

## Section 5.8 CONTROL OF MATERIALS

### 5.8.1 Purpose

To establish a uniform standard for the control of materials on construction projects.

### 5.8.2 Authority

Sections 20.23(3)(a) and 334.048(3), [Florida Statutes](#)

### 5.8.3 References

[Standard Specifications for Road and Bridge Construction](#)

[Federal-Aid Policy Guide, 23 Code of Federal Regulations \(CFR\) 637](#)

[Procedure No. 675-000-000, Materials Manual](#)

### 5.8.4 General

The **Contract Documents** contain **Specifications** and guidance relevant to the acceptance of all materials incorporated into a project. The Job Guide Schedule (JGS), included in the Materials Acceptance and Certification system (MAC), indicates who samples and tests each of these materials and at what frequency. The Final Project Materials Certification Letter (PMCL) for materials used on a contract will be accomplished according to instructions from the State Materials Office (SMO) **Materials Manual Section 5.4, Final Project Material Certification**.

The **JGS** lists materials and designates the methods of acceptance normally required under each material. For all contract types, the **JGS** includes project specific MAC Specifications created for **Special Provisions, Technical Special Provisions, Developmental Specifications, Plan Notes** and **Change Orders** with requirements for material method of acceptance. The JGS is generated for contracts with conventional pay items from MAC based on the pay items on the contract and project specific assignments. For Lump Sum and Design-Build contracts, the Contractor will create a project specific JGS in MAC, in accordance with **Specifications Section 105**, known as a nonstandard JGS.

The Project Administrator (PA) is responsible for reviewing the **Contract Documents** to ensure the JGS is correct and complete. If there are missing material assignments, the PA must contact the SMO technical unit to ensure the JGS is complete. Project specific materials are included in the **Special Provisions, Technical Special Provisions, Developmental Specifications, Plan Notes** and **Change Orders** that designate a method of acceptance. If any exist, the PA is responsible to ensure that the JGS includes these entries.

### 5.8.5 Source of Supply

**Specifications Section 6-5.2** requires the Contractor to use domestically sourced structural steel, iron, and construction materials. These requirements pertain to nonferrous metals, plastic and polymer-based products, glass, lumber, and drywall articles, materials, and supplies that are consumed in, incorporated into, or affixed to an infrastructure project. Temporary devices, equipment, and other items removed at or before the completion of the project are exempt. Temporary items determined to be left in place are not exempt and must be domestically sourced. Aggregates, cementitious materials, and aggregate binding agents or additives are also exempt.

For iron and steel, miscellaneous components including subcomponents and hardware necessary to encase, assemble, and construct the finished work are included. The **Specifications** require a **Certification of Compliance** from the manufacturer that states the steel or iron, and the products containing steel or iron were manufactured in the United States. Ensure the certification includes the Federal Aid Project Number, the Financial Project Number, and the applicable Pay Item Number(s). Certifications attesting to this must be submitted to the PA prior to incorporating the material into the project. PA will enter the certification into the Electronic Document Management System (EDMS). Non-domestically source materials must be tracked in the Foreign Steel Tracking agency view within AASHTOWare Project Construction (PrC). For assistance with the PrC agency view, contact the [State Construction Office Systems Section](#).

### 5.8.6 Method of Acceptance

There are three methods of material acceptance: 1) certification; 2) visual inspection; and 3) sampling and testing.

## (1) Certification

A contractor, manufacturer, or supplier provides a written certification stating the material supplied meets **Specifications** requirements at the time of delivery or prior to placement. The CEI Inspector shall verify that the certification is complete, correct, and meets **Specifications** requirements. The CEI Inspector shall visually inspect or verify that these products or materials meet all the **Specifications** and any other contract requirements, and that the delivered products or materials match the certification document descriptions in expected appearance and size, and are free from defects and contamination.

Product certification from an approved aggregate source should include the bill of lading/shipping ticket with the phrase “Certified for FDOT” or “Cert. for FDOT”, FDOT Source number, date, FDOT material code, aggregate description, and quantity in tons.

In some instances, the Department requires that manufacturers submit samples of certified materials for independent verification purposes. The CEI Inspector shall collect the sample or verify that the sample has been submitted for testing.

### (a) Product Certification

Certification per product, per project is required in the **Specifications** and as shown in **Section 5, Materials Manual, Topic No. 675-000-000**. The PA shall be responsible for obtaining the certification prior to allowing the incorporation of any products into the project.

