



**American Concrete Institute®**  
*Advancing concrete knowledge*

**AGENDA**

**RESPONSIBILITY IN CONCRETE CONSTRUCTION COMMITTEE**

**Conference Room 13  
Marriott Rivercenter  
San Antonio, TX  
Sunday, March 15, 2009  
2:00 p.m. – 5:00 p.m.**

**MEMBERS**

Jeffrey Coleman, Chair  
Kenneth Bondy  
Ronald Burg  
Boyd Clark  
Peter Emmons  
Beverly Garnant  
Geoffrey Hichborn, Sr  
Mohammad Iqbal

William Klorman  
Jim Kretz  
Colin Lobo  
Thomas Malerk  
Christopher Mosley  
Matthew Offenber  
Ava Shypula  
Eldon Tipping

Michael L. Tholen, Staff Liaison

**1.0 APPROVAL OF MINUTES AND AGENDA**

**1.1 Approval of Minutes of 2008 Fall Meeting—St. Louis, MO**

The Responsibility in Concrete Construction Committee (RCCC) is asked to approve the minutes of the meeting in St. Louis, MO, held on November 2, 2008, as distributed.

**1.2 Approval of Agenda**

RCCC is asked to approve the San Antonio 2009 Agenda as distributed.

## 2.0 MEMBERSHIP

Chair Jeff Coleman will announce four members that will join the RCC Committee at the conclusion of the San Antonio Convention (Dennis Ahal, Kevin MacDonald, Joseph Sanders, and Michael Schneider) and introduce any visitors at the meeting. Members are asked to ensure that the data on the roster (*Exhibit 2.0*) are correct.

## 3.0 ACTIVITIES OF THE COMMITTEE

### 3.1 St. Louis Convention Session

The Committee-sponsored session, "Use and Misuse of ACI Documents," was held in St. Louis on Wednesday morning from 9:00 AM to 12:00 PM. The Committee will discuss any feedback received from the presentations and ideas for improving future sessions sponsored by the Committee.

### 3.2 New Responsibility Document

At the Spring 2004 Convention in Washington, DC, RCCC members decided to draft a new responsibility document, with task groups assigned to each of the different entities involved in a construction project: owner, design professional, general contractor, D-B contractor, subcontractor, specialty subcontractor, material supplier, testing/inspection, and forensic consultants. It was noted that each task group may publish opinion papers as they deal with issues during document development. The following motion was unanimously approved: "RCCC develop a new document, 'Responsibility in Concrete Design and Construction,' and to do so, establish nine task groups. Each task group is associated with an entity involved in construction. Each task group will have a chair whose responsibility it will be to draft an outline of each group's goals 30 days before the San Francisco convention, and to report on these findings at the convention."

In St. Louis, discussion centered on new language in the draft document prepared by Chair Coleman and how the responsibilities of other parties, including the contractor and material supplier, change for prescriptive versus performance specifications. It was also decided that the definition of a Specialty Subcontractor should include design of a portion of the completed work to differentiate from subcontractors that design other items, such as formwork.

The current task groups are as follows:

#### **Owner**

?-Chair

Tom Malerk

#### **Design Professional**

Jeff Coleman-Chair

Ken Bondy

#### **Specialty Subcontractor**

Ken Bondy-Chair

Bill Klorman

Chris Mosley

#### **Material Supplier**

Colin Lobo-Chair

Eldon Tipping  
Chris Mosley  
**General Contractor**  
Jim Kretz -Chair  
Bill Klorman  
**D-B Contractor**  
Bill Klorman-Chair  
Jim Kretz  
**Subcontractor**  
Jim Kretz-Chair  
Ken Bondy  
Bill Klorman  
Bev Garnant  
**Geotechnical Engineer**  
Geoff Hichborn-Chair

Ken Bondy  
Geoff Hichborn  
**Testing/Inspection**  
Ava Shypula-Chair  
Geoff Hichborn  
Boyd Clark  
Eldon Tipping  
**Forensic Consultants**  
Boyd Clark-Chair  
Ken Bondy  
Bill Klorman  
Geoff Hichborn  
Eldon Tipping

A draft of the document that includes the feedback received from Committee members since the St. Louis convention is included in *Exhibit 3.2*. The draft will be reviewed by the Committee with an eye toward finalizing the document for publication.

