value, third test value through seventh test value, and so forth as defined in MP 300.00.51.

4.1 When the test value of a lot and the test value of the last sublot, or when the last three consecutive individual test values of a lot fall outside the gradation limits of Table 704.6.2A in the current West Virginia Standard Specifications for Roads and Bridges, the lot of material represented will be considered nonconforming to the extent that the last of its sublots are nonconforming.

4.2 When a sublot is non-conforming and material in the sublot has been incorporated into the work, the sublot shall be tested in accordance with Section 6 to determine the necessity for removal and the price for the quantity of material represented by the nonconforming sublot shall be reduced in accordance with section 8. In no event, however, shall a sublot of material have its price adjusted more than once, and the first adjustment which is determined shall apply.

5. SAMPLING FREQUENCYAND TESTING

5.1 Sampling frequency and testing shall be in accordance MP 307.00.50.

6. ACCEPT OR REMOVE BASED ON DIAMETER OF PERCENT PASSING

6.1 When a sublot of material is nonconforming, the average value representing said sublot shall be plotted such that the relative size can be determined for the 85 percent passing (D_{85}) and the 15 percent passing (D_{15}). Plot the percent finer from the sieve analysis results on a graph with the particle size on the horizontal axis decreasing from left to right and the percent passing on the vertical axis increasing from bottom to top. Draw horizontal lines on the chart representing fifteen percent and eighty five percent passing. Draw vertical lines from the intercept of the gradation lines with fifteen and eighty five percent of the passing curve to the horizonal axis and read the diameter on the horizontal scale.

Thus determined, these values shall be entered in the following formulas:

D_{85} ~~D85~~ < 4 x D_{15}

D_{85} ~~D85~~ > size of pipe opening (perforation)

Where: D_{85} ~~D85~~ = 85 percent passing size
D_{15} ~~D15~~ = 15 percent passing size

If the above formulas are met such that the size at 85 percent passing is less than four (4) times the size at 15 percent passing, and the size at 85 percent passing is greater than the perforation size, then the following procedure shall apply. If one or both formulas are not met, then the material shall be removed from the project site at the Contractors' expense.

6.2 A sample calculation is shown in Attachment 1

7. DEGREE OF NONCONFORMANCE

7.1 When a sublot of material is to have its price adjusted, the percentage point difference between the nonconforming test value and the specification limit shall be determined for each sieve size determined to be nonconforming. The total measure of non-conformance is the sum of all non-conformances on the various sieves for that sublot

When the total degree of nonconformance has been established and it is 12.0 or less, the material will be paid for at an adjusted contract price as specified in Table 1.

Table 1

% of Non-Conformance	% Reduced Price
1.0 to 3.0	2%
3.1 to 5.0	4%
5.1 to 8.0	7%
8.1 to 12.0	11%

7.2 When the degree of nonconformance is greater than 12.0, the nonconforming sublot shall be resolved on an individual basis, requiring a special investigation by the Engineer to determine the appropriate course of action to be followed. Pending resolution of the matter, additional lifts of base or pavement shall not be placed over the nonconforming material.

8. DETERMINATION OF EQUITABLE ADJUSTMENT

8.1 When the total percent of non-conformance has been established and it is 12.0 or less, Table 1 shall be initiated. When the total percent of non-conformance is greater than 12.0, each nonconforming situation will be resolved on an individual basis, requiring a special investigation by the Engineer to determine the appropriate course of action to be followed.

8.2 Method of Equitable Reduction: Dollar reduction shall be calculated by the following formula:

$$A \times B \times C = D$$

(A) - Quantity of Nonconforming Sublot

(B) - Percent Reduction from Table 1

(C) - Unit Contract Price

(D) - Price Reduction.

Example Calculation

1. First, plot the gradation curve as shown in Figure 1.
2. On this Gradation Curve, draw a horizontal line at both 85% and 15% (the percent passing axis).
    a. These are shown in Red (85%) and Green (15%) in Figure 1.
3. Draw a vertical line at the intersection of the plot (Blue) and 85% line (Red)
4. Draw a vertical line at the intersection of the plot (Blue) and 15% line (Green)
5. Record the value along the horizontal axis as D_{85} and D_{15}.
    a. In Figure 2, these values are 21.5 mm and 3.5 mm. Excel may be used to calculate these values more precisely.

Figure 1

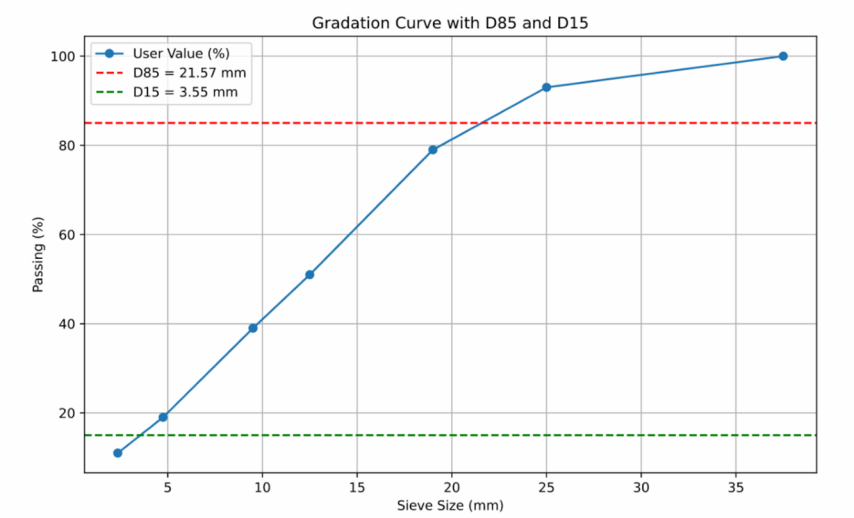
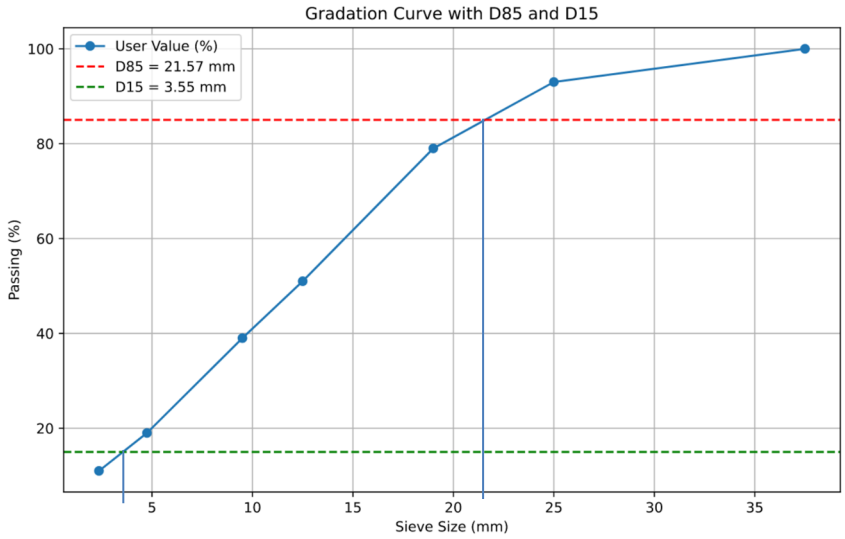


Figure 2



The calculations are as follows:

D_{85} = 21.5 mm

D_{15} = 3.5

Check 1:

Is D_{85} < 4 x D_{15}?

21.5 mm < 4 x 3.5 mm?

21.5 mm < 14 mm?

No – This does not meet.

Check 2:

Is D_{85} > Pipe Perforations

Pipe Perforations = 1.5 mm

21.5 mm > 1.5 mm?

Yes – This meets.

