MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Material Quality Assurance Processes

Details and Frequencies

Office of Materials Technology
Maryland State Highway Administration

7450 Traffic Drive
Hanover Maryland, 21076

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

Material Quality Assurance Processes

Format Description

The Material Quality Assurance Process document is intended to centralize tasks and procedures for evaluation of material quality. The tasks outlined are officially documented through various specifications, most often the Maryland Standard Specifications for Construction and Materials, Special Provision Inserts, or Special Provisions. The Material Quality Assurance Process document does not supersede these official documents but instead summarizes the Material Quality Assurance process by material.
Please refer to the specification that is included in the contract documents or the most recent published specification for the processes that need to be performed.

Please refer to the Material Quality Assurance Process document as a guideline for what processes need to be performed for a material and how often these tasks will be completed.

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Format Description

Introduction

In February of 2012 the Office of Materials Technology replaced the "Quality Assurance Manual" and "Frequency Guide for Sampling and Testing" with the attached document. The combination QA Manual and Frequency Guide does not change the processes that are performed to ensure material quality. Only the format that this information is displayed in has changed. This introductory will loosely explain the new format.

If there are further questions regarding the **format** of the manual please contact:

Vacant, Materials Management Division Chief	**443-572-5020**
Mesgana Ayele, Assistant Division Chief – MMS Section	**443-572-5021**
Evroc Goocharan, Assistant Division Chief – AME Section	**443-572-5030**

If there are further questions regarding the **content** of the manual, please contact:

The Area Material Engineer that you generally work with
The Technical Team that you generally work with

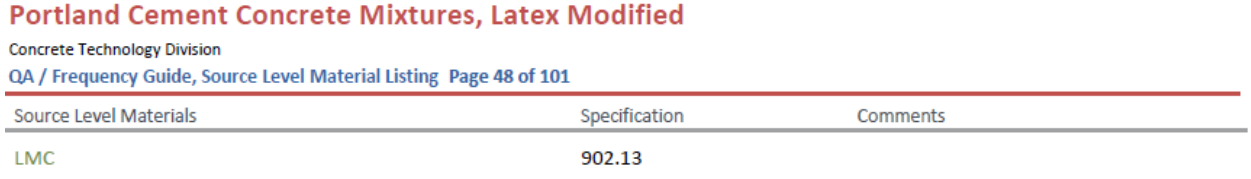
Separation of QA Reports

The individual QA reports are listed by the general family of material that they refer to (these material families are often referred to as "Design Level Materials"). Every item on the individual report refers to the given material family. The individual reports are grouped into sections that refer to the Technical Team that has the ultimate responsibility of the given materials.

Format of QA Reports

Report Header

Every report will have a header that is like Figure 1. The header will indicate the material family and Technical Team that has responsibility. The middle of the header indicates MD Standard Specifications that may define the material family.



Portland Cement Concrete Mixtures, Latex Modified

Concrete Technology Division

QA / Frequency Guide, Source Level Material Listing Page 48 of 101

Source Level Materials	Specification	Comments
LMC	902.13	

Figure 1 - Report Header

Specific Material Types

Following the report header is a list of specific materials that can be sourced on a project. These materials are also commonly known as "Source Level Materials". For the reader's convenience a complete list of Source Level Materials and the related Design Level Materials are attached as an appendix to this document.

Source Level Materials	Specification	Comments
LMC	902.13	

Figure 2 - Source Level Materials

QA Task Information

The details of the processes that occur to verify the material quality are formatted as follows.

- **Task Phase** – Indicates "when" the tasks occur in the project timeline (explained further later in this document)
- **Task that need to be performed** – Indicates "what" needs to be done. Detailed commentary on the task and how that relates to the specific material family are also included.
- **QA Options** – A list of options that indicates "how" the task will get done. Each option may have commentary that indicates specifics to the options and may include:
  - **Sample Size** – If sampling is to be performed
  - **Task Frequency** – how often the task needs to be performed

