



STATE OF GEORGIA

OFFICE OF MATERIALS AND TESTING

QCTTQP

**Georgia Department of Transportation
Quality Control Technician Training
And Qualification Program**

**Standard
for
GDOT Hot Mix Asphalt Technician Training and Qualification
Program**

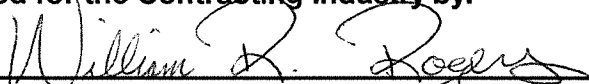
Developed from AASHTO DESIGNATION: R 25-19¹

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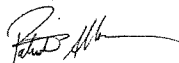
Approval is provided as to form and contents:

Approved for the Contracting Industry by:



Joint GDOT/GHCA Asphalt Technical Committee Chairman

Approved for the Georgia Department of Transportation by:



State Materials and Testing Engineer, TQP Manager

Adopted 07/12/2021

1. SCOPE AND LIMITATION

- 1.1. This document communicates the evaluation and qualification procedures for personnel engaged in sampling and testing of hot-mix asphalt (HMA) for the Georgia Department of Transportation (GDOT).
- 1.2. The terms QCT Level 1 and QCT Level 2 identify a Quality Control Technician (QCT) at Level I and Level 2.
- 1.3 This guideline does not purport to address all possible events and procedures inherent in the administration and use of a Technician Qualification Program (TQP).

2. REFERENCE DOCUMENTS

2.1 AASHTO Standards and Publications:

- R 47, Reducing Samples of Hot Mix Asphalt (HMA) to Testing Size
- T11, Materials Finer Than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
- T 27, Sieve Analysis of Fine and Coarse Aggregates
- T 166, Bulk Specific Gravity (Gmb) of Compacted Asphalt Mixtures Using Saturated Surface Dry Specimens
- T 209, Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)
- T 269, Percent Air Voids in Compacted Dense and Open Asphalt Mixtures
- T 308, Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method
- T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyrotory Compactor
- T 324, Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures
- Implementation Manual for Quality Assurance, Joint Construction Quality Assurance Task Force, 1995
- Quality Assurance Guide Specification, Joint Construction Quality Assurance Task Force, 1995

2.2 Georgia Department of Transportation Standards and Publications:

- GSP-10, Sampling Procedures for Bituminous Material
- GSP-15, Sampling Procedures for Asphaltic Concrete Mixtures
- GSP-21, Sampling Procedures for Contractor Acceptance Testing
- GDT-1, Measurement of Water Permeability of Compacted Asphalt Paving Mixtures
- GDT-38, Mechanical Analysis of Extracted Aggregate

- GDT-39, Test Method to Determine Bulk Specific Gravity of Specimens of Compacted Bituminous Mixtures
- GDT-56, Test Method for Heat Stable Anti-Strip Additive
- GDT-73, Random Selection and Acceptance Testing of Asphaltic Concrete
- GDT-83, Test Method for Extraction of Bitumen from Paving Using the Vacuum Extractor
- GDT-125, Test Method for Determining Asphalt Content by Ignition
- Georgia DOT Sampling, Testing and Inspection Manual (STI)
- QCT Level 1 Reference Guide and Study Guide, GDOT
- Hot Mix Asphalt Quality Control Technician – Level 2, Study Aid and Reference Materials
- Georgia DOT Standard Specifications, 2013 Edition
- Georgia DOT Supplemental Specifications, 2016 Edition, Modifying the 2013 Standard Specifications
- Special Provisions

3. INTRODUCTION

3.1. This guideline is provided to:

- (a) Describe the adopted procedures for the GDOT hot mix asphalt TQP.
- (b) Describe the activities and organizational needs for the operation of a technician qualification program that provides a flexible and effective means for ensuring qualified personnel perform sampling and testing.
- (c) Describe coverage for QCT Levels 1 & 2 tests, the basic tests performed to identify material or product characteristics, for acceptance and/or payment under project contracts incorporating hot-mix asphalt. The basic tests that are included under Levels 1 & 2 are shown in Appendix A.

A successful TQP requires the full support and commitment from agencies and industry that have a vested interest in technician training and qualification. Involvement of all those with a common interest in technician training and qualification helps in understanding the multiple perspectives of the team members, and this in turn helps develop policies and procedures that will be supported by their respective organizations.

3.2 Background

Historic roles and responsibilities of industry and agencies have changed for sampling and testing activities under QA specifications. GDOT QA specifications allow the use of contractor test results in the acceptance decision and the use of consultants in verification, sampling, and testing programs.

Qualification programs and associated training have been shown to be an effective tool for improving the quality of construction by verifying that essential knowledge and skills are possessed by agency or industry personnel who monitor, inspect, and control construction operations. Qualification programs for personnel have proven to be useful, common "yardsticks" for measuring expertise and performance among public transportation agencies, private construction contractors, and independent materials laboratories.

The need for TQPs as an equitable means for test result comparison and credibility between contract parties has become apparent. Provisions requiring the use of qualified technicians involved in construction project testing and inspection activities are included in GDOT's QC/QA specifications for hot mix asphalt.