In order for this to remain in place both checks must be Yes. In this case, Check 1 is No, therefore this is remove and replace.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

METHOD FOR APPROVING DEVICES USED FOR ~~ACCEPTANCE~~ TESTING DENSITY AND/OR MOISTURE CONTENT OF IN-PLACE MATERIAL

1. PURPOSE

1.1. The WVDOH has a long history of using nuclear moisture/density gauges and is familiar with the test procedures, reliability, maintenance, and calibration procedures of such devices. In recent years, more devices have come to the market that are low or non-nuclear. This MP is in place ~~T~~to establish procedures ~~used~~ to approve the use of any testing device~~s~~ for Density and/or Moisture ~~of~~ for in-place material on WVDOH projects.

2. SCOPE

2.1. This MP applies to moisture and density testing devices used for acceptance testing, as well as any time such devices might be used when quality control testing results are used for acceptance.~~To establish procedures used to approve the use of testing devices for Density and/or Moisture of in-place material on WVDOH projects.~~

3. REFERENCED DOCUMENTS

3.1. West Virginia Department of Transportation Specifications

~~3.1.~~3.2. AASHTO T355 - Standard Method of Test for In-Place Density of Asphalt Mixtures by Nuclear Methods

~~3.2.~~3.3. ASTM D2216 - Standard Test Methods for Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass

~~3.3.~~3.4. ASTM D4959 – Standard Test Method for Determination of Water Content of Soil by Direct Heating

3.5. ASTM D8167/D8167M – Standard Test Method for Density of Asphalt Mixtures in Place by Nuclear Methods~~Add Name~~

3.6. ASTM D7830/D7830M Standard Test Method for In-Place Density (Unit Weight) and Water Content of Soil Using an Electromagnetic Soil Density Gauge

3.7. AASHTO T 343-12 (2024) Density of In-Place Asphalt Pavement by Electronic Surface Contact Devices

Commented [1]: JC - Asphalt - PWL - Contractor can do anything they want. Contractors use it for non-nuclear for check. Will this approve list roll that out?

Commented [2]: This is only for gauges used for acceptance

Commented [3]: Do we need the 401 section here

Commented [4]: Added the specs

Commented [5]: Is this the same as T-355

~~3.4.~~3.8. ASTM D7113/D7113M Standard Test Method for Density of Asphalt Mixtures in Place by the Electromagnetic Surface Contact Methods

~~3.5.~~3.9. MP 207.07.20 – Nuclear Field Density – Moisture Test for Random Material Having less than 40% of +3/4 Inch Material

3.10. MP 700.00.24 – Nuclear Density Test by Roller Pass Methods

~~3.6.~~3.11. MP 717.04.21 – Guide for Quality Control of Compaction ~~Add MPs from BW email~~

4. APPROVAL REQUIREMENTS OF DEVICES FOR TESTING OF DENSITY AND/OR MOISTURE OF IN-PLACE MATERIAL~~TESTING PROCEDURE~~

4.1. The testing device must meet ~~WV DOH Standard~~ Specification ~~717~~716.3.2, as well as conform to the needs of the above referenced MPs and ASTM procedures as applicable.

4.2. The testing device must provide accurate and precise results according to the Gauge Comparison process described in section 401.6.4.1.1 of the Specifications.

4.3. The testing device must be entirely self-contained and ~~be~~ suitable for each application. The testing device must be capable of providing wet density, dry density, and moisture of asphalt, soil, and aggregates through the operations of a single test, without the need for supporting devices.

~~The testing device must be entirely self-contained and must be capable of providing results for Dry Density, Wet Density and Moisture content through the operations of ain one single test, without the need for othersupporting devices.~~

4.4. The testing device must be capable of completing a test and delivering ~~rapid~~ results within a ~~, suitable for the application. M~~maximum of one minute per test.

4.5. The testing device must, ~~not allow the introduction of bias into test results, i.e., the device~~under normal operations, collect a single reading and produce~~s~~ a single result~~s~~ for each operation~~s~~ of the device. This result must not be an average, minimum or maximum of values collected by the device through subsequent readings. ~~must test once and provide a reliable result, rather than test multiple times to find the best result.~~

~~The testing device must not interfere with, nor be susceptible to interference from, any other typical testing device that is expected to be on a project.~~

5. APPROVAL PROCESS

5.1. For consideration to be added to the list of approved devices, submit the ~~gauge~~device information and manufacturer's documentation to dohcompaction@wv.gov.

5.2. The WVDOH will evaluate each brand/model of moisture/density testing device as needed. Evaluations shall be based~~base~~ on ~~according to~~ the requirements listed in Se

Commented [6]: Are these MP names going to change?

Commented [7]: I would assume so based on trends, but as of now those are the current names of those MPs

Commented [8]: Doesn't exist, needs to be updated/deleted, BW to take a look at this

Commented [9]: Define Accurate, precise and comparable or reference AASHTO that does…
If you are not willing to specify hard requirements for what is allowed then just delete this whole section. This it is too vague and subjective to set a reliable and unbiased

Commented [10]: Added sentence to address this

Commented [11]: Stating precise and repeatable is redundant

Commented [12]: Combine with 4.4

Commented [13]: "The testing device must of suitable for testing the properties in 4.4 for

Commented [14]: What would you define as another device? Even the non nukes can

Commented [15]: This is not regarding correlation. This is to address test devices

Commented [16]: I suggest writing it out, don't imply what you want.

Commented [17]: Any piece of equipment will fail this requirement… all testing has some

Commented [18]: Yes there is inherent error. That is not what this is about. Our current

Commented [19]: What device are you referring too?

Commented [20]: Nuclear gauges are susceptible to being around steel…

Commented [21]: True, and that is why we teach not to test around steel. We have

Commented [22]: specify "testing" devices.

Commented [23]: What is the Evaluation Process?

Commented [24]: added "compared to the manufacturer's documentation". Will submit

ction 4 and ~~compared to~~ the manufacturer's documentation. WVDOH ~~and~~ reserves the right to reject or remove any ~~brand or model~~device from the approval list. ~~without further explanation~~.

4.1. Devices that meet all of the requirements of this MP will be evaluated first as a QC device. Upon satisfactory field performance as a QC device, it will be listed as a QA device. The brand and model can be found on the appropriate approved list on the MCS&T website.

Commented [25]: This seems excessive… if a bunch of consultant firms buy into a piece of equipment that you have on this approval list and you abruptly remove it what are the firms supposed to do? There should be fair warning and a justification for its removal.

~~**5. CURRENT APPROVED LIST OF DEVICES FOR TESTING OF DENSITY AND/OR MOISTURE OF IN-PLACE MATERIAL**~~

~~Humbolt HS-5001 series~~

~~Troxler 3430/3440 series~~

~~Instrotek 3500 series~~

~~Instrotek Xplorer 2~~

~~Instrotek/CPN MC-1~~

~~5.1. Instrotek/CPN MC-3Process TBD~~

Commented [26]: These should be an online list, attachment or addendum so the entire MP doesn't have to go through committee for a change.

Commented [27]: Agree. This is moving to an approved list.

~~**6. APPROVAL OF DEVICES FOR TESTING OF DENSITY AND/OR MOISTURE OF IN-PLACE MATERIAL**~~

~~6.1.~~5.3. ~~Process TBD~~

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PROCEDURE FOR THE SUBMISSION AND DOCUMENTATION OF QUALITY CONTROL TEST RESULTS

1. PURPOSE

1.1 To provide guidance for the streamline submission of test results documentation from the Contractor to the District.

2. REFERENCED DOCUMENTS

2.1 MP 109.00.21 – Basis for Charges for Non-Submittal of Sampling & Testing Documentation by the Established Deadline

2.2 MP 109.00.23 - Auto Finalize Condition of Industry Sample Records

3. DEFINITIONS

3.1 AWP: AASHTOWare Projects – The Division Approved Sampling and Testing Documentation Software.

3.2 Authorize: In AWP, the action in which a sample record is "completed" or "finished", regardless of the final sample status.

4. SCOPE

4.1 As required by MP 109.00.21, contractors must submit their Quality Control test results by the deadline specified in that document.

4.2 The submission of results includes the following steps: (A) generating the sample in the Division Approved Sampling and Testing software (SiteManager, AASHTOWare Projects, etc.), (B) entering all data into this system, (C) presenting the data to the District for review and (D) providing all testing documentation.

