Kentucky Crushed Stone Association

And

Kentucky Transportation Cabinet

Present

Kentucky Aggregate Technician Program

Qualified Aggregate Technician

Revised September 2010

Kentucky Crushed Stone Association
(www.kycsa.org)

And

Kentucky Transportation Cabinet
(www.transportation.ky.gov/materials)

Technician Manual
Contents

KENTUCKY AGGREGATE TECHNICIAN PROGRAM

Date revised: September 2010

Operational Guidelines
Contents

These policies and procedures have been developed by the Technical Panel of the Aggregate Technician Program, a partnership between the Kentucky Transportation Cabinet and the aggregate industry in Kentucky.

I. PROGRAM OVERVIEW AND GOALS

OVERVIEW

The following guidelines have been established by the Kentucky Transportation Cabinet and the aggregate industry in an effort to provide a standardized method of reviewing, testing, and recognizing candidates as Qualified Aggregate Technicians.

All parties recognize the demand for qualified professional technicians and the goal of this document is to establish the basic structure for meeting those demands.

The Qualified Technician Program is competency and performance-based review and testing. The review includes classroom presentations, laboratory demonstration and practice, a laboratory performance test, and a written examination.

After successful completion of either of the two program levels of Technicians available, the individual will be issued a Certificate of Qualification.

GOALS

1. To evaluate the aggregate technician in the current and applicable inspection, sampling and testing methods and their application.

2. To develop a method to verify each technician's level of competence through testing.

3. To recognize the needs and concerns of both industry and governmental agencies while addressing those concerns.

4. To maintain a current database of qualified personnel.

5. To establish a uniform method of reviewing, testing and qualifying aggregate technicians.

6. To standardize testing practices and operations throughout the State of Kentucky.

7. To provide continuing education opportunities for the Qualified Technician to maintain their professionalism.

8. To provide an open format for the discussion of new ideas and methods.

II. PROGRAM STRUCTURE

The program has been established with two (2) categories of qualification. The two categories each have increasing levels of responsibility and authority. The categories are:

- The Qualified Aggregate Sampling Technician which represents the basic knowledge of proper inspection and sampling procedures and techniques.

- The Qualified Aggregate Technician which represents a person who upon successful completion of the course can (1) inspect, sample and perform the basic aggregate testing required for acceptance, and (2) can display knowledge in advanced testing methods of material properties.

III. TECHNICAL CLASSIFICATIONS AND DESCRIPTION

QUALIFIED AGGREGATE TECHNICIAN

Qualification Objectives: To provide qualified samplers and testers. Tests which technicians must be proficient in running include wash gradations, minus No. 200 sieve content, and dry sieve analyses on fine, coarse, and base aggregates. Shale and Fractured Particles tests are also included in the list of tests for coarse aggregate that technicians must be proficient in running. They must understand the importance of inspection, sampling and gradation test procedures. The successful Qualified Aggregate Technician will be able to sample aggregates according to accepted practices and understand proper procedures for visual acceptance of aggregates. Successful demonstration of knowledge will qualify this technician to take roadway samples and conduct appropriate aggregate tests for acceptance. Technicians completing the course will demonstrate an understanding of material properties and specifications commonly associated with Kentucky Transportation Cabinet projects. For most applications, approved aggregate sources **must** employ a Qualified Aggregate Technician.

Learning Objectives: Students will be introduced to aggregate applications, specifications, sampling, test methods, testing, basic statistics, fundamental aggregate characteristics and application of those characteristics in end-use products. Each student should understand the importance of sampling and know how to properly obtain aggregate samples for testing. Students should demonstrate understanding of accepted methods to sample aggregates from a conveyor belt, truck, stockpile, and roadway. Students should learn and demonstrate how to perform gradation tests including wet sieve analyses, dry sieve analyses, and minus No. 200 sieve content. The successful student will

understand the importance of each test and have a basic understanding of its application.

Course Outline – Day 1:

- Introductions and Overview
- Aggregate Applications
- Stockpiling and Handling
- Importance of Sampling
- Sampling Procedures
- Random Samples
- Visual Acceptance of Aggregates
- Geology and Quarry Log
- Volumetric Tests (Specific Gravity, Density, Unit Weight)
- Physical Tests (LA Abrasion, Soundness, Sand Equivalent, Fine Aggregate Angularity, Flat & Elongated)

Course Outline – Day 2:

- Specifications
- Test Methods (Gradation, -200 Wash, % Shale, Crushed Particles)
- Blending Aggregates
- Statistical Concepts
- Review of Test Methods
- Instructor Lab Demonstrations and Student Practice

Course Outline - Day 3:

- Review
- Written Exam (Time Limit- 4 hours Maximum)
- Student Proficiency and Laboratory Examination

This program is designed to be completed, including the testing, in 2 ½ days.