4. PROGRAM ORGANIZATIONAL STRUCTURE AND MANAGEMENT

4.1 *Joint Sponsorship. Key to Success* -- A successful TQP works best with the full support and commitment from all parties (agency and industry) that have a vested interest in technician training and qualification. The endorsement of this document provides the basis for a partnership agreement of the HMA TQP between GDOT and industry.

4.2 *HMA TQP Oversight Committee* -- Members from the GDOT/GAPA Asphalt Technical Committee shall serve as the HMA TQP Oversight Committee. The HMA TQP Oversight Committee shall be composed of 3 Contractor members, 3 GDOT members, 1 Consultant and 1 FHWA representative. The TQP Manager will chair the HMA TQP Oversight Committee. Program oversight should be a joint effort of all the entities represented on the Oversight Committee.

4.3 *TQP Manager*-- The TQP Manager will be the GDOT State Materials Engineer. The TQP Manager or their designee will coordinate the activities of the HMA TQP Oversight Committee.

4.4 *Location* - All correspondence related to the HMA TQP should be directed to the State Materials Engineer, 15 Kennedy Drive, Forest Park, Georgia 30297.

45 *Funding* - Course fees, when necessary, will be reasonable but adequate to enable the program to become self-sufficient. Areas where operational support may be available include the following:

- (a) Continued financial support from the agency and industry;
- (b) Continued use of contributed facilities, equipment, etc., from the agency and industry.

46 *Task Groups* -- Task groups will be established and used to perform the following and present and request approval from the oversight committee as needed.

- Develop requirements for training and certification programs
- Establish experience and hands-on performance requirements
- Establish course outlines and
- Establish examinations criteria

5. TRAINING AND QUALIFICATION POLICIES

5.1 In developing GDOT's TQPs, the following guiding principles will be followed:

5.1.1 *Focus* - In order to support the overall objective of improving the quality of the construction of highways through the improved work performance of those involved with the construction project, the TQP *must be directly work related*. The scope and content of all qualification testing must be based on realistic and practical work needs. Because the TQP focuses on work performance, everyone involved - managers, supervisors, program administrators, and participants- should treat qualification activities as natural extensions of their work duties and responsibilities.

5.1.2 *Leveraging and Aligning Activities and Programs Between States and Regions* - Whenever possible, GDOT will consider developing technician qualification requirements in tandem with other state DOT's. Participation in a regional program has the positive benefit of pooling and leveraging state resources and of allowing qualified technicians to work across state boundaries without having to retrain and re-qualify. Gaining these benefits will lower the states' and contractors' cost of doing business while still ensuring that high-quality testing is performed.

GDOT does not currently participate in a reciprocal hot mix asphalt TQP with other state DOT's.

5.1.3 *Consideration of Prerequisites* - As a prerequisite, a person must possess an active QCT 1 certification before becoming QCT 2 certified. The QCT 1 certification

and work experience is a part of the QCT 2 qualification process. The process ensures technicians have the required knowledge, skills, and abilities.

6. TRAINING

6.1 A well-planned and supportive training program is the basis for a successful qualification program. A good training program will ensure qualified technicians and testers will be performing inspection, sampling, testing and when necessary mix adjustments on construction projects.

6.1.1 TEMPORARY CERTIFICATION: Temporary certification may be granted to a technician trainee who is given direct oversight by a certified Level 1 or 2 QCT while performing acceptance testing duties during the first 5 days of training. A certified QCT Level 1 or 2 must be present at the asphalt plant at all times during production and shipment of mixture to monitor work of the temporarily certified technician. The trainee must complete certification requirements for Level I within 30 production days after being granted temporary certification. A trainee who does not become qualified within 30 production days will not be re-eligible for temporary certification.

6.1.2 LEVEL 1: Level 1 training will be accomplished by on-the-job training and the *QCT Level 1 Reference Guide and Study Guide*.

6.1.3 LEVEL 2: A training/ review class is currently provided by GDOT for Level 2 certification, as well as, the *Hot Mix Asphalt Quality Control Technician – Level 2, Study Aid and Reference Materials*.

6.1.4 Development and maintenance of future training programs will be determined by the TQP Oversight Committee. Training materials may be developed solely for the TQP or developed with another state/region. Program administration will identify the following:

- (a) Funding and fees;
- (b) Staffing (instructors, coordinators, proctors, etc.);
- (c) Training facilities;
- (d) Materials (manuals and equipment);
- (e) Record keeping;
- (f) Governing Board/Advisory Committee; and
- (g)) Organizational Task Groups.

6.1.5 Qualified technicians will need to be kept aware of specification, equipment, or administration changes in the training program. This need will be satisfied by requalification training, update courses, or special training efforts conducted by GDOT in conjunction with industry partners. Future training programs will be offered to individuals who are responsibly involved in QC/QA testing as well as those involved

in the acceptance decision process including those from GDOT, local agencies, contractors, producers, or consultants. The program will be administered the same for all individuals.