### (b) Approved Products and Producers

The Department maintains a list of products and producers acceptable for use on construction projects. Products and producers will be included on Department lists when documentation (certification and periodic test results) is received assuring the material conforms to **Specifications** requirements. The CEI Inspector shall verify that such approved products and producers meet **Specifications** requirements. These lists are available at: [Approved Product List](#) and [Production Facility Listing](#).

## (2) Visual Examination

The **Specifications** provide guidelines concerning material that may be accepted by visual examination, for example certain materials incorporated into Witness-and-Hold projects. Visual Inspection may also be an alternate method of acceptance for sampling and testing when the material quantity meets the definition of small quantities. The CEI Inspector should visually inspect or verify that the delivered products or materials match the expected appearance and size specified in the **Contract Documents**, and are free from defects and contamination.

## (3) Sampling and Testing

### (A) Resident Level Responsibilities

It is the PA's responsibility to ensure that only materials meeting the **Specifications**, or properly documented and approved exceptions, are incorporated into the project. MAC contains several reports and search screens that can be used to track the status of samples for each project. The PA will make sure the samples are current **at all times** by ensuring prompt entry of sample data and field test results into MAC. The PA will finalize all project samples and create comparison packages for materials that require comparison. When the samples do not meet the comparison criteria (i.e., "Does Not Compare" in MAC), the PA will ensure that Resolution sampling and testing is performed, that the Resolution samples and test results are entered in a timely manner, and are included in the comparison packages. When it is not possible to perform a required comparison and/or Resolution, the PA will denote it was not possible on the comparison package and include the reason for not performing the required testing.

### 5.8.7 Materials Acceptance Resolution

If a material is designated by the Materials Certification Review personnel to require resolution of the material acceptance, it will be promoted to the Materials Acceptance Resolution (MAR) process in MAC. All materials with acceptance issues will be promoted to MAR and final resolution determined. The life cycle of the issue will depend on the original issue and the nature of the material acceptance needing resolution. Some issues can be resolved directly by the PA without additional input. Some issues will require input from the District Materials and Research Engineer (DMRE), the District Construction Engineer (DCE), and the Directors, Office of Construction (DOC) and Office of Materials (DOM). This procedure is outlined in the **Material Acceptance Resolution Flow Chart**

**(Attachment 5.8-1)** The District Materials Office and State Materials Office Technical areas collaborate for Materials Offices' input.

Regardless of the final resolution, the PA must provide detailed descriptions of the issue including location information. Location information includes GPS coordinates and must be entered in MAC database.

The Table below is a list of MAR Recommendations that needs GPS locations entered in MAC.

Recommendation	GPS Location Required?
EAR	Yes, if left in place or partial removal
No Action Required per Materials Manual 3.1	Yes
No EAR	Yes, if left in place or partial removal
No EAR – Delineation or Partial Removal	Yes, if left in place or partial removal
Pay reduction Per Specification	Yes

### (1) Materials Acceptance Resolution by Specifications

For straightedge deficiencies, the procedures shall follow the requirements of **CPAM Section 11.5, Testing and Correcting Asphalt Pavement Surface Deficiencies**.

For other material acceptance within **Specifications**, the PA will document the final resolution on the MAR issue in MAC. These determinations are designated by selecting one of the following options:

- a) Asphalt Follow-up Sample Passed – The material is resampled and the results are acceptable in accordance with **Materials Manual Section 3.1 District Materials Activities for Asphalt Pavement Construction**.
- b) Complete Removal and Replacement – The Contractor chooses to remove the material and replace it without requesting an Engineering Analysis Report (EAR).
- c) Material Rejected for Use – The material was sampled from a stockpile and the material is removed from use on the project before it is placed.
- d) Pay Reduction per Specifications – The **Specifications** allow a pay reduction to be assessed if a material falls within the pay reduction criteria.
- e) Reworked and Remixed – The material allows for rework, and sample is taken for the rework that designates that the reworked material is acceptable.

- f) No Action Required per Materials Manual 3.1- The material has High Air Voids. If air voids > 6.0% and <= 7.5% and all subplot cores (includes QC and IV cores, if applicable) are >= 89.5 % Gmm, no further action is required. This is illustrated in Figure 2 of Materials Manual Section 3.1.

**(A) Resident Level Responsibilities**

If the material is accepted based on the **Contract Documents** (i.e., Leave in Place at No Pay or Pay Reduction per **Specifications**), the PA will document the final resolution on the MAR issue in MAC. Once the PA has recorded the final recommendation, the issue is considered resolved. The PA will enter additional payment information in MAC if the final resolution includes reduced payment. The payment information is not relevant to the final resolution but is recorded to assist Construction personnel with tracking the payment requirement.