4.2.1 This procedure expands on each of these points.

5. GENERATION OF A SAMPLE RECORD IN AASHTOWARE PROJECTS

5.1 Test results shall be documented in AWP (or the current Division Approved Sampling and Testing Documentation Software) using the live version of the training guides available on the WVDOH MCS&T Webpage[1]. A sample of these guides is provided in Attachment 1.

6. ENTERING OF TEST DATA.

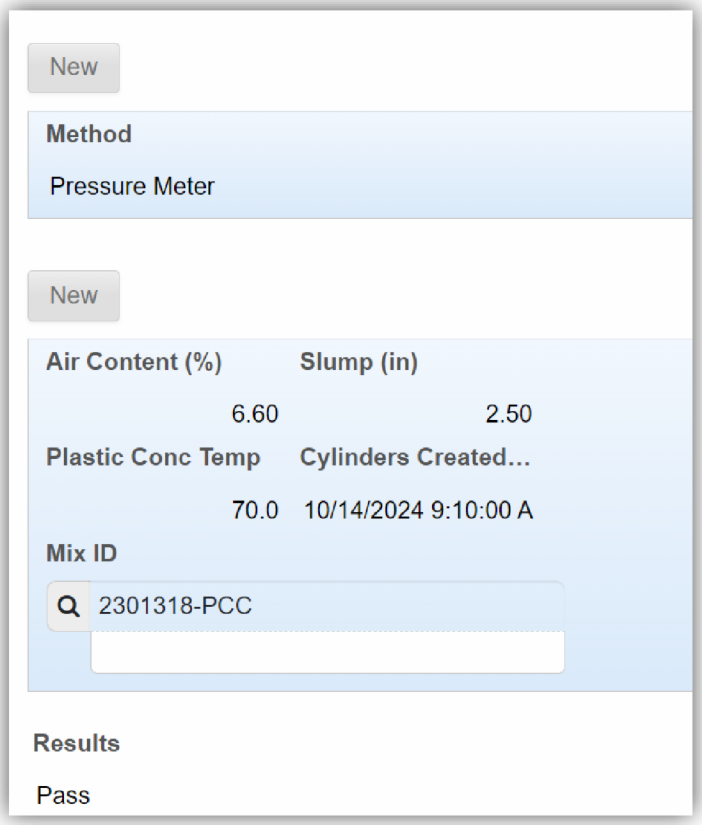
6.1 All applicable data shall be entered into AWP. This shall include all required fields as shown in the live version of the training guides available on the WVDOH MCS&T Webpage. A sample of these guides is provided in Attachment 1.

[1] https://transportation.wv.gov/highways/mcst/Pages/AWP.aspx

6.1.1 This data includes test results such as compacted density, or percentage of material passing a specific sieve.

6.1.2 Figure 1 shows an example of test data entered into AWP.

Figure 1 – An Example of Test Data Entered into AWP.



7. PRESENTING THE DATA TO THE DISTRICT FOR REVIEW AND SUBMITTING TESTING DOCUMENTATION

7.1 Once the test data has been entered, the data must be submitted to WVDOH.

7.2 An email shall be sent by the Contractor to the District Approved email submission inbox. An example of this email is shown in Attachment 2. A list of these inboxes is available on the WVDOH MCST Toolbox Webpage[2].

7.2.1 The title of the email shall contain the Contract ID and the Name of the Project, as well as "QC Test Results".

7.2.2 The email shall contain, but not be limited to the following information:

1. Contract ID
2. Name of the Project
3. Lab Reference Number
4. Sample ID
5. Material Name
6. Line Number(s)

[2] https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx

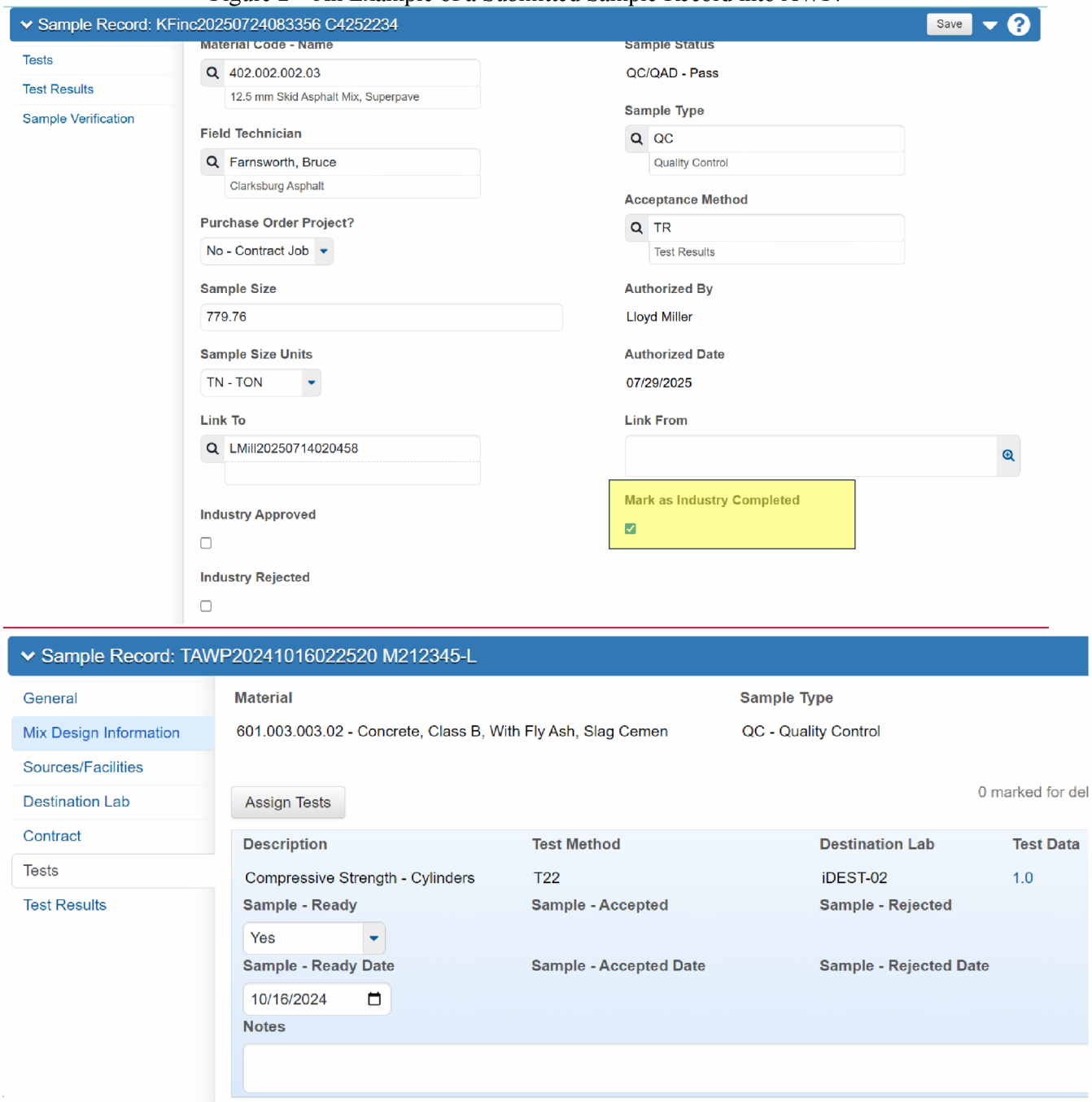
7. Final Status of the Material (Pass/Fail/Information Only)
8. A direct link to the AWP Sample Record

~~8. A PDF scan of all test data~~

7.3 The contractor may send multiple tests in a single email as long as each is on the same contract, for the same material and for the same testing day.

7.4 Once the sample record is ready to be submitted, the user will mark the test complete on the Sample Record. An example of this action is shown in Figure 2.

Figure 2 – An Example of a Submitted Sample Record into AWP.



8. ATTACHMENT OF TESTING DOCUMENTATION

8.1 Testing documentation shall be attached to the Sample Record. A training guide for this process is available on the WVDOH MCST Webpage[3].

