



South Carolina
Department of Transportation



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SUMMARY REPORT

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South Carolina
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Technology Transfer Programs for Aggregate and Concrete QC/QA Certification of Contractors and SCDOT Personnel, Phase I: Planning

The South Carolina Department of Transportation (SCDOT) is now developing, initiating and implementing contractor and supplier Quality Control and Quality Assurance (QC/QA) programs for several of its construction-related processes. In the early 1990's, a research project was initiated to explore the feasibility of establishing a QC/QA program for all asphalt contractors. Subsequent research projects developed the QC/QA process and SCDOT is now in the implementation phase with full implementation expected in the year 2000. Certifying SCDOT personnel, contractors and suppliers has been an integral part of this process.

The Department of Civil and Environmental Engineering of the University of South Carolina is developing a comprehensive certification program for SCDOT technical personnel, contractors and suppliers in the aggregate and concrete fields. The primary objective of Phase I: Planning is to initiate certification programs for both aggregate and concrete. These programs will be helpful in bringing state-of-the-art information to contractors and SCDOT personnel and in rapidly responding to the changing needs of SCDOT. While the QC/QA programs for aggregate and concrete are being developed simultaneously, the aggregate program is being implemented prior to the concrete program and is therefore the focus of this project.

The certification program for coarse aggregate is divided into two levels. The Level I course serves as the primary certification required of all QC technicians and focuses on field sampling, sample reduction and grading. The Level II course is an advanced course that focuses on physical property testing. At this level, technicians must demonstrate proficiency in measuring specific gravity and absorption, abrasion, sand equivalency, flat and elongated particles, and sulfate soundness. While Level II technicians are expected to be familiar with sulfate soundness testing, no laboratory proficiency is required since this test is performed infrequently and is usually contracted out. Course outlines and instructional manuals have been prepared based on a review of other state certification programs and through input provided by the Aggregate Technician Certification Task Force. Pilot programs and eventual implementation of both the aggregate and concrete programs will be completed through subsequent phases.

This research project was conducted at the University of South Carolina by M. Hanif Chaudhry, Ph.D., Kent A. Harries, Ph.D., Charles E. Pierce, Ph.D. and Michael F. Petrou, Ph.D.
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