6.16 Recertification requirements for QCT Level 1 are as follows:

Effective May 1, 2019, the recertification requirements for Certified Quality Control Technicians Level I were revised by the Office of Materials and Testing. Technicians are not required to have any credit hours to maintain their Quality Control Level 1 certifications after they have successfully passed the written and practical exams and become certified. All QCT Level 1 Technicians will become active technicians thus forward.

Regardless of re-certification status, for the purpose of fulfilling the requirements of SOP 30 as required by the FHWA, active technicians (those who performed acceptance testing in the last calendar year) are required to have an IA evaluation during each calendar year.

6.17 Recertification requirements for QCT Level 2 are as follows:

The QCT Level 2 certification is valid for 3 years. Recertification for QCT Level 2 will be required 3 years after initial certification. The re-qualification process may include refresher courses and/or re-testing. Written testing requirements for recertification will be waived if a QCT Level 2 attends at least 18 hours of approved training per 3 years, prior to certification expiration.

Please see Table 1 below for information concerning training hours for recertification.

Table 1 – Training Hour Requirements for Recertification

Credit Hours Required for Recertification	QCT Level 2 Required Classes
18 hours required over the 3 year period	Option 1: Two QCT Level 2 Training Work Shops (12 Hours) and 3 annual IA Evaluations (2 hours each for a total of 6 hours). Option 2: One QCT Level 2 Training Work Shop (6 hours) plus 6 hours of other eligible supplemental training, and 3 annual IA Evaluations (2 hours each for a total of 6 hours). Option 3: One QCT Level 2 Work Shop (6 Hours) plus 12 hours of other eligible supplemental training. Option 4: Two QCT Level 2 Work Shop (12 Hours) plus 6 hours of other eligible supplemental training. Option 5: Three QCT Level 2 Training Work Shops (18 Hours)

Note: Regardless of other eligible training hours, IA evaluations are required yearly for active Acceptance Sample Testing certified QCT Level 2 technicians in accordance with SOP 30.

Additional supplemental training that has been approved for use as the additional miscellaneous bituminous material related training is detailed in Table 2.

Table 2 – Approved Supplemental Training

Training Eligible for Additional Hours Credit	Offered	Credit Hours
Bituminous Construction Work Shop	Annually	6
OMAT Approved Industry Sponsored Training	As Available	4-6
Georgia Transportation Partnership for Quality (GPTQ) Conference	As Available	6
Asphalt Quality Paving Conference	As Available	6
GDOT Current IT or Computer Acceptance Sample Data System	As Available	6
Southeastern Asphalt User/Producer Group (SEAUPG)	Annually	6

As detailed in Table 2, the Office of Materials and Testing may consider other bituminous materials or construction related training. Technicians should send copies of training workshop agenda(s) and proof of attendance (e.g. certificates) to submit for consideration to the Bituminous Construction Branch.

If the QCT has not fulfilled the continual training hours requirements within the established time period, he or she must retake the certification written test to continue performing QCT Level 2 duties. If QCT Level 2 certification lapses, recertification as QCT Level 1 must be obtained prior to retesting for QCT Level 2 status.

7. EXAMINATION AND METHODS

7.1 A successful qualification program must have documented policies and procedures for examination methods to ensure consistent and fair administration by all examiners and proctors.

The TQP manager or their designee shall direct and coordinate all qualification examination activities. This includes scheduling of examinations; registration of applicants; maintaining and ensuring of security of examination materials; notifying participants of their success or failure in their examination; and maintaining all completed examination materials.

Written and performance examinations will be given to determine if the applicants possess the knowledge and skills necessary to satisfy the established qualification requirements.

GDOT will not “grandfather” technicians as testers or grant a waiver of training and testing in lieu of certification examination. A licensed professional engineer must follow the same written and performance examination requirements as other applicants.

72 Examination *Controls and Integrity* – To avoid conflicts of interest, the examiner should not be the immediate supervisor of those being qualified. Examination procedures are as follows:

- (a) GDOT will be responsible for the development of and revision of qualification exams including updating or changing exams when there is a change in a test method or specification. The Technical College System of Georgia administer the Level 1 written exam to consultant and industry personnel whereas GDOT administers to internal employees. GDOT administer the Level 2 QCT exams to internal employees, consultants, and industry personnel. GDOT OMAT/Testing Management Branch will administer the Level 1 performance exam. Available dates and times for Level 1 written exam can be requested through the Technical College System of Georgia. The available dates, times, and locations for the Level 2 exam can be requested through the Bituminous Construction Branch.

The locations for the Level 1 written exams are located on GDOT website.

For more information go to:

http://www.dot.ga.gov/PartnerSmart/Training/technician/Documents/RTT_QCT_Certificationexams.pdf

- (b) Applicants will be allowed no more than 2 hours for the QCT Level 1 written examination and no more than 6 hours for the QCT Level 2 written examination.
- (c) Cheating on an exam will result in permanent revocation of any GDOT issued certification and the inability to apply for any GDOT certification in the future.
- (d) Examinations for QCT Level 1 will be proctored at the Technical Colleges in Georgia and examinations for QCT Level 2 will be proctored at OMAT’s Central Lab or a location approved by the proctoring personnel. A proctor will always be present in the room while administering the test.