**(2) Determining the Use of an EAR**

If the material is determined to be defective in accordance with **Specifications Section 6-4** and the Contractor requests the use of an EAR in accordance with the material specific **Specifications** to determine the materials acceptance resolution, the PA, DMRE, and DCE must determine if an EAR will be used. Material not meeting any of the method of acceptance requirements is considered to be defective. Defective material is limited to requirements related to material acceptance. For example, improper Maintenance of Traffic is not a valid reason for defective material. However, defective material is not exclusive of material failing acceptance limits. For example, material required to be tested by a qualified technician, but tested by someone not holding the appropriate qualification at the time of testing is considered defective, regardless of the whether or not the test results pass the acceptance limits. There must be an evaluation of the defective material to determine if the defect requires analysis by EAR or other means of addressing the defect to ascertain the final resolution. The decision will be made based on the nature, location, severity and/or frequency of the defect.

**Table 5.1**

**EAR Decision Table**

	<b>Case 1</b>	<b>Case 2</b>	<b>Case 3</b>	<b>Case 4</b>
PA Recommends	EAR	EAR	No EAR	No EAR
DMRE Recommends	No EAR	EAR	EAR	No EAR
DCE Recommends	EAR	No EAR	No EAR	EAR

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Final Decision	EAR Required	DOC obtains final decision	DOC obtains final decision	EAR Required
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\*See escalation and concurrence required below

### **(A) Resident Level Responsibilities**

The PA will document their recommendation for the use of an EAR on the MAR issue by selecting the option “EAR” or “No EAR” in MAC.

Once the determination for the use of an EAR is made, the PA will coordinate with the DMRE regarding the scope of the EAR. The PA will provide the EAR scope to the Contractor and the EAR will be performed. The PA will attach the EAR to the specific MAR issue under the documents tab in MAC.

## **(B) District Level Responsibilities**

The DMRE will determine if an EAR is needed and document their recommendation on the MAR issue by selecting “EAR” or “No EAR” in MAC. Once the determination for an EAR has been made, the DMRE will recommend the EAR scope including types of testing needed to ensure the EAR will yield the necessary information to determine the resolution of the defective material.

The DCE will determine if an EAR is needed and document their recommendation on the MAR issue by selecting “EAR” or “No EAR” in MAC.

If the DCE and DMRE concur, the DCE’s determination is final.

If the DCE and DMRE do not concur, follow the direction provided in the appropriate column of **Table 5.1** based on the recommendations provided by DCE, DMRE and PA. For Cases 2 and 3, the MAR issue will be escalated to the DOC and DOM.

**NOTE: This is not the final resolution of the material, but only addresses whether or not an EAR will be allowed to be used to determine the final material disposition.**

## **(C) Central Office Responsibilities**

For Cases 2 and 3, if the DCE and DMRE do not concur, the DOC and DOM will have the final decision.

If the DOC and DOM do not concur, the MAR issue will be escalated to the Chief Engineer (CE) for the final decision.

Upon notification in MAC of Case 2 or 3, the DOC will ensure concurrence is obtained at the appropriate level.



### (3) Determining the Use of Delineation

Some materials are allowed by **Specifications** to use delineation as the method to determine the material acceptance resolution. If the MAC Spec Material Id allows for delineation, additional information must be provided. The Contractor must request the use of delineation from the PA.

#### (A) Resident Level Responsibilities

The PA will document their recommendation for the use of delineation on the MAR issue by selecting "No EAR – Delineation", "EAR", or "No EAR" in MAC. The "No EAR – Delineation" option is only available when **the MAC Spec Material Id** indicates delineation is allowed based on the **Specifications** requirements.

#### (B) District Level Responsibilities

The DMRE will review the PA's recommendation. The DMRE will provide a recommendation of "No EAR – Delineation", "EAR" or "No EAR" in MAC.

The DCE will review the PA and DMRE recommendation for the material resolution. The DCE will provide a recommendation of "No EAR – Delineation", "EAR" or "No EAR" in MAC.

If the DCE concurs with the DMRE, the DCE's recommendation is used as the final resolution.

If the DCE does not concur with the DMRE's recommendation, the issue is elevated to the DOC for final decision, when DMRE designates "EAR" and DCE designates "No EAR- Delineation" or "No EAR". Otherwise, EAR is required. (i.e. Direction for these cases follow **Table 5.1** as well.)

### 5.8.8 Attachments

[Attachment 5.8-1](#)..... Material Acceptance Resolution Flow Chart

## Attachment 5.8-1 Material Acceptance Resolution Flow Chart

