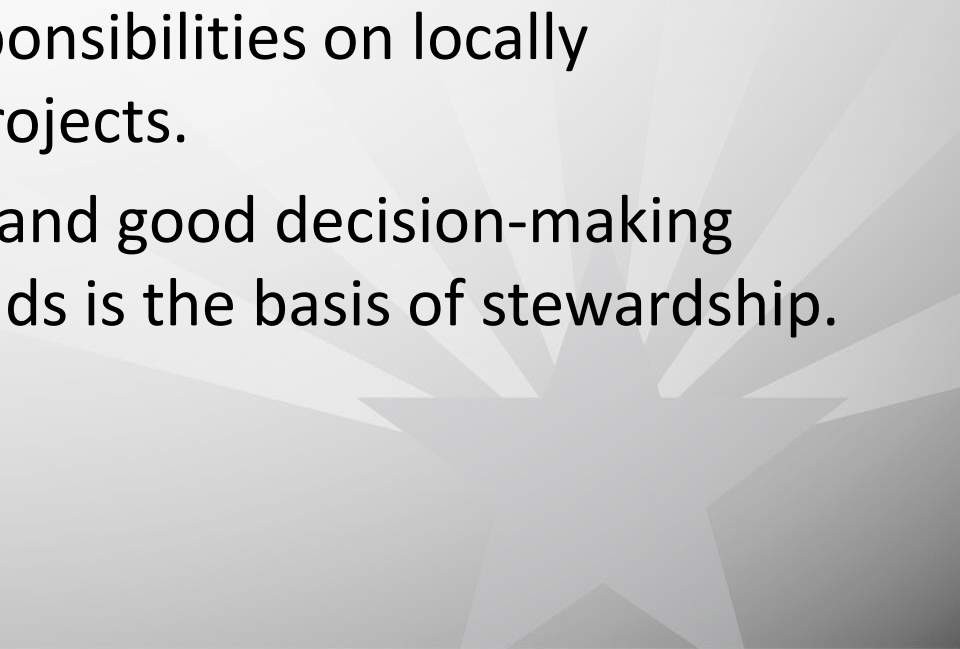


CA AGENCY Construction Materials Quality Assurance Requirements

- The Stewardship-Oversight Agreement describes ADOT's approval and oversight responsibilities on locally administered Federal-aid projects.
 - Exercising sound judgment and good decision-making while managing Federal funds is the basis of stewardship.
- 
- A large, faint, light gray star graphic is positioned in the bottom right corner of the slide, partially overlapping the text area.

- Oversight means the act of ensuring that the Federal-aid program is delivered consistent with laws, regulations and policies. Oversight is the compliance or verification component of stewardship activities. Oversight activities enable FHWA and State DOTs to ensure the Federal-aid program is delivered effectively.



**“Danger, Will Robinson,
danger!”**

“It does not compute!”

CODE OF FEDERAL REGULATIONS

23 CFR 637, Subpart B

“Quality Assurance Procedures for Construction”

April 1, 2013

§ 637.201 Purpose.

To prescribe policies, procedures, and guidelines to assure the quality of materials and construction in all Federal-aid highway projects on the National Highway System.


§ 637.203 Definitions.

Acceptance program. All factors that comprise the State transportation department's (STD) determination of the quality of the product as specified in the contract requirements. These factors include verification sampling, testing, and inspection and may include results of quality control sampling and testing.

Independent assurance program. Activities that are an unbiased and independent evaluation of all the sampling and testing procedures used in the acceptance program. Test procedures used in the acceptance program which are performed in the STD's central laboratory would not be covered by an independent assurance program.

Proficiency samples. Homogeneous samples that are distributed and tested by two or more laboratories. The test results are compared to assure that the laboratories are obtaining the same results.

Materials Acceptance Program

- Laboratory Testing
 - Field Testing
 - Certificates of Compliance
 - Certificates of Analysis
 - Buy America Certifications
- 

Qualified laboratories. Laboratories that are capable as defined by appropriate programs established by each STD. As a minimum, the qualification program shall include provisions for checking test equipment and the laboratory shall keep records of calibration checks.

Qualified sampling and testing personnel. Personnel who are capable as defined by appropriate programs established by each STD.

