**DEPARTMENT OF BUILDING**

**Name, Title**

**INSPECTION DIVISION**

**Name, Title**

**Address**

**City, State 00000**

**Phone Contact**

**Email Contact**

**Quality Control Manual Guidelines**

This guideline provides information for receiving an approved listing and the preparation of a quality control manual. It also describes agency responsibilities and elements that will be reviewed in the evaluation and approval process for special inspection and/or testing agencies. All special inspection and/or testing agencies that wish to become approved by **[DEPARTMENT OF BUILDING]** shall apply for approval using forms available for that purpose. Forms are available from **[BUILDING DEPARTMENT/ADDRESS]**.

Each agency seeking approval status must submit a quality control manual to **[JURISDICTION]** for review and acceptance. An approved agency may be a verification agency for fabricator audits or a third-party inspection/testing agency employed by the owner to fulfill the role of special inspection/testing of **[CODE USED/INSPECTION]** items.

**Organization of the Agency:** The following information shall be included in the quality control manual:

**•** Description of the organization, including complete legal name and address.

**•** Names and positions of the principal owners, officers and directors.

**•** Agency’s managerial structure and principal personnel.

**•** All major divisions or departments, including their locations and primary function shall be shown and described.

**•** All branch offices of the agency, and the principal officers and directors of those offices, when approval is sought for those offices.

**•** External organizations, organizational components and their functions that are utilized for significant supporting technical services.

**Organization History:** A brief history of the agency and a general description of the types of users of the organization’s services shall be provided.

**Organization Charts and Functions:** A functional description of the agency’s organizational structure, operational departments, support departments and services shall be included. This may be demonstrated in the form of charts that depict all divisions, departments, sections, units and their operational activities.

**Technical Services:** A list of all proposed special inspection, engineering and testing services that the agency may wish to provide shall be included in the manual. Each inspection and/or testing service must be related to specific testing and sampling procedures and/or inspection criteria. Procedures and criteria shall be specifically listed in the quality control manual submitted for initial review and approval.

**[JURISDICTION]** has determined that inspection and testing of piling, drilled piers and caissons, special grading, excavation and filling shall ONLY be inspected by a [**NAME OF STATE**] registered professional engineer. Other special cases may also be determined by the building official to require the expertise of a **[NAME OF STATE]** registered professional engineer. When required, these special case services will be specifically indicated on the project Special Inspection Agreements or addenda to these agreements.

Agencies that plan to provide engineering services for inspection of piling, drilled piers and caissons, grading, excavation and filling along with any special case determined by the building official as requiring special inspection and/or testing by a **[NAME OF STATE]** registered professional engineer shall indicate, by name and job title, the persons who will provide the service. Reports that will be signed by an engineer shall be specifically identified in the submitted manual.

**Human Resources of the Agency:** Lists of inspection services shall also show the names of those inspectors that the organization plans to use in providing those services. Each new or amended list of services, testing technicians, inspectors and engineers shall require a new **[NAME OF JURISDICTION]** approval. All lists shall be accompanied by resumes showing dates of inspector experience and testing technician qualifications, accreditations, registrations, etc.

In addition to inspector, testing technicians and engineer information previously described, the following information shall be included in the agency quality control manual and quality control plan:

**•** Written resumes and/or charts for all management and supervisory personnel. Resumes shall detail qualifications and work experience history pertinent to the services proposed to be provided by the special inspection and/or testing agency. Organizational charts shall define which responsibilities are technical, management or both. Lines of responsibility, authority and supervisory accountability must be clearly detailed.

Summary work experience records for each professional, scientific, supervisory and technical position category, including the necessary education, training or experience required for each position shall be maintained in the special inspection and/or testing agency office files. Work experience records will be reviewed by **[NAME OF JURISDICTION]** each quarter after approval and listing.

**•** A description of the organization’s means of maintaining personnel records to document employee qualifications, work experience and training history.

**•** A description of the agency’s method for ensuring the continued competence of its personnel, including the maintenance of records to document such programs.

Approved agencies shall be responsible to supervise all special inspectors and testing technicians. Approved agencies shall assign only trained, experienced **[NAME OF JURISDICTION]** approved special inspectors and testing technicians to projects requiring special inspection and/or testing. Approved agencies are responsible for all actions of their approved special inspectors and testing technicians.