8.1.1 This documentation shall be in PDF format and contain all data to document the entire test.

8.1.2 The file size limit for this documentation is 25mB per file.

8.2 Missing test documentation shall constitute a "rejection". No payment for a line item for the material represented by a sample record test shall be made without the required testing documentation.

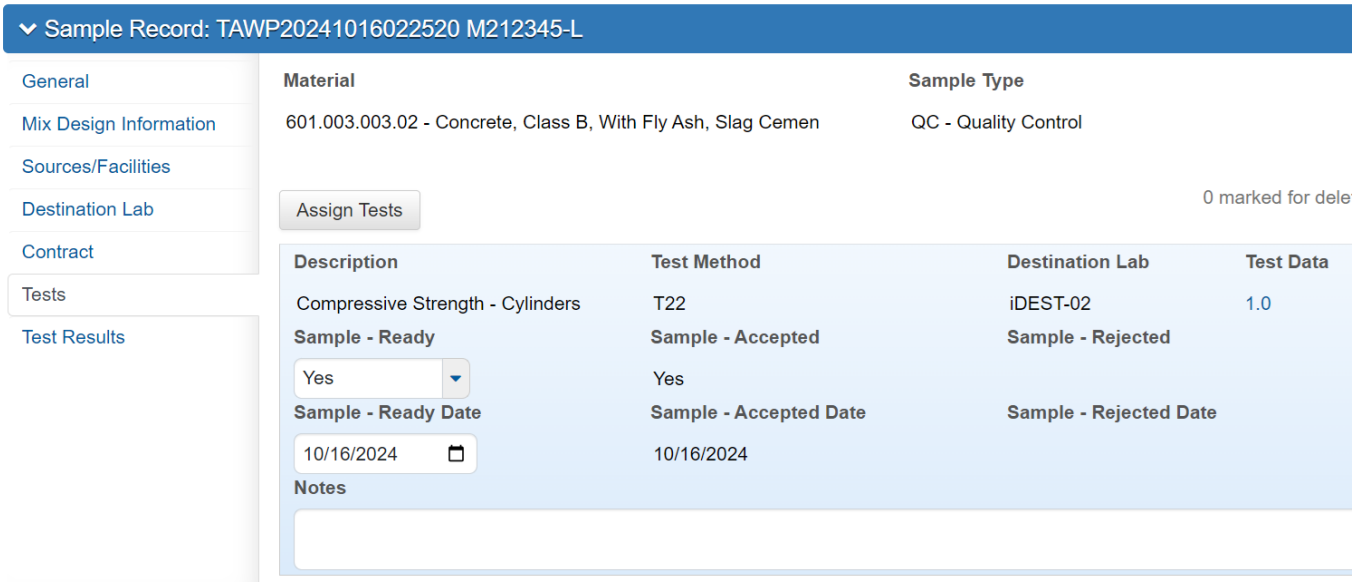
~~8.~~9. RECEIVING OF SAMPLES BY THE WVDOH

~~8.1~~9.1 Once the District has received and accepted the sample record, they will "authorize" the sample. Whether the test data passes or fails, the sample record is still authorized.

~~8.1.1~~9.1.1 If the sample record has been submitted to the District, and if the Contractor has an active "Auto-Finalize" status as described in MP 109.00.23, the sample record will be counted toward payment the next calendar day if it has not been reviewed by the District.

~~8.2~~9.2 The District will also mark the sample as "Sample-Accepted" on the sample record tests tab. An example of the completed screen is shown in Figure 3.

Figure 3 – An Example of an Accepted Sample Record into AWP.



~~8.3~~9.3 Once accepted, the District shall reply to the submission email stating that the sample record has been accepted.

~~8.4~~9.4 If rejected, the District will mark the Sample as "rejected" with the rejection date. The District will then reply to the original email, stating the reasons for the rejection.

~~8.5~~9.5 If a sample is rejected, the Contractor must correct the sample. Once corrected the Contractor will reply to the email stating that the sample has been corrected. The sample

[3] https://transportation.wv.gov/highways/mcst/Pages/AWP.aspx

will then be reviewed by the District. If found acceptable, the District will process the sample.

~~8.6~~9.6 If a sample record is once again rejected, the process shall repeat until the sample is correct.

~~8.6.1~~9.6.1 In the case where a sample record has been rejected, the total number of days (timeframe) specified in MP 109.00.21 will be the sum of the days until submitted and the number of days between rejection(s) and resubmission(s).

~~8.6.1.1~~9.6.1.1 For example, if the original submission takes 5 days and the sample is rejected, the correction(s) take an additional 5 days, the total number of days is 10. If the 10 days is greater than the allowable days in MP 109.00.21, the penalty will be applicable even if the original submission was within the allowable timeframe.

_____
Michael A. Mance, PE
Director
Materials Control, Soils & Testing Division

MP 109.00.22 Steward – Materials Control Section
MM:B
ATTACHMENT

ATTACHEMNT 1

I1-3 GENERAL TAB

Enter all the information (in Yellow) as it is Required.

NOTE: The Green Fields **MAY** be used based on the Sample Type and your District's workflow.

If you have the information, you can fill in the Green Fields.

(I1-5)

Go to the **Next Step**.

ATTACHMENT 2 – Sample Email Submission

Subject Line: 20240001243 – Contract Name – QC Test Results

Dear Robert,

I am submitting the following Sample Record(s):

20240001243
WV 19 to Allen's Run
C1N-1234
TAWP20241016022520
Class B Concrete with Fly Ash
LN 0020, LN 0030
Pass

20240001243
WV 19 to Allen's Run
C1N-1235
TAWP20241016022530
Class B Concrete with Fly Ash
LN 0020, LN 0030
Pass

https://wvXXX-pr-prod.infotechinc.com/#/SampleRecord/44209/Summary
https://wvXXX-pr-prod.infotechinc.com/#/SampleRecord/44209/Summary
(These links are examples; they are not a live.)

~~Attached is the Testing Documentation (PDF)~~The testing documentation is attached to the Sample Record.

Very Truly Yours,

Jimmy John, from Tom's Construction.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PREPARING MATERIALS INSPECTION REPORTS

1. PURPOSE

1.1. To establish a standard format in the style, form, and substance of Materials Inspection Reports.

2. SCOPE

2.1. All formal reports from MCS&T should, whenever reasonable, be presented as a Materials Inspection Report (MIR).

2.2. All MIRs shall conform to the format used herein. See attachments for templates.

3. FONT

3.1. The font shall be Times New Roman, size 12, fully justified for all text except for the section title.

3.2. The section title shall be all capital letters, fully justified, Times New Roman, size 12 and bold.

3.3. Links shall be blue and clickable. The link path shall also be included as a footnote. An example of this is demonstrated by the “blue and clickable” text and link above and the footer at the bottom of this page.

3.4. Any instances of an email address shall also be clickable and adhere to the guidelines for a link.

4. FORMAT

4.1. The line numbering shall be as follows: “x.” for a section title and “x.x” for a section paragraph. From here, follow the format of “x.x.x…” for additional layers of sub paragraphs. This document provides an example of the formatting.

4.2. Every paragraph that is not a section header shall end with a period.

4.3. Paragraph spacing shall be single, and have a 6 pt spacing after each paragraph.

4.4. The left indent for each paragraph shall be at 0.75.

4.5. The margins for the page shall be set to 1.0 inches.

5. CONTENT

5.1. On the first page of the report, at the very top, center justified, shall be the words "**MATERIALS INSPECTION REPORT**" in capital letters and bold.

5.2. Below that shall be, in bold and all capital letters, the words "**REPORT NUMBER:**" followed by the report number. Report numbers can be obtained from the administrative coordinator.

5.3. Below that should follow "**SUBJECT:**" and the subject of the report.

5.4. Below that in a similar fashion should follow all relevant information. This information may include project number, significant dates, etc.

5.5. On all pages except the first, a header shall be included to show the MIR number, date of the report, and the page number.

5.6. There shall be a signature block at the end of the report for the author of the report, as well as the supervisor of the section (if the author is not the supervisor). The author's block shall be on the right, with the supervisor's signature lower and to the left. The title of each is also to be shown.