Quality assurance. All those planned and systematic actions necessary to provide confidence that a product or service will satisfy given requirements for quality.

Quality control. All contractor/vendor operational techniques and activities that are performed or conducted to fulfill the contract requirements.

Random sample. A sample drawn from a lot in which each increment in the lot has an equal probability of being chosen.

Vendor. A supplier of project-produced material that is not the contractor.

Verification sampling and testing. Sampling and testing performed to validate the quality of the product.

§ 637.205 Policy.

(a) *Quality assurance program.* Each STD shall develop a quality assurance program which will assure that the materials and workmanship incorporated into each Federal-aid highway construction project on the NHS are in conformity with the requirements of the approved plans and specifications, including approved changes. The program must meet the criteria in § 637.207 and be approved by the FHWA.

(b) *STD capabilities.* The STD shall maintain an adequate, qualified staff to administer its quality assurance program. The State shall also maintain a central laboratory. The State's central laboratory shall meet the requirements in § 637.209(a)(2).

(c) *Independent assurance program.* Independent assurance samples and tests or other procedures shall be performed by qualified sampling and testing personnel employed by the STD or its designated agent.

(d) *Verification sampling and testing.* The verification sampling and testing are to be performed by qualified testing personnel employed by the STD or its designated agent, excluding the contractor and vendor.

(e) *Random samples.* All samples used for quality control and verification sampling and testing shall be random samples.

(B) Identification of the specific location in the construction or production operation at which verification sampling and testing is to be accomplished.

(C) Identification of the specific attributes to be inspected which reflect the quality of the finished product.

(ii) Quality control sampling and testing results may be used as part of the acceptance decision provided that:

(A) The sampling and testing has been performed by qualified laboratories and qualified sampling and testing personnel.

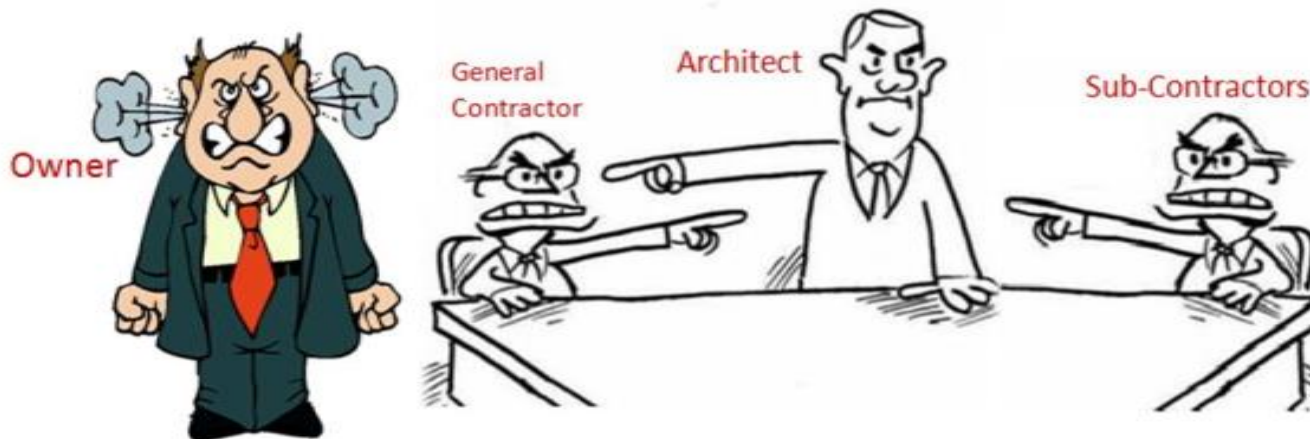
(B) The quality of the material has been validated by the verification sampling and testing. The verification testing shall be performed on samples that are taken independently of the quality control samples.

(C) The quality control sampling and testing is evaluated by an IA program.

(iii) If the results from the quality control sampling and testing are used in the acceptance program, the STD shall establish a dispute resolution system. The dispute resolution system shall address the resolution of discrepancies occurring between the verification sampling and testing and the quality control sampling and testing. The dispute resolution system may be administered entirely within the STD.

(iv) In the case of a design-build project on the National Highway System, warranties may be used where appropriate. See 23 CFR 635.413(e) for specific requirements.