**Action: The task groups should provide final feedback on the document at the Committee meeting. It is Chair Coleman’s intent that the committee reach final consensus on a document that could be recommended to the Board.**

### **3.3 Committee Assistance with TAC Review Process**

For the Spring TAC review cycle, only two documents contained mandatory language—ACI 376, “Code Requirements for Design and Construction of Concrete Structures for the Containment of Refrigerated Liquefied Gases and Commentary,” and ACI 548.4, “Specification for Latex-Modified Concrete Overlays.”

The reviewers for these documents will discuss any responsibility issues that they commented on during the reviews.

## **4.0 NEW BUSINESS**

### **4.1 Board Approval Process**

The Committee will discuss the steps to be taken to request that the Board of Direction endorse the document once final consensus by the Committee is achieved.

## **5.0 NEXT MEETING**

The RCCC meeting at the New Orleans convention will be held on Sunday, November 8, 2009, from 2:00 to 5:00 p.m.

## **6.0 ADJOURNMENT**

### Attachments:

- Exhibit 2.0: RCCC roster
- Exhibit 3.2: Draft document including comments

Membership Roster

RESPONSIBILITY IN CONCRETE CONSTRUCTION COMMITTEE

**Kenneth B. Bondy**,  
Engineer, contractor  
Consulting Structural Engineer  
6520 Platt Avenue #651  
West Hills, CA 91307-3218  
Phone: (818) 883-7853  
Fax: (818) 999-4262  
Email: [ken@kenbondy.com](mailto:ken@kenbondy.com)  
Comm: RCC, 314, 318, 332, 423, TAC, BOD

**Ronald G. Burg**  
CTLGroup  
5420 Old Orchard Rd.  
Skokie, IL 60077-1030  
Phone: (847) 972-3052  
Fax: (847) 965-6541  
Email: [rburg@ctlgroup.com](mailto:rburg@ctlgroup.com)  
Comm: CPC, RCC, TTCC, 130, 209, 213, 216,  
363

**Boyd A. Clark**  
Technical Director  
Construction Materials Services  
RJ Lee Group Inc.  
350 Hochberg Rd.  
Monroeville, PA 15146  
Phone: (412) 915-1840  
Fax: (724) 733-1799  
Email: [bclark@rjlg.com](mailto:bclark@rjlg.com)  
Comm: RCC, 201, 332, 524

**Jeffrey W. Coleman**  
Coleman Hull & Van Vliet  
#2110  
8500 Normandale Lake Blvd  
Bloomington, MN 55437-3813  
Phone: (952) 841-0200  
Fax: (952) 841-0041  
Email: [jwcoleman@chvv.com](mailto:jwcoleman@chvv.com)  
Comm: RCC, CLC, 563, TAC specifications

**Peter H. Emmons**  
Structural Group Inc.  
Ste T  
7455 New Ridge Rd.  
Hanover, MD 21076-3143  
Phone: (410) 850-7000  
Fax: (410) 850-4111  
Email: [pemmons@structural.net](mailto:pemmons@structural.net)  
Comm: RCC, TAC R&R, TAC TTC, 364,  
546, 562, 563, E706, SD

**Beverly A. Garnant**  
ASCC  
Suite 105  
2025 S. Brentwood Blvd.  
St. Louis, MO 63144-1850  
Phone: (314) 962-0210  
Fax: (314) 968-4367  
Email: [bgarnant@asconline.org](mailto:bgarnant@asconline.org)  
Comm: RCC, BOD, CLC, 601, MKT,  
E703

**Geoffrey Hichborn, Sr., C.E.**  
Hichborn Consulting Group  
1040 E. Howell Ave.  
Anaheim, CA 92865  
Phone: (714) 637-7400  
Fax: (714) 637-7488  
Email: [hichbornsr@hichborn.com](mailto:hichbornsr@hichborn.com)  
Comm: RCC, 201, 225, 332, 552

**Mohammad Iqbal**  
Walker Parking Consultants  
505 Davis Rd.  
Elgin, IL 60123  
Phone: (847) 697-2640 x337  
Fax: (847) 697-7439  
Email: [mo.iqbal@walkerparking.com](mailto:mo.iqbal@walkerparking.com)  
Comm: RCC, 224, 362, 369, 374, 423

**William M. Klorman**  
Design/Build contractor  
W M Klorman Construction Corporation  
23047 Ventura Blvd.  
Woodland Hills, CA 91364-1133  
Phone: (818) 591-5969  
Fax: (818) 591-5926  
Email: [bklorman@klorman.com](mailto:bklorman@klorman.com)  
Comm: RCC, CLC