5.7. A memorandum shall accompany all Materials Inspection Reports.

SIGNATURE BLOCK

MP 110.00.41 Steward – Lab Support Section

MAM:W

ATTACHMENT

MATERIALS INSPECTION REPORT

REPORT NUMBER:	**1234567**
SUBJECT:	**Report Template**
PROJECT NAME:	**Project Name**
STATE PROJECT NUMBER:	**Project Number**
PROJECT KEY:	**Project Key**
COUNTY:	**County**
DISTRICT:	**ELEVEN**
DATE OF REPORT:	**YYYY-MM-DD**

1. INTRODUCTION

1.1. This section typically includes the reason for the report. This may be for a specific reason, or routine reason such as specification requirements. This section should list applicable sections of the specifications and other important information.

2. PROCEDURE

2.1. This section explains the procedure for any testing, and references any test procedures followed, such as MPs, AASHTO, or ASTM procedures. If there are multiple variations or ways to perform a test, the chosen method should be clarified here.

3. SUMMARY

3.1. This section should be a summary of results. Include applicable test data, final results of tests, or averages of data. Pictures, graphs, and any other supplemental pages of information can be included as supplemental pages with the report.

4. CONCLUSION

4.1. This section is for the conclusion of the report and any recommendations if they are needed.

_____

John E. Doe

Title, Section

_____

Jane C. Smith

Title, Section

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

PROCEDURE FOR EVALUATING QUALITY CONTROL SAMPLE TEST RESULTS WITH VERIFICATION QUALITY ASSURANCE SAMPLE TEST RESULTS

1. PURPOSE

1.1. To provide a procedure to statistically compare Quality Control (QC) and Quality Assurance (QA) tests to verify the validity of the QC samples.

~~1.1.~~1.2. To ensure adequate QA coverage of QC samples for required materials and tests.

2. REFERENCED DOCUMENTS

2.1. MP 700.00.53 - Procedure for Evaluating Independent Assurance Samples with Acceptance Samples

2.2. MP 307.00.50 - Guide for Quality Control and Acceptance Plans for Base Course

2.3. MP 401.03.50 - Guide for Contractor's Quality Control of Bituminous Concrete

~~2.1.~~2.4. MP 601.03.50 - Guide for Quality Control and Acceptance Requirements for Portland Cement Concrete

3. DEFINITIONS

3.1. System: The Division Approved Materials Tracking System.

3.2. Sample: The sample record test which has been documented in the System.

3.3. Quality Assurance (QA) Sample: Samples performed by the Division to evaluate for acceptance, a material on a Project.

3.4. Quality Control (QC) Sample: Samples performed by the Contractor for a material on a Project to demonstrate the material's compliance with the Specifications.

3.5. Verification: The process of statistically comparing a QA sample to a series of QC samples. This comparison serves to verify the validity of the QC testing. There are two approaches to this comparison:

3.5.1. Project Approach: A verification Data Set must contain all of the following data. Each of these fields must match. For example, samples from different Projects may not be combined for the Project Approach:

1. Material Source
2. Mix Design (If Applicable)
3. Aggregate Class (If Applicable)
4. Project

3.5.2. System Approach: A verification Data Set must contain all of the following data. Each of these fields must match. For example, samples from different Mix Designs may not be combined for the System Approach:

1. Material Source
2. Mix Design (If Applicable)

3.6. Data Set: ~~The series QC and linked QA test result data that is statistically compared for verification~~The test results in the linked QC and QA sample record tests. This ~~data set includes all linked~~ test data must ~~that follows the inclusion~~having matching categories as specified in Sections 3.5.1 and 3.5.2. Examples are provided in Attachment 3.

3.7. Linked Samples: This is a technical term for a process in the System which creates a data set among joined samples.

4. SCOPE

4.1. On all Projects, all QC samples for the following tests must be represented by a QA sample. These are to be evaluated in chronological order by a QA sample. No more than 10 QC samples shall be evaluated by 1 QA sample.

4.1.1. All QA samples and linked QC samples must contain matching data for all the fields in Sections 3.5.1and 3.5.2. Examples are provided in Attachment 3.

~~4.1.~~4.2. The following materials and their respective test(s) and test result(s) are evaluated by the specified approach.

~~4.1.1.~~4.2.1. Aggregate Gradations – Project Approach

1. Specification Sieves (each)
2. Pan (if applicable)

~~4.1.2.~~4.2.2. Marshall Asphalt Mixture – System Approach

1. Asphalt Content
2. Air Voids
3. VMA
4. Stability
5. Flow
6. Gradation (each Specification Sieve and Pan if applicable)

~~4.1.3.~~4.2.3. SuperPave Asphalt Mixture – System Approach

1. Asphalt Content
2. Air Voids
3. VMA
4. Gradation (each Specification Sieve and Pan if applicable)

~~4.1.4.~~4.2.4. Portland Cement Concrete – Project Approach

1. Air Content
2. Consistency
3. Strength

5. PROCEDURE

5.1. After completion of the QA sample, the test data shall be entered into the System. The QA sample shall be linked to the appropriate QC sample(s) as specified in Section 4.2. Note that all samples being linked must contain all respective test results for the material shown in Section ~~3~~ 4 and meet the criteria stated in Sections 3.5.1and 3.5.2.

5.1.1. If a system approach QA sample is performed and it covers multiple Districts, the QA sample shall be performed by the District in which the plant is located.

5.2. The samples shall be linked by the person creating the QA sample, based on the total number of QC samples. This will allow the System to create a data set and perform an evaluation (if applicable). For QA samples evaluating QC samples in the system approach, all QC samples taken after the last QA sample and up to the current QA sample shall be evaluated.

5.2.1. 1-4 QC Sample(s)

If there are less than five QC samples, they shall be linked, but no calculation shall be performed; The evaluation will be conducted as specified in Section ~~5~~6.1

5.2.2. 5-10 QC Samples

If there are five to ten QC samples, they shall be linked; the data set shall consist of all of the available tests. The evaluation shall be conducted as specified in Section ~~5~~6.2

5.2.3. 11 + Quality Control Samples

If there are eleven or more QC samples available, they shall be organized sequentially by date/time; only the first ten shall be linked. The data set shall consist of these ten samples. The evaluation shall be conducted as specified in Section ~~5~~6.2.

An additional QA sample shall be completed, and the process shall be restarted independent of the prior evaluation. This extra date set shall be linked and evaluated according to the remaining QC samples.

5.2.3.1. For example, if 16 QC samples are taken, there shall be a QA sample for QC samples 1-10 and then another QA sample for QC samples 11-16, which would be evaluated as “5-10” QC samples.

6. EVALUATION

6.1. If the data set contains less than 5 linked QC samples, no calculation shall be made. The test data shall be visually evaluated for significant variance. If a significant variance is noted, appropriate action shall be taken by the District as specified in Section 7.3.2.1. If there is no significant variance, the report shall indicate: “This sample, <sample number recorded here> has been reviewed in accordance with MP 700.00.54, and judged to be similar." If it is not similar, it’s handled in accordance with Section 7.3.2.1.

6.2. If the data set contains 5 or more linked QC samples, they shall be evaluated by the System. No more than 10 QC samples shall be linked; if there are more than 10 QC samples, the System shall return an error.

6.2.1. The calculation and evaluation criteria used in the System are documented in Attachment 1.

6.3. Based on the calculation and evaluation criteria, the System shall report as follows:

6.3.1. If all the test results are evaluated as "Similar", the entire data set shall be judged "Similar".

6.3.2. If any of the test results in the set are evaluated as "Non-Similar", the entire data set shall be judged as "Non-Similar".

6.3.2.1. If the data set is "Non-Similar", the District Materials Supervisor shall perform and document the following for QC:

1. Review the sampling procedure.
2. Review the testing procedures.
3. Check testing equipment.
4. Review documentation.
5. Perform any additional investigations that may clarify the discrepancy.