- (e) Examinations will be given on an as-needed basis, but no less than twice a year.
- (f) Applicant must pass written portion of exam before taking the performance field portion. Passing the field portion is a grade of 75 or higher. Passing the written portion is a grade of 75 or higher. If applicant passes written portion but fails field section, applicant is required to retake the field portion only (if the retest is done within 30 days of first exam).
- (g) No field performance testing is required for QCT 2 certification.
- (h) Applicants must demonstrate ability to make plant process changes on QCT Level 2 exam. If applicant scores a 75 or higher but does not demonstrate ability to properly make plant process changes, the Department reserves the right to not certify applicant as QCT Level 2.
- (i) Individuals will be notified of examination results by mail, email, or direct communication from a Department representative.

7.3 Examination *Methods* – Written and performance examinations should be given to ensure that applicants have a complete understanding of the materials and calculations as well as the ability to perform test procedures. Care and good judgment are needed in developing fair and impartial written and performance examinations.

Prior to the examinations, the proctors should thoroughly explain to the applicants the examination process and rules noted in 7.2 above including:

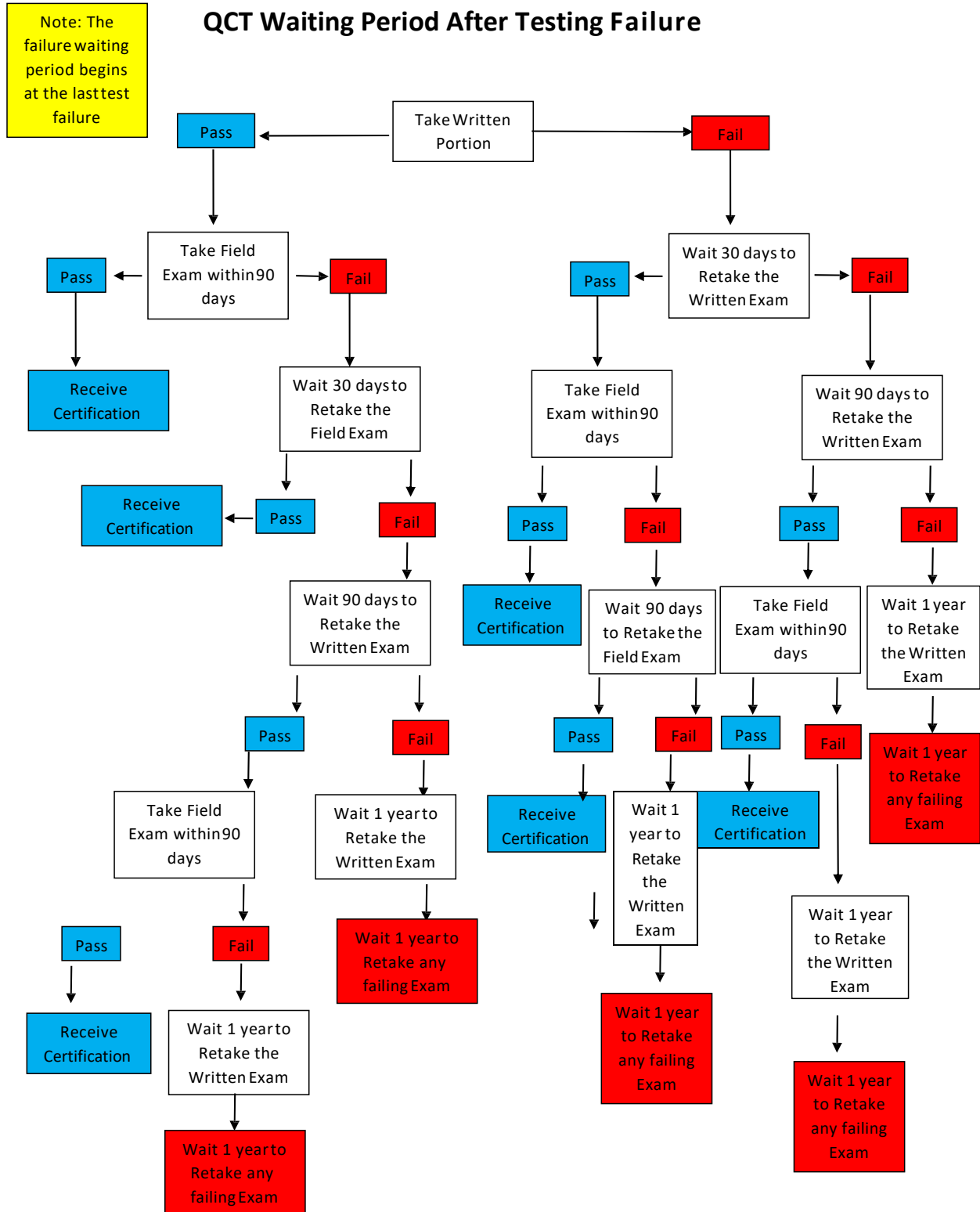
- (a) Time limits
- (b) What the exams will be comprised of
- (c) Minimum score necessary to pass
- (d) Penalty for cheating; and
- (e) The retesting policy.

