



INDIANA DEPARTMENT OF TRANSPORTATION Division of Materials and Tests

Directive 106

Qualified Laboratory Program

The purpose of the Qualified Laboratory Program is to establish policies, procedures, and guidelines to ensure that all laboratories which conduct acceptance testing conform to high quality standards.

To accomplish the goals of the program, the Department will provide the following:

1. The Department Division of Materials & Tests Laboratory will maintain AASHTO Accreditation.
2. The Division of Materials & Tests Laboratory will conduct on-site inspections in the District and HMA Acceptance Laboratories to ensure the performance of the test equipment and the qualification of the District and HMA Acceptance Laboratory technicians.
3. The Division of Materials & Tests Laboratory will maintain a sample proficiency program with the District and HMA Acceptance laboratories to ensure uniformity of test results.
4. The Department will maintain the related programs consisting of the Independent Assurance and Qualified Acceptance Personnel Program (Directive 107), the Certified Aggregate Producer Program (ITM 211), the Certified Hot Mix Asphalt Producer Program (ITM 583), the Certified Precast Concrete Producer Program (ITM 813), the Certified Precast Prestressed Concrete Producer Program (ITM 814), and their respective audit programs.

The Indiana Qualified Laboratory Program has been developed in accordance with the provisions of Federal Regulations 23 CFR 637, Subpart B, entitled Quality Assurance Procedures for Construction.

Terminology

AASHTO. American Association of State Highway and Transportation Officials

Acceptance Program. The procedures of the Department for the determination of the quality and conformity to the contract specifications Acceptance Personnel. Groups of individuals representing and/or employed by Department Construction, Department Testing, Contractor, CAPP Producer, HMA Producer, Consultant, Local Public Agency, or Geotechnical Laboratory conducting sampling or testing for the purpose of acceptance. Refers to and includes groups of as few as one, consisting of Project Engineers, Project Supervisors, Lab Supervisors, Technicians, Seasonal Employees, or other representatives or employees conducting acceptance sampling or testing for any contract that is administered by the Department.

ACI. American Concrete Institute

ASTM. American Society for Testing and Materials

Certified Technicians. Personnel who have successfully completed the requirements of the Aggregate, Hot Mix Asphalt, Concrete, or ACI Level I Concrete Training Programs

HMA Acceptance Laboratories. Three laboratories which are tasked solely with HMA Acceptance. Two of these laboratories are operated and staffed by Consultants, one laboratory is operated and staffed by the Department.

District Laboratories. Laboratory facilities operated and staffed by Department District Personnel.

Independent Assurance and Qualified Acceptance Personnel Program. A program that ensures Acceptance Personnel are capable of correctly and accurately conducting the appropriate acceptance sampling and testing procedures.

Laboratory Proficiency Samples. Homogeneous samples prepared by the Division of Materials & Tests that are distributed and tested by multiple laboratories. The test results are compared to ensure the laboratories are obtaining similar results.

Materials Services Section. Section within the Division of Materials & Tests responsible for providing technical and quality control guidance for maintaining the Division of Materials & Tests AASHTO Accreditation and District Testing functions

Division of Materials & Tests. Department Office which houses the Accredited Laboratory, as well as the technical staff which maintains this Program

Qualified Laboratories. Laboratories that have demonstrated the capability of conducting standard practices for material testing as determined by AASHTO, ASTM, or the Department

Qualified Technicians. Individuals who have successfully completed the requirements of the Department Independent Assurance and Qualified Acceptance Personnel Program

Qualified Laboratory Program

The Qualified Laboratory Program consists of the following tasks:

- Maintain AASHTO Accreditation of the Division of Materials & Tests Laboratory
- Perform inspections of District Testing and HMA Acceptance Laboratories
- Perform sample exchanges with District Testing and HMA Acceptance Laboratories
- Review inspections of laboratories in the following Programs:
 - Certified Aggregate Producer Program (ITM 211)
 - Certified Hot Mix Asphalt Producer Program (ITM 583)
 - Certified Precast Concrete Producer Program (ITM 813)
 - Certified Precast Prestressed Concrete Producer Program (ITM 814)

The AASHTO Accreditation Program includes the following requirements:

- Participate in on-site inspection programs
 - AASHTO Resource: Soils, Asphalt Materials, Paint, and Aggregates
 - CCRL: Cement, Pozzolans, Concrete, Steel, and Masonry Units
- Maintain Quality Management System
- Participate in Proficiency Sample Programs from AASHTO Resource and CCRL

The Department on-site inspection program requires that a Division of Materials & Tests representative audit the District and HMA Acceptance laboratories annually. The laboratories are required to present all testing equipment to assess their dimensional and functional requirements. The laboratories are required to conduct all of the tests being done at that particular facility. The equipment and procedural presentations are evaluated and documented. When deficiencies are noted, a review of the deviation from the test method will be made to include a discussion of possible corrective actions. Each laboratory is required to maintain a Quality Control System manual and to document that all equipment has been calibrated and verification records are maintained.

The Materials Services Section will audit the Department laboratories for performance graded binder, emulsified asphalt, hot mix asphalt, soil, portland cement concrete, and aggregates. All documentation of the audits is retained in the Materials Services Section.

The Division of Materials & Tests will fabricate laboratory proficiency samples for distribution to the District and HMA Acceptance laboratories. The District and HMA Acceptance laboratories will be supplied with directives on testing procedures, data documentation, and any other required information for the proficiency samples. The laboratories are required to have technicians qualified under the Independent Assurance and Qualified Acceptance Personnel Program conduct all laboratory sample proficiency testing. The Materials Services Section will analyze the results of the laboratory proficiency for program compliance. All laboratory proficiency sample program documentation will be retained by the Materials Services Section.

Industry laboratories which have been approved by the Department under the requirements of the Certified Aggregate Producer Program or the Certified Hot Mix Asphalt Producer Program are initially qualified to conduct sampling and testing for acceptance of materials. Continual evaluation of the quality conformance of the laboratories will be done by the Department during the annual Certified Aggregate or Certified Hot Mix Asphalt Plant audits. Any deficiencies noted during these reviews will be administered by the appropriate program and resolved within 10 days.

Industry laboratories which have been approved by the Department as Geotechnical Consultants are initially qualified to conduct sampling and testing for acceptance of B Borrow or structure backfill. Continual evaluation of the quality conformance of the laboratories is done by assessments and proficiency sample programs by AMRL. Deficiencies from the assessment of the laboratory test procedures or deficiencies of the proficiency samples are required to be corrected.

Industry laboratories which have been approved by the Department under the requirements of the Certified Precast Concrete Producer Program are initially qualified to conduct sampling and

testing for acceptance of materials by the American Concrete Pipe Association (ACPA), the National Precast Concrete Association (NPCA), or Precast/Prestressed Concrete Institute (PCI) Certification Programs. Continual evaluation of the quality conformance of the laboratories is done by the ACPA, NPCA, or PCI during the annual audits. Any deficiencies noted during these reviews is administered by the appropriate program and resolved within 30 days.