7. REPORTING AND SAMPLE SUBMISSION

7.1. Once the evaluation is completed, the result shall be noted by the District on the QA sample.

7.2. If applicable, the sample shall also be marked by the District as "Pass" or "Fail" along with whether the data is "Similar" or "Non-Similar" as defined in Section ~~6~~7.2.1 and ~~6~~7.2.2.

7.2.1. If the data set is found to be "Similar", the QA Sample shall be marked "Similar" in the System by the District.

7.2.2. If the data set is found to be "Non-Similar" the QA sample shall be marked "Non-Similar" in the System by the District.

7.2.2.1. If the Sample is marked "Non-Similar", the documentation from Section ~~5~~6.3.2.1 shall be submitted with the sample by the District, including the corrective action when applicable.

7.2.2.2. In the event that other documentation is needed to resolve the material, that information shall also be provided with the sample by the District.

7.3. The sample shall then be submitted by the District to the respective MCS&T Materials Regional Coordinator for final evaluation and approval.

7.4. A sample report is shown in Attachment 2.

Michael Mance, PE
Director
Materials Control, Soils & Testing Division

MP 700.00.54 Steward – Materials Control Section
MAM:B

Attachment 1: Sample Calculations

To determine the range (R) of the QC samples, subtract the smallest test value from the largest test value.

Compute the interval (I) by substituting the values into the proper equation below.

Number of Samples Used in Calculating the Average	Equation for Computing the Interval (I)
10	$I = \overline{X}_{10} \pm 0.91 \times R$
9	$I = \overline{X}_{9} \pm 0.97 \times R$
8	$I = \overline{X}_{8} \pm 1.05 \times R$
7	$I = \overline{X}_{7} \pm 1.17 \times R$
6	$I = \overline{X}_{6} \pm 1.33 \times R$
5	$I = \overline{X}_{5} \pm 1.61 \times R$

The interval (I) is determined by first adding the average ($\overline{X}_n$) to the product of the range (R) times the given constant. This determines the upper limit of the interval. If the result obtained is greater than 100%, it will be recorded as 100%. Next, subtract the product of the range (R) times the given constant from the average ($\overline{X}_n$). This determines the lower limit of the interval. If the result is less than zero, it will be recorded as zero.

For aggregate gradations, the average for each sieve must be calculated separately.

All data must fall within the range to be judged “Similar”. Otherwise, the data set is “Non-Similar”.

Attachment 2: Sample Evaluation Report

West Virginia
Department of Transportation

Marshall Verification Sample Evaluation Computation Sheet

Sample Record: TKraf20241205122921
Material Name: Base 2/Wearing 4 Asphalt Mix, Marshall
Material Code: 401.002.000.05
Facility: F-JFA4.02.704 - J.F. Allen Co. - Lorentz

Laboratory ID: D07-ASP
Sample Date: 10/17/2024
Contract ID:

Sample Record Name	% Asphalt	% Air Voids	%VMA	Stability	Flow	Lab Reference Number	Open Sample Record
TKraf20241018080012	5.0	4.5	14.1	11,648	15.0	C7B2440	Click Here
TKraf20241022120955	5.1	2.2	12.3	12,642	15.3	C7B2441	Click Here
TKraf20241022121156	4.8	3.2	12.5	11,529	14.3	C7B2442	Click Here
TKraf20241022121345	5.0	2.0	12.0	11,633	15.5	C7B2444	Click Here
TKraf20241022121524	4.9	2.9	12.5	12,417	14.8	C7B2445	Click Here
TKraf20241108123059	5.3	2.0	12.5	12,337	15.7	C7B2448	Click Here
Average:	5.02	2.8	12.65	12034.33	15.1		**Records:** 6
Range:	0.5	2.5	2.1	1113	1.4		
Upper Limit Interval:	5.69	6.13	15.44	13514.62	16.96		
Lower Limit Interval:	4.36	0	9.86	10554.04	13.24		

% Asphalt	% Air Voids	% VMA	Stability	Flow	Lab Reference Number
4.9	2.2	11.8	12,480	12.9	M7B2443
✓	✓	✓	✓	✖	

(ALL NEW) Attachment 3 – Examples of Samples Which Can and Cannot Be Linked:

Project Approach:
All the following must match:

1. Material Source (Enforced by Mix Design for Concrete).
2. Mix Design (If Applicable)
3. Aggregate Class (If Applicable)
4. Project

The following example shows an incorrect data set contains an errant Mix Design and Project.

Lab Number	Contract ID	Project Name	Material	QC/QA	Mix Design
M1N8745	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QA	2406546
C1N2312	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
C1N2313	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
~~C1N2314~~	~~2025087334~~	~~Knollwood Dr~~	~~Class B Concrete with Fly Ash~~	~~QC~~	~~2508546~~
C1N2315	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
~~C1N2316~~	~~2024060004~~	~~Sharp Dr.~~	~~Class B Concrete with Fly Ash~~	~~QC~~	~~2406546~~
C1N2317	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546

The following example shows a correct data set. All the required fields match.

Lab Number	Contract ID	Project Name	Material	QC/QA	Mix Design
M1N8745	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QA	2406546
C1N2312	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
C1N2313	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
C1N2314	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2408546
C1N2315	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
C1N2316	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
C1N2317	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546
C1N2318	2025087334	Knollwood Dr	Class B Concrete with Fly Ash	QC	2406546

System Approach:
All the following must match:

1. Material Source (Enforced by Mix Design for Asphalt).
2. Mix Design (If Applicable)

The following example shows an incorrect data set containing an errant Material and Mix Design.

Lab Number	Contract ID	Project Name	Material	QC/QA	Mix Design
M1N8745	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QA	2406546
C1N2312	2024034008	University Ave	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2313	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
~~C1N2314~~	~~2025080008~~	~~Dunlap Drive~~	~~Wearing 1 Skid Asphalt Mix, Marshall~~	~~QC~~	~~2508526~~
C1N2315	2025080008	Dunlap Drive	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2316	2024034008	University Ave	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2317	2024034008	University Ave	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2318	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2319	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546

The following example shows a correct data set. All the required fields match.

Lab Number	Contract ID	Project Name	Material	QC/QA	Mix Design
M1N8745	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QA	2406546
C1N2312	2024034008	University Ave	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2313	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2315	2025080008	Dunlap Drive	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2316	2024034008	University Ave	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2317	2024034008	University Ave	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2318	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546
C1N2319	2025087334	Knollwood Dr	Base 2/Wearing 4 Asphalt Mix, Marshall	QC	2406546

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WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

WVDOH BUY AMERICA EXCEPTION AND WAIVER GUIDELINES

1. PURPOSE

1.1. To set forth instructions for Waivers and Exceptions for Buy America Materials requirements as defined in MP 106.10.50.

1.2. Unless an exception or waiver exists, materials must meet all requirements of MP 106.10.50.

2. REFERENCED DOCUMENTS

2.1. MP 106.10.50 – WVDOH Buy America Acceptance Guidelines.

2.2. MP 106.10.52 – WVDOH Buy America De Minimis Exception

2.3. West Virginia Code | §5A-3-56[1]

2.4. West Virginia Code | §5-19[2]

3. DEFINITIONS

3.1. Buy America Exception: A Buy America Exception is when, if certain conditions are met, the contractor may incorporate foreign materials without regard to the restrictions of the Buy American statute.

3.1.1. General Applicability Waiver (General Waiver): General Waivers are exclusions that apply generally across multiple projects. A general applicability waiver can be "product-specific" (e.g., applies only to a product or category of products) or "non-product specific" (e.g., applies to all "manufactured products").

3.1.2. Project Specific Waiver: The Project-Specific Waivers are exclusions on a project-by-project basis, and they are not transferable. Therefore, a waiver that is approved for one particular project cannot be used on another project. WVDOH may request a project-specific waiver based on non-availability or inconsistent with Public Interest.

[1] http://www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=hb2207%20intr.htm&yr=2001&sesstype=RS&i=2207
[2] https://code.wvlegislature.gov/5-19/

4. SCOPE

4.1. For each Buy America required material as described in MP 106.10.50, a separate waiver and/or exception process is described.

