

V. MATERIALS ACCEPTANCE PROGRAM

- A. Purpose.** This program provides uniform, statewide procedures for sampling, testing, and inspection to ensure that the quality of materials incorporated into the project is in conformance with the plans and specifications.
- B. Scope.** The program applies to all State Department of Transportation Highway projects, and County Federal-aid projects on the National Highway System. All testing laboratories and sampling and testing personnel under this program shall be qualified according to the Laboratory and Personnel Qualification Programs and subject to the requirements of the IA Program. In order to avoid an appearance of a conflict of interest, any qualified laboratory, other than CL, shall perform only one of the following types of testing on the same project: Contractor sampling and testing, Verification sampling and testing, Dispute Resolution sampling and testing, or IA sampling and testing. The Sampling and Testing Guide for Acceptance and Verification (Appendix 3) identifies the material, lot size, frequency, and location in the construction or production operation at which sampling is done, and the specific attributes tested that reflect the quality of the finished product.
- C. Acceptance Sampling and Testing.** The State's Materials Acceptance Program will be managed by the Quality Assurance Manager. District and County Quality Assurance Officers shall be responsible for implementing the Materials Acceptance Program within their Districts and Counties. The Quality Assurance Officer shall be responsible for ensuring that only sampling and testing by qualified personnel and laboratories are used in the Materials Acceptance Program. Materials acceptance sampling and testing within a project may be accomplished by either one or both of the following methods:
1. Acceptance Sampling and Testing by District or County personnel or their designated agents.
 - a. Oahu District (HWY-O) Quality Assurance Officer shall be responsible for acceptance sampling and testing requirements. All sampling and field testing will be performed by HWY-O or by a designated agent. Field samples obtained for laboratory testing shall be sent to Materials Testing and Research Branch (MTRB) or to a qualified laboratory.
 - b. Designated Quality Assurance Officers for Hawaii, Kauai, and Maui Districts, and all Counties shall be responsible for

- acceptance sampling and testing requirements within their respective jurisdictions. When laboratory testing cannot be performed by the District or County, samples may be sent to MTRB or to a qualified laboratory for required testing.
- c. Samples shall be selected by the random selection method according to ASTM D 3665, Random Sampling of Construction Materials.
 - d. Location and frequency at which acceptance sampling and testing are to be accomplished shall conform to the Sampling and Testing Guide for Acceptance and Verification (Appendix 3).
 - e. Samples, test data, and certificates of compliance shall be submitted to MTRB with the white sample card (Form MTRB JC-1 or JC-1a — Appendix 2). MTRB will review all project data to ensure that materials incorporated in the construction work conform to approved plans and specifications.
2. Acceptance Sampling and Testing by Contractor with Verification by District or County, or their designated agents. This method is permitted when specified in the contract specification.
- a. Contractor Sampling and Testing.
 - (1) Project specifications shall specify minimum quantity of tests required for Contractor Sampling and Testing. Except as otherwise specified, minimum sampling and testing shall be in accordance with the requirements shown on the Sampling and Testing Guide for Acceptance and Verification (Appendix 3). Sampling location shall be as indicated on the Sampling and Testing Guide for Acceptance and Verification.
 - (2) Project specifications shall require the Contractor to designate a Quality Control (CQC) Manager, who shall be responsible for managing, controlling, and documenting all activities to ensure material compliance with the contract plans and specifications.
 - (3) Project specifications shall require the Contractor to prepare and submit a Quality Control Plan for projects over \$1,000,000.