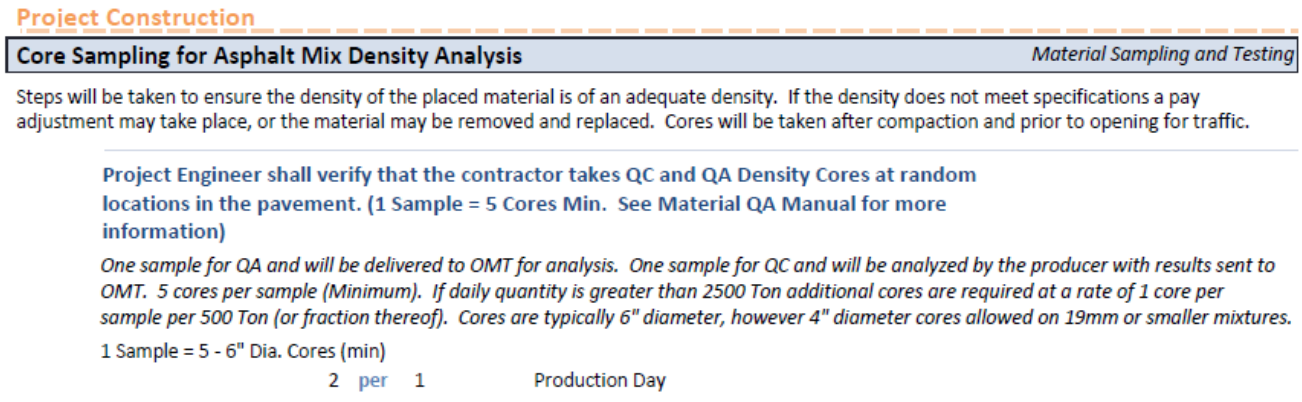


Figure 3 - Detailed QA Task Information

Task Phases

The tasks on the report are grouped into phases. These phases are organized based on when they occur on the project time line. The individual phases are as follows:

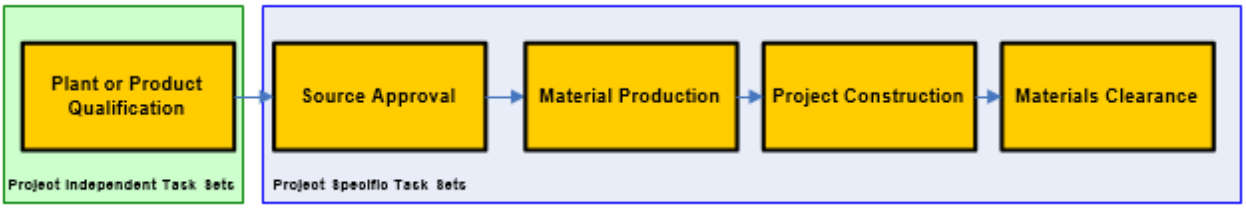


Figure 4 - General QA Stages

Plant or Product Qualification

Specific material products or the facilities that produce highway materials are often evaluated prior to use to determine if they will be qualified for state projects. If the facility or product is qualified it will be included or maintained on lists to be utilized by the Prime Contractors and the Evaluation Engineers as an aid during the Source Approval stages for projects.

Inclusion of a production facility or material product on a qualified list does NOT imply that the facility or product will automatically be approved for a specific state project. All source submissions will be evaluated for the intended usage.

Tasks in this phase are independent of specific projects and may include plant inspections and/or review of certifications.

Source Approval

After a project has been awarded, the Prime Contractor shall submit their intended sources of supply for materials to OMT for evaluation. OMT will review the submissions and determine if the producer (and sometimes specific product) is appropriate for the intended usage. If the source of supply is acceptable, OMT will report to the Prime Contractor and to the Project Engineer the specific QA options that will need to be followed to clear the project.

Source of Supply must be submitted for all materials and must be approved prior to use. When approved (or denied) by the materials engineer, a copy of the source letter will be returned with attached notations to indicate acceptance procedures. Turnaround time for source of submission shall be 5 business days from the time OMT/MMD receives the letter.

Material Production

Some materials require quality assurance tasks to be performed before the material is delivered to the project site. These tasks are project specific and may include inspections of the material (and its production process) or evaluations of material certifications.

Project Construction

Task in this phase occur once the material arrives at the project site and are typically performed (or verified) by the Project Engineer. This may include material sampling, inspection and verification.

Materials Clearance

OMT will review each project to ensure that the material quality assurance processes are being followed. Each month during construction the Project Engineer will submit to OMT a status report on the materials that have been placed in that month and any information that is pertinent to material quality, as was prescribed in the source submission stage.

When the project is complete the Project Engineer and OMT will work together to ensure that all appropriate information for the project has been accounted for.