If the building official determines that an approved special inspector is negligent in the performance of his or her assigned duties through a failure to be present to perform necessary inspections, or failure to provide acceptable daily reports, or is engaged in a conflict of interest, or fails to conform to the requirements of the technical guidelines, then that inspector shall be subject to removal from the approved list for the particular inspection item involved in the negligent act. The Special Inspection Agency shall receive an SIA correction notice for the first negligent act of a particular inspector. This SIA correction notice must be cleared or resolved within three working days. A second negligent act would require the inspector’s supervisor or quality control manager to present a training plan to cover the areas of deficiency. A third SIA correction notice within a quarter will result in the removal or suspension of the special inspector from the approved list for the item or items involved. Failure of the SIA to correct the deficiency causing the removal of the special inspector will result in disciplinary action and/or suspension from the **[JURISDICTION’S]** approved list.

Agency special inspectors may not be in the employ of the contractor, subcontractor or material supplier. In the case of an owner/contractor, the special inspector/agency shall be employed as specified by the building official.

**Material Resources of the Agency:** An inventory of its relevant material resources shall be made available by the agency, including:

**•** Laboratories, major test and inspection equipment and facilities, calibration standards and equipment.

**•** Library listing of standards, procedures and facilities for the storage and conditioning of specimens and samples.

**•** Logistical services and data processing equipment for technical operations.

**Quality Systems of the Agency:** The following information concerning procedural methods that directly affect the quality of proposed services shall be made available to the building official:

**•** Written quality control plans, calibration programs, standardization of test methods measurement and determination, traceability or credibility, or both (as applicable), of standards used, data recording, processing and reporting must be contained within each quality control manual submitted for approval. Quality control plans must show exact lines of authority for managerial and technical accountability.

**•** Each agency must perform in-house office and on-site internal audits. Records of these audits must be available for review by the building official. Example audit forms must be submitted with each quality control manual.

**Quality Control Plans:** All agencies seeking approval must provide within their quality control manuals an acceptable generic quality control plan. In addition to the generic quality control plan, some projects may require that a job-specific quality control plan be submitted for review and acceptance by the building official. All plans shall contain, as a minimum, the following information:

Each record or plan must identify project name, location, owner and contractor. **[JURISDICTION]** Quality Control form QA-[NUMBER] must be referenced and an example of a completed form included in the plan. Quality control plans shall outline the inspection, testing and engineering tasks to be performed by the agency. Inspection and engineering tasks must be made to ensure that the constructed work conforms to **[NAME OF JURISDICTION]** Code, approved plans, documents and specifications. Plans shall detail engineering, inspection and testing procedures, including forms to be used, and acceptance/ rejection criteria.

In addition to the above, all quality control plans must include the four basic elements below:

**•** The plan must show how inspection, engineering and testing activities will be performed so that code requirements of the project can be met.

**•** There must be a system of feedback information that will, as a minimum, detail how internal audits will be used for the assessment of project work conformance compliance.

**•** A method for corrective action, including nonconformance and conformance reporting, must be implemented to cause nonconforming work or materials to be brought to a point of acceptability.

**•** Plans shall be ongoing in the sense that improvements to the plan or changes to the scope of work can be made as the work proceeds.

The quality control plan shall also identify the agency’s personnel, by job title, who will be responsible for on-site supervision and performance of all inspections, engineering and testing. When required by the building official, job-specific quality control plans must be submitted to and approved by **[NAME OF JURISDICTION]**.

**SAMPLE**

**DEPARTMENT OF BUILDING**

**Name, Title**

**INSPECTION DIVISION**

**Name, Title**

**Address**

**City, State 00000**

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**SUBJECT: [FORM #1 (if applicable) REVISION #1]: Minimum Qualifications for Special**

**Inspectors and Testing Technicians**

**1.0 Purpose:** This guideline sets forth minimum qualification and experience requirements for special inspectors and testing technicians. Also included in this technical guideline are procedures for obtaining **[NAME OF JURISDICTION]** building department approval for special inspectors and testing technicians.

**2.0 Scope:** The approval process and minimum requirements are for both graduate engineers and technical personnel. The engineers shall be evaluated separately, depending upon their professional status.