- (4) Samples shall be selected by the random sampling method according to ASTM D 3665, Random Sampling of Construction Materials.
 - (5) The Project Engineer shall transmit the Contractor's test results with the yellow sample card (Form MTRB CJC-2 or CJC-2a — Appendix 2) to MTRB through the District Quality Assurance Officer.
- b.** Verification Sampling and Testing.
- (1) To validate product quality, Verification Sampling and Testing shall be performed by qualified sampling and testing personnel employed by the State or County or its designated agent, excluding qualified sampling and testing personnel employed by the Contractor. When Contractor and State or County test results differ by more than the allowable standards established by MTRB, dispute resolution procedures shall be followed.
 - (2) Frequency of Verification Sampling and Testing shall be a minimum of 10 percent of the Contractor Sampling and Testing requirements. Frequency may be increased by the State or the County based on a history of dissimilar test results between Contractor and Verification testing.
 - (3) Verification samples shall be random samples (ASTM D 3665) taken at the same general location of the Contractor's sample.
 - (4) Verification samples or test data shall be transmitted with the blue sample card (Form MTRB VJC-3 or VJC-3a — Appendix 2) to MTRB through the District Quality Assurance Officer.
- c.** Dispute Resolution Procedures. Conflicts between the Engineer and the Contractor, resulting from discrepancies in testing or non-test-related material quality disputes, shall be resolved by using the steps outlined below. Non-test-related disputes may include such items as segregation, workmanship, flushing, open joints, non-uniform mats, and other issues. If mutually agreed to by the disputed parties, other forms of resolution may be used. Any deviations from the following procedures shall be agreed to in writing.

(1) Case I: Test Related Disputes:

(a) Step I: Project Investigation.

Personnel responsible for the Contractor Sampling and Testing and Verification Sampling and Testing shall review sampling procedures, testing procedures, testing equipment, and computations. The intent of this investigation is to ensure that proper procedures are followed, equipment used is properly calibrated and functioning, and computational errors are ruled out. If problems are found, corrective action shall be taken.

If Step I does not resolve conflict, procedures in Step II shall be followed.

(b) Step II: Third Party Investigation.

Third party shall be the MTRB or a non-Highways Division laboratory designated by the Engineer. The MTRB shall be viewed as an “unbiased” third party, although technically not totally independent. The designated non-Highways Division laboratory shall be accredited in the applicable test by the AASHTO Accreditation Program or a comparable laboratory accreditation program approved by Federal Highway Administration (FHWA), with testing personnel qualified under the Personnel Qualification Program. The non-Highways Division laboratory third party shall not, in any way, be involved in the Contractor Sampling and Testing, Verification Sampling and Testing, or IA Sampling and Testing on the disputed project.

Designated third party shall examine the following:

- (i)** Past similar/dissimilar comparisons for the disputed item to identify any particular trends.

- (ii) Results of the project-level investigation.
- (iii) Results of the Independent Assurance Program.

A sample shall be split among the Contractor, Engineer, and third party to compare test results. Third party may perform additional verification testing, at the project-level investigation, as necessary.

Results obtained from split samples or new samples and verification testing shall be evaluated to decide whether initial test results obtained by the Contractor or the Engineer more accurately represent the particular material property. Third party shall submit a written report describing dispute, all subsequent actions, and final recommendation.

If this investigation shows that the Engineer's tests are correct, the Contractor shall pay for the cost of the third party investigation. Similarly, if the investigation shows that the Contractor's tests are correct, the Engineer will pay the cost of the third party investigation.

(2) Case II: Non-Test Related Disputes:

(a) Step I: Project Investigation.

The Contractor and the Engineer will jointly quantify the dispute (e.g., the area of segregation, etc.), its severity, and impact on facility performance. When testing is required to assist in dispute resolution, all parties shall agree to the sampling and testing plan, testing agency, and disposition of these findings before starting.

If Step I does not resolve dispute to the satisfaction of all parties within a previously agreed time, procedures in Step II shall be followed.

(b) Step II: Third Party Investigation.

Resolution shall be arbitrated by an unbiased third party designated by the Engineer. Third party shall submit a written report describing dispute, all subsequent required actions, and final recommendation.

When disputes are resolved by an unbiased third party, the Engineer and the Contractor shall share cost of third party investigation. Conclusions and recommendations made by any unbiased third party shall be binding.

- D. Submittals.** Acceptance, Contractor, and Verification Test data, and any Dispute Resolution reports shall be submitted to MTRB. MTRB will review all project test data to ensure that materials incorporated in construction work conform to approved plans and specifications. Based on this information, MTRB will issue a materials certification to FHWA for each construction project that is subject to FHWA construction oversight activities (see Section VII).