**James E. Kretz**  
Walbridge Aldinger  
777 Woodward Ave.  
Detroit, MI 48226-3582  
Phone: (313) 304-0373  
Email: [jkretz@walbridge.com](mailto:jkretz@walbridge.com)  
Comm: RCC, 117, 302, 347, 640

## Exhibit 2.0-2

### **Colin L. Lobo**

Vice President of Engineering  
National Ready Mixed Concrete Association  
900 Spring Street  
Silver Spring, MD 20910-4015  
Phone: (240) 485-1160  
Fax: (301) 585-4219  
Email: [clobo@nrmca.org](mailto:clobo@nrmca.org)  
Comm: RCC, BOD, CPC, 211, 214, 228, 301,  
318, IC, 701

### **Thomas O. Malerk**

FL DOT State Materials Office  
5007 NE 39<sup>th</sup> Ave.  
Gainesville, FL 32609-2604  
Phone: (352) 955-6622  
Fax: (352) 955-6623  
Email: [tom.malerk@dot.state.fl.us](mailto:tom.malerk@dot.state.fl.us)  
Comm: CPC, EAC, RCC, 301, 601, 610, 620,  
630, 631

### **Christopher P. Mosley**

Consulting Engineers  
Suite 230  
2455 NE Loop 410  
San Antonio, TX 78217-5687  
Phone: (210) 637-0977  
Fax: (210) 637-1172  
Email: [cmosley@cegtex.com](mailto:cmosley@cegtex.com)  
Comm: RCC

### **Matthew A. Offenberg**

W.R. Grace  
Tech Services  
708 Crescent Circle  
Canton, GA 30115-4771  
Phone: (404) 379-0258  
Email: [matthew.offenberg@grace.com](mailto:matthew.offenberg@grace.com)  
Comm: RCC, 130, 330, 522, MKT

### **Ava Shypula**

Matrls. consult., testing and inspection  
Ava Shypula Consulting, Inc.  
24 Commerce Street  
Springfield, NJ 07081-3004  
Phone: (973) 467-4645  
Fax: (973) 467-3777  
Email: [ashypula@aol.com](mailto:ashypula@aol.com)  
Comm: RCC, 211, 232, 363, 533

### **Eldon Tipping**

Structural Services, Inc.  
Ste 320  
1300 E. Lookout Dr.  
Richardson, TX 75082-4126  
Phone: (214) 522-6438  
Fax: (214) 522-6796  
Email: [etipping@ssiteam.com](mailto:etipping@ssiteam.com)  
Comm: RCC, BOD, CLC, TCC, 117,  
301, 302, 360, 544, E601

## Revision 1.1

### DRAFT

# Responsibility in Concrete Construction

## A Report by the ACI Responsibility in Concrete Construction Committee

### 1. INTRODUCTION

*This document is intended as a guide for defining responsibilities of the various parties involved in concrete construction. The responsibilities of each party in a concrete construction project should be adequately described in the contracts between the parties. It is important that the party controlling that process (usually the Owner or an Owner's representative) make certain that the responsibilities of the parties are clear, coordinated and consistent. Clarity and consistency in the responsibilities defined in the contracts will reduce disputes over responsibility. This document is not intended to supersede the contracts between the parties, if there are inconsistencies between the parties' contracts and responsibilities defined in this document, then the contracts between the parties govern the relationships and responsibilities.*

*The user of this document is encouraged to also review this committee's report published in September 1995 in Concrete International. In particular the Committee continues to endorse the concept that responsibility should only be assigned where authority is also assigned and that each party should take responsibility for its own work*

### 2. RESPONSIBILITIES OF THE OWNER.

#### 2.1 Ultimate Responsibility for the Entire Project.

As the final decision making authority, the Owner has ultimate responsibility for the entire construction project. Directly or indirectly all parties in the process report to the owner.

#### 2.2 Define the Project

The Owner is responsible for project definition, which includes establishing the scope and objectives of the project, the overall budget and project schedule. Further, the Owner is responsible for clearly communicating project requirements to the Design

Professional developing the plans and specifications for the project. Should the project requirements be changed, the Owner must be prepared to accept the costs and/or schedule consequences of the changes.

### 2.3 Provide Funding for the Project

Before entering into any stage of the project, the Owner must ensure that required funding, including a reasonable contingency reserve, is available.

### 2.4 Provide needed real estate, rights of way, permits, and insurance.

The Owner will provide the building site, all rights of way and easements for site access and utilities, all required construction related permits and insurance, unless otherwise delegated in the contract documents.

### 2.5 Beyond legally established codes and regulations, the Owner establishes quality and performance standards for the project.