**3.0 Abbreviations and Acronyms:**

AABC: Associated Air Balance Council

ACI: American Concrete Institute

CWI: Certified Welding Inspector

ICC: International Code Council

ISA: Instrument Society of America

NAARSO: National Association of Amusement Ride Safety Officials

NDT: Nondestructive Testing

NICET: National Institute for Certification in Engineering Technologies

NEBB: National Environmental Balancing Bureau

PCI: Prestressed Concrete Institute

QC: Quality Control

SI: Special Inspection Agency

TG: Technical Guidelines

TMS: The Masonry Society

**4.0 Definitions:**

**Quality Control:** A managerial process that consists of the following steps to: (1) evaluate actual performance; (2) compare actual performance to quality goals; and (3) take action on the difference.

**Quality Assurance:** An independent evaluation of quality-related performance, conducted primarily for the information of those not directly involved in conduct of operations but who have a need to know.

**Date: [MONTH, DAY, YEAR]**

**Department: Building** **Division/Group:**

**Inspection/Engineering**

**[FORM #]: [REVISION #] (continued)**

**5.0 References:**

Building Code of **[JURISDICTION][CODE YEAR] [CODE GROUP]**

**6.0 Responsibilities:**

**6.1** The **[JURISDICTION]** will review requests made by agencies in accordance with this document. An individual special inspector and testing technician with certification and experience as outlined in section [CODE SECTION] may be approved unless sufficient justification exists not to approve the special inspector and/or the testing technician in the areas requested.

**6.2** The **[JURISDICTION]** will maintain copies of certifications and work histories, as long as the special inspector is employed by an agency approved by the **[JURISDICTION]**.

**6.3** The **[JURISDICTION]** will maintain a listing for each agency containing the following information:

**6.3.1** The name of the agency.

**6.3.2** The name of each inspector/technician approved.

**6.3.3** The special inspection/testing items that each inspector/technician is approved for.

**6.3.4** Verified **[CODE GROUP]** certifications noted.

**6.3.5** Revision date.

**6.4 [JURISDICTION]** will respond to written requests by providing written response to the agency with an updated list of approved special inspectors and testing technicians, as appropriate. Copies of the revised special inspectors and testing technicians will be provided to all **[JURISDICTION]** teams who have a need to know.

**7.0 Procedure:**

Persons requesting approval as special inspectors and/or testing technicians shall make the request in writing. The request shall be submitted on their behalf by the special inspection agency. The request shall be made on the letterhead of the special inspection agency and be accompanied by documented experience and copies of current relevant certification. The following minimum criteria will be used to evaluate special inspection/testing technician requests.

**Date: [MONTH, DAY, YEAR]**

**Department: Building** **Division/Group:**

**Inspection/Engineering**

**[FORM #]: [REVISION #] (continued)**

**7.1 Reinforced concrete: [JURISDICTION]** Administrative Code **[CODE** **SECTIONS].** Special Inspection item [#]. Current **[CERTIFICATIONS,** **CREDENTIALS]** and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.2 Special moment-resisting concrete frame: [JURISDICTION]** Administrative code **[CODE SECTIONS].** Special inspection item [#]. Current **[CERTIFICATIONS, CREDENTIALS]** and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.3 Prestressed concrete: [JURISDICTION]** Administrative code **[CODE** **SECTIONS]**. Special inspection item [#]. Current **[CERTIFICATIONS,** **CREDENTIALS]** and ACI Grade I, or certified as an ACI Grade II, or a PCI Level II. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.4 Post-tension slab on grade:** Special inspection item [#]. Current **[CERTIFICATIONS, CREDENTIALS]** or ACI Grade I. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.5 Structural welding: [JURISDICTION]** Administrative code **[CODE** **SECTIONS]**. Special inspection item [#]. This item requires certification:

a. **[TYPE/CODE GROUP],** according to **[TYPE/CODE GROUP]** guidelines

b. **[TYPE/CODE GROUP]** Structural steel and welding certificate

c. **[TYPE/CODE GROUP]** Level II or III

**7.6 High strength bolting: [JURISDICTION]** Administrative Code **[CODE SECTIONS]**. Special Inspection item [#]. Current **[TYPE/CODE GROUP]** structural steel and welding certificate (S). In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**Date: [MONTH, DAY, YEAR]**