Who's Responsible For This Mess?



(2) The IA program shall evaluate the qualified sampling and testing personnel and the testing equipment. The program shall cover sampling procedures, testing procedures, and testing equipment. Each IA program shall include a schedule of frequency for IA evaluation. The schedule may be established based on either a project basis or a system basis. The frequency can be based on either a unit of production or on a unit of time.

Project Basis – Independent sampling and testing

System Basis – Observe techs performing work
verifying calibration and conformance

- (i) The testing equipment shall be evaluated by using one or more of the following: Calibration checks, split samples, or proficiency samples.
- (ii) Testing personnel shall be evaluated by observations and split samples or proficiency samples.
- (iii) A prompt comparison and documentation shall be made of test results obtained by the tester being evaluated and the IA tester. The STD shall develop guidelines including tolerance limits for the comparison of test results.

(3) The preparation of a materials certification, conforming in substance to Appendix A of this subpart, shall be submitted to the FHWA Division Administrator for each construction project which is subject to FHWA construction oversight activities.

Appendix A to Subpart B of Part 637—Guide Letter of Certification by State Engineer

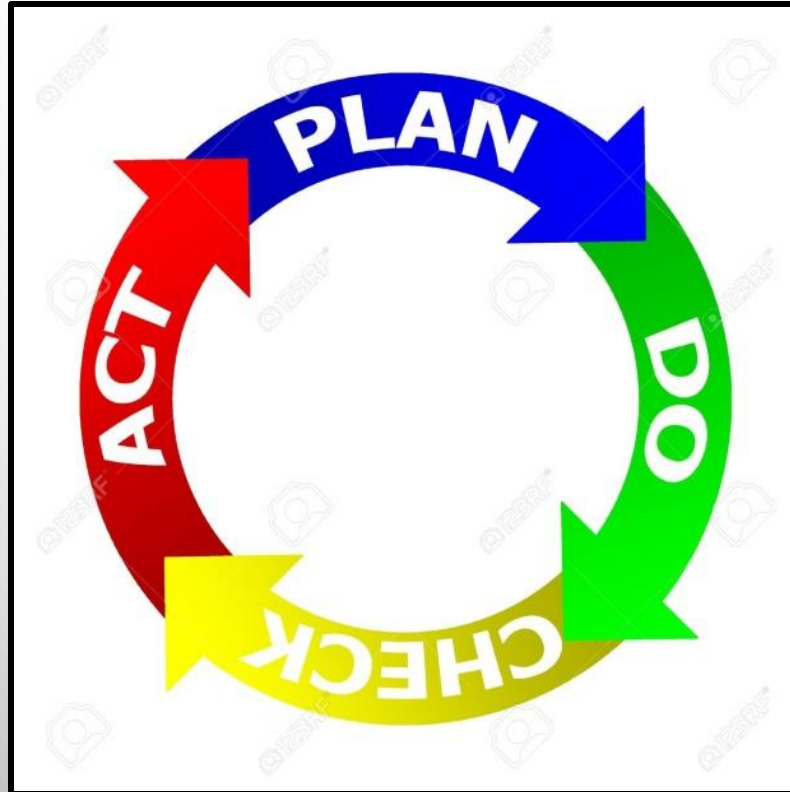
Date _____

Project No. _____

This is to certify that:

The results of the tests used in the acceptance program indicate that the materials incorporated in the construction work, and the construction operations controlled by sampling and testing, were in conformity with the approved plans and specifications. (The following sentence should be added if the IA testing frequencies are based on project quantities. All independent assurance samples and tests are within tolerance limits of the samples and tests that are used in the acceptance program.)

Exceptions to the plans and specifications are explained on the back hereof (or on attached sheet).





American Concrete Institute®
Advancing concrete knowledge

Formed in 1996 by committee composed of ADOT, AGC, ARPA, Local Governments, and Consultants to improve performance and meet new Federal Regulations



AASHTO Accreditation Program
AMRL – AASHTO Materials Reference Lab



CCRL

..... stands for

**Cement and Concrete
Reference Laboratory**



Abbreviations.com

Brent Conner – Assistant State Materials Engineer

bconner@azdot.gov

602 712 8085