The scope and objectives of the project, set forth by the Owner in contract documents, shall establish the quality level expected of the construction and any performance standards required by the Owner.

### 2.6 Establishes system for overall project management.

It is the Owner's responsibility to establish the overall project management structure and clearly enunciate management and decision-making authority.

### 2.7 Selects key designers, managers, and contractors.

The Owner should establish and follow a fair and ethical procedure for selection of key members of the design and construction team.

### 2.8 Establishes quality assurance program

### 2.9 Provides overall site safety and security.

### 2.10 Makes agreed upon payments as project goals are met.

### 2.11 Accepts the completed project.

## **3. RESPONSIBILITIES OF THE DESIGN PROFESSIONAL**

3.1 Perform all [contractually required](#) professional services including designing the work in accordance with the standard of care.



Design Professionals ~~generally~~ have the responsibility to perform their services, ~~including designing the work,~~ in accordance with the “Standard of Care.” The Standard of Care is generally determined on a case-by-case basis; however, it can be defined in the contract between the parties. If not defined in the contract between parties, it is generally defined as the “the exercise of the skill and judgment which can be reasonably expected from similarly situated professionals” and “to exercise such care, skill, and diligence as men in that profession ordinarily exercised under like circumstances.” Thus, the Standard of Care creates a responsibility on the part of the Design Professional to perform their services in the same manner that a prudent designer would perform their services in a similar geographic area and in a similar time frame.

### 3.2 Code Compliance with Applicable Codes.

Design Professionals have a responsibility to ~~perform their services, including~~ design ~~of~~ the project in accordance with applicable codes. However, there may be instances where the building code represents a minimum design standard. In those cases, the applicable Standard of Care may require that the Design Professional exceed minimum code requirements.

### 3.3 Coordinate with Other Design Professionals.

A lead Design Professional has a responsibility to coordinate its work with other subconsultant Design Professionals. However, if the Owner has retained other Design Professionals under direct contract with the Owner, then the Owner has a responsibility to designate which of the multiple prime Design Professional has the responsibility to coordinate with the work of the various multiple prime Design Professionals.

### 3.4 Prepare Analytical and Design Justification (calculations) used for the preparation of Design Documents.

The Design Professional has a responsibility to prepare design calculations as appropriate and consistent with the Standard of Care. The Design Professional does not have a responsibility to issue or publish those calculations unless required by the contract documents, applicable codes, regulations or laws.

### 3.5 Provide Design documents for Construction, which should, at a minimum, ~~include the following items: including but not limited to~~ drawings ~~and~~ specifications.

The design documents are not expected to be perfect; however, the design documents should be adequate to describe the intended final outcome of the project and the final

performance criteria of the components of the project and the over completed project.

### 3.6 Issue Material Specifications and Installation Specifications Considering Local Practice.

The Design Professional has a responsibility to specify the types of materials required for the project. The Design Professional should specify installation procedures that are necessary for the proper completion of the project. However, the Design Professional is not responsible for specifying the Contractor's means, methods, techniques, sequences, or procedures, as those are the responsibility of the Contractor. There are however, instances where Design Professional must specify means, methods, techniques, sequence and procedures so that the Contractor understands not only the materials to be provided for the project, but how these materials are to be installed so as to meet the Owner's final criteria. ***The Concrete mix, placement and curing shall be specified by the Design Professional in a prescriptive method detailing all requirements that are necessary for the intended strength and durability. Alternatively the Design Professional may specify the Concrete mix, placement and curing using performance based criteria. The Design Professional may, where necessary, specify a combination of prescriptive and performance based criteria. The responsibility of the Design Professional in a combined performance and prescriptive specification is to specify criteria that are consistent, compatible and possible to perform. (See Appendix A for Prescriptive vs. Performance specifications) [Where is Appendix A???***

### 3.7 Provide field Observation if required in the Owner's Contract and/or Applicable Codes, Regulations, or Local Laws.

The Owner is responsible for determining the amount of field observation that the Design Professional will provide, and the Owner is responsible for paying an adequate fee to allow such field observations.

### 3.8 Perform all Inspections, Observations, and Reviews of Construction On-Site if Required by the Contract or Applicable Codes, Regulations, or Laws.

### 3.9 Perform Shop Drawing Review in Accordance with the Terms and Conditions of the Contract Between the Design Professional and the Owner.