7.3.1 *Written Examination* – The written examination will be open-book provided by GDOT and will have a designated time limit. Examinations may consist of various types of questions, including true/false, multiple choice, essay, fill-in-the-blank, word problems, and calculations. To protect examination integrity, course participants cannot retain a copy of their completed written examinations. The TQP will maintain several equivalent versions of the test and alternately present different versions to examinees.

7.3.2 Performance Examination – Performance examinations measure the applicants’ ability to properly perform the prescribed test methodology. All proctors and examiners should evaluate each applicant’s proficiency by using standardized checklists that identify specific test method, steps or tasks. The degree of detail of the performance checklists will be influenced by whether the performance examination is open- or closed-book. Inspection checklists are in Appendix B. Time limits will be set for the complete performance of each test method. The examinee may be asked to explain various steps of the procedure to reduce the full test time. The performance exam must be taken within 90 days of the written exam or the entire test will have to be re-taken.

7.4 Re-Examination Policy-Written/Performance – Whenever a participant fails a written/performance qualification examination, an allowance will be provided for retesting. The policy is as follows:

- After first failed exam-QCT must wait 30 days before retaking Level 1 or Level 2 exam.
- After second failed exam- QCT must wait 90 days before retaking Level 1 or Level 2 exam
- After third failed exam-QCT must wait 12 months before retaking Level 1 or Level 2 exam.



After two years of attempting and failing the certification process, following the above waiting period, the failure waiting period can start over with a “1st attempt” provided training documentation is done on the technician seeking certification and provided to GDOT for review. Documentation should include a performance checklist done by a certified technician for each testing procedure listed in the study manual of the certification. Otherwise, after three failing attempts, the waiting period is one year between attempts.

The number of retests allowed, and the time limits are needed to avoid frivolous, trial-and- error attempts and encourage the participants to properly prepare for testing.

7.5 Notification of Results – Promptly after completion of the examination, notification of an applicant’s successful or unsuccessful completion of the qualification requirements will be mailed to the applicant, emailed to the applicant, or be directly communicated to the applicant by a Department representative. If the applicant is unsuccessful, the procedure for re-examination will be communicated.

7.6 Confidentiality of Records – Personal information and records of the examination are generally considered to be confidential and not to be released publicly.

Confidential information includes:

- (a) Personal and professional information provided by the participants applying for testing and qualification; and
- (b) Specific test results and scores for participants.

7.7 Examination Materials Security – Proctors are always to maintain the security of exam materials. No copying of portions of the exam is acceptable. After the performance test, examiners and proctors may inform the applicants of their weaknesses and the details of correct procedures.

7.8 Examiner and Proctor Qualifications –Examiners for the performance examination must be qualified in that examination area. Examiners will be Testing Management Operations Supervisors, Bituminous Technical Services Personnel, Technical Colleges of Georgia Representatives, or others deemed appropriate by the TQP Manager.

7.9 Examination Appeals – An applicant wishing to register a complaint or protest regarding an examination or examiner must do so in writing to the TQP Manager within 14 days of the incident. The written complaint must specify the examination date, the examiner, and the nature of the complaint or protest.

7.9.1 Complaints and protests should be reviewed, and a recommendation made to the Chairman of the Appeal Board. All complaints and protests will be promptly answered in writing.

7.10 Continuous Improvement – Course evaluations will be used to identify improvements that can be made in the TQP. GDOT will perform audits of certification training and examinations to ensure that procedures are being followed.

8. QUALIFICATION

8.1 This document serves as the written policy for administration of the GDOT HMA TQP. Each Qualifying Agency that issues through their TQP the status of qualification or certification must maintain a written policy for administration of their TQP.

8.2 GDOT will maintain a registry of trained technicians who have successfully completed a training program. The registry will include:

- (a) Name, Driver's license number or qualification identification number and address;
- (b) Courses, and dates completed;
- (c) Course content:
 - Test methods included;
 - Lecture or laboratory;
 - Written examination; and
 - Performance examination.

For more information go to:

<http://www.dot.ga.gov/PS/Training/TechnicianCertification>

8.3 GDOT shall provide the qualified technician with documentation of the qualification in the form of a registration card and certificate.

The Qualifying Agency requires the registered technician to maintain a current address on file as a condition of registration. Send change of address notice to: TQP Manager, Georgia Department of Transportation, 15 Kennedy Drive, Forest Park, GA 30297.

9. CONFLICT RESOLUTION

9.1 QCT Manager Responsibilities: Each HMA plant on the Department's Qualified Products List (QPL 45) must designate a Level 2 QCT as manager of the quality control program within the Contractor's operations. The QCT Manager shall be accountable for actions of other Level 1 and Level 2 QCT personnel. QCT Managers will be notified of instances of incorrect procedures or falsification of records for QCT

Level 1 or 2 employees as noted in Sections 9.2 - 9.5. QCT Managers that are following incorrect procedures or that continually have employees that require conflict resolution will be communicated to verbally and in writing following the Conflict Resolution Diagram shown in Figure 2. Continued discrepancies of the QCT Manager or QCT Level 1 or 2 employees under that Managers control will result in progressive actions up and including suspension of a HMA plant from the DOT approved list (QPL), as detailed in SOP 27, until such time as the Department is satisfied that the quality control program is sufficient to resume active status on QPL 45.

