



U.S. Department  
of Transportation  
Federal Aviation  
Administration

# Advisory Circular

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**Subject:** QUALITY CONTROL OF  
CONSTRUCTION FOR AIRPORT GRANT  
PROJECTS

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**Date:** 9/29/07  
**Initiated by:** AAS-100

**AC No.:** 150/5370-12A  
**Change:**

**1. PURPOSE.** This advisory circular (AC) provides information to ensure the quality of construction accomplished under the Federal Aviation Administration's (FAA) Airport Improvement Program (AIP).

**2. BACKGROUND.** The FAA has the responsibility of determining whether all construction work accomplished under the AIP is in accordance with the contract documents. A report issued by the Office of the Inspector General indicated that, in some instances, work performed was not accomplished in compliance with plans and specifications. In addition, quantities of materials used were not properly measured and documented and testing or quality assurance procedures were inadequate.

**3. CANCELLATION.** This AC cancels AC 150/5370-12, *Quality Control of Construction for Airport Grant Projects*, dated September 6, 1985.

**4. APPLICATION.** The FAA recommends the guidelines and standards in this AC for airport construction projects. This AC does not constitute a regulation and in general is not mandatory. However, use of these guidelines is mandatory for construction projects funded under the Airport Improvement Program (AIP). Mandatory terms such as "must" apply only to those who undertake construction projects using AIP funds. For such projects, the sponsor, the sponsor's engineer, and the FAA project manager must assume the responsibilities outlined in the following paragraphs to ensure the materials and workmanship incorporated into a project are in conformity with the requirements of the approved or certified plans and specifications.

**5. SPONSOR'S RESPONSIBILITIES.** The sponsor is responsible for all project engineering, including the preparation of plans and specifications, construction supervision, and inspection and testing for acceptability and quality. If the sponsor does not have the staff or the expertise to perform these services, then the sponsor should retain a consulting engineering firm. The consultant represents the sponsor and has overall responsibility for reporting on the acceptability and quality of the work. The relations of the consultant with the sponsor must be clearly defined by a written agreement before the start of work.

**a. Engineering Services.** AC 150/5100-14, *Architectural, Engineering, and Planning Consultant Services for Airport Grant Projects*, identifies items that should be included in a contract for engineering services. In some cases, the sponsor may retain an independent firm to perform testing for project control. It is, therefore, extremely important that the contract clearly delineate the division of responsibility and authority between the sponsor, the consultant, and the testing firm. For example, the agreement should define the party responsible for designating the location and number of tests, for interpreting test results, and for follow-up procedures for failing test results.

**b. Predesign and Preconstruction Conferences.** Predesign and preconstruction conferences conducted by the sponsor should be held to discuss various items, including testing and quality control. AC 150/5300-9, *Predesign, Prebid, and Preconstruction Conferences for Airport Grant Projects*, provides guidance for conducting such conferences.

**c. Supervision and Inspection.** The sponsor must provide adequate and qualified engineering supervision and construction inspection during all stages of the work. The FAA may request the sponsor to furnish

a written assurance that it has reviewed the qualifications of personnel who will be performing these functions and that they are qualified to do so.

**6. ENGINEER'S RESPONSIBILITIES.** The basic services normally required for airport development projects are the preliminary phase, design phase, bidding phase, and construction phase. The design and construction phases are directly related to quality of construction. AC 150/5100-14 contains a listing of activities normally performed during these phases.

**a. Design Phase.** The design phase includes all activities required to accomplish a complete project design, including development of plans and specifications. The standards contained in AC 150/5370-10, *Standards for Specifying Construction of Airports*, current edition, relate to materials and methods used in the construction of airports and must be used for projects funded under the FAA's AIP. Although these specifications reflect acceptable standards, practices, and techniques in airport construction, they are general in scope. For contract purposes, the various permissible options with regard to local materials, methods, and testing must be defined in the contract documents. In particular, the minimum testing frequency for job control must be specified in the project specifications.

**b. Construction Phase.** The construction phase includes all activities required after the award of a construction contract. The basic services of an engineering agreement normally include periodic inspection of the work in progress but not the services of a full-time resident engineer or inspector. Full-time inspection may be provided by the sponsor or by the consulting engineer under a supplemental agreement. In some instances, the sponsor may negotiate a separate agreement for services to be provided during this phase.