### 3.10 Understand and convey the Owner's requirements in the Plans and Specifications.

The Design Professional should endeavor to fully understand the Owner's requirements; however, the Owner has a responsibility to communicate those requirements and also has the responsibility to accept the cost and/or schedule consequences of changes in those requirements.

3.11 Review submittals for general contract compliance if required by the contract between the owner and the design professional.

3.12 Either perform or designate ~~Confirm Who who w~~ill perform special inspections required by building codes, if applicable.

#### **4. RESPONSIBILITIES OF GENERAL CONTRACTOR**

Definition: A general contractor is a contractor whose scope of work includes the construction of all or a portion of the work. This work is described in the “general contract documents”.

4.1 Construct the building in accordance with the contract documents and with the appropriate standard of care for general contractors in the geographical area of the work.

4.1.12 Contractors have no direct responsibility to engineering design requirements found in building codes.

4.1.23 Contractors conform to code design requirements by building in accordance with the contract documents.

4.1.34 Contractors have a right to assume that contract documents contain all applicable code and other requirements.

4.25 Call attention to any obvious errors or discrepancies in the contract documents.

4.36 Makes agreed upon payments to subcontractors and material suppliers as project goals are met.

**4.47 Enter into contracts with sub-contractors that are consistent with the contract document requirements between the General Contractor and the Owner.**

**4.59 If a Prescriptive Specification is used, make sure that all requirements are passed on to the appropriate sub-contractor and/or material suppliers. If a Performance Based specification is used, determine who will be responsible for developing mix designs or other criteria that will achieve the specified performance criteria. If a combination of prescriptive and performance criteria are specified the Design Professional is ultimately responsible for the specification however the General Contractor should communicate with the Owner and Design Professional in writing if it becomes known to the Contractor that the combined prescriptive and performance criteria are inconsistent, incompatible or impossible to perform.**

**4.10 Develop, maintain and administer a site safety program for the work**

#### **5. RESPONSIBILITIES OF THE DESIGN-BUILD CONTRACTOR**

5.1 A Design/Builder is an entity who undertakes a combination of both design and construction for either an entire project or a significant portion of one.

5.2 Responsibilities include all those associated with the design as well as with the execution of the work. This relationship also includes the coordination of the design with the construction to eliminate the risk to the owner for gaps, errors or conflicts.

5.3 The entity that undertakes a contract under this form may be a Constructor, a Designer (Architect or Engineer), a Developer or some other organization.

5.4 All design work must be done by properly licensed professionals authorized to work in the location of the project. This is true whether design is done “in house” or contracted to third parties by the Design/Builder.

5.5 Inspection and Testing for Quality Assurance and for conformance to the completed plans and specs should be within the Owner’s scope of responsibility to eliminate any appearance of conflict of interest.

## **6. RESPONSIBILITIES OF THE SUBCONTRACTOR**

One whose scope of work includes limited construction of a portion of the project.

(similar to GC)

## **7. RESPONSIBILITIES OF SPECIALTY SUBCONTRACTORS**

Definition: A specialty subcontractor is one whose scope of work includes the construction *and* the design of a portion of the completed work. The specialty subcontractor retains a licensed design professional to execute the delegated design work. Examples would include the design and construction of precast concrete elements or the design of and construction of all or part of cast-in-place post-tensioned floor systems.

7.1 Retain the services of a design professional (specialty engineer) with demonstrated expertise and /or experience in the type of work to be designed. Responsibilities of the specialty engineer include:

- Design the work in accordance with the standard of care for the design of similar works in the same geographic area.
- Prepare plans and specifications for the work that incorporate all applicable building code requirements, laws, and ordinances.
- Perform all contractually required inspections, observations, and reviews of placing and/or shop drawings.

7.2 Review the design for obvious errors or differences from generally accepted standard practices.

7.3 Construct the work in accordance with the plans and specifications prepared by the specialty engineer.

7.4 Construct the work in accordance with the standard of care for the work involved and in accordance with standard practices of similar subcontractors in the same geographic area.

**8. RESPONSIBILITIES OF THE MATERIAL SUPPLIER.**

Some of the following represent the responsibilities (or not) of a material supplier (concrete producer):

8.1 Use ingredient materials that comply with pertinent specifications.

8.2 Manage materials and production practices that facilitate quality and maintaining batch to batch uniformity.

8.3 Maintain production facilities to include concrete plants and mixer trucks in conformance with pertinent standards (ASTM C 94, AASHTO M157).

8.4 Maintain documentation of ingredient materials certifications and quality tests to be provided to the purchaser on request.