9.2 Incorrect Procedures- QCTs will be made aware of incorrect sampling and testing methods or failure to comply with QCT responsibilities at the time the sampling/testing deficiency is identified. The QCT Level 2 Manager will be made aware of these discrepancies at the same time. The QCT will be instructed on how to correct discrepancies. (See Figure 1 for description of process) QCT Managers will be made aware of discrepancies in their own procedures or in the QCT's under their control. The HMA producer will also be notified if continued discrepancies occur with QCT Managers as shown in Figure 2.

9.3 Discussion meeting - If the QCT continues to fail in performing the duties as required, a meeting will be held at the District Lab in the District where the discrepancies occurred. The QCT and the QCT Manager will be invited to discuss the discrepancies in an attempt to alleviate the problem or communicate the correct procedure. The meeting will be formally documented, and possible future disciplinary action will be noted in the follow-up letter.

9.4 Progressive Actions- If further problems are encountered:

- (a) The QCT will be required to re-take the performance and/or written certification exam (at their existing Level) for failing to demonstrate the abilities of a Level 1 or Level 2 QCT.
- (b) Certification may be suspended for a period.

9.5 Intentional Falsification of Records: Falsification of records or acceptance test results will result in permanent revocation of QCT Certification. A certified letter will be sent to the QCT, the QCT Manager/Liaison, and the Corporate Head of the company that employs the QCT providing notification of permanent revocation and the appeal process. Should the Director of Construction permanently revoke the technician's certification, the technician will permanently lose all his/her GDOT issued certifications due to falsifying test results.

9.6 Appeal Process- The QCT (or QCT Manager) will have the right to appeal any adverse action which results in suspension or permanent revocation of certification by responding to an Appeal Board within 10 calendar days after receiving notice of the proposed adverse action. Failure to appeal within 10 calendar days will result in

the proposed adverse action becoming effective on the date specified in the notice. Failure to appeal within the time specified will result in a waiver of all future appeal rights regarding the adverse action taken. The QCT may appeal in writing or in person to the Chairman of the Appeal Board at:

Director of Construction
Georgia Department of Transportation
One Georgia Center
600 West Peachtree St NW
Atlanta, GA 30308

The Director of Construction may be reached by phone at 404-631-1970 between the hours of 8 a.m. and 4 p.m. (Monday through Friday) in order to schedule an appointment. The QCT may continue working during the appeal process. An Appeal Board meeting will be called as needed by the Chairman of the Appeal Board. There will be five members on the Appeal Board, called by the Chairman.

An Appeal Board meeting will be scheduled as needed by the Chairman of the Appeal Board within 10 days of receiving the appeal notice. There will be five members on the Appeal Board, called by the Chairman:

GDOT Division Director of Construction- (Chairman of the Appeal Board)
GDOT Construction Liaison (not from affected District)
Consultant (nominated by the Consultant community)
Contractor (other than the QCT's company- nominated by the Contracting Industry)
FHWA Resource Center Material Engineer or designee

The Appeal Board will hear the appeal and decide within 5 days of hearing the appeal. Decisions of the Appeal Board shall be final and shall be made in writing to the QCT.