These Buy America required materials are as follows:

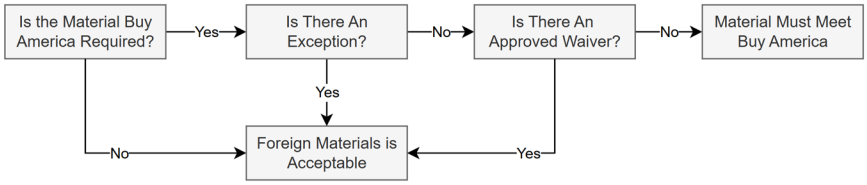
1. Steel and Iron
2. Manufactured Products
3. Construction Materials

4.2. If the material does not meet the requirements for an Exception as specified in Section 5, under certain circumstances a waiver may be granted. These waivers are specified in Sections 6-9.

4.3. If the material is Buy America required and neither an exception or nor waiver exists, the material must meet the requirements of MP 106.10.50.

4.4. A flowchart of the process is shown in Figure 1:

Figure 1: Overview of Buy America Exceptions and Waivers



5. OVERVIEW OF BUY AMERICA EXCEPTIONS

5.1. The Federal Minimal Use Exception may be granted for Steel and Iron Materials.

5.1.1. As provided for in 23 CFR 635.410(b)(4), an exception from Federal Buy America requirements exists for the minimal use of steel and iron materials "if the cost of such materials used does not exceed one-tenth of one percent (0.1 percent) of the total contract cost or $2,500, whichever is greater. For the purposes of this paragraph, the cost is that shown to be the value of the steel and iron products as they are delivered to the project".

5.2. Unless MP 106.10.52 is applicable (the De Minimis Special Provision is active for the project), ~~There~~ there are no Buy America exceptions for Manufactured Products or Construction Materials.

5.3. If these conditions are not met, foreign material shall not be used on a project unless a waiver is granted. The conditions for these waivers are described in the following sections for each of the Buy America required materials.

6. OVERVIEW OF BUY AMERICA WAIVERS

6.1. In certain circumstances, waivers (either General or Project-Specific) may be applied to materials exempting them from both Federal and State Buy America requirements.

6.2. These are described in the following sections for each of the Buy America required materials.

7. BUY AMERICA WAIVERS FOR STEEL AND IRON

7.1. If the contractor chooses to use foreign material for steel and iron and no exception applies, both Federal and State laws require Buy America waivers. These waivers are independent of each other. Compliance and acceptance of one waiver does not in any way shape or form demonstrate compliance with the other waiver.

7.2. General Waiver:

7.2.1. There are no General Waivers for Steel and Iron.

7.3. Project-Specific Waiver:

7.3.1. Federal Requirements

7.3.1.1. A Project-Specific Waiver from Federal Buy America requirements for steel and iron materials may be requested for the following instances:

(1) Public Interest: the application of Buy America requirements would be inconsistent with the public interest; or

(2) Non-Availability: steel and iron materials/products are not produced in the United States in sufficient and reasonably available quantities which are of a satisfactory quality.

7.3.1.2. If a contractor wishes to apply for a Project-Specific Waiver, they will contact the WVDOH with justification and relevant supporting information. If found acceptable, this will be sent to FHWA for approval.

7.3.2. State Requirements

7.3.2.1. As provided for in H.B. 2207, West Virginia Code | §5A-3-56, the Director of the West Virginia State Purchasing Division may authorize in writing the use of a Project-Specific Waver for a minimal amount of foreign steel products if either of the following is true:

(1) The cost for each contract item used does not exceed one tenth of one percent of the total contract cost, or two thousand five hundred dollars, whichever is greater. For the purposes of this section, the cost is the value of the steel product as delivered to the project.

(2) The director of the purchasing division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

8. FEDERAL BUY AMERICA WAIVERS FOR MANUFACTURED PRODUCTS

8.1. There is a Federal General Waiver for Manufactured Products. Due to this waiver, manufactured products permanently incorporated into FHWA-funded projects do not need to be produced domestically, apart from predominantly iron or steel manufactured products and predominantly iron or steel components of manufactured products.

8.2. There are currently no additional waivers (including Project-Specific) for Federal Buy America Requirements for Manufactured Products.

9. FEDERAL BUY AMERICA WAIVERS FOR CONSTRUCTION MATERIALS

9.1. If the contractor chooses to use foreign material for construction materials and no exception applies, Federal law requires Buy America waivers.

9.2. General Waiver:

9.2.1. There is no General Waiver for Construction Materials.

9.3. Project-Specific Waiver:

9.3.1. WVDOH may request a waiver from Federal Buy America requirements for construction materials based on:

(1) Public Interest: the application of Buy America requirements would be inconsistent with the public interest; or

(2) Non-Availability: construction materials/products are not produced in the United States in sufficient and reasonably available quantities which are of a satisfactory quality.

9.3.2. If a contractor wishes to apply for a Project-Specific Waiver, they will contact the WVDOH with justification and relevant supporting information. If found acceptable, this will be sent to FHWA for approval.

Michael A. Mance, P.E.
Director
Materials Control, Soils & Testing Division

MP 106.10.51 Steward – Materials Control Section
MM:Bb

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

WVDOH BUY AMERICA DE MINIMIS EXCEPTIONS

1. PURPOSE

1.1. To set forth instructions for De Minimis Cost for Buy America Materials requirements.

1.2. This procedure is only applicable if the Special Provision for De Minimis is applied ot the contract.

2. REFERENCED DOCUMENTS

2.1. MP 106.10.50 – WVDOH Buy America Acceptance Guidelines.

2.2. MP 106.10.51 – WVDOH Buy America Exception and Waiver Guidelines.

2.3. West Virginia Code | §5A-3-56[1]

2.4. West Virginia Code | §5-19[2]

3. DEFINITIONS

3.1. Buy America Exception: A Buy America Exception is when, if certain conditions are met, the contractor may incorporate foreign materials without regard to the restrictions of the Buy American statute.

3.1.1. General Applicability Waiver (General Waiver): General Waivers are exclusions that apply generally across multiple projects. A general applicability waiver can be "product-specific" (e.g., applies only to a product or category of products) or "non-product specific" (e.g., applies to all "manufactured products").

3.1.2. Project Specific Waiver: The Project-Specific Waivers are exclusions on a project-by-project basis, and they are not transferable. Therefore, a waiver that is approved for one particular project cannot be used on another project. WVDOH may request a project-specific waiver based on non-availability or inconsistent with Public Interest.

4. OVERVIEW OF DE MINIMIS FOR BUY AMERICA

4.1. De Minimis Costs may be granted for Construction Materials.

4.1.1. De Minimis Costs:

[1] http://www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=hb2207%20intr.htm&yr=2001&sesstype=RS&i=2207
[2] https://code.wvlegislature.gov/5-19/

The De Minimis Costs portion waives the application of the requirements of the Build America, Buy America Act (BABA) for construction materials when the total value of the non-compliant products is no more than the lesser of $1,000,000 or 5% of total applicable costs for the project. This portion of the waiver does not waive FHWA's Buy America requirements for steel or iron, and FHWA continues to apply its Buy America requirements to projects that would otherwise be covered by the De Minimis portion of the waiver. It is important to note, however, that FHWA's De Minimis standard for iron and steel under 23 CFR 635.410(b)(4) continues to apply.

4.1.2. Section 5 of this document describes the application and acceptance for De Minimus.

4.2. There are no exceptions for Manufactured Materials.

4.3. If these conditions are not met, foreign material shall not be used on a project unless a waiver is granted. The conditions for these waivers are described in the following sections for each of the Buy America required materials.

5. APPLICATION FOR DE MINIMUS FOR CONSTRUCTION MATERIALS

5.1. The following procedures are used by the contractor to submit for Division consideration for approval of De Miniums.

5.1.1. The contractor shall fill out form BAM-DM-25 and submit it to the Project.

5.1.1.1. The documentation shall ensure the conditions described in Section 4 are met and shall contain the following information:

1. Total Cost of Buy America Required Materials
2. Total Cost of Non-Compliant Buy America Materials.
3. Documentation of the delivered cost of materials (Invoices)
4. A signature from the Contractor certifying the accuracy of the document
5. The text: "I certify that the cost totals and provided documentation accurately reflect the cost of the materials delivered to the Project as defined by FHWA and MP 106.10.50. In the event of a change order, change in placed quantities, this form shall be updated and resubmitted to ensure continued compliance."