8.5 Conform to industry best practice, as presented in the requirements of ASTM C 94, for production and delivery of concrete when no specification or contract is invoked for the job.

8.6 Supply concrete in accordance with the order made and in conformance to the standard of care for materials suppliers in the geographic area or the work. All requirements in a specific contract override the requirements of reference standards such as ASTM C 94.

8.7 Material suppliers have no direct responsibility for engineering design.

8.8 Materials suppliers have no direct responsibility for compliance with requirements in building codes if these are not addressed in contract documents.

8.9 The material supplier has the responsibility to communicate potential errors, omissions and conflicts in contract documents if they have such knowledge relative to the standard of care in the geographical area of operation, or relative to constructability or service conditions of the structure.

## Exhibit 3.2-8

8.10 When the contract or job specification assigns prescriptive provisions to the composition of the concrete mixture, the concrete producer has no responsibility for the resulting performance of the fresh or hardened concrete.

8.11 When the contract or job specification assigns a combination of prescriptive and performance provisions on the concrete mixture, the producer is responsible for furnishing material to the more restrictive criteria but will not be responsible for any performance characteristic that was intended and not defined by the prescriptive limit.

8.12 When the contract or job specification assigns performance criteria to the concrete mixture, these need to be clearly defined and it is the responsibility of the concrete producer to demonstrate compliance in accordance with the criteria set forth in the contract. In such cases the producer has the right to retain confidentiality of the mixture composition especially when there has been a significant cost and/or effort associated with establishing the mixture composition to achieve the required performance.

8.13 The material supplier has the responsibility to report information and furnish documentation that is required in the submittals section of a contract or job specification.

8.14 The concrete producer cannot be responsible for product quality or complying with the order made when additions or modifications are made by the purchaser over and above that permitted by the standards.

***8.15 Provide concrete (or other specified materials) that are consistent with the requirements of the Prescriptive Specification. If a Performance Specification is used, develop a concrete mix (or other materials) that will achieve the performance criteria specified and will meet any supplemental requirements of the Concrete Installer (See Appendix A).***

### **9. RESPONSIBILITIES OF THE TESTING/INSPECTION AGENCY**

9.1 Gather and comply with applicable code requirements and project specifications for testing and inspection.

9.2 Comply with qualification and licensing requirements.

9.3 Conduct testing and inspection in accordance with applicable standards.

9.4 Report test results as required by the project specifications.

**10. RESPONSIBILITIES OF THE FORENSIC CONSULTANT [THIS IS WRITTEN AS IF THE FORENSIC CONSULTANT IS ONLY INVOLVED IN MATERIALS INVESTIGATIONS. OBVIOUSLY THERE ARE MANY MORE THINGS THAT FORENSIC CONSULTANTS INVESTIGATE. THIS REALLY NEEDS MORE WORK]**

## Exhibit 3.2-9

10.1 A forensic consultant is an entity which investigates failures or alleged deficiencies associated with either the materials or practices during construction the design or construction of the work. A forensic consultant may also investigate quality control of construction materials and/or practices.

10.2 The forensic consultant must have general specialized knowledge expertise and experience of construction materials and practices in the area of his/her assignment. This could include design, construction, or materials issues. ~~The forensic consultant is obligated to research which individual materials and practices were used during construction.~~

10.3 The forensic consultant is responsible for assuring that the techniques used during an investigation are reliable and generally accepted by the ~~and pertinent to the cause of failure or monitoring of material or process quality~~ relevant scientific, engineering, or construction community.

10.4 The forensic consultant must ~~follow~~ consider all relevant standards and codes during the investigation.

~~10.5 The forensic consultant is also responsible to assure that any data accurately reflects the cause of failure or in the monitoring of material or process quality.~~

10.56 The forensic consultant must ~~work closely~~ coordinate and communicate closely with the client (or client's agent). The client may be an attorney, owner, materials supplier, constructor, architect, engineer or developer. [most forensic consultants are retained by attorneys]

10.67 The forensic consultant ~~acts~~ must act independently of the client to ensure that the data is not biased; ~~the consultant represents the investigation (and data) on behalf of the client in many cases.~~ Forensic consultants must not become advocates.

10.78 The forensic consultant must report all of the data and other information collected during the investigation to the client (or client's agent). This could include site observations, photographs, field notes, calculations, reference documents, and any other materials used in the investigation. A written report should be provided if requested by the client. ~~The forensic consultant is obligated to produce a report of the investigation to the client (or client's agent) and to defend the results when necessary.~~ [Many forensic reterntions do not involve written reports]