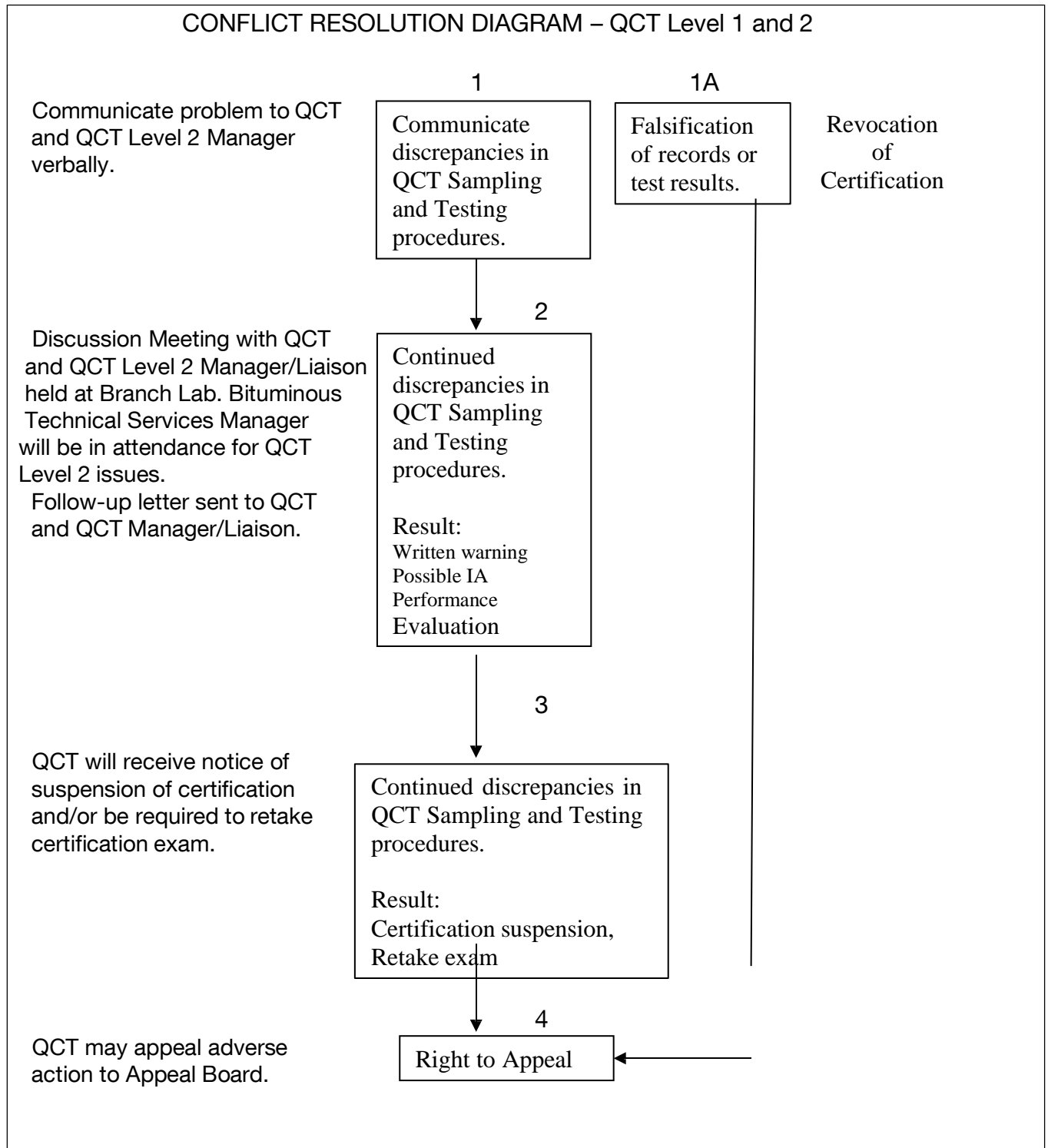


Figure 1

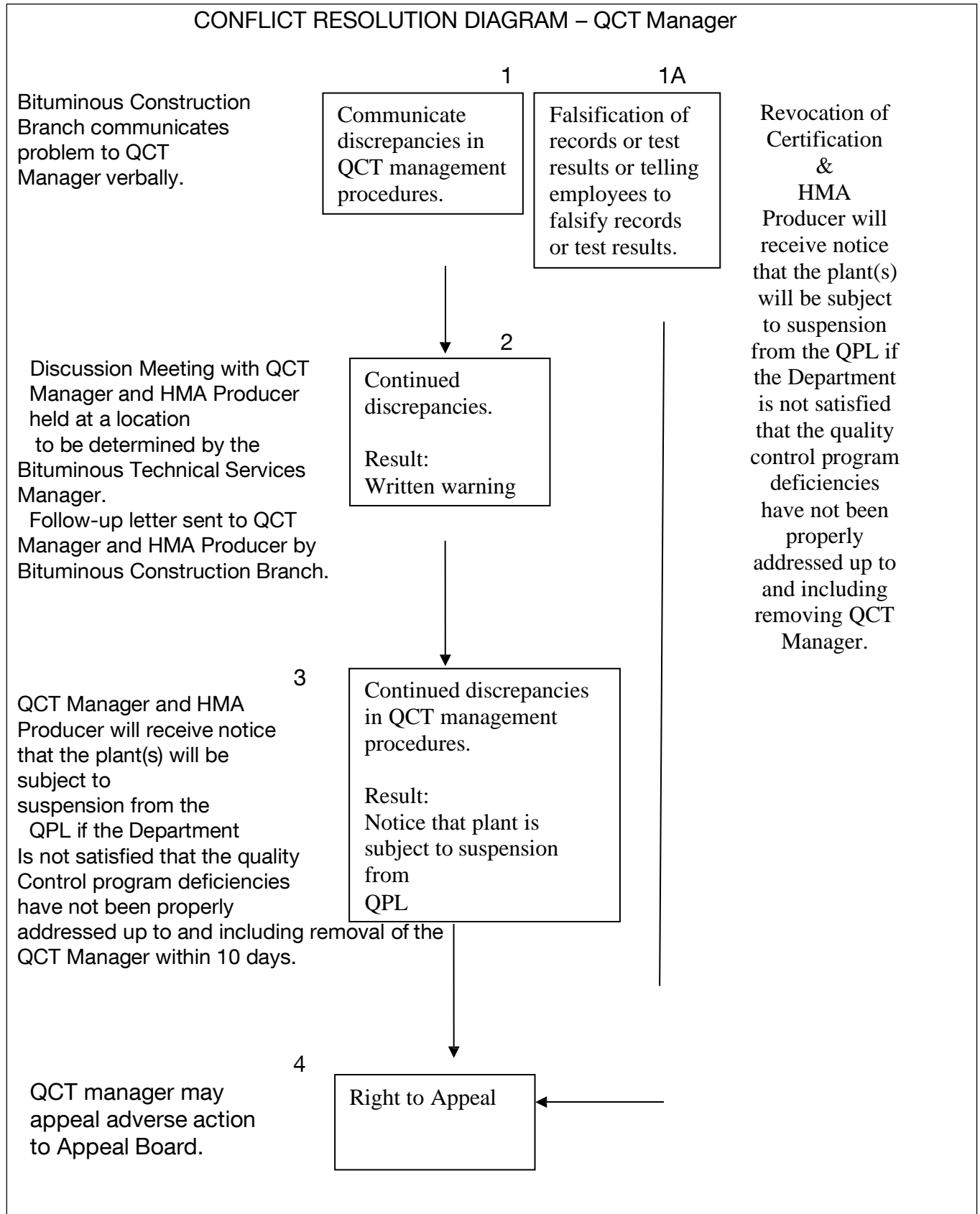


Figure 2

APPENDIX A – Qualifying Tests

QCT LEVEL 1

Recommended AASHTO or Other Test Designation:

A.1.1 Recommended AASHTO Standards

- T11, Materials Finer Than 75-um (No. 200) Sieve in Mineral Aggregates by Washing
- T 27, Sieve Analysis of Fine and Coarse Aggregates
- T 166, Bulk Specific Gravity (Gmb) of Compacted Asphalt Mixtures Using Saturated Surface Dry Specimens
- T 209, Theoretical Maximum Specific Gravity (Gmm) and Density of Hot Mix Asphalt (HMA)
- T 269, Percent Air Voids in Compacted Dense and Open Asphalt Mixtures
- T 308, Determining the Asphalt Binder Content of Asphalt Mixtures by the Ignition Method
- T 312, Preparing and Determining the Density of Asphalt Mixture Specimens by Means of the Superpave Gyrotory Compactor
- T 324, Standard Method of Test for Hamburg Wheel-Track Testing of Compacted Asphalt Mixtures

A.1.2 Recommended GDOT Standards

- GSP-10, Sampling Procedures for Bituminous Material
- GSP-15, Sampling Procedures for Asphaltic Concrete Mixtures
- GSP-21, Sampling Procedures for Contractor Acceptance Testing

- GDT 1, Measurement of Water Permeability of Compacted Asphalt Paving Mixtures
- GDT-38, Mechanical Analysis of Extracted Aggregate
- GDT-39, Test Method to Determine Bulk Specific Gravity of Specimens of Compacted Bituminous Mixtures
- GDT-56, Test Method for Heat Stable Anti-Strip Additive
- GDT-73, Random Selection and Acceptance Testing of Asphaltic Concrete
- GDT-83, Test Method for Extraction of Bitumen from Paving Using the Vacuum Extractor
- GDT-125, Test Method for Determining Asphalt Content by Ignition

QCT LEVEL 2

