VERMONT AGENCY OF TRANSPORTATION

QUALIFIED TECHNICIAN PROGRAM

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1.0 INTRODUCTION

This document has been developed to outline the minimum training requirements necessary for Agency sampling and testing personnel to be considered "qualified" personnel as referenced in the Agency's Quality Assurance Program (QAP). Other Divisions, Sections, or Units are encouraged to develop their own training program to better address their needs. This program has four distinct proficiency levels; trainee, apprentice, qualified, and certified technician. The immediate supervisor of the Agency personnel in the training program shall determine when the employee has satisfactorily met the requirements for each level.

2.0 PERSONNEL PROFICIENCY LEVELS

Personnel shall display adequate proficiency to perform duties as described in the QAP. An inadequate level of proficiency may be grounds for rejection of test results as determined by the Materials and Research Engineer.

2.1 TRAINEE

During this period, personnel would receive formal training including all applicable AASHTO and VTrans sampling and testing procedures with instruction on the importance of proper procedures and the significance of test results.

The responsibilities of the trainee would be to…

1. …observe proper testing techniques of a qualified technician.

2. …read and understand applicable AASHTO, ASTM, and MRD (specific Agency tests) procedures.

3. …learn calculations associated with the testing procedures.

4. …learn how to prepare appropriate paperwork.

5. …learn applicable computer programs associated with prompt and accurate testing and reporting.

6. …understand the importance of calibrating applicable test equipment and identifying out of tolerance equipment.

Trainees may not be assigned acceptance sampling or testing responsibilities.

2.2 APPRENTICE

Upon successfully communicating an understanding of all the Trainee requirements the employee can be considered an Apprentice. Documentation of this communication is the responsibility of the immediate Supervisor. During this period the employee would be given

hands-on training with the opportunity to demonstrate proficiency of all assigned sampling & testing procedures. The Apprentice should be able to demonstrate proficiency in the following areas:

An Apprentice Technician is expected to…

1. …perform applicable testing under the supervision of a Qualified Technician.

2. …demonstrate knowledge of mathematical calculations associated with testing procedures.

3. …be able to answer questions pertaining to applicable test procedures including calculations.

4. …prepare the appropriate paperwork for review by a Qualified Technician.

5. …demonstrate the ability to operate databases and complete test reports using established computer programs.

6. …be able to calibrate test equipment under the instruction of a Qualified Technician.

Apprentices may be assigned acceptance sampling or testing responsibilities but must be under the direct visual, and uninterrupted, supervision of a certified technician while conducting these responsibilities.

2.3 QUALIFIED TECHNICIAN

For an Apprentice to become a Qualified Technician they must satisfactorily complete a Technician Proficiency for each of the various sampling and testing methods which they are expected to perform. An example of a Technician Proficiency is shown below in Figure 1. The Technician Proficiency will be conducted by a Qualified Technician and will be documented in the employee's Training and Evaluation Record, similar to the one shown in Figure 2.

A Qualified Technician is expected to…

1. …perform testing procedures properly and independently with minimal supervision.

2. …demonstrate an ability to select proper mathematical techniques and calculate basic probabilities.

3. …to maintain diaries and records and to prepare clear effective reports.

4. …to communicate effectively and able to translate technical material into layman's terms.

5. …to coordinate work efforts with the general public, private contractors, and other federal, state and local Agencies.

6. …to accurately report sampling and testing results and communicate them using Agency databases and computer programs.

7. …maintain and review equipment calibrations necessary for a "Qualified Laboratory". Qualified Technicians will be required to obtain a passing score on a written examination for each construction material for which they would like to be considered qualified.

Qualified Technicians may be assigned sampling and testing responsibilities as outlined in the QAP.

2.4 CERTIFIED TECHNICIAN

Any person determined "certified" by an appropriate certification program, as determined by the Agency. The Northeast Transportation Technician Certification Program is one such program.

Certified Technicians may be assigned sampling and testing responsibilities as outlined in the QAP.

3.0 QUALIFICATION REQUIREMENTS

Re-qualification is required every five years. Re-qualification will consist of the successful completion of a written examination and technician proficiencies for each AASHTO, ASTM, or MRD test conducted as part of the Agency's sampling and testing program for that material, as required by the Agency. Technician Proficiencies conducted by the Agency's Independent Assurance Program will be considered as a re-qualification for that particular test procedure.

A certified or qualified technician may lose their credentials for any of the following reasons:

1. Found to be falsifying test result records and/or reports or recommending acceptance of obviously defective material.

OR

2. Improper performance of sampling, testing or inspection responsibilities related to the assurance of the quality of material or workmanship.

VERMONT AGENCY OF TRANSPORTATION
MATERIALS AND RESEARCH

TECHNICIAN PROFICIENCY EVALUATION

Inspected: AASHTO T 27 Sieve Analysis of Fine and Coarse Aggregates

Inspected By: **Date:**

Field Lab Location: **Field Lab Technician:**

1. Was sample weighed to the nearest 0.1% by total mass of sample? _____

2. Were the sieves nested in order of decreasing size from top to bottom? _____

3. Was the material shaken the proper amount of time to ensure the sample was adequately graded? _____

4. Was the material retained on each sieve weighed to the nearest 0.1% by total mass? _____

5. Was the sieving thoroughness checked on a periodical basis? _____

6. Was the % retained calculated by dividing the mass retained on a sieve by the total, and multiplying by 100? _____

COMMENTS:

Figure 1: Technician Proficiency Evaluation

VERMONT AGENCY OF TRANSPORTATION
MATERIALS AND RESEARCH SECTION

EMPLOYEE TRAINING AND EVALUATION RECORD

Technician: Page: _____ of _____

Test Method: Name/Number Designation	Action: (Date – Evaluator's Name/Initials)							Comments
	Training Date	Subsequent/Evaluations (***S***atisfactory/***U***nsatisfactory Performance)						

Figure 2: Employee Training and Evaluation Record