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## **REVIEW OF MATERIALS USED IN CONSTRUCTION & MAINTENANCE PROJECTS**

### **PURPOSE**

The purpose of this memorandum is to provide guidance to the District Materials Offices and Project Engineers for reviewing documentation of materials accepted into construction and maintenance projects. These reviews are intended to determine compliance with the Contract Documents, prescribed methods of acceptance, sampling, testing and the requirements of Federal Regulation 23 CFR 637. The results of the District Materials Engineer's (DME's) final review of materials used provides the basis of certification of conformance with approved plans and Specifications by the Highway Division to the FHWA.

### **OBJECTIVES**

To provide the following:

- Guidelines for identifying projects that require materials auditing
- Guidelines for small quantities of materials
- Guidance for maintaining and disposition of project materials files
- Description of the review process
- Identification of forms used in the materials review
- Guidelines for documenting non-compliance issues

### **PROJECTS REQUIRING A FINAL REVIEW BY DME**

The District Materials Engineer will conduct a final review of materials used in all Interstate, Primary and Parks and Institutional Roads construction and maintenance projects. The District Materials Engineer will also conduct a final review of materials used in all city street and bridge projects with federal funding.

Local projects with state funding that involve construction of through primary road traffic lanes may be reviewed as determined by the District Materials Engineer. These may include UST, CST, RC, RM and CS-TSF projects along with other types of projects.

The District Materials Engineer will do a final materials review on county federal aid projects using a System Approach basis as described below. This includes but is not limited to STP-S, STP-A, BROS, BRS, BHS and ER projects.

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## **SYSTEM APPROACH TO FINAL MATERIALS REVIEW**

A minimum of one federal aid project per county will be reviewed per year. The District Materials Engineer and/or District Construction/Local Systems Engineer will determine if more than one project should be reviewed in any particular county due to issues found during a project's final review.

Ideally, the construction final records/quantity review and District Materials Engineer's final materials review should be conducted on the same project.

The District Materials Engineers will report annually to the Materials Engineer their findings on the final reviews performed on county projects. Findings will include shortages or acceptance of materials in manners that vary from [IM 204](#), [IM 204 Supplemental](#) or the contract documents.

Projects not requiring District Materials final review include FM, SBRC, SBRM, RT, STP-E, STRS, NSB, STP-ES, NRT, ADA, airport and L projects. Also, District Materials is not required to review RC, RM, UST, CST, and CS-TSF projects when it does not involve construction of through primary road traffic lanes.

## **MATERIALS DOCUMENTATION NOT REQUIRING REVIEW**

Certain materials incorporated into a project will not be included in the materials review when the quantities involved are below those listed in [Appendix A](#). Typically, these are low-risk items that will not have a significant impact on the value, performance or longevity of the overall project. The effort needed to account for these quantities exceeds the purpose of the review.

The normal method of acceptance by the Project Engineer is not to vary from those described in [IM 204](#) or other relevant IMs.

[Appendix A](#) provides a guide in determining what materials and the maximum quantities that may be waived from the final materials review.

## **MAINTENANCE & DISPOSITION OF PROJECT FILES**

For active projects that require a final materials review, files with all materials documentation are to be maintained by both the Project Engineer and District Materials Engineer.

Project & District Materials Files: During the project, these files are to be kept current with all materials documentation needed for materials acceptance.

During the District Materials Engineer's final materials review, copies of materials documentation may need to be added to the District Materials file from the Project Engineer's file.

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Upon completion of the District Materials Engineer's final materials review, the District Materials file is delivered to the Office of Materials. Once Central Materials Administration has completed either certification to FHWA and/or billing to counties/cities, the Project file is sent to Records Management. Records Management retains Interstate and Primary Road files indefinitely. Secondary Road files are retained for six years.

### **GUIDELINES FOR PERFORMING THE MATERIALS REVIEW**

The District Materials Engineer compares the required method of acceptance as described in [IM 204](#), [IM 204 Supplemental](#) and the contract documents with information on the material review sheets prepared by the Project Engineer.

Combining more than one project onto one set of material review sheets may be allowed under the following conditions:

- Tied under one contract
- Similar types of work
- Materials or mixtures furnished to the projects are from a common plant or source, making it difficult to separate quantities to each individual project (i.e., HMA, PCC or aggregates).

**NOTE:** Projects should be maintained in separate files with a copy of the combined project review sheets placed in each project file.

The material review sheets are found on the Materials Office website <http://www.iowadot.gov/materials/auditforms.xls>. They provide a format and guidance in summarizing the materials documentation for various types of work. These sheets are completed by the Project Engineer and submitted to the District Materials Engineer.

The Miscellaneous Materials sheet is used for documenting items that are not identified on the sheets representing specific types of work. The Miscellaneous Materials sheet may be used to supplement any of the review sheets.

Documentation on the review sheets should normally be prepared using the following form for the various methods of acceptance:

|                                    |                                                                                                                   |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Approved Brand/Source              | Identify only the brand or source of the material with no specific quantity.                                      |
| Approved Brand/Source and/or Batch | Identify only the brand or source of the material and the lot or batch used with no specific quantity.            |
| Certified Materials                | Identify the quantity of the material certified by the supplier (except materials represented on a plant report). |

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|                     |                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------|
| Plant Reports       | Identify the quantity of mixture required and the quantity represented on plant reports.             |
| Tests               | Identify the required number of tests and the actual tests reported to the project.                  |
| Fabrication Reports | Identify the number of units represented by fabrication reports (i.e., number of beams, lbs., etc.). |

All materials are to be documented on the review sheet except materials considered as Small Quantities, ([Appendix A](#)). Small Quantity items need not be documented on the review sheets.

The review of a material item may be considered acceptable if at least 98% of the required documentation for the material used is accounted for in the project file. The agency person responsible for preparing the review quantities, in each category, shall date and sign the signature line representing the Project Engineer's Office.

#### **NONCOMPLIANT TESTS**

The Project Engineer furnishes the summary Noncompliant Tests or Measurements of Material Incorporated into the Project. The Project Engineer attaches this summary to the Final Payment Form #830436.

When acceptance of noncompliant materials is made by a means other than using established price adjustment schedules, the basis of acceptance requires an explanation by the District Materials Engineer.

Deviations from the prescribed sampling and testing frequency or the basis of acceptance as described in [IM 204](#), also require an explanation.

Explanations for issues described above should be addressed to Materials Administration with copies to the Project Engineer and the project file.