Same as for Level 1 with the additional responsibility of being able to make mixture adjustments when necessary. Additionally they must be proficient in the following:

A.2.1 Recommended Standards

- GDT-66, Evaluating the Moisture Susceptibility of Bituminous Mixtures by Diametral Tensile Splitting
- GDT-107, Determining Asphalt Plant and Compaction Rating of Contractors
- GDT-115, Determining Rutting Susceptibility Using The Loaded Wheel Tester
- GDT-127, Determining Drain-Down Characteristics in Uncompacted Bituminous Mixtures
- SOP-2, Control of Superpave Bituminous Mixture Designs
- SOP-15, Certified Public Weighers
- SOP-27, Quality Assurance for Asphaltic Concrete Plants in Georgia

- SOP-36, Certification of Laboratory and Personnel For Design of Superpave Asphaltic Concrete Mixtures
- SOP-41, Approval of Recycled Asphalt Pavement (RAP) for use in Asphalt Mixtures
- SOP-46, Procedure for Calculating Pay Reduction for Failing

APPENDIX B – QCT Level 1 Test Checklists

Before scheduling the written Exam

Are you familiar with:	Yes	No
GSP-15		
GSP-21		
AASHTO T-11		
GDT-38		
GDT-39		
GDT-73		
GDT-83		
GDT-125		
Section 400 of the Standard Specifications		
Section 828 of the Standard Specifications		
Calculating AC content (Extraction)		
Determining the AC content by using the burn oven ticket		
Calculating sieve analysis		
Determining pay factors for plant samples		
Determining pay factors for roadway voids		
Void range penalty		
The adjustment period for plant and roadway		
Calculating voids		
Calculating daily lime checks (volumetric)		
Calculating daily lime checks (depleting)		
Calculating bi-weekly lime checks (depleting)		
Calculating bi-weekly lime checks (volumetric)		