**Department: BuildingDivision/Group:**

**Inspection/Engineering**

**[FORM #]: [REVISION #] (continued)**

**7.7 Structural masonry: [JURISDICTION]** Administrative code **[CODE SECTIONS]**. Special inspection item [#]. Current **[TYPE/CODE GROUP]**. Structural masonry certificate [#]. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.8 Reinforced gypsum concrete: [JURISDICTION]** Administrative code **[CODE SECTIONS].** Special inspection item [#]. Current **[TYPE/CODE GROUP]**. Reinforced concrete certificate [#] and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.9 Insulated concrete fill: [JURISDICTION]** Administrative code **[CODE SECTIONS].** Special inspection item [#]. Current **[TYPE/CODE GROUP]**. Reinforced concrete certificate [#] and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.10 Spray-applied fireproofing: [JURISDICTION]** Administrative code **[CODE SECTIONS]**. Special inspection item [#]. Current **[TYPE/CODE GROUP]**. Spray-applied fireproofing certificate [#]. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**7.11 Piling, drilled piers, caissons: [JURISDICTION]** Administrative code **[CODE SECTIONS].** Special Inspection item [#]. NICET Level III certification in geotechnical/construction or construction material in testing/ soil:

a. Inspector: NICET Level Ill

b. \*\*Graduate geologist: Two years experience

c. \*\*Graduate engineer: Two years experience

d. \*Professional engineer: One year experience

**7.12 Shotcrete: [JURISDICTION]** Administrative code **[CODE SECTIONS]**. Special inspection item [#]. Current **[TYPE/CODE GROUP]**. Reinforced concrete certificate [#] and ACI Grade I or ACI Grade II. In addition, documented experience according to one of the following:

a. Inspector: Two years experience

b. Graduate engineer: One year experience

c. \*Professional engineer: One year experience

**Date: [MONTH, DAY, YEAR]**

**Department: Building** **Division/Group:**

**Inspection/Engineering**

**[FORM #]: [REVISION #] (continued)**

**7.13 Special grading, excavation and filling: [JURISDICTION]** Administrative code **[CODE SECTIONS]**. Special inspection item [#]. NICET level II certification in geotechnical/construction or construction material testing/soil:

a. Inspector: NICET Level III

b. \*\*Graduate geologist: Two years experience

c. \*\*Graduate engineer: Two years experience

d. \*Professional engineer: One year experience

**7.14 Smoke control systems: [JURISDICTION]** Administrative code **[CODE** **SECTIONS].** Special inspection item [#]. Approvals are granted if the ability to perform inspections and testing is demonstrated by the agency(s). For further information on inspector qualifications refer to **[FORM #]**.

a. Inspector: NICET, l9A, AABC, NEBB

b. \*\*Graduate engineer: Two years experience

c. \*Professional engineer: One year experience

Electrical

Fire Protection

Mechanical

**7.15 Special Cases: [JURISDICTION]** Administrative code **[CODE** **SECTIONS].** Special inspection item [#]. Approvals are granted on a case-by-case basis with the minimum experience for a given application as shown:

a. Inspector: Four years experience

b. Graduate engineer: Two years experience

c. Professional engineer: Two years experience

**7.16 Structural steel: [JURISDICTION]** Administrative code **[CODE SECTIONS].** Special inspection item [#]. Approval in structural welding and high-strength bolting.

**7.17 Amusement ride special cases: [JURISDICTION]** Administrative code **[CODE SECTIONS]**. Special inspection item [#]. Approvals are granted based on experience, certification and/or education. NAARSO Level I Certificate required.

**7.18 Nondestructive testing:** Personnel shall be qualified in accordance with American Society of Nondestructive Testing (ASNT) document NT-TC-1A. Level II certification as determined by a Level III examiner is required for each element.

**7.19 Material testing:** NICET Level I or Level II certification with a minimum of one year experience.

a. Construction materials testing/concrete or ACI Level I

b. Construction materials testing/concrete

c. Construction materials testing/soil

**Date: [MONTH, DAY, YEAR]**

**Department: Building** **Division/Group:**

**Inspection/Engineering**

**[FORM #]: [REVISION #] (continued)**

**8.0 Records:** Certification records and work history of special inspection and testing technician personnel are maintained by both the [JURISDICTION] and the agency that employs the special inspector.

**9.0 Attachments:**

**EFFECTIVE DATE: [DATE, YEAR]**

|  |  |  |
| --- | --- | --- |
| **Revised by:** | **Concurred by:** | **Approved by:** |
| [SIGNATURE/DATE] | [SIGNATURE/DATE] | [SIGNATURE/DATE] |
| [TYPED NAME] | [TYPED NAME] | [TYPED NAME] |
| [TITLE] | [TITLE] | [TITLE] |

\* Certification optional. The professional engineer shall hold a license in civil, structural, mechanical, fire protection or electrical engineering appropriated to the service provided.

\*\* Certification optional.