5.1.2. Upon approval the exception shall be granted. This documentation shall be placed in ProjectWise.

Michael A. Mance, P.E.
Director
Materials Control, Soils & Testing Division

MP 106.10.52 Steward – Materials Control Section
MM:Bc

WVDOH Mininmal Use & De Minimus Worksheet

Federal Project #:

Contract ID:

De Minimis Cost Summary

Total Buy America Material on Project	$	2,734,000.00	
Total Non-Compliant Material	$	534,000.00	
Allowable Non Compliant Material ($1,000,000 or 5%)	$	1,000,000.00	Allowable Non-Compliant Material

Line #	Material Name	Cost of Material Delivered to Project	Buy America Compliant	Invoice Attached (Initial by Contractor)
0050	Epoxy Resin Injection System	$ 400,000.00	yes	
0060	Blockout, Polymer	$ 4,500.00	no	
0070	Impervious Membrane	$ 8,500.00	no	
0100	Paint, Intermediate Coat	$ 206,000.00	no	
0100	Paint, Top Coat	$ 315,000.00	no	
0200	Steel Super Structure	$ 1,800,000.00	yes	
	Total Cost of Non-Compliant Material	$ 534,000.00		
	Total Cost of All Material	$ 2,734,000.00		

I certify that the cost totals and provided documentation accurately reflect the cost of the materials delivered to the Project as defined by FHWA and MP 106.10.50. In the event of a change order, change in placed quantities, this form shall be updated and resubmitted to ensure continued compliance.

Signature of Consultant

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

STANDARD METHOD FOR DETERMINING THE STABILITY OF PORTABLE SIGN STANDS

1. PURPOSE

1.1. To establish a procedure for determining the stability (acceptable wind resistance) for portable sign stands.

2. SCOPE

2.1. This procedure shall apply to all portable sign stands submitted for inclusion on the Division's Approved Products List (APL).

2.2. This testing shall be done in addition to the MASH testing as described in the Specifications.

3. REFERENCED DOCUMENTS

3.1. MP 106.00.02 - Procedure for Evaluating Products/Processes for Use in Highway Construction.

3.2. MP 106.00.21 - Acceptance Procedure for MASH Compliant Roadside Departure Hardware.

4. SUBMISSION OF PRODUCTS

4.1. Prospective Producers/Suppliers shall complete form HL-468[1] , as per MP 106.00.02 indicating intention to be included on the WVDOH APL.

5. TESTING PROCEDURE FOR 36-IN SIGN

5.1. The manufacturer's portable sign stand shall be assembled according to the manufacturer's instructions on a firm concrete or asphalt surface with legs contracted (for 36-inch (0.9 m) signs).

5.1.1. The testing technician shall inspect the device to ensure that it is functioning properly as per the manufacturer's standards.

[1] https://transportation.wv.gov/highways/mcst/Pages/tbox.aspx

5.2. Stands shall be secured such that there is no potential for sliding. This securing mechanism shall in no way alter the stability of the stand.

5.3. Attach the dynamometer force gauge to the top of the sign stand 60 inches (1.5 m) above the bottom of the sign. If the stand does not have a solid mast at that height, insert a testing rod into the stand for a solid anchor point. With an even motion, parallel to the ground surface at a 90-degree angle to the back of the sign, measure the force required to "tip-over" the sign.

5.3.1. A final pulling force shall be recorded as the maximum force exerted before the sign becomes unstable and falls.

5.4. Repeat the above step two more times and calculate the average of the 3 readings.

5.5. The acceptable minimum value shall be 7 lbf~~s~~. (~~3 kg~~29.42 N).

~~5.4.1.~~5.5.1. The associated wind speed with 7 lbf is approximately 17.4 mph. This calculation is shown in Attachment 1.

Commented [1]: Mass unit for a force measurement? Should probably be Newtons. Also maybe specify the lbs. as lbf?

6. TESTING PROCEDURE FOR 48-IN SIGN

6.1. The manufacturer's portable sign stand shall be assembled according to the manufacturer's instructions on a firm concrete or asphalt surface with legs fully extended (for 48-inch (1.2 m) signs).

6.1.1. The testing technician shall inspect the device to ensure that it is functioning properly as per the manufacturer's standards.

6.2. Stands shall be secured such that there is no potential for sliding. This securing mechanism shall in no way alter the stability of the stand.

6.3. Attach the dynamometer force gauge to the top of the sign stand 60 inches (1.5 m) above the bottom of the sign. If the stand does not have a solid mast at that height, insert a testing rod into the stand for a solid anchor point. With an even motion, parallel to the ground surface at a 90-degree angle to the back of the sign, measure the force required to "tip-over" the sign.

6.3.1. A final pulling force shall be recorded as the maximum force exerted before the sign becomes unstable and falls.

6.4. Repeat the above step two more times and calculate the average of the 3 readings.

6.5. The acceptable minimum value shall be 18 lbf~~s~~. (~~8.2 kg~~80.41 N).

6.5.1. The associated wind speed of 18 lbf is approximately 21.0 mph. This calculation is shown in Attachment 1.

7. APPROVAL OF PORTABLE SIGN STANDS

7.1. The results of the described test as well as the MASH testing results shall be presented to the Roadway Departure Task Force. The approval of these items shall be at the discretion of this Task Force as described in MP 106.00.21.

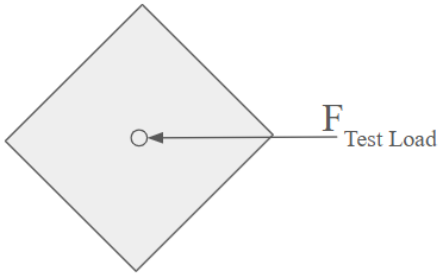
_____
Michael A. Mance, P.E.
Director
Materials Control, Soils & Testing Division

MP 715.09.20 Steward – Traffic Certification Section
MM:Bb
ATTACHMENT

This attachment is all new

Attachment 1: Conversion between Test Force and Associated Wind Speed

Assuming uniform density in the sign, symmetry, and the test force is applied at center of sign such that:



Then:

$$F_{Test\ Load} = p_{dynamic\ air\ pressure} \cdot A_{Sign}$$

$$F_{Test\ Load} = 0.5 \cdot \rho_{air\ density} \cdot v^2_{air\ speed} \cdot A_{Sign}$$

$$v_{air\ speed} = \sqrt{\frac{2 \cdot F_{Test\ Load} \cdot 32.174}{\rho_{air\ density} \cdot A_{Sign}}} = \left(\sqrt{\frac{2 \cdot F_{Test\ Load}}{\rho_{air\ density} \cdot A_{Sign}}}\right)$$

*Note that the 32.174 is an imperial units only conversion factor not used in the metric version in parenthesis

For a 36 in. x 36 in. sign's minimum allowable maximum test force/load:

Assuming air density = 0.0765 lbm/ft^3 (1.225 kg/m^3)

Force$_{\text{Test Load}}$ = 7 lbf (3 kg = 29.42 N)
Area$_{\text{Sign}}$ = 36 in. x 36 in. = 9 ft^2 (0.836 m^2)

$v_{\text{air speed}}$ = 25.6 ft/s = 17.4 mph (7.58 m/s = 27.29 kmph)

For a 48 in. x 48in. Sign's minimum allowable maximum test force/load:

Assuming air density = 0.0765 lbm/ft^3 (1.225 kg/m^3)

Force$_{\text{Test Load}}$ = 18 lbf (8.2 kg = 80.41 N)
Area$_{\text{Sign}}$ = 48 in. x 48 in. = 16 ft^2 (1.486 m^2)

$v_{\text{air speed}}$ = 30.8 ft/s = 21.0 mph (9.40 m/s = 33.84 kmph)

*Note that air density changes with temperature, pressure, and humidity; these calculations are general approximations.