IV. EXAMINATION GUIDELINES AND PROCEDURES

1. Courses and testing will be conducted at the predetermined facilities only.

2. Courses and testing will only occur during the off seasonal period and will be announced annually.

3. Testing will be administered by qualified personnel, recognized by the Kentucky Transportation Cabinet.

4. Testing will be conducted in an open book, open note format.

5. The Laboratory Proficiency test, or practical demonstration, requires a 100% score to pass that portion of the requirements. The candidate will be offered a second opportunity to retake the practical demonstration test on the same day, if necessary.

6. A minimum passing score for the written examination is eighty percent (80%).

7. All candidates will be informed of their test results(Pass/Fail) within 14 calendar days of taking the test.

WHEN YOU PASS

1. Congratulations.

2. Successful candidates will receive their certificates of completion as soon as printing and mailing can be completed.

3. The validation period for the qualification is 5 years.

IF YOU FAIL

1. Failure of either the written test or the proficiency test will result in a failure of the course.

2. If a candidate fails the initial written testing following the course, the candidate is eligible for one retest on the established date and designated location after completion of all regularly scheduled courses for the season. Refusal to retest or failure of the retest will require the candidate to attend another course in its entirety before being allowed to take another examination.

3. Class Participants have the right to appeal your failure to the Program Coordinator in writing within 10 days of result notification. The reason for the appeal must be stated.

V. REQUALIFICATION

Aggregate technicians whose qualifications expire in 2010 or later may be re-qualified by successfully taking only the laboratory proficiency and written examinations. It will not be necessary to take the two-day review course. This applies to those currently qualified as Aggregate Technicians who have previously passed the review and testing course. It does not apply to Aggregate Sampling Technicians.

All provisions of Section IV, Examination Guidelines & Procedures, will apply for requalification except item No. 2 of "If You Fail". There will be no provision for retesting. Any technician who fails either the laboratory proficiency or written test must take the entire course plus the required testing.

VI. TECHNICAL PANEL STRUCTURE

The Technical Panel shall consist of representatives of the aggregate industry and the Kentucky Transportation Cabinet. Each member shall have a single vote. The Chairperson shall only vote in the event of a tie. The panel shall be responsible for changes and amendments to this program by majority consensus. Proposed changes must be presented to the committee in writing and will not be considered for discussion until the next scheduled meeting. Meetings will be scheduled as requested by committee members and as required.

VII. PROGRAM COORDINATOR

The Program Coordinator is appointed by the Technical Panel to represent the interests of the Technical Panel, in order to maintain the integrity of the program on a daily basis. The Program Coordinator will report to the Technical Panel any disputes that can not be easily resolved.

VIII. DISQUALIFICATION

Disqualification may occur when a technician fails to comply with Section 6 of Kentucky Method 64-001-08, *Kentucky Transportation Cabinet Qualification Program for Technicians* located in the appendix of this manual.

IX. Course Outline

Day 1

8:00	Introductions and Overview
8:10	Aggregate Applications
8:30	Stockpiling and Handling
	Video: "*Aggregate Handling and Storage Procedures*" (18 min)
8:50	Break
9:00	Importance of Sampling
	Video: *Sampling Aggregates* (30 min)
9:30	Sampling Procedures
10:00	Break
10:10	Random Samples
10:40	Visual Acceptance of Aggregates
11:15	Review for Sampling Technicians
11:30	Lunch (Written Exam for Sampling Technicians)
1:00	Geology and Quarry Logs
1:30	Volumetric Tests (Specific Gravity, Density, Unit Weight)
2:30	Break
2:45	Physical Tests (LA Abrasion, Soundness, Sand Equivalent, FAA, F&E)
4:00	Review
4:30	Adjourn

Day 2

8:00	Specifications
9:45	Break
10:00	Test Methods (Gradations, Wash Test, Shale, & Fractured Faces)
12:00	Lunch
1:00	Blending Aggregates
1:30	Statistical Concepts
2:30	Break
2:45	Review Tests: Gradations, Wash Test, Shale, & Fractured Faces
3:15	Instructor Demonstration and Student Lab Practice
5:00	Adjourn

Day 3

8:00	Review Test Methods
8:30	Written Exam
	Student Proficiency and Lab Examination
	Adjourn- When all testing for each individual is completed.