(1) Resident Engineer or Inspector. The resident engineer or inspector must have field experience in the type of work to be performed; be fully qualified to make interpretations, decisions, field computations, etc.; and have knowledge of testing requirements and procedures. The resident engineer or inspector must have the authority to reject both unsatisfactory workmanship and materials. Primary duties are as follows:

(i) Checks activities to ensure compliance with the plans and specifications. Informs the contractor of any work that is in noncompliance.

(ii) Ensures that all testing required by the specification is performed. All commercially produced products, such as pipe and reinforcing steel, that are used on the project should be accompanied by numerical test results or a certification from the manufacturer that the material meets the applicable standards.

(iii) Visits the testing laboratory to determine if it has the equipment and qualified personnel necessary to conduct the tests required by the specifications.

(iv) Ensures that tests are performed at the frequency stated in the specifications. Determine when and where tests will be taken and witness tests. If not indicated in the specifications, a sufficient number of tests should be taken to verify that the construction is acceptable.

(v) Reviews test reports and certifications for conformance with the specifications. Each test report for material in-place should, at a minimum, contain the following:

(a) Test performed and date.

(b) Applicable standard or project specification.

(c) Test location.

(d) Test result.

(e) Action taken on failing tests.

(f) Lot size and location and adjusted contract price when statistical acceptance procedures are specified or when provisions allow for reduced payment.

(vi) Maintains a file of test reports and certifications.

(vii) Informs the contractor of deficiencies so corrections can be made and retesting performed prior to covering any substandard work with additional material.

(viii) Documents quantities of materials used on the project by actual measurements and computations in a field notebook or computer printouts retained in a folder. For materials paid for on a weight basis, a summary of the material placed each day should be kept in the field notebook. The notebook and/or computer printouts, supported by the original set of weigh tickets, is the basis for payment.

(ix) Maintains a set of working drawings on the job site that can be used to prepare “as-built” drawings.

(x) Reviews payment requests from the contractor.

(xi) Maintains a diary that should contain daily entries made and signed by the resident engineer. Each entry should include the following, plus any additional pertinent data:

(a) Date and weather conditions.

(b) Names of important visitors.

(c) Construction work in progress and location.

(d) Size of contractor’s work force and equipment in use.

(e) Number of hours worked per day for contractor and subcontractors.

(f) The substance of important conversations with the contractor about conduct, progress, changes, test results, interpretations of specifications, or other details.

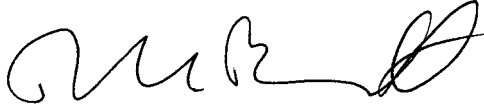
(xii) Submits copies of FAA Form 5370-1, *Construction Progress and Inspection Report*, or equivalent form to the appropriate FAA Airports Division/District/Field Office upon request.

**7. FAA PROJECT MANAGER’S RESPONSIBILITIES.** The FAA project manager has the responsibility to monitor the project to ensure the terms and conditions of the grant agreement are met, to maintain a broad overview of the construction to be reasonably certain the work is accomplished in accordance with the plans and specifications, and to evaluate the adequacy of the sponsor’s construction inspection. FAA project oversight does not relieve the sponsor’s responsibility of ensuring adequate supervision and inspection during all stages of the work and ensuring the work is in conformance with the plans and specifications.

**8. COMMENTS OR SUGGESTIONS.** Comments or suggestions for improving this AC should be sent to—

Manager, Airport Engineering Division  
Federal Aviation Administration  
ATTN: AAS-100  
800 Independence Avenue, SW  
Washington, DC 20591

**9. COPIES OF THIS AC.** The Office of Airport Safety and Standards is in the process of making ACs available to the public through the Internet. These ACs can be found on the Federal Aviation Administration (FAA) website at [http://www.faa.gov/airports\\_airtraffic/airports/resources/advisory\\_circulars/](http://www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/).

A handwritten signature in black ink, appearing to read 'DLB', with a stylized flourish at the end.

David L. Bennett  
Director of Airport Safety and Standards